Passenger Rail Corridor Assessment

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FDOT | FREIGHT & RAIL

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Chapter 1: Introduction & Methodology

The Florida Department of Transportation (FDOT) is assessing the possibilities for leveraging the federal funding made available under the Bipartisan Infrastructure Law to develop new and enhanced intercity passenger rail corridors. Florida's population is expected to grow more than 30% by 2040, and 76% of the state's population growth is expected to occur in counties primarily along existing Interstate Highway corridors. FDOT wants to consider whether intercity passenger rail could capitalize on Florida's geography and development patterns by providing an efficient and effective passenger transportation option in corridors linking the state's major population centers. This approach is part of a statewide transportation vision to include intercity and regional passenger rail service in multimodal corridors as part of transportation solutions that enhance statewide mobility, improve transportation system reliability, provide safer and cleaner travel options, and promote economic development.

FDOT's initial efforts are expected to focus on the possibilities for passenger rail to connect the major population centers within Florida, such as Miami, Orlando, Tampa, and Jacksonville. Brightline is currently building out a network to connect some of these regions, and some of the solutions that the state is open to exploring could include finding ways to partner with Brightline to leverage service and infrastructure already in place to further state mobility goals. Other potential approaches could involve completely different routes, service providers, or service offerings. FDOT anticipates that new intercity passenger services are likely to share existing tracks or alignments owned and operated by freight railroads and commuter agencies, although in some cases passenger trains may use new tracks that follow the alignments of highways, depending on the alignment chosen.

Florida's Passenger Rail Vision

In 2021, FDOT developed a statewide vision and strategy for the future development and operation of intercity passenger service, commuter rail, and rail transit. Florida's geographic profile and the proximity between major urban areas are ideally suited for providing efficient and effective intercity and regional passenger rail service in multimodal corridors. FDOT's vision for passenger rail capitalizes on Florida's geography and development patterns by establishing a well-connected passenger rail system in corridors linking major population centers. The system will enhance statewide mobility, improve transportation system reliability, provide safer and cleaner travel options, and promote economic development. FDOT's vision 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

Supporting this vision is a policy position that directs FDOT, in conjunction with public and private partners, to systematically enhance the statewide passenger rail system to assure its continuous and increasing availability to meet current and future statewide mobility needs, while ensuring proper maintenance and safety. Key elements of this policy include:

- Vision – Guide development of passenger rail in Florida through a long-range vision
- Opportunity – Position the Department to capitalize on strategic passenger rail opportunities
- Capacity – Continue building on the Department's existing organizational capacity and technical expertise

Purpose of Study

Florida's Passenger Rail Corridor Evaluation Assessment identifies and evaluates new intercity passenger rail corridors proposed for development, as well as existing intercity passenger rail corridors proposed for an expansion of service. This needs assessment identifies the passenger rail corridors where future investments could most effectively meet state mobility needs and opportunities, based on high-level evaluations of travel demand, existing transportation infrastructure, potential connectivity with other services, social and equity considerations, and other criteria. The criteria used in the assessment align with evaluation criteria that will be used by the United States Department of Transportation (USDOT) to prioritize future federal investments in intercity passenger rail services under the Bipartisan Infrastructure Law. This study also summarizes recent planning work performed, and strategically evaluates corridors to enable the state to make decisions about investment prioritization. This study focuses on intercity passenger rail only and does not address commuter rail or rail transit. FDOT, in its newly developed statewide passenger rail vision, defines intercity passenger rail as a passenger rail transportation service that connects cities and regions on routes that have long distances (typically 100 miles or more) and intermediate station stops in major population, employment, and tourist centers.

This assessment of intercity passenger rail corridors is intended for initial consideration of potential future state investments in intercity passenger rail. This study relied primarily on existing data sources to assess the potential for corridors to meet the study's evaluation criteria. Future feasibility studies of the corridors will require detailed evaluation of right-of-way, station

locations, ridership, costs and benefits. This assessment does not commit the Department to develop only the corridors evaluated in this study, nor does it commit the state to make passenger rail investments in a priority order consistent with the ranking of potential corridors in this study.

Bipartisan Infrastructure Law

The Bipartisan Infrastructure Law (BIL) provides Florida with an opportunity to collaborate with federal partners and other stakeholders to help realize its statewide vision for passenger rail though the Corridor Identification and Development Program and the Federal-State Partnership for Intercity Passenger Rail.

Corridor Identification and Development Program

The BIL requires the U.S. Secretary of Transportation to establish a Corridor Identification and Development (Corridor ID) Program to facilitate the development of intercity passenger rail corridors in the United States. The Federal Railroad Administrator (FRA) was delegated the authority to establish and administer the Corridor ID Program under 49 CFR 1.89(a). The Corridor ID Program establishes a comprehensive intercity passenger rail planning framework that will help guide future federal project development work and capital investments. The Corridor ID Program seeks to establish a project pipeline to create and sustain passenger rail corridors throughout the country. Unlike previous federal intercity passenger rail planning efforts, the Corridor ID Program is intended to support a sustained long-term development effort and to set forth a capital project pipeline ready for federal (and other) funding. It is an example of how the BIL partners with states to modernize and expand passenger rail service.

In selecting intercity passenger rail corridors for participation in the Corridor ID Program, the BIL requires the U.S. Secretary of Transportation to consider the following 14 criteria:

(1) Whether the route was identified as part of a regional or interregional planning study;
(2) The projected ridership, revenues, capital investment, and operating funding requirements;
(3) The anticipated environmental, congestion mitigation, and other public benefits;
(4) The projected trip times and their competitiveness with other transportation modes;
(5) The anticipated positive economic and employment impacts;
(6) The committed or anticipated non-federal funding for operating and capital costs;
(7) The benefits to rural communities;
(8) Whether the corridor is included in a state's approved state rail plan;
(9) Whether the corridor serves historically unserved or underserved and low-income communities or areas of persistent poverty;

(10) Whether the corridor would benefit or improve connectivity with existing or planned transportation services of other modes;
(11) Whether the corridor connects at least two of the 100 most populated metropolitan areas;
(12) Whether the corridor would enhance the regional equity and geographic diversity of intercity passenger rail service;
(13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services; and
(14) Whether a passenger rail operator has expressed support for the corridor.

Corridors Identified for Evaluation

At the beginning of the study, FDOT and the study team identified the corridors to be evaluated. The corridors selected would connect major population and employment centers within Florida as well as between Florida and adjacent states. The selection was informed by FDOT's passenger rail vision to connect major population centers within the state, previous regional and state rail plans and studies including FRA's Southeast Regional Plan and Florida's Rail System Plan, commercial forecasts and proposed future development plans prepared by Florida's existing passenger rail service providers, and stakeholder input from FDOT districts. The intercity passenger rail corridors selected for evaluation in this study were grouped into three tiers representing three broad service areas/characteristics:

- Tier 1 corridors. These are the core intrastate corridors that serve the major activity centers of the state (Miami, Orlando, Tampa, Jacksonville) and have the highest travel demand:
    - Miami-Orlando
    - Miami-Tampa
    - Orlando-Tampa
    - Orlando-Jacksonville
    - Jacksonville-Miami
- Tier 2 corridors. These are corridors and services that connect Florida with other states and regions, serving interstate travel markets:
    - Jacksonville-Atlanta
    - Orlando-Jacksonville-New Orleans (Sunset Limited Restoration)
    - Long-distance Amtrak trains on routes of more than 750 miles that connect Florida with distant regions of the United States
- Tier 3 corridors. These are corridors that would serve intrastate markets where no form of passenger rail service currently exists and would require new passenger rail alignments. These corridors are considered potential long-term possibilities for passenger rail service:

- Orlando-Gainesville
- Miami-Naples-Tampa

Florida's existing railroad network was developed over time by different entities that competed with each other to haul freight and passenger rail traffic. As a result, many of the state's major population centers have more than one railroad line linking them. For example, both Florida East Coast Railway (FECR) and CSX Transportation (CSX) have their own railroad lines between Jacksonville and Miami. The endpoints of the five Tier 1 corridors evaluated in the study each have two potential alignments that could be used for enhanced intrastate passenger rail service, one using CSX trackage along with contiguous segments of FDOT-owned trackage in the Miami and Orlando areas, and one using FEC trackage along with contiguous segments of trackage constructed by Brightline for its intercity passenger service. This study assesses both alignments in its assessment of the Tier 1 corridors.

Figure 1: Intercity Passenger Rail Corridors Evaluated by the Study

Two-Stage Screening Process

The corridors were analyzed and screened following a high-level, two-stage process. Stage 1 screening was conducted for each corridor listed above, using 7 of the 14 criteria for an initial assessment of development potential. These were criteria 1, 7, 8, 9, 11, 13, and 14.

The five corridors with the highest potential to serve riders traveling between Florida's major population centers, identified as Tier 1 corridors, were carried forward for additional evaluation in a Stage 2 screening. The Stage 2 screening used the remaining 7 of the 14 Corridor ID Program selection criteria as the basis for evaluation: 2, 3, 4, 5, 6, 10, and 12.

Corridor Ratings

Based on the data collected and analyzed through the high-level, two-stage screening process, the corridors were rated as high, medium, or low for their potential for future evaluation and implementation, based on the evaluation categories listed below. Chapter 5 contains a discussion of the corridor ratings.

- Infrastructure/Right-of-Way Availability
- Market Size/Major Destinations/Trip Generators
- Equity Considerations
- Transportation Patterns/Conditions
- System Continuity/Connectivity
- Planning/Readiness

Florida's Existing Intercity Passenger Service

Florida's existing intercity passenger rail services consist of long-distance trains operated by Amtrak that connect Florida destinations with other regions of the country, and Brightline's privately owned corridor trains that currently operate between Miami and West Palm Beach but in 2023 will extend to Orlando International Airport (OIA), with plans for further extensions along I-4 to the Tampa Bay area.

Amtrak Intercity Passenger Network

Amtrak operates three National Network trains through Florida:

- The Auto Train (daily Lorton-Sanford)
- The Silver Meteor (daily New York-Washington-Richmond-Charleston-Savannah-Jacksonville-Orlando-Miami)
- The Silver Star (daily New York-Washington-Raleigh-Columbia-Savannah-Jacksonville-Orlando-Tampa-Miami)

Amtrak operates mostly over CSX freight trackage, but also operates over FDOT-owned trackage between DeLand, Orlando, and Poinciana, and between Mangonia Park and Miami. Florida

population within 25 miles and 50 miles of an Amtrak station are 12.4 million (66% of FL population) and 15.5 million (82% of FL population), respectively.

The Silver Meteor and Silver Star are operated with coaches, sleeping cars, a diner, and a lounge car. Both routes share many stations, but the Silver Star follows an inland route through the Carolinas and is the only Amtrak train to serve Tampa. The Silver Meteor was suspended from January 24, 2022, to October 2022 as part of Amtrak's service cuts, citing "staffing challenges resulting from the COVID-19 pandemic and the highly active Omicron variant."

Auto Train is a daily overnight route between Virginia and Florida and it is the only one of its kind in the U.S. Auto Train rolling stock includes bi-level passenger cars and auto carriers. This unique service carries passengers and their vehicles on a 16½ hour overnight trip from Northern Virginia to Florida.

A fourth service, the Sunset Limited, has been suspended since 2005. The Sunset Limited was a long-distance train that operated three times per week in each direction between Orlando and Los Angeles. After Hurricane Katrina struck the Gulf Coast in 2005, the train's eastern terminus was cut back to New Orleans, ending passenger rail service to the Florida stations in Chipley, Crestview, Lake City, Madison, Pensacola, and Tallahassee.

Brightline

Brightline 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 serves three stations in Miami, Fort Lauderdale, and West Palm Beach providing 17 weekday roundtrips; ten on Saturday and nine on Sunday. This service is identified by Brightline as the South Florida Express line.

Brightline does not report ridership to the National Transit Database (NTD). In 2018, during its first partial year of operation, Brightline carried 579,000 passengers and served 1 million passengers in 2019, the first full year of operation.

A route extension from South Florida to Orlando is currently under construction, and Brightline is also actively planning a further extension from Orlando west to Tampa. Three additional stops along the South Florida Express line have been announced. Brightline has plans for building new stations in Aventura, Boca Raton, and Port Miami.

Approach to Developing Data for Corridor Evaluation

To assist in the high-level evaluation of passenger rail corridors under the criteria identified previously in the chapter, data was collected and generated for many different facets of passenger rail operations. The process was based on using existing available data. Where reliable quantitative data was available, quantitative measures were used; in other cases evaluation criteria were assessed using qualitative measures and professional judgment. A summary of data sources and approaches for each criteria category is discussed below.

Stage 1 Screening

The Stage 1 Screening consisted of the following assessments, based on 7 of the 14 Corridor ID (CID) Program selection criteria.

(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study

Passenger rail routes in Florida have been included in several regional initiatives to expand intercity passenger rail service in the U.S. For this criterion, FDOT analyzed whether the corridors under evaluation were included in the current Southeast Regional Rail Plan,[1] released by FRA in 2020, and whether the corridor had been previously selected by the USDOT as a federally designated high speed rail corridor. (In 2002, FRA designated ten high speed corridors under Section 101-0 of the Intermodal Surface Transportation Act of 1991 and Section 11-03(c) of the Transportation Efficiency Act for the 21st Century for passenger rail service in high population density and congested intercity sections of the nation.)[2,3] Federally designated high-speed corridors included Tampa-Orlando-Miami and Atlanta-Jacksonville. FRA's more recent 2020 Southeast Regional Rail Plan is a multistate network conceptual planning study that created a framework for developing high-performance rail (HPR) in a multistate 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 that vision. Chapter 2 contains more information on the Southeast Regional Rail Plan.

(CID Criteria #7) The benefits to rural communities

A spatial analysis was completed on each corridor using Geographic Information Systems (GIS) software. Population data was gathered from the U.S. Census Bureau and the 2020 American Community Survey (ACS). Urban areas from 2018 were also used from the U.S. Census. Next, a

[1] SOUTHEAST REGIONAL RAIL PLAN | SEC Commission (Southeast Corridor Commission (southeastcorridor-commission.org)

[2] H.R.2950 - 102nd Congress (1991-1992): Intermodal Surface Transportation Efficiency Act of 1991 | Congress.gov | Library of Congress

[3] https://www.fhwa.dot.gov/tea21/h240suba.htm#1103

15-mile buffer was created along each corridor to have a 30-mile-wide corridor of analysis. Then the urban, rural, and total population were determined by using the census blocks along these corridor areas as well as the number of households, population below poverty, and households with no vehicle. This provided a high-level picture of the benefit that access to a passenger connection could provide in these areas.

In all cases where a census block group got cut by the corridor buffers, the new smaller area's demographic numbers were estimated by multiplying the census statistic by the new smaller area divided by the original area. This allowed for a more accurate estimation of the demographics for the entire 30-mile-wide corridor.

The same process was used on the proposed stations for each corridor. First, 15-mile buffers were created for every station, creating a 30-mile area surrounding each station to be analyzed. Then, the population and demographic numbers were calculated and summarized for each corridor and station just as before with the corridors.

This data-driven analysis was conducted using ModelBuilder tools within the Esri ArcGIS Desktop environment. ModelBuilder is a visual programing language for building geoprocessing workflows. Geoprocessing models automate and document spatial analysis and data management processes. A model is represented as a diagram that chains together sequences of processes and geoprocessing tolls, using the output of one process as the input to another process.

(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan

Section 341.302 of the Florida Statutes authorizes FDOT to develop and update the Rail System Plan. FDOT prepared a Florida Rail System Plan that was released in December 2018[4] and has since completed a Draft 2022 Florida Rail System Plan. Both plans were prepared in accordance with Title 49, U.S. Code, Chapter 227. Both the existing 2018 Florida Rail System and the Draft 2022 Florida Rail System Plan were reviewed to determine whether or not the corridors analyzed in this study have been included in Florida's state rail plan.

(CID Criteria #9) Whether the corridor serves historically unserved or underserved and low-income communities or areas of persistent poverty

This analysis was conducted in conjunction with Criteria 7. Population data was gathered from the U.S. Census Bureau and the 2020 Census American Community Survey (ACS). Historically disadvantaged community data came from the Justice40 Initiative. A 15-mile buffer along each corridor was created to have a 30-mile-wide corridor of analysis. The percent of the population in disadvantaged communities, population living below poverty, and employment-

[4] https://www.fdot.gov/rail/plans/railplan/previous-plans

disadvantaged population were determined by using the census blocks along these corridor areas and comparing them to the total population.

(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas

Data compiled from the 2020 U.S. Census[5] detailing the populations of U.S. metropolitan statistical areas was used to identify the 100 most populated metropolitan areas in the U.S. A corridor was defined as "connecting" a metropolitan area if it had an alignment that originated, terminated, or passed through. An analysis was conducted on each of the corridor alignments to identify those that connected with one or more of the top 100 most populated U.S. metropolitan areas.

(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services

The study team identified other intercity passenger rail routes and commuter rail services operating in the U.S. that would overlay, connect with, or operate as an extension of the corridor alignments under evaluation. These included existing state-supported and long-distance intercity passenger routes operated by Amtrak, existing intercity passenger routes operated by Brightline, and existing commuter rail services operated by Tri-Rail and SunRail. An alignment that shared track, stations, other facilities, or another form of service connection with an existing intercity or commuter service was considered integrated with the national rail passenger transportation system and could be expected to generate benefits for those connecting passenger rail routes and services.

(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor

This Rail Corridor Assessment is intended to assist Florida in the identification and selection of intercity passenger rail corridors for future detailed evaluation and potential implementation. At this early stage in the development process, the majority of the corridors analyzed have neither formal agreements nor contractual arrangements between FDOT and an intercity passenger rail service provider. As a result, the definition of "expression of interest" was broadened to include pro forma business plans, environmental evaluations and Records of Decision for future intercity corridors, contractual arrangements governing passenger rail corridor development activities, and publicly released vision plans.

These documents include business documents, environmental evaluations, and current activities undertaken by Brightline to design, construct, and operate a for-profit intercity passenger rail

[5] http://www.iweblists.com/us/population/MetropolitanStatisticalAreaPop.html

system in Florida.[6,7] Brightline is actively pursuing the implementation of an intrastate network developed under a three-stage process consisting of:

- Stage 1: Establish intercity passenger rail service between Miami and West Palm Beach. This stage was completed and service began in 2018.
- Stage 2: Extend service from Miami to Orlando International Airport. This stage is under construction with an anticipated launch of service in 2023.
- Stage 3: Extend service from Orlando to Tampa with an intermediate station near Disney Springs, and construct additional stations at Aventura, Boca Raton, and Port Miami. This stage is in active development.

In 2018, Brightline's parent company announced its intent to extend the network to Tampa, primarily utilizing the Interstate 4 (I-4) right-of-way. Engineering is underway for the western portion of the Orlando to Tampa segment, and stakeholder agreements are being developed for the eastern segment of the extension in the Orlando area. New stations in Aventura and Boca Raton are currently under construction.

Although an extension to Jacksonville is not currently in active development, in 2014 Brightline secured passenger rail easement rights on the Florida East Coast Railway for an extension into Jacksonville and access to tourist destinations such as St. Augustine and Daytona Beach, which will constitute an "expression of interest" for the purposes of this study.

In March 2021, Amtrak released a long-term vision plan, called the "Amtrak Connects US"[8] plan, for new corridors and enhanced service frequencies on existing routes that could be developed in conjunction with state partners. Amtrak's vision for expanding regional services includes the following routes in Florida:

- Jacksonville – Orlando – Tampa
- Orlando – Miami
- Tampa – Miami

Amtrak currently provides long-distance intercity passenger rail service on these routes, with trains that operate between Miami and New York. Amtrak has a right of access to operate on freight railroad tracks; however, new services would require an 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

[6] https://hsrail.org/Brightline%20Florida
[7] https://www.sec.gov/Archives/edgar/data/1737516/000114036118043289/s002218x4_ex99-1.htm
[8] https://www.amtrakconnectsus.com/

its tracks. The Amtrak Connects US plan will constitute an "expression of interest" for the purposes of this study.

Stage 2 Screening

Five corridors with the highest potential to serve riders traveling between Florida's biggest population centers, identified as Tier 1 corridors, were carried forward for more detailed evaluation in a Stage 2 screening. The data from the Stage 2 screenings were packaged into Corridor Profiles that highlight key characteristics related to the potential for passenger service in each corridor. The Corridor Profiles also included data collected during the Stage 1 screening. Information on Tier 1 corridors collected during the Stage 1 and Stage 2 screenings were used in subsequent corridor ranking and prioritization activities discussed in Chapter 5. The Stage 2 Screening consisted of the following activities, based on seven of the 14 Corridor ID (CID) Program selection criteria.

(CID Criteria #2) The projected ridership, revenues, capital investment, and operating funding requirements

Conceptual Service Plan Development

To aid in a high-level evaluation of potential ridership, a conceptual service plan was developed for each Tier 1 corridor alignment. The conceptual service plan contained the following elements:

- Development of corridor alignments
    - Based on the locations of existing intercity passenger rail services, corridors where active development of future intercity passenger rail service is taking place, as well as previous studies of potential future intercity passenger rail corridors based on the assessment of previous studies conducted for this study
- Names and addresses of station stops in each corridor alignment
    - For existing corridors, existing station locations or plans for relocated stations were used; for corridors still under development, the latest feasibility studies and news reports were reviewed to determine potential intermediate and endpoint station stops and the proximate locations of sites selected as a preferred alternative for a station
- Corridor route miles
    - Based on existing track miles for corridors with existing railroad infrastructure and projected miles from recent commercial and engineering studies for corridors where railroad infrastructure does not yet exist

- Trip times for trains between stations in a corridor in each direction
    - Based on reviews of existing Amtrak and Brightline train schedules in corridors where intercity passenger service currently exists, with modifications where needed to account for additional station stops or operating assumptions for future services; projected trip times in corridors where service does not exist but has been planned; and equivalent distance travel times/operating speeds from existing corridors for conceptual corridors where passenger rail service currently does not exist

- Proposed service frequencies under three service scenarios (low, medium, and high) representing the potential ranges of service that could be anticipated
    - Two round trips per day (low frequency service) – the Amtrak Connects US plan proposes operating intrastate Florida corridor services at levels of two and three round trips per day
    - Eight round trips per day (medium frequency service, approximating a train departure every 2-3 hours)
    - Sixteen (16) round trips per day (high frequency service, approximating a train departure every hour throughout the day – Brightline's existing service and planned services to Orlando and Tampa assume hourly frequencies

- Conceptual departure times
    - Based on reviews of existing Brightline schedules, existing state-supported Amtrak intercity services around the country with multi-frequency departures, and a recognition of projected trip duration, restricting train departures to no earlier than 5 a.m. and restricting train arrivals at endpoint to no later than 1:30 a.m., which is consistent with passenger train schedules in other U.S. multi-frequency intercity passenger rail corridors

Corridor Alignment Assessment

To aid in the determination of infrastructure/right-of-way availability, each corridor alignment was analyzed to determine:

- Whether a right-of-way exists, who owns it, or if right-of-way would have to be built or acquired
- Whether track infrastructure exists and, if so, the current owner
- Identification of the following physical characteristics
    - single or multiple track
    - type of signaling/method of operation
    - maximum passenger train speed

Rail Corridor Assessment

The primary source used to collect the information for this assessment was the 2018 Florida Rail System Plan. Publicly available information on Amtrak and Brightline train schedules and host railroads and publicly available Brightline engineering and business plans were also consulted.

Ridership and VMT Assessment

Summary

Modeling of rail corridor ridership and corridor roadway vehicle miles traveled (VMT) and vehicle hours traveled (VHT) were performed using the Florida Statewide Model (FLSWM) v7.2, with modifications for this project. The following changes were made to the model parameters and processes.

- The passenger rail transit line coding in the 2015 FLSWM Existing scenario was changed to match AMTRAK and Brightline pre-pandemic service levels and stations.
- The person trip mode choice was modified and calibrated to target rail passenger trips that matched pre-pandemic ridership at AMTRAK and Brightline stations.
- A transit assignment step was added to the model process to assign the rail transit trips to the coded rail transit network. This allowed for the estimation of station level ridership.
- The auto mode person trips were assigned to the roadway network using the FLSWM procedures, with the assignment convergence criteria tightened for less variance in the results.
- Script automation was added around the model procedures to execute model runs for all scenarios and extract results without user intervention.

The modified model was used to forecast ridership for 10 alignments, with three service levels modeled for each corridor, for a total of 30 model runs. Each corridor was modeled individually, with no other background transit services included since the calibration was done without background transit services. Passenger activity and corridor roadway VMT and VHT were summarized for each run.

Rail Calibration

The calibration target for the rail mode choice was Amtrak's station level boardings for 2015 as shown in the table below. The model long-distance mode choice parameters were adjusted toward these targets. However, it was found that the long-distance person trip table in FLSWM was insufficient to replicate the existing ridership. To compensate for this, a percentage of the short-distance trips longer than 40 miles were also included in the rail mode choice. Assigning the rail mode trips to the coded rail network resulted in the model annual station boardings shown in the table below. Certain stations were still too far from the target 2015 annual ridership, so adjustment factors were applied to the results for those stations. These adjustment

factors were carried through to the forecast results, applying them to stations in the same areas. Overall, the model boardings were about 2% lower than 2015 ridership and therefore the model was considered sufficiently calibrated.

Table 1: Station Boarding Adjustment Factors

Amtrak Stations	2015 Ridership	Model Annual	Adjustment	Adjusted Model Annual
Miami Station	69,547	75,200	1.00	75,200
Hollywood Station	28,019	17,000	1.00	17,000
Fort Lauderdale	46,448	11,200	2.00	22,400
Deerfield Beach	26,463	24,300	1.00	24,300
Delray Beach	14,648	31,500	1.00	31,500
West Palm Beach	57,973	25,300	2.00	50,600
Okeechobee	4,223	27,200	0.50	13,600
Sebring	17,397	42,400	0.50	21,200
Winter Haven	21,965	49,200	0.50	24,600
Lakeland	21,519	9,200	1.00	9,200
Tampa - Union St	117,400	91,000	1.30	118,300
Kissimmee	41,093	41,700	1.00	41,700
Orlando	142,800	75,000	1.60	120,000
Winter Park	28,309	77,500	0.50	38,800
DeLand	24,306	28,200	1.00	28,200
Palatka	12,568	35,300	0.50	17,600
Jacksonville	70,836	186,800	0.40	74,700
Total	**745,514**	**848,000**		**728,900**

The Brightline ridership was calibrated toward a target of about 1 million annual riders, with calibrated model results of about 1.1 million. Brightline modeled ridership was not calibrated at a station level as station level targets were not available.

Revenue and Cost Assessment

The scope of this analysis did not include monetized estimates of capital or operating costs. FDOT anticipates that a financial analysis of proposed intercity passenger routes and services would be conducted as part of future, detailed corridor-specific studies for corridors that have been selected for further advancement and analysis. Future analysis would include refined projections of ridership, service levels, service characteristics, equipment, and infrastructure needs to support the proposed service levels; all of which would inform the development of revenue, capital cost, and operating cost estimates. Those types of activities comprise the majority of tasks undertaken when preparing a Service Development Plan for an intercity passenger corridor. Service development plans are a key component of the intercity passenger

rail development process established by FRA in the passenger rail Corridor ID Program.[9] FDOT anticipates working closely with FRA and other stakeholders to prepare Service Development Plans for Florida-based intercity passenger rail corridors accepted into the program.

(CID Criteria #3) The anticipated environmental, congestion mitigation, and other public benefits

The ten proposed Tier 1 corridors (between five pairs of major cities, two alignments for each) in Florida are anticipated to bring about public benefits in and around the corridors after implementation. In particular, the expansion of passenger rail corridors in Florida will lead to the diversion of some of the highway traffic to rail, resulting in savings in time and distance traveled on state highways, providing congestion and other cost relief to system users.

The projected time savings (Vehicle Hours Traveled – VHT) and mileage (Vehicle Miles Traveled – VMT) for each Tier 1 corridor were based on modeling using the Florida Statewide model with projections under the No-Build scenario as well as under the three alternative/Build operating scenarios (16, 8, and 2 daily round trips). The incremental savings in VHT and VMT were then combined with average unit values of time and vehicle occupancy rates to forecast public benefits in terms of monetized travel time savings and vehicle operating cost savings in 2045 under each of the three Build scenarios.[10]

Accident analyses were performed along each corridor. Crash data was received from the Federal Railroad Administration for the State of Florida for the number of accidents at railroad crossings for the years 2010 through 2021. This data included the number of accidents, number of injuries, and number of fatalities at each crossing. Railroad Grade Crossings were downloaded from the USDOT Geospatial Portal at the Bureau of Transportation Statistics. The crossings were spatially assigned to each of the ten corridors. The crash data was summarized totaling the number of crashes, injuries, and fatalities at each crossing along the corridors. This data was joined to the crossing data by using a unique crossing ID.

(CID Criteria #4) The projected trip times and their competitiveness with other transportation modes

The development of conceptual passenger rail service plans included the development of projected passenger rail trip times. Trip times were developed based on a review of existing Amtrak and Brightline train schedules, forecasted trip times that appeared in the 2018[11] and 2020[12] Brightline ridership studies about the future station stops in Aventura and Boca Raton,

[9] https://www.federalregister.gov/documents/2022/05/13/2022-10250/establishment-of-the-corridor-identification-and-development-program

[10] Based on the Benefit-Cost Analysis Guidance for Discretionary Grant Programs, US DOT, March 2022.

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

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

and trip time assumptions made to account for conditions not in the studies or existing schedules, such as:

- Additional time was added to Brightline's projected trip time of 3 hours, 15 minutes between Miami and Orlando in the 2018 ridership study to account for additional stops that are being planned or built in Aventura, Boca Raton, Stuart, and Cocoa.
- Trip time from existing train schedules was reduced by 10 minutes on the CSX alignment between Tampa and Orlando to remove time currently used to wye long-distance trains in Tampa and back into the station before discharging passengers.
- Estimations of trip time on the Brightline alignment between Tampa and Orlando were developed based on the "Sunshine Corridor" routing between Orlando Airport and Disney Springs via Taft-Vineland and Route 528,[13] with two intermediate stops, one at the Orange County Convention Center and one near Disney Springs along International Drive.

For corridors where passenger rail service does not currently exist, trip time estimates were developed based on equivalent distance travel times/operating speeds of existing passenger rail corridors. For corridor services from Jacksonville on the FEC corridor, an assumption was made that trains would have a maximum operating speed, where feasible, of 110 miles per hour (mph) from Jacksonville to Cocoa; similar to the top speed now being planned for passenger trains that will use the FEC corridor between Cocoa and West Palm Beach.

To compare against the projected passenger rail trip times, average driving times between the corridor endpoints were determined using the estimated Google Maps driving times.

(CID Criteria #5) The anticipated positive economic and employment impacts

The ten proposed Tier 1 corridors in Florida can be expected to generate positive impacts on regional and statewide employment and economies for years to come. Impacts associated with the provision of passenger rail transportation (i.e., the rail industry) include a range of transport and support administrative operations. Service provider (e.g., Amtrak, and Brightline) impacts are based on transportation industry data in the IMPLAN® model for Florida, combined with relevant ridership projections (under the three Build scenarios – 16, 8, and 2 daily round trips) developed as part of this corridor assessment effort. The ridership projections facilitated the derivation of the direct employment and economic value-added[14] impacts, which were then

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

[14] Economic Value-Added is net economic activity required to produce final goods and services. It is synonymous with Gross Regional Product (GRP).

combined with the Florida statewide IMPLAN® model data on indirect and induced multiplier effects to also project the total economic impacts.[15]

(CID Criteria #6) The committed or anticipated non-federal funding for operating and capital costs
FDOT recognizes that states are expected to take a leadership role in the planning and funding of certain future intercity passenger rail corridors. The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) requires states to provide the ongoing funding that will sustain the operation of Amtrak passenger trains on routes of 750 miles or less.[16] By contrast, the funding of Amtrak intercity passenger trains on routes of more than 750 miles is provided by the federal government through annual appropriations. FDOT also recognizes that under the terms and stipulations of the Federal-State Partnership for Intercity Passenger Rail program and the Corridor ID Program, the federal share of total capital costs for a project shall not exceed 80%, thus requiring contributions from a state transportation department or other applicable stakeholders.

As seen in Table 2 at the end of the chapter, all of the Tier 1 and Tier 3 corridors within Florida have routes of 750 miles or less, and would thus require annual subsidies from the state if Amtrak were to provide the service. By contrast, a for-profit operator might provide intercity passenger rail service on the corridor without the need for state contributions of operating support if the operations are carried out in accordance with a business plan developed by the for-profit operator that governed the delivery of service.

FDOT assumes that the long-distance services currently provided by Amtrak would continue to receive annual operating support from Congress through federal appropriations, although state contributions may be provided for capital improvement projects that enhance long-distance service. Corridors that are part of the Amtrak long-distance network and do not require annual state payments of operating support include Orlando – New Orleans, Miami – New York, and Sanford (FL) – Lorton (VA).

FDOT is also 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.

[15] *Indirect* impacts are associated with the suppliers that provide intermediate goods and services (inputs) to the directly impacted industries. Induced impacts are associated with the re-spending of earned income from both the direct and indirect industries in the study area. Total impacts are an aggregation of the direct, indirect, and induced types.
[16] https://railroads.dot.gov/sites/fra.dot.gov/files/fra_net/1333/PRIIA%20Overview%20031009.pdf

The scope of this analysis did not include monetized estimates of revenue, capital costs, or operating costs. FDOT anticipates that a financial analysis of proposed intercity passenger routes and services would be conducted as part of future, detailed studies for specific corridors that have been selected for further advancement and analysis. Future analysis would include refined projections of ridership, service levels, service characteristics, equipment, and infrastructure needs to support the proposed service levels, all of which would inform the development of revenue, capital cost, and operating cost estimates. Those types of activities comprise the majority of tasks undertaken when preparing a Service Development Plan for an intercity passenger corridor. Service development plans are a key component of the intercity passenger rail development process established by FRA in the passenger rail Corridor ID Program. FDOT anticipates working closely with FRA and other stakeholders to prepare Service Development Plans for Florida-based intercity passenger rail corridors accepted into the program.

Although states do not have a federal legislative requirement to provide operating payments to financially support for-profit intercity passenger rail services, such as Brightline's service in Florida, FDOT policies do not preclude the state from entering into a funding agreement with a for-profit passenger service rail service provider, such as Brightline, to provide a measure of state operating support that would enable state-desired service levels or mobility goals to be achieved.

(CID Criteria #10) Whether the corridor would benefit or improve connectivity with existing or planned transportation services of other modes

To measure improved connectivity, one would typically evaluate changes in overall utilization and discretely change the utilization on existing networks. However, in the case of the proposed rail investments, because the baseline utilization ridership on existing corridors is not static – the existing corridors are projected to implement capacity increases. Therefore, as an alternative, the study team analyzed utilization increases (projected ridership) against capacity increases (measured in trains per direction per day). The primary data source was data provided by service providers to FDOT for the state rail plan currently under development.

The study team examined the five-year annual ridership for existing intercity rail and commuter rail systems in the state and forecast the build-year ridership along these corridors. The team then benchmarked these changes against changes in train frequency during the base and build year to assess the extent to which changes in utilization are either in line with growth or above/below.

As calculated, percentage increases above zero suggest that the overall utilization increases by a factor greater than the increase in capacity – meaning that new demand cannot be explained simply by the addition of supply alone. This can be viewed as a proxy for connectivity, as greater net ridership above supply-induced-demand suggests enhanced connectivity to and utilization

by customers. In cases where there is no existing intercity or commuter rail service, it is presumed that the addition of new service has a fundamental positive impact because it in effect *creates* the connectivity.

(CID Criteria #12) Whether the corridor would enhance the regional equity and geographic diversity of intercity passenger rail service

In order to formulate Equity Scores for each proposed corridor/alignment, an analysis was run for each using the following metrics (Census data):

- Total Population
- Total Households
- Minority Population
- Population Below Poverty Level
- Cost-Burdened Households
- Limited-English Households
- Zero-Vehicle Households
- Population Taking Public Transit to Work
- Population 65 and Up
- Population Below 18
- Total Labor Force Population
- Total Employment Population
- Total Education Attainment for the Population
- Population Education Attainment – Up to 12th Grade but No Diploma
- High School Graduated Population
- Disabled Population Ages 20-64

The analysis used a threshold for each of the above indicators in order that those census block groups that had a greater value than the mean value for any given indicator was given a score of one (1). The scores for the individual categories were then totaled for a composite equity score. For example, if a census block group had an above average number of people below the poverty level and an above average number of people 65 years of age or older, the census block group was given a score of two (2). The high equity score has a maximum possible score of eleven (11) and the low equity score has a minimum possible score of zero (0). Generally, the higher the number, the greater the need in any given area.

Equity scores were tabulated for two different areas: 15-mile buffers around the proposed stations and 5-mile buffers around the proposed stations. Maps were produced using 15-mile buffers (30 miles total), providing a regional lens with which to view the data. By comparing the 15-mile buffer equity score with a 5-mile buffer score, the study team examined regional v.

local/neighborhood equity needs. By comparing each with the Florida state average, the study team could develop an equity context of each proposed station.

Table 2 below contains a summary of the Tier 1, 2, and 3 passenger rail corridors evaluated in this study. The column of sources identifies the existing plans, studies, and initiatives that informed the decision made by FDOT and the study team to include the corridor in this study.

Table 2: Passenger Rail Corridors Evaluated in This Study

CORRIDOR	POTENTIAL ALIGNMENT	APPROX. LENGTH	STATIONS	SOURCE
TIER 1 CORRIDORS				
Miami-Orlando	SFRC/CSX/ CFRC	265	Miami, Hollywood, Fort Lauderdale, Deerfield Beach, Delray Beach, West Palm Beach, Okeechobee, Sebring, Winter Haven, Kissimmee, Orlando *Note: 80% of alignment is identical to Miami-Tampa via CSX; routes split at Auburndale	FDOT passenger rail strategy, Amtrak Connects US
	FEC/ Brightline	235	Miami, Aventura, Fort Lauderdale, Boca Raton, West Palm Beach, Orlando Airport	Brightline project plans, All Aboard Florida project plans, FDOT passenger rail strategy, FDOT 2018 State Rail Plan
Orlando-Tampa	Brightline	85	Orlando Airport, Orange County Convention Center, Disney/International Drive, Tampa	Brightline project plans, FDOT passenger rail strategy, FDOT 2018 State Rail Plan
	CFRC/CSX	99	Orlando, Kissimmee, Lakeland, Tampa	Amtrak Connects US, FDOT passenger rail strategy
Miami-Tampa	FEC/ Brightline	315	Miami, Aventura, Fort Lauderdale, Boca Raton, West Palm Beach, Stuart, Cocoa, Orlando Airport, Orange County Convention Center, Disney/International Drive, and Tampa *Note: 100% of alignment is identical to Miami-Orlando plus Orlando-Tampa via FEC/Brightline	Brightline project plans, FDOT passenger rail strategy, FDOT 2018 State Rail Plan
	SFRC/CSX	257	Miami, Hollywood, Fort Lauderdale, Deerfield Beach, Delray Beach, West Palm Beach, Okeechobee, Sebring, Winter Haven, Lakeland, Tampa *Note: 80% of alignment is identical to Miami-Tampa via CSX; routes split at Auburndale	FDOT passenger rail strategy, Amtrak Connects US

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CORRIDOR	POTENTIAL ALIGNMENT	APPROX. LENGTH	STATIONS	SOURCE
Jacksonville-Orlando	FEC/ Brightline	210	Jacksonville, St. Augustine, Daytona Beach, Cocoa, Orlando Airport	FDOT passenger rail strategy
	CSX/CFRC	147	Jacksonville, Palatka, DeLand, Winter Park, Orlando	Amtrak Connects US
Jacksonville-Miami	CSX/CFRC/ SFRC	412	Jacksonville, Palatka, DeLand, Winter Park, Orlando, Kissimmee, Winter Haven. Sebring, Okeechobee, West Palm Beach, Delray Beach, Deerfield Beach, Fort Lauderdale, Hollywood, Miami	FDOT passenger rail strategy
	FEC	380	Jacksonville, St. Augustine, Daytona Beach, Cocoa, Stuart/Fort Pierce, West Palm Beach, Boca Raton, Fort Lauderdale, Aventura, Miami	FDOT passenger rail strategy, FDOT 2018 State Rail Plan
TIER 2 CORRIDORS				
Jacksonville-Mobile-New Orleans (Sunset Limited Restoration)	CSX/FG&A	622	Jacksonville, Lake City, Madison, Tallahassee, Chipley, Crestview, Pensacola, Mobile, Pascagoula, Biloxi, Gulfport, Bay St. Louis, New Orleans	FDOT passenger rail strategy, FDOT 2018 State Rail Plan, FDOT 2018 Gulf Coast Passenger Service Implementation Study and Cost Estimate
Jacksonville-Macon-Atlanta	CSX/FCRD/ Greenfield/ GC/NS	375	Jacksonville, Jesup, Savannah, Macon, Atlanta	GDOT High-Speed Rail Planning Services Report, FRA Southeast Regional Rail Plan, FDOT 2018 State Rail Plan
Amtrak Long-Distance (Silver Meteor)	Amtrak/CSX/ CFRC/SFRC	1.389	Miami, FL – New York, NY via Hollywood, Fort Lauderdale, Deerfield Beach, Delray Beach, West Palm Beach, Sebring, Winter Haven, Kissimmee, Orlando, Winter Park, DeLand, Palatka, Jacksonville, and stations north of Florida including Savannah GA, Charleston SC, Florence SC, Fayetteville NC, Richmond VA, and Washington D.C.	Amtrak Timetable
Amtrak Long-Distance (Silver Star)	Amtrak/CSX/ CFRC/SFRC	1,480	Miami, FL – New York, NY via Hollywood, Fort Lauderdale, Deerfield Beach, Delray Beach, West Palm Beach, Okeechobee, Sebring, Winter Haven, Lakeland, Tampa, Kissimmee, Orlando, Winter Park, DeLand, Palatka, Jacksonville, and stations north of Florida including Savannah GA, Columbia SC, Hamlet NC, Raleigh	Amtrak Timetable

CORRIDOR	POTENTIAL ALIGNMENT	APPROX. LENGTH	STATIONS	SOURCE
			NC, Richmond VA, and Washington D.C.	
Amtrak Long-Distance (Auto Train)	CSX/CFRC	855	Sanford, FL – Lorton, VA	Amtrak Timetable
TIER 3 CORRIDORS				
Orlando-Gainesville	CFRC/CSX/ Greenfield	130	Orlando, The Villages, Ocala, Gainesville	FRA Southeast Regional Rail Plan
Miami-Naples-Tampa	Greenfield/ SGLR/CSX	325	Miami, Naples, Fort Myers, Venice, Sarasota, Bradenton, Tampa	FDOT passenger rail strategy

Chapter 2: Previous Studies

FDOT looked at recent studies, plans, and applications of potential future intercity passenger rail services and performed an assessment of each.

Southeast Regional Rail Plan *(FRA, 2020)*

The Southeast Regional Rail Planning Study (SE Study) is a multistate network planning study for high-performance rail (HPR) in the Southeastern United States. The SE Study identifies and describes a common, long-term vision for intercity passenger rail service for the multistate core study area—Florida, Georgia, North Carolina, South Carolina, Tennessee, Virginia, and Washington D.C.—and identifies the potential institutional arrangements and planning and development activities needed to achieve the vision.

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 greater, 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 of the following corridors: Core express corridor from Atlanta to Tampa via Jacksonville and Orlando; regional corridor from Naples to Tampa; regional corridor from Miami to Orlando; and emerging corridor from Gainesville to Orlando.

Project prioritization will consider 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 2.

Figure 2: Proposed Southeast Regional Rail Plan Intercity Network

The SE Study estimated the Southeast Regional Network would generate additional growth of 37 million rail trips, most of which would be diverted from other modes, and could alleviate approximately 12 billion annual passenger miles, principally along heavily traveled interstate corridors such as I-4, I-75, I-85, and I-95.

The Southeast Regional Network Vision includes existing and programmed intercity passenger rail services, including a Core Express Southeast Corridor, a Regional Brightline service from Orlando to Miami, connectivity to the existing NEC, connections to Nashville and Chicago via the Midwest Network, and several connecting corridors to expand the reach of the network.

Amtrak Connects US *(Amtrak, 2021)*

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.

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. The Amtrak Connects US vision specifically calls for expanding service and adding 160 new stations to double the number of passengers carried by state-supported trains 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.

The estimated cost for stations, cars, locomotives, and infrastructure to implement this vision is approximately $75 billion over 15 years. Amtrak estimates the net economic benefit of this investment to reach $8 billion annually by 2035, with an additional $195 billion in economic activity generated by additional capital investments during 2021-2035. Amtrak also projects over 26,000 ongoing permanent jobs, plus 616,000 person-years of temporary employment supported by capital investments during 2021- 2035, would be created or supported by this effort.

The plan is promoted as a significant opportunity to reduce carbon emissions. Travel on Amtrak trains outside the NEC emits up to 55% fewer GHGs than driving alone, and up to 30% fewer than flying. These benefits would scale with corridor expansion.

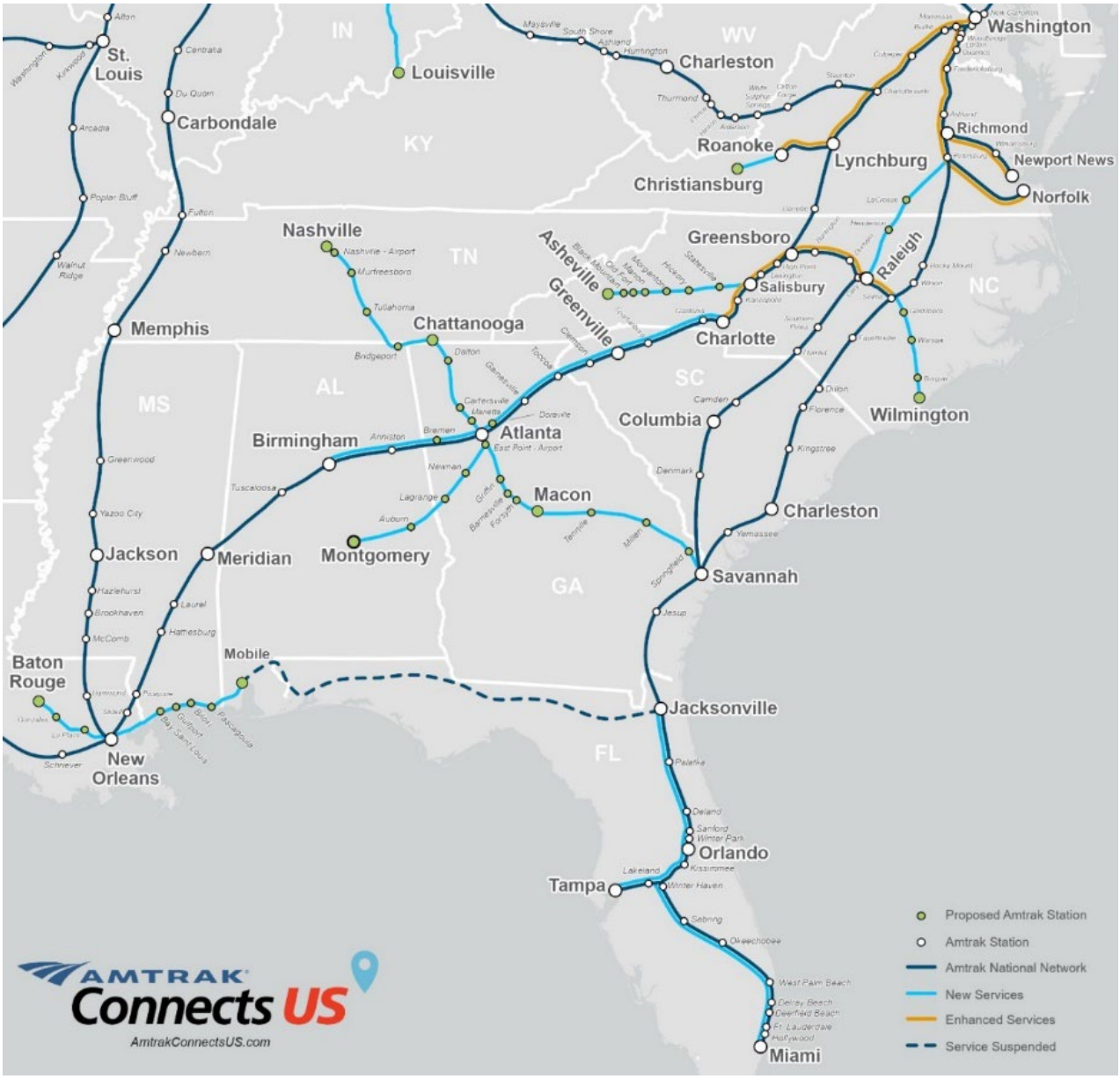
One of the objectives of the envisioned expansion of Amtrak corridor service to the South and the Southwest is to improve mobility for underserved communities including Black, Indigenous, and people of color communities

Figure 3 shows that Amtrak's vision for expanding regional services includes routes in Florida. Over the next 35 years 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 include 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: Amtrak Connects US Southeast Corridors Map



Brightline Intercity Rail Program (2015-current)

Brightline Trains Florida, LLC ("Brightline") is the nation's only privately owned and operated intercity passenger rail service. In 2018, Brightline began running Phase I service from Miami to West Palm Beach and is constructing its Phase II extension from West Palm Beach to Orlando International Airport (OIA), which is expected to begin revenue service in 2023. They are currently planning Phase III to extend service from OIA to Tampa. Brightline was previously known as All Aboard Florida, a wholly owned subsidiary of Florida East Coast Railway. In 2015, All Aboard Florida announced the service would operate under the name Brightline.

A number of relevant studies have been completed or are underway to support the development of the Brightline service. These include the initial FRA Final Environment Impact Statement (FEIS) in 2015 and a current Project Development and Environment study by Brightline to provide service from OIA to Tampa.

All Aboard Florida Intercity Passenger Rail project *(FRA, 2015)*

In 2013, All Aboard Florida (AAF) received a Finding of No Significant Impact from the FRA and the FRA Environmental Impact Statement was released in 2015 for the privately owned and operated intercity passenger railroad to connect Orlando and Miami, with intermediate stops in Fort Lauderdale and West Palm Beach, Florida.

AAF proposed regularly scheduled, hourly service with an approximately three-hour trip time. The intercity passenger rail service would operate with new diesel-electric locomotives and single-level coach trains. Passenger operations would include 16 round-trip passenger trains per day. Maximum operating speeds would range from 79 to 125 mph, depending upon the location along the route. Stations would be in West Palm Beach, Fort Lauderdale, and Miami.

The project involved a new rail corridor extending north through the Orlando International Airport (OIA/MCO) to SR 528 (the OIA/MCO Segment), including the proposed Vehicle Maintenance Facility; a new rail alignment along the East-West Corridor, which is on the south side of the SR 528 right-of-way owned by the Central Florida Expressway Authority (CFX) and FDOT from OIA/MCO to the FECR Corridor in Cocoa (E-W Corridor); and would use the existing FECR right-of-way from Cocoa to West Palm Beach (the N-S Corridor). Within the N-S Corridor, the project would consist of restoring a second track, modifying several curves to accommodate higher speeds, and replacing or repairing bridges across waterways.

According to a ridership and revenue forecast commissioned for the project in 2019 by Florida East Coast Industries and prepared by Louis Berger Group (LBG), the most conservative total annual ridership would amount to approximately 3.5 million in 2019. Among the 2019 project totals, approximately 2.0 million would be short-distance trips (Ft. Lauderdale – Miami, West Palm Beach – Miami, West Palm Beach – Ft. Lauderdale) and 1.5 million would be long-distance

trips (Orlando – Southeast Florida). Total annual ridership was predicted to exceed 4.0 million by 2030.

The FEIS identified potential adverse impacts to land use, transportation (particularly traffic at-grade crossings), noise and vibration, water resources, wetlands and floodplains, biological communities, protected species, social and economic conditions, cultural resources, parks and recreation areas, and utilities. However, the required mitigation measures would reduce those potential adverse effects. The project would also have beneficial environmental effects, such as traffic diversion from I-95 and other highways, economic growth, air quality improvements, and energy consumption improvements during operation.

Phase I and Phase II of the project would have long-term direct economic benefits through the creation of approximately 1,100 cumulative jobs and labor income valued at nearly $294 million through 2021. Construction of the project would have a direct total economic impact of $915.6 million, with the largest benefit to be had in Orange County at $302.2 million (WEG 2014). Project operations would have a direct total economic impact of $507.2 million between 2016 and 2021, with an average direct economic impact of $84.5 million per year (WEG 2014).

Tampa to Orlando High-Speed Intercity Passenger Rail Project CRISI Grant Application (Brightline Trains Florida, 2021)

Brightline is currently providing service from Miami to West Palm Beach and constructing an extension from West Palm Beach to Orlando, which will reach speeds up to 125 mph, in combination with the existing service.

The Brightline Phase III, Tampa to Orlando High-Speed Intercity Rail project, is the next step in developing their intercity passenger rail network. To advance this phase, in 2021 Brightline applied for and secured a grant under the Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program. The $15.9 million CRISI grant is matched by Brightline to support a $31.8 million investment to "advance preliminary engineering activities supporting the expansion of service in Central Florida."

The CRISI Grant application was for segment 2 of Phase III from South I-Drive to Tampa. Post-award, Brightline gained FRA approval to expand the limits of the study to include the "Sunshine Corridor" from OIA to South I-Drive. The Sunshine Corridor is envisioned as a joint-use rail corridor that could support both Brightline intercity service and east-west regional Commuter rail connecting with existing SunRail service. A working group between FDOT, local partners, and private sector entities including Brightline and Universal Studies is collaborating on the development of the Sunshine Corridor.

In its CRISI application, Brightline promoted the following key points in support of the Phase III project:

- The combined three phases of Brightline would connect 70% of the state's population to intercity passenger rail.
- The primary method of travel between the Tampa and Orlando area is by personal vehicle, which takes about 1.5 hours. Alternatively, commuting by train will take about 45 minutes.
- There are several bus options available for intercity travel between Tampa and Orlando. These services range from $30-$50 and can take as long as 4 hours, making intercity passenger rail highly competitive for this region.
- There is no regularly scheduled air service between the cities.
- A completely grade-separated, mostly double-tracked railway built within the right-of-way of the I-4 median, the rail line would be equipped with Positive Train Control, offer broadband, and be exclusively utilized by the passenger rail service. The corridor will be designed for trains to achieve top speeds of up to 150 mph and be fully compatible and interoperable with the entire Brightline corridor.
- Anticipated ridership projections for the Tampa to Orlando Area Segment show the service will attract about 2 million riders in the opening year and increase by approximately 50,000 riders for each of the following years.
- The project will also reduce the number of vehicle miles traveled along I-4 by more than 144 million miles annually.

Brightline proposes that the station in Tampa will be designed and built as a multimodal hub to provide more opportunities for travelers to connect to a variety of transportation options. Brightline has partnered with local transit agencies to work towards a cohesive and seamless transfer of passengers to and from local transit.

Brightline estimated total operational expenditures projected for the Tampa to Orlando Area Segment are at $56 million per year and can be covered with the anticipated generated revenues.

Brightline projects environmental, congestion mitigation, and other public benefits to include: helping to sustain the region's economic growth by generating $153 million annually for the state of Florida; reducing congestion which costs individual drivers about $401 annually; improving safety and the quality of life for residents and visitors; reducing 38,000 metric tons of CO2 from the air; alleviating travel demands on the interstate system; and supporting the aging population and residents that rely on alternative modes of transportation.

An economic analysis developed by Brightline as part of their application determined that Phase III is expected to deliver $571 million in benefits over a 30-year period of analysis, discounted to a net present value at a 7% discount rate.

Amtrak Sunset Limited Gulf Coast Service Restoration

In 1993, Amtrak extended its Sunset Limited Service, at the time operating between New Orleans and Louisiana, into Florida making it their only coast-to-coast service. Service east of New Orleans was suspended indefinitely after Hurricane Katrina in 2005. While CSX repaired its track in 2006, additional upgrades are still needed before allowing passenger rail service. Among studies conducted to explore the restoration of Gulf Coast service of the Sunset Limited are the *Gulf Coast Working Group Report* commissioned by FRA in 2017 and *Gulf Coast Passenger Service Implementation Study and Cost Estimate* conducted by FDOT in 2018. Of note, there are differences of opinion regarding the costs required to restore service. And ownership of much of the corridor has changed in recent years. In 2019, Florida Gulf and Atlantic (FG&A) began operations on the corridor from Baldwin to Pensacola under the ownership of RailUSA which was subsequently purchased by Macquarie Infrastructure Partners.

Gulf Coast Working Group Report (Preferred Option)
(Gulf Coast Working Group for FRA, 2017)

The Fixing America's Surface Transportation (FAST) Act mandated the creation of the Gulf Coast Working Group (GCWG) to complete a report to Congress on the restoration of passenger rail along the Gulf Coast. The immediate goal of the GCWG, reflected throughout the report, was to provide sufficient, reliable information to be the starting point for restoring passenger rail service. In support of this goal, the GCWG's objective was to define the restored intercity passenger rail service in a manner that would ultimately achieve a new and improved schedule (timetable), increasing frequency and improving reliability compared to its historic counterpart, and operate without unreasonably impairing CSX's freight operations.

Proposed service frequencies and station locations included New Orleans, Louisiana and Orlando, Florida via long-distance train for one daily round trip, with stations in Orlando, Winter Park, Sanford, DeLand, Palatka, Jacksonville, Lake City, Madison, Tallahassee, Chipley, Crestview, Pensacola, Atmore, Mobile, Pascagoula, Biloxi, Gulfport, Bay St. Louis, and New Orleans.

While the existing infrastructure is adequate for freight operations, there are physical limitations (e.g., limited space within/adjacent to rail yards and bridge crossings) that may present a challenge to operating passenger trains on schedule.

While recognizing the benefits of capital improvements, Amtrak contended the only necessary improvement to CSX's line is the installation of Positive Train Control, if it is confirmed that the

sole presence of passenger service warrants it, on some or all, of the segment between Flomaton, Alabama and Jacksonville, Florida.

In terms of capacity improvements, Amtrak advocated for a phased approach after service is restored. Initial phases would include improvements that provide routes around major rail yards to increase speed, minimize risk of delays, and provide flexibility for meets between opposing Amtrak trains. Subsequent phases would involve improvements that would facilitate meets and overtakes between Amtrak and freight trains.

Alternative A proposed daily service each way between New Orleans and Orlando, operating as an extension of the Chicago-New Orleans City of New Orleans train. The train would offer through service between Orlando and points north of New Orleans, including Jackson, Mississippi; Memphis, Tennessee; and Chicago, Illinois. In Jacksonville, the train would offer connections to points north toward Georgia, the Carolinas, Virginia, and Washington, D.C., and points in the Northeast Corridor including Philadelphia, Pennsylvania; New York City, New York; and Boston, Massachusetts.

In Orlando, connections would be available to both Tampa and Miami. Amtrak Thruway motor coach service would provide connections to additional Florida cities. In New Orleans, an overnight connection to the tri-weekly Sunset Limited to points west including Houston, San Antonio, and Los Angeles would be available three days each week.

The Working Group projected capital costs at $117.6M. Projected operating and maintenance costs were $5.48M. As can be seen from other studies, there is a wide variation and disagreement related to cost estimates.

Projected economic and employment impacts included: expansion of markets for tourism and business travel; reduction of vehicular congestion on Interstate 10; improvement in access to jobs, education, and healthcare; and support for disaster and emergency response in a region susceptible to coastal storm events.

At the time of the study, the Gulf Coast megaregion's population was expected to increase by an estimated 10 million people, or 76% by 2050; similarly, the Florida megaregion was expected to grow by an estimated 13.8 million people, or 80%. The study concluded that passenger rail service could improve links between growing economic centers and the region's smaller communities and rural areas.

Gulf Coast Passenger Service Implementation Study and Cost Estimate *(FDOT; 2018)*

In 2016, CSX completed a feasibility and cost study at FRA's direction and with the support of the Gulf Coast Working Group (GCWG). CSX provided O&M cost estimates of $2.254B. GCWG provided an alternative cost estimate of $91M (Note: this differs from the $117.6 million noted

above due to different mileage in option Build A and Build A1 options) to reinstate and sustain Amtrak service. Due to the disparity in cost estimates FDOT provided an independent evaluation and cost estimate of up to $1.346B.

In addition to new track construction, projects include improvements to moveable bridges, track speed, and train control systems:

- 132.4 miles of new track (reduced by 14.1 for Build A1 Scenario[17])
- 247 miles of new PTC capable CTC system
- 158 miles of PTC installation on existing CTC system
- Two, two-track movable bridges replacing the two existing one-track movable bridges
- One three-track movable bridge replacing the existing two-track movable bridge
- 65 miles of FRA track class speed upgrades

Infrastructure project cost estimates include:

- GCWG: $91
- CSX BUILD A: $2,254
- FDOT BUILD A: $1,346
- CSX BUILD A1: $2,057
- FDOT BUILD A1: $1,247

[17] A1 - The restoration of daily passenger rail service between New Orleans and Orlando as compared to the "No Build" (the required infrastructure to support projected freight only growth in 2040).

Chapter 3: Stage 1 Screening Results

This chapter presents the results of the high-level Stage 1 screening conducted for each passenger rail corridor. The Stage 1 Screening consisted of high-level assessments of development potential, based on 7 of the 14 Corridor ID (CID) Program selection criteria. These were criteria 1, 7, 8, 9, 11, 13, and 14. Screening results are presented in tables for each corridor to provide a uniform basis of comparison.

Tier 1 Corridors

Table 3: Stage 1 Screening: Miami – Orlando

Corridor: Miami-Orlando		
	SFRC/CSX/CFRC	**FEC/Brightline**
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	Southeast Regional Rail Plan (Regional), USDOT High-Speed Corridor, FDOT passenger rail strategy, Amtrak Connects US	Southeast Regional Rail Plan (Regional); USDOT High-Speed Corridor; Brightline project plans, All Aboard Florida project plans, FDOT passenger rail strategy, FDOT 2018 State Rail Plan
(CID Criteria #7) The benefits to rural communities	In the swath of land 15-miles wide along each side of this 276mile corridor, there are 8.57 million people. 6.52% of this population are considered rural. Out of the 3.05 million households, 7.06% have no vehicle	In the swath of land 15-miles wide along each side of this 233-mile corridor, there are 8.15 million people. 4.8% of this population are considered rural. Out of the 2.96 million households, 7.15% have no vehicle
(CID Criteria #8) Whether the corridor is included in a State's approved State rail plan	Yes	Yes
(CID Criteria #9) Whether the corridor serves historically unserved or underserved and low-income communities or areas of persistent poverty	In the swath of land 15-miles wide along each side of this 276-mile corridor, there are 8.57 million people. 13.47% of this population lives below poverty. 39.6% are considered a disadvantaged population and 18.12% are considered employment-disadvantaged	In the swath of land 15-miles wide along each side of this 233-mile corridor, there are 8.15 million people. 13.33% of this population lives below poverty. 37.59% are considered a disadvantaged population and 17.38% are considered employment-disadvantaged
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Miami #11 and Orlando #32)	Yes (Miami #11 and Orlando #32)

Corridor: Miami-Orlando		
	SFRC/CSX/CFRC	**FEC/Brightline**
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Yes. Uses tracks and stations currently served by existing Amtrak long-distance trains operating between Florida and the Northeast • Uses the South Florida Rail Corridor (SFRC) from Miami to West Palm Beach and the Central Florida Rail Corridor (CFRC) from Poinciana to Orlando Benefits for Other Intercity Passenger Rail Routes and Services • Provides additional and complementary service to two daily Amtrak long-distance trains that currently operate between Miami and Orlando on the same corridor • Provides one-seat rides between Miami and Orlando, Florida's #1 and #3 top metropolitan areas, respectively Benefits for Commuter Rail Routes and Services • Connects with Tri-Rail commuter trains at six stations along the South Florida Rail Corridor (SFRC) between Miami and West Palm Beach, including the Miami Intermodal Center • Connects with SunRail commuter trains at two stations along the Central Florida Rail Corridor (CFRC), Kissimmee and Orlando	Integrated Into the National Rail Passenger Transportation System: • Yes. Extends the existing 65-mile Brightline Miami-West Palm Beach intercity passenger rail service an additional 170 miles west to Orlando in 2023 Benefits for Other Intercity Passenger Rail Routes and Services: • Improves an existing Miami-West Palm Beach intercity passenger rail service by extending service and providing one-seat rides between Miami and Orlando, Florida's #1 and #3 top metropolitan areas, respectively. Benefits for Commuter Rail Routes and Services: • A connection with Tri-Rail commuter service at MiamiCentral Station in downtown Miami is under construction • Projected connections at MiamiCentral Station and Aventura with planned Northeast Corridor commuter service on the FEC corridor between Miami and Aventura by 2030 • Projected future and other planned commuter services that will use the FEC corridor in Broward County and Palm Beach County • Planned future connection with SunRail commuter service at Orlando International Airport
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes	Yes

Table 4: Stage 1 Screening: Orlando – Tampa

Corridor: Orlando -Tampa		
	Brightline	**CFRC/CSX**
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	Southeast Regional Rail Plan (Regional); USDOT High-Speed Corridor; Brightline project plans, FDOT passenger rail strategy, FDOT 2018 State Rail Plan	Southeast Regional Rail Plan (Regional); USDOT High-Speed Corridor; Amtrak Connects US, FDOT passenger rail strategy
(CID Criteria #7) The benefits to rural communities	In the swath of land 15-miles wide along each side of this 90-mile corridor, there are 4.29 million people. 9.93% of this population are considered rural. Out of the 1.54 million households, 5.89% have no vehicle	In the swath of land 15-miles wide along each side of this 89-mile corridor, there are 4.08 million people. 10.54% of this population are considered rural. Out of the 1.44 million households, 5.49% have no vehicle
(CID Criteria #8) Whether the corridor is included in a State's approved State rail plan	Yes	Yes
(CID Criteria #9) Whether the corridor serves historically unserved or underserved and low-income communities or areas of persistent poverty	In the swath of land 15-miles wide along each side of this 90mile corridor, there are 4.29 million people. 13.44% of this population lives below poverty. 36.01% are considered a disadvantaged population and 16.87% are considered employment-disadvantaged	In the swath of land 15-miles wide along each side of this 89mile corridor, there are 4.08 million people. 13.61% of this population lives below poverty. 39.91% are considered a disadvantaged population and 18.73% are considered employment-disadvantaged
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Tampa #24 and Orlando #32)	Yes (Tampa #24 and Orlando #32)
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Yes. Extends the existing 235-mile Brightline Miami-West Palm Beach-Orlando intercity passenger rail service an additional 85 miles west to Tampa Benefits for Other Intercity Passenger Rail Routes and Services: • Improves an existing Miami-West Palm Beach intercity passenger rail service and a West Palm Beach-Orlando extension opening in 2023 by extending service farther west to Tampa, Florida's second-biggest metropolitan area	Integrated Into the National Rail Passenger Transportation System: • Yes. Uses tracks and stations currently served by existing Amtrak long-distance trains operating between Florida and the Northeast • Uses the CFRC from Poinciana to Orlando Benefits for Other Intercity Passenger Rail Routes and Services • Provides additional and complementary service to one daily Amtrak long-distance train that currently operates between Orlando and Tampa on the same corridor • Provides one-seat rides between Tampa and Orlando, Florida's #2 and #3 top metropolitan areas, respectively

Corridor: Orlando -Tampa		
	Brightline	**CFRC/CSX**
(CID Criteria #13) (continued)	• Provides one-seat rides between Tampa and Orlando, Florida's #2 and #3 top metropolitan areas, respectively Benefits for Commuter Rail Routes and Services: • Planned future connection with SunRail commuter service at Orlando International Airport • Potential for operating on a shared-use corridor with a new SunRail commuter rail line between Orlando International Airport and the Orange County Convention Center	Benefits for Commuter Rail Routes and Services • Connects with SunRail commuter trains at two stations along the CFRC, Kissimmee and Orlando
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes	Yes

Table 5: Stage 1 Screening: Miami – Tampa

Corridor: Miami-Tampa		
	FEC/Brightline	**SFRC/CSX**
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	Southeast Regional Rail Plan (Regional, via Orlando); USDOT High-Speed Corridor (via Orlando), Brightline project plans, FDOT passenger rail strategy, FDOT 2018 State Rail Plan	Southeast Regional Rail Plan (Regional, via Orlando); USDOT High-Speed Corridor (via Orlando), FDOT passenger rail strategy, Amtrak Connects US
(CID Criteria #7) The benefits to rural communities	In the swath of land 15-miles wide along each side of this 324-mile corridor, there are 11.08 million people. 6.51% of that population is considered rural. Out of the 4.05 million households, 6.83% have no vehicle	In the swath of land 15-miles wide along each side of this 258-mile corridor, there are 8.07 million people. 6.07% of that population is considered rural. Out of the 2.93 million households, 7.35% have no vehicle
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	Yes	Yes
(CID Criteria #9) Whether the corridor serves historically unserved or underserved and low-income communities or areas of persistent poverty	In the swath of land 15-miles wide along each side of this 324-mile corridor, there are 11.08 million people. 13.22% of this population lives below poverty. 35.87% are considered a disadvantaged population and 16.52% are considered employment-disadvantaged	In the swath of land 15-miles wide along each side of this 258-mile corridor, there are 8.07 million people. 13.52% of this population lives below poverty. 36.72% are considered a disadvantaged population and 16.43% are considered employment-disadvantaged
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Miami #11 and Tampa #24)	Yes (Miami #11 and Tampa #24)
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Yes. Complete buildout of phased 320-mile intercity passenger rail system that connects Florida's top three metropolitan areas: Miami, Orlando, and Tampa. The Miami-West Palm Beach segment opened in 2018; West Palm Beach-Orlando	Integrated Into the National Rail Passenger Transportation System: • Yes. Uses tracks and stations currently served by existing Amtrak long-distance trains operating between Florida and the Northeast • Uses the SFRC from Miami to West Palm Beach

Corridor: Miami-Tampa		
	FEC/Brightline	**SFRC/CSX**
	will open in 2023; and Orlando-Tampa is being designed Benefits for Other Intercity Passenger Rail Routes and Services: • Improves an existing Miami-West Palm Beach intercity passenger rail service and a West Palm Beach-Orlando extension opening in 2023 by extending service farther west to Tampa, providing a one-seat ride between Miami, Orlando, and Tampa Florida's three biggest metropolitan areas Benefits for Commuter Rail Routes and Services: • A connection with Tri-Rail commuter service at MiamiCentral Station in downtown Miami is under construction • Projected connections at MiamiCentral Station and Aventura with planned Northeast Corridor commuter service on the FEC corridor between Miami and Aventura by 2030 • Projected future and other planned commuter services that will use the FEC corridor in Broward County and Palm Beach County • Planned future connection with SunRail commuter service at Orlando International Airport • Potential for operating on a shared-use corridor with a new SunRail commuter rail line between Orlando International Airport and the Orange County Convention Center	Benefits for Other Intercity Passenger Rail Routes and Services • Provides additional and complementary service to one daily Amtrak long-distance train that currently operates between Miami and Tampa and two daily Amtrak long-distance trains that currently operate between Winter Haven and Orlando on the same corridor • Provides one-seat rides between Miami and Tampa, Florida's #1 and #2 top metropolitan areas, respectively Benefits for Commuter Rail Routes and Services • Connects with Tri-Rail commuter trains at six stations along the SFRC between Miami and West Palm Beach, including the Miami Intermodal Center
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes	Yes

Table 6: Stage 1 Screening: Jacksonville – Orlando

Corridor: Jacksonville-Orlando		
	FEC/Brightline	**CSX/CFRC**
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	Southeast Regional Rail Plan (Core Express); FDOT passenger rail strategy	Southeast Regional Rail Plan (Core Express), Amtrak Connects US
(CID Criteria #7) The benefits to rural communities	In the swath of land 15-miles wide along each side of this 189-mile corridor, there are 3.57 million people. 13.6% of that population is considered rural. Out of the 1.32 million households, 5.64% have no vehicle.	In the swath of land 15-miles wide along each side of this 144-mile corridor, there are 3.43 million people. 12.45% of that population is considered rural. Out of the 1.23 million households, 5.53% have no vehicle.
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	Yes	Yes

Corridor: Jacksonville-Orlando		
	FEC/Brightline	**CSX/CFRC**
(CID Criteria #9) Whether the corridor serves historically unserved or underserved and low-income communities or areas of persistent poverty	In the swath of land 15-miles wide along each side of this 189-mile corridor, there are 3.57 million people. 13.05% of this population lives below poverty. 30.37% are considered a disadvantaged population and 14.24% are considered employment-disadvantaged.	In the swath of land 15-miles wide along each side of this 144-mile corridor, there are 3.43 million people. 13.20% of this population lives below poverty. 36.80% are considered a disadvantaged population and 17.41% are considered employment-disadvantaged.
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Jacksonville #60 and Orlando #32)	Yes (Jacksonville #60 and Orlando #32)

Corridor: Jacksonville-Orlando		
	FEC/Brightline	**CSX/CFRC**
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Yes. Connects with existing 235-mile Brightline Miami-West Palm Beach-Orlando intercity passenger rail service at the Orlando International Airport station, using a shared 125-mph corridor between Cocoa and Orlando • Brightline has secured passenger rail easement rights on the FEC Railway for an extension to Jacksonville and access to tourist destinations like Daytona Beach and St. Augustine Benefits for Other Intercity Passenger Rail Routes and Services: • Provides transfer opportunities at Orlando International Airport with Miami-West Palm Beach-Orlando trains projected to begin service in 2023 • Provides one-seat rides between Orlando and Jacksonville, Florida's #3 and #4 top metropolitan areas, respectively • Potential connection with Brightline passenger trains providing one-seat rides between Miami, Orlando, and Tampa on a planned Orlando-Tampa extension • Potential for connection with Amtrak long-distance trains at a planned Jacksonville Regional Transportation Center Benefits for Commuter Rail Routes and Services: • Planned future connection with SunRail commuter service at Orlando International Airport • Potential for connection with a proposed Jacksonville-area commuter rail service at a planned Jacksonville Regional Transportation Center	Integrated Into the National Rail Passenger Transportation System: • Yes. Uses tracks and stations currently served by existing Amtrak long-distance trains operating between Florida and the Northeast • Uses the CFRC from Orlando to DeLand Benefits for Other Intercity Passenger Rail Routes and Services • Provides additional and complementary service to two daily Amtrak long-distance trains that currently operate between Jacksonville and Orlando on the same corridor • Provides one-seat rides between Orlando and Jacksonville, Florida's #3 and #4 top metropolitan areas, respectively Benefits for Commuter Rail Routes and Services • Connects with SunRail commuter trains at two stations along the CFRC, Winter Park and Orlando • Potential third connection with SunRail commuter trains at DeLand, once planned DeBary-DeLand SunRail extension is constructed • Potential for connections at a planned Jacksonville Regional Transportation Center with a proposed Jacksonville-area commuter rail service as well as existing Amtrak long-distance trains
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes	Yes

Table 7: Stage 1 Screening: Jacksonville – Miami

Corridor: Jacksonville-Miami		
	FEC	**CSX/CFRC/SFRC**
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	FDOT passenger rail strategy, FDOT 2018 State Rail Plan	FDOT passenger rail strategy
(CID Criteria #7) The benefits to rural communities	In the swath of land 15-miles wide along each side of this 347 mile long corridor, there are 8.43 million	In the swath of land 15-miles wide along each side of this 411 mile long corridor, there are 10.3 million people.

Corridor: Jacksonville-Miami		
	FEC	**CSX/CFRC/SFRC**
	people. 6.96% of that population is considered rural. Out of the 3.15 million households, 7.18% have no vehicle	8.8% of that population is considered rural. Out of the 3.69 million households, 6.86% have no vehicle
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	Yes	Yes
(CID Criteria #9) Whether the corridor serves historically unserved or underserved and low-income communities or areas of persistent poverty	In the swath of land 15-miles wide along each side of this 347 mile long corridor, there are 8.43 million people. 13.01% of this population lives below poverty. 33.44% are considered a disadvantaged population and 15.11% are considered employment-disadvantaged	In the swath of land 15-miles wide along each side of this 411 mile long corridor, there are 10.3 million people. 13.36% of this population lives below poverty. 38.32% are considered a disadvantaged population and 17.45% are considered employment-disadvantaged
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Jacksonville #60 and Miami #11)	Yes (Jacksonville #60 and Miami #11)
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Yes. Extends the existing 65-mile Brightline Miami-West Palm Beach intercity passenger rail service north to Jacksonville • Brightline has secured passenger rail easement rights on the FEC Railway for an extension to Jacksonville and access to tourist destinations like Daytona Beach and St. Augustine	Integrated Into the National Rail Passenger Transportation System: • Yes. Uses tracks and stations currently served by existing Amtrak long-distance trains operating between Florida and the Northeast • Uses the SFRC from Miami to West Palm Beach and the CFRC from Poinciana to DeLand Benefits for Other Intercity Passenger Rail Routes and Services • Provides additional and complementary service to two daily Amtrak long-distance trains that currently operate between Jacksonville and Miami on the same corridor
(CID Criteria #13) (Cont.)	Benefits for Other Intercity Passenger Rail Routes and Services: • Improves an existing Miami-West Palm Beach intercity passenger rail service by extending service and providing one-seat rides between Miami and Jacksonville, Florida's #1 and #4 top metropolitan areas, respectively • Potential for connection with Amtrak long-distance trains at a planned Jacksonville Regional Transportation Center Benefits for Commuter Rail Routes and Services: • A connection with Tri-Rail commuter service at MiamiCentral Station in downtown Miami is under construction • Projected connections at MiamiCentral Station and Aventura with planned Northeast Corridor commuter service on the FEC corridor between Miami and Aventura by 2030 • Projected future and other planned commuter services that will use the FEC corridor in Broward County and Palm Beach County	• Provides one-seat rides between Miami, Orlando, and Jacksonville, Florida's #1, #3, and #4 top metropolitan areas, respectively Benefits for Commuter Rail Routes and Services • Connects with Tri-Rail commuter trains at six stations along the South Florida Rail Corridor (SFRC) between Miami and West Palm Beach, including the Miami Intermodal Center • Connects with SunRail commuter trains at three stations along the Central Florida Rail Corridor (CFRC) at Kissimmee, Orlando, and Winter Park • Potential fourth connection with SunRail commuter trains at DeLand, once planned DeBary-DeLand SunRail extension is constructed • Potential for connections at a planned Jacksonville Regional Transportation Center with a proposed Jacksonville-area commuter rail service as well as existing Amtrak long-distance trains

Corridor: Jacksonville-Miami		
	FEC	**CSX/CFRC/SFRC**
	• Potential for connection with a proposed Jacksonville-area commuter rail service at a planned Jacksonville Regional Transportation Center	
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes	Yes

Tier 2 Corridors

*Note: CID Criteria #7 and #9 were not conducted for Tier 2 and Tier 3 corridors owing to their length and the unavailability of uniform data sets for regions outside of Florida that could provide direct comparisons with regions within Florida.

Table 8: Stage 1 Screening: Jacksonville – Mobile – New Orleans

Corridor: Jacksonville-Mobile-New Orleans (Sunset Limited Restoration)	
	CSX/FG&A
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	FDOT passenger rail strategy, FDOT 2018 State Rail Plan, FDOT 2018 Gulf Coast Passenger Service Implementation Study and Cost Estimate
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	Yes
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Jacksonville #60, New Orleans #70)
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Yes. This corridor is part of the existing national rail passenger transportation system, however passenger rail service on this corridor has been suspended since 2005 • Full restoration would include an extension of service east of Jacksonville to Orlando, using the CFRC between DeLand and Orlando Benefits for Other Intercity Passenger Rail Routes and Services • A restoration of service would provide connections at Jacksonville to two daily Amtrak long-distance trains that currently operate between Miami and New York via Orlando, as well as connections with additional Amtrak long-distance services at New Orleans • Long-distance service in this corridor would provide additional and complementary service to two planned daily Amtrak state-supported corridor trains between New Orleans and Mobile Benefits for Commuter Rail Routes and Services • Potential for connection with a proposed Jacksonville-area commuter rail service at a planned Jacksonville Regional Transportation Center • Potential for connection with SunRail commuter trains on the CFRC at Winter Park and Orlando, and DeLand
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes

Table 9: Stage 1 Screening: Jacksonville – Macon – Atlanta

Corridor: Jacksonville-Macon-Atlanta	
	CSX/FCRD/Greenfield/GC/NS
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	Southeast Regional Rail Plan (Core Express); USDOT High-Speed Corridor; GDOT High-Speed Rail Planning Services Report, FDOT 2018 State Rail Plan
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	Yes
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Jacksonville #60, Atlanta #12)
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Potentially. This corridor is not currently part of the national rail passenger transportation system. It has been proposed as a Core Express corridor in FRA's Southeast Regional Rail Plan. Depending on the alignment developed, this corridor could be integrated into the national passenger rail system between Jacksonville and Savannah and could connect with additional intercity passenger rail services at Atlanta and Savannah Benefits for Other Intercity Passenger Rail Routes and Services • Depending on the alignment developed, this corridor potentially could provide additional and complementary service to two daily Amtrak long-distance trains that currently operate between Jacksonville and Savannah, as well as connect with additional Amtrak long-distance services at Atlanta and Savannah Benefits for Commuter Rail Routes and Services • Depending on the alignment developed, this corridor potentially could connect at a planned Jacksonville Regional Transportation Center with a proposed Jacksonville-area commuter rail service as well as existing Amtrak long-distance trains
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes

Table 10: Stage 1 Screening: Amtrak Long-Distance (Silver Meteor)

Corridor: Amtrak Long-Distance (Silver Meteor)	
	Amtrak/CSX/CFRC/SFRC
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	Amtrak Timetable
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	Yes
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Miami #11, New York #1)
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Yes. This long-distance corridor is currently part of the national rail passenger transportation system. Amtrak's Silver Meteor operates once per day in each direction on a 1,389-mile route between Miami and New York via Orlando, Jacksonville, Charleston SC, Richmond, VA, Washington DC, and the Northeast Corridor • Uses the SFRC from Miami to West Palm Beach and the CFRC from Poinciana to DeLand Benefits for Other Intercity Passenger Rail Routes and Services • Provides complementary service to one other daily Amtrak long-distance train operating between Miami and New York via Orlando and Jacksonville • Connects with other Amtrak intercity passenger rail services at Savannah GA, Rocky Mount NC, Petersburg VA, Richmond VA, Fredericksburg VA, Alexandria VA, Washington DC, Baltimore MD, Newark, DE, Philadelphia PA, Trenton NJ, Newark NJ, and New York NY Benefits for Commuter Rail Routes and Services • Connects with Tri-Rail commuter trains at six stations along the SFRC between Miami and West Palm Beach, including the Miami Intermodal Center • Connects with SunRail commuter trains at three stations along the CFRC at Kissimmee, Orlando, and Winter Park • Potential fourth connection with SunRail commuter trains at DeLand, once DeBary-DeLand SunRail extension is constructed • Potential for connections at a planned Jacksonville Regional Transportation Center with a proposed Jacksonville-area commuter rail service as well as existing Amtrak long-distance trains
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes

Table 11: Stage 1 Screening: Amtrak Long-Distance (Silver Star)

Corridor: Amtrak Long-Distance (Silver Star)	
	Amtrak/CSX/CFRC/SFRC
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	Amtrak Timetable
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	Yes
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Miami #11, New York #1)
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Yes. This long-distance corridor is currently part of the national rail passenger transportation system. Amtrak's Silver Star operates once per day in each direction on a 1,521-mile route between Miami and New York via Tampa, Orlando, Jacksonville, Columbia SC, Raleigh NC, Richmond, VA, Washington DC, and the Northeast Corridor • Uses the SFRC from Miami to West Palm Beach and the CFRC from Poinciana to DeLand Benefits for Other Intercity Passenger Rail Routes and Services • Provides complementary service to one other daily Amtrak long-distance train operating between Miami and New York via Orlando and Jacksonville • Connects with other Amtrak intercity passenger rail services at Savannah GA, Raleigh NC, Rocky Mount NC, Petersburg VA, Richmond VA, Alexandria VA, Washington DC, Baltimore MD, Newark, DE, Philadelphia PA, Trenton NJ, Newark NJ, and New York NY Benefits for Commuter Rail Routes and Services • Connects with Tri-Rail commuter trains at six stations along the SFRC between Miami and West Palm Beach, including the Miami Intermodal Center • Connects with SunRail commuter trains at three stations along the CFRC at Kissimmee, Orlando, and Winter Park • Potential fourth connection with SunRail commuter trains at DeLand, once DeBary-DeLand SunRail extension is constructed • Potential for connections at a planned Jacksonville Regional Transportation Center with a proposed Jacksonville-area commuter rail service as well as existing Amtrak long-distance trains
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes

Table 12: Stage 1 Screening: Amtrak Long-Distance (Auto Train)

Corridor: Amtrak Long-Distance (Auto Train)	
	CSX/CFRC
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	Amtrak Timetable
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	Yes
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	No
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Yes. This long-distance corridor is currently part of the national rail passenger transportation system. Amtrak's Auto Train operates once per day in each direction on an 855-mile route between Sanford FL and Lorton VA, carrying passengers and their personal vehicles • Uses the CFRC from Sanford to DeLand Benefits for Other Intercity Passenger Rail Routes and Services • This long-distance service operates between two dedicated passenger rail stations and makes no intermediate stops. It does not connect with other intercity passenger rail routes or services, but uses the Amtrak national ticketing and reservation system Benefits for Commuter Rail Routes and Services • This long-distance service does not connect with commuter rail services
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	Yes

Tier 3 Corridors

Table 13: Stage 1 Screening: Orlando – Gainesville

Corridor: Orlando-Gainesville	
	CFRC/CSX/Greenfield
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	Southeast Regional Rail Plan (Emerging)
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	No
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	No
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Potentially. This corridor is not currently part of the national rail passenger transportation system. Depending on the alignment developed, this corridor could be integrated into the national passenger rail system at Orlando Benefits for Other Intercity Passenger Rail Routes and Services • Depending on the alignment developed, this corridor potentially could connect with existing intercity passenger rail services at Orlando Benefits for Commuter Rail Routes and Services • Depending on the alignment developed, this corridor potentially could connect with the existing SunRail commuter rail service at Orlando
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	No

Table 14: Stage 1 Screening: Miami – Naples – Tampa

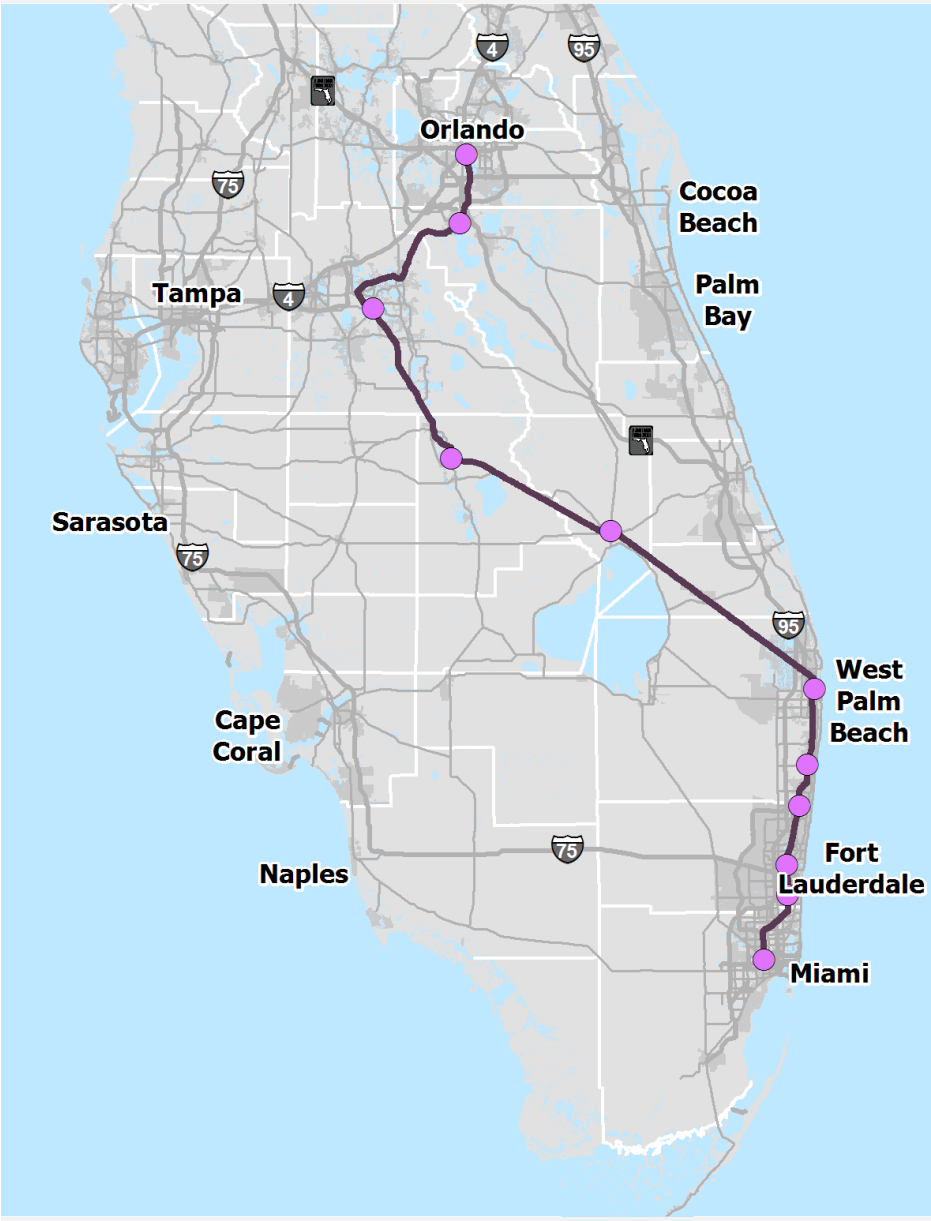
Corridor: Miami-Naples-Tampa	
	Greenfield/SGLR/CSX
(CID Criteria #1) Whether the route was identified as part of a regional or interregional planning study	FDOT passenger rail strategy
(CID Criteria #8) Whether the corridor is included in a state's approved state rail plan	Yes
(CID Criteria #11) Whether the corridor connects at least 2 of the 100 most populated metropolitan areas	Yes (Miami #11, Tampa #24)
(CID Criteria #13) Whether the corridor is or would be integrated into the national rail passenger transportation system and would create benefits for other passenger rail routes and services	Integrated Into the National Rail Passenger Transportation System: • Potentially. This corridor is not currently part of the national rail passenger transportation system. Depending on the alignment developed, this corridor could be integrated into the national passenger rail system at Miami and/or Tampa Benefits for Other Intercity Passenger Rail Routes and Services • Depending on the alignment developed, this corridor potentially could connect with existing intercity passenger rail services at Miami and/or Tampa Benefits for Commuter Rail Routes and Services • Depending on the alignment developed, this corridor potentially could connect with existing commuter rail service at Miami
(CID Criteria #14) Whether a passenger rail operator has expressed support for the corridor	No

Chapter 4: Tier 1 Corridor Profiles – Stage 2 Screening Results

The five corridors with the highest potential to serve riders traveling between Florida's major population centers, identified as Tier 1 corridors, were carried forward for additional evaluation in a Stage 2 screening. The Stage 2 screening used the remaining 7 of the 14 Corridor ID Program selection criteria as the basis for evaluation: 2, 3, 4, 5, 6, 10, and12.

Information from the Stage 1 screening was combined with information from the Stage 2 screenings into Corridor Profiles for each Tier 1 corridor that highlight key characteristics related to the potential for passenger service in the corridor. Corridor Profiles were developed for the two different alignments that each Tier 1 corridor potentially could follow. The Corridor Profiles provide a uniform basis of comparison and present key information in a packaged format to facilitate further detailed evaluation and decision-making by FDOT and other stakeholders.

1A. MIAMI – ORLANDO: SFRC/CSX/CFRC



Corridor Miles *(estimated)*: **267**

Number of Stations *(preliminary)*: **11**

- Orlando
- Kissimmee
- Winter Haven
- Sebring
- Okeechobee
- West Palm Beach
- Delray Beach
- Deerfield Beach
- Fort Lauderdale
- Hollywood
- Miami

Top 100 MSAs Served: 3

- Miami-Fort Lauderdale-West Palm Beach (FL #1, US #9)
- Orlando-Kissimmee-Sanford (FL #3, US #23)
- Lakeland-Winter Haven (FL #5, US #80)

Major Attractions

- Walt Disney World
- Universal Studios Florida
- SeaWorld Orlando
- I-Drive Entertainment District
- Amway Arena
- Gatorland
- Legoland Florida
- Lake Okeechobee
- Ft. Lauderdale Beach Park
- Everglades National Park
- South Beach/Historic Art Deco District
- Zoo Miami
- Key Biscayne/Miami Seaquarium
- FTX Arena
- Hard Rock Stadium

Description of Proposed Alignment

The Miami to Orlando SFRC/CSX/CFRC corridor connects Orlando to the North with Miami to the South. The proposed alignment would overlay short-distance intercity passenger service on a rail line currently used by Amtrak's long-distance Silver Meteor train from New York to Miami, with a routing via West Palm Beach, Sebring, and Kissimmee. The service scenario assumes trains would operate at existing passenger train speeds and stop at existing Amtrak stations. Some corridor segments are currently controlled by Tri-Rail and SunRail.

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	978,200	2,089,100	4,029,300

Rail Corridor Assessment

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	8,573,150	599,101	1,154,823	3,395,314	3,046,075	215,000
Percent	100%	6.52%	13.47%	39.60%	100%	7.06%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	05H 17M
Estimated Highway Trip Time	03H 07M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	269,256,340	269,754,629	269,521,196	269,256,340	0.23%
VHT	11,548,962	11,595,509	11,572,228	11,548,962	0.42%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Orlando - Poinciana Holdout	FDOT	Central Florida Rail Corridor	22	2	79	CTC
Poinciana Holdout - Auburndale	CSX	Carters	27	1	79	TCS
Auburndale - South End Delta	CSX	Auburndale	137.4	1	79	TCS
South End Delta - Miami Airport	FDOT	South Florida Rail Corridor	81.6	2	79	CTC

Benefits to National Rail Passenger Transportation System

Increases the utility of existing infrastructure by:

- Using tracks and stations currently in revenue service and operated by Amtrak to serve Florida and the Northeast Corridor (NEC)
- Using existing tracks currently in service to serve the South Florida Rail Corridor (SFRC) and the Central Florida Rail Corridor (CFRC)

Enhances passenger service opportunities by:

- Providing additional and complementary service to two daily Amtrak long-distance trains that currently operate between Miami and Orlando
- Providing one-seat rides between Miami and Orlando, Florida's #1 and #3 top metropolitan areas, respectively

Expands the reach of the system by:

- Connecting with Tri-Rail commuter trains at six stations along the SFRC between Miami and West Palm Beach, including the Miami Intermodal Center
- Connecting with SunRail commuter trains at two stations along the CFRC, Kissimmee, and Orlando

Host Railroads

- Florida Department of Transportation
- CSX

Operator Support

- Amtrak

Prior Planning Context

Interregional Plans:

- Southeast Regional Rail Plan (Regional)
- USDOT High-Speed Corridor
- Amtrak Connects US
- In Florida State Rail Plan: Yes
- In Florida DOT's Passenger Rail Strategy: Yes

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Broward County Transit, Lake Xpress, Lakeland Area Mass Transit District, LYNX, Martin County Transit, Miami-Dade Transit, PalmTran, Treasure Coast Connector	31	MCO, PBI, MIA, FLL	Orlando Greyhound, West Palm Beach AMTRAK/Greyhound, Miami Greyhound/Miami Intermodal Center

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
323	203	56	161

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	910	3,460	1,950	7,380	3,760	14,240
Value-Added Impact[2]	$154	$376	$328	$804	$633	$1,551

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

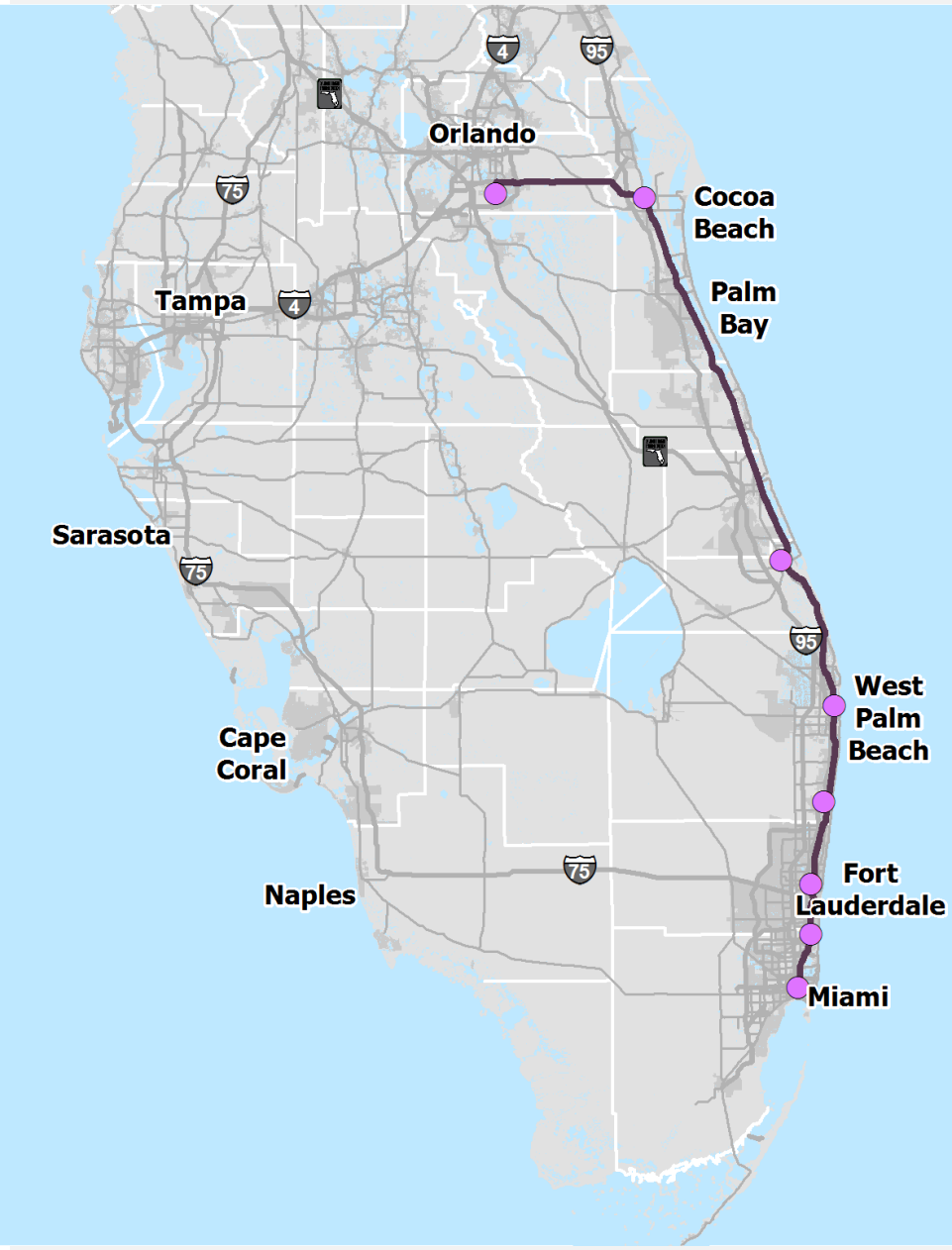
Average Equity Score (15-mi buffer)	5.35
Average Equity Score (5-mi buffer)	5.79
Florida Statewide Average Equity Score	4.92

Data Sources

1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

1B. MIAMI – ORLANDO: FEC/BRIGHTLINE



Corridor Miles *(estimated)*: **233**

Number of Stations *(preliminary)*: **8**

- Orlando International Airport
- Cocoa
- Stuart
- West Palm Beach
- Boca Raton
- Fort Lauderdale
- Aventura
- Miami

Top 100 MSAs Served: 3

- Miami-Fort Lauderdale-West Palm Beach (FL #1, US #9)
- Orlando-Kissimmee-Sanford (FL #3, US #23)
- Palm Bay-Melbourne-Titusville (FL #7, US #95)

Major Attractions

- Walt Disney World
- Universal Studios Florida
- SeaWorld Orlando
- I-Drive Entertainment District
- Amway Arena
- Kennedy Space Center
- Ft. Lauderdale Beach Park
- Everglades National Park
- South Beach/Historic Art Deco District
- Zoo Miami
- Key Biscayne/Miami Seaquarium
- FTX Arena
- Hard Rock Stadium

Description of Proposed Alignment

The Miami to Orlando passenger rail corridor via FEC/Brightline is currently under construction with an anticipated in-service date of 2023. When completed, it will be the fastest rail line in Florida, enabling passenger trains to operate at up to 125 mph in the 35-mile segment between Cocoa and Orlando Airport. The project will complete Phase 1 of Brightline's planned Florida intercity passenger rail network.

Rail Corridor Assessment

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	1,922,600	3,333,400	4,833,500

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	8,146,993	391,310	1,086,268	3,062,421	2,963,823	211,981
Percent	100%	4.80%	13.33%	37.59%	100%	7.15%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	03H 25M
Estimated Highway Trip Time	03H 37M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	250,268,945	249,795,441	249,553,004	249,324,457	0.17%
VHT	10,920,398	10,894,349	10,870,825	10,849,877	0.35%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Orlando Airport-Cocoa	BLL		39	1	125	CTC/ATC
Cocoa-West Palm Beach	FEC	Main Line	129	2	110	CTC/ATC
West Palm Beach-Little River	FEC	Main Line	62.5	2	79	CTC/ATC
Little River-MiamiCentral	FEC	Port Lead	4.5	2	79	CTC/ATC

Benefits to National Rail Passenger Transportation System

Enhances passenger service opportunities by:

- Providing one-seat rides between Miami and Orlando, Florida's #1 and #3 top MSAs

Expands the reach of the system by:

- Adding approximately 170 new miles to the U.S. intercity passenger rail network
- Adds new daily, multi-frequency regional (less than 750 miles) passenger service between Miami and Orlando
- Adding a connection with Tri-Rail commuter service at Miami Central Station in downtown Miami is under construction

Host Railroads

- Florida East Coast (Miami-Cocoa)
- Brightline Trains (Cocoa-Orlando)

Operator Support

- Brightline

Prior Planning Context

Interregional Plans:

- FRA Southeast Rail Plan
- FRA Designated High Speed Rail Corridor (ARRA 2009)

Other:

- Final EIS completed 2015
- Record of Decision issued 2017
- Updated ridership and revenue study completed 2018

In Florida State Rail Plan: Yes

In Florida DOT's Passenger Rail Strategy: Yes

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Broward County Transit, GoLine, LYNX, Martin County Transit, Miami-Dade Transit, PalmTran, Space Coast Area Transit, Treasure Coast Connector	28	MCO, PBI, MIA, MLB, FLL, Cape Canaveral Spaceport	Orlando Greyhound, West Palm Beach AMTRAK/Greyhound, Miami Greyhound

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
359	212	51	50

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	1,790	6,790	3,110	11,780	4,510	17,080
Value-Added Impact[2]	$302	$740	$523	$1,283	$759	$1,860

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

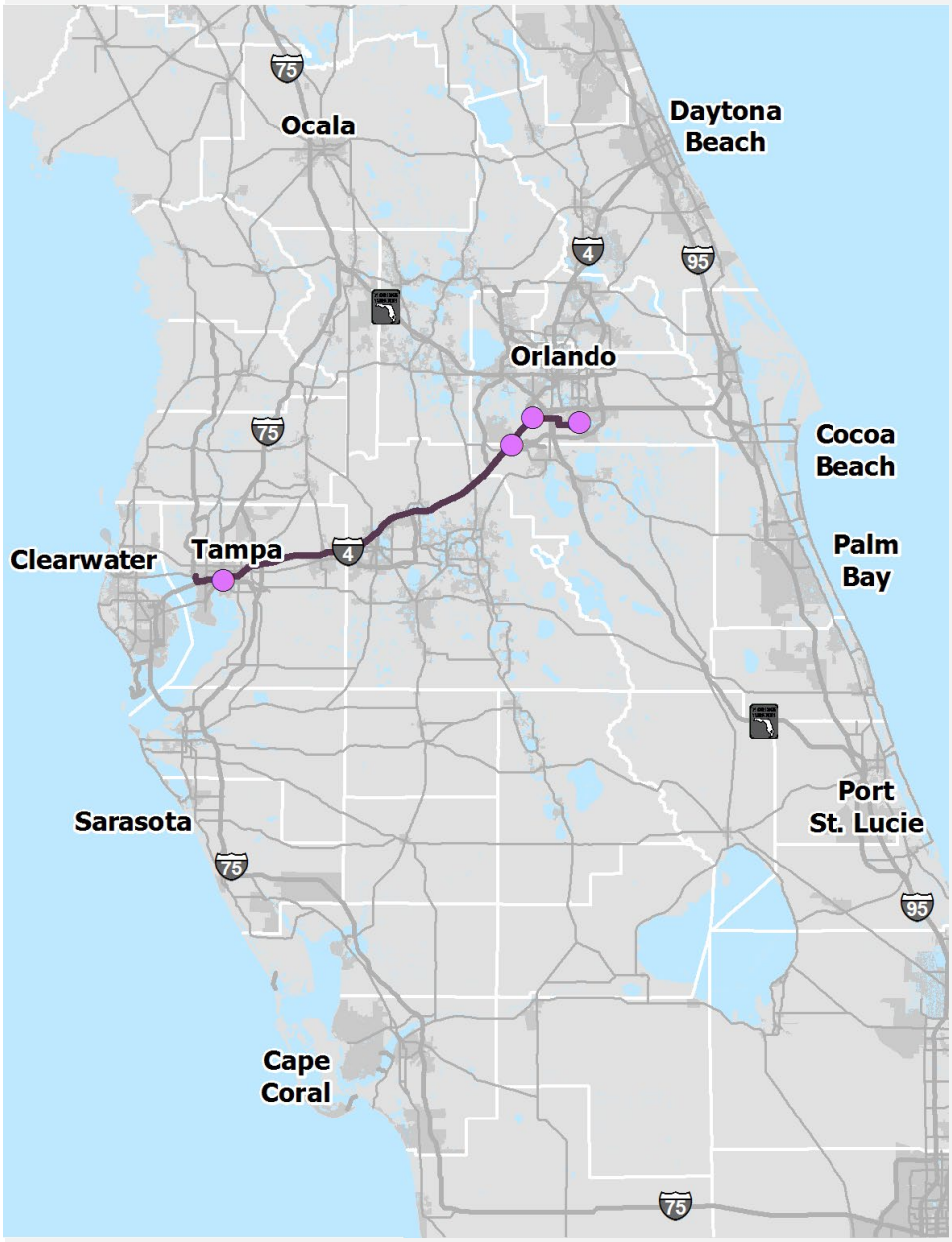
Average Equity Score (15-mi buffer)	5.41
Average Equity Score (5-mi buffer)	5.77
Florida Statewide Average Equity Score	4.92

Data Sources

1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

2A. ORLANDO – TAMPA: BRIGHTLINE



Description of Proposed Alignment

The Orlando to Tampa passenger rail corridor via Brightline would link Florida's second and third biggest regions with a brand-new passenger rail alignment mainly following I-4 at train speeds up to 125 mph. Brightline has already begun planning and engineering work. A shared Brightline/SunRail corridor has been proposed through Orlando. The extension is part of Phase 2 of Brightline's planned Florida intercity passenger rail network.

Corridor Miles *(estimated)*: 90

Number of Stations *(preliminary)*: 4

- Orlando Airport
- Orange County Convention Center
- Disney/International Drive
- Tampa

Top 100 MSAs Served: 3

- Tampa-St. Petersburg-Clearwater (FL #2, US #18)
- Orlando-Kissimmee-Sanford (FL #3, US #23)
- Lakeland-Winter Haven (FL #5, US #80)

Major Attractions

- Walt Disney World
- Universal Studios Florida
- SeaWorld Orlando
- I-Drive Entertainment District
- Amway Arena
- Amalie Arena
- Raymond James Stadium

Rail Corridor Assessment

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	453,600	1,214,100	1,870,100

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	4,289,415	425,904	576,616	1,544,796	1,542,903	90,869
Percent	100%	9.93%	13.44%	36.01%	100%	5.89%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	01H 20M
Estimated Highway Trip Time	01H 16M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	184,217,789	184,144,438	184,021,127	183,906,870	0.17%
VHT	7,758,430	7,751,895	7,740,480	7,731,065	0.35%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Tampa Brightline – Orange County Convention Center	BLL	New construction	74			
Orange County Convention Center - Taft Vineland	BLL	New construction	6			
Taft Vineland - Stanton Wye	FDOT	Central Florida Rail Corridor	1	2	79	CTC
Stanton Wye - OUC-BL Conn	Orlando Utilities Commission (OUC)	Stanton Spur	3.5	1	25	TWC
OUC-BL Conn - Orlando Airport	BLL	New construction	0.5			

Benefits to National Rail Passenger Transportation System

Enhances passenger service opportunities by:

- Improving an existing Miami-West Palm Beach intercity passenger rail service and a West Palm Beach-Orlando extension opening in 2023 by extending service farther west to Tampa, Florida's second-biggest metropolitan area
- Providing one-seat rides between Tampa and Orlando, Florida's #2 and #3 top metropolitan areas, respectively
- Potentially operating on a shared-use corridor with a new east-west commuter rail line between Orlando International Airport and the Orange County Convention Center

Expands the reach of the system by:

- Extending the existing 235-mile Brightline Miami-West Palm Beach-Orlando intercity passenger rail service an additional 85 miles west to Tampa
- Planning for a future connection with SunRail commuter service at Orlando International Airport

Host Railroads

- Brightline
- Florida Department of Transportation
- Orlando Utilities Commission

Operator Support

- Brightline

Prior Planning Context

Interregional Plans:

- Southeast Regional Rail Plan (Regional, via Orlando)
- USDOT High-Speed Corridor
- Brightline project plans

In Florida State Rail Plan: Yes

In Florida DOT's Passenger Rail Strategy: Yes

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Hillsborough Area Regional Transit, Lake Xpress, Lakeland Area Mass Transit District, LYNX, Manatee County Area Transit, Pasco County Public Transportation, Pinellas Suncoast Transit Authority	11	MCO, TPA, PIE	Orlando Greyhound, Tampa Greyhound

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
15	0	0	0

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	420	1,600	1,130	4,290	1,740	6,610
Value-Added Impact[2]	$71	$175	$191	$467	$294	$720

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

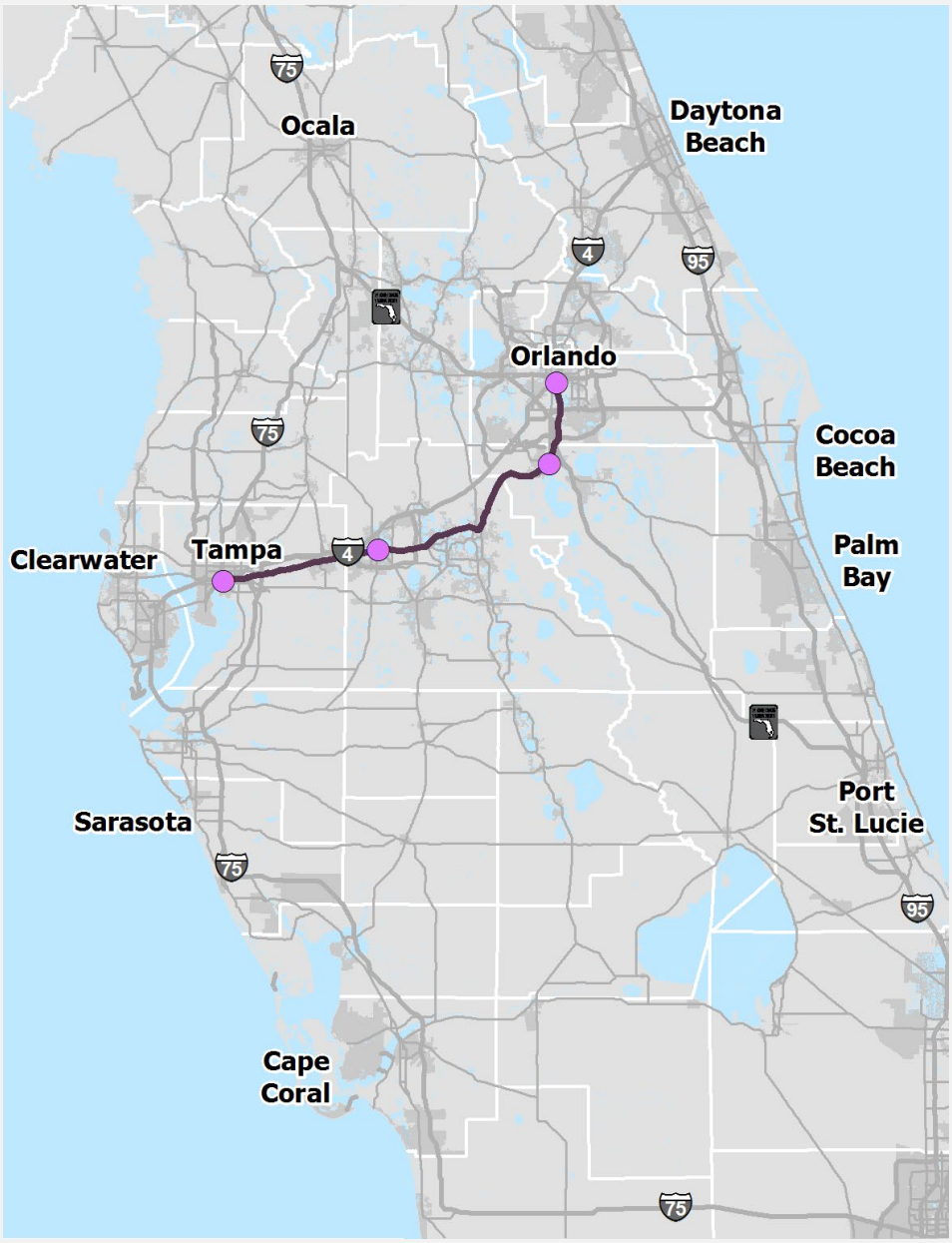
Average Equity Score (15-mi buffer)	4.96
Average Equity Score (5-mi buffer)	5.41
Florida Statewide Average Equity Score	4.92

Data Sources

1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

2B. ORLANDO – TAMPA: CFRC/CSX



Corridor Miles *(estimated)*: **89**

Number of Stations *(preliminary)*: **4**

- Orlando
- Kissimmee
- Lakeland
- Tampa

Top 100 MSAs Served: 3

- Tampa-St. Petersburg-Clearwater (FL #2, US #18)
- Orlando-Kissimmee-Sanford (FL #3, US #23)
- Lakeland-Winter Haven (FL #5, US #80)

Major Attractions

- Walt Disney World
- Universal Studios Florida
- SeaWorld Orlando
- I-Drive Entertainment District
- Amway Arena
- Amalie Arena
- Raymond James Stadium

Description of Proposed Alignment

The Orlando to Tampa CFRC/CSX corridor would overlay short-distance intercity passenger service on a rail line currently used by Amtrak's long-distance Silver Star train from New York to Miami. The service scenario assumes trains would operate at existing passenger train speeds and stop at existing Amtrak stations in Kissimmee and Lakeland. From Orlando to Kissimmee, the corridor is controlled by SunRail, which runs commuter trains.

Rail Corridor Assessment

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	139,200	739,900	1,770,000

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	4,082,290	430,389	555,441	1,629,413	1,441,095	79,093
Percent	100%	10.54%	13.61%	39.91%	100%	5.49%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	01H 50M
Estimated Highway Trip Time	01H 16M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	184,099,716	183,940,175	183,818,468	183,695,088	0.22%
VHT	7,735,886	7,721,409	7,711,004	7,699,667	0.47%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Orlando - Poinciana Holdout	FDOT	Central Florida Rail Corridor	22	2	79	CTC
Poinciana Holdout - South Lakeland	CSX	Carters	47	1	79	TCS
South Lakeland - South End Mango	CSX	Lakeland	21.9	1	79	TCS
South End Mango - Tampa	CSX	Tampa Terminal	8.1	2	79	CTC

Benefits to National Rail Passenger Transportation System

Increases the utility of existing infrastructure by:

- Using tracks and stations currently served by existing Amtrak long-distance trains operating between Florida and the Northeast
- Using the CFRC from Poinciana to Orlando

Enhances passenger service opportunities by:

- Providing additional and complementary service to one daily Amtrak long-distance train that currently operates between Orlando and Tampa on the same corridor
- Providing one-seat rides between Tampa and Orlando, Florida's #2 and #3 top metropolitan areas, respectively

Expands the reach of the system by:

- Connecting with SunRail commuter trains at two stations along the CFRC, Kissimmee and Orlando

Host Railroads

- Florida Department of Transportation
- CSX

Operator Support

- Amtrak

Prior Planning Context

Interregional Plans:

- Southeast Regional Rail Plan (Regional)
- USDOT High-Speed Corridor
- Amtrak Connects US

In Florida State Rail Plan: No

In Florida DOT's Passenger Rail Strategy: Yes

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Hillsborough Area Regional Transit, Lake Xpress, Lakeland Area Mass Transit District, LYNX, Pasco County Public Transportation, Pinellas Suncoast Transit Authority	13	MCO, TPA	Orlando Greyhound, Tampa Greyhound

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
174	98	15	105

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	130	490	690	2,610	1,650	6,260
Value-Added Impact[2]	$22	$54	$116	$285	$278	$681

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

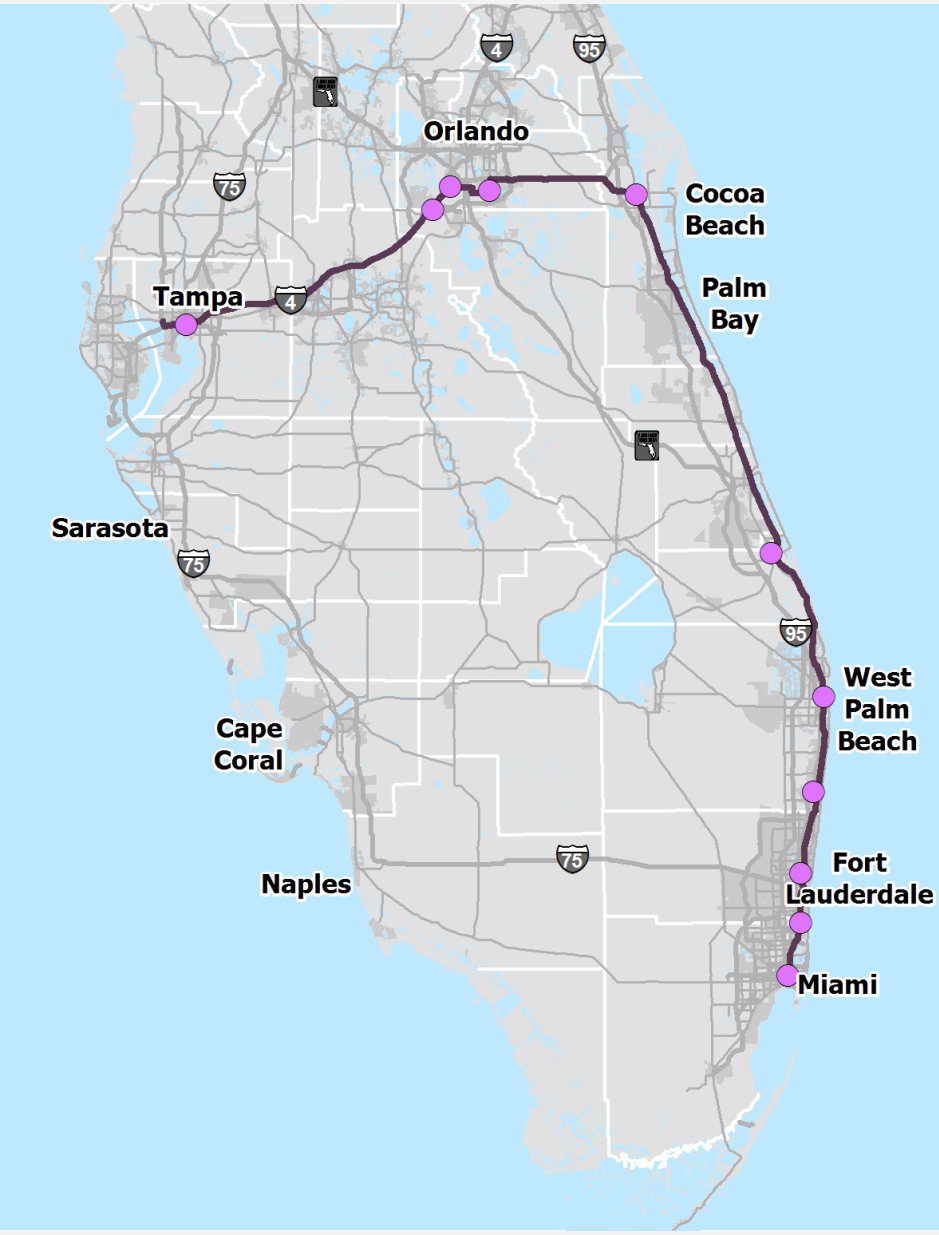
Average Equity Score (15-mi buffer)	4.91
Average Equity Score (5-mi buffer)	5.51
Florida Statewide Average Equity Score	4.92

Data Sources

1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

3A. MIAMI – TAMPA: FEC/BRIGHTLINE



Corridor Miles *(estimated)*: **324**

Number of Stations *(preliminary)*: **11**

- Tampa
- Disney/International Drive
- Orange County Convention Center
- Orlando Airport
- Cocoa
- Stuart
- West Palm Beach
- Boca Raton
- Fort Lauderdale
- Aventura
- Miami

Top 100 MSAs Served: 5

- Miami-Fort Lauderdale-West Palm Beach (FL #1, US #9)
- Tampa-St. Petersburg-Clearwater (FL #2, US #18)
- Orlando-Kissimmee-Sanford (FL #3, US #23)
- Lakeland-Winter Haven (FL #5, US #80)
- Palm Bay-Melbourne-Titusville (FL #7, US #95)

Major Attractions

- Amalie Arena
- Raymond James Stadium
- Walt Disney World
- Universal Studios Florida
- SeaWorld Orlando
- I-Drive Entertainment District
- Kennedy Space Center
- Fort Lauderdale Beach Park
- Everglades National Park
- South Beach/Historic Art Deco District
- Zoo Miami
- Key Biscayne/Miami Seaquarium
- FTX Arena
- Hard Rock Stadium

Description of Proposed Alignment

The Miami to Tampa passenger rail corridor via FEC/Brightline represents a completed buildout of Brightline's planned Florida intercity passenger rail corridor between South Florida and Central Florida. The corridor links Florida's top three metropolitan areas – Miami, Orlando, and Tampa – with train speeds up to 125 mph. Miami-Orlando service will begin in 2023 and a Tampa extension is actively being developed.

Rail Corridor Assessment

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	3,065,100	5,149,500	7,219,900

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	11,084,225	721,716	1,465,660	3,976,342	4,046,868	276,339
Percent	100%	6.51%	13.22%	35.87%	100%	6.83%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	04H 45M
Estimated Highway Trip Time	04H 31M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	277,320,111	277,174,021	276,978,952	276,711,141	0.22%
VHT	12,869,171	12,865,219	12,846,641	12,820,214	0.38%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Tampa Brightline – Orange County Convention Center	BLL	New Construction	74			
Orange County Convention Center - Taft Vineland	BLL	New Construction	6			
Taft Vineland - Stanton Wye	FDOT	Central Florida Rail Corridor	1	2	79	CTC
Stanton Wye - OUC-BL Conn	Orlando Utilities Commission (OUC)	Stanton Spur	3.5	1	25	TWC
OUC-BL Conn - Orlando Airport	BLL	New Construction	0.5			
Orlando Airport – Cocoa	BLL		39	1	125	CTC/ATC
Cocoa - West Palm Beach	FEC	Main Line	129	2	110	CTC/ATC
West Palm Beach - Little River	FEC	Main Line	62.5	2	79	CTC/ATC
Little River - Miami Central Station	FEC	Port Lead	4.5	2	79	CTC/ATC

Benefits to National Rail Passenger Transportation System

Increases the utility of existing infrastructure by:

- Using a shared 125-mph corridor between Cocoa and Orlando to connects with existing 235-mile Brightline Miami-West Palm Beach-Orlando intercity passenger rail service at the Orlando International Airport station
- Securing passenger rail easement rights on the FEC Railway for an extension to Jacksonville and access to tourist destinations like Daytona Beach and St. Augustine

Enhances passenger service opportunities by:

- Providing one-seat rides between Orlando and Jacksonville, Florida's #3 and #4 top metropolitan areas, respectively

Expands the reach of the system by:

- Potentially connecting with Brightline passenger trains providing one-seat rides between Miami, Orlando, and Tampa on a planned Orlando-Tampa extension
- Potentially connecting with Amtrak long-distance trains at a planned Jacksonville Regional Transportation Center
- Potentially connecting with a proposed Jacksonville-area commuter rail service at a planned Jacksonville Regional Transportation Center

Host Railroads

- Brightline
- Florida Department of Transportation
- Orlando Utilities Commission
- FEC

Operator Support

- Brightline

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Broward County Transit, GoLine, Hillsborough Area Regional Transit, Lake Xpress, Lakeland Area Mass Transit District, LYNX, Manatee County Area Transit, Martin County Transit, Miami-Dade Transit, PalmTran, Pasco County Public Transportation, Pinellas Suncoast Transit Authority, Space Coast Area Transit, Treasure Coast Connector	29	MCO, TPA, PBI, MIA, PIE, MLB, FLL, Cape Canaveral Spaceport	Orlando Greyhound, West Palm Beach Amtrak/Greyhound, Miami Greyhound/Miami Intermodal Center, Tampa Greyhound

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
374	212	51	50

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	2,860	10,830	4,800	18,200	6,730	25,520
Value-Added Impact[2]	$481	$1,180	$809	$1,982	$1,134	$2,778

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

Average Equity Score (15-mi buffer)	5.31
Average Equity Score (5-mi buffer)	5.72
Florida Statewide Average Equity Score	4.92

Prior Planning Context

Interregional Plans:

- Southeast Regional Rail Plan (Regional, via Orlando)
- USDOT High-Speed Corridor (via Orlando)
- Brightline project plans

In Florida State Rail Plan: Yes

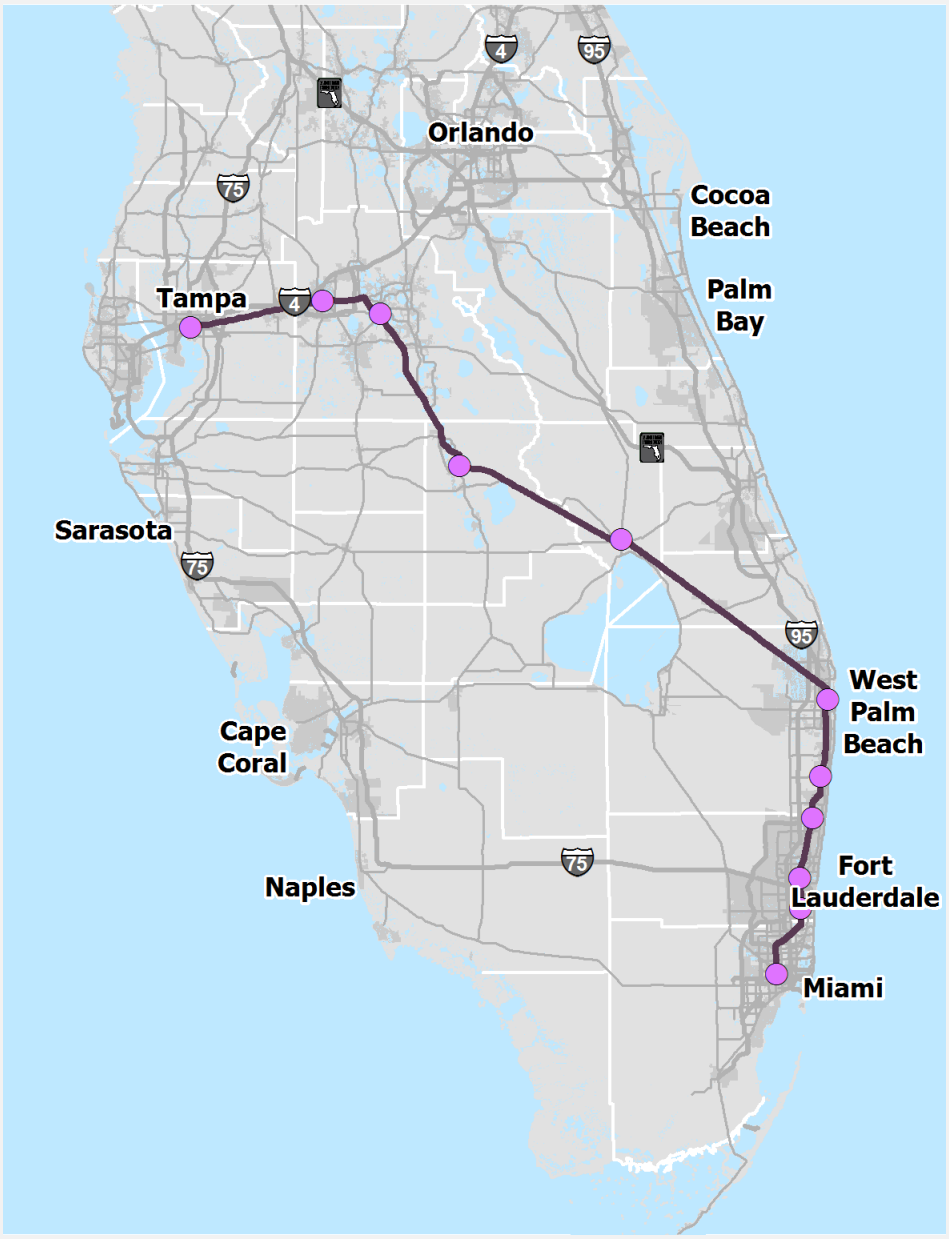
In Florida DOT's Passenger Rail Strategy: Yes

Data Sources

1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

3B. MIAMI – TAMPA: SFRC/CSX



Corridor Miles *(estimated)*: **258**

Number of Stations *(preliminary)*: **11**

- Tampa
- Lakeland
- Winter Haven
- Sebring
- Okeechobee
- West Palm Beach
- Delray Beach
- Deerfield Beach
- Fort Lauderdale
- Hollywood
- Miami

Top 100 MSAs Served: 3

- Miami-Fort Lauderdale-West Palm Beach (FL #1, US #9)
- Tampa-St. Petersburg-Clearwater (FL #2, US #18)
- Lakeland-Winter Haven (FL #5, US #80)

Major Attractions

- Amalie Arena
- Raymond James Stadium
- Legoland Florida
- Lake Okeechobee
- Fort Lauderdale Beach Park
- Everglades National Park
- South Beach/Historic Art Deco District
- Zoo Miami
- Key Biscayne/Miami Seaquarium
- FTX Arena
- Hard Rock Stadium

Description of Proposed Alignment

The Miami to Tampa SFRC/CSX corridor would overlay short-distance intercity passenger service on a rail line currently used by Amtrak's long-distance Silver Star train from New York to Miami, with a routing via West Palm Beach, Sebring, and Lakeland. The service scenario assumes trains would operate at existing passenger train speeds and stop at exiting Amtrak stations. From Miami to Mangonia Park, the corridor is controlled by Tri-Rail.

Rail Corridor Assessment

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	1,324,200	2,443,400	4,415,700

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	8,070,564	490,015	1,090,942	2,963,668	2,925,338	215,001
Percent	100%	6.07%	13.52%	36.72%	100%	7.35%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	05H 07M
Estimated Highway Trip Time	04H 31M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	352,706,443	351,948,686	351,452,211	351,149,404	0.44%
VHT	15,623,000	15,577,625	15,529,064	15,503,693	0.76%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Tampa - South End Mango	CSX	Tampa Terminal	8.1	1	79	CTC
South End Mango - South Lakeland	CSX	Lakeland	21.9	1	79	TCS
South Lakeland - Auburndale	CSX	Carters	11	1	79	TCS
Auburndale - South End Delta	CSX	Auburndale	137.4	1	79	TCS
South End Delta - Miami Airport	FDOT	South Florida Rail Corridor	81.6	2	79	CTC

Benefits to National Rail Passenger Transportation System

Increases the utility of existing infrastructure by:

- Using tracks and stations currently served by existing Amtrak long-distance trains operating between Florida and the Northeast
- Using the SFRC from Miami to West Palm Beach

Enhances passenger service opportunities by:

- Providing additional and complementary service to one daily Amtrak long-distance train that currently operates between Miami and Tampa and two daily Amtrak long-distance trains that currently operate between Winter Haven and Orlando on the same corridor
- Providing one-seat rides between Miami and Tampa, Florida's #1 and #2 top MSAs

Expands the reach of the system by:

- Connecting with Tri-Rail commuter trains at six stations along the SFRC between Miami and West Palm Beach, including the Miami Intermodal Center

Host Railroads

- CSX
- Florida Department of Transportation

Operator Support

- Amtrak

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Broward County Transit, Hillsborough Area Regional Transit, Lakeland Area Mass Transit District, Martin County Transit, Miami-Dade Transit, PalmTran, Pasco County Public Transportation, Pinellas Suncoast Transit Authority, Treasure Coast Connector	18	TPA, PBI, MIA, PIE, FLL	West Palm Beach Amtrak/Greyhound, Miami Greyhound/Miami Intermodal Center, Tampa Greyhound

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
341	217	57	148

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	1,230	4,680	2,280	8,640	4,120	15,610
Value-Added Impact[2]	$208	$510	$384	$940	$693	$1,699

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

Average Equity Score (15-mi buffer)	5.35
Average Equity Score (5-mi buffer)	5.77
Florida Statewide Average Equity Score	4.92

Prior Planning Context

Interregional Plans:
- Southeast Regional Rail Plan (via Orlando)
- USDOT High-Speed Corridor (via Orlando)
- Amtrak Connects US

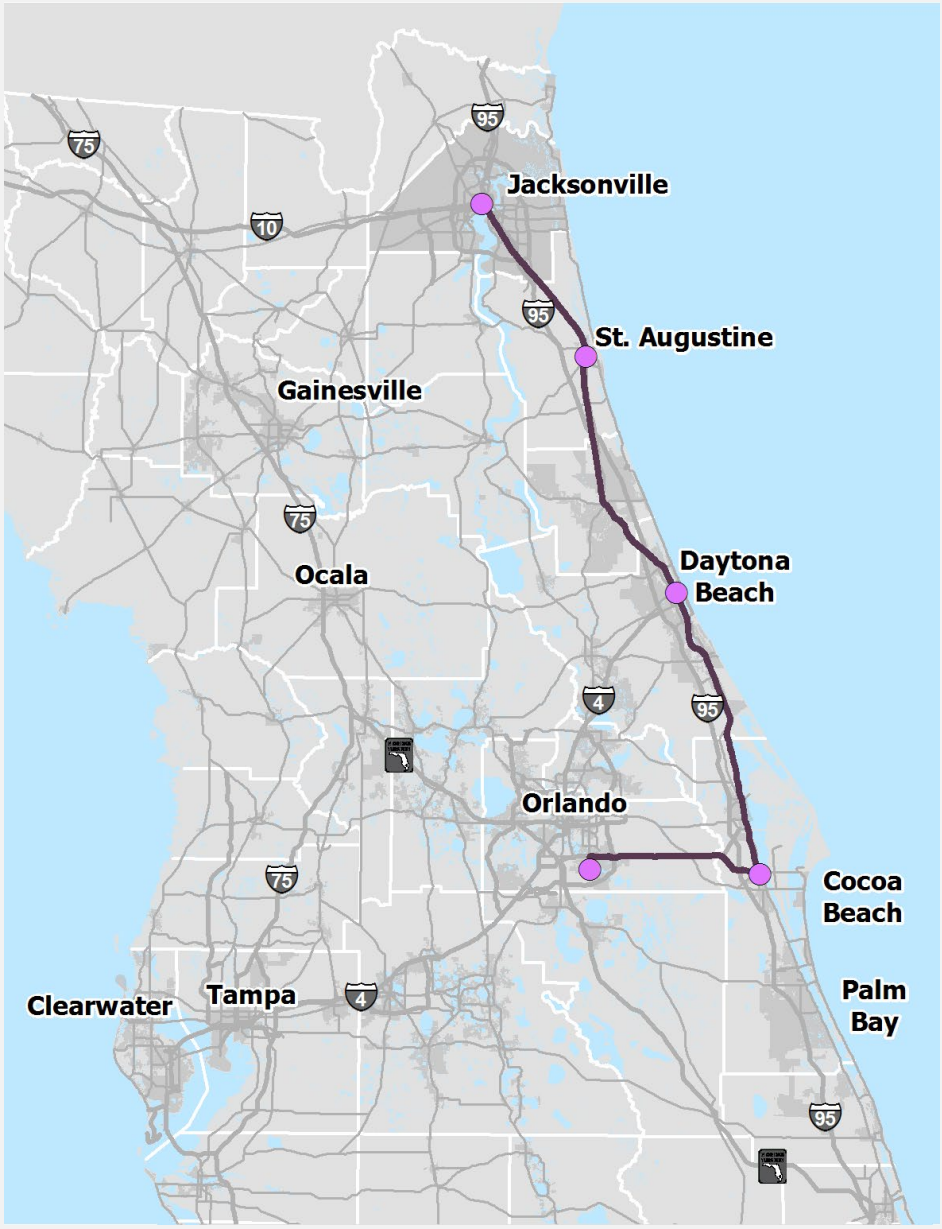
In Florida State Rail Plan: No

In Florida DOT's Passenger Rail Strategy: Yes

Data Sources
1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

4A. JACKSONVILLE – ORLANDO: FEC/BRIGHTLINE



Corridor Miles *(estimated)*: **189**

Number of Stations *(preliminary)*: **5**

- Jacksonville
- St. Augustine
- Daytona Beach
- Cocoa
- Orlando Airport

Top 100 MSAs Served: 4

- Orlando-Kissimmee-Sanford (FL #3, US #23)
- Jacksonville (FL #4, US #39)
- Deltona-Daytona Beach-Ormond Beach (FL #6, US #88)
- Palm Bay-Melbourne-Titusville (FL #7, US #95)

Major Attractions

- TIAA Bank Field/Jacksonville Riverwalk
- Jacksonville Zoo & Gardens
- St. Augustine Historic District
- Daytona Speedway
- Kennedy Space Center
- I-Drive Entertainment District
- SeaWorld
- Universal Studios
- Walt Disney World

Description of Proposed Alignment

The Jacksonville to Orlando passenger rail corridor via FEC/Brightline would use FEC tracks south from Jacksonville through Daytona Beach and Brightline's Cocoa-Orlando Airport passenger line. Brightline has a passenger rail easement with FEC for a Jacksonville extension, though no active plans for development are underway. The service scenario assumes train speeds up to 110 mph north of Cocoa.

Rail Corridor Assessment

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	862,400	1,373,300	1,882,300

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	3,570,611	485,355	466,134	1,084,475	1,324,747	74,657
Percent	100%	13.59%	13.05%	30.37%	100%	5.64%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	02H 40M
Estimated Highway Trip Time	02H 03M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	157,511,585	157,317,519	157,243,017	157,195,661	0.20%
VHT	5,266,731	5,258,161	5,255,188	5,252,156	0.28%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Jacksonville - Cocoa	FEC	Main Line	150	1 or 2	60	CTC/ATC
Cocoa - Orlando Airport	BLL		38	1	125	CTC/ATC

Benefits to National Rail Passenger Transportation System

Increases the utility of existing infrastructure by:

- Using a shared 125-mph corridor between Cocoa and Orlando to connect with existing 235-mile Brightline Miami-West Palm Beach-Orlando intercity passenger rail service at the Orlando International Airport station
- Securing passenger rail easement rights on the FEC Railway for an extension to Jacksonville and access to tourist destinations like Daytona Beach and St. Augustine

Enhances passenger service opportunities by:

- Providing one-seat rides between Orlando and Jacksonville, Florida's #3 and #4 top metropolitan areas, respectively

Expands the reach of the system by:

- Potentially connecting with Brightline, providing one-seat rides between Miami, Orlando, and Tampa on a planned Orlando-Tampa extension
- Potentially connecting with Amtrak long-distance trains at a planned Jacksonville Regional Transportation Center
- Potentially connecting with SunRail Commuter Service at Orlando International Airport
- Potentially connecting with a proposed Jacksonville-area commuter rail service at a planned Jacksonville Regional Transportation Center

Host Railroads

- Florida East Coast Railway
- Brightline

Operator Support

- Brightline

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Jacksonville Transportation Authority, LYNX, Space Coast Area Transit, Sunshine Bus Company, VOTRAN	10	MCO, DAB, JAX, Cape Canaveral Spaceport, Cecil Spaceport	Jacksonville Greyhound, Orlando Greyhound

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
165	43	8	8

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	800	3,050	1,280	4,850	1,750	6,650
Value-Added Impact[2]	$135	$332	$216	$528	$296	$724

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

Average Equity Score (15-mi buffer)	4.93
Average Equity Score (5-mi buffer)	5.46
Florida Statewide Average Equity Score	4.92

Prior Planning Context

Interregional Plans:

- Southeast Regional Rail Plan (Core Express)

In Florida State Rail Plan: No

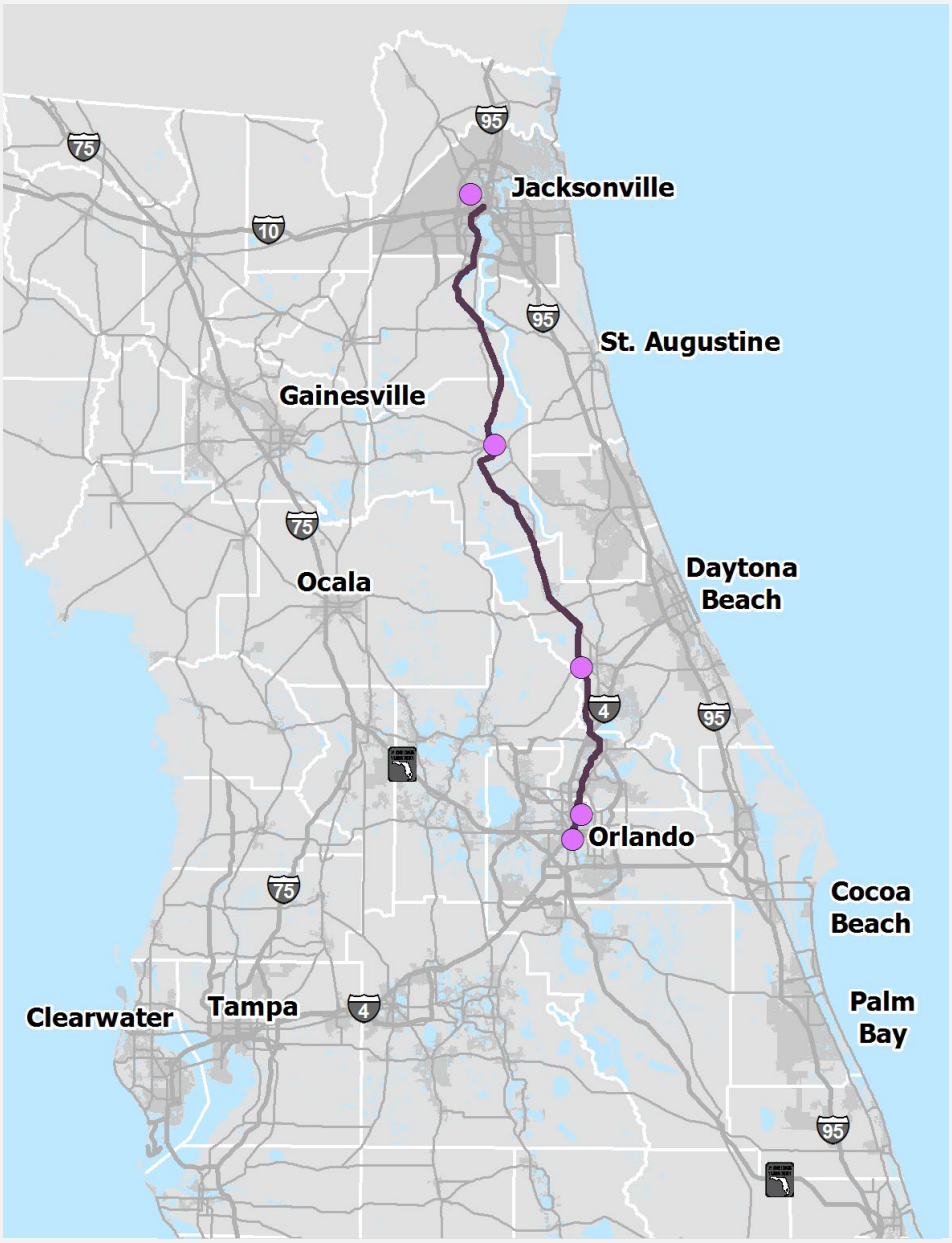
In Florida DOT's Passenger Rail Strategy: Yes

Data Sources

1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

4B. JACKSONVILLE – ORLANDO: CSX/CFRC



Corridor Miles *(estimated)*: **144**

Number of Stations *(preliminary)*: **5**

- Jacksonville
- Palatka
- DeLand
- Winter Park
- Orlando

Top 100 MSAs Served: 3

- Orlando-Kissimmee-Sanford (FL #3, US #23)
- Jacksonville (FL #4, US #39)
- Deltona-Daytona Beach-Ormond Beach (FL #6, US #88)

Major Attractions

- TIAA Bank Field/Jacksonville Riverwalk
- Jacksonville Zoo & Gardens
- Blue Springs Park
- Amway Arena
- I-Drive Entertainment District
- SeaWorld
- Universal Studios
- Walt Disney World

Description of Proposed Alignment

The Jacksonville to Orlando CSX/CFRC corridor would overlay short-distance intercity passenger service on a rail line currently used by Amtrak's long-distance Silver Meteor and Silver Star trains from New York to Miami, with a routing via Palatka and Winter Park. The service scenario assumes trains would operate at existing passenger train speeds and stop at existing Amtrak stations. From DeLand to Orlando, the corridor is controlled by SunRail.

Rail Corridor Assessment

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	270,700	514,700	815,700

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	3,426,583	426,622	452,180	1,261,074	1,232,582	68,117
Percent	100%	12.45%	13.20%	36.80%	100%	5.53%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	03H 05M
Estimated Highway Trip Time	02H 03M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	156,095,812	156,038,859	155,986,558	155,952,750	0.09%
VHT	5,234,313	5,232,444	5,230,248	5,228,023	0.12%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Jacksonville - St. Johns	CSX	Jacksonville Terminal	7	2	79	TCS
St. Johns – DeLand	CSX	Sanford	101	1	79	TCS
DeLand – Orlando	FDOT	Central Florida Rail Corridor	39	1 or 2	79	CTC

Benefits to National Rail Passenger Transportation System

Increases the utility of existing infrastructure by:

- Using tracks and stations currently served by existing Amtrak long-distance trains operating between Florida and the Northeast
- Using the CFRC from Orlando to DeLand

Enhances passenger service opportunities by:

- Providing additional and complementary service to two daily Amtrak long-distance trains that currently operate between Jacksonville and Orlando on the same corridor
- Providing one-seat rides between Orlando and Jacksonville, Florida's #3 and #4 top metropolitan areas, respectively

Expands the reach of the system by:

- Connecting with SunRail commuter trains at two stations along the CFRC, Winter Park and Orlando
- Potentially making a third connection with SunRail commuter trains at DeLand, once DeBary-DeLand SunRail extension is constructed
- Potentially connecting with a proposed Jacksonville-area commuter rail service (as well as existing Amtrak long-distance trains) at a planned Jacksonville Regional Transportation Center

Host Railroads

- CSX
- Florida Department of Transportation

Operator Support

- Amtrak

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Jacksonville Transportation Authority, Lake Express, LYNX, Sunshine Bus Company, VOTRAN	15	MCO, JAX, SFB, Cecil Spaceport	Jacksonville Greyhound, Orlando Greyhound

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
258	126	20	79

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	250	960	480	1,820	760	2,880
Value-Added Impact[2]	$43	$104	$81	$198	$128	$314

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

Average Equity Score (15-mi buffer)	4.95
Average Equity Score (5-mi buffer)	5.52
Florida Statewide Average Equity Score	4.92

Prior Planning Context

Interregional Plans:
- Southeast Regional Rail Plan (Core Express)
- Amtrak Connects US

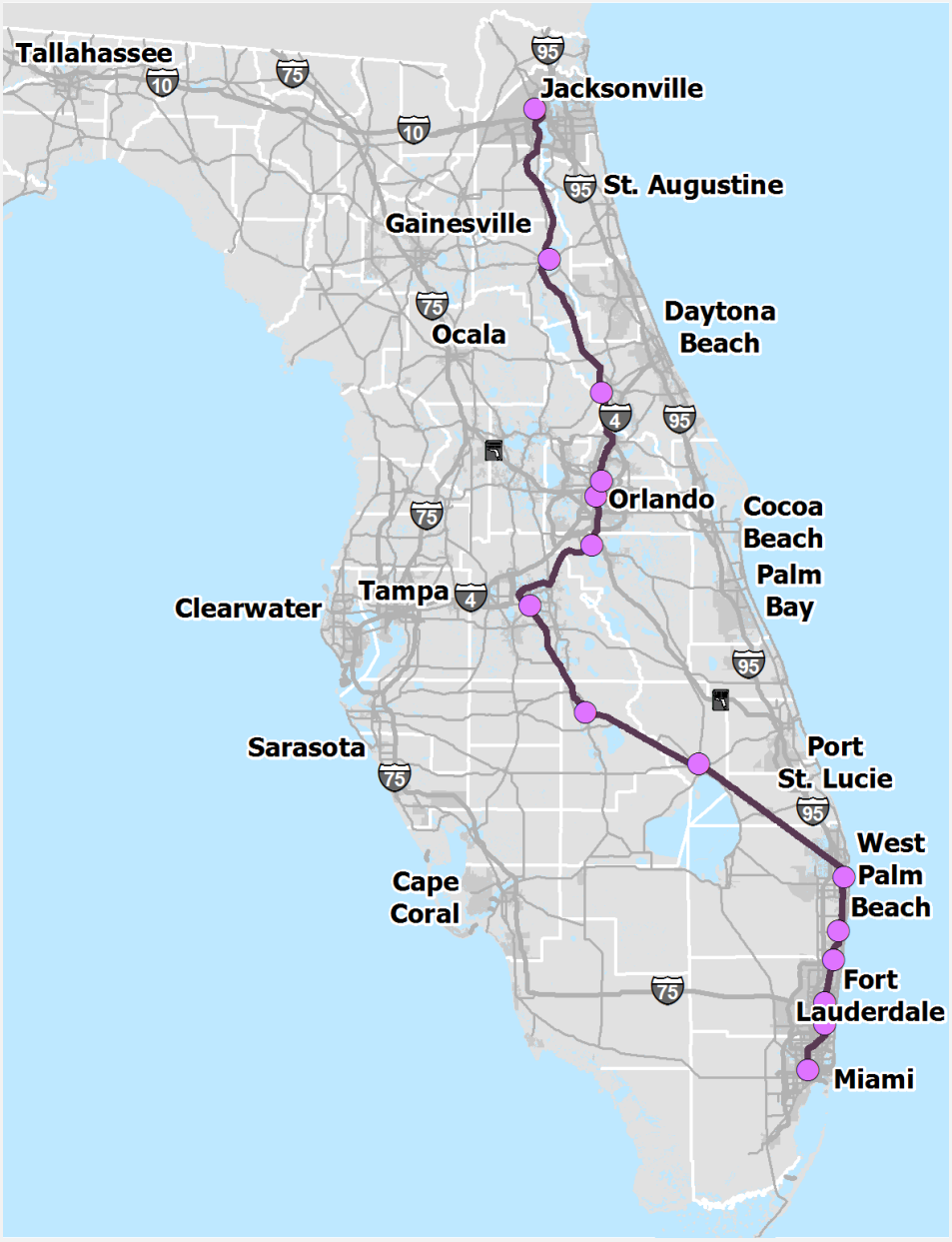
In Florida State Rail Plan: No

In Florida DOT's Passenger Rail Strategy: No

Data Sources
1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

5A. JACKSONVILLE – MIAMI: SFRC/CSX/CFRC



Description of Proposed Alignment

The Jacksonville to Miami SFRC/CSX/CFRC corridor would overlay short-distance intercity passenger service on a rail line currently used by Amtrak's long-distance Silver Meteor train from New York to Miami, with a routing via Palatka, Orlando, Sebring, and West Palm Beach. The service scenario assumes trains would operate at existing passenger train speeds and stop at exiting Amtrak stations. Some corridor segments are controlled by SunRail and Tri-Rail.

Corridor Miles *(estimated)*: **411**

Number of Stations *(preliminary)*: **15**

- Jacksonville
- Palatka
- DeLand
- Winter Park
- Orlando
- Kissimmee
- Winter Haven
- Sebring
- Okeechobee
- West Palm Beach
- Delray Beach
- Deerfield Beach
- Fort Lauderdale
- Hollywood
- Miami

Top 100 MSAs Served: 5

- Miami-Fort Lauderdale-West Palm Beach (L #1, US #9)
- Orlando-Kissimmee-Sanford (FL #3, US #23)
- Jacksonville (FL #4, US #39)
- Lakeland-Winter Haven (FL #5, US #80)
- Deltona-Daytona Beach-Ormond Beach (FL #6, US #88)

Major Attractions

- TIAA Bank Field/Jacksonville Riverwalk
- Jacksonville Zoo & Gardens
- Blue Springs Park
- Amway Arena
- I-Drive Entertainment District
- SeaWorld
- Universal Studios
- Walt Disney World
- Gatorland
- Legoland Florida
- Lake Okeechobee
- Ft. Lauderdale Beach Park
- Everglades National Park
- South Beach/Historic Art Deco District
- Zoo Miami
- Key Biscayne/Miami Seaquarium
- FTX Arena
- Hard Rock Stadium

Rail Corridor Assessment

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	1,444,400	2,837,500	5,106,000

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	10,301,879	906,640	1,376,466	3,947,524	3,688,365	253,079
Percent	100%	8.80%	13.36%	38.32%	100%	6.86%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	08H 22M
Estimated Highway Trip Time	05H 19M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	341,059,912	340,818,028	340,529,025	340,210,021	0.25%
VHT	13,679,245	13,674,157	13,650,331	13,623,578	0.41%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Jacksonville - St. Johns	CSX	Jacksonville Terminal	7	2	79	TCS
St. Johns – DeLand	CSX	Sanford	101	1	79	TCS
DeLand – Orlando	FDOT	Central Florida Rail Corridor	39	1 or 2	79	CTC
Orlando - Poinciana Holdout	FDOT	Central Florida Rail Corridor	22	2	79	CTC
Poinciana Holdout – Auburndale	CSX	Carters	27	1	79	TCS
Auburndale - South End Delta	CSX	Auburndale	137.4	1	79	TCS
South End Delta - Miami Airport	FDOT	South Florida Rail Corridor	81.6	2	79	CTC

Benefits to National Rail Passenger Transportation System

Increases the utility of existing infrastructure by:

- Using tracks and stations currently served by existing Amtrak long-distance trains operating between Florida and the Northeast
- Using the SFRC from Miami to West Palm Beach and the CFRC from Poinciana to DeLand

Enhances passenger service opportunities by:

- Providing additional and complementary service to two daily Amtrak long-distance trains that currently operate between Jacksonville and Miami on the same corridor
- Providing one-seat rides between Miami, Orlando, and Jacksonville, Florida's #1, #3, and #4 top metropolitan areas, respectively

Expands the reach of the system by:

- Connecting with Tri-Rail commuter trains at six stations along the SFRC between Miami and West Palm Beach, including the Miami Intermodal Center
- Connecting with SunRail commuter trains at three stations along the CFRC at Kissimmee, Orlando, and Winter Park
- Potentially making a fourth connection with SunRail commuter trains at DeLand, once DeBary-DeLand SunRail extension is constructed
- Potentially making connections at a planned Jacksonville Regional Transportation Center with a proposed Jacksonville-area commuter rail service (as well as existing Amtrak long-distance trains)

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Broward County Transit, Jacksonville Transportation Authority, Lake Express, Lakeland Area Mass Transit District, LYNX, Martin County Transit, Miami-Dade Transit, PalmTran, Sunshine Bus Company, Treasure Coast Connector, VOTRAN	35	MCO, PBI, JAX, MIA, SFB, FLL, Cecil Spaceport	Jacksonville Greyhound, Orlando Greyhound, West Palm Beach Amtrak/Greyhound, Miami Greyhound/Miami Intermodal Center

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
580	329	76	240

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	1,350	5,100	2,650	10,030	4,760	18,050
Value-Added Impact[2]	$227	$556	$446	$1,092	$802	$1,965

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

Average Equity Score (15-mi buffer)	5.30
Average Equity Score (5-mi buffer)	5.76
Florida Statewide Average Equity Score	4.92

Host Railroads

- CSX
- Florida Department of Transportation

Operator Support

- Amtrak

Prior Planning Context

In Florida State Rail Plan: No

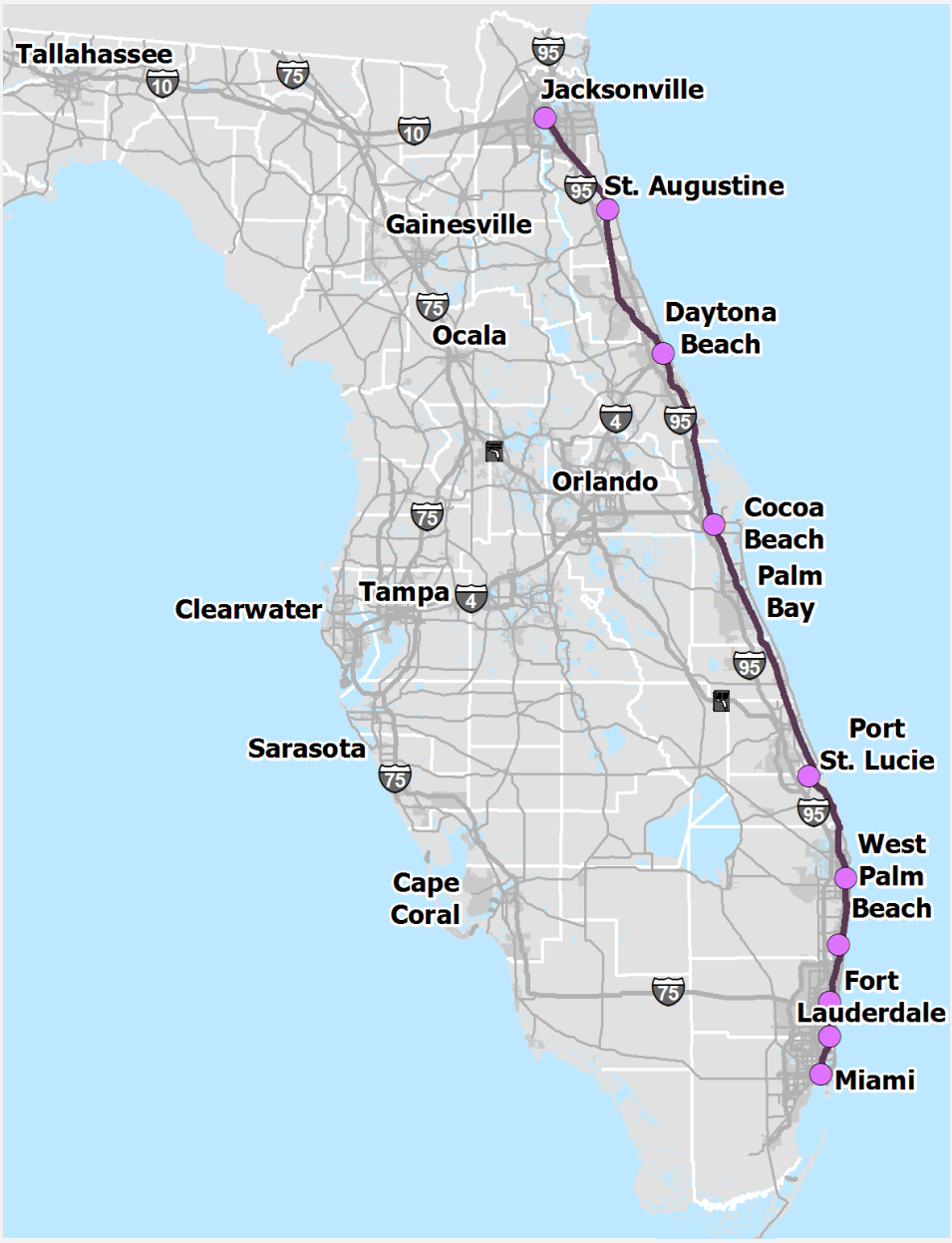
In Florida DOT's Passenger Rail Strategy: Yes

Data Sources

1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

5B. JACKSONVILLE – MIAMI: FEC



Description of Proposed Alignment

The Jacksonville to Miami passenger rail corridor via FEC follows the east coast of Florida paralleling I-95. The service scenario assumes use of Brightline stations and passenger train speeds (up to 110 mph) on the segment from Miami to Cocoa and, where feasible, train speeds up to 110 mph north of Cocoa. Brightline has a passenger rail easement with FEC for a Jacksonville extension, though no active planning is underway.

Corridor Miles *(estimated)*: **347**

Number of Stations *(preliminary)*: **10**

- Jacksonville
- St. Augustine
- Daytona Beach
- Cocoa
- Stuart/Fort Pierce
- West Palm Beach
- Boca Raton
- Fort Lauderdale
- Aventura
- Miami

Top 100 MSAs Served: 4

- Miami-Fort Lauderdale-West Palm Beach (L #1, US #9)
- Jacksonville (FL #4, US #39)
- Deltona-Daytona Beach-Ormond Beach (FL #6, US #88)
- Palm Bay-Melbourne-Titusville (FL #7, US #95)

Major Attractions

- TIAA Bank Field/Jacksonville Riverwalk
- Jacksonville Zoo & Gardens
- St. Augustine Historic District
- Daytona Speedway
- Kennedy Space Center
- Ft. Lauderdale Beach Park
- Everglades National Park
- South Beach/Historic Art Deco District
- Zoo Miami
- Key Biscayne/Miami Seaquarium
- FTX Arena
- Hard Rock Stadium

Rail Corridor Assessment

Service Quantities and Estimated Annual Boardings [1/8]

Daily Roundtrips	Two	Eight	Sixteen
Annual Boardings	2,073,800	3,745,400	5,385,100

Corridor Population Characteristics *(Within 15 Miles of Alignment)* [2/8]

	Population in Corridor	Rural	Below Poverty	Disadvantaged	Households in Corridor	Zero-Car Households
Total	8,425,756	586,330	1,096,183	2,817,456	3,145,000	225,845
Percent	100%	6.96%	13.01%	33.44%	100%	7.18%

Corridor End-to-End Trip Times[3/8]

Estimated Passenger Rail Trip Time	05H 10M
Estimated Highway Trip Time	05H 19M

Annual Mileage and Delays	No-Build	Two	Eight	Sixteen	Reduction with Full Build
VMT	258,579,301	258,027,389	257,754,077	257,517,091	0.41%
VHT	10,631,214	10,604,368	10,580,078	10,560,289	0.67%

Proposed Alignment Existing Physical Characteristics [4/8]

Line Segment	Owner	Subdivision	Approx. Miles	No. Main Tracks	Max Pass. Speed (mph)	Signal System
Jacksonville - Cocoa	FEC	Main Line	151	1 or 2	60	CTC/ATC
Cocoa - West Palm Beach	FEC	Main Line	129	2	110	CTC/ATC
West Palm Beach - Little River	FEC	Main Line	62.5	2	79	CTC/ATC
Little River - Miami Central Station	FEC	Port Lead	4.5	2	79	CTC/ATC

Benefits to National Rail Passenger Transportation System

Enhances passenger service opportunities by:

- Improving an existing Miami-West Palm Beach intercity passenger rail service by extending service and providing one-seat rides between Miami and Jacksonville, Florida's #1 and #4 top metropolitan areas, respectively
- Potentially connecting with Amtrak long-distance trains at a planned Jacksonville Regional Transportation Center

Expands the reach of the system by:

- Extending the existing 65-mile Brightline Miami-West Palm Beach intercity passenger rail service north to Jacksonville
- Extending to Jacksonville (with access to tourist destinations like Daytona Beach and St. Augustine) via secured passenger rail easement rights on the FEC Railway
- Connecting with Tri-Rail commuter trains at Miami Central Station in downtown Miami (under construction)
- Connecting (projected) at Miami Central Station and Aventura with planned Northeast Corridor commuter service on the FEC corridor between Miami and Aventura by 2030
- Connecting (projected) with future and other planned commuter services that will use the FEC corridor in Broward County and Palm Beach County
- Potentially making connections with a proposed Jacksonville-area commuter rail service at a planned Jacksonville Regional Transportation Center

Host Railroads

- Florida East Coast Railway

Operator Support

- Brightline

Rail Corridor Assessment

Modal Connectivity [5/8]

Transit Systems	Strategic Intermodal System Urban Fixed Guideway Stations/Terminals	Airports	Intercity Bus
Broward County Transit, GoLine, Jacksonville Transportation Authority, Martin County Transit, Miami-Dade Transit, PalmTran, Space Coast Area Transit, Sunshine Bus Company, Treasure Coast Connector, VOTRAN	18	PBI, DAB, JAX, MIA, MLB, FLL, Cape Canaveral Spaceport, Cecil Spaceport	Jacksonville Greyhound, West Palm Beach Amtrak/Greyhound, Miami Greyhound/Miami Intermodal Center

Vehicular Corridor Crossing Accidents/Incidents (2010-2021) [6/8]

Number of Grade Crossings	Number of Accidents	Total Number of Fatalities	Total Number of Injuries
526	255	59	58

Projected Employment and Economic Impacts [7/8]

	2 Daily Trips		8 Daily Trips		16 Daily Trips	
	Direct	Total	Direct	Total	Direct	Total
Employment Impact[1]	1,930	7,330	3,490	13,240	5,020	19.030
Value-Added Impact[2]	$326	$798	$588	$1,441	$846	$2,072

[1] Employment rounded to the nearest 10 job-years

[2] In millions of 2018 dollars

Potential Utility for Vulnerable Populations [8/8]

Average Equity Score (15-mi buffer)	5.37
Average Equity Score (5-mi buffer)	5.82
Florida Statewide Average Equity Score	4.92

Prior Planning Context

In Florida State Rail Plan: Yes

In Florida DOT's Passenger Rail Strategy: Yes

Data Sources

1. HDR Forecast, 2022
2. American Community Survey (2020), HDR Community Analytics (2022)
3. Google Maps, HDR (2022)
4. New Florida Rail Plan
5. GIS analysis using FDOT Transit office data for transit systems and FDOT-Strategic Intermodal System data for airports, Urban Fixed Guideway Stations and intercity bus terminals
6. Federal Railroad Administration - Crossing Accidents
7. HDR, 2022
8. American Community Survey (2020, Justice 40 Initiatives, - Historically Disadvantaged Communities, Census Urban Areas (2018)

For details on equity score composition, see the appendix

Chapter 5: Corridor Ratings

Based on the data collected and analyzed through the high-level, two-stage screening process, the corridors were qualitatively rated on a scale of high, medium, and low representing their potential viability for future study and investment, based on the following evaluation categories.

- Infrastructure/Right-of-Way Availability
- Market Size/Major Destinations/Trip Generators
- Equity Considerations
- Transportation Patterns/Conditions
- System Continuity/Connectivity
- Planning/Readiness

A rating process was established for the evaluation categories based on qualitative measures and professional judgment. Each evaluation criteria included qualitative measures to inform a rating of low, medium, or high potential for future evaluation and implementation. A scale of 1 to 3 was assigned for the corridor ratings, with the number 1 representing a low rating, number 2 representing a medium rating, and number 3 representing a high rating. This allowed the criteria to be assessed using weighted averages. Table 15 presents the qualitative methodology that was used for determining ratings.

Table 15: Methodology for Applying Corridor Ratings

EVALUATION CRITERIA	HIGH (3)	MEDIUM (2)	LOW (1)
Infrastructure/ ROW Availability **(CID Criteria #2)**	• ROW in place for full length of corridor • Track in place and in good condition for most or all of corridor • Passenger train service/signaling/speeds in place for full length of corridor • Less than three grade crossings with a history of accidents or fatalities in the corridor • Low freight impact • Ability to add track in future	• ROW in place for part of corridor • Some track acquisition and/or significant repair and improvements needed • Passenger train service/signaling/ speeds in place for part of corridor • Medium freight impact • Less than 10 grade crossings with a history of accidents or fatalities in the corridor • Some ability to add track in future	• Little or no existing ROW or track in place • Significant track acquisition and/or significant repair and improvements needed • No existing passenger train service/signaling/ speeds • High freight impact • More than 10 grade crossings with a history of accidents or fatalities in the corridor • No ability to add track in future

Rail Corridor Assessment

EVALUATION CRITERIA	HIGH (3)	MEDIUM (2)	LOW (1)
Market Size/Major Destinations/ Trip Generators **(CID Criteria #2, #4, #5, #11)**	• Corridor serves major clusters of population, employment, tourism, and other concentrations of destinations at both endpoints along the corridor • Corridor connects economically and socially tied cities • Corridor serves 2 or more of the top 100 most populated MSAs in the U.S. • High projected ridership forecasted in the Market Conditions Assessment (Stage 2 Screening)	• Corridor serves destinations that attract seasonal or special event travelers, but serves few major year-round destinations • Corridor links medium-sized centers of population and employment that support regional/ commuter travel but not intercity travel • Corridor serves 1 of the top 100 most populated MSAs in the U.S. • Medium projected ridership forecasted in the Market Conditions Assessment (Stage 2 Screening)	• Corridor serves few/small or no major urban residential, employment, or tourist centers • Corridor population and employment densities served are low • Little movement of residents within corridor to other areas/ regions • Corridor serves 0 of the top 100 most populated MSAs in the U.S. • Low projected ridership forecasted in the Market Conditions Assessment (Stage 2 Screening)
Equity Considerations **(CID Criteria #7, #9)**	• Corridor serves areas with large percentages of zero-car residents, low-income residents, areas of persistent poverty, and historically disadvantaged communities	• Corridor serves areas with smaller percentages of zero-car residents, low-income residents, areas of persistent poverty, and historically disadvantaged communities	• Corridor serves areas with low percentages of zero-car residents, low-income residents, areas of persistent poverty, and historically disadvantaged communities
Transportation Patterns/ Conditions **(CID Criteria #3)**	• Corridor has heavy and growing travel volumes experienced by all modes • Large amounts of road congestion on highways in corridor • Multiple transportation alternatives exist	• Corridor has less heavy and steady (little or no growth) travel volumes • Transportation is somewhat reliable with fewer delays/ chokepoints on highways in corridor • Few or no transportation alternatives exist	• Corridor has low volumes of traffic on existing modes • Good levels of service, few delays/chokepoints on highways in corridor

EVALUATION CRITERIA	HIGH (3)	MEDIUM (2)	LOW (1)
System Continuity/ Connectivity **(CID Criteria #10, #12. #13)**	• Corridor has existing intercity passenger rail service with relatively high use and increasing ridership • Corridor has existing commuter rail service with relatively high use and increasing ridership • Corridor has a large number of existing transit systems that could provide multimodal connectivity at rail stations	• Corridor has no existing intercity or commuter rail services • Corridor has existing intercity passenger rail service with low and/or declining ridership • Corridor has existing commuter rail service with low and/or declining ridership • Corridor has few existing transit systems that could provide connectivity at rail stations	• Corridor has no existing intercity passenger or commuter rail services • Corridor has no existing transit systems that could provide connectivity • Potential rail stations are a long distance from population centers
Planning/Readiness **(CID Criteria #1, #6, #8, #14)**	• Corridor has been listed in the FRA Southeast Regional Rail plan or is part of a federally designated high speed rail corridor • Corridor has been identified as a future investment in the Florida Rail System Plan • Corridor has been identified in other state, regional, or local plans • Corridor has a sponsoring agency with a strong interest in implementation and commitment to fund operations • Previous planning, engineering, or environmental work has been carried out, such as a Service Development Plan, environmental evaluation, alternatives analysis, or feasibility study • ROW has been acquired, and/or agreements or expressions of interest/support have been obtained by host railroads or a service provider	• No previous listing in a federal passenger rail planning document or state rail plan • No previous ROW acquisition, planning, engineering, or environmental studies have been completed • Corridor is listed in other state, regional, or local planning documents • Corridor has a sponsoring agency that has expressed mild interest in development but has not committed to pursuing implementation or funding strategies • Discussions with host railroads and service providers have not taken place	• No previous listing in a federal passenger rail planning document or state rail plan • No previous ROW acquisition, planning, engineering, or environmental studies have been completed • No listing in other state, regional, or local planning documents • Little or no support from a sponsoring agency

Table 16 presents the results of the corridor ratings for each Tier 1 corridor after qualitatively assessing each corridor using the evaluation criteria presented in Table 15 and assigning the numerical rankings. These ratings represent qualitative, high-level analyses and are not intended to commit FDOT to a specific plan or action.

Table 16: Tier 1 Corridor Ratings

	Corridors	Infrastructure/ ROW Availability	Market Size/Major Destinations/ Trip Generators	Equity Considerations	Transportation Patterns/ Conditions	System Continuity/ Connectivity	Planning/ Readiness
via CSX	MIA-ORL	2	2	3	3	3	2
	ORL-TAM	2	2	2	3	2	2
	MIA-TAM	2	2	3	3	2	2
	JAX-ORL	3	1	3	1	2	2
	JAX-MIA	3	2	3	1	2	2
via FEC/BL	MIA-ORL	3	3	3	3	3	3
	ORL-TAM	1	3	2	3	2	3
	MIA-TAM	2	3	3	3	3	3
	JAX-ORL	1	2	2	3	1	2
	JAX-MIA	2	2	3	3	1	2

After the corridor ratings were completed, a corridor prioritization scale was developed to assess corridors and alignments that have the highest potential for viability and future evaluation. This prioritization scale was developed to assist FDOT in decision-making concerning where future passenger rail studies and investments might be directed. The six criteria used in the corridor ratings were given weights representing the relative importance of each evaluation category in prioritizing corridors for further study and implementation. These weights were determined with an understanding of FDOT priorities and professional judgment, and changing conditions could alter the weights relative to one another. Table 17 presents the evaluation criteria weights.

Table 17: Prioritization Weightings

Evaluation Criteria	Weight
Infrastructure/Right-of-Way Availability	2
Market Size/Major Destinations/Trip Generators	2.5
Equity Considerations	1
Transportation Patterns/Conditions	1.5
System Continuity/Connectivity	1.5
Planning/Readiness	1.5
Total	**10**

Table 18 presents the results of the corridor prioritization assessment for each Tier 1 corridor. Each corridor was given a priority ranking based on the rating received in each evaluation category (1, 2, or 3), multiplied by the weight of each category, and added together to create a weighted average. Higher scores represent those corridors or alignments with a higher potential for future study or implementation that FDOT and its partners might want to direct resources in the near term.

Given that each Tier 1 corridor has two different alignments that were evaluated in the study, the ratings and prioritization rankings provide an indication of which alignment has a higher development and implementation potential between the corridor endpoints.

Table 18: Passenger Rail Corridor Prioritization Scores

Priority	Corridor	Score
1	**MIA-ORL (FEC/BL)**	5.00
2	**MIA-TAM (FEC/BL)**	4.67
3	**MIA-ORL (CSX)**	4.00
4	**ORL-TAM (FEC/BL)**	3.92
5	**MIA-TAM (CSX)**	3.75
6	**ORL-TAM (CSX)**	3.58
7	**JAX-MIA (CSX)**	3.58
8	**JAX-MIA (FEC/BL)**	3.50
9	**JAX-ORL (CSX)**	3.17
10	**JAX-ORL (FEC/BL)**	3.00

The rankings presented in Table 18 represent qualitative, high-level analyses and are not intended to commit FDOT to a specific plan or action. Changing conditions in the future could cause the priorities, weights, and rankings of corridors to change. Detailed studies should be conducted for corridors that are advanced for further evaluation and implementation to provide in-depth, corridor-specific information that will aid in future decision-making, partnerships, and investment.

Chapter 6: Conclusion & Strategy

The following section presents qualitative interpretations of the corridor ratings and prioritization rankings to aid FDOT in future decision-making regarding corridors and alignments to be advanced for further evaluation. This assessment does not commit FDOT to specific decisions or actions but can be used to inform future activities regarding intercity passenger rail development.

Part 1: Summary Findings from Corridor Priority Rankings

Miami – Orlando Corridor

Miami – Orlando is the highest scoring corridor among the five corridors analyzed.

The Miami – Orlando alignment via FEC/Brightline scores significantly higher (score: 5.00) than the Miami – Orlando alignment via SFRC/CSX (score: 4.00). Further, the Miami – Orlando alignment via FEC/Brightline is the highest scoring alignment of any corridor analyzed. This top ranking reaffirms the positive outcome anticipated by Brightline and its efforts to establish a viable for-profit passenger service between Miami and Orlando on the FEC/Brightline alignment.

Brightline's Miami – Orlando corridor will be in service in 2023, with no station stops between West Palm Beach and Orlando Airport. This study's analysis of residential, employment, and recreational centers in the FEC/Brightline corridor identified areas of substantial economic activity in Cocoa/Space Coast and Stuart that could benefit from the addition of an intermediate station(s), which could generate additional ridership. However, this study also acknowledges that any addition of intermediate stations in the FEC/Brightline corridor should be limited to only a few locations. The corridor has a high ridership projection, which in part reflects the attractiveness of Brightline's 3.5-hour trip time between Miami and Orlando – a travel time that matches or outcompetes (especially under congested conditions) an interstate highway trip. If too many additional intermediate stations are added to the corridor, trip times would be lengthened to a degree where the train might no longer be a competitive or attractive travel alternative. Stuart, Cocoa, and potentially Melbourne appear to be the strongest candidates for intermediate stations that could generate additional ridership.

FDOT should discuss with Brightline its business plan criteria, methodologies, and needs when considering additional stations. The discussion should include insight into Brightline's expectations for the role that FDOT could play, or funding support that FDOT could provide to support the construction and ongoing operations and maintenance of intermediate stations.

With service on the Brightline alignment about to commence, building a future alternate Miami – Orlando intercity passenger corridor on the slower SFRC/CSX alignment would serve only to

expend resources, serve fewer riders, and duplicate an intercity corridor that had a higher ranking in the study and is, essentially, already in service.

Miami – Tampa Corridor

Miami – Tampa is the second highest scoring corridor among the five corridors analyzed.

The Miami – Tampa alignment via FEC/Brightline scores significantly higher (sore: 4.67) than the Miami – Tampa alignment via SFRC/CSX (score: 3.75). The Miami – Tampa alignment via FEC/Brightline is the second highest scoring alignment of any corridor analyzed – almost on par with Miami – Orlando via FEC/Brightline.

The Miami – Tampa via FEC/Brightline alignment builds on the strength of the Miami – Orlando corridor via FEC/Brightline by extending that route to Tampa, providing a competitively timed, one-seat ride linking Florida's top three metropolitan areas: Miami, Tampa, and Orlando.

In the ridership projections, the Miami – Tampa via FEC/Brightline corridor has the highest ridership projection of any corridor analyzed in the study – approximately 25% higher than the corridor with the second highest estimated ridership.

The reason that the Miami – Tampa via FEC/Brightline alignment ranks slightly below the Miami – Orlando via FEC/Brightline alignment in the evaluation scoring is because the Tampa to Orlando segment still must be constructed, whereas the Miami to Orlando segment has already been constructed and is about to begin service.

By contrast, a Miami – Tampa routing via the SFRC/CSX alignment is not as attractive because it does not provide the opportunity to create a corridor that offers a one-seat ride from Miami to both Orlando and Tampa. The CSX tracks run north from Miami and split at Auburndale. At that location, trains can either operate northeast to Orlando or west to Tampa. One train from Miami cannot directly serve both Orlando and Tampa without making a backup move to Auburndale. (Amtrak's Silver Star service from Miami performs this backup move daily to serve first Tampa, and then Orlando, adding two hours of additional trip time to a Miami-Orlando train ride.)

With service on the Brightline Miami-Orlando alignment about to commence, and the Brightline Orlando-Tampa segment in active design with federal funding, building a future alternate intercity passenger corridor from Miami to Tampa on the SFRC/CSX alignment would serve only to expend limited resources to duplicate a successful intercity passenger corridor already in place between Miami and Orlando and in active design from Orlando to Tampa, without the benefit of a one-seat ride among all three metropolitan regions. FDOT should support Brightline's efforts to complete the buildout of the Orlando to Tampa section of its corridor and establish a Miami – Orlando – Tampa intercity passenger service on the FEC/Brightline alignment.

Tampa – Orlando Corridor

On its own, the Tampa – Orlando is the third highest scoring corridor in the study. The Tampa – Orlando corridor via Brightline scores marginally higher (score: 3.92) than the Miami – Tampa alignment via CSX/CFRC (score: 3.58), because of desirable intermediate stations on the Brightline corridor at Orlando Airport, Orange County Convention Center, and Disney Springs.

However, when the future Tampa – Orlando via Brightline alignment is combined with the in-service Miami – Orlando via FEC/Brightline alignment, the value of the Tampa to Orlando segment is significantly strengthened and creates a Miami – Orlando – Tampa corridor that generates the highest potential ridership of any corridor analyzed and highest ranking of any corridor not yet constructed.

Planning and design of the Brightline extension is currently underway and will generate benefits to the regional SunRail commuter rail network as well, through the development of the shared Sunshine Corridor in Orlando.

The CSX/CFRC alignment would not serve the planned high-ridership stations at the Orange County Convention Center and Disney Springs that the Brightline alignment would serve, although the CSX/CFRC alignment would serve the planned Lakeland intermodal center.

Building an alternate intercity passenger corridor between Orlando and Tampa using the CSX/CFRC alignment would only expend resources to duplicate a project currently underway on the Brightline alignment and would not facilitate an extension of SunRail commuter service west to the Orange County Convention Center or east to the Orlando International Airport. FDOT should support Brightline's efforts to complete the buildout of the Orlando to Tampa section of its corridor and establish a Miami – Orlando – Tampa intercity passenger service on the FEC/Brightline alignment.

Jacksonville – Miami Corridor

Jacksonville – Miami is the second lowest scoring corridor in the study. The scores for each alignment are almost identical, with the CSX/CFRC/SFRC alignment scoring a 3.58 and the FEC alignment scoring a 3.50. The similarity in rankings likely could be because:

- Although the CSX/CFRC/SFRC alignment is slower and has more circuity, it serves Orlando, and provides a one-seat ride from Jacksonville to Orlando to Miami, which attracts enough additional riders to overcome the slower trip time.
- The FEC alignment is shorter and faster, and gains more end-to-end ridership than the CSX alignment, but requires more construction to build out and does not provide the opportunity to create a corridor that offers a one-seat ride from Jacksonville to both Orlando and Miami directly, lowering its score to a level on par with the CSX alignment.

(The FEC tracks run north from Miami and split at Cocoa. At that location, trains can either operate west to Orlando or north to Jacksonville. One train from Miami cannot directly serve both Orlando and Jacksonville on the FEC alignment without making a backup move from Orlando to Cocoa.)

The Jacksonville – Miami corridor has the second highest ridership among the corridors analyzed, however, the ridership estimates include riders traveling between shorter city-pairs such as Miami-Orlando also served by other corridors that ranked higher in this evaluation. Ridership to and from Jacksonville itself makes up only about 20% of the projected ridership in the Jacksonville – Miami corridor, regardless of alignment.

Given that Brightline's Miami – Orlando corridor is about to be placed into service, constructing a corridor from Jacksonville that serves both Orlando and Miami on the CSX alignment would expend resources on a duplicate intercity service in the Orlando to Miami segment, which comprises approximately 65% of the length of the Jacksonville – Miami corridor.

A more efficient use of resources might be for FDOT to work with Brightline to identify its expectations and goals for what a future extension to Jacksonville might require, how a Jacksonville service might fit into Brightline's overall intrastate network and business plan, and what types of state support might be appropriate to fulfill that vision and overcome any shortfalls that would make a Jacksonville extension infeasible under Brightline's for-profit business model.

If a Jacksonville extension of Brightline is not feasible, either for FDOT or for Brightline, then FDOT may wish to explore with Brightline how connections with an alternate passenger rail provider from Jacksonville to Orlando might be made to enable passengers at Orlando to continue their journey to Miami on Brightline's existing service.

Jacksonville – Orlando Corridor

The Jacksonville – Orlando is the lowest scoring corridor in the study. The scores for each alignment are similar, with the CSX/CFRC alignment scoring slightly higher (score: 3.58) than the FEC/Brightline alignment (score: 3.50). However, the FEC/Brightline alignment has a ridership projection that is more than double the number of projected riders on the CSX/CFRC alignment.

The likely reason that the study's scoring places the two alignments on an even plane – despite the vast differences in estimated ridership – could be because:

- The CSX/CFRC alignment has existing passenger service on it. Amtrak long-distance trains are already running at passenger train speeds between Jacksonville and Orlando on the CSX/CFRC alignment. However, this alignment serves fewer high-activity intermediate markets; station stops are located at places such as Palatka and DeLand.

- By contrast, the FEC/Brightline alignment from Jacksonville to Cocoa does not have passenger service on it and would require a more significant construction effort between, although at Cocoa trains would use the existing 125-mph Brightline alignment to Orlando. In addition, this alignment would serve higher-activity intermediate markets, such as St. Augustine, and Daytona Beach.

An Orlando – Jacksonville corridor might likely have enhanced utility/attractiveness as part of a longer bistate Southeast Regional Corridor from Atlanta and Savannah to Jacksonville and Orlando. An Atlanta – Savannah – Jacksonville – Orlando corridor likely would yield a higher ridership projection and provide more regional mobility value than a standalone rail corridor between Jacksonville and Orlando. It is also likely that the rail operator in the bistate corridor would be an entity other than Brightline as markets north of Jacksonville are beyond the potential Brightline service area. Therefore, it is likely that a CSX/CFRC alignment with a different operator could become a more favorable and feasible routing option as part of a longer bistate Southeast Rail Corridor.

FDOT should continue to partner with the Southeast Corridor Commission as it advances its plans for developing a Southeast Rail Corridor from Atlanta to Jacksonville. FDOT should work with the Southeast Corridor Commission to determine how a Jacksonville – Orlando segment of the Southeast Corridor might play a role in the commission's vision, and what the commission's expectations are when determining future alignments, service frequencies, and delivery models.

FDOT should also work with Brightline to identify its expectations and goals for what a future extension to Jacksonville might require, how a Jacksonville service might fit into its overall intrastate network and business plan, and what types of state support might be appropriate to fulfill that vision and overcome any shortfalls that would make a Jacksonville extension infeasible under Brightline's for-profit business model.

Part 2: Funding Considerations

Florida is unique among U.S. states in that the future development and expansion of intercity passenger rail service in the state could be implemented in partnership with Amtrak under established models of state and federal funding arrangements for passenger rail, or could be implemented in partnership with Brightline under a for-profit business model that includes public investments or resources for certain aspects of system implementation, but to date has privately funded ongoing operations and maintenance. The Federal Railroad Administration's Corridor ID Program will provide a framework for facilitating the pre-construction development of new and expanded intercity passenger rail corridors, for the purpose of advancing the corridor for subsequent implementation with federal funding under the Federal State Partnership for Intercity Passenger Rail capital funding program. Although private passenger rail companies are not eligible applicants for the receipt of federal funding of passenger rail projects under the Corridor ID Program, states participating in the program have the choice and requirement to select and identify a service operator for the corridor. Thus, passenger rail corridors could be developed in partnership with either Amtrak or Brightline.

Table 19 presents the state funding requirements under the Corridor ID Program for eligible types of passenger rail corridors.

Table 19: State Funding Requirements for Passenger Rail Under the Corridor ID Program

CORRIDOR TYPE	CANDIDATE CORRIDORS	CAPITAL COST	OPERATING COST
Type 1: A new intercity passenger rail route of less than 750 miles	• Orlando – Tampa • Miami – Tampa • Orlando – Jacksonville • Miami – Jacksonville • Atlanta – Savannah – Jacksonville • Miami – Naples – Tampa • Orlando - Gainesville	• Federal funding may be used to pay for up to 80% of eligible pre-construction development costs under the Corridor ID Program and up to 80% of total qualified capital expenditures including equipment procurement, under the Federal State Partnership for Intercity Passenger Rail. • The state or sponsoring entity must commit to providing not less than a 20% match.	• Under federal law, states are required to subsidize the operation of non-private intercity passenger trains on Amtrak routes of 750 miles or less. • Florida will be able to apply for Restoration and Enhancement grant program for operating assistance on a sliding scale of reduced federal participation (from 90% for the first year to 30% for the sixth year) over six years. • By contrast, a private passenger rail operator may agree to partner with a state to provide the service with no annual subsidy requirement from the state.

CORRIDOR TYPE	CANDIDATE CORRIDORS	CAPITAL COST	OPERATING COST
Type 2: Enhancement of an existing intercity passenger rail route of less than 750 miles	• Miami – Orlando via FEC/Brightline. Future capital improvement projects in the existing Brightline corridor between Miami and Orlando would be eligible candidates for federal funding under this route category.	• Same as route type 1 (80% federal, 20% state).	• Same as route type 1. States will provide ongoing operating support of Amtrak or other non-privatized services • Federal subsidies provided for Amtrak routes (on a sliding scale) for an initial, short-term duration. • A private passenger rail operator may agree to partner with a state to provide the service with no annual subsidy requirement from the state
Type 3: Restoration of service over all or portions of an intercity passenger rail route formerly operated by Amtrak	• Orlando – Jacksonville – New Orleans (Sunset Limited route)	• Same as route type 1 (80% federal, 20% state).	• If service is restored on a route of more than 750 miles, then the route is considered a long-distance train that is part of Amtrak's National Network, and Amtrak assumes all responsibility for annual operating costs. • FDOT will be potentially supportive of a service restoration in this corridor, as long as the restored service is a National Network long-distance train that will not require a future annual operating subsidy from state sponsors • **An Orlando – New Orleans service restoration would occur on a 769-mile route** (service was suspended in 2005) that would be defined as a long-distance route. Service would not require state operating support. • **However, a Jacksonville – New Orleans service restoration would be on a 619-mile route that would**, therefore, commit the state to providing annual operating subsidies for the service, **unless the service was an extension of an existing Amtrak long-distance train or an Amtrak train that originated at a location more than 750 miles from Jacksonville.**

CORRIDOR TYPE	CANDIDATE CORRIDORS	CAPITAL COST	OPERATING COST
Type 4: Increase of service frequency of a long-distance passenger route	• New York-Miami via Charleston, SC (Silver Meteor route) • New York-Miami via Raleigh, NC and Tampa, FL (Silver Star route) • Auto Train	• Same as route type 1 (80% federal, 20% state)	• Amtrak assumes responsibility for annual operating costs of long-distance routes. • FDOT will be supportive of service frequency increase on these routes as additional Amtrak National Network long-distance trains that that will not require a future annual operating subsidy from state sponsors.

FDOT's vision for passenger rail includes working with for-profit service providers such as Brightline to develop public-private partnerships that would enhance private passenger rail systems. As part of the partnership development process, FDOT anticipates working with the private operator to determine whether the entity can fund the non-federal share of the capital cost and sustain long-term operations without a subsidy.

In addition, FDOT's vision for passenger rail includes potentially providing support in an advisory capacity to other multi-state, regional, or local public agencies that wish to develop and implement other intercity passenger rail corridors serving Florida, such as routes linking Jacksonville and Atlanta or long-distance routes of more than 750 miles. FDOT's support may include providing a state share of non-federal funding for the capital costs of corridor development and construction. However, FDOT does not intend to commit state funds to providing annual operating support for services on these corridors.

Part 3: Potential Action Items and Recommendations

There are important policy discussions that need to occur outside the corridor assessment. These policy considerations include but are not limited to:

- **State funding for intercity passenger rail**. The Brightline program has been developed without state funding to support operations or capital. While Brightline has secured federal funds for the planning and development efforts from Orlando to Tampa and has expressed interest in securing federal funding for design and construction through the FRA Fed-State Partnership Program for the Sunshine Corridor, there is no state funding planned to support the non-federal share of any intercity capital or operating rail grants. The state has provided funding to support safety enhancements in excess of regulatory requirements on the Brightline corridor.
- **Public funding for service that is on a common corridor**. While Brightline is not requesting an operating subsidy, Amtrak's state supported services require non-Amtrak funding to cover any operating losses on corridors less than 750 miles.
    - Should FDOT fund the development of Amtrak's state supported services on a corridor where Brightline is either operating or when Brightline is actively planning for development?
    - Since Brightline provides a higher-cost premium service, should Amtrak be viewed as a separate market operating along a common corridor?
    - Is there a public interest in supporting access to an intercity service that is non-premium in nature or would it still be viewed as subsidizing competition with a market-based service?

While the Corridor Assessment considers the presence of service in a corridor in the evaluation process, it does not make any assumptions about answers to these policy considerations.

Based on the findings presented above, the following recommendations have been developed to identify initial next steps that FDOT might wish to pursue for the strategic development of intercity passenger rail corridors going forward.

FDOT should arrange meetings with Brightline to discuss:

- Completion of an Orlando to Tampa extension of the Brightline network and Brightline's expectations for FDOT support/actions to advance the project.
- Conditions under which a limited number of infill stations might be constructed along the corridor at Stuart, Cocoa, and potentially Lakeland which, if aligned with Brightline's business model, could serve the most promising intermediate markets with stations not in active planning/design; discuss Brightline's expectations for the role that FDOT could

play; or funding support that FDOT could provide to support the construction and/or operation of intermediate stations.

- Conditions under which Brightline might consider FDOT financial support to sustain or enhance the operation and maintenance of the Brightline system during times (such as a pandemic) when service might otherwise be suspended under Brightline's for-profit business model.
- Conditions under which an extension of the Brightline network to Jacksonville and a Jacksonville station might be planned, constructed, operated, and funded; discuss Brightline's expectations for the role that FDOT could play; or funding support that FDOT could provide to support a network extension to Jacksonville.

FDOT should arrange meetings with the Southeast Corridor Commission to discuss:

- Plans and expectations of FDOT for the buildout of the Southeast Rail Corridor from Atlanta to Jacksonville, and a potential extension from Jacksonville to Orlando. This would include identification of future activities and timelines of project components. These discussions might also help inform how future passenger rail service between Jacksonville and Orlando might be implemented and potential service delivery models that could be employed.

The Department must make several key decisions regarding:

- **Whether or not to pursue opportunities to develop intercity passenger corridors**. The development of intercity corridors requires significant commitments of department resources, funding, and engagement activities, as well as contractual agreements that may ensue. FDOT understands the nature of these types of commitments from its previous work (a) with Brightline on the development of its intercity passenger network, (b) with Amtrak on the establishment of new facilities for Amtrak such as the Miami Intermodal Center, and (c) with Tri-Rail and SunRail through the acquisition, operation, and maintenance of state-owned, shared-use rail corridors.

  Corridor development opportunities that advance through FRA's Corridor ID Program will require a state commitment of funding to complete the FRA-required activities that precede Final Design and Construction. These activities include the preparation of a Service Development Plan (which requires a minimum 10% non-federal match from project sponsors), and completion of subsequent FRA-designated development activities such as a National Environmental Policy Act (NEPA) environmental assessment and Preliminary Engineering, all of which require a minimum 20% non-federal match from Project sponsors. Projects that apply for federal funding for construction will require a minimum 20% non-federal match. Passenger rail corridor development undertaken

outside the FRA Corridor ID Program might be enacted with private partners (such as Brightline) that shoulder more of the cost burden, but still require some level of state resources.

FDOT's decision to pursue the development of a passenger rail corridor should be made with certain expectations in mind that can be communicated to other partners and stakeholders and may include benefits such as improving transportation options to alleviate traffic congestion, improving mobility for Florida residents, workers, and visitors; enhancing access to major resident, employment, or tourism centers of economic activity in the state. The decision should also be made with an understanding of the state's future obligations once the service is in operation and a commitment from FDOT and/or state legislators to meet those obligations for as long as the service is in operation.

- **Potential Routes – eligibility route types 1 through 4**. FDOT, like in other states, has a limited amount of financial resources that could be directed to intercity passenger rail. FDOT will have to determine how best to spend its passenger rail resources, understanding not only the state's short-term financial commitments for development and implementation but also long-term commitments associated with supporting operations once a corridor is in service.

  Different types of intercity passenger corridors have different types of capital and operating funding requirements, as detailed in Table 19. The different corridors also serve different types of markets. A short-distance or state-supported intercity corridor might require a greater capital and operating financial commitment but will deliver a service geared specifically toward moving people within Florida or between Florida and neighboring states. A long-distance service may require a lower capital and operating financial commitment but will deliver a service geared toward transporting people from other regions of the country to and from Florida, with departure times and amenities designed to serve the long-distance market.

- **Potential operators – Amtrak and/or Brightline**. As noted in the bullet point above, FDOT will have to determine what level of resource commitment the state is willing to provide to passenger rail service. That decision could determine the operator selected. In addition to financial considerations, the alignment selected may also dictate the operator selected. Brightline's private network follows a different alignment from the routes currently used by Amtrak, and has different operating characteristics (e.g., fewer intermediate stations, higher operating speeds). This report assesses the potential for each alignment to serve travelers in Florida. A decision by the state to invest in the development or enhancement of service on a specific alignment may predetermine the operator.

- **Capital and operating funding – state share/commitment**. Table 19 discusses the different financial obligations that the state will have for the development and operation of passenger rail corridors. FDOT's decision to consider the types of services to develop or expand may be guided by the state's willingness to support or subsidize future operations for as long as the service exists.

  The improvement of an Amtrak long-distance service, for example, would require a capital commitment from the state for development and implementation, but require no future operating subsidies from the state; however, the new service will have a limited frequency (e.g., one round trip per day), and likely will be operated on schedules or with amenities intended to attract a long-distance market. The development of a state-sponsored intercity passenger corridor run by Amtrak will require a financial commitment from the state to subsidize service losses but will also provide the state with a service oriented to serving short-distance travel markets within or Florida or between Florida and adjacent states.

  A privately operated corridor service, such as Brightline, may require no commitment from the state to subsidize operations but the service will be geared specifically to fulfilling the operator's for-profit business plan, which might or might not align with FDOT goals or objectives. If the state decides to pursue the development of intercity passenger rail corridors, it will need to determine whether funding levels for FRE or other state agencies are adequate to fulfill the state's financial commitments. Some states that have developed state-supported intercity passenger services have also established dedicated state funding mechanisms to ensure a consistent future stream of funding. Examples include dedicating portions of rental car taxes, gas taxes, or toll revenues to funding passenger rail transportation. If the decision is made to develop new or enhanced intercity passenger rail corridors, FDOT may want to work with state legislators to determine whether the current mechanisms in place for providing state funding to passenger rail are sufficient or should be supplemented with additional revenue streams.

Freight & Rail Office
Florida Department of Transportation
rail@dot.state.fl.us

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