

FLORIDA RAIL SYSTEM PLAN

OCTOBER 2023

Executive Summary



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Introduction

The Florida Department of Transportation (FDOT) developed the Rail System Plan to guide the state's rail freight and passenger transportation planning activities and project development plans. This plan:

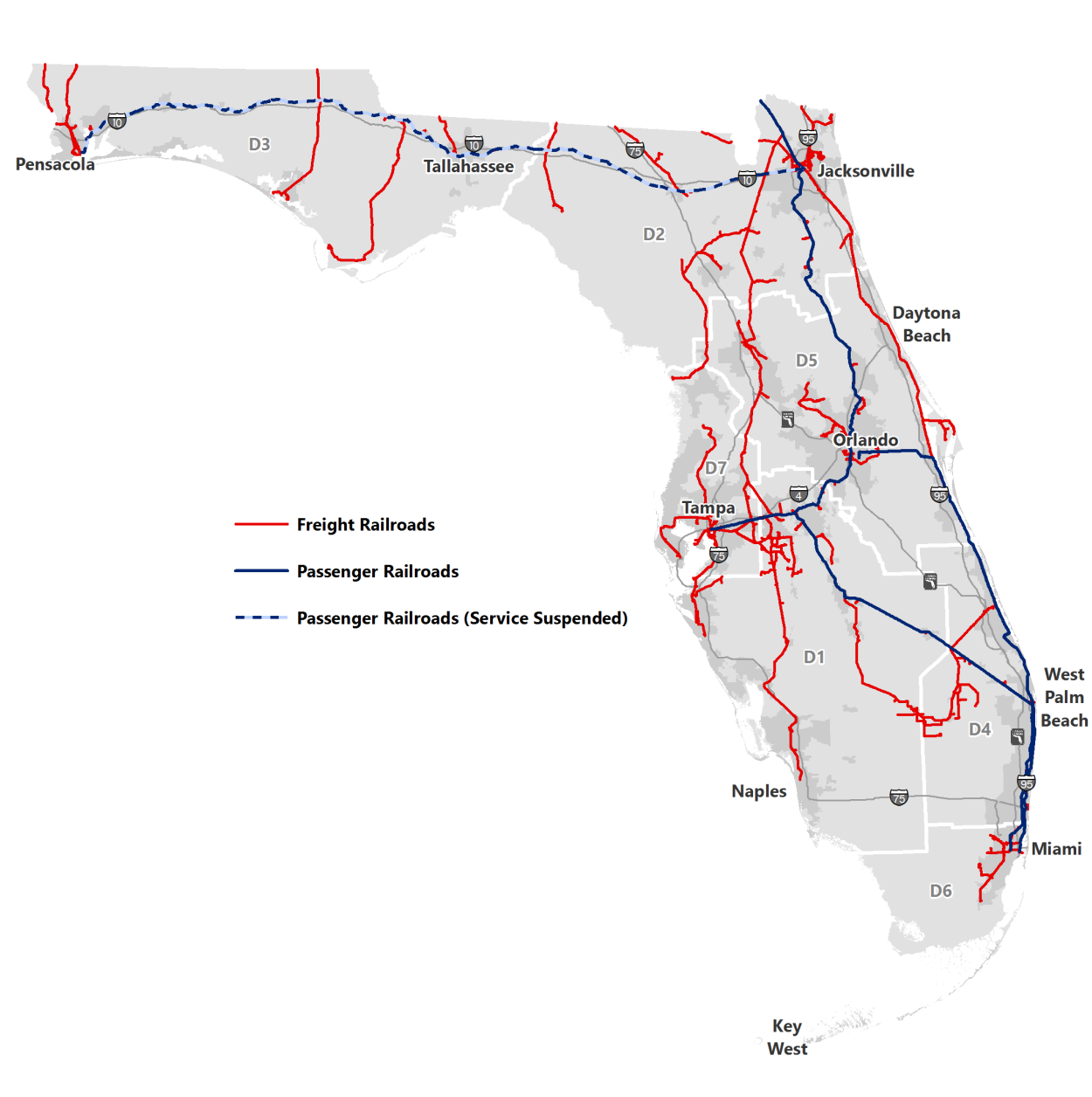
- Complies with Section 341.302(3), Florida Statutes, which requires an identification of priorities, programs, and funding levels required to meet statewide and regional goals.
- Meets the requirements embodied in the Federal Passenger Rail Investment and Improvement Act (PRIIA), as amended by the Fixing America's Surface Transportation Act (FAST Act) of 2015, and in the Federal Railroad Administration's (FRA) State Rail Plan Guidance.
- Describes the state's existing rail network, its challenges and opportunities, and rail related economic and socio-environmental impacts of each rail mode.
- Includes Florida's Rail Vision and Supporting Goals, along with both proposed publicly sponsored short- and long-range capital improvements and policy recommendations to achieve the Vision and Goals.
- Updates Florida's rail service and investment program, which enables the listed projects to be eligible for Federal funding.

Florida's Rail System

Florida's 3,857.55-mile rail network is a vital asset supporting the state's economy and mobility. Rail transportation provides the ability to move people and goods within the state as well as to and from other regions of North America and around the world, through links with seaports and airports. Rail transportation has been vital to Florida's growth and development and continues to expand its role as a mode. The Florida rail network includes 2,738.31 mainline miles, excluding connector, siding, spur, storage, and yard miles. Florida's freight and passenger rail system is shown in Figure ES-1.

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Figure ES-1 | Florida's Rail System



Source: FDOT, 2023

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Most of Florida's rail mileage is owned by freight railroads. The freight rail network provides interstate and intrastate transportation of goods, as well as intermodal connections for water and highway transfers, allowing the state's businesses to reach markets across the world. The network allows Florida's businesses and industries to provide transportation alternatives and cost structures for its customers, resulting in lower transportation costs. In addition, rail services reduce environmental impacts such as highway damage and congestion, energy consumption, and generation of pollutants. The freight railroads that operate on Florida's rail network transport many tons of goods and fall under three classifications based on their annual operating revenues.¹ The classifications are:

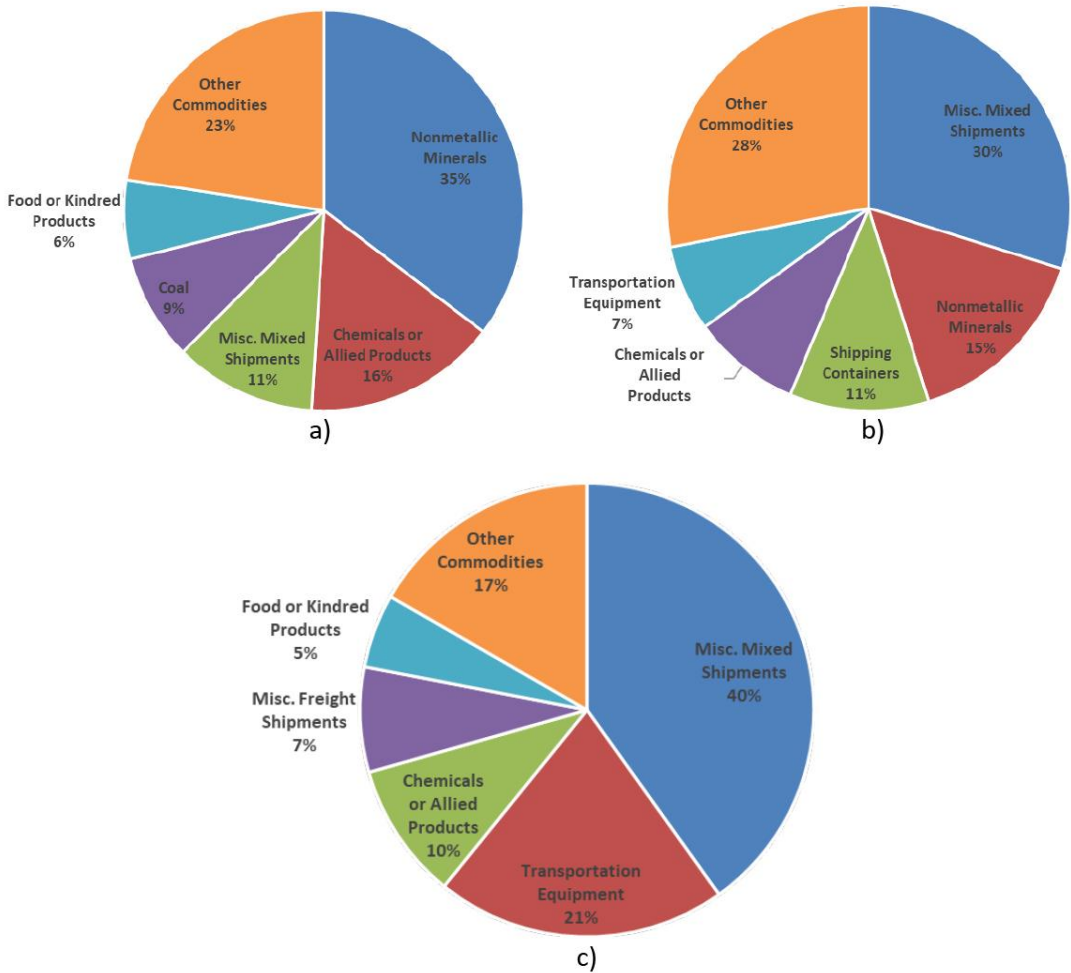
- **Class I:** Carriers having annual carrier operating revenues of \$943,898,958 or more after applying the railroad revenue deflator formula. As of 2021, there are seven Class I lines in the U.S., of which two serve Florida: CSX Transportation and Norfolk Southern Railway.
- **Class II:** Carriers having annual carrier operating revenues of less than \$943,898,958 but in excess of \$42,370,575 after applying the railroad revenue deflator formula. As of 2021, there are 22 Class II lines in the U.S., of which one serves Florida: Florida East Coast Railway.
- **Class III:** Carriers having annual carrier operating revenues of \$42,370,575 or less after applying the railroad revenue deflator formula. As of 2021, there are 584 Class III lines in the U.S., of which 13 serve Florida.

Roughly 60 percent of the rail mileage in the state is owned by CSX Transportation and Florida East Coast Railway. The remaining miles in the state are owned by Norfolk Southern Railway, the short line railroads, and the state of Florida. In 2018, Florida's freight railroads carried 80.1 million tons (13% of total freight) of freight that originated in or terminated in the state of Florida. The leading commodities are shown in Figure ES-2.

¹ <https://www.stb.gov/reports-data/economic-data/>

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Figure ES-2 | Florida Rail Leading Commodities by tonnage (a), units (b), value (c)



Source: IHS Markit, 2018

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Florida's passenger rail system plays an increasingly important role in addressing the mobility needs of a growing state. It moves large numbers of people while also reducing roadway congestion and pollution, providing safer travel options, and promoting economic development. Passenger services also increase efficient access to the state's airports, contribute to tourism, and provide access to employment. There are four types of passenger rail systems in Florida:

- **Intercity passenger rail** services connect 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. Intercity trains may use dedicated tracks or tracks that are owned by other rail agencies or freight railroads. Florida is served by two intercity passenger railroads: Amtrak and Brightline.
- **Commuter rail** services operate within a large metropolitan region, typically serving work commuters and local travelers on routes that connect suburban locations and city centers. Commuter trains typically use tracks that are part of the existing U.S. rail network. Commuter trains in Florida use tracks owned by FDOT. Florida is served by two commuter railroads: SunRail (serving the Orlando area) and Tri-Rail (serving Southeast Florida).
- **Urban rail transit** operates within a city or urbanized area and is designed to move large volumes of people. Urban rail transit takes several forms in Florida, including heavy rail (metro), light rail (streetcar), and people mover (driverless) systems. These urban rail transit systems operate on dedicated tracks. Florida is served by four urban rail transit systems: two in Miami, one in Tampa, and one in Jacksonville.
- **Tourist railroads** offer trips that showcase scenic or historic areas of the state, and feature preserved equipment, buildings, artifacts, and industrial skills from earlier eras. Tourist railroads attract visitors, generating income not only for the railroads but also for restaurants, hotels, and other visitor service establishments. Florida has four tourist railroads, located in the Central and Southern Florida regions.

Amtrak operates mostly over CSX Transportation (CSX) freight trackage, but also operates over state owned trackage between Deland, Orlando and Poinciana, and between Mangonia Park and Miami. The three long-distance Amtrak trains are: the Silver Meteor and the Silver Star, operating between New York and Miami, and the Auto Train, operating between Lorton, Virginia (south of Washington DC) and Sanford. A fourth Amtrak service, the Sunset Limited between Los Angeles and Orlando, has been suspended east of New Orleans since 2005 when Hurricane Katrina struck the Gulf Coast. A total of 905,000 Amtrak passengers boarded and alighted at the 18 Florida Amtrak stations in 2019, before the COVID-19 pandemic. In 2021, Amtrak ridership at Florida stations was 569,000. In 2021, 197,700 boardings and alightings were at Sanford, 73,300 were at Orlando, and 52,000 were at Tampa.

Brightline Florida (Brightline) launched intercity passenger rail service in 2018 on a 67-mile route with three stations in Miami, Fort Lauderdale, and West Palm Beach; providing 17 weekday roundtrips: ten on Saturday, and nine on Sunday. Brightline carried 579,205 passengers in 2018, growing to 1,012,804 passengers in its first full year of operations in 2019. As a result of COVID-19, Brightline suspended its passenger rail service on March 25, 2020. Full services returned on November 8, 2021. In December 2022, Brightline began services at two new stations, one in Aventura and another in Boca Raton. Brightline has plans for building a new station in Port Miami. A route extension from Miami to Orlando became operational on

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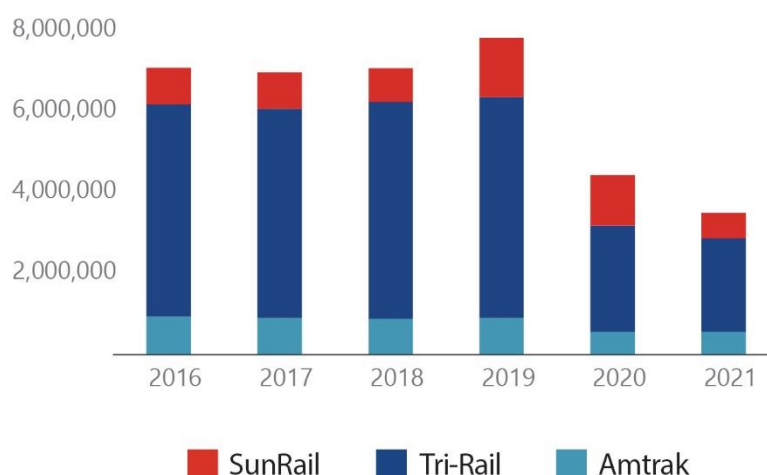
September 22, 2023, and Brightline is also actively planning a further extension from Orlando west to Tampa.

Operating since 1989, Tri-Rail links Miami, Fort Lauderdale, and West Palm Beach. Tri Rail is managed by the South Florida Regional Transportation Authority (SFRTA) along lines owned by the FDOT. The 73-mile system has 18 stations and connects to Metrorail and Metrobus, the Miami Airport, and to Amtrak at several stations. Tri-Rail service includes 50 weekday trains and 30 weekend/holiday trains. Tri-Rail recorded its highest ridership in FY 2019 (5,454,612), and its lowest in FY 2021 (2,310,628) in the midst of the pandemic. Tri-Rail ridership in 2021 was a weekday average of 6,500. The pre-pandemic weekday average was 15,000.

SunRail service began on May 1, 2014. Phase 1 covers 32 miles with 12 stations along former CSX Transportation tracks connecting Volusia and Orange counties through the city of Orlando. Phase 2 opened July 30 2018 and added four more stations and extended south 17.2 miles to Poinciana in Osceola County. SunRail currently runs 40 train trips on weekdays. SunRail ridership also fell by more than half as a result of the pandemic, from 1,469,654 riders in FY 2019 to 623,705 in FY 2021. A northern extension to DeLand is currently underway and an extension to Orlando International Airport and International Drive area of Orange County is being studied.

As per FDOT Sourcebook in 2019, Amtrak, SunRail, and Tri-Rail trains in Florida had the highest combined ridership (7.8 million passengers) on Florida's passenger and commuter rail services in more than 15 years. The onset of the COVID-19 pandemic, however, was associated with a 45 percent drop in ridership in 2020, when only 4.3 million people rode Amtrak, SunRail, and Tri-Rail. Figure ES-3 shows the five year progression of intercity and commuter rail ridership in the state.

Figure ES-3 | Florida Intercity and Commuter Rail Ridership



Source: FDOT Sourcebook, 2021 and FDOT, 2022

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Florida's four urban rail transit systems, located in Miami, Tampa, and Jacksonville, shuttle travelers within metropolitan areas on tracks physically separated from the national rail network.

- Metrorail, operated by the Miami-Dade Department of Transportation and Public Works, is a heavy rail rapid transit system that links Palmetto with downtown Miami, the University of Miami, Dadeland Mall, and the Miami International Airport, and connects with both Tri-Rail and Brightline. Metrorail served 9.7 million riders in 2021.
- Miami also has a 4.4-mile Metromover Automated People Mover (APM) network in its downtown. Metromover served 4 million riders in 2021.
- In Tampa, the TECO Line Streetcar is a heritage streetcar line run by the Hillsborough Area Regional Transportation Authority (HART), and connects downtown Tampa, the Channel District, and the historic Ybor City district. It is owned by the city of Tampa and managed by Tampa Historic Streetcar, Inc. The TECO Line served more than 1 million riders in 2021.
- The Jacksonville Transportation Authority (JTA) operates the Jacksonville Skyway, an elevated driverless monorail system that glides above the St. Johns River and the streets of Downtown Jacksonville on a 2.5-mile route. The Jacksonville Skyway served 269,200 riders in 2021.

Florida's four tourist railroads are:

- The Florida Railroad Museum, in Parrish (Manatee County)
- The Gold Coast Railroad Museum, in Miami
- The Seminole Gulf Railroad, in Fort Myers
- Sugar Express, in Clewiston

Rail Impacts

Economic impacts of rail activity in Florida stem from firms providing rail transportation services, industries that use such services to trade goods, and passenger users (visitors to Florida via rail). Of these activities, freight-users generate the most significant impacts. Freight rail facilitates the movement of goods and associated economic activity, reflecting the reallocation of intermediate goods for production and final goods for consumption. Freight volumes can be translated into economic impacts to demonstrate the role that rail activities provide in Florida's economy. In terms of freight rail-related impacts, transport providers (CSX, FEC, NS, and the short lines), and users (Florida rail shippers) create direct economic impacts through rail operations. Further, indirect impacts associated with suppliers, and induced impacts associated with the re-spending of income, are also quantified. The indirect and induced impacts are collectively known as multiplier effects. The same is true of passenger rail-related impacts, with transport providers (Amtrak, commuter rail operators, and tourist trains) and users (residents and visitors).

Key statewide rail impacts calculated using the IMPLAN® model and other related (freight movement and visitors) data include employment (measured in terms of full-time-equivalent job-years), personal income (wages and salaries),² and economic value added (or net economic activity or Gross State Product).

² All the monetary measures are shown in 2018-dollar terms.

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Key impacts of *freight* rail in 2018 include:

- *Employment* – Economic impact of freight rail (provision and users) were estimated at around 1,082,570 total (direct and multiplier effects) job-years.
- *Income* – A total of \$56.3 billion was earned by the total impacted employees.
- *Economic Value-Added* – A total economic value-added impact of \$83.0 billion statewide was linked to the freight rail provision and users.

Key impacts of *passenger* rail in 2018 include:

- *Employment* – Economic impact of passenger rail (provision and users) were estimated at around 8,570 total (direct and multiplier effects) job-years.
- *Income* – A total of \$484 million was earned by the total impacted employees.
- *Economic Value-Added* – A total economic value-added impact of \$755 million statewide was associated with the passenger rail services and users.

Rail System Plan Development Process

FDOT is the designated State Rail Transportation Authority (SRTA) and State Rail Plan Approval Authority (SRPAA) for Florida. Rail functions within FDOT are conducted by the Office of Modal Development, which includes the Aviation Office, the Spaceport Office, the Freight & Rail Office (FRO), the Seaport Office, and the Public Transit Office. FDOT's FRO handles most of the Department's rail-related responsibilities, including development of FDOT's rail policy, providing technical support to FDOT's executive leadership, districts, and to Florida's Strategic Intermodal System (SIS) Program, and development and management of rail projects and rail research. The FRO serves as FDOT's liaison with the private rail industry, the Federal Railroad Administration (FRA), and Amtrak. In addition, the FRO is the primary liaison with FRA on rail safety inspection issues, coordinates with FRA rail inspectors who cover areas throughout the southeastern U.S., coordinates the training of new inspectors, prepares performance data on inspection activities, and oversees the inspection of citizen complaints on rail issues.

Freight, passenger, and commuter railroads operating in the state were contacted to solicit information regarding their operations, projects or other needs. Through public meetings and online interactions, the state's railroads and other stakeholders were given the opportunity to provide comments about the plan and offer recommendations regarding how the public sector could assist or improve the efficiency and expansion of rail in the state.

The plan also is intended to integrate with and expand upon other transportation plans, including the Florida Transportation Plan (FTP), updated in 2020, Florida's Freight Mobility and Trade Plan, published in April 2020, and the Florida Passenger Rail Strategy, developed in October 2021.

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Florida's Rail Vision, Goals, and Initiatives

Based on a consensus among stakeholders, the State Rail Vision statement is as follows:

To provide safe, equitable, and reliable mobility solutions for people and freight.

An integrated and resilient rail system will enhance transportation options and modal connections, promote sustainable communities, and strengthen Florida's economy.

The goals presented below are aligned with the State Rail Vision, consistent with comments received from public outreach activities, and based on consensus of the Florida Project Advisory Committee members. To more clearly define the goals listed below, each goal includes objectives, which are also presented below.

Goals and Objectives

Florida Transportation Plan Goals		State Rail Plan Objectives
	Safety and Security for Residents, Visitors, and Businesses	• Reduce incidents, accidents, and fatalities • Improve rail system security • Enhance the rail system to better respond to emergencies • Support Florida's Highway-Rail Grade Crossing State Action Plan initiatives to improve safety at grade crossings
	Agile, Resilient, and Quality Transportation Infrastructure	• Preserve and maintain rail assets in a state of good repair • Modernize the rail system when public benefit can be demonstrated • Increase the resilience of infrastructure
	Connected, Efficient, and Reliable Mobility for People and Freight	• Improve rail system connectivity • Increase the reliability and efficiency of people and freight trips • Eliminate rail bottlenecks where possible • Meet customer expectations for infrastructure quality and service

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Florida Transportation Plan Goals	State Rail Plan Objectives
 <i>Transportation Choices that Improve Accessibility and Equity</i>	• Achieve broad public support for investments in the rail system • Maximize the use of state and federal funding programs • Identify new and alternative revenue sources and financial tools • Increase alternatives to single occupancy vehicles • Increase access to jobs, education, health, and other services for all residents
 <i>Transportation Solutions that Strengthen Florida's Economy</i>	• Invest in rail capacity improvements to enhance the interstate and intrastate movement of passengers and freight when public benefit can be demonstrated • Invest in rail improvement projects that support job creation and economic development
 <i>Transportation Systems that Enhance Florida's Communities</i>	• Support responsible land use strategies • Support job creation and economic development
 <i>Transportation Solutions that Enhance Florida's Environment</i>	• Support responsible environmental stewardship • Reduce transportation's impact on water, critical lands, and habitats • Decrease transportation-related air quality pollutants and greenhouse gas emissions

Capital Investment Programs and Future Studies

The Rail System Plan includes Florida's Rail Service Investment Program (RSIP), which identifies the short- and long-range program of studies and projects, consistent with PRIIA requirements,³ with specific project detail. Table ES-1 and Table ES-2 summarize the short- and long-range passenger rail and freight rail projects in the RSIP. The projects are listed by type (capacity, safety, or state of good repair) and time frame for potential implementation (short-range and long-range). Short-range projects are those which will occur over a four-year period (2023 to 2026) and long-range projects are those that will be considered over a 20-year period (2027 to 2042).

Estimated capital costs for long-range freight and passenger rail projects and studies may not be known at this time. The capital costs in the table below represent only amounts from projects with known cost estimates. Total estimated capital costs will be greater.

³ General Summary of Passenger Rail Investment and Improvement Act of 2008 Division B (Amtrak), Public Law 110-432 (dot.gov)

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Table ES-1 | Freight Rail Short-Range and Long-Range Projects

Project Type	Number of Projects	Programmed Funds	Estimated Capital Cost*
Short-Range (2023-2026)			
Capacity	59	\$153,609,299	\$2,040,259,962
Safety	13	\$28,099,669	\$38,383,264
State of Good Repair	4	\$31,909,120	\$28,000,000
Total	76	\$213,618,088	\$2,107,143,226*
Long-Range (2027-2042)			
Capacity	65	TBD	\$3,793,408,625
Safety	11	TBD	\$1,231,473,000
State of Good Repair	6	TBD	\$378,370,000
Total	82	TBD	\$5,403,251,625*

*Amounts represent only projects with known cost estimates, not all projects proposed for investment.

Table ES-2 | Passenger Rail Short-Range and Long-Range Projects

Project Type	Number of Projects	Programmed Funds	Estimated Capital Cost*
Short-Range (2023-2026)			
Capacity	63	\$41,255,443	\$5,001,814,823
New Services	6	\$250,000	\$175,900,093
Safety	5	\$3,843,426	\$24,647,330
State of Good Repair	43	\$487,495,060	TBD
Total	117	\$532,843,929	\$5,202,362,246*
Long-Range (2027-2042)			
Capacity	61	TBD	\$10,137,349,550
New Services	49	TBD	\$4,545,170,000
State of Good Repair	31	\$124,962,868	\$8,941,815
Total	141	\$124,962,868	\$15,624,785,200*

*Amounts represent only projects with known cost estimates, not all projects proposed for investment.



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