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GEORGIA STATE RAIL PLAN





U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

January 21, 2016

Russell R. McMurry, PE
Commissioner
Georgia Department of Transportation
1 Georgia Center, 600 W Peachtree St, NW
Atlanta, GA 30308

Dear Mr. McMurry,

FRA has completed its review of the Georgia State Rail Plan (SRP) from October 2015. FRA's review of the SRP found that it contained the minimum required elements in accordance with Section 303 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) and the 2013 State Rail Plan Guidance. This letter serves as notice that FRA formally accepts the SRP and the projects listed in the SRP will be eligible for capital grants under Sections 301, 302, and 501 of PRIIA, relating to intercity passenger rail, congestion, and high speed rail respectively. FRA acceptance of the 2015 Georgia State Rail Plan is valid until January 21, 2021.

FRA looks forward to partnering with the State of Georgia to continue building a rail network for America that is safer, more reliable, and more efficient.

Sincerely,

Adam Denton
East Team Lead

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Executive Summary

Introduction

The Georgia Department of Transportation (GDOT) has developed this *State Rail Plan* for the purpose of guiding the state's rail freight and passenger transportation planning activities and project development plans over the next 25 years (year 2040).

This *Plan* describes the state's existing rail network and rail-related economic and socio-economic impacts. It also describes the *State Rail Plan* process, Georgia's rail vision and supporting goals, proposed short- and long-range capital improvements, studies, and recommended next steps to address the issues identified.

This *Plan* is intended to meet the requirements established by the federal Passenger Rail Investment and Improvement Act of 2008 (PRIIA) to qualify for future federal funding for rail projects. The *Plan* is compliant with the *State Rail Plan Guidance* as specified by the Federal Railroad Administration (FRA) in September 2013.

Georgia's Rail System

Georgia's rail system plays an essential role in linking Georgia shippers with markets throughout North America and the world. Chief among high volume rail shippers in the state is the coal burning industry. Historically, Atlanta has been a major nexus for rail traffic traveling on Class I or large railroads between Gulf ports and northeast, as well as between Florida and the Midwest. Georgia's short line or small railroads extend freight rail service into all areas of the state. Although Amtrak's intercity passenger services in the state are limited, Amtrak provides essential transportation services for Georgians.

The sections below provide a brief description of Georgia's rail network.

Freight Rail System

The Georgia freight rail system is operated by two Class I railroads and 29 Class III railroads (short line railroads, smaller local, switching, and terminal railroads). The system consists of 4,643 route miles, excluding leases and trackage rights.

The majority of rail mileage in the state is owned by the Class I carriers: CSX Transportation (CSXT) and Norfolk Southern Railway (NS). These railroads own 3,631 route miles. Short line railroads and the State of Georgia own the remaining 1,012 route miles in the state.

Georgia's freight railroads carried over 189 million tons of freight or more than 3.9 million rail cars of various commodities which originated or terminated within Georgia, or traveled through the state in 2011. The leading commodities, comprising almost 64 percent of rail borne tons, are: *Coal* (58.9

million tons); *Chemicals and Allied Products* (19.5 million tons); *Miscellaneous Mixed Shipments* (16.4 million tons);¹ *Food or Kindred Products* (13.9 million tons); and *Farm Products* (12.2 million tons).

Forecasts indicate total rail freight flows in the state will increase through 2040 at a compound annual growth rate of 0.5 percent. An anticipated downturn in coal shipments may negatively impact the projected growth rate.

Passenger Rail Service

Four long-distance Amtrak trains serve the state. There currently is no commuter or intercity corridor service provided in the state, either by Amtrak or by other operators. There are four tourist or heritage railroads offering excursion trips.

Amtrak operates entirely over the trackage of Class I freight railroads. Amtrak's frequency of train service through Georgia is now what it was 10 years ago. While the limited availability of passenger cars has constrained traffic growth, revenue management, targeted marketing and occasional high gas prices have driven ridership increases through 2012, though 2013 saw a decline due to weather related issues and NS and CSXT track work.

The four long-distance trains are: the *Crescent*, operating between New York and New Orleans; the *Silver Meteor* and the *Silver Star*, operating between New York and Miami; and the *Palmetto*, operating between New York and Savannah. 192,000 passengers boarded and alighted at the five Georgia Amtrak stations in 2013. Of these, 99,000 boardings and alightings were at the Atlanta Peachtree Street Station.

Projections indicate boarding and alightings at Amtrak stations in Georgia will rise to 327,000 in 2040, a 70 percent increase over the 27-year period. The growth equates to a two percent annual increase for the period.

Rail Impacts

Rail service is essential to Georgia's economy. The basic provision of rail service, freight and passenger, generates 6,080 direct jobs. However, when the rail freight shipper and rail passenger visitor user impact activities and multiplier impacts are included, rail-related employment in Georgia totals 672,630 jobs, which represent 12.9 percent of the 5.2 million jobs statewide. The jobs resulted in \$32.2 billion earned by these total impacted employees, representing 12 percent of Georgia's total labor income. A combined value-added impact of \$54.1 billion associated with rail services and users represent 12.4 percent of the state's Gross State Product (GSP).

In addition to the direct employment benefits, the availability of rail transport provides cost and logistical advantages to Georgia firms that enable the state to compete effectively in the global marketplace. The access to rail service is especially important in rural areas to cost effectively connect manufacturing, agriculture, and local industries to the national and global marketplace.

¹ Miscellaneous Mixed Shipments (STCC 46) is almost entirely intermodal shipments (trailer or container on a flatcar or in a double-stack car). However, some intermodal traffic is also included in commodity-specific categories. In 2013, STCC 46 accounted for about 60 percent of intermodal tonnage nationwide, according to the Association of American Railroads (AAR).

Railroads are also up to three times more fuel efficient than trucks on the basis of ton-miles transported, and as greenhouse gas emissions directly relate to fuel consumption, every ton-mile of freight moved by rail instead of truck reduces environmental damages and costs by 84 percent. The diversion of freight traffic to rail also increases the safety of state's highway system by reducing truck traffic.

Amtrak intercity passenger rail service connects major urban areas, which is important to supplement air service in the state. Passenger train travelers generate income not only for the rail operations, but also for restaurants, hotels and other visitor service establishments. Furthermore, passenger stations have the potential to increase economic development around the station areas.

Rail Plan Development Process

This *State Rail Plan* was developed under the authority and guidance of GDOT's Intermodal Division. With regards to this *State Rail Plan*, GDOT is the designated rail authority in Georgia. The Intermodal Section is responsible for rail planning in the state and assists short line freight railroads in obtaining funds for improvement projects. The Intermodal Division coordinated closely with other GDOT divisions responsible for various rail-related functions, including highway-rail at-grade crossing improvements, in the development of the *Plan*.

To provide a medium for public review, GDOT posted the *Draft State Rail Plan* to the GDOT website (<http://www.dot.ga.gov/IS/Rail/StateRailPlan>) prior to finalization of the *Plan*. The *State Rail Plan* integrates with and expands upon past Georgia transportation plans including Georgia's *Statewide Strategic Transportation Plan* of 2013.

GDOT contacted all railroads operating in the state to solicit information as to their operations, projects or other needs, and their opinions as to what the public sector could do to assist or improve the efficiency and expansion of rail in the state. GDOT conducted similar interviews for shippers located on both the Class I and short line railroad network within the state.

In April 2014, GDOT publicized in notices and at its public outreach meetings the availability of a *State Rail Plan* webpage. Within the webpage, GDOT invited rail stakeholders and the public to respond to a survey which measured their interest in improved rail commuter and intercity passenger service, and freight service within the state. GDOT invited participants to express their opinions as to the proposed rail vision and goals, their level of support and prospective sources for increased public rail financial investment, and both general and specific proposed improvements to the rail system.

GDOT held two rounds of public outreach meetings in Dalton, Atlanta and Valdosta to educate stakeholders and the public regarding the *State Rail Plan* process, obtain input for developing a rail vision, and to provide a forum for discussion of specific rail issues. Sixty seven people attended the April 2014 public meetings, and another 48 people attended the August public meetings. Participants included county and local government officials; representatives of the Georgia General Assembly; Metropolitan Planning Organization staff; local economic development organizations; short line railroads; rail contractors; rail labor; rail passenger advocacy organizations; rail-served industries; environmental and environmental justice groups; local media; and private citizens.

In May 2014, GDOT held a special Rail Stakeholder Workshop in Atlanta to discuss the draft rail vision and goals, along with issues, strategies and potential projects for consideration in the development of the *State Rail Plan*. Forty stakeholder invitees attended the workshop. These included representatives of Georgia state agencies and authorities, an adjoining state Department of Transportation (Alabama), Metropolitan Planning Organizations, various regional and county economic development organizations, academics, environmental advocacy groups, and rail advocacy groups.

GDOT made a special outreach effort to minority and low income communities, also known as Environmental Justice (EJ) communities, which are often negatively and disproportionately impacted by rail infrastructure investments. Leaders of EJ communities were contacted by telephone for their views on rail service in the state and ways it could be improved to the benefit of their communities.

Lastly, the *Draft State Rail Plan* was provided to the state rail planning contacts of neighboring state departments of transportation to ensure coordination with neighboring states with respect to rail facilities, services, and future plans which cross state boundaries.

Throughout the *Plan's* development, a *State Rail Plan* Steering Committee provided input and guidance. The Steering Committee met four times during 2014 – in March, to review the proposed approach for *Plan* development; in May, to hear the feedback on the first round of public meetings; August, to hear the feedback on the second round of public meetings, along with a first cut at recommended GDOT sponsored rail projects and policy changes; and November, to review the *Draft State Rail Plan*. The participating Steering Committee members included representatives from the Class I railroads, the Georgia Railroad Association, the Georgia Ports Authority, Georgians for Passenger Rail, Amtrak, Georgia Municipal Association, the Federal Highway Administration, the Georgia Center of Innovation for Logistics, and GDOT staff.

Key Stakeholder Input on Rail Issues, Challenges and Opportunities

Various themes arose during the outreach process regarding existing rail issues at the local, regional or state levels and the direction or actions that should be taken in the future. The themes described include:

- **General rail benefits, opportunities and threats** – Georgia's citizens and businesses understand the importance of rail transportation, both for its impact on economic development and personal mobility. However, they perceive the intercity passenger rail network as lacking in scale, and the creation of a commuter rail network in Atlanta being important for economic development.
- **Rail freight** – Shippers identified specific rail service problems. They also emphasized the need for increased rail access and service to existing and prospective new businesses and industries within the state was emphasized which could decrease overall shipping costs, better optimize use of Georgia's rail network, and remove more trucks from the road. Short line railroads confirmed the need for upgrading track and structures to handle increased loaded car weights. NS and CSXT confirmed that Atlanta, and in particular Howell Junction, is a capacity constraint which to varying degrees impacts their lines' abilities to handle increasing volumes.

- **Intercity rail service** – Stakeholders expressed a significant level of interest in intercity rail passenger service. They also indicated that existing passenger services were unreliable and could not provide the level of transportation needed. Stakeholder priorities for improved intercity rail passenger service include expansion of service to the state’s employment centers and to east Georgia.
- **Commuter rail service** – The outreach effort found significant support for establishing rail commuter service in the Atlanta region. Stakeholders saw rail commuter service as a means to provide the lack of modal options in urban areas, to provide transportation hubs as catalysts for economic development and jobs, and to address Environmental Justice needs.
- **Rail safety and security** – Overall, stakeholders considered rail a safe and secure mode of transport. Rail safety and security issues discussed during the stakeholder outreach process centered on at-grade crossing safety, rail trespass, the movement of hazardous materials, and the general condition of rail lines and stations.
- **Rail-related economic development** – Discussion regarding the linkage between the state’s rail network and economic development centered largely on the need to improve intercity and commuter rail passenger and freight services for community development and increased jobs.
- **Rail-related energy and environmental issues** – Rail transportation was generally portrayed as more energy efficient and environmentally friendly than other modes during the stakeholder outreach process. Participants noted that diversion from highway to rail could enhance energy conservation and the environment.
- **Rail-related Environmental Justice issues** – The stated concerns regarding current rail operations within EJ communities were primarily related to environmental factors such as noise, emissions and related health concerns, communities divided by rail operations, and the perception that the communities do not benefit from rail operations.
- **Rail financing** – The results of GDOT’s public survey found a high level of support for the development of a public policy to invest in rail infrastructure and to identify a reliable source of funding for increased rail-related public funding. Specific program areas recommended for public financing included increased maintenance of rail rights-of-way and track and bridge structures, especially for short line railroads; the elimination of grade crossings; construction or expansion of intermodal facilities; and new and improved rail passenger services.
- **The role of public agencies regarding rail** – The general sentiment from the public outreach effort was that GDOT should implement policies to make rail passenger service a priority, preserve existing rail facilities at a statewide level, support and facilitate the movement toward containerization, and educate the public as to the value of addressing rail passenger and freight needs.

Georgia's Rail Vision, Goals and Initiatives

Based on suggestions obtained through the outreach effort, GDOT developed the following vision statement for rail transportation.

Georgia's Rail Vision

"A safe and energy efficient state rail system that enables the economic wellbeing of Georgians by expanding access and enhancing mobility for people and goods in an environmentally sustainable manner."

Rail service goals aligned with the vision were developed based on the rail-related benefits, issues and obstacles that had been identified. These goals are as follows:

- **Enhance safety and security** – Typical initiatives could include minimizing grade crossing accidents, hazmat spills, theft from trains and rail facilities, and upgrading deficient rail infrastructure.
- **Provide for a reliable, enhanced and interconnected passenger rail system** – Typical initiatives could include improvements to on-time performance and reliability for existing services, ADA compliance at rail stations, and expansion of intercity and commuter passenger services.
- **Promote and expand intermodal connectivity** – Typical initiatives could include new or improved freight intermodal facilities and highway connectors and better linkages between intercity and urban mass transit passenger services with improved access for pedestrians and cyclists.
- **Develop an energy efficient and environmentally sustainable rail system** – Typical initiatives could include the retrofitting to lower emission diesel electric locomotives and implementing strategies and policies to encourage the diversion of passengers and freight highways to rail.
- **Preserve and improve the existing infrastructure** – Typical initiatives could include projects to accommodate the higher maximum loaded car weights on Georgia short lines (i.e., 286,000 pounds) and upgrading track and bridges to improve operating efficiency and main line capacity, and improved access to rail users through new sidings and additional car storage capacity.
- **Enhance economic development and competitiveness** – Typical initiatives could entail promoting new rail-served development to attract new rail-oriented industries and the implementation of industrial access funding aimed at lowering transportation costs for rail shippers.

Proposed Capital Investment Programs and Future Studies

Based on identified needs and available funding sources, GDOT developed short- and long-range proposed rail investment programs. The short-range projects are limited to those for which funding is available or expected to be available during the four-year short-range period (2015 to 2018). Long-range projects, implemented between 5 and 25 years from today, (2019 to 2040) were proposed during the outreach process or from other sources and will be further evaluated as to their feasibility, their merit on the basis of public benefits versus costs, and available funding. The short- and long-

range projects and studies recommended appear by category (passenger improvements and freight and safety improvements) in the table below.

The program of projects represents investments that would improve both freight and passenger rail. Freight rail investments emphasize improvements in rail line capacity and infrastructure to ensure system fluidity and competitive access for rail shippers. Passenger rail investments emphasize new intercity and commuter rail services to enhance mobility for Georgians in all regions of the state. The investments support the rail vision and goals articulated above.

Short line projects included on the short-range program are limited to state-owned lines. Long-range short line projects include projects on both state and privately owned properties.

State Rail Plan Recommendations

Based on suggestions received from stakeholders and the public during the preparation of the *State Rail Plan*, GDOT could consider the following actions:

- Continue to promote and enhance rail safety through continued safety education programs, and enhancements to the public grade crossing improvement program.
- Expand rail-related data collection efforts including data on hazardous material movements, grade crossing hazards, rail volume and commodity flows, and rail originating/terminating data.
- Develop a rail passenger marketing and education program to promote the benefits of existing rail passenger services. Post intercity passenger rail and tourist rail information and schedules on the GDOT website.
- Continue efforts to preserve strategic rail rights-of-way and support the development of rail spur, rail storage capacity, intermodal facilities, and other infrastructure projects required to maintain a state of good repair and enhance economic development through support for the establishment of a dedicated, discretionary public rail assistance program.
- Further collaborate with neighboring states on regional issues and solutions to freight and passenger rail needs through regional multi-state organizations such as the Southern Rail Commission.
- Preserve, protect, improve and expand, as necessary, intercity rail passenger service through station facility and access improvements; and continue to study of additional intercity passenger services where transportation and other public benefits merit.
- Develop a commuter rail plan emphasizing an incremental approach and coordination with Amtrak and MARTA services.
- Increase the movement of goods by rail and emphasize rail-related intermodal and other rail improvements to ensure a diverse and robust rail network, while maintaining community and environmental stewardship and economic competitiveness.

Rail Service Investment Program of Projects

Short-Range Projects and Studies (Years 1-4)	Cost in Millions
Passenger Improvements	
ADA compliance and state of good repair improvements at Amtrak stations (5)	11.7
Atlanta region commuter rail plan update	1.5
Downtown Atlanta Multimodal Passenger Terminal planning and design	0.5
Analysis of alternative locations for relocation of existing Atlanta Amtrak station	0.5
Studies of new intercity service from Atlanta to Charlotte, Chattanooga, Macon and Columbus	43.6
Pilot shuttle bus between Macon and Atlanta tied to Amtrak <i>Crescent</i> study	1.0
Subtotal	58.8
Freight and Safety Improvements	
GDOT owned short line track and structure improvements	37.8
Atlanta region rail capacity study	2.0
Short line economic impact analysis	1.0
GDOT owned short line infrastructure inventory and needs analysis	1.0
Grade crossing safety improvement projects	36.0
Subtotal	77.8
Short-range Total	\$136.6

Long-Range Projects and Studies (Years 5-25)	Cost in Millions
Passenger Improvements	
Atlanta Multi-Modal Passenger Terminal engineering and design	50.0
Atlanta commuter rail engineering and design	50.0
Engineering and design for new passenger services from Atlanta to Charlotte and Atlanta to Chattanooga	100.0
New Atlanta Amtrak station	35.0
Intercity passenger rail network vision*	TBD
Subtotal	235.0
Freight and Safety Improvements	
Atlanta region rail capacity solution engineering and design	5.0
Specifically identified short line infrastructure projects	218.1
Ongoing maintenance of GDOT owned short line railroads (lump sum)	877.8
Crossing safety improvement program (lump sum)	189.0
Subtotal	1,289.9
Long-range Total	\$1,524.9

Rail Program Total	\$1,661.5
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*Costs to be determined during future, corridor specific studies

Summary

Georgia has undertaken a comprehensive study of its passenger and freight rail network and has identified key issues and opportunities through a wide-ranging rail stakeholder and public outreach process in conjunction with various technical analyses. This *State Rail Plan* serves to document this information and set a direction for rail planning and project development into the future while meeting the federal requirements to qualify the state for any future federal rail funding.

The chapters that follow describe Georgia's rail planning processes, the existing conditions of Georgia's railroads, proposed concepts for freight and passenger improvements, and a state program of rail investments.

- **Chapter 1** discusses the role of rail in Georgia's multimodal transportation system and the State's organization to provide political, legal and financial support to rail development.
- **Chapter 2** discusses the existing rail system, trends and forecasts of freight and passenger rail traffic, and needs and opportunities facing Georgia's railroads and rail stakeholders.
- **Chapter 3** identifies various passenger rail projects and improvements previously investigated or are under study.
- **Chapter 4** notes the specific rail improvements planned by Class I railroads (CSXT and NS), the needs of the state's short line railroads, and the state's grade crossing improvement program.
- **Chapter 5** outlines a proposed program of short-range and long-range rail improvements and studies.
- **Chapter 6** describes the stakeholder and public outreach process conducted in support of the *Georgia State Rail Plan*.

The development of this *Plan* was possible because of the participation of many rail stakeholders, interested agencies and others. The Georgia Department of Transportation expresses its appreciation to those individuals and parties who participated in this effort.

Chapter 1. The Role of Rail in Georgia's Transportation System

1.1 Introduction

The Georgia Department of Transportation (GDOT) developed this document to serve as Georgia's *State Rail Plan*. In addition to meeting federal requirements, this *Plan* formulates a state vision for railroad transportation in the future and strategies to achieve that vision. With this purpose in mind, GDOT developed the *Plan* with extensive public participation and involvement by the state's railroads and rail users.

In 2008, the U.S. Congress passed the Passenger Rail Investment and Improvement Act (PRIIA) with the expressed intent of improving passenger rail service in the United States. One of the features of the legislation is the requirement that any state seeking federal assistance for either passenger or freight improvements have an updated state rail plan. The legislation further stipulated the minimum content of the rail plans as codified in Public Law 110-432 Sec. 303.²

This *State Rail Plan* meets the requirements set forth in that legislation and public law, as well as the final *State Rail Plan Guidance*³ provided by the Federal Railroad Administration (FRA) in September, 2013.

This chapter serves to illustrate the current and proposed future role of rail in Georgia's multimodal transportation system and describe the State's organization to provide political, legal, and financial support to rail development.

1.2 Georgia's Goals for Its Multimodal Transportation System

A number of recently published documents, updated periodically, outline Georgia's vision and goals for its multimodal transportation system.

The *Statewide Transportation Plan 2005-2035 (SWTP)*⁴ is a federally required systematic analysis of the current and future performance of major transportation modes. This document outlines GDOT's objectives to maintain a globally competitive and attractive climate for businesses and people, and to ensure that the transportation system contributes to a productive and efficient economy. Georgia's rail network is a key asset in attaining these objectives. The *SWTP* is currently being updated, along with the *Statewide Strategic Transportation Plan (SSTP)*. This two year project began in May 2013 and should conclude in 2015.

² <http://www.gpo.gov/fdsys/pkg/PLAW-110publ432/pdf/PLAW-110publ432.pdf>

³ www.fra.dot.gov/eLib/Details/L04760

⁴ <http://www.dot.ga.gov/InvestSmart/Documents/SSTP/SWTPFinalReport.pdf>

The *Statewide Strategic Transportation Plan (SSTP)*⁵ is Georgia's first data-driven, outcome-oriented business case for investing in the state's surface transportation network. The 2010-2030 SSTP was adopted and approved in 2010, and updated in 2013. The SSTP recommends investment of resources in statewide freight and logistics, and in people mobility in both metro Atlanta and throughout the rest of the state. Transportation investments will be measured against the state's identified goals and objectives.

Georgia's adopted transportation goals are:

- Supporting the state's economic growth and competitiveness;
- Ensuring safety and security;
- Maximizing the value of Georgia's assets, getting the most out of the existing network; and,
- Minimizing impact on the environment

GDOT's *Georgia Statewide Freight and Logistics Plan*⁶ identified infrastructure improvement needs in three categories: line haul expansion, expansion of intermodal and carload terminals, and increases in weight limits and vertical clearances. Estimated costs for improvements are between \$4 billion and \$6 billion, with a resulting \$12.2 billion to \$19.8 billion increase in Gross State Product.

This *State Rail Plan* describes rail's role in Georgia's multimodal system, its contributions toward the state's transportation vision and goals, and the benefits the rail network provides.

1.3 Rail Transportation's Role within the Georgia's Transportation System

Rail service within Georgia appeared shortly after the Baltimore & Ohio Railroad (B&O) was established in 1827. In 1830, three railroads – the Georgia Railroad, the Macon & Western, and The Western & Atlantic – were chartered by the Georgia state legislature. These railroads constructed routes between Athens and Augusta, Macon and Griffin, and Atlanta and Chattanooga, respectively. By the mid-1850s Georgia had more miles of rail than any other Southern state and had connected many of its rail lines to a newly created rail hub for the entire South called Terminus, later known as Atlanta.

Although Georgia's rail network was a major contributor to its economic success, its railroads also made Georgia a Union Army target during the Civil War. Its rail lines, and especially Atlanta, became key military targets due to their importance in shipping supplies to Confederate troops.

Following the Civil War, railroads helped rebuild the South and open the western frontier. Railroads assisted in transforming Georgia's dependence on agriculture to a more balanced economy that included economic contributions from industrial and energy development. During this period new rail lines continued being built and consolidated into larger systems. By 1900, the Southern Railway, Atlantic Coast Line and Seaboard Air Line Railway dominated rail service in the state. By 1920, rail mileage and service in the state had peaked.

⁵ <http://www.dot.ga.gov/BuildSmart/Programs/Documents/SSTP/Plan/Statewide%20Strategic%20Transportation%20Plan%20Update.pdf>

⁶ <http://www.dot.ga.gov/IS/GeorgiaFreight#tab-1>

Rail passenger service began to decline with the improvement of roadways and the affordability of automobiles, and by the 1960s hundreds of miles of rail line were abandoned due to the poor financial condition of railroads and increased dependence on the highway mode. The deregulation of the railroad industry in the 1980s, however, was the beginning of a gradual improvement in the financial condition of the freight railroad industry, spurred largely by shedding poorly performing rail lines and rail passenger service, and taking advantage of rate flexibility.

Today, Georgia's major rail carriers, Norfolk Southern Corp. (NS), a successor of the Southern Railway, and CSX Transportation (CSXT), a successor of the Atlantic Coast Line and Seaboard Line, are financially sound. A number of short line railroads, some of which the state owns and leases, continue service at the local level.

Today, the rail system in Georgia plays an essential freight transportation role both within the state and nationally. It ranks in the top 10 among states⁷ in all of the following categories: total miles of rail (7th); rail carloads originated (9th); rail carloads terminated (4th); rail employment (6th); and the number of rail retirees (10th). Georgia also ranks highly among all states for rail movements of many individual commodities. For commodities originating by state, Georgia ranks as follows: stone, clay and glass materials (2nd); pulp and paper (3rd); intermodal (5th); non-metallic minerals (6th); and metallic ores (9th). For commodities terminating in the state, Georgia ranks as follows: stone, clay and glass materials (2nd); pulp and paper (3rd); intermodal (4th); food products (4th); farm products (5th); non-metallic minerals (7th); chemicals (8th); and coal (8th).

Georgia's location provides rail access to the Mid-Atlantic, Northeast and Midwest regions of the country. Its growing port capabilities position it prominently with regard to freight intermodal transportation, the fastest growing rail category. These growth prospects, however, will require improved rail corridors to accommodate future freight capacity needs.

Rail intercity passenger service in the state includes Amtrak long-distance services between New York and both New Orleans and Florida which pass through portions of the state. However, as several of the metropolitan areas in Georgia and the Southeast are among the fastest growing in the nation, the need to invest in a diverse network of passenger transportation options that will accommodate this population growth has been recognized. Improved rail corridors providing new intercity passenger services could accommodate this growth.

A number of the federally designated high-speed rail corridors⁸ in the Southeast region have received federal funding to develop service plans and environmental studies, including the corridor between Atlanta and Charlotte, North Carolina. This effort will build on the high-speed rail feasibility study completed in 2008. This effort, as well as additional planning with regard to rail passenger service from Atlanta to Nashville, Jacksonville, Birmingham, along with other destinations, will lay the groundwork for future rail passenger service in the region.

⁷ Based on 2011 Association of American Railroad statistics

⁸ www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/transportation_statistics_annual_report/2000/chapter2/high_speed_rail_corridors_map.html

1.4 Institutional Structure of Georgia's State Rail Program

Public sector rail activities in Georgia entail the organizational aspects of rail planning as well as the planning and project programming processes which are conducted by both state and local agencies. Multimodal planning requires close coordination within GDOT as well as with other federal and state agencies, local transportation agencies, railroads operating within the state and the public.

1.4.1 Georgia Department of Transportation Rail Functions

The Official Code of Georgia, Chapter 2, Department of Transportation, Article 1, General Provisions, O.C.G.A. § 32-2-2 (2014) assigns powers to GDOT to plan and implement transportation system improvements. GDOT is responsible for coordinating the overall state transportation improvement strategy. Under this mandate it is primarily responsible for rail planning and project development activities.

GDOT is Georgia's State Rail Transportation Authority (SRTAA) and State Rail Plan Approval Authority (SRPAA). GDOT is responsible for rail planning in the state, including development of the *State Rail Plan*.

In 1977 the Georgia General Assembly adopted legislation authorizing the Georgia Department of Transportation (GDOT) as the designated state agency to offer financial assistance to enable the continuation of rail service that may otherwise have been abandoned. (O.C.G.A. § 32-9-6, Financial assistance for rail service).

The following are those divisions under the jurisdiction of GDOT which have rail-related responsibilities.

Intermodal Division

The GDOT Intermodal Division manages Georgia's planning and operations programs in support of the transit, rail, port/waterways and aviation systems. The division is responsible for setting policies, and formulating, organizing, and administering all major non-highway programs for the development of a comprehensive transportation system. The Division is responsible for rail planning in the state, including development of the *State Rail Plan*.

The Intermodal Division's rail-related responsibilities include planning and project development for freight, passenger, and commuter rail operations within the state. The Division also oversees rail safety and security program compliance. By virtue of the activities of the Intermodal Division and the Office of Utilities (see below), GDOT is in compliance with 49 U.S. Code – Section 22102,⁹ which stipulates eligibility requirements for a long-established FRA rail freight grant assistance program pertaining to state planning and administration.

Office of Utilities

The GDOT Office of Utilities' Railroad Crossing Safety Program is responsible for identifying and developing projects related to safety enhancements at public highway-rail grade crossings. This office

⁹ <http://uscode.house.gov/view.xhtml?path=/prelim@title49/subtitle5/partB&edition=prelim>

administers the federally funded program for grade crossing improvements and is involved in corridor projects that focus on specific railroad segments to address issues of safety through a combination of crossing closures, crossing consolidations, and / or crossing signalization.

Office of Right-of-Way

The Office of Right-of-Way is responsible for the acquisition of properties necessary for transportation projects. This task includes plan design review and approval, appraisal, relocation assistance, condemnation, negotiation and property management. This office monitors DOT acquisitions as well as local government acquisitions (if they include state or federal funds).

1.4.2 Other State Agencies or Authorities with Rail-Related Responsibilities

Georgia Ports Authority

The Georgia General Assembly created the Georgia Ports Authority (GPA) in 1945 in response to the post-World War II economic boom. As rail service plays a critical role within the Authority's port facilities, the Authority contributes toward rail expansion and improvement projects.

Georgia Rail Passenger Authority

The Georgia General Assembly created the Georgia Rail Passenger Authority (GRPA) in 1997 for the purpose of construction, financing, operation, and development of rail passenger service and other public transportation projects. The Authority membership is comprised of members from each congressional district and two from the state at large.

Southwest Georgia Railroad Excursion Authority

Creation of the Southwest Georgia Railroad Excursion Authority occurred in 2010 for the purpose of constructing, financing, operating, and developing rail passenger excursion projects utilizing state-owned railway in Crisp and Sumter Counties and any nearby county which may be included within the service area. The Authority is within the Department of Natural Resources for administrative purposes.

State Economic Development Agencies

The State of Georgia has established a number of state agencies to strengthen its communities and expand the state's economy to create more and better jobs. These agencies, such as the Georgia Department of Economic Development, the Department of Community Affairs, and the OneGeorgia Authority, actively promote the growth of the state's economy through business start-ups, retention and expansion of existing industry, and the attraction of new industry.

These agencies also provide financial assistance programs to assist in the attraction of new industries on the state's rail lines through a number of initiatives including tax credits and in some instances have provided financial assistance for projects such as track rehabilitation and the construction of spur tracks to industries. An example of local economic development agency investment in rail include the Southeast Georgia Joint Development Authority working with Norfolk Southern to build a passing siding between Macon and Brunswick serving the Port of Brunswick.

1.4.3 Regional and Local Organizations

Regional Commissions

To ensure the efficiency and effectiveness of local services in the areas of planning, economic development, transportation, information technology and human resources, the State of Georgia established 12 Regional Commissions, which encompass the entire state. These agencies provide a forum to reflect the interests of the citizens in each region through coordinated and comprehensive planning efforts in the areas of land use, environment, transportation, and historic preservation. They foster the implementation of joint local, state and federal programs which advance the goals of their respective service areas. The 12 Regional Commissions include:

- Atlanta Regional Commission, Atlanta
- Coastal Regional Commission, Brunswick
- Central Savannah River Area Regional Commission, Augusta
- Georgia Mountains Regional Commission, Gainesville
- Heart of Georgia Altamaha Regional Commission, Eastman and Baxley
- Middle Georgia Regional Commission, Macon
- Northeast Georgia Regional Commission, Athens
- Northwest Georgia Regional Commission, Rome and Dalton
- River Valley Regional Commission, Columbus and Americus
- Southern Georgia Regional Commission, Valdosta and Waycross
- Southwest Georgia Regional Commission, Camilla
- Three Rivers Regional Commission, Griffin and Franklin

Metropolitan Planning Organizations

Metropolitan Planning Organizations (MPOs) are federally mandated and funded transportation policy-making organizations comprised of local government and transportation officials. The formation of an MPO is required for any urbanized area with a population greater than 50,000.

MPOs are required to maintain and continually update a Long-Range Transportation Plan (LRTP) as well as a Transportation Improvement Program (TIP), which is a multi-year program of transportation projects to be funded with federal and other transportation funding sources. As MPO planning activities have evolved to address the movement of freight as well as passengers, they have included consideration of multimodal solutions, improved intermodal connections, and more specific rail and rail-related project solutions. MPOs must work cooperatively with area transportation stakeholders to understand and anticipate the area's travel needs and to develop these documents.

There are 16 MPOs within Georgia, as described below.

- *Atlanta Regional Commission(ARC)*¹⁰
This MPO is the regional and intergovernmental coordination agency for the 10-county area including Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale Counties, as well as the City of Atlanta.

¹⁰ <http://www.atlantaregional.com/>

- *Augusta – Richmond County Planning Commission*¹¹
 - This MPO serves Richmond County including the City of Augusta, as well as Aiken County, South Carolina.
 - Beyond its MPO responsibilities, the Planning Commission is an advisory board that holds hearings on certain development issues and formulates recommendations for consideration by the commission.

- *Brunswick Area Transportation Study (BATS)*¹²
 - This MPO serves Glynn County, including the City of Brunswick.

- *Cartersville – Bartow Metropolitan Planning Organization (CBMPO)*¹³
 - This MPO serves the City of Cartersville and Bartow County.

- *Chattanooga – Hamilton County/North Georgia Transportation Planning Organization (CHCNGA TPO)*¹⁴
 - This MPO is a joint agency of the City of Chattanooga and Hamilton County, Tennessee, and includes parts of Catoosa and Walker Counties in Georgia.

- *Coastal Region Metropolitan Planning Organization (CORE MPO)*¹⁵
 - This MPO is a joint planning agency for the City of Savannah and Chatham County.
 - It is part of the Chatham County – Savannah Metropolitan Planning Commission (MPC).

- *Columbus – Phenix City Planning Department Transportation Study*¹⁶
 - The MPO is unofficially known as the Columbus – Phoenix Metropolitan Planning Organization (C-PCMPO).
 - It consists of the counties of Muscogee, Chattahoochee, and parts of Russell County, Alabama and Lee County, Alabama.

- *Dougherty Area Regional Transportation Study (DARTS) Metropolitan Planning Organization (MPO)*¹⁷
 - This MPO is the intergovernmental transportation planning agency for the City of Albany, Dougherty County and the southern half of Lee County.

- *Gainesville – Hall Metropolitan Planning Organization (GHMPO)*¹⁸
 - This MPO is the intergovernmental transportation planning body for Hall County, including the municipalities of Flowery Branch, Gainesville and Oakwood.

- *Greater Dalton Metropolitan Planning Organization (GDMPO)*¹⁹
 - This MPO serves the Greater Dalton Metropolitan / Urbanized Area, including the Whitfield County municipalities of Dalton, Cohutta, Tunnel Hill and Varnell.

¹¹ <http://www.augustaga.gov/297/Augusta-Planning-Commission>

¹² <http://www.glynncounty.org/index.aspx?nid=303>

¹³ http://www.bartowga.org/departments/community_development/mpo/planning_documents.php

¹⁴ http://www.fhwa.dot.gov/planning/tmip/resources/peer_review_program/chcnga/page01.cfm

¹⁵ <http://www.thempc.org/Transportation.htm>

¹⁶ <http://columbusga.org/planning/transportation/>

¹⁷ <http://dartsmo.org/>

¹⁸ <http://www.ghmpo.org/>

¹⁹ <http://www.whitfieldcountyga.com/eng/mpo.htm>

- *Hinesville Area Metropolitan Planning Organization (HAMPO)*²⁰
 - This MPO serves the urbanized portions of Liberty and Long Counties, including Fort Stewart, and the municipalities of Hinesville, Allenhurst, Flemington, Gum Branch, Midway, Riceboro, and Walthourville.
- *Macon – Bibb County Planning and Zoning Commission (MBPZ)*²¹
 - MBPZ serves as the MPO for the City of Macon and Bibb County as well as the southern portion of Jones County.
- *Madison – Athens – Clarke Oconee Regional Transportation Study (MARCORTS)*²²
 - This MPO serves all of Athens-Clarke County, the northern half of Oconee County and the southernmost portion of Madison County.
- *Floyd – Rome Metropolitan Planning Organization*²³
 - This MPO serves Floyd County and the City of Rome.
- *Valdosta – Lowndes Metropolitan Planning Organization (VLMPO)*²⁴
 - This MPO serves Lowndes County and the City of Valdosta.
- *Warner Robins Area Transportation Study (WRATS)*²⁵
 - This MPO serves the Warner Robins Urbanized Area, which consists of all of Houston County and the northeastern portion of Peach County to include the incorporated municipalities of Warner Robins, Byron, Centerville, and Perry.

Several MPOs have developed or are developing freight plans that discuss rail needs. These MPOs include the Atlanta Regional Commission,²⁶ Chatham County – Savannah Metropolitan Planning Commission²⁷ and Dougherty Area Regional Transportation Study.²⁸

The Atlanta Regional Commission (ARC) is in the process of updating its *Atlanta Regional Freight Mobility Plan*. Among other things, the update will:

- Identify issues impacting freight movement in metro Atlanta, including connections to intermodal terminals and freight-related land use issues;
- Describe the needs of the metro Atlanta freight network; and,
- Identify opportunities to improve freight flows in metro Atlanta.

This study will provide an opportunity to explore Atlanta regional freight rail needs and opportunities in detail.

²⁰ <http://thelcpc.org/hampo/>

²¹ <http://maconbibbz.org/articleList.php?category=13>

²² <http://www.macorts.org/about.html>

²³ <http://www.romefloyd.com/departments/Transportation>

²⁴ <http://www.lowndescounty.com/335/VLMPO>

²⁵ <http://www.wrga.gov/index.aspx?NID=295>

²⁶ <http://www.atlantaregional.com/transportation/freight>

²⁷ <http://www.thempc.org/Transportation/FreightTransportationPlans.html>

²⁸ http://dartsmo.org/wp-content/uploads/2010/06/Albany_Final_Report_04-03-08.pdf

The Chatham County – Savannah Metropolitan Planning Commission CORE MPO is currently developing the *CORE MPO Freight Transportation Plan*. The key components of the study include:

- An assessment and analysis for freight needs on the Savannah region's freight network;
- The current and future freight related land use for the Savannah region; and,
- An economic development market assessment for the Savannah region.

The study will include local and regional freight rail needs and opportunities.

The *Albany/Dougherty Freight Plan*, completed in 2008, primarily focused on the rail network within the Dougherty Area Regional Transportation Study's (DART's) geographic area. The Plan identified and assessed the rail network in DART's study area, documented warehousing facilities with direct rail service, and identified the study area's at-grade railroad crossings. The Plan includes traffic information for major at-grade crossings. The Plan examined the rail flows through the region by providing the type of rail commodities, as provided by the 2001 Georgia State Rail Plan. The Plan included a list of recommended rail infrastructure improvements.

Local Economic Development Agencies

Georgia has a number of local public and private economic development agencies which recruit industries and businesses on the basis of their location, available labor force, room for growth, and access to rail and other transportation assets.

The Georgia Directory of Economic Development Organizations lists 98 entities around the state, including economic development agencies and authorities, chambers of commerce, alliances, development councils, corporations, and associations at the regional, county or local level of government. Many of these agencies offer incentives such as tax exemptions and credits and other means of assistance to attract business interests.

Although these agencies do not generally work directly with freight railroad operators, they do have a vested interest in the level of rail services and rail assistance programs available to supplement their incentives.

1.4.4 Georgia's Authority to Conduct Rail Planning and Investment

Georgia provides the Department of Transportation with the legal authority necessary for the state to qualify for rail service continuation subsidies pursuant to the provisions of the federal Railroad Revitalization and Regulatory Reform Act of 1976, and to establish, fund, construct, acquire, replace, operate and maintain railroads and railroad projects.

Georgia Statute 32-9-6 – Financial Assistance for Rail Service – designates the state Department of Transportation as the state agency to offer financial assistance to enable rail service and further authorizes the Department to receive and administer federal financial assistance and to distribute, by contract or otherwise, such federal financial assistance, alone or together with state, local, or private funds available for such purposes.

1.5 State Authority for Grant, Loan and Other Rail Financing

Georgia has utilized both federal and state transportation funding programs where rail infrastructure improvements were eligible and appropriate. GDOT and other state economic development agencies provide state-sponsored rail investment in Georgia. Chapter 2 describes these funding sources in detail.

The state budget process provides funding to purchase and maintain railroads owned by the state. Since 1999 GDOT has invested over \$27 million to acquire abandoned line segments and currently owns a total of 490 miles²⁹ of rail line; 465 of which are currently active.

In addition to acquiring these lines, the state has issued bonds and appropriated funding for freight rail assistance to both preserve and improve freight rail service. Since 1981 approximately \$76 million in state funds have been utilized for rail freight projects. Additional matching funds from railroads and other sources supplements these investments.

The Georgia Department of Transportation frequently provides required matching funds for federal financial assistance programs such as grade crossing improvement and separation projects.

1.6 A Summary of Freight and Passenger Rail Services in Georgia

The rail system in Georgia is comprised of 4,643 route miles owned by freight railroads and the State of Georgia. There are 31 freight railroads. Two of these railroads, CSXT and Norfolk Southern, categorized as Class I or major railroads, own 3,631 route miles, or 78 percent of the total rail mileage in the state. Regional or short line railroads own and operate the remaining route miles. These freight railroads carried approximately 190 million tons of freight or almost 4 million rail cars of various commodities to, from, within and through Georgia in 2011.

Four Amtrak long distance intercity rail passenger routes operate within the state. Amtrak's *Crescent*, *Palmetto*, *Silver Meteor*, and *Silver Star* routes all originate in New York City with terminating points in New Orleans, Savannah, Miami, and Miami respectively. During Amtrak's 2013 Fiscal Year, 192,085 passengers boarded or alighted at Amtrak stations within Georgia. The Atlanta station accounted for 99,005 of these passengers.

In addition to the state's freight and intercity passenger rail services, a number of tourist trains operate in the state.

Chapter 2 describes Georgia's rail network, as well as its contributions and impacts on the state, in detail.

²⁹ Mileage total excludes miles converted to trails.

1.7 Structure of the Georgia State Rail Plan

The chapters that follow describe Georgia's rail planning processes, the existing conditions of Georgia's railroads, proposed concepts for freight and passenger improvements, and a state program of rail investments.

- **Chapter 1** discusses the role of rail in Georgia's multimodal transportation system and the State's organization to provide political, legal and financial support to rail development.
- **Chapter 2** discusses the existing rail system, trends and forecasts of freight and passenger rail traffic, and needs and opportunities facing Georgia's railroads and rail stakeholders.
- **Chapter 3** identifies various passenger rail projects and improvements investigated in the recent past, or are under study.
- **Chapter 4** notes the specific rail improvements planned by Class I railroads (CSXT and NS), the needs of the state's short line railroads, and the state's grade crossing improvement program.
- **Chapter 5** outlines a proposed program of short-range and long-range rail improvements and studies.
- **Chapter 6** describes the stakeholder and public outreach process conducted in support of the *Georgia State Rail Plan*.

1.8 State Rail Vision

The starting point for the *State Rail Plan* is the rail vision, which summarizes what the rail stakeholders (including railroads, rail shippers, rail passengers and others) want and need from their state rail system. Chapter 5 discusses the development of Georgia's rail vision, along with its supporting goals. The rail vision appears below.

Georgia Rail Vision Statement

"A safe and energy efficient state rail system that enables the economic wellbeing of Georgians by expanding access and enhancing mobility for people and goods in an environmentally sustainable manner."

Chapter 2. Georgia’s Existing Rail System

2.1 Introduction

This chapter provides an overview and inventory of Georgia’s existing rail system as a baseline for planning and decision making. Discussed below are three major aspects of the state’s existing freight rail and passenger rail systems: a description of the services as they are today; rail service trends and forecasts; and needs and opportunities.

2.2 Georgia’s Rail System

Railroads have served Georgia since the 1830s. By the 1860s, Georgia had more track miles than any other state in the Deep South. Railroads spurred development, most noticeable in Atlanta, itself the major rail hub in the South. Railroad development continued until the 1920s, but the system has decreased since then, particularly during the early 1960s and 1970s when railroads faced increasing competition to both their freight and passenger businesses from new air routes and interstate highways. Today, thirty one freight railroads, four Amtrak intercity passenger routes and four tourist or “heritage” railroads serve Georgia.

Georgia’s freight railroads fall into two categories. These are: the Class I railroads which are large, primarily long-haul regional rail systems, and Class III railroads, commonly referred to as short line and switching or terminal railroads, which operate at the local level.

The passenger rail system is comprised of Amtrak long-distance intercity services and tourist railroads.

As seen in **Table 1**, Georgia’s rail system consists of 4,643 rail route miles owned by railroads and GDOT. These railroads operate over 4,697 miles including trackage rights. The total excludes port switching and terminal railroad trackage, Amtrak facilities, and tourist railroads.

Railroad	Miles Owned	Percent	Miles Operated	Percent
CSX Transportation	1,449	31	1,614	34
Norfolk Southern	2,064	44	1,721	37
Short Lines	522	11	1,362	29
Georgia DOT	490	11	0	0
Georgia State Properties Commission³⁰	118	3	0	
Total	4,643	100	4,697	100

Note: Trackage rights are included in miles operated, allowing miles operated to exceed miles owned.

³⁰ CSXT lease the 118 mile W&A line from Georgia’s State Properties Commission.

2.2.1 Georgia's Existing Rail Line Network

Class I Railroads

Class I railroads are defined as those railroads that typically operate over thousands of route miles, employ thousands of people, and have revenues and capital budgets in the billions of dollars collectively.³¹ There are seven Class I railroads in the United States and Canada.

Georgia is served directly by two Class I railroads: CSX Transportation (CSXT) and Norfolk Southern Railway. A third Class I railroad – BNSF Railway (BNSF) – has access to Atlanta via haulage rights over CSXT from Birmingham, Alabama. **Figure 1** shows the routes of the Class I railroads in the context of the state's rail network, along with Amtrak routes that use their lines.

CSX Transportation

CSX Transportation, owned by CSX Corporation, a publicly traded railroad company, operates over 21,000 route miles in the Eastern, Southern and Midwestern United States. Complete details of CSXT's rail lines within Georgia, trackage rights, interchanges with other railroads, major rail yards and other facilities, and detailed maps of the subdivisions within Georgia are provided in Appendix A.

Norfolk Southern Railway

Norfolk Southern Railway, owned by Norfolk Southern Corporation, a publicly traded corporation, operates approximately 20,000 route miles in 22 states east of the Mississippi River. Appendix A provides details of NS rail lines and other infrastructure and operating data within Georgia.

Class III Railroads

Freight railroads generally fall into three categories. In addition to the Class I railroads discussed above, smaller railroads include Class II or regional railroads and Class III or short line railroads.³² Short line railroads can be further classified as either local railroads or switching / terminal railroads.

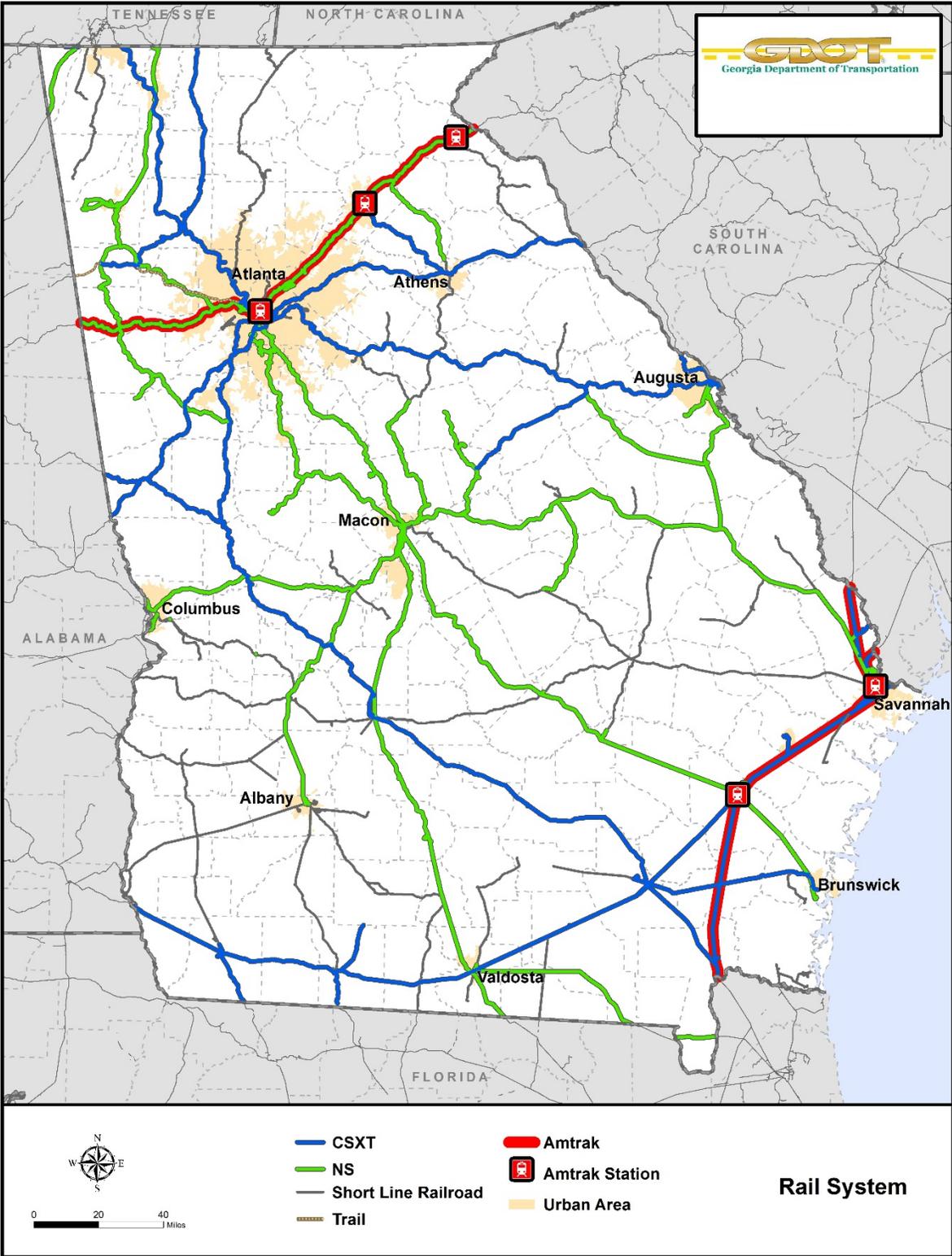
No Class II or regional railroads currently operate in Georgia. However, there are 29 Class III or short line railroads comprised of 27 local operating railroads, one switching or terminal carrier, and one local railroad owned by a power utility with service provided by a Class I carrier. Local railroads are short line railroads that primarily engage in freight haulage or line haul services. Switching or terminal railroads are short line railroads that primarily switch cars between other railroads or provide service within a terminal facility.

In recent years there has been a significant trend toward consolidation of railroads within the short line industry with many lines coming under the control of a handful of railroad holding companies. Three major railroad holding companies operate 17 of the 29 short line railroads: Genesee and Wyoming (G&W), OmniTRAX, and Pioneer Railcorp. In addition, a smaller multi-property short line operator – B. R. Anderson Corp – controls three railroads.

³¹ In the United States, the Surface Transportation Board defines a Class I railroad as "having annual carrier operating revenues of \$250 million or more" after adjusting for inflation using the Railroad Freight Price Index developed by the Bureau of Labor Statistics.

³² See Federal Register, Volume 79, No. 111, June 10, 2014, p. 33257. The STB defines class of railroad based on revenue thresholds adjusted for inflation. For 2013, the most recent available, Class I carriers had revenues of \$467.0 million or more. Class II carriers have revenues ranging from \$37.4 million to under \$467.0 million. Class III carriers have revenues under \$37.4 million. All switching and terminal carriers regardless of revenues are Class III carriers. (See 49 CFR 1201.1-1)

Figure 1: Class I Rail Lines and Amtrak Routes



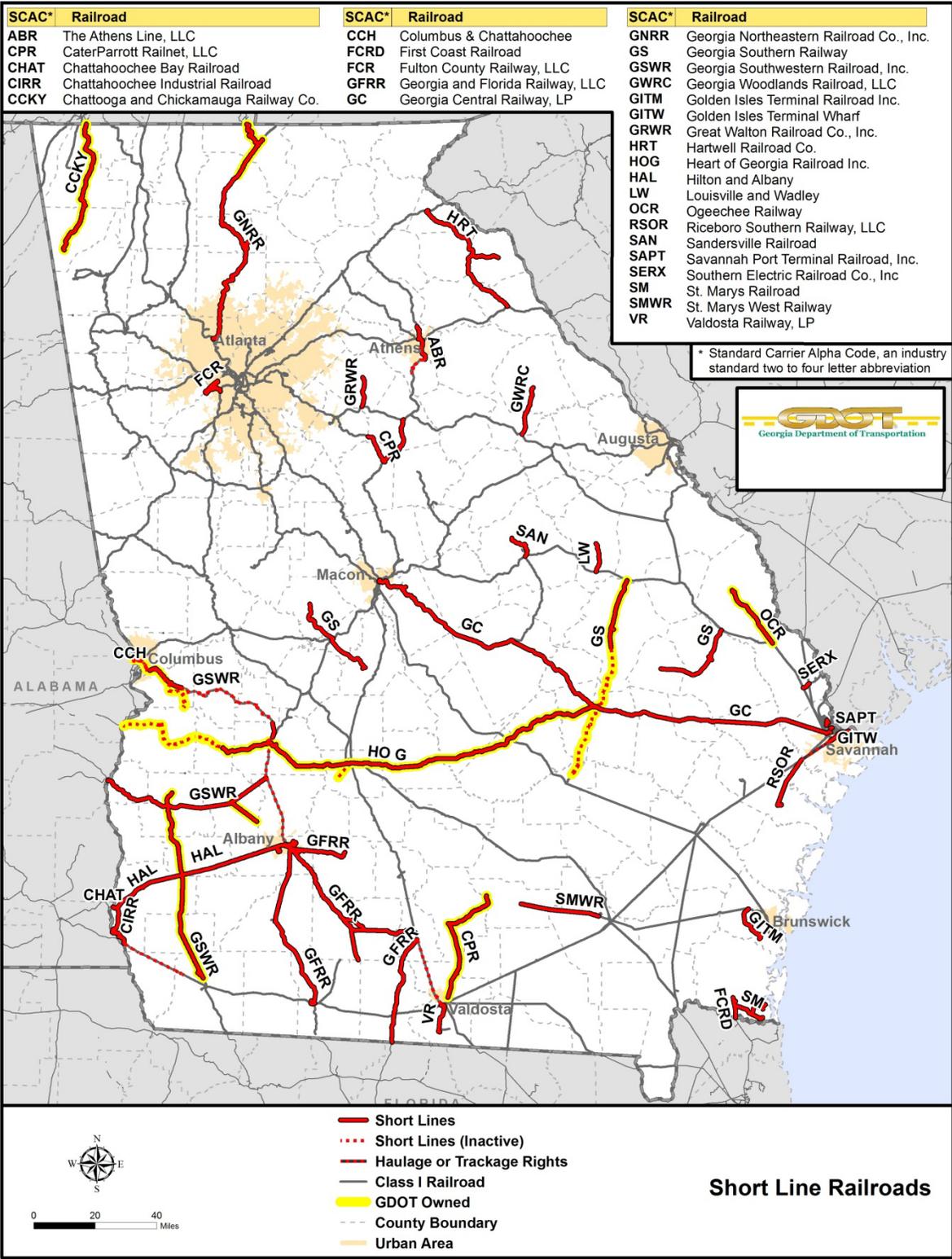
GDOT is the third largest owner of rail route mileage in the state with 490 miles of track and right-of-way. Seven short lines lease all in-service trackage. The remainder has either been placed out-of-service or set aside for trail purposes.

Each Class III railroad is listed in **Table 2** and depicted in **Figure 2**. GDOT owned railroad right-of-way is listed in **Table 3**. A brief description of each of the short line railroads operating in Georgia, grouped by their corporate parent, is provided in Appendix A.3.

Table 2: Short Line Railroads Operating in Georgia					
	Railroad	SCAC^a	Parent Company	Route Miles Owned^b	Route Miles Operated^b
1	The Athens Line, LLC	ABR	B.R. Anderson	0	22
2	CaterParrott Railnet, LLC	CPR	CaterParrott Railnet, LC	0	64
3	Chattahoochee Bay Railroad	CHAT	Genesee and Wyoming Inc.	2	2
4	Chattahoochee Industrial Railroad	CIRR	Genesee and Wyoming Inc.	15	15
5	Chattooga and Chickamauga Railway Co.	CCKY	Genesee and Wyoming Inc.	0	47
6	Columbus & Chattahoochee	CCH	Genesee and Wyoming Inc.	0	0
7	First Coast Railroad	FCRD	Genesee and Wyoming Inc.	0	8
8	Fulton County Railway, LLC	FCR	OmniTRAX	ST ^c	0
9	Georgia and Florida Railway, LLC	GFRR	OmniTRAX	94	222
10	Georgia Central Railway, LP	GC	Genesee and Wyoming Inc.	171	171
11	Georgia Northeastern Railroad Co., Inc.	GNRR	Independent	75	98
12	Georgia Southern Railway	GS	Pioneer Railcorp	0	74
13	Georgia Southwestern Railroad, Inc.	GSWR	Genesee and Wyoming Inc.	59	225
14	Georgia Woodlands Railroad, LLC	GWRC	OmniTRAX	17	17
15	Golden Isles Terminal Railroad Inc.	GITM	Genesee and Wyoming Inc.	0	12
16	Golden Isles Terminal Wharf	GITW	Genesee and Wyoming Inc.	ST	0
17	Great Walton Railroad Co., Inc.	GRWR	B.R. Anderson	10	10
18	Hartwell Railroad Co.	HRT	B.R. Anderson	10	58
19	Heart of Georgia Railroad Inc.	HOG	Atlantic Western Transportation	0	140
20	Hilton and Albany	HAL	Genesee and Wyoming Inc.	0	56
21	Louisville and Wadley	LW	Independent	10	10
22	Ogeechee Railway	OCR	Independent	0	22
23	Riceboro Southern Railway, LLC	RSOR	Genesee and Wyoming Inc.	0	33
24	Sandersville Railroad	SAN	Independent	9	9
25	Savannah Port Terminal Railroad, Inc.	SAPT	Genesee and Wyoming Inc.	ST	0
26	Southern Electric Railroad Co., Inc.	SERX	Southern Company	3	0 ^d
27	St. Marys Railroad	SM	Independent	14	14
28	St. Marys West Railway	SMWR	Independent	23	23
29	Valdosta Railway, LP	VR	Genesee and Wyoming Inc.	10	10
Totals				522	1,362
Notes:					
a Standard Carrier Alpha Code, an industry standard two- to four-letter abbreviation					
b Rail miles shown for each carrier includes owned, leased and trackage / haulage rights route mileage.					
c ST - Switching & Terminal Company, no route miles. Terminal miles- FCR 22, GITW 7, SATP 19. In addition to its route miles, GITM has 24 Terminal miles					
d Mileage operated by NS					

In the table, route miles operated by a railroad include route miles used for provision of freight service. These could include some or part of route miles owned (some may be out of service) as well as route miles leased (from a Class I or GDOT) and route miles used by virtue of trackage and/or haulage rights (these rights are granted by the owning railroad for a fee).

Figure 2: Short Line Railroads in Georgia



Railroad Lessee	Miles
Ogeechee Railway	22
Heart of Georgia Railroad	224
Georgia Northeastern Railroad	25
Chattooga and Chickamauga Railway	49
Georgia Southwestern Railroad	102
Georgia and Florida Railway	43
Vidalia to Hester (Not Leased)	25
Cobb/Paulding Co. (Inactive, Silver Comet Trail)	45
Summary Totals	
GDOT Owned Railroad Right-of-Way	535
GDOT Owned Railroad Right-of-Way (Less Silver Comet Trail)	490
Miles of Active Railroad Operating on GDOT Property	465

Intercity Passenger Rail Network

This section summarizes the history of Georgia passenger rail service and provides an overview of the current service provided by the National Railroad Passenger Corporation, otherwise known as Amtrak.

Historical Rail Passenger Perspective

Historically, two distinct intercity passenger rail networks served Georgia. One network consisted of a series of long-distance through trains along with several regional routes, all serving Atlanta. This created a multi-frequency hub of connecting services with a large matrix of origin and destination cities. The second network consisted of a number of long-distance through trains linking the Northeast with Florida, serving Coastal Georgia cities with multi-frequency service.

These two networks remained in place through the 1960s, with passenger trains serving major cities and linking them to most of the state's small towns. In addition to transporting passengers, the trains also carried mail and express packages. Rail stations, usually located close to the center of each community, were activity hubs with city development radiating outward from them. Amtrak's *Silver Service* route still offers Coastal Georgia a semblance of this network, but with only one east / west frequency, Atlanta's passenger rail hub network has largely disappeared.

Current Amtrak Routes

Four long-distance Amtrak trains directly serve Georgia, while an additional long-distance train, the Amtrak *Auto Train*, operates non-stop through the state. There currently is no commuter or intercity corridor service provided in the state, either by Amtrak or by other operators. Amtrak operates entirely over the trackage of Class I freight railroads.

The *Crescent*, *Silver Meteor*, *Silver Star* and *Palmetto* operate with single-level train car equipment due to limited tunnel clearances between Washington and New York. The *Crescent*, *Silver Meteor* and *Silver Star* are equipped with coaches, sleeping cars, a diner, and a lounge car. The *Palmetto* operates with a Business Class car, coaches and a Café Lounge car. Wi-Fi is also available on that train. Current routes appear in **Figure 3**.

Crescent - The *Crescent* operates between New York and New Orleans (shown in green on **Figure 3**). The route consists of one daily round-trip, stopping at Atlanta, Gainesville, and Toccoa. Intermediate

stops outside Georgia include Birmingham, Charlotte, Washington DC, Baltimore, and Philadelphia. In the southbound direction the train leaves New York at 2:15 PM and arrives in New Orleans at 7:32 PM the following day. Northbound the train leaves New Orleans at 7:00 AM and reaches New York at 1:46 PM the following day. In the northbound direction the *Crescent* stops in Atlanta at 7:35 PM while southbound the train stops in Atlanta at 8:13 AM. The *Crescent's* schedule offers daytime service between Atlanta, Birmingham, and New Orleans, as well as overnight service between Atlanta and cities in the Northeast.

Through Georgia, the *Crescent* operates on track owned by the Norfolk Southern Railway.

Additionally, Amtrak operates three frequencies through coastal Georgia – *Silver Meteor*, *Silver Star* and *Palmetto* – co-branded as Atlantic Coast Service (shown in red on Figure 3). Through Georgia, the Amtrak's Atlantic Coast Service operates on track owned by CSXT.

Figure 3: Amtrak Routes Serving Georgia



Green – *Crescent*

Red – Atlantic Coast Service, *Silver Meteor*, *Silver Star* and *Palmetto*

Source: Modified Amtrak map.

Silver Meteor - The *Silver Meteor* operates between New York and Miami. The service consists of one daily round-trip, stopping at Savannah and Jesup. Intermediate stops outside Georgia include Orlando, Jacksonville, Richmond, Washington DC, Baltimore, and Philadelphia. Southbound the train

leaves New York at 3:15 PM and arrives in Miami at 6:55 PM the following day. Northbound the train leaves Miami at 8:20 AM and reaches New York at 11:06 AM the following day. Northbound the *Silver Meteor* stops in Savannah at 7:38 PM while southbound the train stops in Savannah at 6:44 AM. The *Silver Meteor* schedule offers daytime service between Savannah, Jacksonville, and Miami; it offers overnight service between Savannah and cities in the Northeast.

Figure 4: Amtrak's Silver Meteor in Folkston



Silver Star - The *Silver Star* operates between New York and Tampa / Miami. The service consists of one daily round-trip, stopping at Savannah along the way. Intermediate stops outside Georgia include Orlando, Jacksonville, Columbia, Raleigh, Richmond, Washington DC, Baltimore, and Philadelphia. Southbound the train leaves New York at 11:02 AM, arriving in Tampa at 12:34 PM, and Miami at 6:05 PM the following day. Northbound the train leaves Miami at 11:50 AM, Tampa at 5:17 PM and reaches New York at 7:18 PM the following day. Northbound the *Silver Star* stops in Savannah at 1:30 AM, while southbound the train stops in Savannah at 4:29 AM.

Palmetto - The *Palmetto* operates between New York and Savannah. The service consists of one daily round-trip with intermediate stops outside Georgia at Charleston, Richmond, Washington DC, Baltimore, and Philadelphia. Southbound, the train leaves New York at 6:15 AM and arrives in Savannah at 9:03 PM that evening. Northbound, the train leaves Savannah at 8:20 AM and reaches New York at 11:47 PM that evening. The *Palmetto* schedule complements the overnight schedule of the *Silver Meteor*, offering daytime service between Savannah, the Carolinas, and cities in the Northeast.

Auto Train - The *Auto Train* is a unique product that carries both passengers and their automobiles between Lorton, Virginia and Orlando. Carrying passengers and their automobiles, the route provides an overnight link between the entire Northeast and all of Florida. While *Auto Train* does not directly serve Georgia, its average of over 260,000 riders per year would likely drive on I-95 through Georgia. The *Auto Train* service thus frees up road capacity for local Georgia travel.

Metropolitan Atlanta Rapid Transit Authority

The Metropolitan Atlanta Rapid Transit Authority (MARTA) operates an urban heavy rail transit system with four lines, which come together at Five Points Station in Downtown Atlanta. The four-line system is shown in **Figure 5**.

An urban heavy rail transit system is an electric railway on a separate right-of-way with the capacity for a heavy volume of traffic. According to the National Transit Database of the Federal Transit Administration,³³ heavy rail is distinct from intercity and commuter rail.

MARTA operates a 48-mile heavy rail system linked to a 91 route network of local bus transit, covering over one thousand miles. MARTA also operates a paratransit service for disabled customers.

Daily ridership for the combined MARTA system is about 420,000. Daily rail ridership is about 190,000.

MARTA has a bus connection to Amtrak's Peachtree Street Station in Midtown Atlanta.

This urban transit system could provide connections for intercity and commuter train riders at the proposed Multi-Modal Passenger Terminal (MMPT) in Downtown Atlanta. A pedestrian connection could link the MMPT and MARTA's Five Points Station.

Serving Fulton and DeKalb Counties, MARTA recently expanded to Clayton County. The initial phase includes bus transit, but later phases may include a rail option. MARTA lists pending expansion plans on their website at: <http://www.itsmarta.com/expansion-projects.aspx>.

³³ <http://www.ntdprogram.gov/ntdprogram/Glossary.htm>

Figure 5: MARTA Heavy Rail System Map



Source: MARTA

Tourist Rail Operations

Heritage Railways Overview

Georgia’s heritage railways offer tourists and visitors several hour-long trips that showcase scenic or historic areas of the state with bucolic rides between small towns. These rail trips offer a glimpse of an activity that was once part of daily life. The railroads also serve to preserve equipment, buildings, artifacts and industrial skills from earlier eras. Georgia’s heritage railways generally utilize streamlined

cars and diesel locomotives dating from the 1940s and 1950s with coaches, parlor cars, and open-seating cars for sightseeing. Two of the railroads are part of for-profit short line railroads, while the Georgia Department of Natural Resources manages a third. A fourth, based in Chattanooga, operates on a short line in the northwestern corner of Georgia.

In addition to preserving railroad history, heritage railways, museums and other venues also attract visitors, generating income not only for these businesses but also for restaurants, hotels and other visitor service establishments. Heritage railways can also provide an opportunity to introduce the public to the contemporary rail industry and its key role in the state's economy.

The locations of tourist railroads, museums and other venues appear in **Figure 6**.

The following summaries provide an overview of the four heritage railroads which operate in Georgia.

Blue Ridge Scenic Railway

The Blue Ridge Scenic Railway (BRSR) operates passenger excursion trains between Blue Ridge and the twin border towns of McCaysville and Copperhill, Tennessee. A 26-mile round-trip takes approximately 4 hours, with a 2-hour layover in McCaysville for lunch and shopping opportunities. BRSR is a subsidiary of and is operated by the Georgia Northeastern Railroad. The BRSR operates between mid-March and December 31st. The service operates Friday through Monday in spring and fall, Thursday through Tuesday during the summer, and daily during Spring Break and the week before Christmas. Weekend twilight trains and seasonal theme trains are also operated.

SAM Shortline

Operated by the Georgia Department of Natural Resources under guidance from the Southwest Georgia Railroad Excursion Authority, the SAM Shortline is a state-owned tourist railway that offers a relaxing ride through the quaint towns of Georgia's Coastal Plain. The longest excursion is 82 miles round-trip. SAM Shortline runs on Fridays and Saturdays and other selected weekdays, from February through the Christmas. SAM Shortline operates over the Heart of Georgia Railroad and leases engine services from HOG.

Operating from the Georgia Veterans State Park, the SAM Shortline offers excursions beginning in either Downtown Cordele or the State Park, traveling though Leslie, Americus, Plains and Archery. At layover stations passengers have time to explore the town. Plains is the family home of former President Jimmy Carter and the site of the railroad station that was his campaign headquarters. Six excursions of varying lengths operate in a monthly rotation, or to coincide with local events. These are:

- The *Watermelon Express* operates from Downtown Cordele and Plains (82 miles round-trip).
- The *Americus Explorer* operates from Downtown Cordele to Americus (62 miles round-trip).
- The *Thronateeska Limited* operates from Downtown Cordele to Americus with a stopover in Leslie (62 miles round-trip).
- The *Presidential Flyer* operates from the Georgia Veterans State Park to Archery with a stopover in Plains (70 miles round-trip).

- The *Peanut Express* operates from Georgia State Veterans State Park to Plains with a stopover in Leslie (66 miles round-trip).
- The *Sumter Special* operates from Georgia State Veterans State Park to Plains with a stopover in Americus (66 miles round-trip).

SAM Shortline also operates special seasonal excursions, private charters and a “Day Out With Thomas” event during the year.

Figure 6: Tourist Railroads in Georgia

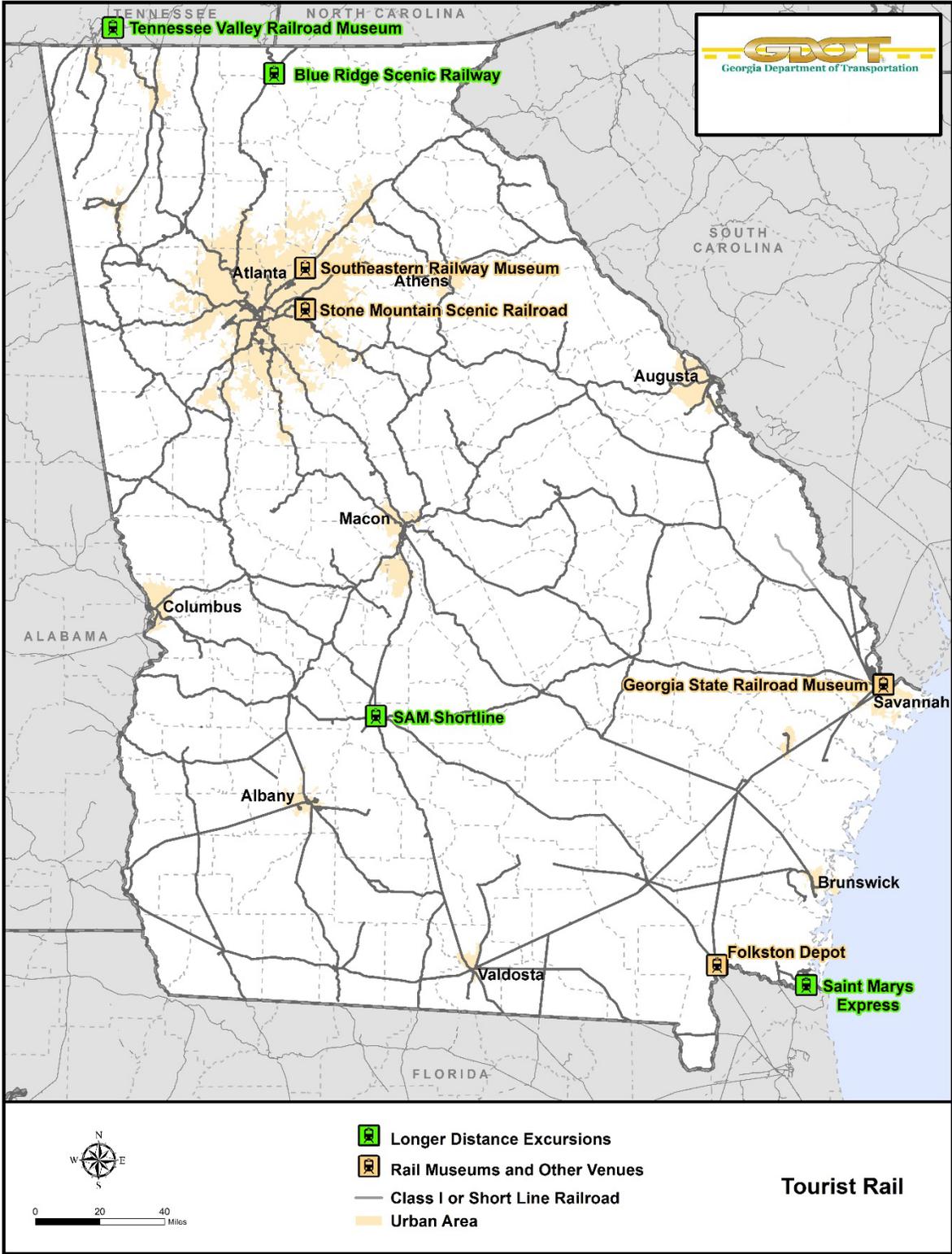


Figure 7: Blue Ridge Scenic Railway and Station



Figure 8: SAM Shortline



Saint Marys Express

Operated by Saint Marys Railroad, the Saint Marys Express operates themed excursions on selected Saturdays (about 10 per year) from spring through fall. The Saint Marys Express operates a four-mile round-trip excursion that starts in the coastal town of St. Marys at the Theatre by the Trax. Riders travel through woodlands, marshlands and cross Borrett Creek. Unique to the rail excursion industry, the Saint Marys Express is a partnership between the railroad and the St. Marys Little Theatre. Volunteer car hosts are actors for the Little Theatre and serve as entertainers supporting the excursion theme.

Figure 9: Saint Marys Express



Tennessee Valley Railroad Museum

While the Tennessee Valley Railroad Museum (TVRM) is located in Chattanooga, it operates two excursion routes that turn around in Georgia. Both excursions operate on a short line, the Chattanooga & Chickamauga Railway. The Chickamauga Turn, a 28-mile round-trip, operates between Chattooga and Chickamauga. The train operates Saturdays from April through September. The excursion has a 90-minute layover in Chickamauga, allowing riders to visit downtown restaurants, shop for antiques, view the Gordon-Lee Mansion, or visit the regional history museum located in the Chickamauga Depot. On the return trip the train makes an extended stop at the Chickamauga-Chattanooga National Military Park. The second excursion is the Summerville Steam Special, a 92-mile round-trip, between Chattanooga and Summerville. The train operates Saturdays in October and allows riders to view the fall foliage in North Georgia. Full dining car service is available during the all-day trip, and riders have the opportunity to explore Summerville or watch the turning of the steam locomotive on a turntable during the 90-minute mid-trip layover.

Rail Museums and Other Venues

Stone Mountain Scenic Railroad

Stone Mountain Scenic Railroad is an attraction that is part of a theme / historic park and included in the entry fee. While viewed as a ride, the 50-year-old Stone Mountain Scenic Railroad is a standard gauge rail operation utilizing some historic equipment and offering riders a relaxing narrated trip through the woods that surround Stone Mountain.

Southeastern Railway Museum

Located in Duluth, the Southeastern Railway Museum has a collection of railroad and Atlanta transit equipment which focus on the Southeastern railroads. The museum highlights the cultural, historic and technological importance of the rail industry in the region. The museum offers a short train ride on

standard gauge equipment on the yard tracks and leads of the museum facility. Ninety pieces of railroad and transit equipment are preserved by the museum.

Figure 10: Southeastern Railway Museum



Georgia State Railroad Museum

Located in Savannah and operated by the Coastal Heritage Society, the Georgia State Railroad Museum features an almost complete antebellum railroad roundhouse. The museum's focus is on Georgia Coast's industrial heritage and the Central of Georgia Railway. The facility contains an almost complete steam era shop complex with a 17-stall roundhouse, operating turntable, machine shop, tender frame shop, power plant smokestack, boiler room, blacksmith shop, storehouse, lumber shed, carpenter's shop, coach shop and paint shop. The museum offers a short train ride on standard gauge equipment on the yard tracks and yard leads of the shop facility, including a spin on the roundhouse turntable. Adjacent to the shop complex is Central of Georgia Railway's Savannah passenger depot, now the city visitor center and history museum. The Coastal Heritage Society preserves over 40 pieces of railroad equipment.

Folkston Depot

The restored Folkston Depot now serves as a Visitor's Center. It includes safe, park-like viewing areas on both the east and west sides of a CSXT main line. Many visitors from all over the U.S. and the world visit Folkston to view contemporary rail operations on the "Folkston Funnel." Other cities, including Locust Grove, Georgia, are undertaking similar efforts.

Figure 11: Turntable and Roundhouse, Georgia State Railroad Museum



Previously Proposed Passenger Services

A number of additional commuter and intercity passenger rail routes have been proposed and analyzed that would expand Georgia's limited passenger rail network. Various studies performed prior to this *State Rail Plan* addressed these potential routes. Implementation of these proposed routes would create a network with Atlanta as its hub. This would re-establish Atlanta's position as the hub of a Southeastern regional passenger rail network.

The proposed intercity rail services include:³⁴

- Atlanta – Greenville – (Charlotte)
- Atlanta – Chattanooga – (Nashville)
- Atlanta – Birmingham – (New Orleans)
- Atlanta – Macon – Savannah
- Atlanta – Griffin – Columbus
- Atlanta – Columbus
- Atlanta – Augusta
- Jacksonville – Savannah – (Columbia) – (Raleigh)
- Macon – Jesup
- Macon – Albany

³⁴ Cities noted in parentheses represent key corridor endpoints and would be the responsibility of other states.

Proposed commuter rail services include:

- Atlanta – Griffin – Macon
- Atlanta – Athens
- Atlanta – Madison
- Atlanta – Gainesville
- Atlanta – Canton
- Atlanta – Bremen
- Atlanta – Senoia

In some cases there is overlap between proposed commuter rail and intercity passenger rail routes. For longer routes (i.e., Atlanta – Macon) this overlap could lend itself to a blended operation where an intercity passenger rail operation carries a significant number of daily commuters.

Chapter 3 outlines these proposed services in more detail. The proposed services could be optimized with the establishment of the Downtown Atlanta Multi-Modal Passenger Terminal, which is also being studied.

Abandonments and Rail-Banked Lines

The background of abandonments in Georgia since the 1960s and actual rail service discontinuances and abandonments over the past decade are discussed briefly below. A railroad may abandon a line with the permission of the U.S. Surface Transportation Board (STB), as described below. More on the process can be found at:

<http://www.stb.dot.gov/stb/docs/Abandonments%20and%20Alternatives1.pdf>.

Rail banking is a process established under federal law that allows public entities to preserve established railroad rights-of-way for future reactivation of rail service, to protect rail transportation corridors, and to encourage energy efficient transportation use. Many abandoned or rail banked lines have been converted to recreational trail uses.

The former Southern Railway's acquisition of the Central of Georgia and the Georgia and Florida Railways in 1963 as well as the merger of the Seaboard Air Line and Atlantic Coastline Railroads to form the Seaboard Coastline Railroad in 1967 initiated an extended period of Georgia railroad route abandonment and consolidation. The 1980 Staggers Act, which deregulated railroads, was also a catalyst to railroad mergers and accelerated Class I railroad route abandonments and divestitures to short line railroads in Georgia.

The Seaboard Coastline and the Louisville and Nashville Railroads merged to form the Seaboard System Railroad in 1982. The Seaboard System absorbed the Georgia Railroad in 1983 and the Atlanta and West Point Railroad, and was renamed CSX Transportation upon its merger with the Chessie System in 1986. Southern Railway became Norfolk Southern Railway when it merged with the Norfolk and Western Railway, based in the Northeastern and Midwest states, in 1990.

Hundreds of CSXT and NS Georgia route miles were abandoned or sold / leased to short line railroads between the early 1980s and the mid-1990s. GDOT acquired some of those rail lines.

Abandonments, Discontinuances, and Service Cessation – Legislative Actions since 2004

49 U.S.C. § 10903 governs the filing and procedure for common carrier application to abandon or discontinue rail operations over any part of its railroad lines as detailed in 49 CFR Part 1152.

Abandonment or discontinuation requires a STB finding “that the present or future public convenience and necessity require or permit the abandonment or discontinuance.” 49 CFR 1152.50 provides for exemption from the requirements for abandonment and discontinuance when the STB has found approval is unnecessary to carry out rail transportation policy of 49 U.S.C. § 10101, and the actions are of limited scope not requiring shippers be protected from abuse of market power.

The principal requirements for discontinuance or abandonment is that the railroad certify that no local traffic has moved over the line for two years, that any overhead traffic can be routed over other lines, and that no formal complaint is filed by a rail service user. Identified below are the Georgia lines STB has approved discontinuance or abandonment since 2004:

- Discontinuation on most of the Georgia Southwestern Railroad (GSWR)-leased, NS-owned, Columbus-Americus line, STB Docket AB 1000 2 X (GSWR, NS Docket AB 290 344 X), effective 21 Mar 2013. This action involved 33 route miles, and both GSWR and NS were party to the petition.
- Abandonment / rail banking of the Mansfield-Covington portion of the NS Machen – Covington line, STB Docket AB 290 343 X, 20 Aug 2013 and 25 Feb 2014. An extension of the effective date was provided for additional trail use negotiations. 14.9 route miles are involved.
- GSWR abandonment / rail banking of the Columbus-Allie branch from one mile north of the Muscogee – Harris County line, STB Docket AB 1000 1 X, 29 Aug 2008.
- Cessation of active train operations on the NS Chattanooga – Hedges (Davis Crossroads) branch.
- Cessation of active train operations on the SCS-leased, NS-owned Machen – Mansfield branch. Service is now provided by CarterParrott Railnet.

Additionally the 2009 *Georgia State Rail Plan* identified the following abandonments:

- NS line, 4.3 miles, Atlanta, 2009. Known as the Decatur Belt, located in northeast Atlanta, the line was sold for an alternative transportation use.
- CSXT Line, Gainesville, 0.85 miles, 2005. The abandoned line segment was at the end of the line, formerly the Gainesville Midland (SAL).
- CSXT Line, 1.08 miles, Waycross, Ware County, 2008.

2.2.2 Rail Port Terminals and Passenger Stations

Port-Rail Facilities

Class I and short line railroads serve Georgia's ports, both sea-based and inland. This section includes the port-rail infrastructure, along with a description of the Cordele Intermodal Center. The four ports described below (with the exception of Cordele Intermodal Center) are managed by the Georgia Ports Authority (GPA), the administrative agency of the State of Georgia that oversees the development of the Port of Savannah and the Port of Brunswick, plus two inland intermodal container transfer operations at Port of Columbus and the Port of Bainbridge. Both latter operations are located on inland waterways and do not handle deep draft ship traffic.

Maps of terminal layouts and facilities are shown in Appendix A.4.

Port of Savannah

There are two GPA terminals in the Port of Savannah, each of which provides different cargo services.

- **Ocean Terminal** – This 200-acre terminal operates as a general cargo facility handling break bulk and Roll-on / Roll-off (Ro / Ro) commodities such as forest and wood products, steel, automobiles, farm equipment, and heavy lift and project cargo. On-terminal rail trackage consists of 39,015 track feet supported by an adjacent local service yard used by NS and CSXT.
- **Garden City Terminal** – This terminal, at 1,200 acres, is the largest single-terminal container facility in the country in terms of acreage. The Port's container volume for 2013 was 3,033,727 TEUs³⁵ representing a 29 percent growth over the last five years and making it the fourth busiest container port in the U.S. Between July 1, 2013, and March 31, 2014, rail movements accounted for 254,263 containers, or about 19.8 percent of total container volume for that period.³⁶

There are some 19 miles of track on the terminal including leads, yard, and intermodal container transfer facility (ICTF) trackage. Intermodal transfer operations occur at two facilities as follows:

- **Mason ICTF:** five working tracks of 2,800' each, totaling 14,000'. There is one storage track of 3,200' and two storage tracks of 2,400' each, totaling 8,000'.
- **Chatham ICTF:** three working tracks totaling 6,300', and seven storage tracks totaling 11,615'.

NS uses the Mason ICTF, while CSXT uses the Chatham Yard ICTF. Both railroads provide their own marshalling yards linked to the Garden City Terminal.

The Garden City Terminal trackage is switched by the Savannah Port Terminal Railroad (SAPT) through an agreement with GPA. The railroad occasionally assists the Class I railroads with breaking up and assembling trains. The SAPT also serves several industries in the area.

³⁵ Twenty-foot Equivalent Units

³⁶ *Progressive Railroading News*, April 11, 2014

Port of Brunswick

The port, located at the junction of the South Brunswick, Turtle and East Rivers, is comprised of multiple terminals: Colonel's Island, Mayor's Point, and East River and Lanier Docks. All of the terminals have access to both Class I railroads.

- Colonel's Island Terminal – Colonel's Island Terminal is the largest of the Brunswick and GPA terminals, at more than 1,700 acres, and is located on the South Brunswick River across the river from the town of Brunswick. It has 1,270 acres devoted to motor vehicles and 71 acres devoted to an agri-bulk facility (corn, wheat, soybeans, and grain by-products) with 64,800 short tons of capacity. The remainder of the site is undeveloped.

The Golden Isles Terminal Railroad (GITM), another Genesee and Wyoming operation, provides rail service. The carrier reaches the terminal via a 12-mile-long connection with CSXT and NS at Anguilla Junction, where a five-track interchange yard with a total capacity of 24,250 feet of track is located. Once reaching the terminal at Mydharris, there is a 10-track yard with 13,000 feet total included in 24 miles of on-terminal trackage. The agri-bulk facility has a two-track loop almost three miles long. There is a passing track just over a mile long on the connection about halfway to the terminal.

- Mayor's Point Terminal – This 22-acre East River terminal handles break-bulk cargo, such as wood pulp, liner board, plywood, and paper. There are two buildings on the terminal; the larger is 305,000 square feet in size, and the other is 50,000 square feet. The largest structure has track alongside with access to both CSXT and NS.
- East River Terminal and Lanier Docks – Also located on the East River, and rail served by a joint CSXT-NS track, are the side-by-side East River Terminal and Lanier Docks. The combined 72-acre site's cargo is comprised of liquid and dry bulk commodities as well as break-bulk.

Port of Columbus

The Port of Columbus is becoming landlocked as low water levels on the river system prohibit barge traffic because of a lack of necessary draft. Thus the port has transformed to become rail-highway transfer points for goods movement.

The Port of Columbus terminal consists of 14 acres. It is served by the Georgia Southwestern Railroad interchanging with CSXT and NS, and by trucks. There are approximately 1,800 feet of storage track and 11,750 feet of working track on the terminal. The port handles primarily ethanol and other liquid bulk cargo. A private operator, Nustar Energy, currently leases the port.

Port of Bainbridge

The Port of Bainbridge is also becoming landlocked as low water levels on the river system prohibit barge traffic because of a lack of necessary draft. It consists of 107 acres. GSWR, interchanging with CSXT, as well as trucks serve the port. There are approximately 1,100 feet of storage track and 20,000 feet of working track. The port handles primarily dry bulk commodities.

Cordele Intermodal Center

Located in Cordele this ICTF processes marine containers transported over the 176 miles between the facility and the Port of Savannah's Garden City Terminal. An agreement signed in 2013 by the State of

Georgia, the Georgia Ports Authority, and Cordele Intermodal Services, a private company that operates the facility, established the Cordele Intermodal Center.

The ICTF sits on 40 acres in the Crisp County Industrial Park and is designed to be expanded to 1,200 acres. The facility is located less than one mile from I-75, SR 300 and US 280. Ultimately, the likely users of the facility will be businesses in southwest Georgia, Alabama, Mississippi, and the panhandle of Florida who can take advantage of transport by truck.

Trains serving the facility operate 85 miles over the Heart of Georgia Railroad between the facility and Vidalia, with the Georgia Central Railway moving the containers another 85 miles to / from the CSXT Southover Yard in Savannah and then a final six miles to the Garden City Terminal.

Figure 12 is an aerial view of the intermodal center. **Figure 13** shows the existing facility, with double-stack container railcars to the right and stored containers to the left. The space between the railcars on the right and the stacked containers accommodates loading and unloading containers from railcars.

Figure 12: Cordele Intermodal Center, Aerial View



Source: Google Earth

Figure 13: Cordele Intermodal Center, Ground View



Major Rail Passenger Facilities

Stations

In addition to serving as gateways to the trains, rail stations are gateways to and from the cities served by these trains. Rail stations are a focus for activity and foster economic development, commercial endeavors, tourism, cultural activities, civic pride, and historic preservation in their cities.

There are five active Amtrak stations in Georgia, with three serving the *Crescent* and two serving Atlantic Coast Service. Atlanta's Peachtree Street Station serves the greatest number of riders (approximately 100,000 yearly), followed by Savannah (approximately 70,000 yearly).

Amtrak's *Crescent* serves three stations in northern Georgia – Toccoa, Gainesville and Atlanta. Service is daily with two trains per day (one northbound, one southbound). Toccoa is a flag stop at which the train will stop if there is a passenger with a reservation to board or detrain at the station. The other two stations are regular stops. Amtrak's *Silver Meteor*, *Silver Star* and *Palmetto* serve Savannah. The *Palmetto* originates and terminates at Savannah. All trains stopping at Savannah operate daily. The *Silver Meteor* makes an additional stop in Georgia in the town of Jesup. The *Silver Star* does not stop at Jesup because of the *Silver Meteor's* late hour schedule times.

Two stations, Atlanta and Savannah, are full-service stations with ticket agents and checked baggage service. These two stations also have Quik-Trak kiosks for the printing of boarding passes associated reservations made through Amtrak's online booking system. The other three stations are unstaffed. Unstaffed stations are facilities with platforms and structures (generally former stations) with enclosed waiting rooms. There are no station employees, although the facilities are hosted by part-time or volunteer caretakers that open and close station structures at train time and offer limited assistance to

passengers. No ticketing facilities are available and passengers generally purchase their transportation through Amtrak's on-line booking system and print their boarding passes at home.

The platforms and waiting rooms of Georgia's five stations are wheelchair accessible. Except for Toccoa, all other Georgia stations have accessible restrooms available in the station. All five stations have accessible parking spaces for patrons. For all five stations some facilities and pathways preclude the stations from being fully accessible and usable by the disabled without any kind of assistance. Four stations – Atlanta, Savannah, Gainesville, and Jesup – have vending machines for the convenience of passengers.

Atlanta's Peachtree Street Station is Georgia's busiest passenger rail station. Built as Atlanta's suburban station, it became the main city station when passenger rail service was discontinued Downtown. The station is located north of Downtown Atlanta. The station is small, has limited parking, and has some accessibility issues. Assistance by Amtrak staff significantly reduces accessibility issues. The station also sits over the main tracks narrowing the right-of-way and limiting operational flexibility. Because of the location of the *Crescent's* route through Atlanta, Peachtree Street Station or a station located on the east / west NS main line will likely remain the *Crescent's* main Atlanta station for the near term. A MARTA bus route serves the station and offers frequent connections to the MARTA rail system. **Figure 14** and **Figure 15** show amenities in the Peachtree Street Station.

Amtrak, GDOT and other stakeholders are currently exploring opportunities to relocate from the Peachtree Street Station to a facility that is less constrained operationally and will allow for enhanced passenger amenities.

Figure 14: Waiting Room Amtrak's Atlanta Peachtree Street Station



Figure 15: Platforms / Station Access – Atlanta Peachtree Street Station



The Gainesville station is a Norfolk Southern facility with only the passenger waiting room available to the public. The railroad has maintained the building in a state-of-good repair for its needs and recently replaced the roof and electrical system. In 2013 Amtrak completed designs for station accessibility improvements at Gainesville. Platforms at Gainesville are asphalt on top of rail. Improvements to the platforms will benefit boarding and alighting passengers. All ADA-compliance improvements will be completed by 2015.

The stations at Jesup and Toccoa have been rebuilt and restored as classic pre-World War I small town stations. They are joint use facilities, i.e., train stations as well as civic meeting / welcoming centers providing long-term value to their communities. There are state-of-good repair and accessibility issues regarding the platforms at both stations. Like Gainesville, both station platforms need repaired, replaced and/or modernized.

Savannah's Modernist (1962) station is located west of the city, replacing a downtown station. The station has easy access to the train and has a large parking lot. Because of the station's isolation and station hours, the parking lot is secure and well used. Accessibility issues are limited to access from the loading / unloading zone and platform deficiencies. The location west of Savannah offers operational advantages for through trains to Florida since the CSXT's north / south main line passes through this location. However, this location is relatively far from downtown and would be unattractive for any short-distance regional service. The station is served by Chatham Area Transit (CAT) route 29 transit buses scheduled to allow connections to / from some trains. In 2013 Amtrak completed designs for station improvements at Savannah and was scheduled to award contracts for construction in 2014. **Figure 16** and **Figure 17** show amenities at the Savannah Station.

Figure 16: Savannah Amtrak Station



Figure 17: Platforms / Silver Meteor Amtrak Station Savannah



Stations' Americans with Disability Act (ADA) Compliance

Amtrak's *A Report on Accessibility and Compliance with the Americans with Disabilities Act of 1990 (ADA)*, produced in 2009, notes that four in-service Georgia stations are required to be ADA compliant. These are Atlanta, Gainesville, Savannah and Jesup. The other station, Toccoa, is a flag stop and therefore not required to be ADA compliant.

Amtrak assessed stations as to their levels of ADA compliance of their station structures, platforms and pathways. The assessment ratings are: Generally Compliant, for stations scoring above 80 percent on their compliance score; Partially Compliant, for stations scoring between 20 percent and 79 percent; and Minimally Compliant, for stations scoring lower than 20 percent. Three of the four Georgia stations which are required to be ADA compliant rated Partially Compliant in 2009. Jesup rated Minimally Compliant, although the assessment occurred before the reconstruction of the Jesup depot in 2012. A recent station inspection found the station generally accessible except for platform surface issues. The

2009 assessment found platform issues at Savannah and access barriers from the loading and unloading zone. The report provided preliminary cost estimates for improvements ensuring ADA compliance and a state of good repair for station structures, platforms, and pathways. For three of the five Georgia stations (Atlanta, Savannah and Gainesville), the total of these estimated costs was approximately \$11.7 million. Atlanta's Peachtree Street Station represented over 50 percent (\$6 million) of the outlined needs. The stations at Toccoa and Jesup have recently been rebuilt or restored by their cities. Improvements at the Savannah Station will soon be underway.

Amtrak and the freight railroads are currently working to develop strategies and plans to meet FRA's new requirements for level boarding to accommodate passengers with disabilities. This is a very complex task integrating railroad clearance requirements, freight traffic, and the mix of different boarding levels by type of equipment (Superliner, single-level, and commuter) that often operate on the same line, while fulfilling the requirements and spirit of the ADA statute.

A table summarizing existing Georgia stations and specifics regarding amenities, location, type of station, and other information is provided in Appendix A.5.

2.2.3 Objectives for Passenger Rail Service

Current intercity passenger rail services are long-distance trains operated by Amtrak on rail lines owned by freight railroads, therefore, limiting Georgia's ability to directly impact specific service levels. At this point, there are no plans for changes in the frequency or routes of Amtrak services in Georgia. That noted, GDOT is working on various fronts on potential new passenger rail services and facilities. The following considerations would guide GDOT as it continues its planning efforts and engagement with Amtrak.

Support of Existing Amtrak Service

In the near term, Georgia will carry out its role of preserving services, monitoring service quality and being an advocate for the improvement and expansion of its existing intercity rail passenger service.

Section 207 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) established performance and service quality goals for intercity passenger rail service. These metrics, reported quarterly, require a continuous year-over-year improvement in financial performance (revenue / cost ratio – total revenues divided by costs), maintaining or improving current schedule run times, satisfactory on-time performance (85 percent for long-distance trains by 2014), no more than 900 minutes of delay per 10,000 train-miles by host railroad, and Customer Satisfaction Scores of 90 percent by FY2014.

Freight Railroad Participation

Given the volume of freight traffic on Georgia's rail routes, a key priority is a close working relationship with the major freight railroads. The freight railroads must not only be partners but also advocates of any proposed improvements. Freight railroads' traffic and capacity needs must also be a key element in developing any rail expansion plans.

Multi-Jurisdictional Partnerships for New Service

Most of the proposed intercity passenger rail routes extend outside the boundaries of Georgia while commuter rail proposals typically involve more than a single county or municipality. It is imperative that Georgia maintain and enhance strong partnerships and working relationships between state partners, counties, freight railroads, and public entities responsible for jointly overseeing the service. The partnerships will vary depending on the route of the service.

Continuing Outreach and Planning

Outreach efforts to a wide range of stakeholders are also important in achieving the funding requirements required to support the corridor service and coordinating plans developed in conjunction with entities such as the Southern Rail Commission and adjoining states including Alabama, Florida, Tennessee, North Carolina and South Carolina. Public transportation advocates, on-line cities, right-of-way neighbors, the tourism industry, downtown business interests, connecting transit networks, taxi companies, the freight railroads, rail labor, and rail line freight users all will benefit from an improved service and rail network. Georgia should also continue updating and moving corridor plans forward. This is critical because it allows Georgia to move quickly if funding becomes available and for developing partnerships with the private sector.

Funding

There is a need to develop a strategy for funding improved intercity and commuter rail passenger service. If the state cannot be the lead agency, there are several examples of counties or regional agencies taking the lead in developing a rail improvement program. In the absence of a state-led program, it should be supportive of efforts by local counties or agencies in developing such a program.

Multimodal Integration and Transit-Oriented Development

An improved rail passenger route is but one part of a complete transportation offering. Other key factors are transit, taxi connections, auto access, pedestrian and bicycle access, and transit-oriented development (TOD).³⁷ Developing the station as a transit hub enables passengers to reach their final destination in a convenient, timely manner whether the passenger's destination is within the city, in the region or another intercity journey. By using the rail station as a development tool, TOD builds rail ridership and builds communities. Atlanta's proposed Multi-Modal Passenger Terminal is an example of such an effort. This effort is key to Atlanta being a regional passenger rail hub.

Route Analysis

Planning for any proposed route include defining key markets, ridership and ticket revenue forecasts, assumptions of service frequency, schedule run times, stations served, pricing, on-board services, and accommodations offered (coach, Business Class or Sleeping Car). Forecasted ridership levels and schedule run times will determine train capacity and amount of equipment needed. Operational analysis of the rail line will determine capacity required to operate proposed services. Utilizing the ridership forecast, estimated revenue generated and capacity investments required, a cost estimate can be developed enabling the economic viability of the proposed service to be determined.

³⁷ In common parlance, TOD generally refers to a mix of residential and commercial development near transit stations and intermodal facilities.

2.2.4 Performance Evaluation of Intercity Passenger Services

This section provides an overview of the metrics associated with intercity rail passenger operations in Georgia. Where available it describes the ridership, operating and financial results for these services. Reported route-level information provides these statistics. This section constitutes the extent of GDOT's monitoring of Amtrak's performance.

Overview of Amtrak Services

As noted earlier, Amtrak operates four long-distance intercity trains through Georgia. The performance characteristics for these trains are outlined below.

Serving Atlanta and the Piedmont of the Carolinas, the *Crescent* carried 306,700 riders in FY2013, about a 1 percent increase over the previous year. Some 99,000 riders, or 32 percent of total riders on the *Crescent*, traveled to / from Atlanta in FY2013. Based on the 2010 *Amtrak Ridership Profile* for the *Crescent*, passengers are mostly taking leisure trips (79%). The majority of these trips (54%) are for visiting family or friends, while vacation or other recreational trips account for the remainder in this category. Of the remaining riders, 9 percent are traveling for personal business, while 11 percent are making business trips. The majority of riders are female (71%) with an average age of 58 years. Household income averages \$76,000 per year (2010). Almost half of all travelers are employed, but large segments (41%) are retired.

Three Amtrak trains serve Savannah and Coastal Georgia, the *Silver Meteor*, *Silver Star*, and *Palmetto* (Atlantic Coast Service). The *Silver Meteor* carried 373,200 riders in FY2013, which is a slight decline (-0.5%) from the previous year. Based on the 2010 *Amtrak Ridership Profile* for the *Silver Meteor*, passengers are mostly taking leisure trips (79%). The majority of these trips (51%) are for visiting family or friends, while vacation or other recreational trips account for the remainder in this category. Of the remaining riders, 13 percent are traveling for personal business, while 7 percent are making business trips. The majority of riders are female (68%) with an average age of 58 years. Household income averages \$67,000 per year (2010). A large number of all travelers are employed (43%), but an equal number (43%) are retired.

In Fiscal Year 2013 the *Silver Star* carried 414,000 riders, a decline (-2.8%) from the previous year. Based on the 2010 *Amtrak Ridership Profile* for the *Silver Star*, passengers are mostly taking leisure trips (82%). The majority of these trips (52%) are for visiting family or friends, while vacation or other recreational trips account for the remainder in this category. Of the remaining riders, 12 percent are traveling for personal business, while 6 percent are making business trips. The majority of riders are female (69%) with an average age of 58 years. Household income averages \$67,000 per year (2010). Almost half of all travelers are employed (47%), but a large segment (41%) is retired.

In Fiscal Year 2013 the *Palmetto* carried approximately 208,000 riders, an increase of 5 percent over the previous year. Based on the 2010 *Amtrak Ridership Profile* for the *Palmetto*, passengers are mostly taking leisure trips (73%). The majority of these trips (58%) are for visiting family or friends, while vacation or other recreational trips account for the remainder in this category. Of the remaining riders, 16 percent are traveling for personal business, while 11 percent are making business trips. The majority of riders are female (74%) with an average age of 56 years. Household income averages

\$61,000 per year (2010). Half of all travelers are employed (50%), while a significant number (38%) are retired.

Ridership and Passenger-Miles

Amtrak compiles and reports the ridership, financial performance, on-time performance and customer satisfaction of its trains on a route basis. **Table 4** and **Table 5** provide an overview of the ridership and passenger-mile results for Amtrak routes serving Georgia from Fiscal Year 2008 through Fiscal Year 2013. Amtrak ridership has shown steady growth during the period. Negatively impacting ridership growth in FY2013 was a series of train cancellations due to Hurricane Sandy (October 2012) and CSXT and NS track work (December 2012 through May 2013).

Route	FY2008	FY2009	% Chg	FY2010	% Chg	FY2011	% Chg	FY2012	% Chg	FY2013	% Chg
<i>Crescent</i>	291,222	286,576	-1.6	298,688	4.2	304,086	1.8	304,266	0.1	306,733	0.8
<i>Silver Meteor</i>	319,773	330,734	3.4	352,286	6.5	373,576	6.0	375,164	0.4	373,162	-0.5
<i>Silver Star</i>	367,139	371,235	1.1	393,586	6.0	424,394	7.8	425,794	0.3	414,077	-2.8
<i>Palmetto</i>	173,949	171,316	-1.5	189,468	10.6	196,743	3.8	198,260	0.8	207,915	4.9

Crescent, Palmetto, Silver Meteor and Silver Star do not carry local riders NYP-WAS.
Source: Amtrak Market Research and Forecasting Department.

Route	FY2008	FY2009	% Chg	FY2010	% Chg	FY2011	% Chg	FY2012	% Chg	FY2013	% Chg
<i>Crescent</i>	147,038	144,733	-1.6	164,843	13.9	165,949	0.7	162,174	-2.3	159,646	-1.6
<i>Silver Meteor</i>	194,455	202,578	4.2	217,074	7.2	231,572	6.7	231,991	0.2	226,387	-2.4
<i>Silver Star</i>	196,924	193,899	-1.5	206,700	6.6	215,859	4.4	219,066	1.5	206,268	-5.8
<i>Palmetto</i>	76,723	72,081	-6.1	85,309	18.4	84,570	-0.9	87,065	2.9	86,408	-0.8

Crescent, Palmetto, Silver Meteor and Silver Star do not carry local riders NYP-WAS.
Source: Amtrak Market Research and Forecasting Department.

Boardings and alightings at the five Amtrak stations in Georgia from 2008 to 2013 appear in **Table 6**. The results are identified by service. The station with the highest figures is Atlanta, followed by Savannah. Over the five-year period total ridership grew 11.1 percent.

Station	FY2008	FY2009	% Chg	FY2010	% Chg	FY2011	% Chg	FY2012	% Chg	FY2013	% Chg
Crescent											
Atlanta	101,084	96,453	-4.6	112,364	16.5	114,938	2.3	104,854	-8.8	99,005	-5.6
Gainesville	5,541	5,056	-8.8	5,187	2.6	5,921	14.2	9,387	58.5	6,464	-31.1
Toccoa	3,278	3,204	-2.3	3,497	9.1	3,826	9.4	4,434	15.9	4,266	-3.8
Atlantic Coast											
Jesup	8,784	8,712	-0.8	9,106	4.5	9,900	8.7	10,086	1.9	10,692	6.0
Savannah	54,168	56,171	3.7	65,656	16.9	69,379	5.7	72,321	4.2	71,658	-0.9
Total	172,855	169,596	-1.9	195,810	15.5	203,964	4.2	201,082	-1.4	192,085	-4.5

Source: Amtrak Market Research and Forecasting Department

Passenger-miles per train-mile are a measure of utilization generated by dividing service passenger-miles (moving one passenger one mile is one passenger-mile) by route train-miles (moving a train one mile is one train-mile). The *Silver Star* and *Silver Meteor* each average more passengers per train-mile on-board the trains along their routes than the *Crescent* and the *Palmetto*, as seen in **Table 7**.

Route	Passenger-Miles per Train-Mile*
<i>Crescent</i>	164
<i>Silver Meteor</i>	229
<i>Silver Star</i>	196
<i>Palmetto</i>	150

*Passenger-Miles divided by Train-Miles
Source: *FRA Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations*.

Financial Performance

Revenue and cost information by route is shown in **Table 8**. The revenue-to-cost ratio is calculated as follows: total ticket revenue, including ticket revenue and revenues from meals and other operating sources, divided by fully allocated operating costs. The ratio is a metric of how much of services' costs are covered by revenues. While none of the services covers its operating costs, the *Palmetto* routinely has the highest revenue / cost ratio. This is due to the limited on-board service offered. For the same time period, Amtrak's long-distance services overall generated almost a 50 percent fare box recovery. Thus, this table shows that two of the four long-distance trains serving Georgia generally exceed the average for Amtrak's long-distance network while the others slightly lag the network average.

Route	FY2010**	FY2011	% Chg	FY2012	% Chg	FY2013	% Chg
<i>Crescent</i>	43.2	43.4	0.4	46.6	7.4	45.5	-2.3
<i>Silver Meteor</i>	49.1	50.3	2.5	54.1	7.5	51.3	-5.0
<i>Silver Star</i>	41.8	43.1	3.1	47.1	9.4	43.5	-7.6
<i>Palmetto</i>	54.0	53.2	-1.5	63.4	19.3	57.9	-8.8

*Revenue / cost ratio: Total Revenue divided by Fully Allocated Costs (not including Depreciation, Interest or Other Post-Employment Benefits).
Source: *Amtrak Monthly Performance Report*.

On-Time Performance

Amtrak defines On-Time Performance (OTP) as the total number of trains arriving on-time at a station divided by the total number of trains operated on that route. A train is considered on-time if it arrives at the final destination within an allowed number of minutes, or tolerance, of its scheduled arrival time. Tolerances vary: trains are allowed a certain tolerance based on how far they travel.

OTP Annual Trend – The on-time performance of the four Amtrak services in Georgia since 2009 is shown in **Table 9**.

**Table 9: On-Time Performance, Routes Serving Georgia
FY2009 through FY 2013**

Route	FY2009	FY2010	% Chg	FY2011	% Chg	FY2012	% Chg	FY2013	% Chg
<i>Crescent</i>	84.0	73.0	-13.1	72.0	-1.4	82.2	14.2	74.4	-9.5
<i>Silver Meteor</i>	72.6	72.8	0.3	76.7	5.4	65.8	-14.2	56.2	-14.6
<i>Silver Star</i>	67.7	77.5	14.5	70.3	-9.3	66.8	-5.0	60.1	-10.0
<i>Palmetto</i>	66.9	64.2	-4.0	74.9	16.7	77.0	2.8	73.2	-4.9

Source: Amtrak Monthly Performance Report.

The on-time performance standard for long-distance trains established by PRIIA is 80 percent. After approaching these levels for all trains in the FY2010 – 2011 time period, on-time performance has deteriorated, possibly a residual effect of track work and growing freight traffic. A consistent and high on-time performance makes the rail service more attractive to riders.

Cause of OTP Delays – A number of factors cause for Amtrak train delays.

Table 10 shows the leading causes of delay, by percentage of delay minutes, for routes through Georgia in September 2013. The single largest cause for delay for both the *Crescent* and the *Palmetto* is train interference, which includes delays due to host railroad freight and Northeast Corridor commuter and intercity trains. All four services run on the Northeast Corridor.

Table 10: Causes of Delay to Amtrak Trains Serving Georgia

Causes of Delay	Routes			
	<i>Crescent</i>	<i>Silver Meteor</i>	<i>Silver Star</i>	<i>Palmetto</i>
Train Interference*	34.2	26.2	24.7	41.0
Passenger Operations Related Delays	17.5	20.4	20.1	13.1
Slow Orders	9.0	12.4	15.9	11.9
All other Freight Railroad Operational Delays	18.3	24.0	20.8	18.1
All Other Delays	21.0	17.0	18.5	15.9

*Includes delays due to host railroad freight and Northeast Corridor commuter and intercity trains.
Source: Amtrak Monthly Performance Report for September 2012.

The following provides definitions of each type of causes of delay, as listed in the table above.

- **Train Interference Delays** are a result of other train movements in the area. These can be delays from freight trains as well as other Amtrak trains.
- **Passenger Operating Delays** result from equipment turning and servicing, engine failures, passenger train holds for connecting trains and buses, crewing, and detours.
- **Slow Orders** are delays from reduced speeds to allow safe operation due to track problems.
- **All Other Freight Railroad Operational Delays** are miscellaneous freight railroad delays and delays related to the railroad infrastructure and / or maintenance work being done on the tracks or signaling systems.
- **All Other Delays** could include delays caused by the weather and non-railroad third-party factors such as customs and immigration, a bridge opening for waterway traffic, police activity, grade-crossing accidents, or loss of power due to a utility company failure.

Customer Satisfaction Indicator – Amtrak’s Customer Service Indicator (CSI) scores measure the satisfaction by passengers, on an 11-point scale, on particular aspects of their trip. For example a CSI score of 80 means 80 percent of respondents rated the aspect of their trip in the top three of the 11 steps of the scale.

- **Overall Service** is the measure for the respondents rating for their overall trip experience.
- **Amtrak Personnel** is the measure for the respondents rating Amtrak reservations personnel, station personnel, train crew and on-board service crew.
- **Information Given** is the measure for the respondents rating all information they received pertaining to their trip.
- **On-Board Comfort** is the measure for the respondents rating seat or sleeping compartment comfort, air temperature and ride quality.
- **On-Board Cleanliness** is the measure for the respondents rating the cleanliness of the train and on-board restrooms.
- **On-Board Food Service** is the measure for the respondents rating the quality of the food and snacks purchased on-board the train.

Table 11 shows the CSI scores for the four services for FY2013 compared to Amtrak’s standard. Though the Overall Service scores for the four services were close to the standard, not one train route achieved the standard score.

Service Metric	Standard	Routes			
		<i>Crescent</i>	<i>Silver Meteor</i>	<i>Silver Star</i>	<i>Palmetto</i>
Overall Service	82	80	76	80	81
Amtrak Personnel	80	82	81	83	84
Information Given	80	67	65	68	73
On-Board Comfort	80	76	71	75	81
On-Board Cleanliness	80	57	55	56	58
On-Board Food Service	80	73	69	74	70

Source: FRA Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations.
 Red: CSI Scores below goals.

2.2.5 Public Financing for Rail Projects and Services

Georgia has utilized both federal and state transportation funding programs where rail infrastructure improvements were eligible and appropriate. The following is a short summary of state and federal rail funding resources utilized in the recent past. Where Georgia used a specific funding source, the specific project is noted.

State Sponsored Rail Funding

GDOT, Georgia Ports Authority and various economic development agencies provide state sponsored rail investment.

The Georgia Constitution restricts the state's ability to use State Highway Accounts for purposes other than highway and roadway use, which preclude its use for rail capital improvements. This restriction limits the GDOT's ability to provide discretionary grants or loans to railroads for strategic rail investments in the state. Highway funds are, however, eligible for selected rail-related uses such as highway-rail grade crossing separation projects; the Governor's Road Improvement Program (GRIP) has been used for these purposes.

Despite these restrictions, Georgia has assisted railroads through other avenues of public financing such as legislative appropriations, bonding, the GRIP program, the State Infrastructure Bank, and initiatives such as public-private partnerships. Other efforts have included funding through local Special Local Option Sales Tax revenues and rail assistance provided by the GPA and economic development agencies. GDOT, through lease agreements with the railroads operating state-owned lines and appropriated bond funds, invested over \$18 million in FY 2013 in five of its railroads and participated in a joint project with GPA and Norfolk Southern to expand the Mason Intermodal Container Transfer Facility. GDOT also provides required matching funds for federal financial assistance programs such as grade crossing improvement and separation projects.

The GPA, as noted above, provides funding for rail improvement projects within its ocean and river port facilities. Recognizing the benefits of allowing shippers to transfer cargo inland to relieve truck congestion at the Savannah port, it recently signed an agreement with the Cordele Intermodal Center, an inland intermodal container transfer operation in the Crisp County Industrial Park along Interstate 75, providing container rail service to and from the Port of Savannah. CIC is an independent, privately owned and funded operation, separate from GPA.

Georgia's economic development agencies also administer grant programs for which selected rail improvement projects may be eligible. The Georgia Department of Community Affairs oversees the Regional Assistance Program (RAP) to support multi-county and regional collaboration. Eligible activities include regional transportation and communications facilities integral to the advancement of economic development efforts. The agency's Community Development Block Grant program has provided funding to purchase and renovate an abandoned rail spur to attract a new automated engineered wood mill in Atkinson County.³⁸

The OneGeorgia Authority provides financing for projects that benefit rural Georgia. It awarded the Thomaston-Upson County Industrial Development Authority a \$500,000 OneGeorgia grant to help build a rail spur to an existing facility, helping prevent the closure of the plant retaining 134 jobs.³⁹

Transportation Funding Act of 2015 and Potential Rail Project Funding

This Georgia legislation (formerly HB 170), signed by the Governor in May, will, among other things, replace the sales tax on motor fuel with a 29.2-cent excise tax that will be adjusted annually based

³⁸ www.dca.state.ga.us/main/news/downloads/CDBG_Marketing_Final1.2.pdf

³⁹ www.onegeorgia.org/awards/upson

various indices; institute a lodging tax; and make revenue available for transportation purposes, including rail.

Federal Rail-Related Programs and Funding

In 2008, PRIIA and related appropriation bills provided funds directly to states for intercity rail passenger investments. In early 2009, the American Recovery and Reinvestment Act (ARRA) also provided flexible transportation funding to states for rail capital projects as well as funding for passenger rail development.

The following section provides a brief history of these programs and federal budget appropriations which were specifically available for rail assistance as well as programs that may be eligible for selected rail-related applications.

PRIIA Rail Capital Assistance Programs

This legislation authorized over \$13 billion between 2009 and 2013 for Amtrak and promoted the development of new and improved intercity rail passenger services. The act also established an intercity passenger rail capital grant program for states. States were required to identify passenger rail corridor improvement projects in their state rail plans.

Federal funding authorized under PRIIA or other authorization programs were required to be appropriated in annual budget or other legislative bills. USDOT's last budget appropriation for the high-speed rail state grant programs was for Federal Fiscal Year (FFY) 2010 (October 1, 2009 through September 30, 2010) and provided \$2.5 billion of funds authorized under PRIIA. These funds were provided to states, on a competitive basis, for up to 50 percent of the capital cost of improving intercity rail passenger service.

Previous USDOT appropriation acts also provided funding that could be utilized for intercity rail passenger improvements under similar terms. The FFY 2008 USDOT Appropriations Act provided \$30 million to states. The FFY 2009 USDOT Appropriations Act provided \$90 million to states. No appropriations for high-speed rail grants were included in the FFY 2011 through 2014 budgets and PRIIA authorizations expired on September 30, 2013.

American Recovery and Reinvestment Act (ARRA)

As a result of the economic recession of 2008, the federal government approved the ARRA (Public Law 111-5) in February 2009 to stimulate the economy partly through the funding of infrastructure projects that could be initiated in the short-range.

A popular grant program established under ARRA is the Transportation Investment Generating Economic Recovery, or TIGER program, which provides grants for capital investment in rail, highway, bridge, public transportation, and port projects and is awarded by USDOT on a competitive basis. USDOT has held six rounds of TIGER applications since 2010. Following the sunset of ARRA, the 2013 TIGER program was funded through the Full-Year Continuing Appropriations Act of 2013 and the 2014 TIGER program provided \$600 million funded through the 2014 Consolidated Appropriations Act.

GDOT has received a number of grants from the above programs. These include:

- Three grants of \$249,489 to conduct feasibility studies for the analysis of proposed intercity passenger corridors between: Birmingham and Atlanta; Louisville and Chicago and Atlanta along a route serving Nashville and Chattanooga; and Atlanta and Jacksonville, along a route also serving Macon and Savannah;
- A \$4.1 million grant for engineering and environmental analysis for the development of the Southeast High-Speed Rail Corridor between Charlotte and Atlanta; and,
- A \$13.8 million in federal maglev grant funding for an environmental analysis for the development of new high-speed ground transportation service between Chattanooga and Atlanta.

Federal Surface Transportation Rail-Related Programs

Federal surface transportation acts periodically authorize federal transportation funding to states. The Federal government provides transportation funding to states through apportionment by formula or discretionary funding for various programs.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was passed into law in July 2012 and authorizes funding from July through September 2012 and for FFY 2013 and 2014 (October 1, 2012 through September 30, 2014).

The following is a brief description of rail-eligible programs available through past and current Federal surface transportation acts and Georgia's participation where applicable.

Highway Safety Improvement Program (HSIP) – This program is a core federal-aid funding program with the goal of achieving a significant reduction in traffic fatalities and serious injuries on all public roads. Funding from this program can be set aside for reducing the number of fatalities and serious injuries at public highway-railway crossings through the elimination of hazards and / or the installation / upgrade of protective devices at crossings. Georgia was identified as having one of the country's 10 highest number of grade-crossing collisions during recent calendar years. As part of receiving potential funding from this program, Georgia was required to complete a *State Highway-Rail Grade Crossing Action Plan*⁴⁰ that identified trends and specific solutions that could eliminate or significantly reduce collisions and accidents at grade crossings (refer to Section 2.2.6 for more information). The federal funding share for this program is 90 percent. Georgia receives approximately \$8 million annually through this program.

Rail Rehabilitation and Improvement Financing (RRIF) – This program provides loans and credit assistance to both public and private sponsors of rail and intermodal projects. Eligible projects include acquisition, development, improvement, or rehabilitation of intermodal or rail equipment and facilities. Direct loans can fund up to 100 percent of a capital project with repayment terms of up to 25 years and interest rates equal to the cost of borrowing to the government. SAFETEA-LU authorized \$35

⁴⁰

<http://www.dot.ga.gov/PartnerSmart/utilities/Documents/StateCrossingActionPlan.pdf%23search=rail%20grade%20crossing%20action%20plan>

billion for this program, of which \$7 billion was directed to short line and regional railroads. No additional authorizations were included in MAP-21.

Eligible borrowers include railroads, state and local governments, government sponsored authorities, corporations, and joint ventures that include at least one railroad. The Georgia and Florida Railway received an \$8.1 million federal loan under this program in 2009.

Federal Surface Transportation Programs with Selected Rail Applications

In addition to the above programs, a number of additional programs, although primarily intended for highway use, are eligible for rail projects at the discretion of states and with the approval of the administering federal agency. These programs include:

National Highway System Program – This program is available to improve designated highway intermodal connectors between the National Highway System (NHS) and intermodal facilities, such as truck-rail transfer facilities. The federal share of NHS funding is 80 percent.

Congestion Mitigation and Air Quality Improvement Program – This program funds transportation projects and programs that improve air quality by reducing transportation-related emissions in non-attainment and maintenance areas for ozone, carbon monoxide, and particulate matter. Examples of Congestion Mitigation and Air Quality (CMAQ)-funded rail projects include the construction of intermodal facilities, rail track rehabilitation, diesel engine retrofits and idle-reduction projects in rail yards, and new rail sidings. In past years CMAQ funded Locomotive Emission Reduction projects in the Atlanta, Macon and Rome non-attainment areas.

CMAQ funds are disbursed to and within a state based on levels of pollution within an area, with the state or the region utilizing the funds to implement projects that reduce congestion or improve air quality. Projects must be included in MPO transportation plans and transportation improvement programs (TIPs) or the current state transportation improvement program (STIP) in areas without an MPO. The federal matching share for these funds is 80 percent.

Surface Transportation Program – The Surface Transportation Program (STP) is a general grant program available for improvements on any Federal-Aid highway, bridge, or transit capital project. Eligible rail improvements include lengthening or increasing vertical clearance of bridges, crossing eliminations, and improving intermodal connectors. States made project funding decisions with approval from the Federal Highway Administration (FHWA). The federal share for these funds is 80 percent. STP funded a grade separation project which carries SR 307 over GPA's Mason Intermodal Container Transfer Facility serving the Port of Savannah.

Projects of National and Regional Significance – This program can fund highway, bridge, transit and freight rail projects. Program funding (\$500 million) is focused on very large projects such as multi-state corridor projects which would likely not be undertaken with individual state formula funds. No funds have been appropriated for this program under MAP-21. Previous 2005-2009 appropriations from SAFETEA-LU provided grants to states.

Transportation Infrastructure Finance and Innovation Act (TIFIA) – This program provides credit assistance to large-scale projects (over \$50 million or one-third of a state's annual federal-aid funds) of

regional or national significance that might otherwise be delayed or not constructed because of risk, complexity, or cost. A wide variety of intermodal and rail infrastructure projects are eligible and can include equipment, facilities, track, bridges, yards, buildings, and shops. Eligible recipients for TIFIA funds include state and local governments, transit agencies, railroad companies, special authorities or districts, and private entities. The interest rate for TIFIA loans is the U.S. Treasury rate, and the debt must be repaid within 35 years.

Transportation Alternatives Program – This program, which replaced the SAFETEA-LU Transportation Enhancement Program, offers funding opportunities to expand transportation choices and enhance the transportation experience through 12 eligible activities related to surface transportation. Rail related eligible activities include the rehabilitation of historic transportation buildings or facilities, the preservation of abandoned rail corridors, and the establishment of transportation museums. The federal share of project costs is 80 percent. Georgia's local municipalities have utilized these funds for various rail-related projects such as the restoration of railroad depots and establishment of rail-related museums.

Other Federal Programs Available for Rail-Related Funding

In addition to transportation programs available under the Transportation Authorization bill, federal agencies administer other programs for which rail-related capital projects are eligible. These programs include:

U.S. Department of Commerce Economic Development Administration – The U.S. Department of Commerce provides Economic Development Administration (EDA) grants for projects in economically distressed industrial sites that promote job creation or retention. Eligible projects must be located within EDA-designated redevelopment areas or economic development centers. Eligible rail projects include railroad spurs and sidings. EDA also provides disaster recovery grants. Grant assistance is available for up to 50 percent of the project, although EDA could provide up to 80 percent for projects in severely depressed areas.

U.S. Department of Agriculture Programs – The U.S. Department of Agriculture (USDA) Community Facility Program and Rural Development Program provide grant or loan funding mechanisms to fund construction, enlargement, extension, or improvement of community facilities providing essential services in rural areas and towns. Grant assistance is available for up to 75 percent of the project cost. Eligible rail-related community facilities include transportation infrastructure for industrial parks and municipal docks.

Railroad Track Maintenance Credit Program – This program was authorized within the Internal Revenue Code in 2005 to provide tax credits to qualified entities for an amount equal to 50 percent of qualified railroad maintenance expenditures on railroad tracks owned or leased by Class II or Class III railroads. The maximum credit amount allowed is \$3,500 per mile of track. Although its program expired at the end of 2013, there has been significant interest in extending the program.

2.2.6 Ongoing Programs and Projects to Improve Safety and Security

Rail safety is a priority for railroads and state departments of transportation as it has an impact not only on the public, but also on the efficiency of railroad operations. Rail security has seen increased attention due to the potential for terrorists using the rail mode to disrupt transportation or to harm large numbers of citizens as well as due to the increased transportation of some hazardous materials by rail, such as the movement of crude oil.

This section describes rail safety and security efforts in Georgia.

Rail Safety Programs in Georgia

A combination of federal and state laws provides rail safety requirements. Most safety-related rules and regulations fall under the jurisdiction of the FRA, as outlined in the Rail Safety Act of 1970 and other legislation, such as the most recent Rail Safety Improvement Act of 2008. FRA's rail safety regulations can generally be found in Title 49 Code of Federal Regulations Parts 100-299.

GDOT's involvement in rail safety is located within the Office of Utilities which is responsible for railroad coordination activities, the grade crossing safety program and grade crossing maintenance.

This office administers the federally funded Railroad Grade Crossing Safety Program by identifying and funding safety enhancement projects at public highway-rail grade crossings.⁴¹ Additionally, the State Railroad Liaison Engineer is responsible for providing centralized coordination and handling between the Department of Transportation, the state's railroads, Georgia's cities and counties, the Federal Highway Administration, and others for roadway and bridge projects and certain other activities that involve the facilities and property of railroads operating in the state.

Georgia Operation Lifesaver, established in 1974, is a non-profit educational organization for highway-rail crossing safety and rail trespass prevention. Operation Lifesaver promotes safety through education of both drivers and pedestrians to make safe decisions at crossings and around tracks, promoting enforcement of traffic laws related to crossing signals and trespass, and by encouraging continued engineering research and innovation to improve the safety of railroad crossings.

Rail inspection activities are undertaken by FRA's Office of Railroad Safety which promotes and regulates safety throughout the nation's railroad industry. The office executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts. FRA's Atlanta Regional Office oversees rail inspections undertaken in Georgia. Safety inspections are carried out to ensure compliance in five safety disciplines: Hazardous Materials; Motive Power and Equipment; Operating Practices; Signal and Train Control; and Track.

Georgia Rail Accident Statistics

The following is a statistical review of rail safety in Georgia over the past decade. It addresses the rail accident and incident trends and provides details as to the type of rail accidents, those affected and causes. Accidents and incidents statistics discussed below are from the accident database maintained by the FRA. Among FRA's responsibilities is oversight for safety on the national railroad system. The

⁴¹ <http://www.dot.ga.gov/DS/SafetyOperation/RRCrossing>

FRA database does not include accidents occurring on heavy rail systems like MARTA as well as light rail and urban street cars systems. **Table 12** shows statistics for the total number of rail accidents and incidents in Georgia over the past ten calendar years. These totals include Train Accidents, Highway-Rail Incidents, and Other Incidents. These categories are defined and discussed in detail below.

Injury Type	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Incidents	395	377	370	342	284	293	265	251	254	276
Deaths	35	27	16	33	23	16	29	19	21	29
Injuries	184	166	178	175	148	155	150	135	146	198

Source: FRA Office of Safety Analysis.

The trend in occurrence of rail accidents and incidents in the state has decreased over the past decade. The first half of the decade saw an average of 354 incidents, 27 fatalities, and 170 injuries, while the most recent five-year period saw averages of 268 total incidents, 23 fatalities, and 157 injuries.

The following sections discuss the various types of rail accidents and incidents in more detail.

Train Accidents

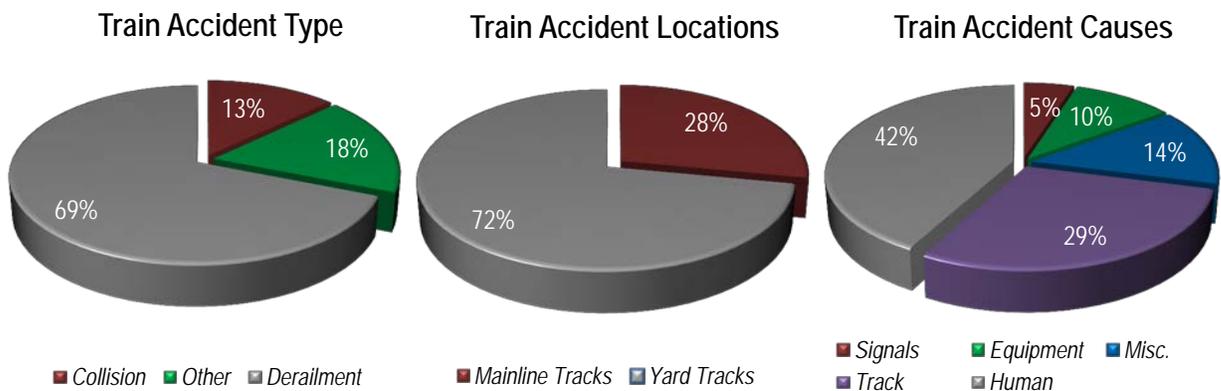
Train accidents include train derailments, collisions, and other events involving on-track rail equipment that result in fatalities, injuries or monetary damage above a threshold set by FRA. Train accident statistics in the state over the past decade are provided in **Table 13**.

Injury Type	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Accidents	86	97	91	63	57	66	51	41	51	46
Deaths	0	0	0	0	0	0	0	0	0	1
Injuries	4	2	3	0	1	6	3	3	1	6

Source: FRA Office of Safety Analysis.

The charts in **Figure 18** provide more detailed information regarding the type, location, and causes of the train accidents over the past decade.

Figure 18: Train Accident Type / Locations / Causes (2004-2013)



In the leftmost chart, derailments are shown to have been the dominant type of rail accidents in the state over of the past ten years. As shown in the middle figure above, most accidents occurred on yard

tracks as opposed to main line tracks. Human error and track defects were the leading causes of train accidents over the past decade, while equipment defects and miscellaneous causes comprised lesser shares of rail accidents in the state.

Other Rail Incidents

Other rail incidents include events other than train accidents or crossing incidents that caused a death or injury to any person. Most fatalities in this category are due to rail trespassers. Other events which generally lead to injuries in this category include such activities as getting on or off equipment, doing maintenance work, throwing switches, setting handbrakes, falling, etc. Rail passenger-related casualties can include boarding or alighting from standing trains or platforms. Statistics for this category of rail incidents are shown in **Table 14** below.

Injury Type	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Incidents	154	149	144	141	117	120	133	113	118	134
Deaths	20	15	8	16	15	19	210	12	14	15
Injuries	138	138	138	129	109	113	115	105	105	129

Source: FRA Office of Safety Analysis.

Highway-Rail At-Grade Crossing Safety in Georgia

7,560 at-grade highway-rail crossings exist in Georgia. Of these, 5,173 at-grade crossings are on public roads with the remaining crossings considered private crossings. Public at-grade crossings in the state have various levels of grade crossing warning devices. **Table 15** shows the type of warning equipment and the number of crossings equipped with each. The warning devices are shown in a decreasing order of warning effectiveness.

Warning Device Type	Gates	Flashing Lights	Bells	Special Warning	Stop Signs	Cross Bucks	Other	None
Number of Crossings	2,085	249	347	117	1,139	1,120	15	101

Source: FRA Office of Safety Analysis.

These figures show that slightly over half of all public at-grade crossings in the state have what are considered active warning devices such as gates, flashing lights, bells or special warning arrangements (e.g., flagmen), while a little less than half of crossings have passive or no warning systems. Many of these types of crossings are located on low-volume roads and rural in nature.

At-Grade Crossing Incidents in Georgia

Table 16 shows the number of highway-rail grade crossing incidents, fatalities, and injuries occurring at all at-grade crossings over the past decade.

Highway-Rail Incidents	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Incidents	155	131	135	138	110	107	81	97	85	96
Deaths	15	12	8	17	8	6	8	7	7	13
Injuries	42	26	37	46	38	36	32	27	40	63

Source: FRA Office of Safety Analysis.

These figures show a general decrease in number of total incidents and deaths comparing the initial and latter five-year segments, with total incidents decreasing 31 percent and deaths decreasing 33 percent. The average number of injuries held constant over the successive five-year periods largely due to an uptick in 2013.

In 2011, GDOT developed a *State Highway-Rail Grade Crossing Action Plan*⁴² to focus on road user safety at highway-rail at-grade crossings. The objective of the plan was to identify specific solutions to reduce collisions between railroad trains and equipment, and pedestrians or vehicles at crossings. The plan focused on crossings with a history of multiple crashes or which were determined to have other risk factors associated with multiple crash crossings. The plan identified specific solutions to reduce grade crossing collisions with action items associated with increased education, engineering, enforcement and data analysis.

Hazardous Material Incidents in Georgia

Hazardous material regulations apply to all interstate, intrastate, and foreign carriers by rail, air, motor vehicle, and vessels. The Georgia Department of Public Safety (DPS) enforces the hazardous materials transportation regulations in Georgia.

Hazardous materials safety programs are generally composed of four main components:

- Inspection of railroad and shipping facilities to ensure compliance with Part 49 Code of Federal Regulations (CFR). USDOT received the authority to regulate the transportation of hazardous materials through the Hazardous Materials Transportation Act of 1975;
- The provision of technical assistance, education and outreach activities to shippers / consignees, rail carriers, emergency responders, and the general public;
- Inspection and transport of nuclear materials; and,
- Inspection of employee training records, security procedures and quality assurance programs to ensure safety standards are met.

Accidents Involving Hazardous Materials in Georgia

Table 17 below shows the history of accidents involving rail cars carrying hazardous materials in Georgia over the past decade.

Table 17: Rail Accidents Involving Hazardous Materials in Georgia (2004-2013)										
Rail Incidents	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cars Carrying Hazmat	117	164	200	129	147	253	194	132	91	110
Hazmat Cars Damaged or Derailed	16	16	19	4	15	20	24	16	4	11
Cars Releasing Hazmat	0	1	2	2	2	1	6	1	0	1

Source: FRA Office of Safety Analysis.

⁴²

<http://www.dot.ga.gov/PartnerSmart/utilities/Documents/StateCrossingActionPlan.pdf#search=rail%20grade%20crossing%20action%20plan>

Rail accidents involving hazardous materials in Georgia have not followed the trend of decreasing rail-related accidents and incidents. The number of rail cars involved in hazardous material incidents has remained relatively the same over the ten-year period.

Positive Train Control

Positive Train Control (PTC) refers to technologies designed to automatically stop or slow a train before certain accidents can occur. PTC's intent is to prevent collisions between trains and derailments caused by excessive speed, trains operating beyond their limits of authority, incursions by trains on tracks under repair, and by trains moving over switches left in the wrong position. PTC systems are designed to determine the location and speed of trains, warn train operators of potential problems, and take action if operators do not respond to a warning.

The Rail Safety Improvement Act of 2008 required railroads to place PTC systems in service by December 31, 2015 under the following circumstances:

- On all rail main lines over which regularly-scheduled commuter or intercity passenger trains operate; and,
- On all Class I railroad main lines with over 5 million gross ton-miles per mile annually over which any amount of toxic / poison-by-inhalation hazardous materials is handled.

The mandate for PTC excludes all Class II (regional) and III (short line) railroads regardless of tonnage or number of toxic / poison cars handled as long as no passenger trains travel over the lines.

Under these conditions, all rail operators over the Amtrak corridors within Georgia as well as any major CSXT and NS main line routes would likely need to be equipped with positive train control for operation over the lines.

As of late 2013, the U.S. Congress had been considering an extension of the 2015 implementation deadline (the Railroad Safety and Positive Train Control Extension Act) but had not yet acted. Despite a possible extension of the deadline, Georgia's Class I railroads are currently developing PTC systems for their networks, which would include implementation of the technology on principal CSXT and NS lines in Georgia.

Rail Security

In response to the increased focus on the security of the transportation system, new federal and state agencies have been established to oversee and provide assistance to ensure the security of transportation modes. The following addresses specific rail security issues and Georgia's involvement in rail security procedures.

Federal and State Roles in Rail Security

The primary agencies responsible for security related to transportation modes in Georgia are the U.S. Department of Homeland Security and the Georgia Emergency Management Agency / Homeland Security (GEMA). These agencies, in coordination with federal and state transportation agencies, have addressed transportation security largely through identifying critical infrastructure assets, developing protection strategies for these assets, and developing emergency management plans.

The U.S. Department of Homeland Security addresses rail system security through the following means:

- Training and deploying manpower and assets for high risk areas;
- Developing and testing new security technologies;
- Performing security assessments of systems across the country; and,
- Providing funding to state and local partners.

The Association of American Railroads (AAR), working with the U.S. Department of Homeland Security and other federal agencies, has organized the Rail Security Task Force. This task force developed a comprehensive risk analysis and security plan for the rail system that includes:

- A database of critical railroad assets;
- Assessments of railroad vulnerabilities;
- Analysis of the terrorism threat; and,
- Calculation of risks and identification of countermeasures.

The railroad sector maintains communications with the U.S. Department of Defense, the U.S. Department of Homeland Security, the USDOT, the Federal Bureau of Investigation, and state and local law enforcement agencies on all aspects of rail security.

GEMA's mission is to provide a comprehensive and aggressive all-hazards approach to homeland security initiatives, mitigation, preparedness, response, recovery and special events in order to protect life and property and prevent and / or reduce negative impacts of terrorism and natural disasters in Georgia.

2.2.7 Economic and Socio-Environmental / Livability Impacts

Economic Impacts of Freight and Passenger Rail

Rail facilitates the movement of both goods (freight) and people (passengers), and such movements are associated with economic activity. Passenger and freight volumes can be translated into economic impacts which demonstrate that rail activities provide a vital role in Georgia's economy.

Rail-related impacts, as measured in terms of employment, income, value added, and output, span all industries and reach every region of the state:

- **Employment** – Economic impacts of rail extend beyond the 6,080 directly employed in the provision of rail transport (both passenger and freight). When the rail freight shipper and passenger visitor user impact activities and multiplier impacts are included, rail-related employment in Georgia totals 672,630 jobs, which represent 12.9 percent of the 5.2 million jobs

statewide, as reported by the U.S. Bureau of Economic Analysis, inclusive of all types of employment.⁴³

- **Income** – The \$32.2 billion earned by these impacted employees represents 12.0 percent of Georgia's total labor income.
- **Value-Added** – A combined value-added impact of \$54.1 billion associated with rail services and users represents 12.4 percent of the Georgia's Gross State Product (GSP).

While it would be erroneous to conclude that all of these impacts are entirely and solely dependent on rail, and would disappear if rail completely disappeared, the findings do show that rail service facilitates business throughout the state. These impacts highlight the magnitude of freight rail use by manufacturers, dealers, retailers, and others who transport materials, component parts, and products.

Although passenger-related economic impacts are much smaller in comparison to the comparatively large-scale freight-related impacts, it is estimated that the 155,000 riders and visitors to Georgia's tourist railroads and museums per year equate to direct spending (beyond fares / entry fees) of approximately \$7.3 million per year.⁴⁴ This estimate is for direct spending only and does not include the multiplier effect of spending by businesses for employee wages, supplies, rent, utilities, etc.

For a fuller discussion about economic impacts of rail services, please see Appendix B.

Social-Environmental / Livability Impacts

Impacts associated with rail transport go far beyond the quantifiable jobs, income, output and metrics for the economy of Georgia. Other social-environmental impacts arise concerning how rail affects "livability" in Georgia.

Land Use and Economic Development Impacts

The rail mode of transportation is less land intensive than other modes. Each line of rail track offers far more capacity than a highway lane. New train control systems often allow rail capacity to be expanded without the need for additional track. At worst, expansion requires one additional track or the addition of passing sidings and most rail rights-of-way are wide enough to allow tracks to be added without requiring adjacent land. Finally, as rail traffic grows, lightly-used rail lines can be upgraded to carry overhead freight. An example is the *Crescent* corridor, linking New Orleans to New York through Georgia. Improved service on these upgraded rail lines can become a focal point for local industrial investment making online communities and their businesses more competitive.

Both freight and passenger improvements can further economic development. More frequent and faster passenger trains can increase mobility options for intercity travelers, commuters and the transit dependent. More efficient access to the freight rail system, such as provided by new intermodal facilities and improved short lines can lower transportation costs for shippers. Benefits resulting from passenger and freight rail investments can thus enhance the competitiveness of the state and the

⁴³ BEA projected 2010 base employment of 4.13 million jobs. BEA statistics also show proprietary employment, which includes self-employed individuals (farm and nonfarm, i.e., jobs not classified under base employment).

⁴⁴ Calculated as the number of tourist railroad and museum visitors multiplied by the average visitor spending estimated in Georgia 2009 *Visitor Report*.

region. These benefits will serve to help retain existing work forces and business and attract new ones, thus bolstering economic development.

Risk Mitigation, Sustainable Land Use

As a result of the devastation from hurricanes and tropical storms in the Southeast in the last few decades, risks for transportation infrastructure, including to the rail system, have received increased attention. The state has expanded planning to address the risks, with the intent to reduce the vulnerability of the state from storms or from sea level rise.

The vision is for sustainable development that protects coastal wetlands, promoting development away from high risk areas (i.e., flood plains and unprotected areas subject to storm surge) to areas in and around existing communities. Supporting this effort will be additional investments in flood / storm surge protection for the transportation system, such as elevating roadways and railways where needed to maintain resistance to flooding.

Energy Use and Costs

Numerous sources indicate that rail transport saves energy and is more cost efficient than highway transport.

According to the U.S. Department of Energy’s 2012 *Transportation Energy Data Book*, intercity rail passenger service is 6 percent more efficient than commercial aviation and 25 percent more efficient than the automobile.⁴⁵

The American Association of State Highway Officials noted that for each 1 percent of long haul freight currently moving by truck, if moved by rail instead, fuel savings would be approximately 111 million gallons per year, and annual greenhouse gas (GHG) emissions would fall by 12 million tons. If 10 percent of truck traffic went by rail – via intermodal movements involving both railroads and trucks – the cumulative estimated GHG reductions from 2007 to 2020 would be 210 million tons. Shifting of traffic to rail transport will reduce the energy intensity of transportation and potentially insulate users from dramatic changes in fuel prices.

As seen in **Table 18**, the energy transport costs of rail transport are approximately 30 percent of truck transport, based on a \$4 price per gallon. The rail transport cost comparisons are even greater when one considers: (1) labor costs; (2) operation and management costs associated with both vehicles and the infrastructure; and (3) safety and environmental costs.

Mode	Ton-Miles	\$ / Ton-mile
Tug Barge	616	0.0065
Rail Locomotive	478	0.0084
Truck	150	0.0270

Source: National Waterway Foundation and Texas Transportation Institute;
<http://www.nationalwaterwaysfoundation.org/study/public%20study.pdf>
 Assume \$4.00 cost per gallon.

⁴⁵ In earlier years, rail was even more efficient than commercial aviation. The drop has resulted from higher load factors due to flight reductions and retirement of older aircraft.

Air Quality

Georgia has significant air pollution in urban areas, with the Atlanta metropolitan area classified as a “non-attainment” area for clean air by the U.S. Environmental Protection Agency. Much of this air pollution is associated with transportation equipment emissions, especially from motor vehicles. Comprehensive data on environmental impacts and environmental costs by mode of transportation in Georgia are difficult to quantify. However, various data sources indicate that freight transport by rail and water vessels generate significantly less negative air quality impacts and costs than truck transport.

Table 19 portrays the relative tons of emissions and related damages for various greenhouse gases for each mode of transportation.

Table 19: Environmental Damages and Costs per Million Ton-Miles, by Mode			
	Trucks	Rail Locomotives	Waterborne Vessels
Ton Miles (Millions) ¹	2,040,000	1,819,633	274,367
PM2.5 Emissions			
Tons (Total)	229,754	28,690	3,520
Tons per Million Ton-Miles	0.1126	0.0158	0.0128
Damages per Ton	\$251,466	\$251,466	\$251,466
Damages per Million Ton-Miles	na	na	na
NOx Emissions			
Tons (Total)	5,824,060	1,083,320	141,865
Tons per Million Ton-Miles	2.8549	0.5954	0.5171
Damages per Ton	\$4,610	\$4,610	\$4,610
Damages per Million Ton-Miles (\$000)	\$13,160	\$2,740	\$2,380
CO2 Emissions			
Tons (Total)	468,702,800	52,690,500	5,286,600
Tons per Million Ton-Miles	229.76	28.96	19.27
Damages per Ton ²	na	na	na
Damages per Million Ton-Miles (\$000)	na	na	na
Summary Damages per Million Ton-Miles³	\$41,480	\$6,710	\$5,610
Source: <i>Surface Freight Transportation: A Comparison of the Costs of Road, Rail, and Waterways Freight Shipments That Are Not Passed on to Consumers</i> ; GAO, January 2011; http://www.gao.gov/new.items/d11134.pdf			
Monetary values in 2010 dollars.			
¹ Trucks and Locomotives reflect 2007 ton-miles, versus year 2005 for waterborne vessels.			
² Damages per ton not available.			
³ Excludes CO2 damages.			

Safety Impacts

The rail mode is also one of the safest transportation modes. Per passenger-mile traveled rail transportation has lower death rates than automobiles. As reported by the National Safety Council in 2011 the fatality rate for the automobile was 0.55 deaths per 100 million passenger-miles compared to 0.13 for passenger rail. Freight rail transportation is also relatively safe and, as reported by the FRA, the national multi-year trend is positive with all reportable accidents (derailments, fatalities, injuries, etc., on the national rail system) declining by more than 21 percent between 2004 and 2013. External costs associated with freight transport include accidents. Comparisons of fatalities and injuries to ton-miles indicate an even greater external cost savings benefit associated with rail and water transport versus that of truck. These comparisons are shown in **Table 20**.

	Trucks	Rail	Waterborne
Accidents	5,069	683	7
Injuries	111,800	5,747	26
Ton-Miles (Billion)	1,997	1,739	587
Fatalities per Ton-Miles (Billion)	2.54	0.39	0.01
Injuries per Ton-Miles (Billion)	56.05	3.32	0.05
Costs per ton-mile (in 2010 \$)	0.11 to 2.15	0.24	n/a
Source: <i>Surface Freight Transportation; A Comparison of the Costs of Road, Rail, and Waterways Freight Shipments That Are Not Passed on to Consumers</i> ; GAO, January 2011; http://www.gao.gov/new.items/d11134.pdf			
Note: figures represent averages between 2003-2007			

Livable and Sustainable Communities

Livability can be thought of as a combination of various attributes which define how attractive a given place is to live. The attributes associated with livability include clean air and water, safe streets, positive race relations, affordable homes, quality public schools, greenery and open space, uncongested roads and low taxes, among other things. The transportation system’s ability to efficiently and safely move people and goods, without negatively impacting the environment in which it operates, plays a crucial role in how people view and rate the livability and sustainability of an area.

The following is a discussion of the positive benefits of passenger and freight rail on local community livability / sustainability.

- **Pollution and Noise** – Train air pollution and noise can deteriorate the quality of life of communities along rail lines. The rail industry has made significant progress in making diesel locomotives more efficient and burning cleaner diesel fuels. Railroads are also implementing “genset” locomotives primarily used for switching operations and assembling trains in rail yards. The genset locomotive has two or three smaller engine-generators that are programmed to start up only when needed. Other technology improvements in both the fuels and locomotive technology are also aimed at mitigating the worst effects of train-related air pollution.

A leading means of combating train horn noise is the implementation of railroad quiet zones. These are zones involving one or more highway-rail crossings where the locomotive engineer is not obligated to blow their horn approaching the crossing(s).⁴⁶ The procedures whereby a community can implement a quiet zone are specified by the Federal Railroad Administration.⁴⁷ Typically, improvements need to be made at the crossings to enhance safety at the crossings. Improvements can include four-quadrant gates, medians on approaches along with gates at the crossings, street closures, etc. Once the improvement designs are reviewed by the FRA and implemented, a quiet zone can be established.

- **Passenger Rail and Sustainable Communities** – Passenger rail stations provide opportunities for focused growth, especially in urban areas. These stations can function as local connection points for other feeder modes and create downtown transportation hubs for the community. This

⁴⁶ Federal regulations specify that trains horns sound while trains approach and enter highway-rail crossings.

⁴⁷ <http://www.fra.dot.gov/rpd/freight/1318.shtml>

pedestrian-friendly development pattern has the potential to reduce fuel use, air pollution and GHG emissions.

- **Freight Rail and Sustainable Communities** – Freight rail also plays a role in the livability and sustainability of a community. The ability to efficiently transport goods and create access to economic centers is critical to the overall success of a region's economy. The efficiency of rail freight is especially important in rural areas where agriculture, local industries and communities rely on freight shipping. A revitalized rail line can lower shipping costs, provide pricing power for local industries and agriculture, provide redundancy in the transportation network, and shield local industries and agriculture from potential increases in the cost of fossil fuel.

Roadway Congestion Impacts

Increased freight rail activity can help replace some of the existing truck travel on highways. However, the connection between the rail network and the truck network typically occurs at ports or intermodal facilities. These facilities are usually located away from highways and interstates. As a result the local roadway system must function as the link between these facilities, and the resulting congestion at these locations will require local commitment and support for improvements that ensure proper intermodal connectivity with minimal negative impacts.

An example of an initiative that mitigates roadway congestion is the Cordele Intermodal Center linked to the Port of Savannah. Similar facilities located in other parts of the state and linked to the Port of Savannah and potentially to the Port of Brunswick could produce a similar benefit. Investments in line capacity to support such a service on an Atlanta – Macon – Savannah route could also pave the way for new passenger services (intercity and commuter) on this route and reduce Interstate congestion at the same time.

2.3 Trends and Forecasts

The purpose of this section is to describe trends that could affect rail needs for the State of Georgia in the future. Trends which impact both passenger and freight rail include factors such as demographic and economic growth, transportation system congestion, and the future land use outlook. These factors all contribute to the projected demand and growth for both passenger and freight, although many of these factors are difficult to incorporate into demand forecasting. The following discussion provides a base for determining future rail service needs in Georgia and identifies areas of the state's future economy that will be transportation dependent.

2.3.1 Demographic and Economic Growth Factors

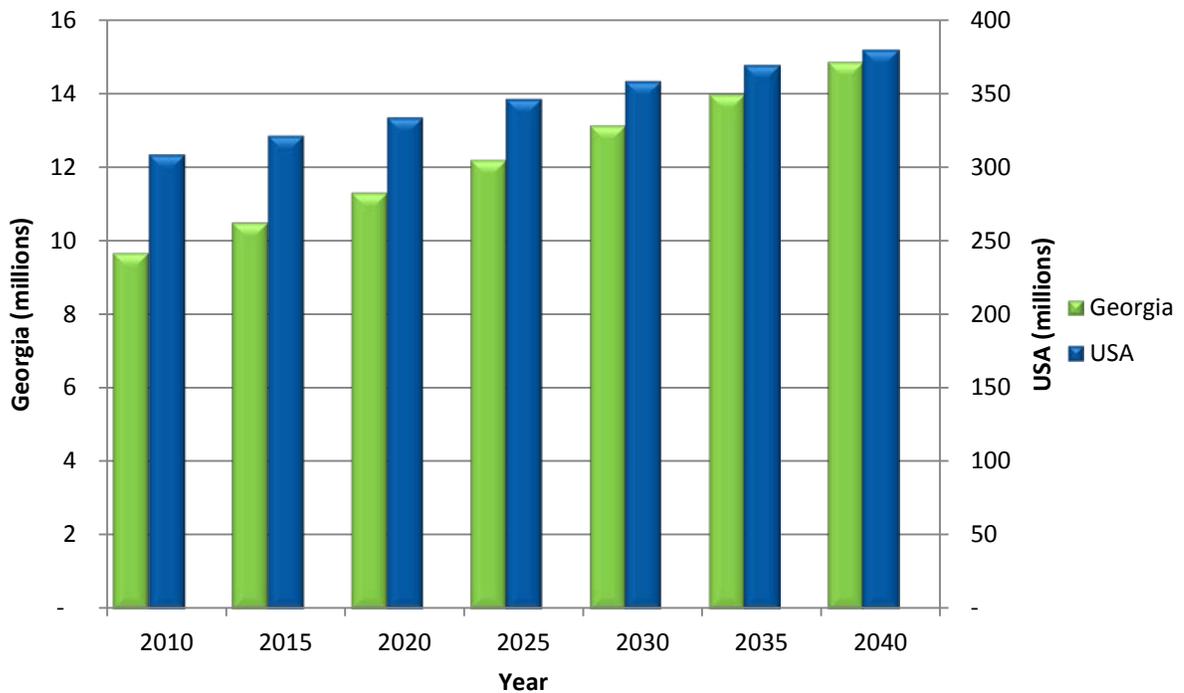
Population

The estimated population for Georgia in 2013 was 9,992,167, which ranked 8th among the U.S. states. Over the past three years Georgia's population increased by 3.1 percent compared with a 2.4 percent population growth for the U.S. as a whole, ranking 16th among states. From 2000 to 2013 Georgia grew

by 22.0 percent, the 7th fastest rate in the country. This indicates that Georgia continues to be growing faster than most other states in the country.⁴⁸

The Georgia Office of Planning and Budget and the U.S. Census Bureau provide future population projections. Georgia's projections extend to year 2030, while the U.S. Census projects to the year 2060. As Georgia's population forecast is available only to year 2030, 2040 population was estimated using the growth rates calculated between current and 2030 populations. Based on this information, the state's population is projected to increase by nearly 54 percent, reaching 14.9 million people by 2040. Compared to the estimated 23.1 percent growth for the country, Georgia's projected growth exhibits the expectation that the state will continue to attract more people and grow more quickly than the U.S. as a whole. **Figure 19** shows the projected population for Georgia and the United States.⁴⁹

Figure 19: Georgia and USA Population Projections



Based on information from the U.S. Census Bureau, the median age for the state is 35.4 years, which is slightly younger than the national median age of 37.2 years. Among the state's population over 25 years of age, 84.4 percent graduated from high school, and 27.8 percent received a bachelor's degree or higher, both of which are slightly below the national averages of 85.7 percent and 28.5 percent, respectively.⁵⁰ Georgia's working age population (aged 18 to 65 years) was about 63.6 percent of the overall population, which is above the country's 62.9 percent of the population, suggesting that the state skews slightly younger than the rest of the country in general.

⁴⁸ Population data from U.S. Census Bureau.

⁴⁹ Population forecast based on U.S. Census Bureau population estimates.

⁵⁰ U.S. Census Bureau, 2010 Demographic Profile Data.

Employment

The most current wage and salary employment (i.e., base employment) figures indicate that around 4.13 million people were employed in the state as of May 2014, based on information from the Georgia Department of Labor. This data excludes self-employed farm and nonfarm employment information.

The Georgia Department of Labor projects that 2020 base employment will increase to about 4.61 million, an 11.7 percent increase when compared to 2010 base employment. Using this information, the state's base employment is projected to increase by 26 percent to nearly 5.58 million in year 2040.⁵¹

Georgia's unemployment rate over the past few years has changed dramatically as a result of changing regional and national economic conditions. Unemployment rates ranged from 3.3 percent in December 2000 to 10.4 percent in January 2010. Since 2010, rates have dropped from 9.9 percent in 2011 to 9.0 percent in 2012 and 8.2 percent in 2013. As of April 2014, the seasonally adjusted unemployment rate for the state was 7.0 percent, somewhat higher than the national average rate of 6.3 percent.

Georgia is the headquarters for 14 Fortune 500 companies including United Parcel Service, Delta Air Lines, and Coca-Cola. Kia Motors recently opened a new vehicle assembly plant in west Georgia, while companies like Baxter International and NCR have invested in multimillion dollar facilities in the state, indicating that overall economic investment continues to increase as the economy improves.⁵²

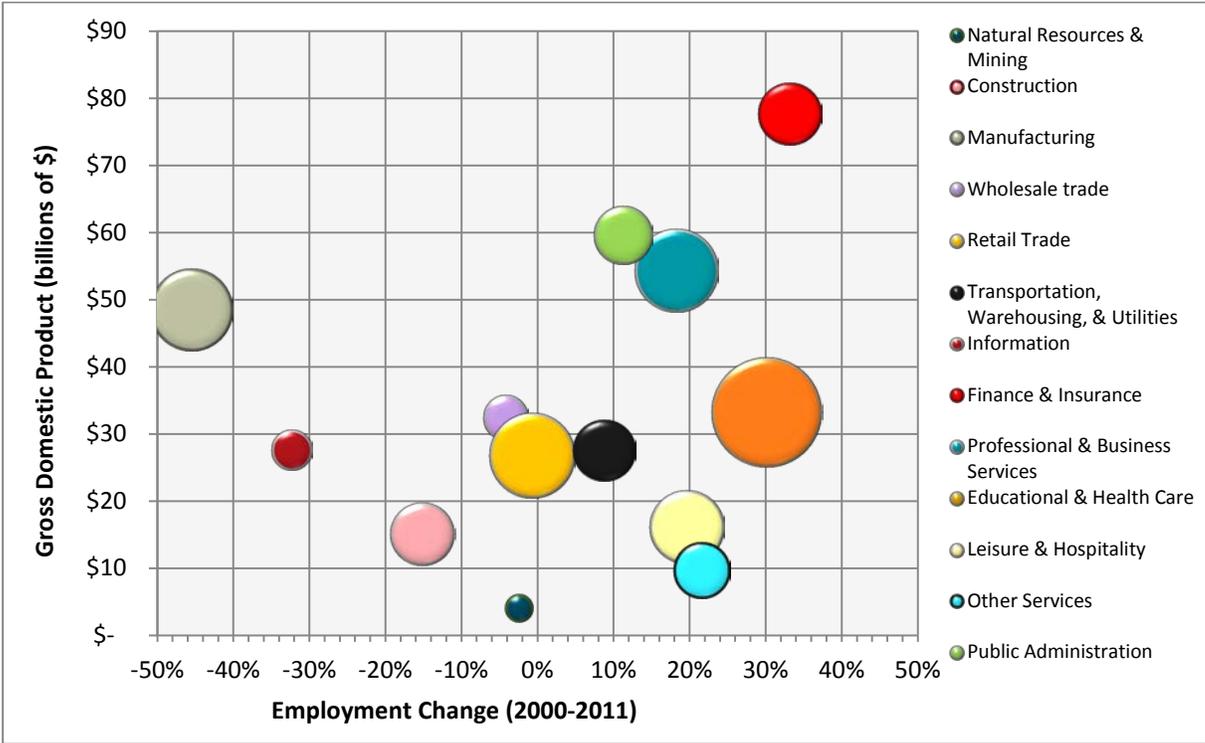
Figure 20 displays the employment change from 2000 and 2011 against the Gross Domestic Product (GDP) by employment sector in 2012. The graph highlights sectors with the largest impact on the Georgia economy and the changes in those sectors recently in terms of available jobs. The size of the bubble for each employment sector represents the number of jobs in that sector compared against all other sectors. Education and healthcare ranks as the top employment sectors for the state, with retail trade and manufacturing closely behind. Education and healthcare employment has shown a growing trend since 2000, while retail trade employment has remained steady and manufacturing employment has decreased by more than 45 percent.⁵³ However, in terms of GDP, the finance and insurance sector, public administration, and professional and business services create the highest GDP for Georgia.

⁵¹ Employment projections based on data from Georgia Department of Labor.

⁵² Georgia Department of Economic Development, accessed at <http://www.georgia.org/competitive-advantages/pro-business/case-studies/>.

⁵³ U.S. Census Bureau and the Bureau of Economic Analysis

Figure 20: Employment Growth and GDP by Size of Employment Sector (2012)



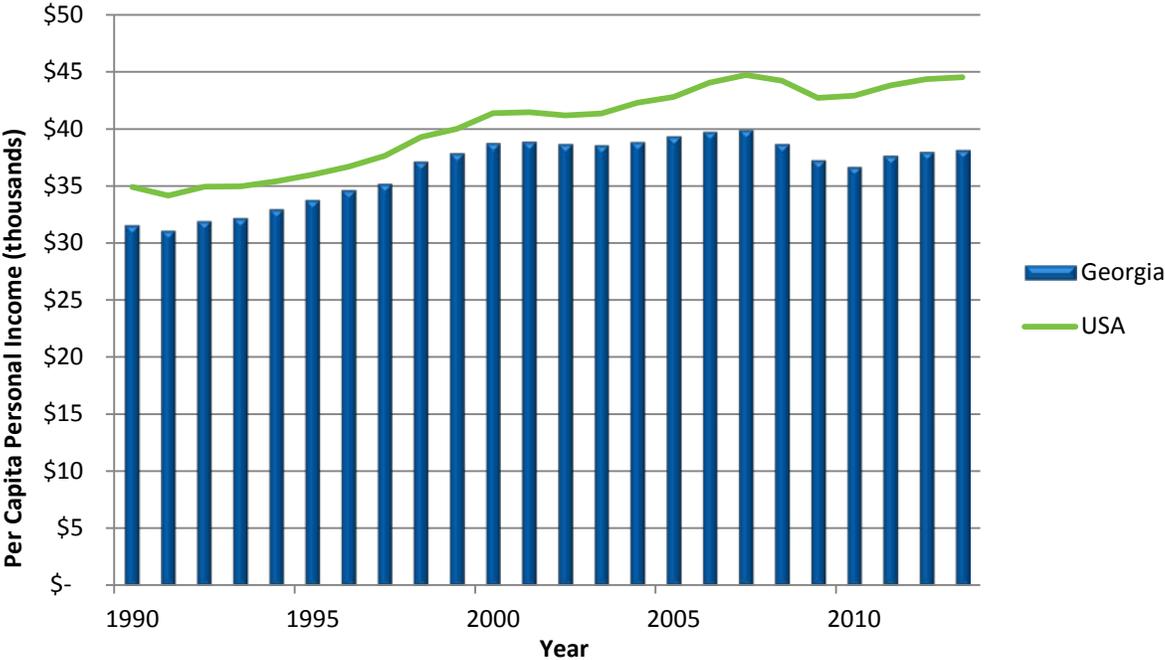
Personal Income

Georgia’s per capita personal income in 2013 was \$38,179, which ranked 40th in the U.S., and was 86 percent of the national average (\$44,543).⁵⁴ In continuous 2013 dollars (adjusted for inflation using the Consumer Price Index) the per capita personal income since 1990 has grown by 20.8 percent, below the national income growth of 27.6 percent. However, since 2000, Georgia’s per capita personal income has actually decreased 1.6 percent, whereas the country’s has grown by about 7.6 percent. Historical per capita personal income from 1990 to present day is shown in **Figure 21**.⁵⁵

⁵⁴ Bureau of Economic Analysis, accessed at <http://bea.gov/regional/bearfacts/action.cfm>.

⁵⁵ Bureau of Economic Analysis, adjusted by the national CPI into 2013 U.S. dollars.

Figure 21: Historical Per Capita Personal Income (2013 U.S. \$)



Industrial Outlook by Sector

Rail-hauled commodities inbound and outbound in Georgia largely fall within two large industrial sectors: Natural Resources / Mining and Manufacturing.⁵⁶ Within the natural resources sector are subsectors such as agricultural products, coal, gravel, oil production, lumber, etc. Within the manufacturing sector are subsectors such as food products, motor vehicles, chemicals, fertilizers, machinery, etc. Other leading commodities which fall outside of these two sectors are waste and scrap, mixed freight, and unknown commodity shipments.

Of the two largest sectors, the Natural Resources / Mining sector is the larger, totaling 85.5 million tons of rail-hauled commodities inbound and outbound in 2012, or 70 percent of total tons.⁵⁷ Most of these tons are comprised of inbound coal for power generation. By 2040, however, total tons of Natural Resource commodities are expected to drop by 34.6 percent, primarily due to an expected decrease in inbound coal.

Rail-hauled Manufacturing commodities overall are predicted to increase 34.5 percent from 31 million total tons in 2012 to 41.7 million tons in 2040. Inbound tons will grow slightly faster than outbound tons.

Estimates indicate other commodities will remain steady at around 4.6 million tons through the forecasted 28-year period.

⁵⁶ Industrial sectors and their subsectors are per the North American Industry Classification System (NAICS).
⁵⁷ The forecast, as explained in Section 2.3.2, was developed using Freight Analysis Framework (FAF) data, which varies from the STB Waybill Sample used to quantify railroad commodity movements.

2.3.2 Freight Demand and Growth

Overview

A considerable amount of freight traverses Georgia's rail infrastructure annually. Such freight includes finished goods, materials, and supplies. The identification of freight movements most important to Georgia, and options to facilitate and support such movements are a major component of freight planning.

This section tabulates current rail freight volumes, as reported in the U.S. Surface Transportation Board Railroad Waybill Sample database, by major commodity types. To forecast future movements, a second source for commodity flow forecasts, the U.S. Department of Transportation's Freight Analysis Framework, was used.

Current Rail Freight

The following discussion and graphics presents year 2011 rail freight movements by direction (outbound, inbound, intrastate, and through) and measures (tons, carloads, and values). Each subsection summarizes rail movements and identifies commodity movements. Supporting comprehensive data is located in Appendix C, Tables 1 through 6.

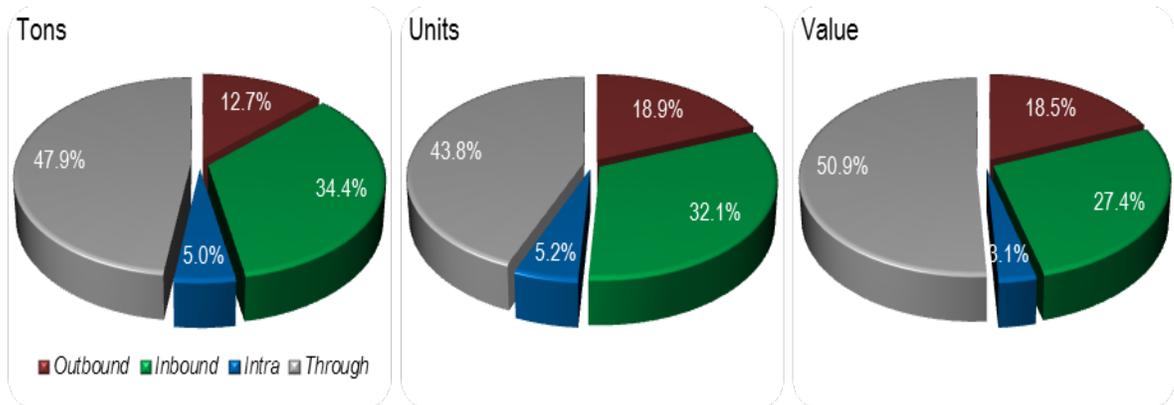
Georgia rail movements in 2011 totaled 189.2 million tons, valued at \$203.2 billion (equating to \$1,074 per ton), carried in approximately 3.9 million rail cars or similar units (see **Table 21**). As depicted in **Figure 22**, through rail is the dominant directional movement, comprising 47.9 percent of total tonnage, 43.8 percent of units, and 50.9 percent of value. Inbound rail movements are the second largest directional movement, followed by outbound and intrastate, respectively.

Table 21: Rail Movements by Direction (2011)

Direction	Tons		Units		Value (in millions)		Average Value / Ton
	Amount	Percent	Amount	Percent	Amount	Percent	
Outbound	24,058,321	12.7	745,958	18.9	37,685	18.5	1,566
Inbound	65,070,632	34.4	1,264,359	32.1	55,773	27.4	857
Intrastate	9,456,331	5.0	206,953	5.2	6,273	3.1	663
Through	90,620,375	47.9	1,726,851	43.8	103,499	50.9	1,142
Total	189,205,659	100.0%	3,944,121	100.0%	\$203,229	100.0%	\$1,074

Source: Based on the STB Waybill Sample data for 2011.

Figure 22: Rail Percentages by Direction (2011)



Note: Based on the STB Waybill Sample data for 2011.

In terms of all rail directions combined, the top five commodities include:

- *by Tonnage:*

1. Coal (58.9 million tons, 31.1% of modal total);
2. Chemicals or Allied Products (19.5 million, 10.3%);
3. Miscellaneous Mixed Shipments (16.4 million, 8.7%);
4. Food or Kindred Products (13.9 million, 7.4%); and,
5. Farm Products (12.3 million, 6.5%).

- *by Carloads:*

1. Miscellaneous Mixed Shipments (1.3 million carloads, 32.7% of modal total);
2. Coal (0.5 million, 12.9%);
3. Shipping Containers (0.3 million, 7.0%);
4. Food or Kindred Products (0.3 million, 6.5%); and,
5. Pulp, Paper, or Allied Products (0.2 million, 6.0%).

- *by Value:*

1. Miscellaneous Mixed Shipments (\$82.6 billion, 40.7% of modal total);
2. Chemicals or Allied Products (\$30.8 billion, 15.2%);
3. Transportation Equipment (\$30.0 billion, 14.8%);
4. Pulp, Paper, or Allied Products (\$10.8 billion, 5.3%); and,
5. Food or Kindred Products (\$10.3 billion, 5.1%).

Comparing tonnage, carloadings and value movements by rail mode and direction yields different perspectives regarding the importance of rail to the state. While coal leads tonnage movements (and second in terms of units), the value is comparatively low, reflected in a very low value-per-ton. Conversely, Transportation Equipment tonnage is a mere fraction of coal tonnage, but the value of that is over 10 times greater.

Rail Outbound

Outbound rail commodities from Georgia in 2011 totaled 24.1 million tons, via 745,958 carloads, valued at \$37.7 billion, with an average value / ton of \$1,566. The top five commodities include:

- *by Tonnage:*
 1. Nonmetallic Minerals (4.5 million tons, 18.6% of outbound total);
 2. Miscellaneous Mixed Shipments (4.3 million, 17.7%);
 3. Clay, Concrete, Glass, or Stone (3.6 million, 14.9%);
 4. Pulp, Paper, or Allied Products (2.9 million, 11.9%); and,
 5. Waste or Scrap Materials (1.4 million, 5.9%).

- *by Units:*
 1. Miscellaneous Mixed Shipments (327,760 carloads, 43.9% of outbound total);
 2. Pulp, Paper, or Allied Products (69,980, 9.4%);
 3. Shipping Containers (51,920, 7.0%);
 4. Nonmetallic Minerals (43,483, 5.8%); and,
 5. Clay, Concrete, Glass, or Stone (40,052, 5.4%).

- *by Value:*
 1. Miscellaneous Mixed Shipments (\$21.5 billion, 56.9% of outbound total);
 2. Transportation Equipment (\$4.1 billion, 10.9%);
 3. Pulp, Paper, or Allied Products (\$2.7 billion, 7.3%);
 4. Chemicals or Allied Product (\$2.0 billion, 5.3%); and
 5. Apparel or Related Products (\$1.4 billion, 3.6%).

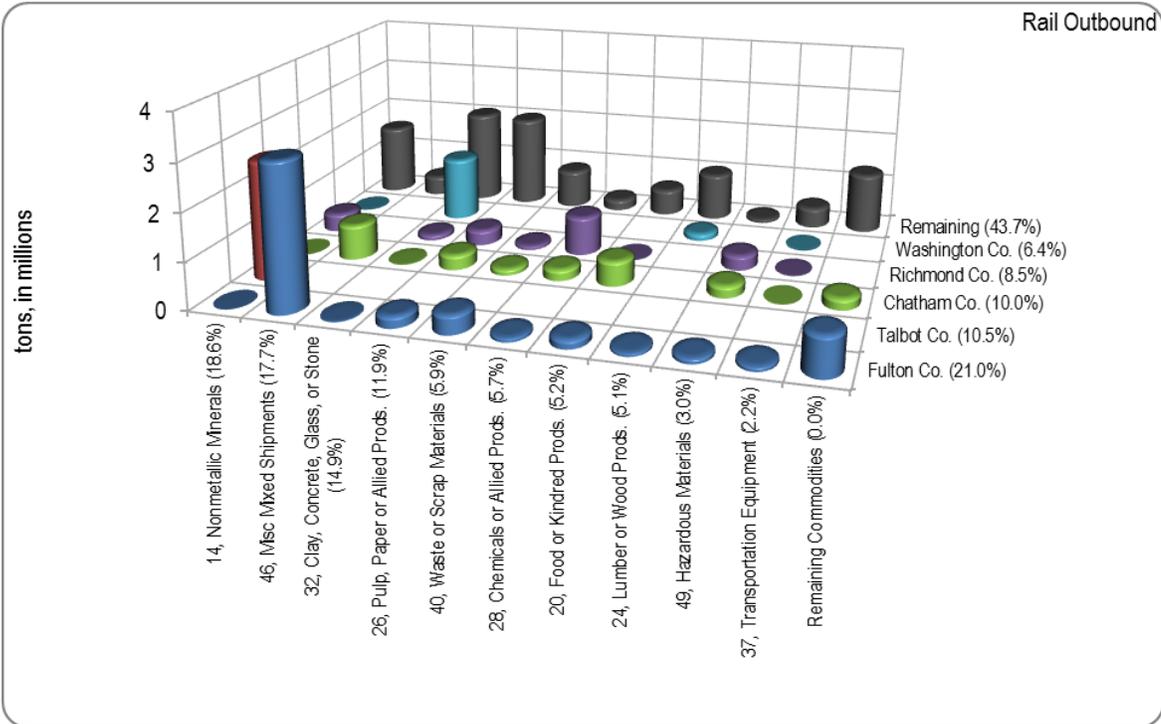
Major outbound rail tonnages in 2011 are shown by county origin in **Figure 23**, while destinations by state are shown in **Figure 24**.

Rail Inbound

Inbound rail commodities to Georgia in 2011 totaled 65.1 million tons, via 1.3 million carloads, valued at \$55.8 billion, with an average value / ton of \$857.

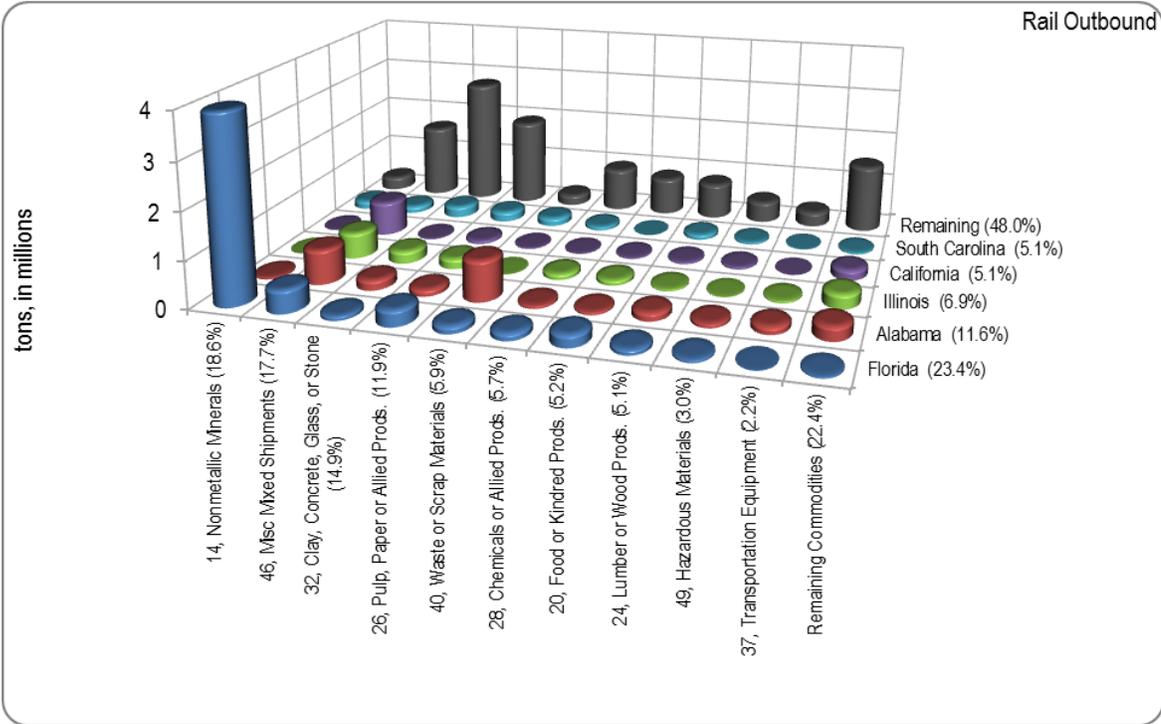
Major inbound rail tonnages in 2011 are shown by state origin in **Figure 25**, while leading county destinations are shown in **Figure 26**.

Figure 23: Rail Outbound Commodities by County Origin (2011)



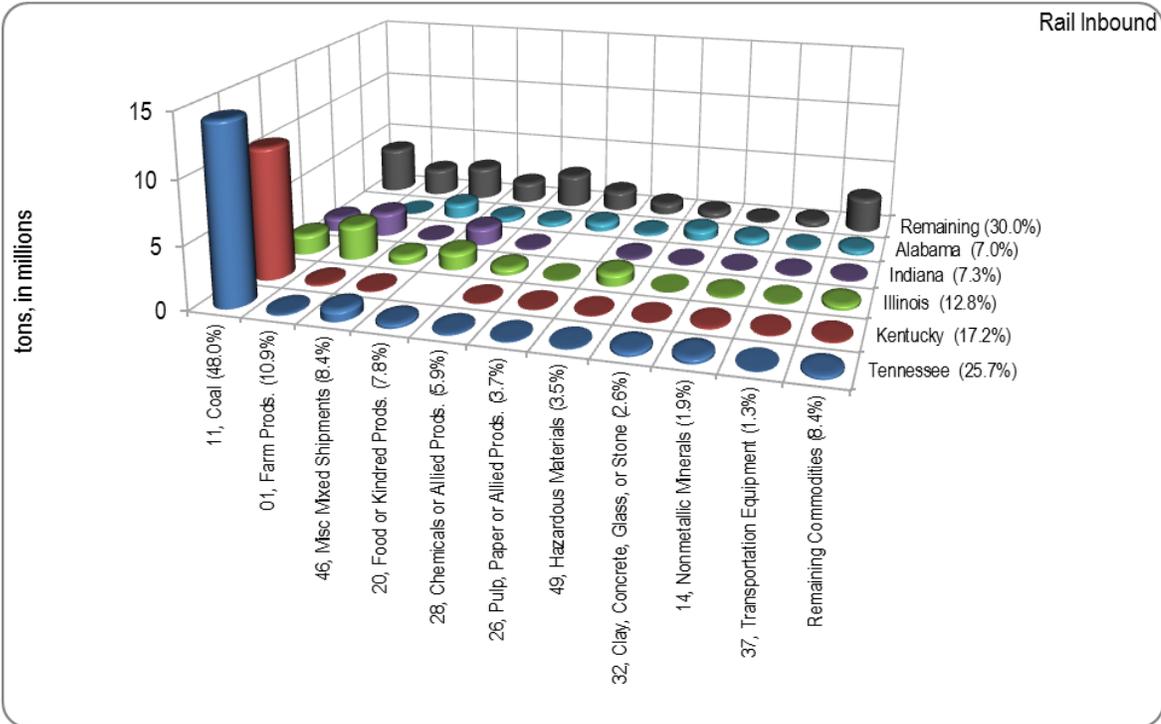
Note: Based on the STB Waybill Sample data for 2011.

Figure 24: Rail Outbound Commodities by State Destination (2011)



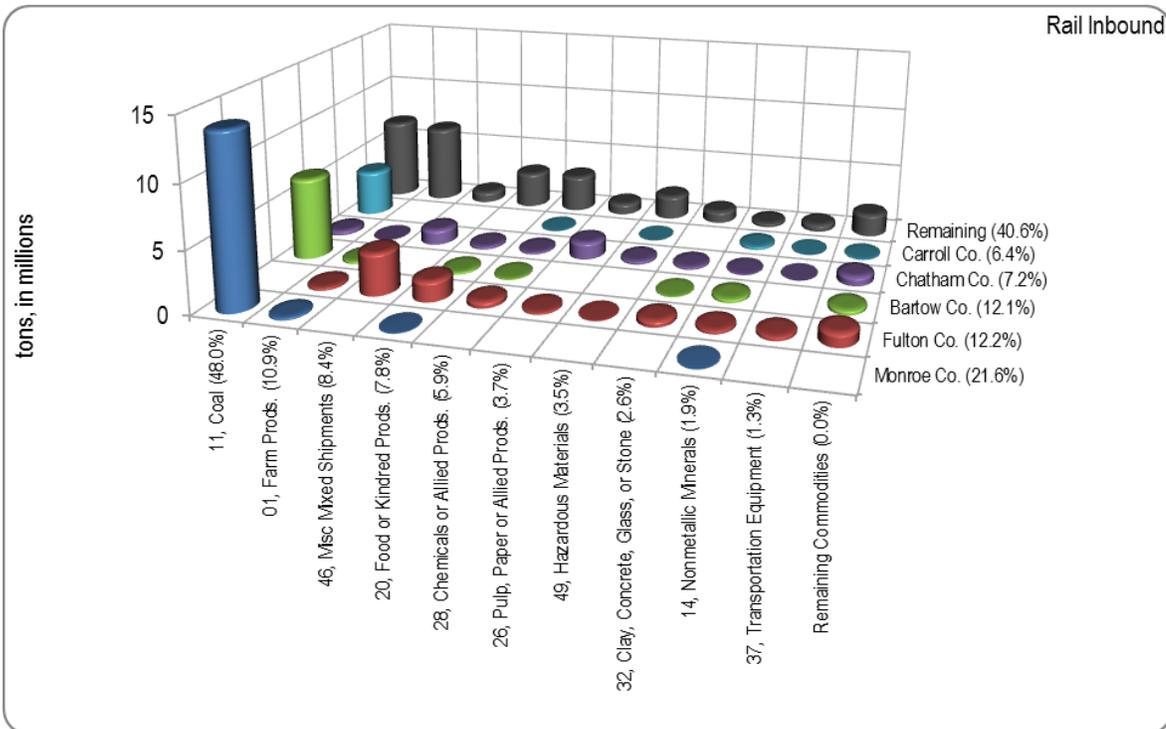
Note: Based on the STB Waybill Sample data for 2011.

Figure 25: Rail Inbound Commodities by State Origin (2011)



Note: Based on the STB Waybill Sample data for 2011.

Figure 26: Rail Inbound Commodities by County Destination (2011)



Note: Based on the STB Waybill Sample data for 2011.

Rail Intrastate

Intrastate rail commodities within Georgia in 2011 totaled 9.4 million tons, via 206,953 carloads, valued at \$6.3 billion, with an average value / ton of \$663.

The top five commodities include:

1. Nonmetallic Minerals (3.2 million tons, 33.4% of intrastate total);
2. Lumber or Wood Products (1.7 million, 18.0%);
3. Clay, Concrete, Glass, or Stone (1.2 million, 12.3%);
4. Miscellaneous Mixed Shipments (0.9 million, 9.2%); and
5. Chemicals or Allied Products (0.6 million, 6.2%).

Rail Through

Rail commodities moving across Georgia in 2011 totaled 90.6 million tons via 1.7 million carloads valued at \$103.5 billion, with an average value / ton of \$1,142. The top five commodities include:

1. Coal (27.7 million tons, 30.5% of through total);
2. Chemicals or Allied Products (13.7 million, 15.1%);
3. Food or Kindred Products (7.5 million, 8.3%);
4. Hazardous Products (6.2 million, 6.8%); and,
5. Miscellaneous Mixed Shipments (5.8 million, 6.4%).

Current Traffic Summary

About half of all rail traffic via Georgia is through traffic (originating from and destined for geographies beyond Georgia). The differentiation of through traffic versus origin / destination / intrastate traffic is important regarding the economy of Georgia. While through traffic tonnage and units affect physical infrastructure requirements (e.g., rail track capacity), they have little effect on the Georgia economy because Georgia industries neither ship nor receive such traffic.

Freight Traffic Forecast

Rail freight tonnage forecasts for year 2040 were made using the Freight Analysis Framework (FAF), version 3.5., which provides a means by which to assess future tonnage growth.⁵⁸ Specifically, total annual growth forecasts by direction (outbound, inbound, intrastate, and through) are derived by comparing FAF tonnage volumes for year 2012 to year 2040.⁵⁹

Summary Forecasts

FAF forecasts for Georgia rail movements between 2012 and 2040 indicate that outbound rail freight tonnage will grow 5.2 percent (0.2 percent Compound Annual Growth Rate (CAGR)) and inbound will decline 21.5 percent (-0.9 CAGR).⁶⁰ Further, FAF data was used to estimate a 5.2 percent (0.2 percent CAGR) growth in intrastate movements and a 44.2 percent (1.3 percent CAGR) growth in through-state movement (based on national growth trends.)⁶¹ These directional forecasts were applied to the total

⁵⁸ FAF year 2012 data is based on year 2007 Commodity Flow Survey and excludes railcar units or through state movements.

⁵⁹ Since FAF does not provide specific through-state movement data, total US tonnage growth was used as a proxy to estimate through-state tonnage.

⁶⁰ Primarily due to inbound coal decline of over 60%, as discussed below.

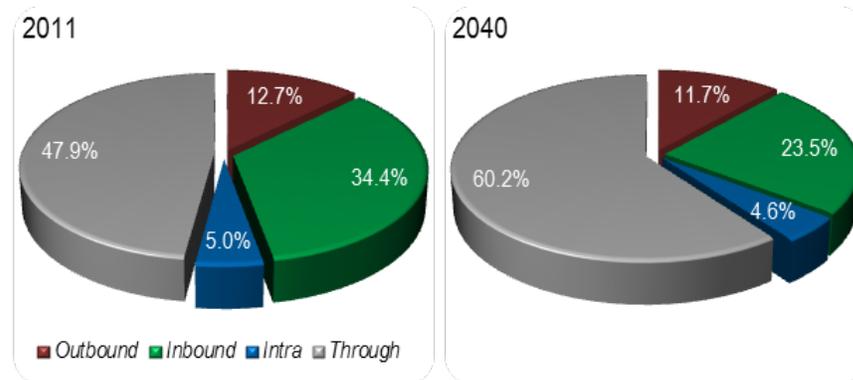
⁶¹ Domestic origin to domestic destination.

directional volumes reported by the Waybill Sample for year 2011 to generate year 2040 rail freight ton forecasts as summarized in **Table 22** and contrasted in **Figure 27**.

Table 22: Rail Tonnage Forecast Summary (2011-2040)							
Direction	2011		2040		Change (2011 to 2040)		
	Amount	Percent	Amount	Percent	Amount	Total Percent	CAGR%
Outbound	24,058,321	12.7	25,305,097	11.7	1,246,776	5.2	0.2
Inbound	65,070,632	34.4	51,086,413	23.5	-13,984,219	-21.5	-0.9
Intrastate	9,456,331	5.0	9,946,387	4.6	490,056	5.2	0.2
Through	90,620,375	47.9	130,719,032	60.2	40,098,657	44.2	1.3
Total	189,205,659	100.0%	217,056,929	100.0%	27,851,270	14.7%	0.5

Note: Based on FAFv3.5 forecasts and year 2012 WS.

Figure 27: Rail Ton Percentages by Year, 2011 and 2040



Including all directional movements, total rail freight in Georgia is forecast to grow 14.7 percent (0.5 percent CAGR) from 189.2 million tons in 2011 to 217.1 million tons in 2040. Through movement's share is projected to increase from 47.9 percent (in 2011) to 60.2 percent (2040), while inbound movement will decrease from 34.4 percent to 23.5 percent.

For specific commodities, the most notable change concerns inbound coal movements, which are forecast to decline 62 percent (-3.4 percent CAGR) over the analysis period from 55.2 million tons to 21.1 million tons. This projected decline is a result of planned and forecast retirements of coal-fired electric generating plants in Georgia⁶². Nonetheless, inbound coal will continue to lead all year 2040 movements. The text below shows the projected leading commodities.

⁶² <http://www.eia.gov/todayinenergy/detail.cfm?id=15491>

- *Outbound Tonnage (2040)*
 1. Gravel and crushed stone (6.2 million tons, 22.6% of outbound total);
 2. Nonmetallic minerals (4.7 million, 17.2%);
 3. Pulp, newsprint, paper, and paperboard (3.6 million, 13.0%);
 4. Other prepared foodstuffs, fats and oils (1.9 million, 6.7%); and
 5. Waste and scrap (1.5 million, 5.6%).

- *Inbound Tonnage (2040)*
 1. Coal (21.1 million tons, 28.2% of inbound total);
 2. Cereal grains (10.5 million, 14.0%);
 3. Gravel and crushed stone (8.9 million, 12.0%);
 4. Basic chemicals (4.7 million tons, 6.3%); and
 5. Pulp, newsprint, paper, and paperboard (4.2 million, 5.6%).

2.3.3 Passenger Travel Demand and Growth

Travel Demand – Highways

Similar to the projections for population and employment, travel demand within and to / from the state will continue to grow in the future. The estimated growth in vehicular travel demand for Georgia, exhibited in Vehicles Miles Traveled (VMT), is shown in **Table 23**. VMT describes the level of travel demand on a roadway system and growth in VMT indicates growth in travel demand. VMT is a measure of travel calculated by multiplying the number of vehicles on a roadway segment by its length.

This information was extracted from the state's travel demand forecasting model and represents an estimate of the changes in regional travel conditions between 2010 and 2040.

Forecasts indicate overall vehicle travel will grow by around 36 percent, with rural travel growing more quickly than urban travel. However, urban travel would still comprise over 57 percent of total travel in the state. Freight travel demand (41.6 %) could grow faster than passenger travel demand (35.8%). This indicates that freight travel demand will continue to grow in overall significance between 2010 and 2040 as the population and overall economy increase and improve.

Below, VMT is shown for years 2010 and 2040 by National Highway Functional Classification (NHFC). These classifications define roadway types and their primary uses for roadway users.

Table 23: Estimated Roadway Daily VMT by Classification, 2010 and 2040

Functional Class	2010			2040			% Growth
	Passenger	Freight	Total	Passenger	Freight	Total	Total
Rural							
Interstate / Freeway	24,069,513	7,335,344	31,404,857	33,303,594	10,370,618	43,674,212	39
Principal Arterial	16,601,536	1,787,395	18,388,931	23,260,659	2,231,332	25,491,991	39
Minor Arterial	15,046,986	851,773	15,898,759	22,526,812	1,151,544	23,678,356	49
Collector	11,287,197	174,408	11,461,606	17,276,961	283,908	17,560,870	53
Local	177,803	1,079	178,882	297,063	1,574	298,637	67
Sub Total	67,183,035	10,149,999	77,333,034	96,665,088	14,038,977	110,704,065	43%
Urban							
Interstate / Freeway	49,909,287	3,702,854	53,612,141	66,279,055	5,586,935	71,865,990	34
Principal Arterial	29,291,255	691,693	29,982,948	36,729,666	925,033	37,654,698	26
Minor Arterial	24,946,629	287,855	25,234,484	32,953,150	439,710	33,392,860	32
Collector	2,598,906	14,488	2,613,394	3,376,403	25,462	3,401,865	30
Local	137,287	326	137,612	294,640	795	295,436	115
Sub Total	106,883,364	4,697,217	111,580,580	139,632,914	6,977,935	146,610,849	31%
Combined							
Total	174,066,398	14,847,216	188,913,614	236,298,003	21,016,912	257,314,914	36%

Source: GDOT state travel demand forecasting model

Travel Demand – Intercity Rail

The basis for forecasting Amtrak riders at Georgia stations was to project population growth in Georgia and South Carolina for counties within a 30-mile radius of stations.⁶³ Station ridership changes were calculated based upon the growth rate of each county served by the station.

It is important to note that actual future ridership performance will be based not only on population growth but also by changes in income growth, changes in the number of train frequencies and train schedule times at the station (day vs. night), changes in Amtrak fares vs. other modes, and changes in the quality of Amtrak service (i.e., on-time performance).

Population around Georgia’s Amtrak stations shows growth overall, with the strongest growth in the Piedmont region (serving Atlanta and other stations along Amtrak’s *Crescent*).

Table 24 shows FY2013 boardings and alightings at Georgia’s five intercity rail stations as well as the forecasts for the next 25 years.

Table 24: Intercity Ridership Forecast by Station

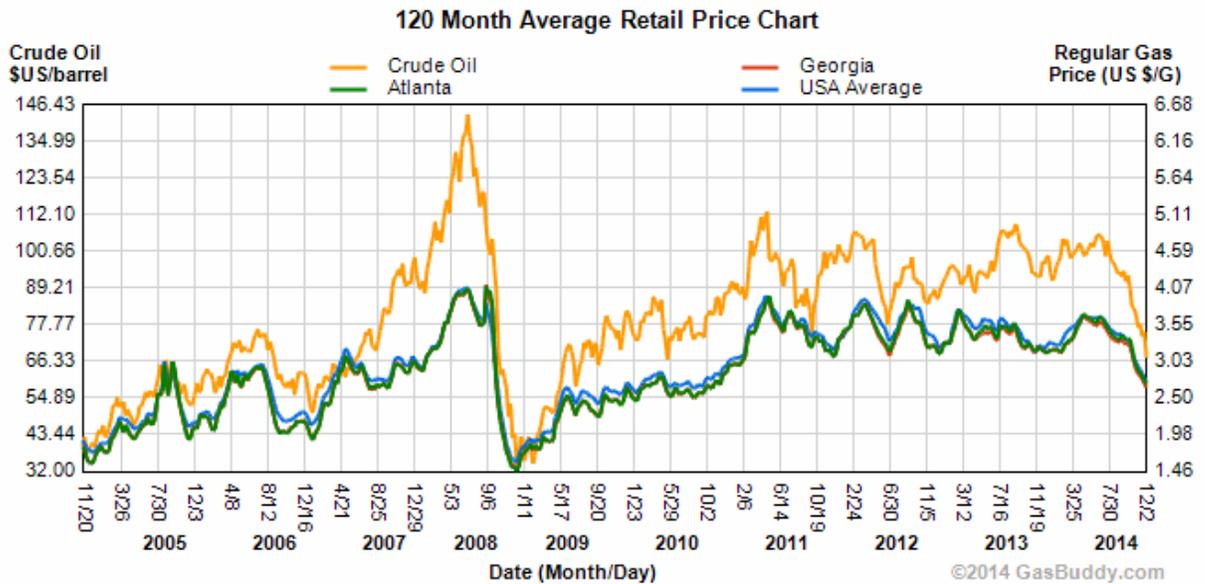
Station	2013	2015	2030	2040	% Growth / Year
Toccoa	4,266	4,438	6,040	7,418	2.10
Gainesville	6,464	6,725	9,768	12,528	2.50
Atlanta	99,005	103,005	142,156	176,212	2.20
Savannah	71,658	74,553	96,352	114,320	1.70
Jesup	10,692	11,124	14,192	16,693	1.70
Total	192,085	199,845	268,508	327,171	1.99%

⁶³ “Georgia Residential Population Projections by County: 2015 – 2030”; and “Population Projections Based on the 2010 Census Data: 2000 – 2030” from the South Carolina Office of Research and Statistics.

2.3.4 Fuel Cost Trends

Trends in fuel costs (crude oil and regular gasoline) over the last 10 years are shown in **Figure 28**. The average retail gas price trends in Atlanta, the State of Georgia, and the U.S. all track closely to each other.

Figure 28: Gasoline Fuel Price Trends from 2004-2014



Source: GasBuddy.com, accessed July 8, 2014.

Diesel fuel costs over the past ten years for both East Coast areas and the more specific Lower Atlantic region have also not varied substantially from the nationwide average, according to the U.S. Energy Information Administration (EIA). The price of diesel fuel in 2004 in the Lower Atlantic was \$1.76 per gallon, increasing to around \$3.80 per gallon in 2008. Following the economic recession, diesel fuel prices dropped to \$2.44 per gallon. However, compared to gasoline, diesel fuel prices have actually recovered from the recent recession and have equaled or surpassed the cost of diesel in 2008, as of 2014, to an average of about \$3.88 per gallon in the Lower Atlantic region.

2.3.5 Rail Congestion Trends

Rail Line Congestion Evaluation

An evaluation of rail density for the primary Class I rail routes did not indicate any major concern with regard to congestion outside of Atlanta. That evaluation and its findings appear in Chapter 4.

Atlanta Congestion: Howell Junction

Howell Junction, located approximately two miles northwest of Downtown Atlanta, is frequently mentioned as a congestion point or bottleneck. **Figure 29** presents an aerial photograph of the Howell Junction area. GDOT's *Georgia Statewide Freight and Logistics Plan* also noted the junction as a bottleneck.

The central feature of Howell Junction area congestion is the railroad-to-railroad crossing of the CSXT Downtown Atlanta – Chattanooga line, known as the Western and Atlantic (W&A), by the NS Greenville – Atlanta – Birmingham line. This crossing is also used twice daily by Amtrak's *Crescent* service.

The root of the conflict at Howell Junction is due to the two legs of the NS Greenville – Atlanta Line crossing the CSXT's W&A Line at Howell Tower and 10th Street, as circled in the figure. Each railroad operates two to three dozen trains per day through the junction.

Complicating operations at the junction are two nearby yards, the CSXT Tilford Yard and the NS Inman Yard, where yard congestion will cause trains on the CSXT and NS lines to slow.

A detailed description of Howell Junction appears in Appendix D. A more detailed discussion of proposed actions to address this congestion point is provided in Section 4.2.3.

2.3.6 Highway and Airport Congestion Trends

In addition to the demographic and economic forecasts previously mentioned, other trends will also impact the future of rail in Georgia. Transportation related trends have a direct relationship on future freight and passenger rail usage levels. Factors such as high fuel prices or increased vehicle miles-traveled (VMT) and associated traffic congestion would negatively impact highway or airport travel and could improve the attractiveness of using rail for various transportation needs. It is important to examine the expected changes in non-rail transportation modes in order to determine options for addressing and managing future congestion trends.

Highways

Linking Georgia's cities and counties are various types of highways and roadways. According to GDOT, the state has approximately 121,000 miles of public roadway. Of these, around 15 percent are state or federal highways, 71 percent are county roads, and 14 percent are city or locally maintained streets. There is approximately 1,248 miles of federal interstate highways in Georgia.

Highways are classified as one of the following five National Highway Functional Classifications (NHFC), as shown in **Table 25**. Local roads provide access to individual properties, and arterial roads provide high-speed roadways over middle-to-long distances. The interstate/freeway class of road is the highest classification of arterial roadway primarily providing limited-access intercity travel connections. Collector roads connect the gap between local roads and arterials and possess elements of both, as they gather and disperse traffic along local roadways and provide connections to arterials.

Most traffic counts are reported in terms of annual average daily traffic (AADT) and represent an estimate of the number of vehicles traveling along a given point on a highway on an average day in the year. VMT estimates encompass distance traveled and provide a measure of highway vehicle travel usage over a geographic area, such as a county, state, or highway system.

Figure 29: Howell Junction



Table 25 displays the lane-mileage and traffic characteristics of each type of highway functional class in Georgia. The data indicate that for year 2012 the highway network carried about 291 million vehicle-miles a day, for an estimated 108.5 billion vehicle-miles a year.⁶⁴

Functional Class	Lane-Miles	% of Total Lane-Miles	Average Annual Daily VMT	% of Total VMT
Interstate / Freeway	7,637	3.0	86,463	29.7
Principal Arterial	15,399	6.0	51,701	17.8
Minor Arterial	21,705	8.4	58,476	20.1
Collector	46,546	18.1	31,449	10.8
Local	166,155	64.5	62,917	21.6
Total	257,442	100%	291,006	100%

Source: *GDOT Report 445*.

Data appearing in Table 25 are actual, observed daily VMT counts for 2012. These differ from the VMT estimations in Table 23 from the Georgia statewide travel demand model, which is used more to identify trends and general travel patterns throughout the state.

While interstate / freeway roadways account for only 3 percent of the state's highway lane-mileage, they carry the highest percentage (29.7%) of all vehicle-miles traveled. Conversely, local and collector roads combine to make up more than 80 percent of the state's road mileage, but together only carry slightly more traffic than the interstate / freeway roads (32.4%).⁶⁵

Georgia's location along the Atlantic Ocean and near major ports along the Gulf Coast also means it serves as a major trucking and distribution hub, with all interstates and many U.S. highways within the state serving as designated freight corridors.⁶⁶ Thus, Georgia highways frequently serve as roadways for goods movements and through travel.

The rail system's interaction and coordination with the highway mode for the most part involves intermodal container or trailer transfers, where rail carriers generally carry out the long-haul portion of the trip with trucks responsible for the movements between the origin / destination and the truck / rail transfer facilities. To date Georgia intermodal transfer facilities exist at the Port of Savannah, in metro Atlanta, and at the Cordele Intermodal Center. The Georgia Ports Authority is investigating other facilities like Cordele which provide high-quality, long-distance rail connections that are linked to seaports. These facilities would have the potential to shift the interaction between modes at the ports to more inland locations, and thus reduce VMT.

Airports

The state of Georgia has 104 public use airports, with seven of them providing commercial airline service. As of calendar year (CY) 2014 seven of these nine airports had at least 2,500 annual passenger enplanements (boardings or arrivals). In particular, Hartsfield-Jackson Atlanta International Airport is

⁶⁴ USDOT FHWA, Office of Highway Policy Information, Annual Vehicle-Miles by State, year 2011, <https://www.fhwa.dot.gov/policyinformation/statistics/2011/vm2.cfm>

⁶⁵ GDOT Office of Transportation Data, Mileage by Route and Road System Report 445, year 2012.

⁶⁶ GDOT, <http://www.dot.ga.gov/IS/GeorgiaFreight>

not only the largest in the state, but also the world's busiest airport for both passenger traffic and total aircraft movements since 2005.⁶⁷ **Table 26** lists the seven largest commercial service airports in Georgia ranked by number of enplanements and among all commercial airports in the country as of 2014. The Athens Ben Epps Airport and Middle Georgia Regional Airport are also commercial service airports, but only minimally served by airlines.

Airport	Enplanements	National Rank
Hartsfield-Jackson Atlanta International	46,604,273	1
Savannah International	932,416	91
Augusta Regional at Bush Field	263,478	163
Columbus Metropolitan	50,883	283
Valdosta Regional	35,636	301
Brunswick Golden Isles	32,579	307
Southwest Georgia Regional	31,260	311
Total	47,950,525	-

Source: Federal Aviation Administration.

The Federal Aviation Administration (FAA) classifies airports having more than 10,000 passenger enplanements each year as primary non-hubs or small, medium, or large hub airports. The state's commercial airports accounted for nearly 48 million enplanements in 2014, with the vast majority of enplanements occurring at Hartsfield-Jackson Atlanta International Airport.⁶⁸

The assessment of the Georgia airport system capacity examined the ability of the airside system to accommodate aircraft operations over the planning period. Currently, the standard measurement for airport capacity is Annual Service Volume (ASV), a metric established by the FAA representing the annual level of aircraft operations (defined as a take-off or a landing) that an airport can accommodate without imposing an unreasonable amount of delay on those operations. FAA guidelines recommend that when an airport's demand / capacity ratio (the percent of an airport's ASV) reaches 60 percent, the airport should begin planning for capacity enhancements. When that airport's demand / capacity ratio is at 80 percent, the airport should start implementing those projects to provide for additional capacity and to avoid an exponential increase in delay and congestion.

The most recent *Georgia Airport Systems Plan (GASP)*⁶⁹ was performed in 2003.⁷⁰ According to the plan, no airport in Georgia exceeded the 60 percent of ASV threshold. For annual operations by the projection year 2021, though, six airports in the airport system were estimated to begin approaching or surpassing the 60 percent demand / capacity threshold. These were: Savannah International Airport, DeKalb-Peachtree Airport, Fulton County-Brown Field, Cobb County-McCollum Field, Gwinnett County Airport-Briscoe Field, and the Winder-Barrow Airport (the evaluation excluded Hartsfield-Jackson Atlanta International Airport). **Table 27** lists these airports and their forecasted ASV in 2021. Though not listed in the table, Savannah International Airport was identified in the aforementioned report as likely to exceed the ASV threshold of 60 percent.

⁶⁷ GDOT, <http://www.dot.ga.gov/IS/Aviation>

⁶⁸ Passenger Boarding and All-Cargo Data, Federal Aviation Administration (FAA), accessed at http://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/

⁶⁹ <http://www.dot.ga.gov/InvestSmart/Aviation/Documents/StatewideAviationSystemPlan.pdf>

⁷⁰ GDOT aviation planners anticipate development of a new GASP in the 2016-17 timeframe.

Airport	Future Demand / Capacity Percentage
DeKalb-Peachtree Airport	104.41
Cobb County-McCollum Field	87.27
Fulton County-Brown Field	66.74
Winder-Barrow County Airport	55.10
Gwinnett County Airport-Briscoe Field	52.38
Source: GDOT Georgia Aviation System Plan (2003).	

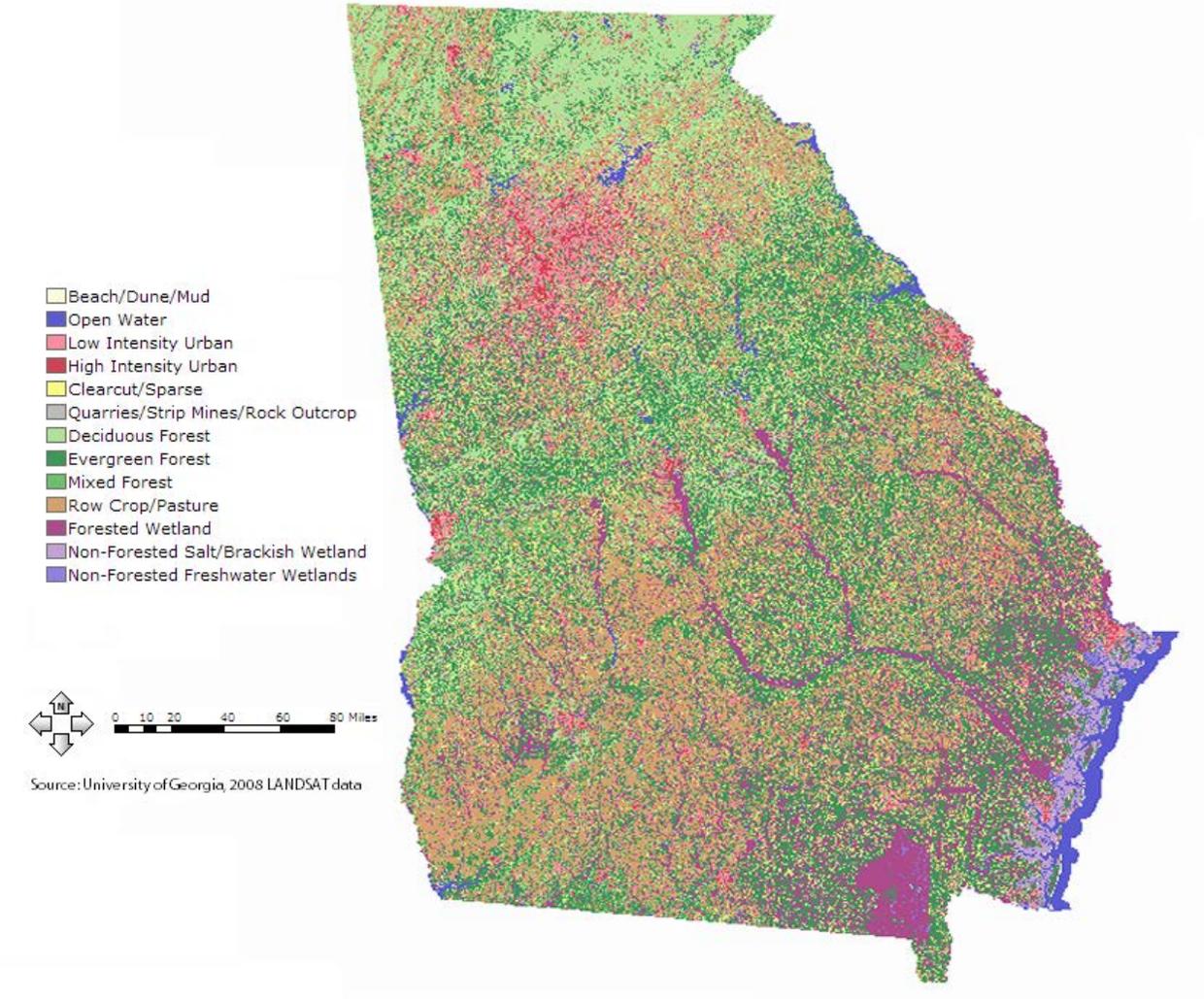
2.3.7 Land Use Trends

Georgia's statewide land uses are presented in **Figure 30**. A large portion of the state's land is rural with the majority of land in the state classified as forest, parkland, and wetlands. These areas are mostly undevelopable as they are designated as state / federal parks or are swampland or other types of wetlands. Agriculture continues to be a large land use in the state as Georgia remains a leader in producing pecans, peaches, poultry, cotton, and other products.

With the state's population and economic growth over recent years above the nationwide average, the demand to develop land has increased accordingly. This demand for land continues to grow as a result of sprawl from metropolitan areas like Atlanta, Augusta, and Savannah. *Smart Growth America* cited the Atlanta metropolitan statistical area as the fourth most sprawling area in the United States based on factors like residential density and land use mix, location of regional town centers and downtowns, and accessibility of the roadway network for all users.⁷¹ The nature of this low-density sprawl growth results in nearby forest and agriculture land uses shifting to urban and suburban land uses such as residential, retail, and office space, as well as the need for new and widened roadways to serve them.

⁷¹ Smart Growth America Sprawl Index. Accessed at <http://www.smartgrowthamerica.org/documents/atlantasprawl.pdf>

Figure 30: Existing Georgia Land Uses



2.4 Rail Service Needs and Opportunities

This section identifies the needs and opportunities for freight and passenger rail in Georgia. Specific projects relative to these needs and opportunities are summarized in subsequent chapters. A brief discussion of the challenges in funding the improvements concludes the narrative.

2.4.1 Freight Rail Needs and Opportunities

Class I Railroad Corridor Development

As owners and operators of large transportation networks CSXT and NS manage their businesses across state lines, considering the entire market potential and competition they face in their eastern U.S. operating territory. The portions of the railroads' networks connecting key regional markets are considered rail freight corridors, most all of which span multiple states. CSXT and NS name these corridors for business planning, investment and marketing reasons. Georgia's location in the Southeast

means many of the rail corridors in the regional rail network either connect through Georgia or begin and end there.

As the Class I freight railroads generally provide the capital necessary for their own network corridor infrastructure improvements, the State of Georgia's primary interest is in the impacts on the connecting short line railroads, roadway access to rail terminals, and connections to marine ports. Yet in recent years, both CSXT and NS have made corridor improvement investments that have involved public financial assistance, typically justified on the basis of the public benefits from reducing truck traffic and truck emissions on parallel portions of highway network. The remainder of this section discusses Class I freight railroad corridors in Georgia and elsewhere in the eastern half of the United States that affect the state in some way. Though the focus here is on freight rail corridors, some or portions of these routes may have potential to add passenger rail service in coordination with the ongoing operations of the freight railroads.

Crescent Corridor

Connecting New Orleans on the Central Gulf Coast with the New York / New Jersey metropolitan area, roughly the endpoints of the Amtrak *Crescent* passenger rail service, Norfolk Southern operates the longest freight rail corridor in the Eastern United States, the Crescent Corridor. Shown in **Figure 31**, this corridor spans eleven states with Georgia roughly in the middle. This key intermodal corridor connects the Atlanta region with Gulf Coast and Northeastern markets. The Crescent Corridor also extends west to Memphis. The primary goal of this corridor is to provide efficient intermodal rail transportation, with the added benefits of diverting long-haul truck traffic off the highway network, and reducing emissions and highway congestion. In Georgia this corridor is potentially reducing truck demand for freight that would primarily be traveling along Interstate 85 and portions of Interstate 20 as well as on Interstate 59 in northwest Georgia. NS is planning an expansion of its Austell Intermodal Facility in the long-range to help capture truckload movements for rail along the Crescent Corridor (see Section 4.2.2.) Beyond Georgia, this is a crucial national freight corridor connecting many other routes and intermodal terminals. Key Southeastern manufacturing activity is located along the Crescent Corridor.

Additional rail corridors which connect to Crescent Corridor and which can serve to extend Georgia's competitive reach include the following:

Meridian Speedway

The Meridian Speedway corridor extends the reach of NS rail service on the Crescent Corridor west from Meridian, Mississippi to Dallas. In partnership with the Kansas City Southern Railway (KCS), NS offers intermodal service directly between Dallas and Atlanta, and with links further westward over the Union Pacific Railroad Sunset route to Los Angeles. The 320-mile Meridian Speedway corridor itself extends between Meridian and Shreveport, Louisiana and on to Dallas. The Meridian Speedway is a key connecting segment providing the most direct rail corridor between Southern California and the Southeast. Corridor improvements the railroads made have increased the corridor's capacity and reduced transit times by approximately one-third compared with before the NS and KCS agreed to joint operations on the corridor.

Figure 31: Crescent Corridor



Source: Norfolk Southern

Heartland Corridor

Extending from the Ports of Hampton Roads in Virginia (Norfolk, Newport News) west to Chicago, the Heartland Corridor is a Norfolk Southern intermodal rail route that provides improved direct rail service between the mid-Atlantic and the Midwest. The route was developed from existing rail routes that required raising clearances in tunnels and under bridges to accommodate double-stack intermodal trains. The investments in this corridor by NS are an example of the railroad accepting a public-private partnership corridor finance model providing partial funding in exchange for public operating obligations on the part of the railroad.

National Gateway

Like the Heartland Corridor, the National Gateway Corridor provides a route for double-stack intermodal rail service between the upper Midwest and mid-Atlantic ports. CSXT has also developed the National Gateway Corridor as a public-private partnership blending railroad and public funding to reduce truck traffic, highway maintenance costs, fuel consumption and emissions, while providing more business to the railroad. The corridor connects the Ports of Baltimore, Hampton Roads, Virginia and Wilmington, North Carolina with the Midwest. The termination of the corridor is now the Northwest Ohio Intermodal Container Transfer Facility (ICTF).

CSXT Southeast Rail Corridor

CSXT is in the process of developing a Southeast freight rail corridor centering on a new intermodal container transfer facility hub in North Carolina. This new hub and corridor will take advantage of freight movement along Interstate-95 and Interstate-85 and provide an expanded connection with the CSXT National Gateway Corridor. This new corridor will provide a linkage from the CSXT Northwest Ohio ICTF to the new ICTF in North Carolina, and provide direct intermodal rail access and new service offerings to markets including New York / New Jersey, the Midwest, West Coast and the Southeast, including Atlanta and Florida.

FEC Corridor

The Florida East Coast Railway (FEC) is a major regional railroad with a 351-mile network running north and south along Florida's East Coast. It connects the ports and businesses in South Florida, through interchange at Jacksonville, with rail service via the CSXT and NS into Georgia. The FEC operates truck drayage services connecting the Atlanta market to its corridor in Jacksonville. Intermodal rail service is the primary business of the FEC, which has been investing in improvements to its intermodal terminal network in pursuit of diverting additional truck traffic to rail. The FEC has invested in intermodal container terminal facilities and supporting Southern Florida container ports, such as the Port of Miami, that are trying to compete with the Port of Savannah and other Atlantic Coast ports. Shippers also use the FEC corridor with containers handled at the Port of Savannah via the FEC's "Savannah Relay" service connecting at Jacksonville.

I-75 Corridor

Instead of a corridor identified and predominantly served by one Class I railroad, the I-75 corridor is more conceptual, used for freight planning by state departments of transportation, metropolitan area planners, shippers and developers along the entire length of this major north south highway corridor. Interstate 75 (I-75) connects Georgia with Miami to the south, and north into Tennessee, Kentucky, Ohio, and Detroit to the Canadian border. The I-75 corridor is a key truck freight corridor that connects industrial centers and manufacturing in the South with the Midwest, including the freight generating and receiving cities between Miami and Detroit.

In portions of the corridor, in cooperation with several short line railroads, CSXT and NS provide rail service along a route roughly equivalent to I-75. CSXT serves many sections of the I-75 corridor including from the Port of Tampa to Gainesville, Florida, as well as from Cincinnati to Detroit at the northern end. NS has routes in northern Florida from Lake City into Georgia and through Georgia to Cincinnati, roughly parallel to I-75's route from Georgia, across the Tennessee border and through Kentucky. The Cordele Intermodal Center, connected to the Port of Savannah, is on the I-75 corridor.

Driving Factors in Rail Corridor Development

Many external factors are affecting the demand for use of rail corridors as well as influencing Class I railroads' business and investment strategies. Discussed below are some of the key factors influencing rail corridor development.

Panama Canal Expansion

The Panama Canal Authority is expanding the Panama Canal with a much larger, third set of locks. This project, scheduled to be complete in 2016, will significantly increase the throughput capacity of the canal. It will allow much larger vessels to transit the locks, potentially providing savings from greater economies of scale for shippers on Panama Canal trade routes. The canal capacity for container vessels, now limited to 4,500 Twenty-foot Equivalent Units (TEU) ships, will increase to container vessels of 12,500 TEU capacity. The greater capacity of the locks will permit larger dry bulk and tanker vessels to also use the canal.

This expansion project creates an opportunity for the Georgia Ports Authority to capture additional ocean trade with Asian and West Coast of South American countries – traffic that, until now, has bypassed Atlantic ports and traveled instead to ports on the West Coast before traveling to or from the Southeast by truck or rail. Additional international trade could be carried to and from Georgia's ports by rail, if port market shares increase. International trade commodities traveling by rail through Georgia cross-country to Pacific Coast ports may see a decrease in share.

A factor contributing to the shipper interest in the expanded Panama Canal is the specter of recurring labor troubles at West Coast ports – troubles that in 2014 and early 2015 notably slowed the loading and unloading of container ships and thus transcontinental intermodal traffic. Consequently, shippers are looking at other routing options that the canal expansion will provide.⁷²

Shift from China-centric Traffic

There is a shift underway in the relative importance of U.S. trade partner countries. After China entered the World Trade Organization at the beginning of the last decade, the focus on China as a low-cost source for U.S. merchandise trade growth was intense, with U.S. manufacturers off-shoring production to China and retailers increasingly sourcing goods from Chinese factories. China grew to become the U.S. number two trade partner country, behind only Canada. Trade on the Panama Canal route across the Pacific Ocean from China was one of the large drivers of growth in container traffic at the Port of Savannah and on intermodal trains operating in Georgia. Export volumes also increased as China imported more inputs to manufacturing, many of which the U.S. has been competitive in supplying.

China's economy has evolved quickly with inflation and wage increase pressures that have raised production costs. China's leaders also are shifting the attention of their own economic development more towards domestic market growth than manufacturing chiefly for export to other countries. At the same time, other developing countries in Asia as well as in Latin America have become relatively more cost competitive. This has resulted in China beginning to lose market share of trade with the United States. Commodities such as apparel and footwear are now increasingly sourced from other

⁷² CNBC article accessed on May 13, 2015: <http://www.cnbc.com/id/102577331>

Southeast Asian countries with lower labor and other production costs. Changes in supply chain risk management have also resulted in some U.S. import sourcing being “near-shored” from China to countries such as Mexico, where skilled manufacturing workforces are very productive in making goods for export to the U.S. in factories close to the U.S. market. These changes are likely to continue affecting the trade lanes used for U.S. international trade and the use of U.S. border gateways and connecting rail service in Georgia.

*Deepening of Savannah Harbor - Savannah Harbor Expansion Project (SHEP)*⁷³

The growth the Port of Savannah is experiencing is expected to continue and will likely add to the demand for intermodal rail service. The deepening of Savannah Harbor to a channel depth of 47 feet would very likely result in an increase in the sizes of container ships deployed on routes calling at the port. Those vessels will stay in port longer and discharge and load many more containers than the ships servicing the port today. This change in operations offers potential cost savings through economies of scale to shippers, but it also brings the prospect of greater surges of cargo, both for imports being unloaded and for exports to be loaded. Handling the loading and unloading of intermodal trains at the ports will become more challenging, while greater use of the available capacity on the rail lines serving the Port of Savannah is likely. Combined with the influence of the expansion of the Panama Canal, the demands on the rail system may be substantial.

Increasing Domestic Intermodalism

The Class I railroads are increasingly focused on growing their intermodal container business. While the intermodal business has been part of the railroads’ services since the 1980s, it was originally started to serve international ocean container traffic at container ports. Within the last 10 years railroads have grown their domestic intermodal container business. They have done this by offering speed of service and intermodal container yards located where they are useful to truckers, replacing the need for truck drivers to drive long-haul distances far from home. The domestic intermodal service uses larger containers than ocean shipping, matched instead to standard highway trailer sizes being 53 feet long, and taller and wider than a standard 40-foot long international ocean container.

For Georgia, its location within the Southeast makes its intermodal yards a natural hub location for the various intermodal rail corridor services extending to the northern and western U.S.

Oil and Gas Production (Fracking)

There has been growth in U.S. domestic production of oil and gas through the application of hydraulic fracking and directional drilling in the last five years. Rail has played a significant part in supplying drilling equipment and materials such as “frac” sand to these operations; and more importantly, rail has made possible production in areas without or with inadequate pipeline capacity.

Georgia does not have oil or gas fields, or oil refineries affected by this, so crude-by-rail trains will not be a significant issue for the state. Yet, there are significant impacts. Combined with the cost of complying with emissions regulations, coal-fired electric generating plants are increasingly becoming uncompetitive with natural gas fired plants. Retirements of coal-fired plants are increasing in frequency and accelerating in time – a trend which has implications for coal transport by rail,

⁷³ <http://www.gaports.com/About/SavannahHarborDeepeningExpansion.aspx>

traditionally significant for Georgia. Less direct effects on Georgia's economy and rail network may be relatively greater manufacturing and related shipping activity, as lower electricity prices and chemical feedstock prices may make Georgia even more competitive as a manufacturing location, including for export.

Other Business

There are other business uses of the freight rail network affecting Georgia rail demand apart from the growing intermodal business and the declining coal shipping businesses.

According to the Georgia Center of Innovation for Logistics, there is a growing concentration of refrigerated food and beverage distribution center activity in Georgia, used as a central hub for serving the Southeast reachable in a day by truck. This business may see more seasonal rail service for the refrigerated produce and beverages sourced outside the region helping reduce logistics costs.

Automotive manufacturers continue to prefer use of the enclosed tri-level or bi-level "auto rack" rail cars for shipping new autos and light trucks to their dealer networks. This is the case whether the vehicles are imported, exported or shipped domestically between auto plants and their dealers. For autos made in Canada or Mexico, that may mean imported vehicles shipped by rail but not through seaports. However, Mexican rail network capacity constraints have recently resulted in some autos made in Central Mexico being shipped by Car Carrier ocean vessels into the Port of Brunswick. Within the U.S. auto manufacturing is increasingly concentrated in the Southeast, and that includes manufacturing for the North American market as well as manufacturing for export overseas. Georgia, with the key Southeastern auto-handling port at Brunswick and as a regional distribution hub state, will continue to see growth in rail shipping of autos.

The Return of Manufacturing to the U.S.

The oil and gas boom domestically is providing opportunities for new competitive manufacturing in the U.S. Petrochemicals production is now often cheaper to have in the U.S. than other countries with higher energy costs. Chemicals manufacturing and much of the other manufacturing cited as candidates for revitalization in the U.S. is capital intensive, not labor intensive. With current low interest rates and available investment capital, manufacturing that depends on relatively few skilled operators of advanced equipment is the most likely type of manufacturing to return to the U.S.

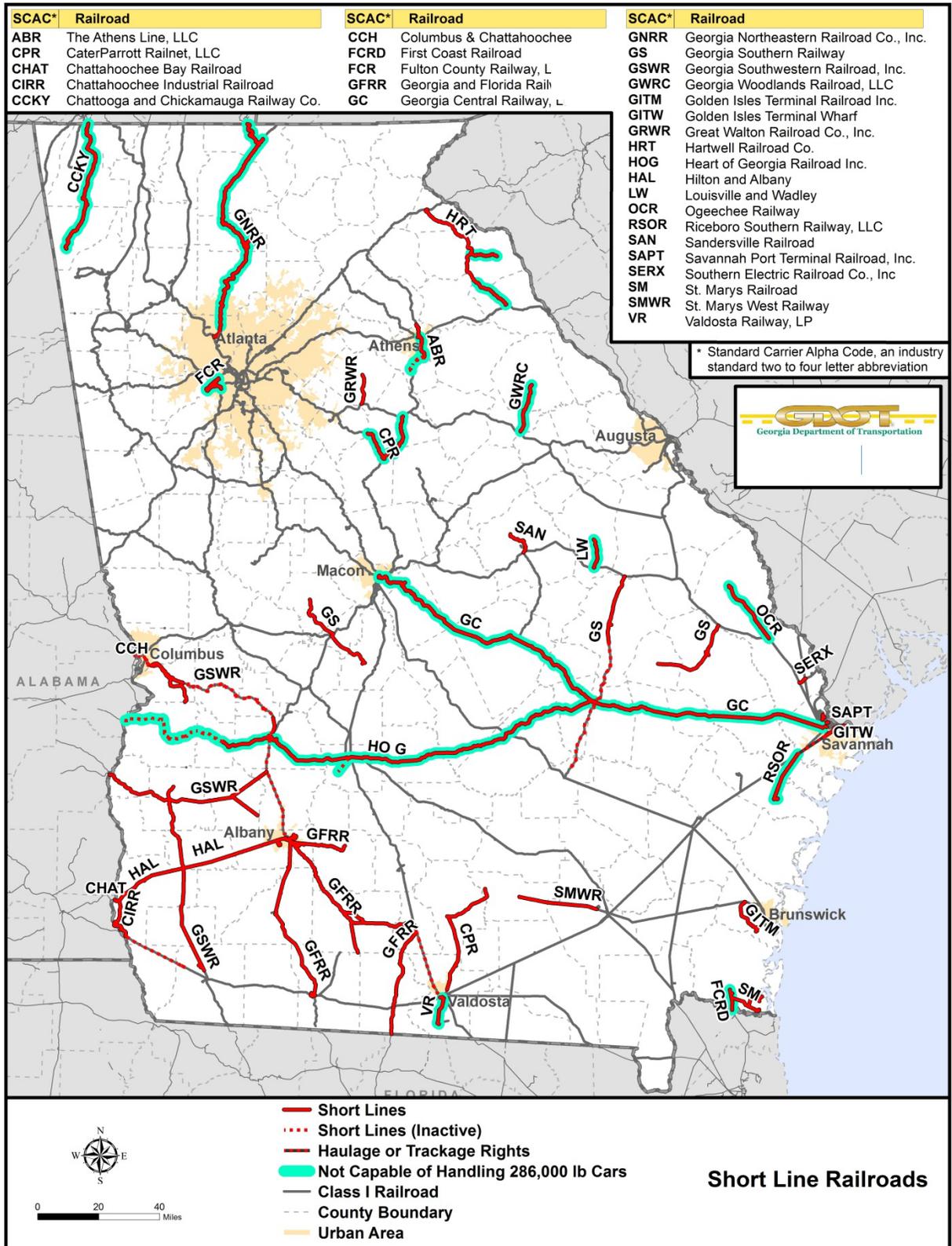
Atlanta Capacity Constraint

Howell Junction in northwest Atlanta is frequently mentioned as being a major bottleneck for CSXT and NS. Various solutions have been offered, including a grade separation of NS and CSXT lines and a rail bypass of Atlanta, thus conceptually freeing capacity through Atlanta. Chapter 4 discusses a recommended approach to finding potential solutions.

Short Lines Needs and Opportunities

A number of short line railroads identified the need to upgrade track and bridges to increase capacity and / or accommodate 286,000 pound railcar loadings. Poor track and structural conditions need addressed. **Figure 32** shows the short lines whose track structure is incapable of handling maximum loaded car weights of 286,000 pounds.

Figure 32: Short Line Segments Incapable of Handling 286,000 lb. Railcar Weights



The ability to handle maximum carloads of 286,000-pounds is of importance to short line shippers to compete with firms served by Class I and other railways whose lines have this capacity. These railroad-served shippers can load more cargo per car and thus enjoy a transportation cost savings relative to short line shippers whose serving railroad cannot handle the heavier car weights.

Port-Rail Needs and Opportunities

Port-Rail Needs

Port of Savannah's Garden City Terminal – As railroads look to become more cost efficient at the Port of Savannah, they are adding more cars onto trains. This practice results in inefficient rail operations adding to overall port traffic congestion. If the port tracks or adjacent switching yard tracks are not sufficient to hold the length of an arriving train, for example, the train must be broken down into smaller, more manageable lengths – a time consuming practice that diminishes port track capacity. Also, long trains block at-grade crossings and other access points to terminals for other trucks and other motor vehicles.

The Port of Savannah envisions a ramping up of freight volume, and this increase will be especially evident at its Garden City Terminal. While the percent of freight handled by rail is expected to remain the same as today, the total volume of freight moved through the port is expected to rise. As a consequence, congestion related to inefficient rail operations and blocked crossings will rise as well absent improvements. Reducing congestion may require:

- Building more tracks for storage, double-tracking or re-configuring storage leads;
- Increasing yard capacity, track lengths, or double-tracking; and / or,
- Constructing more grade-separated crossings.

Port of Brunswick's Colonel's Island Terminal – A single lead track allows trains in and out of Colonel's Island Terminal. While the single lead handles the current rail service needs of the terminal, it could become a bottleneck given increasing port-rail volumes. Thus, a long-range improvement could be planned based on the types of rail equipment required for the freight mix that the terminal handles.

Port of Brunswick's East River Terminal and Mayor's Point Terminal – Located on the East River, with rail service provided by a joint CSXT-NS track, are the side-by-side East River Terminal (ERT), Lanier Docks, and Mayor's Point Terminal. Together the terminals offer 94 acres for the handling of liquid and dry bulk commodities as well as break-bulk cargo. Although NS and CSXT have leads into the vicinity, CSXT owns the track at East River Terminal.

In order to maximize the rail service opportunities at the ERT, the rail infrastructure could be expanded to provide efficient access for both railroads. NS abandoned the track that previously accessed the facility.

Opportunities

The GPA has begun several initiatives outside the port terminals proper to improve and accelerate service. Generally, these initiatives take into account freight and goods movement transit times within the terminals, regionally, and to / from specifically identified strategic markets on the East Coast. The

initiatives strive to identify infrastructure improvements needed in those three areas to develop one- and two-day shipping commitments.

With respect to regional service, the GPA has identified goods movement in and contiguous with the Georgia market as a strategic opportunity. The GPA created an initiative named Network Georgia to extend the service of Georgia's marine ports into Georgia for reducing supply chain costs and providing an alternative to truck transport. It defined six zones of service.

Each zone is to have an inland intermodal container transfer operation serving as a regional hub for goods originating from or destined for Savannah. The GPA executed a Memorandum of Understanding with the Cordele Intermodal Center establishing the first link between the Port of Savannah and the Southwest Georgia zone. More on the Network Georgia program appears in Chapter 4.

2.4.2 Passenger Services Needs and Opportunities

Opportunities

Overview

As noted in the overview of current intercity passenger rail service, Atlanta was historically a key rail hub offering many route options and a high level of connectivity. The city and region continue to play this role for rail freight and for airline transportation. Improvements in intercity passenger rail service (see Chapter 3) would enable the city to regain this role.

Population and Economic Growth

Georgia's expected increase in short-distance travel demand (trips less than 600 miles) is being influenced by economic growth along the Piedmont in Georgia, South Carolina and North Carolina, the Gulf Coast, and Florida – all emerging "Megaregions". A Megaregion is a network of metropolitan areas linked by geography, settlement patterns, shared environment, infrastructure systems, economics and trade, shared culture and history.⁷⁴

Northern Georgia lies within the Piedmont Atlantic Megaregion stretching from Birmingham / Huntsville, Alabama, to Raleigh / Rocky Mount, North Carolina, while southern Georgia is adjacent to both the Gulf Coast Megaregion, (stretching from Brownsville, Texas to Pensacola, Florida) and the Florida Megaregion (encompassing much of Florida). Given developing Megaregions and increased traffic between them, the potential threat is that the increased traffic will strain existing infrastructure beyond capacity and require additional capacity and travel options in order to avoid gridlock.

Further, without expanded transportation capacity Georgia and the entire Southeast's competitive position in the transportation and economic marketplace could deteriorate, and the costs for business, manufacturing and trade increase. Intercity passenger rail could be one option available to increase Georgia's transportation capacity and travel options. Intercity passenger rail is most competitive in corridors of 100 to 600 miles that link major cities with frequent service while connecting with other transportation modes. The proposed passenger rail services for Georgia currently under study (Atlanta – Charlotte and Atlanta – Chattanooga) would be part of such a network, both for local and regional

⁷⁴ <http://www.america2050.org/megaregions.html>

travel as well as longer distance intercity travel, thus enhancing regional mobility and providing attractive alternatives to automobile travel.

Potential for Intercity Passenger Rail

Over the past two decades there has been a substantial restructuring of airline and intercity bus service. Regional airline markets have seen a substantial increase in terms of availability and affordability, while smaller cities in rural areas have seen a loss or reduction in both air and bus service. Airline service has shifted exclusively to a hub and spoke network. The air carriers, focusing on yields, have revenue managed their fares and capacity to give priority to longer distance travelers which generate the highest total fare. So while air travelers have an extensive and affordable airline system for flights throughout the U.S. and around the world, local regional flights (e.g., Atlanta – Savannah, Atlanta – Charlotte, Atlanta – Jacksonville, etc.) are expensive, and airline service has been discontinued to smaller minor cities. A recent USDOT study⁷⁵ projected a continuation of this trend – reduced service to small cities and high fares in short-distance markets. As a result, auto travel has become the only affordable option especially for short-distance travel (200-300 miles). For long-distance trips many air travelers now drive to major hub airports that offer higher levels of service and lower airfares.

Regularly scheduled intercity bus service has also seen major changes. The once extensive network of through routes from the Northeast and Midwest to Florida transiting Georgia and providing service to small and intermediate cities has been substantially reduced. Greyhound Lines and new start-up carriers now focus on larger short-haul markets, offering limited stop or express service between these major cities. With the intercity bus networks now a series of corridors linked at major cities (hubs), longer trips often require one or more transfers. The intercity bus industry has reinvented itself and traffic is growing, but many cities, especially in rural areas, now have limited or no intercity public transportation service.

Added to changes in the airline and intercity bus industries, auto drivers face increased highway congestion, additional truck traffic and increasing delays (see below). Higher local airline fares combined with increasing highway congestion provide an opportunity for both long-distance and regional intercity passenger rail to provide a unique product and valuable transportation capacity. As the studies discussed in Chapter 3 point out, the faster and more frequently trains run, the greater could be anticipated ridership.

Potential for Commuter Rail

Because of chronic congestion on highways in the Atlanta area, the potential for commuter rail in the Atlanta area has been studied at various times. Analysis undertaken by GDOT in 2006 estimated that, for the full network of seven lines radiating in all directions from Downtown Atlanta, 10.7 million yearly person-trips could be generated, resulting in significant public benefits (reduced traffic growth, less pollution, focused development around stations, etc.) from riders diverted from private automobiles.

⁷⁵ *Aviation Industry Performance, A Review of the Aviation Industry, 2008-2011*, Office of the Inspector General, USDOT.

As shown in **Table 28**, levels of service (LOS) of Atlanta area highways during the peak commute hour indicate heavily congested conditions. The LOS calculation was based on Average Annual Daily Traffic (AADT) collected at various locations along Atlanta highways which would parallel proposed commuter lines (see Section 3.4). LOS is a metric portraying the amount of travel delay typically experienced by a highway user. LOS D and E calculations below indicate most roadway experience heavy congestion with high delays and unreliable travel times during the commute periods.

Chronic and heavy congestion on highways parallel to a commuter rail route could provide an incentive for drivers to explore a commuter rail option. To a lesser degree, they could provide an incentive to intercity travelers to investigate a rail option as well.

Interstate	From	Location of Data Point	Nearest City at Data Point	2014 AADT	Truck %	Roadway LOS
I-20	East	East of I-285	Covington	132,300	10.2	E
I-20	West	East of Villa Rica	Villa Rica	66,900	18.9	C
I-75	Northwest	Just south of I-575 interchange	Marietta	222,200	10.7	D
I-75	South	North of US 19 interchange	Morrow	180,500	8.6	D
I-85	Northeast	Just south of I-985 interchange	Suwanee	156,200	11.3	D
I-85	Southwest	South of I-285 near ATL	Union City	142,100	11.3	E

Note: AADT volumes and other traffic statistics were sourced from the GDOT Traffic Counts website (<http://geocounts.com/gdot/>). Highway Capacity Manual (HCM) 2010 manual was used to calculate LOS. Other roadway characteristics and specific local conditions were not assumed in the calculation.

Needs

Improvements to Current Amtrak Performance

Current Amtrak service experiences several key challenges. Service, both in terms of frequency and network, is limited. On-time performance and Customer Service measures fall short of goals. Passenger capacity and fleet age reflect the limited level of capital investment over past decades. Amtrak stations, especially platforms, fall short of current standards. The current Atlanta Amtrak station has limited operational flexibility and the passenger train occupies a freight main line track during its stop, consuming freight rail capacity. All of these factors reduce ridership and revenue growth, hindering efforts to improve the revenue / cost ratio of existing service.

Capacity

Given current rail freight and rail passenger growth trends and proposals to add new intercity and commuter rail passenger service, additional rail line capacity likely needs constructed. In some cases former main lines may need upgraded as bypass routes. Freight railroads' traffic and capacity needs must be a key element in developing passenger rail expansion. Operations analysis and capacity simulation should be the first step in planning any service improvement. The corridor improvement strategy should not only improve and add capacity for the proposed rail passenger service, but also maintain and improve freight service and capacity. An additional issue for freight railroads is that even though the public investment may build sufficient capacity to operate passenger trains without delay to freight trains, the passenger investment may consume valuable right-of-way that results in future privately funded freight capacity investment being significantly more expensive.

2.4.3 Funding Strategies for Passenger and Freight Rail Projects

Developing a funding strategy to support rail transportation, whether commuter, intercity passenger or freight rail, is a significant challenge to maintain and expand existing service and initiating new service. This funding strategy could take many forms. The most consistent is a flow of funds for both operating and capital support from a guaranteed source (e.g., a sales tax on fuel or a general sales tax).

In general, Georgia's Class I rail infrastructure shows no major deficiencies, with the exception of Atlanta, particularly Howell Junction. That noted, Georgia's short line rail network would benefit from increased levels of investment, particularly with regard to upgrading lines to handle maximum loaded car weights of 286,000 pounds and repairing bridges.

At this time Georgia has no dedicated funding source for rail improvements, either freight or passenger. A dedicated fund, with the flexibility to direct grants or loans to strategic rail projects on a statewide basis, could provide the state the means and opportunity to address many of the issues noted above over a reasonable period.

Chapter 3. Proposed Passenger Rail Improvements and Investments

3.1 Introduction

This chapter describes historically proposed improvements and investments that could address passenger rail needs in the state. Included are recent studies evaluating intercity passenger and commuter rail concepts during past, other studies prior to this *State Rail Plan*. The chapter concludes with potential steps that could enhance Georgia tourist railroads' sustainability in the long-range.

3.2 Current Service Improvements and Investments

As presented in Section 2.2.4, Amtrak's current service suffers from several deficiencies that reduce ridership and revenue growth, resulting in a lower revenue / cost ratio. Efforts to improve the revenue / cost ratio of the existing service are critical in assuring that current passenger rail service in Georgia continues.

3.2.1 Short-Range Improvements to Current Amtrak Service

New Equipment

In 2010 Amtrak ordered 130 new intercity passenger cars for use on the *Crescent*, *Silver Meteor* and *Silver Star*. This order included baggage / dormitory cars, dining cars and sleeping cars. Some of these cars will allow for the retirement of 60 (plus)-year-old equipment now in service on the trains serving Georgia. This should reduce maintenance costs, improve reliability and improve customer satisfaction. The new dining cars, reflecting current food service technology, will provide more efficient food service. Supplementing the current Viewliner fleet, the new sleeping car capacity will increase revenues. In addition, passenger capacity and revenue will increase as the result of shifting on-board, off-duty service crews from the passenger sleeping cars to the baggage / dormitory cars.

Passenger Rail Investment and Improvement Act of 2008 Studies

As required by Section 210 of PRIIA, Amtrak undertook analysis of its long-distance train services to develop strategies to improve service. Included in these studies were the *Crescent* route and Atlantic Coast Services.

A list of improvements common to all routes and with specific improvements for each route, was developed. Initiatives undertaken were:

- Improved restroom and window cleanliness;
- Provision of a guide for on-board crews to address en-route mechanical problems (especially air temperature);
- Improved testing of train PA systems to identify problems while the train is still in the pre-departure servicing facility;
- Relocation of the baggage car for improved ride quality;
- Provision of “Comfort Kits” containing an inflatable pillow, light blanket, eye shade and ear plugs available for purchase by overnight coach passengers;
- Introduction of point of sale technology and better stock control procedures to improve productivity in its food service cars and to better track inventories; and,
- Continuation of efforts to modify food service selections to match market preferences, take advantage of new food service technologies, and create items more appealing to customers.

Except for improvements to the Savannah and Gainesville stations (currently under contract), recommended improvements for Atlantic Coast Services were outside of Georgia. Initiatives undertaken for the Atlantic Coast Services were additional Amtrak Thruway routes in North Carolina and an additional Thruway bus stop in Florida, increased coach capacity during the summer on the *Silver Meteor* and a focus on station safety and state of good repair projects. Even though these improvements are in other states, any improvements in the revenue / cost ratio of a route help to assure continuation of Amtrak service in Georgia.

The PRIIA study proposed two main initiatives for the *Crescent*. The first is the establishment of five Thruway bus routes. Three connect in Atlanta: Atlanta – Chattanooga; Atlanta – Macon; and Atlanta – Columbus. Thruway bus connections offer coordinated schedules, through fares and guaranteed connections to / from trains. The second initiative involves matching the capacity of the *Crescent* with demand. Currently, passenger traffic is higher in the Atlanta – New York segment and the train regularly sells out. Between Atlanta and New Orleans, there is less demand, and there are often empty seats. The proposed action involves adjusting the size of the *Crescent* train consist in Atlanta to match travel demand. Amtrak proposes to remove passenger cars in Atlanta from the southbound train in the morning and adding them to the northbound train in the evening. This would add capacity on the peak segment (Atlanta – New York), while providing capacity which better matches demand between Atlanta and New Orleans.

Both of these proposals, estimated to increase net revenue by almost \$3 million, cannot currently be implemented due to station issues at Atlanta’s Peachtree Street Station (see Stations below).

Stations

Atlanta’s Peachtree Street Station was originally built as a suburban station. It is small, has inadequate parking, has a deteriorating support structure over the tracks, is not compliant with the Americans with Disabilities Act, cannot accommodate connecting buses and is operationally constrained. In addition, the station’s platform location negatively impacts NS freight train movement due to it being along the main line, which prevents freight trains from passing through the station while the *Crescent* is in the station. Additional trackage would allow the trains to be unloaded, loaded, serviced and switched to separate tracks off of the freight main line. An improved station design could also accommodate passenger loading and unloading of connecting intercity buses.

Many station platforms are substandard and may have structural deficiencies. Most are asphalt at tie level rather than eight-inch above top of rail (ATR), which had been the preferred standard (i.e., a platform higher than ground or asphalt level allowing for a single-step boarding of a low-floor rail car). Due to funding limitations, Amtrak has decided that, while the low platforms may be a “quality of service issue,” they are usable by passengers with disabilities and do not represent a major accessibility issue. Therefore, Amtrak is focusing its limited funds on removing actual barriers to access (station paths, ticket counters and restrooms). As a result, station platforms, especially at the smaller stations, may be an issue that GDOT, in coordination with the cities, can focus on developing funding for platform improvements (even if it is just a new layer of asphalt to smooth out the surface).

Thruway Bus Service

Thruway bus connections offer coordinated schedules, through fares and guaranteed connections to / from trains. Thruway connecting bus routes offer several transportation benefits to the core rail system. These are:

- The addition of additional cities to the passenger rail network;
- Increasing the number of frequencies on corridor routes by adding parallel schedules during off-peak times of the day; and,
- Providing vital service to transit-dependent residents in rural areas.

Thruway bus service has proven successful in generating incremental ridership and revenue and building traffic for future expansion of rail service.

Three types of Thruway bus services are operated:

- *Dedicated*, charter motor coaches operated exclusively for Amtrak passengers;
- *Mixed Mode*, motor coaches operated as regular intercity schedules carrying both rail passengers and bus passengers. The schedules and operations of these routes are coordinated with the train schedules. Financial support in addition to the value of rail passenger tickets collected is provided if needed to the motor coach operator; and,
- *Interline*, connecting rail tickets are honored and the motor coach carrier is paid the value of the tickets collected, but no other financial accommodation is undertaken. The schedules may or may not be coordinated with the rail service. This service is most successful when the connecting

bus route has a high number of daily frequencies minimizing the negative impact of any missed connection.

Physical constraints at Amtrak’s Peachtree Street Station preclude the proposed network of feeder bus routes. However, a pilot test of one route could be undertaken.

Greyhound Lines, which operates several Thruway bus routes, is a potential “mixed mode” operator for service to Chattanooga, Macon or Columbus. However, for these cities, train capacity limits in the peak segment (Atlanta – New York) reduce the value of the connection during the summer and other peak periods. This limits ridership growth to off-peak periods.

Promotion and Support of Current Service

Georgia can also help coordinate or assist in efforts to improving customer satisfaction and revenue performance by enhancing the quality of existing passenger rail services. For example, the promotion of existing rail service could be the first step in building awareness and usage of the passenger rail services. Noting the availability of Amtrak service and offering a link to the Amtrak website on state and local travel websites could be a first step in promoting rail service. Joint promotions can be developed that link with Amtrak, local transit carriers, hotels and attractions. All of the participants in this program work together to provide detailed information on how to visit and enjoy Georgia cities by rail.

Both the North Carolina Department of Transportation’s Rail Division and California Department of Transportation’s (Caltrans) Division of Rail have coordinated with passenger rail supporters in the development of a corps of interested volunteers to offer personalized service and information as travelers make their journeys. North Carolina has more than 100 volunteers in its Train and Station Host Association. Riding the *Piedmont* and the *Carolinian*, these train hosts serve as North Carolina goodwill ambassadors and add a welcoming dimension to the service. On board the train and in stations, the hosts assist passengers and provide information about passenger services, the train route, ground transportation, and area attractions. In California, on the *Capitol Corridor* and *San Joaquin* routes, volunteer station hosts assist passengers in locating the correct train or connecting intercity bus, local transportation, and information about the local area. While the benefits of these programs cannot directly be tied to ridership performance, it should be noted that the *Piedmont*, *Capitol Corridor* and *San Joaquins* have some of the higher Customer Service Indicator Scores among Amtrak routes. Customer Satisfaction Indicator Scores (high or low) do influence repeat ridership.

Georgia can also assist the National Park Service (NPS) in expanding its Trails and Rails program.⁷⁶ The NPS adopted this program as a major public outreach program. With the Trails and Rails program NPS volunteer rangers provide programs on ten Amtrak long-distance train routes, including the *Crescent*. These programs provide Amtrak passengers with information and discussions about the scenery and historical sites that the long-distance trains pass, which help transform a long-distance train trip into a “Land Cruise.” NPS ranger staff is responsible for the oversight, training and management of the volunteer rangers. Additional state or private funding would enable an expansion of this program.

⁷⁶ <http://www.nps.gov/findapark/trailsandrails/index.htm>

The Martin Luther King, Jr. National Historic Site offers the Trails and Rails program along the *Crescent* between Atlanta and New Orleans. In most cases the programs are seasonal and only offered on select days of the week, so any assistance the State of Georgia or local convention and visitors bureaus could offer in terms of funding or volunteer personal would help expand the program. The *Silver Meteor's* schedule between Savannah and Jacksonville would seem to offer the potential for the Trails and Rails program in conjunction with the coastal Georgia tourism industry and the Okefenokee National Wildlife Refuge.

Any initiative that generates ridership and revenue improves the financial performance of the rail service and aids in sustaining and expanding rail passenger service in Georgia.

3.2.2 Long-Range Improvements and Investments

Future Equipment Investments

While Amtrak is replacing the oldest cars in the fleet operating on the *Crescent*, *Silver Meteor* and *Silver Star*, additional cost efficiencies and revenue growth is available through additional equipment investments. First, the locomotives used on Georgia's trains are almost 20 years old and will soon require a major overhaul or replacement. Amtrak's Viewliner sleeping cars are almost 20 years old, and from the age and customer satisfaction / revenue perspective they should be overhauled with their interior accommodations matching the new sleeping car interiors. The Amfleet II coaches and Lounge cars are almost 35 years old and are not attractive long-distance equipment from the customer perspective. A follow-on order for new long-distance coaches and lounge cars, while the single level production line is still open, would yield construction cost savings and earlier revenue benefits. With all-new equipment on *Crescent*, *Silver Meteor* and *Silver Star*, these trains can be "re-launched" as Amtrak has done in the past on other routes, yielding major gains in awareness and passenger ridership. Currently, Amtrak's constrained capital budget limits this strategy and the realization of these benefits.

Atlanta Multi-Modal Passenger Terminal

Atlanta was once the hub of a network of rail routes extending throughout the Southeast. Reestablishing such a hub network could bring substantial transportation and economic benefits to the Atlanta region and state of Georgia. Critical to the reestablishment of Atlanta as a regional passenger rail hub is a facility that brings all routes together to facilitate connections between existing and proposed transportation networks. In addition, this location could support transit-oriented land development with a wide variety of work, leisure and living destinations within walking distance of the station.

The proposed Atlanta Multi-Modal Passenger Terminal (MMPT) offers the potential of connecting all modes – intercity rail, commuter rail, intercity bus, and regional and urban transit. Located in an area of Downtown Atlanta known as the "Gulch," where Atlanta's historic rail routes pass through the city below the elevated street overcrossings, it reuses an area where the former passenger rail stations, support facilities and freight yards once existed. The proposed terminal area (rail and bus stations, station tracks, platforms, the switches leading to station tracks and support facilities) is generally situated from Wall Street on the northeast to the freight rail lines on the western edge of the "Gulch,"

west to Mitchell Street on the south (see **Figure 33**). The proposed station itself (see **Figure 34**) would be located at the northern edge of this area bounded generally by Wall Street, Forsyth Street and Centennial Olympic Park Drive. A pedestrian walkway would link the MMPT and MARTA’s Five Points Station (where all its heavy rail transit lines connect).

Figure 33: Location of Proposed Atlanta Multi-Modal Passenger Terminal

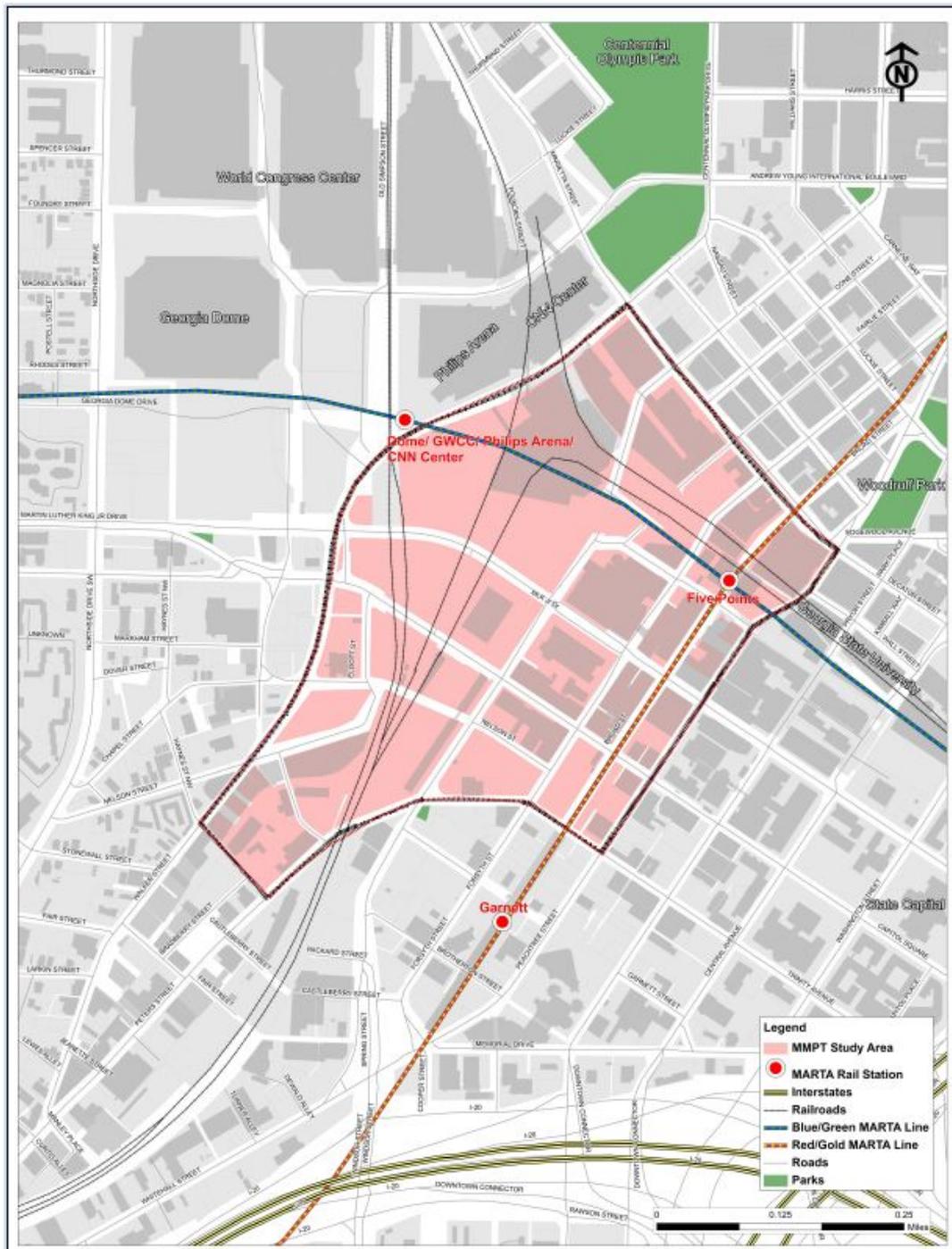


Figure 34: Proposed Atlanta Multi-Modal Passenger Terminal



Capacity Expansion

Expanding rail line capacity is a critical factor in implementing new intercity and commuter rail service in Georgia. Expanded capacity to handle growing freight traffic is also vital if Georgia is to retain its economic competitiveness and growing container traffic at the Port of Savannah. This is especially true in the Atlanta region where several high-volume rail lines converge and potential right-of-way expansion is constrained by existing land development.

Some large metropolitan areas, such as Chicago and New Orleans, in conjunction with the freight railroads, have conducted long-range planning and railroad operations analysis to determine key chokepoints, potential capacity investments and a prioritization of those investments. Both the Chicago-based CREATE Project and the New Orleans Rail Gateway project could provide a model for Atlanta. A review of operational practices in Georgia is critical because, while current practices may save costs, they can consume significant track capacity. Such a regional or even statewide analysis could also identify potential routing alternatives, bypass routes and new regional yard expansions that would free up vital capacity in Atlanta's "Gulch."

A wide ranging analysis is required because of the interconnected nature of the rail network. In some cases capacity investments needed to assure free-flowing rail traffic through Atlanta may not be in the Atlanta metro region; but in neighboring states. This planning process and project prioritization also helps to foster joint public-private investment and identifies projects with key significance to the national transportation network. Chapter 4 – Proposed Freight Railroad Improvements and Investments includes additional discussion of this concept.

Route Restructuring

As was noted above, efforts to improve the revenue / cost ratio of the existing service is critical in assuring continued passenger rail service in Georgia. In an effort to make improvements in the revenue / cost ratio, several proposals and studies have been conducted that recommend major route restructurings of the *Crescent* and Atlantic Coast Service. While a significant ridership and revenue increase has been projected, major operational and substantial capital investment requirements for rail line capacity and additional equipment have stymied efforts to implement these proposed changes. These changes, even though they occur outside Georgia, benefit Georgians by increasing Amtrak travel options to / from Georgia stations as well as improving the revenue / cost ratio of the existing service.

For the *Crescent*, splitting the train in Atlanta or Birmingham addresses the demand imbalance east and west of Atlanta (by adding more cities west of Atlanta), justifies operating a larger consist and results in increased ridership and revenue. Several other options exist.

These include:

- Splitting the *Crescent* at Birmingham with one leg consisting of Birmingham – Montgomery – Mobile (former Amtrak Gulf Breeze), and the other leg Birmingham – Meridian – New Orleans;
- Splitting the *Crescent* at Birmingham with one leg consisting of Birmingham – Montgomery – Mobile – New Orleans, and the other leg Birmingham – Meridian – Shreveport – Dallas; and,
- Operating the *Crescent* via Richmond and Raleigh.

Finally, one concept studied and rejected in several Section 210 studies (including the study of the *Crescent*) is the replacement of a long-distance train with a series of connected corridors. In all cases ridership declines and revenue losses exceeded cost savings because of the loss of through ridership.

Laying a Foundation for Future Service

If funding remains a challenge, the more effective strategy may be a more conservative one. Implementation of actual rail service would be deferred, while Georgia's rail investment efforts would be directed toward improving key routes of Georgia's rail network. Grade crossings could be improved or eliminated, rail bottlenecks eased, and the rail network capacity improved. Also, improving rail freight service through joint public-private investment creates the opportunity for additional freight railroad capital investment. One critical facet of such public investment, however, is to contractually specify capacity added for future rail passenger service when each project is implemented. Finally, improving the freight rail network and its capacity improves Georgia's competitiveness in the global marketplace.

3.3 Enhanced Intercity Passenger Rail Service

Georgia and Atlanta in particular sit at the junction of two federally designated high-speed rail corridors: the Gulf Coast Corridor (Houston – New Orleans – Birmingham – Atlanta); and the Southeast Corridor: Washington, DC – Richmond – Charlotte – Atlanta – Macon – Savannah – Jacksonville (see **Figure 35**). Working with other public agencies, GDOT served as the lead agency for feasibility studies

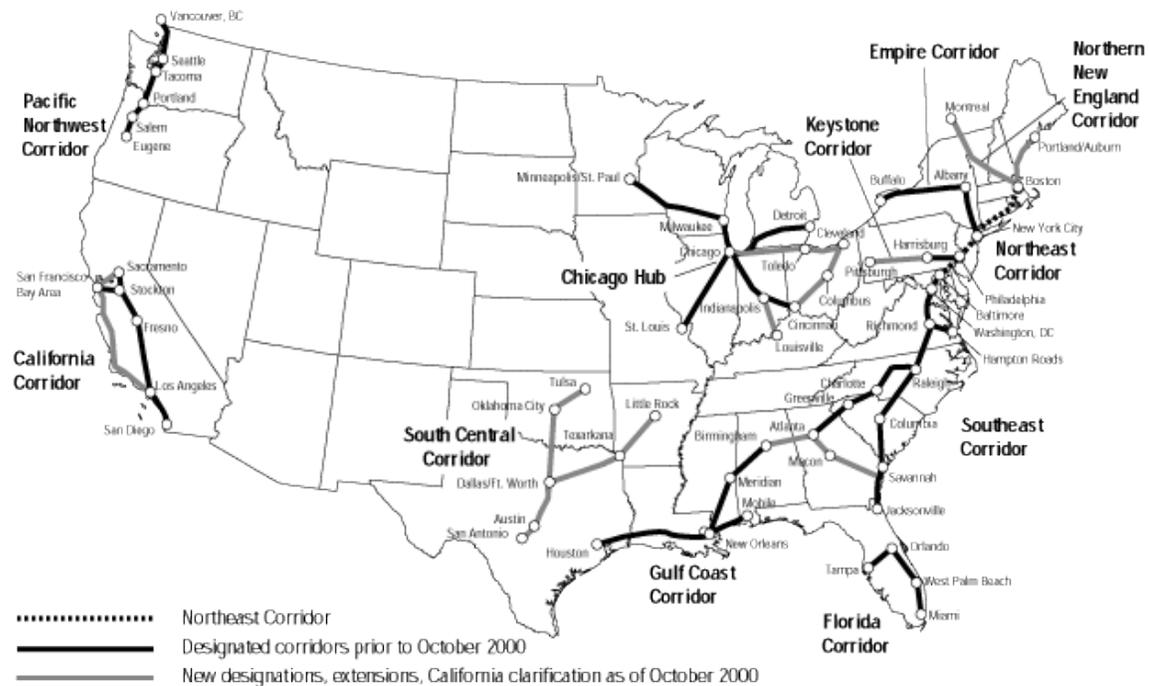
of three segments of these federally designated corridors: Atlanta – Birmingham (Gulf Coast Corridor); Atlanta – Charlotte (Southeast Corridor); and Atlanta – Macon - Savannah – Jacksonville (Southeast Corridor branch). Reinforcing the concept of an Atlanta hub is a proposed addition to the designated high-speed rail corridor network: Atlanta – Chattanooga – Nashville – Louisville. In addition to these key intercity passenger rail routes, other intercity passenger rail routes are being considered to provide connections to these corridors as well as local travel between cities along their routes.

There have been a number of studies completed of route proposals for enhanced intercity passenger rail service in Georgia (see **Figure 36**). Others are ongoing. Outlined below are summaries of the most recent studies. Given Georgia’s diverse economy and strategic position, these forward looking actions are designed to accommodate future economic and population growth.

3.3.1 Intercity Passenger Rail Overview

In an analysis of the designated high-speed rail corridors, *High-Speed Rail in America – America 2050*, Regional Plan Association, January 2011,⁷⁷ factors such as population, employment composition and concentrations, transit accessibility and the air travel market were applied to each corridor to rank each according to its potential. On an additive scale where the top corridor, New York – Washington, scored 20.2, Atlanta – Charlotte on the Southeast Corridor scored 15.7, while Atlanta – Birmingham on the Gulf Coast Corridor scored almost 16. Savannah – Atlanta scored 11.8, indicating that conventional passenger rail may be more appropriate for that market. Atlanta – Jacksonville scored 10.8, suggesting near-term development may not be a priority.

Figure 35: Federal Designated High-Speed Rail Corridors: 2000



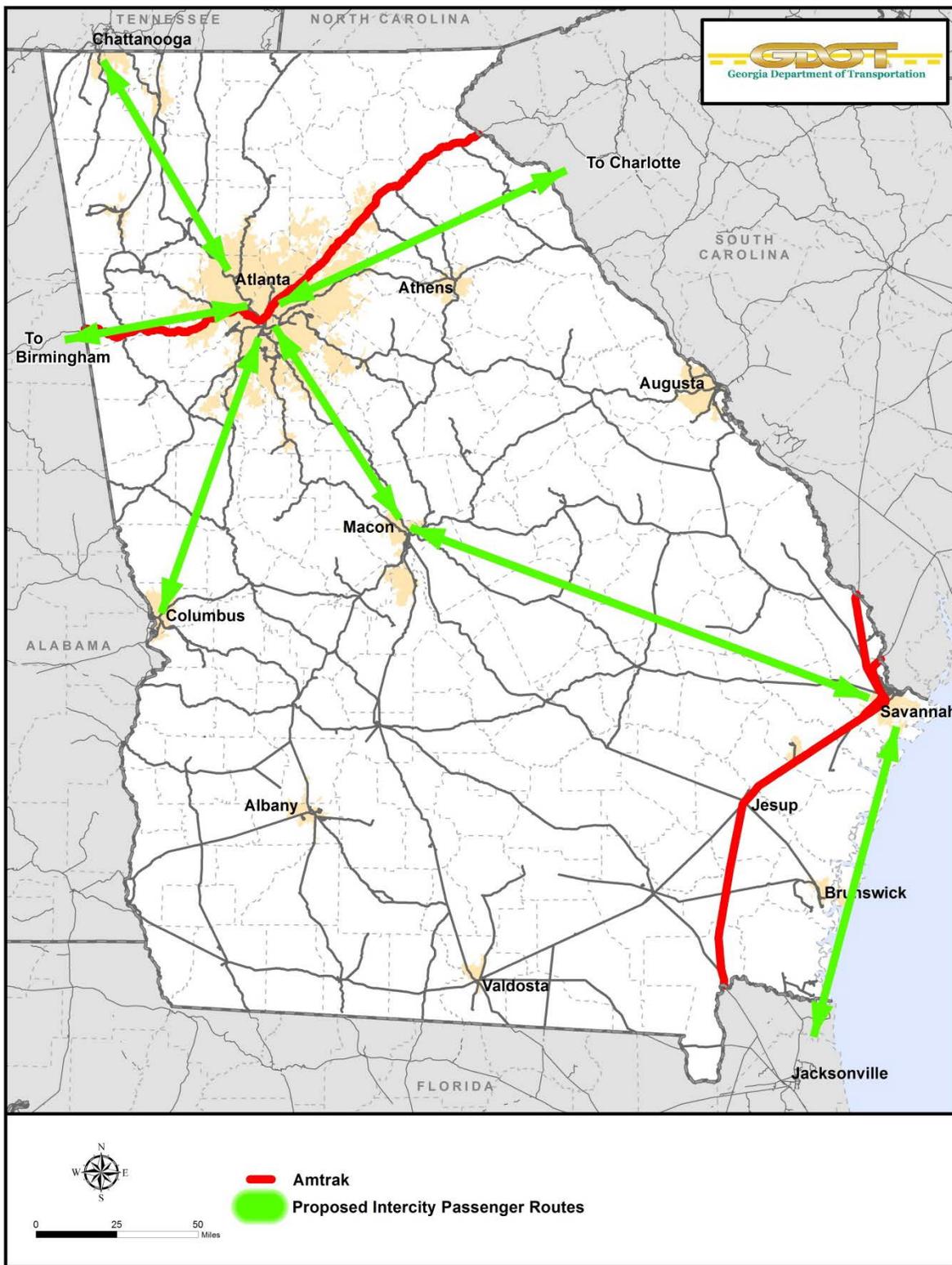
Source: U.S. Department of Transportation, Federal Railroad Administration, 2000.

⁷⁷ <http://www.rpa.org/article/high-speed-rail-in-america>

Several levels of intercity passenger train technology are being, or have been considered in the studies underway or completed. The train technology considered for each study varies by service definition (corridor or regional service) and the parameters of the study. The various intercity passenger rail service levels and operating characteristics are:

- *Conventional Rail*: operates on existing mixed freight / passenger track, with a 79 MPH maximum speed.
 - Conventional rail’s advantages are its flexibility and minimal capital investment requirements for start-up. Increased capacity is possible as new frequencies are added and strategic route extensions can add significant new city pairs to the route.
- Conventional rail’s disadvantages are its slow average speed and limited frequencies. Also, it tends to capture a smaller portion of the potential market. *Emerging High-Speed Rail / Shared Use*: operates on an upgraded mixed freight / passenger track, with 90-110 MPH maximum speeds.
 - Emerging high-speed rail’s advantages are its flexibility and ability to share capacity with multiple services. As a result, it requires less capital investment for increased capacity than for true high-speed rail (150 mph+). Capacity can increase as with added frequencies. Also strategic route extensions can add new city pairs to the route. Higher speed rail helps develop the passenger rail market. Depending on the city pair distance and travel market size, higher speed rail can deliver a very positive cost / benefit ratio.
 - Emerging high-speed rail’s disadvantages are its slower average speed with 110 MPH speeds only feasible on freight lines with moderate freight volumes. A greater capital investment is required than for conventional rail. Higher speed rail captures a smaller portion of potential market compared to Regional and Express high-speed rail. Higher volume freight lines may require a separate track for segments operated at 110 MPH due to the large speed differential between freight trains and 110 MPH passenger trains.

Figure 36: Historically Proposed Intercity Passenger Rail Routes



- *Regional and Express High-Speed Rail (Regional, 110-150 mph maximum speeds / Express, 150-220 mph maximum speeds) / Dedicated Use:* generally operates on grade-separated track. It can share track (at lower speeds) with commuter and intercity passenger trains in congested urban terminal areas maximizing track capacity. It is designed to carry a large share of the total corridor travel market (combined air and ground trips).
 - *Regional and Express* high-speed rail’s advantages are its high average speeds (faster than auto and air). Most high-speed services offer 16 or more frequencies per day. True high-speed rail attracts a significant share of the combined air and auto travel market. Strategic route extensions can be operated over upgraded conventional rail lines with limited freight traffic but at slower speeds. However, this can add significant new city pairs to the network. High-speed rail (150 MPH+) can be transformative both in terms of mode choice, land-use and development around stations.
 - *Regional and Express* high-speed rail’s major disadvantage is its high capital costs. Also, the system typically requires a completely new right-of-way in order to achieve its high average speeds. A high-speed rail line is viable in the largest city pairs with good feeder network connectivity (transit, commuter rail, etc.).
- *Maglev* – Maglev operates on a completely grade-separated guideway (250-300 MPH maximum speeds). It is designed to carry a large share of the total corridor travel market (combined air and ground trips).
 - Maglev’s advantages are its high average speed (faster than any other fixed guideway technology). Like high-speed rail 16 or more frequencies are typically operated per day. Maglev has the potential to cause a major shift in air and auto travel to a fixed guideway mode. It can be transformative both in terms of mode choice, and has major impacts to land-use and development around stations.
 - Maglev’s disadvantage is its potentially high-capital cost. Given urban development issues and inability to operate on upgraded conventional rail lines, Maglev’s access to downtown stations is potentially a major factor driving these high capital costs. Route alignment compromises to account for geography or sensitive areas can reduce the Maglev’s average speed in those areas, negating its travel time advantage over high-speed rail. Also, the significant rise in the cost of energy consumption at speeds above 180 MPH may be an issue. Potential downtown station locations should offer multimodal connectivity (transit, intercity and other intercity rail routes). Suburban station locations focus auto access with large parking capacity and convenient access to interstate highways. Major airports can be ideal suburban station locations with a wide range of access and travel options and potential connectivity to the air transportation system. A second major criterion is population and economic activity within one-half mile of the train station and the potential of additional economic development to increase that activity. This aids in building accelerated ridership growth. City centers generally offer that potential.
 - With several of Georgia’s interstate highways near capacity (especially for routes leading into Atlanta), improved rail service generates direct benefits to the users through reduced travel time and expense, reduced stress, the ability to work while traveling, increased mobility and additional transportation choice. Indirect benefits to the general public include freeing up capacity for more efficient air and highway systems, improved energy efficiency, reduced emissions, and shifting auto drivers to a significantly safer travel mode thus reducing accident-related medical costs. The reduced travel times associated with improved rail service can

increase economic activity by creating larger regional markets. Finally, in addition to these benefits enhanced rail service can act as a catalyst for development and can transform the urban landscape.

3.3.2 Atlanta – Charlotte

Atlanta – Charlotte is the southern leg of the Southeast High-Speed Rail Corridor. The route begins at Hartsfield-Jackson Atlanta International Airport (H-JAIA) through the Atlanta Multi-Modal Passenger Terminal with potential intermediate stops, depending on the final route, at Doraville, Gainesville, Toccoa, Athens, Augusta; South Carolina stations include Clemson, Greenville, Greer, Spartanburg; North Carolina stations include Gastonia, Charlotte / Douglas Airport; and terminating at the Charlotte Gateway Station. One benefit of this proposed service is that it would connect and possibly enable through travel using existing rail service beyond Charlotte to Raleigh, Richmond, Washington, DC and the entire Northeast Corridor.

The August 2008, *Evaluation of High-Speed Rail Options in the Macon-Atlanta-Greenville-Charlotte Rail Corridor*, sponsored by GDOT in cooperation with the North Carolina and South Carolina Departments of Transportation and conducted by the Volpe Center, is the most recent completed study of the corridor. It analyzed alternate routes and five options consisting of various combinations of technology (diesel tilting trains, electric, and diesel), shared use or dedicated use track, and speed ranges. A sixth option was electric, all Dedicated Use (200 MPH). **Table 29** shows the range of travel times, average speeds and frequencies between the slowest and fastest of the options analyzed. As reference, auto travel time between the two cities is about 3 hours and 50 minutes. Shared Use 90 MPH is just competitive with driving, while intercity passenger rail on dedicated track is significantly faster than driving.

	90 MPH Shared Use	200 MPH Dedicated Use
Rail Distance (miles)	262	262
Travel Time (hour:minute)	4:05	2:00
Average Speed (MPH)	64	131
Frequency (round trips per day)	6	6
Source: <i>Evaluation of High-Speed Rail Options in the Macon-Atlanta-Greenville-Charlotte Rail Corridor</i> , the Volpe Center, August 2008		

In determining estimates of ridership and revenue the following parameters were considered: the size of the current travel market between all the city pairs on the route, population, income, employment, employment patterns, land use, and the future changes in these factors. Another key input is the cost and the level of service provided by current travel options as well and the proposed rail service. **Table 30** shows the estimated ridership and revenues for each of the options.

Options	Ridership	Revenue*
90 MPH	822,100	16,500,000
110 MPH	834,600	17,100,000
125 MPH	985,200	21,600,000
150 MPH	1,045,000	23,400,000
200 MPH	1,090,000	24,800,000

Note: Assumes the continuation of the *Crescent*.
Source: *Evaluation of High-Speed Rail Options in the Macon-Atlanta-Greenville-Charlotte Rail Corridor*, the Volpe Center, August 2008
* In 2006 dollars.

All options generate significant ridership and revenue. **Table 31** shows the estimated capital costs and cost per mile for a range of options.

Options	Total Capital Costs*	Cost Per Mile
90 - 110 MPH	1.1 Billion	3.9 Million
125 MPH	1.2 Billion	4.4 Million
150 MPH	1.4 Billion	5.3 Million
200 MPH	1.8 Billion	6.9 Million

Source: *Evaluation of High-Speed Rail Options in the Macon-Atlanta-Greenville-Charlotte Rail Corridor*, the Volpe Center, August 2008
* In 2006 dollars.

Capital costs and cost per mile are clearly linked to the performance of the technology. The two options that the study found yielded the best revenue / cost ratio (revenues divided by operating costs) were 125 MPH mostly Dedicated Use option (84%) and the 150 MPH diesel Dedicated Use option (88%).

Currently underway is the preparation of a *Passenger Rail Corridor Investment Plan*. GDOT is leading the effort on behalf of the FRA. Part of this initiative will be the preparation of Tier I Environmental Impact Statement (EIS), as required by the National Environmental Policy Act (NEPA). Expected completion in 2017, this Tier I EIS will provide an overview of the corridor: a preferred route, level of service, along with estimates of ridership, revenues, costs, and potential environmental, economic and social issues. Future NEPA processes steps will further refine the project.

3.3.3 Atlanta – Birmingham

Atlanta – Birmingham is the eastern leg of the Gulf Coast Corridor. It extends from H-JAIA through the Atlanta Multi-Modal Passenger Terminal stopping at Douglasville and Anniston, Alabama and terminating at the Birmingham Multi-Modal Transit Center. Prior studies focusing on connections to the Southeast High-Speed Rail Corridor were a partnership between GDOT and the Regional Planning Commission of Greater Birmingham.

A recent GDOT study, *High Speed Rail Planning Services, Final Report* (March 2012), analyzed the potential of the proposed route. As part of the analysis, GDOT identified representative routes for two

rail technologies. For the Emerging High-Speed Rail (Shared Use) technology, several route options using existing rail rights-of-way were analyzed. For Dedicated Use Express High-Speed Rail technology, a route utilizing available I-20 interstate highway rights-of-way, or land parallel to it (except close to city centers where there may be some shared trackage with conventional passenger rail), was analyzed. The Shared Use option assumed diesel-electric tilt train technology, while the Dedicated Use option assumed fully electrified train technology. **Table 32** compares the distance, average speeds, travel time and number of frequencies of the two options. As a reference, auto travel time between the two cities is about 2 hours and 30 minutes.

	Shared Use	Dedicated Use
Rail Distance (miles)	176	151
Travel Time (hour:minute)	2:46	1:18
Average Speed (MPH)	64	117
Frequency (round trips per day)	6	10

Source: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012

Determining estimates of ridership and revenue considered the following parameters: the size of the current travel market between all the city pairs on the route, population, income, employment, employment patterns, land use and the future changes in these factors. Another input was the cost and the level of service provided by current travel options as well as the proposed rail service. **Table 33** shows the estimated ridership and revenues for each of the options.

Year	Shared Use (90-110 MPH)		Dedicated Use (180-220 MPH)	
	Ridership	Revenues*	Ridership	Revenues*
2021	1,613,000	46,054,000	1,946,000	72,791,000
2030	1,847,000	53,480,000	2,199,000	84,113,000
2040	2,087,000	61,731,000	2,481,000	96,693,000

Source: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012
* In 2010 dollars.

All options generate significant ridership and revenue. **Table 34** compares average ridership and revenue for each train departure.

Year	Shared Use (90-110 MPH)		Dedicated Use (180-220 MPH)	
	Ridership	Revenues*	Ridership	Revenues*
2021	368	10,515	267	9,971
2030	422	12,210	301	11,522
2040	476	14,094	340	13,246

Source: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012
* In 2010 dollars.

The difference in performance between the Shared Use option and Dedicated Use option could be a result of additional frequencies operating at less popular times. **Table 35** shows the estimated capital costs and cost per mile of the two options.

	Shared Use	Dedicated Use
Total Cost*	3.0 Billion	8.4 Billion
Average Cost per Mile*	16.8 Million	54.1 Million
Source: <i>High Speed Rail Planning Services, Final Report</i> , GDOT, March 2012		
* In 2010 dollars.		

The high-performance Dedicated Use option has a higher capital cost than the Shared Use option.

Table 36 shows estimated total operating and maintenance costs, and the estimated operating ratio (revenues divided by operating costs) of the proposed services.

Year	Shared Use (90-110 MPH)		Dedicated Use (180-220 MPH)	
	Total Costs*	Operating Ratio	Total Costs*	Operating Ratio
2021	43.4	1.06	79.4	0.92
2030	44.3	1.21	81.0	1.04
2040	45.2	1.37	82.5	1.17
Source: <i>High Speed Rail Planning Services, Final Report</i> , GDOT, March 2012				
* In millions of 2010 dollars.				

Estimates indicate both options would generate a surplus of operating funds above costs and generate some cash flow for future replacement of track and trains. Neither case generates sufficient revenues to pay back initial construction costs; however, this is not unusual for large-scale infrastructure projects with an estimated useful life of a century or more.

The *High Speed Rail Planning Services, Final Report* documented several alternative scenarios and sensitivity analyses in addition to the baseline case (outlined above). Also investigated was a “Hybrid” option where diesel-electric tilting technology operates on a mix of shared and dedicated track segments. The report recommends that the Hybrid option be included in the next phase, Tier I NEPA document and the Service Development Plan.

In 2007, the Southern Rail Commission developed a ridership and revenue estimate for the New Orleans – Atlanta segment of the Gulf Coast Corridor. Forecast assumptions included improved running times, 79 MPH and 90 MPH speeds, and three frequency options (2 round-trips, 4 round-trips and 6 round-trips). As can be seen in **Table 37**, estimates show positive results for frequent, higher speed rail service in the New Orleans – Meridian – Birmingham – Atlanta corridor.

Frequency (round trips)	Speed	Annual Ridership*	Annual Ticket Revenue*	Avg. Riders per Train	Pass. Mile per Train Mile	Tkt. Rev. per Train-Mile
2	79 MPH	191,541	7,556,000	131	90.9	9.99
4	79 MPH	305,864	12,035,000	105	72.4	7.96
6	79 MPH	426,119	16,183,000	97	64.7	7.13
2	90 MPH	Not Forecast				
4	90 MPH	363,083	14,718,000	124	88.6	9.73
6	90 MPH	467,583	18,293,000	107	73.2	8.06
* Includes connecting traffic from Houston-New Orleans and Mobile-New Orleans corridors.						
Source: <i>Gulf Coast High-Speed Rail Corridor Plan, Lake Charles to Meridian Corridor Development Plan, Volume I, Summary Report</i> , Southern Rail Commission, June 2007.						

3.3.4 Atlanta – Macon – Savannah – Jacksonville

The Atlanta – Jacksonville segment is the southern branch of the Southeast High-Speed Rail Corridor. The March 2012 *High Speed Rail Planning Services, Final Report*, studied a variation of the designated corridor routed via Savannah. This variation increased potential ridership and revenue and facilitates the phasing of construction. The route begins at the Atlanta Multi-Modal Passenger Terminal with stops at H-JAIA, Macon, Savannah, Brunswick, terminating at the Jacksonville Regional Transportation Center.

The March 2012 study analyzed the potential of the proposed Atlanta – Jacksonville route and updates a study conducted by GDOT in 2003. The analysis selected representative routes for the two rail technologies. For the Emerging High-Speed Rail (Shared Use) technology, several route options using existing rail rights-of-way were analyzed. For Dedicated Use Express High-Speed Rail technology, a route utilizing a combination of rail rights-of-way, available interstate highway rights-of-way (I-75 and I-16), or land parallel to it (except close to city centers where there may be some shared trackage with conventional passenger rail), were analyzed. The Shared Use option assumed Diesel-electric tilt train technology while the Dedicated Use option assumed fully electrified train technology. Much of the proposed route (especially the Shared Use option) has the advantage of utilizing a combination of secondary rail lines and abandoned rail rights-of-way.

Table 38 compares the distance, average speeds, travel time, and number of frequencies of the two options. As a reference, auto travel time between Atlanta and Jacksonville is about 5 hours and 24 minutes. Shared Use is competitive with driving, while high-speed rail on a dedicated right-of-way is significantly faster.

	Shared Use	Dedicated Use
Rail Distance (miles)	409	368
Travel Time (hour:minute)	5:18	2:49
Average Speed (MPH)	77	131
Frequency (round trips per day)	8	14
Source: <i>High Speed Rail Planning Services, Final Report</i> , GDOT, March 2012		

Determining estimates of ridership and revenue considered the following parameters: size of the current travel market between the all city pairs on the route, population, income, employment, employment patterns, land use, and the future changes in these factors. Another input is the cost and the level of service provided by current travel options as well as the proposed rail service.

Table 39 shows the estimated ridership and revenues for each of the options.

Year	Shared Use (90-110 MPH)		Dedicated Use (180-220 MPH)	
	Ridership	Revenues*	Ridership	Revenues*
2021	2,011,000	109,776,000	2,355,000	181,193,000
2030	2,353,000	133,908,000	2,745,000	218,512,000
2040	2,732,000	160,723,000	3,178,000	259,978,000

Source: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012
* In 2010 dollars.

All of the options generate significant ridership and revenue. The faster more frequent Dedicated Use option generates better results than the Shared Use option.

Table 40 compares average ridership and revenue for each train departure.

Year	Shared Use (90-110 mph)		Dedicated Use (180-220 mph)	
	Ridership	Revenues*	Ridership	Revenues*
2021	344	18,797	230	17,729
2030	403	22,929	269	21,381
2040	468	27,521	311	25,438

Source: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012
* In 2010 dollars.

The difference in performance between the Shared Use option and Dedicated Use option is a result of additional frequencies operating at less popular times and may reflect an upper travel limit due to the smaller baseline populations (especially Savannah and Jacksonville).

Table 41 shows the estimated capital costs and cost per mile of the two options.

	Shared Use	Dedicated Use
Total Cost*	5 Billion	16.1 Billion
Average Cost per Mile*	11.5 Million	41.4 Million

Source: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012
* In 2010 dollars.

Table 42 shows total operating and maintenance costs, and the estimated operating ratio of the proposed services.

Year	Shared Use (90-110 MPH)		Dedicated Use (180-220 MPH)	
	Total Costs*	Operating Ratio	Total Costs*	Operating Ratio
2021	95.7	1.15	190.1	0.95
2030	98.5	1.36	194.8	1.12
2040	101.2	1.58	199.6	1.25

Source: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012
* In millions of 2010 dollars.

Except for the Dedicated Use 2021 scenario, both options generate a surplus of operating funds above costs and generate some cash flow for future replacement of track and trains. The lower operating ratio for the Dedicated Use option is probably the result of the less desirable additional schedule times and lower populations. Similar to other corridors studied, neither case generates sufficient revenues to recoup initial construction costs.

As part of the *High Speed Rail Planning Services Final Report* several alternative scenarios and sensitivity analyses were conducted in addition to the baseline case (outlined above). Also investigated was a “Hybrid” option where diesel-electric tilting technology operates on a mix of shared and dedicated track segments. The report recommends exploring the Hybrid option further during future NEPA processes.

As was noted above, the proposed Atlanta – Jacksonville passenger rail service could be introduced in phases: Atlanta – Macon, Macon – Savannah, and Savannah – Jacksonville. GDOT also identified Atlanta – Macon as an intercity passenger and commuter rail route. The two markets could be combined as they are on Amtrak’s Capitol Corridor (Sacramento – Oakland – San Jose), which carries a substantial number of multi-ride passengers (daily commuters) as well as intercity travelers.

3.3.5 Atlanta – Chattanooga – Nashville – Louisville

Atlanta – Chattanooga – Nashville – Louisville is a proposed intercity passenger rail corridor. The route begins at H-JAIA, with major stops at the Atlanta Multi-Modal Passenger Terminal, Chattanooga, Nashville, and terminating in Louisville. Additional intermediate stops proposed are Cumberland, Marietta, Cartersville, Dalton, Lowell Field, Murfreesboro; the Nashville Airport; Bowling Green, Kentucky; Elizabethtown, Tennessee; and the Louisville Airport.

The aforementioned *High Speed Rail Planning Services, Final Report* analyzed the potential of the proposed route. Representative routes considered two rail technologies and Maglev. The route for the Emerging High-Speed Rail (Shared Use) uses existing rail rights-of-way, while the Dedicated Use Express High-Speed Rail (except close to city centers where there may be some shared trackage with conventional passenger rail) and Maglev use a route utilizing interstate highway rights-of-way (I-75, I-24 and I-65) or land parallel to it. The Shared Use option assumed diesel-electric tilt train technology, while the Dedicated Use option assumed fully electrified train technology or Maglev. The route between Atlanta and Louisville is challenging, crossing mountainous and rolling terrain. This limits the potential of the Shared Use option while significantly increasing the capital costs for all options.

Table 43 compares the distance, average speeds, travel time and number of frequencies of the three options. As a reference, auto travel time between Atlanta and Louisville is about 6 hours and 54 minutes. Shared Use is competitive with driving, while intercity passenger rail and Maglev on dedicated rights-of-way is significantly faster.

Table 43: Atlanta - Chattanooga - Nashville - Louisville Distance, Travel Time, Average Speed and Frequencies

	Shared Use	Dedicated Use	Maglev
Rail Distance (miles)	490	428	428
Travel Time (hour:minute)	6:55	3:32	3:02
Average Speed (MPH)	72	122	143
Frequency Atlanta - Chattanooga*	16	28	28
Frequency Chattanooga - Nashville*	10	20	20
Frequency Nashville - Louisville*	5	12	12

Source: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012
 * Round trips per day.

Determining estimates of ridership and revenue considered the following parameters: size of the current travel market between all city pairs on the route, population, income, employment, employment patterns, land use, and the future changes in these factors. Another input was the cost and the level of service provided by current travel options as well as the proposed rail / Maglev service. **Table 44** shows the estimated ridership and revenues for each of the options.

Table 44: Atlanta - Chattanooga - Nashville - Louisville Annual Ridership and Revenues

Year	Shared Use (90-110 MPH)		Dedicated Use (180-220 MPH)		Maglev (250-300 MPH)	
	Ridership	Revenues*	Ridership	Revenues*	Ridership	Revenues*
2021	4,380,000	175,529,000	4,715,000	267,084,000	4,949,000	284,385,000
2030	5,060,000	211,849,000	5,491,000	321,712,000	5,764,000	337,733,000
2040	5,816,000	252,205,000	6,353,000	382,410,000	6,669,000	401,454,000

Source: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012
 * In 2010 dollars.

Table 45 shows the estimated capital costs and cost per mile of the two options.

Table 45: Atlanta - Chattanooga - Nashville - Louisville Total Capital Costs

	Shared Use	Dedicated Use	Maglev
Total Cost*	11.6 Billion	32.7 Billion	43.1 Billion
Average Cost per Mile*	27 Million	76 Million	100.5 Million

Source: *"High Speed Rail Planning Services, Final Report,"* GDOT, March 2012
 * In 2010 dollars.

Table 46 shows total operating and maintenance costs, and the estimated operating ratio of the proposed services.

Table 46: Atlanta - Chattanooga - Nashville - Louisville Annual Operating and Maintenance Costs and Operating Ratio

Year	Shared Use (90-110 MPH)		Dedicated Use (180-220 MPH)		Maglev (250-300 MPH)	
	Total Costs*	Operating Ratio	Total Costs*	Operating Ratio	Total Costs*	Operating Ratio
2021	128.6	1.36	270.4	0.98	192.4	1.48
2030	132.4	1.60	276.9	1.16	211.8	1.59
2040	136.6	1.85	284.0	1.35	233.5	1.72

Source for total costs: *High Speed Rail Planning Services, Final Report*, GDOT, March 2012
 * In 2010 dollars.

Except for the Dedicated Use 2021 scenario, three options generate a surplus of operating funds above costs and generate some cash flow for future replacement of track and trains. This is measured by the operating ratio, total revenue divided by total costs. The lower operating ratio for the Dedicated Use option is likely the result of the less desirable additional schedule times and smaller demand than for the Maglev option, while the Shared Use option is challenged by the mountainous terrain. None of the options generates sufficient revenues to pay back initial construction costs.

The *High Speed Rail Planning Services, Final Report* (March 2012) conducted several alternative scenarios and sensitivity analyses in addition to the baseline case (outlined above). Also investigated was a “Hybrid” option where diesel-electric tilting technology operates on a mix of shared and dedicated track segments. The report suggests that one strategy may be to introduce Atlanta – Louisville passenger rail service in phases: Atlanta – Chattanooga, Chattanooga – Nashville, and Nashville – Louisville. It also recommends further exploration of the Hybrid option in the Atlanta – Chattanooga Tier I EIS.

Two major factors are generally set aside when corridors are analyzed as free-standing services. The first is connectivity which impacts revenues. A network of corridors, all connecting at a central hub, creates a very large matrix of city pairs. The March 2012 study referenced above estimated connectivity factors ranging from 10 percent to 30 percent (i.e., connectivity of trains boosts riders and revenues by this range), which is the level of connectivity found at Amtrak hub stations. In addition to revenue increases from connectivity there is also a positive impact on capital costs. Most of the routes proposed (both intercity and commuter rail) utilized the same rights-of-way through metro Atlanta, especially between H-JAIA and the proposed MMPT in Downtown Atlanta. While frequency impacts capital requirements, the capacity added from any specific capital improvement is often greater than required for the specific service and can be shared with other intercity or commuter rail services (providing all services use the same technological standards).

3.3.6 Atlanta – Columbus

In February 2014 the Columbus Consolidated Government (CCG) completed its *Columbus to Atlanta High-Speed Rail Feasibility Study*. This study explored the relative feasibility of intercity passenger rail between Columbus and Atlanta based on revenues, operating ratios, financial performance and social impacts.

The study identified various representative routes and examined two in more detail assuming three train technologies. Utilizing socio-economic and transportation data, stakeholder input, and forecasting and planning tools, the study team developed operating plans, ridership forecasts, operations and maintenance cost estimates, and capital cost estimates for each alternative.

The two routes largely parallel each other, as seen in **Figure 37**. The route indicated by the green line represents the Emerging High Speed Rail service level. It follows the abandoned right-of-way from the Columbus Airport through Pine Mountain and Raymond, and then transitions to existing (or adjacent to existing) rail right-of-way in Raymond before making its way to H-JAIA.

The other route, represented by the red line, is the Regional and Express alternatives. It generally follows I-185 and I-85 but transitions to existing (or adjacent to existing) rail right-of-way near Fairburn in order to access H-JAIA.

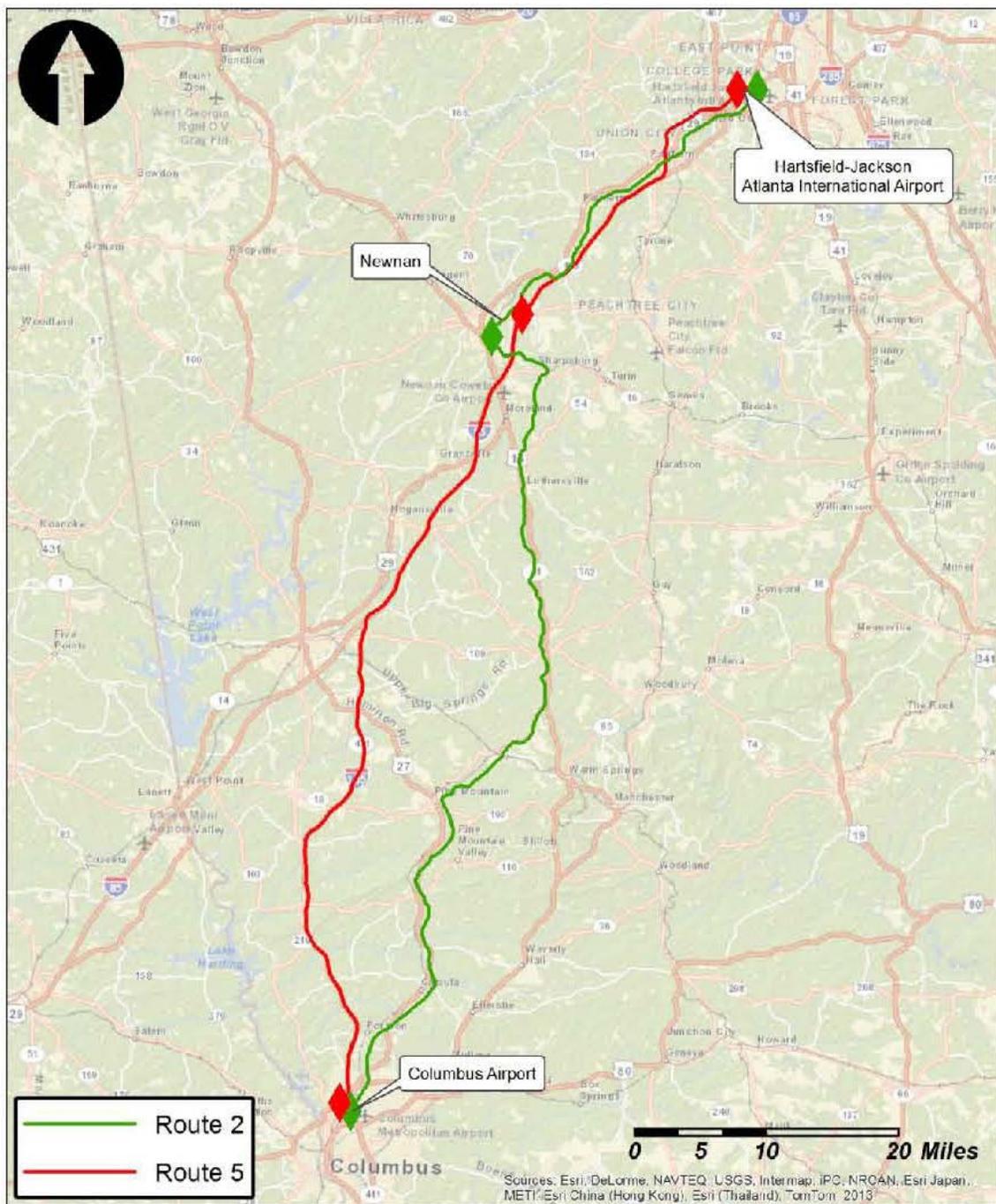
Summary findings from the report appear in **Table 47** for Year 2030 (the study also projected results for 2040 and 2050). The Express service level, having the fastest end-to-end run-time and highest frequency, generates the highest ridership and operating ratio. However, the cost per mile to build the system is three times that of the Emerging service level.

Table 47: Atlanta – Columbus High-Speed Rail Metrics (Year 2030)

Service Type	Emerging	Regional	Express
Annual Ridership	775,000	968,000	1,100,000
Annual O&M (millions)	\$19.9	\$23.0	\$26.2
Capital Costs (millions)	\$1,300	\$2,000	\$3,900
Cost per Mile (millions)	\$13.0	\$22.2	\$42.5
Operating Ratios	0.83	1.15	1.21
Trainsets	4	6	8
Seats per train	288	360	432
Frequency	4 round trips per day	5 round trips per day	6 round trips per day
Run-time	1 hour, 56 minutes	1 hour, 26 minutes	1 hour, 1 minute

While projections for 2040 and 2050 show increasing operating and maintenance (O&M) costs, revenues are shown to grow at faster rates, resulting in every higher operating ratios for all three services.

Figure 37: Representative Routes for the Columbus to Atlanta High-Speed Rail Service



Columbus to Atlanta High-Speed Rail Refined Route Alternatives

Source: Columbus to Atlanta High Speed Rail Feasibility Study, February 2014.

3.3.7 Macon to Atlanta and Chattanooga to Atlanta Proposed Amtrak Service

In 2012, GDOT requested that Amtrak study conventional intercity passenger rail service. Amtrak responded with a study entitled, *Feasibility Report of Proposed Amtrak Corridor Service Macon, Georgia to Atlanta, Georgia and Chattanooga, Tennessee to Atlanta, Georgia*. The study was limited to conventional railroad operations on existing trackage. The study looked at utilizing the existing freight railroad infrastructure without any track improvements under the assumption that sufficient capacity was available for the proposed service. This avoided major capital investment assumptions. Given the parameters of the study, major involvement and capacity analysis by the NS and CSXT was not undertaken.

Between Macon and Atlanta the route studied was NS Georgia Division's Atlanta South District which operates via McDonough. A longer parallel route, the Griffin District via Griffin is also under consideration for intercity and commuter rail service but was not included in this study. The proposed route is approximately 94 miles with five potential intermediate stops: Jackson, McDonough, Stockbridge, Conley / Hartsfield-Jackson Atlanta International Airport and University Center. Schedule time between the two cities is 2 hours and 50 minutes (33 MPH average speed). Between Atlanta and Chattanooga the route studied was CSXT Atlanta Division's W & A Subdivision via Dalton and the Atlanta Terminal Subdivision. The proposed route is approximately 135 miles with six potential intermediate stops: Dalton, Calhoun, Cartersville, Kennesaw, Lockair and Cumberland Mall. Schedule time between the two cities is 3 hours and 50 minutes (35 MPH average speed).

The study examined ten operational alternatives having one to six round trips per day (see **Table 48**). Different frequency combinations for weekdays and weekends were included in the study. Options with two or more frequencies allow for through (single seat) travel between Macon and Chattanooga. Equipment would be serviced in Macon and Chattanooga with a mid-day layover / storage facility in Atlanta for equipment not operating through Atlanta. Using the ten schedule options developed as part of the study, Amtrak developed ridership and revenue estimates were developed using its forecast model. This model uses observed Amtrak ridership and ticket revenue data and socio-economic data.

Option	Schedule
1	1 round trip (M-F)
1A	1 round trip Daily
2	2 round trips (M-F), 1 round trip (SaSu)
2A	2 round trips Daily
3	3 round trips (M-F), 2 round trips (SaSu)
3A	3 round trips Daily
4	4 round trips (M-F), 1 round trip (SaSu)
4A	4 round trips (M-F), 2 round trips (SaSu)
4B	4 round trips (M-F), 3 round trips (SaSu)
6	6 round trips (M-F), 3 round trips (SaSu)

Source: *Feasibility Report of Proposed Amtrak Corridor Service*, Amtrak, September 2012

Ridership ranged from 29,000 passengers yearly with \$870,000 in revenue (one round-trip Monday – Friday) to 171,000 passengers yearly with \$6.1 million in revenue (six round-trips Monday – Friday combined with three round-trips Saturday and Sunday). The slow schedules resulting from operating on a rail line without any improvements for passenger service negatively impacted these estimates.

Non-track capital expenses required for start-up, but not developed as part of this study, would be stations, layover and maintenance facilities, upgrades / adjustments to highway grade crossing warning devices, ticketing equipment and possibly the overhaul of passenger cars and locomotives. Given the heavy volume of freight traffic on the two proposed rail lines, the freight railroads will probably install Positive Train Control. If PTC is not installed it would represent a major start-up capital expense.

Operating, maintenance and other costs were developed under the guidelines of PRIIA Section 209 pricing methodology which governs operational contracts between states and Amtrak for intercity rail passenger service. The estimated operating subsidy would range from \$5.3 million to \$35.1 million per year (see **Table 49**).

If further study for intercity passenger rail service along these routes is undertaken, the next step would be involvement with the freight railroads and their evaluation of the proposed schedules utilizing rail operations simulation programs. The purpose of these evaluations would be to determine capacity improvements required for service and the impact of other capital improvements that could improve scheduled running time and average speeds.

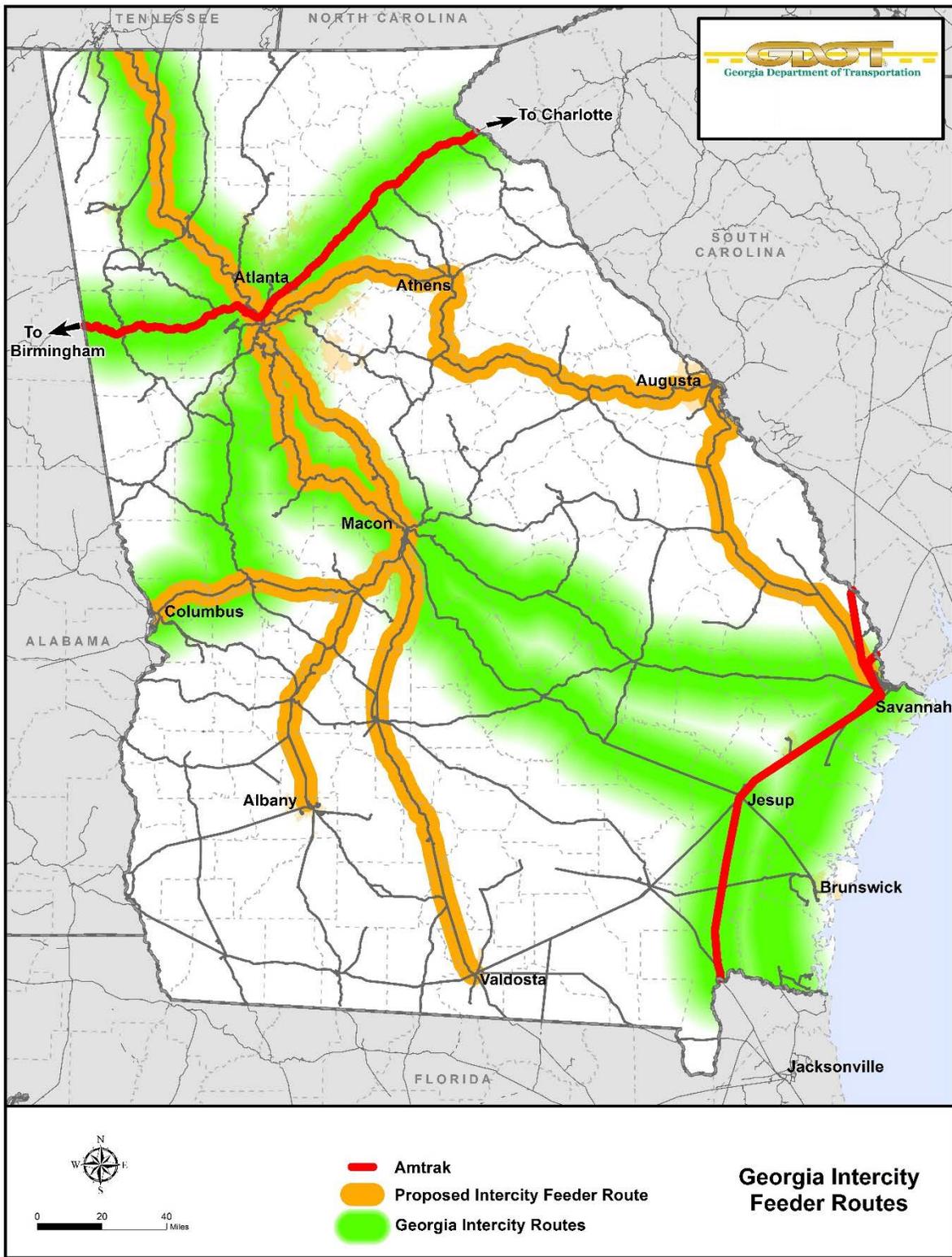
Options	1	1A	2	2A	3	3A	4	4A	4B	6
Passengers	29	42	76	92	98	101	119	134	137	171
Revenue	\$870	\$1,250	\$2,680	\$3,310	\$3,290	\$3,280	\$4,280	\$4,910	\$4,900	\$6,080
Expenses	\$6,146	\$7,814	\$13,595	\$15,254	\$22,526	\$23,327	\$24,579	\$26,248	\$26,348	\$41,168
Operating Subsidy	\$5,276	\$6,564	\$10,915	\$11,944	\$19,236	\$20,047	\$20,299	\$21,338	\$21,446	\$35,088

Source: *Feasibility Report of Proposed Amtrak Corridor Service*, Amtrak, September 2012

3.3.8 Intercity Feeder Passenger Rail Service

This *State Rail Plan* also proposes carrying forward other intercity passenger services as feeder routes designed to increase the connectivity to the intercity network (see **Figure 38**). Others would serve as Rural Access Routes, much like the state-supported western and downstate Amtrak routes in Illinois, providing vital service and connectivity to those areas with limited transportation options. Many of these routes could begin as Thruway Bus routes feeding traffic to initial start-up routes. Finally, some of the proposed routes could operate as combined intercity passenger and commuter rail service. The two markets could be combined as they are on Amtrak's Capitol Corridor, as noted previously.

Figure 38: Proposed Georgia Intercity Feeder Routes



Historically Proposed Georgia Intercity Feeder Route Descriptions

- Atlanta – Macon – Albany
 - 106-mile extension of Atlanta – Macon service
 - Conventional technology, shared use (79 MPH)
 - Capital cost estimate, \$156 million
 - Estimated ridership in 2030, 271,000 riders per year
- Atlanta – Athens – Augusta
 - 171-mile route
 - Conventional technology, shared use (79 MPH)
 - Capital cost estimate, \$357 million
 - Estimated ridership in 2030, 145,000 riders per year
- Augusta - Savannah
 - 129-mile route
 - Conventional technology, shared use (79 MPH)
 - Ridership, revenues and capital costs yet to be determined
 - Potential Thruway feeder bus route

The details of the aforementioned services were from the 2009 *Georgia State Rail Plan*. That plan also described an Atlanta – Griffin – Columbus conventional rail service.

Historically Proposed Rural Access Route Descriptions

- Atlanta – Macon – Cordele – Valdosta
 - 128-mile extension of Atlanta – Macon Service
 - Conventional technology, shared use (79 MPH)
 - Possible direct route to central Florida
 - Ridership, revenues and capital costs yet to be determined
 - Outreach meeting request
- Atlanta – Macon – Cordele – Waycross
 - 170-mile extension of Atlanta – Macon Service
 - Conventional technology, shared use (79 MPH)
 - Ridership, revenues and capital costs yet to be determined
- Columbus – Macon – Savannah
 - 273-mile East – West Corridor
 - Conventional technology, shared use (79 MPH)
 - Ridership, revenues and capital costs yet to be determined
 - Could be operated as a shuttle (rail or Thruway bus) Columbus – Macon in conjunction with a “timed transfer” at Macon to Atlanta – Macon – Savannah service

- Valdosta – Savannah
 - Outreach meeting request
 - Potential Thruway feeder bus route

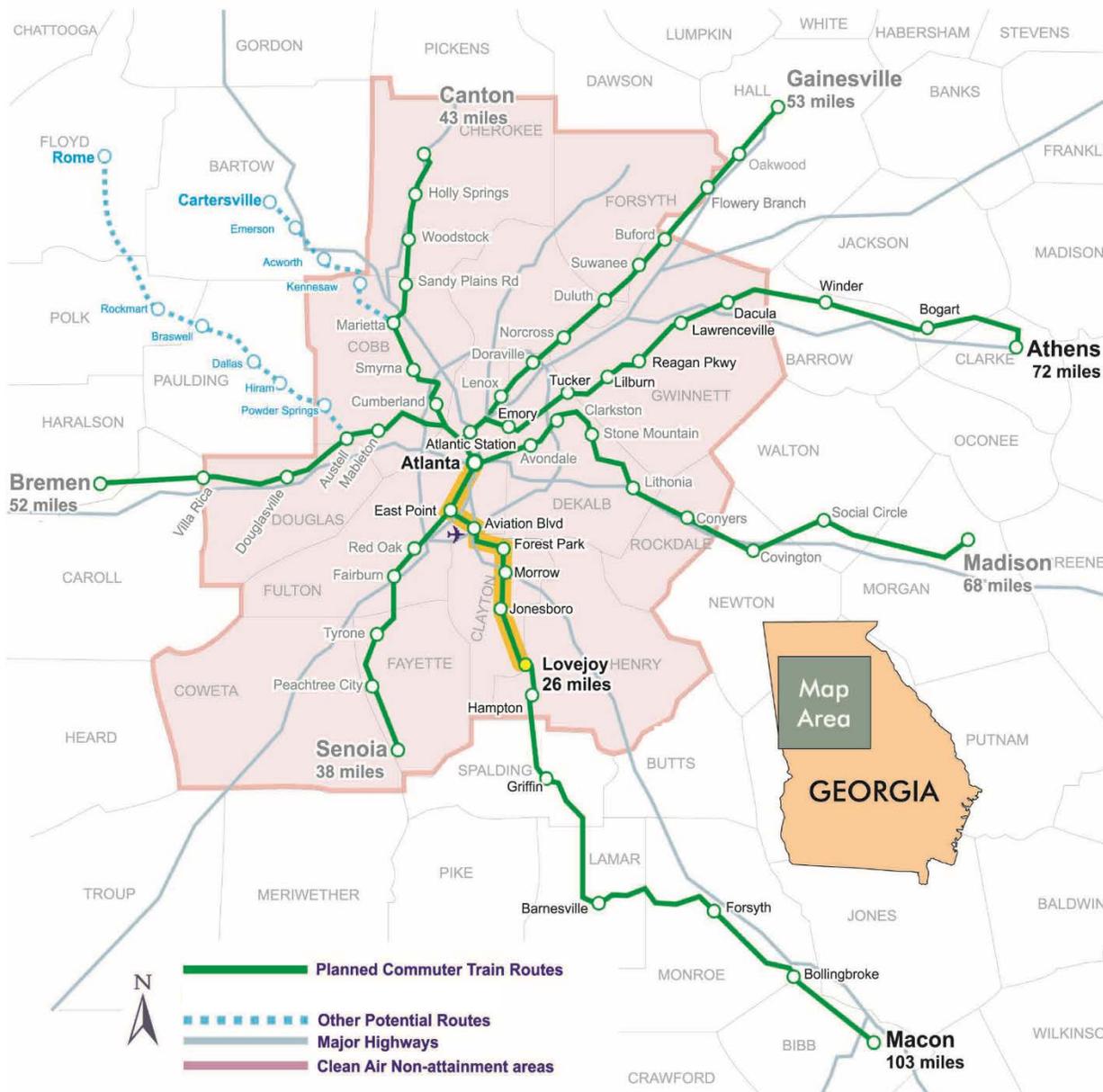
3.4 Commuter Rail Service

In addition to the intercity routes outlined above, GDOT developed a set of proposed commuter rail routes designed to substantially improve the capacity and performance of Georgia’s transportation network in the Atlanta metro area (see **Figure 39**).

As the largest metropolitan and business area in the Southeast, commuter rail has the potential to improve transportation mobility and accessibility issues. Also, as was noted above, there is opportunity for intercity passenger rail service to play a role in providing service to daily commuters traveling in longer distance markets (i.e., Atlanta – Macon, Atlanta – Athens, Atlanta – Columbus). With intercity passenger rail accommodating the demand for both traditional intercity travel and daily commuter travel in smaller longer distance commuter markets, high-frequency commuter rail service can focus on shorter, high-volume route segments. The commuter rail service could operate with conventional (79 MPH-speed) diesel-electric bi-level commuter trains operating in a “push-pull” configuration. Push-pull trains have an operating cab at the opposite end of the train from the locomotive allowing quick reversal of train direction without turning the locomotive.

Analysis undertaken by GDOT in 2006 estimated that for the full network, 10.7 million yearly person-trips will be generated, resulting in significant public benefits (reduced traffic growth, less pollution, focused development around stations, etc.) from riders diverted from private automobiles. The total construction cost (2005) for the commuter network was estimated to total \$2.1 billion. All of the proposed routes would require an operating subsidy, with ticket revenues covering approximately 57 percent of the system operating costs.

Figure 39: Historically Proposed Atlanta Commuter Rail Network



Source: GDOT

3.5 Tourist Railroads

Work needs to continue to position Georgia’s tourist railroads and museums for the future. Tourist railroads and museums should reference the *Recommended Practices for Railway Museums* by the Association of Railway Museums and adopt recommended policies and procedures as appropriate. They should also continue to adopt successful promotion and stewardship programs developed by other tourist railroads.

In a wide ranging overview including interviews with the curators of many of America's foremost rail heritage museums, *Trains Magazine* (May 2007, May 2011 and May 2012) outlined issues, recommendations and best practices to enable the rail museum and rail heritage industry to move forward in the 21st century. Outlined below are some of the key trends and recommendations.

Without losing their primary market focus, the tourist railroads and museums should become multi-dimensional. Rail service is more than a machine: it is a human story that needs to be related to today's visitors in such a way tourist railroads can give visitors a reason to return. The tourist railroads and museums should connect on a personal level and provide history on the people that built it, operated and maintained it, and depended on it. Emphasis should be placed on explaining what railroads meant to people at the time and places where the railroads were built, and the railroad's social impact. Productivity gains and post-September 11, 2001 security has left the freight railroad industry very remote for most Americans. There is no longer a local station agent, tower operator or local train crew to introduce interested youth to today's railroading. Through their storytelling and interpretation, tourist railroads can serve to be the location where today's youth are introduced to the railroad industry. Tourist railroads can partner with local colleges to offer classes to students interested in heritage manufacturing methods, railroad operations or management. For example, the California State Railroad Museum assists Sacramento City College in its railroad operations Associate Degree program.

Some tourist railroads such as the Steamtown National Historic Site even host "Rail Camp" summer camps. High school and middle school students studying U.S. history are a prime market. Currently the rail and rail heritage industry is overwhelmingly male and Caucasian. Demographic trends clearly point to a more diverse population. This outreach to high school and middle school students is also a way to reach women and a more diverse demographic with programs tailored to appeal to them. Outreach to youth can help build repeat visitation and knowledgeable potential volunteers and employees.

Partnerships and shared learning with other tourist railroads and railroad museums on presentation and interpretation is a critical endeavor. As was noted above, partnerships with local communities are critical and can lead to event possibilities. Partnership with CSXT and NS could also be explored. An event can be built around the display of modern railroad equipment. It also provides an opportunity to outline the importance of the rail industry to the U.S. and Georgia's economy and Operation Lifesaver. For example, in conjunction with the North Carolina Transportation Museum's "Streamliners at Spencer" (May 30 – June 1, 2014) the museum and NS operated a tour train between the museum and the NS's new intermodal terminal in Charlotte showcasing its new facility. In Canada, Canadian National Railway is financially supporting a safety themed / Operation Lifesaver exhibit.

Finally, Georgia's tourist railroads can work with the Georgia Department of Economic Development to explore additional opportunities to expand their marketing reach, especially for travel trade shows and the charter bus market.

Chapter 4. Proposed Freight Rail Improvements and Investments

4.1 Introduction

The purpose of this chapter is to describe improvements and investments that could address the freight rail and rail safety needs of Georgia. Appearing below are projects identified by Georgia railroads and other participants in the outreach activities conducted during the development of this Plan and described in Chapter 6. Select projects are included in GDOT's Rail Service and Investment Program, which is the subject of Chapter 5.

4.2 Class I Railroad Improvements

4.2.1 Class I Main Line Capacity Analysis

For this *State Rail Plan*, a planning level evaluation to assess the degree of congestion on major higher volume Class I main lines.

CSX Transportation

For CSXT, the main lines investigated appear below. Figure 2 of Appendix A provides a depiction of these main lines.

- North-south line running from Lookout (Chattanooga) to Atlanta (W&A Subdivision), thence to Manchester (Manchester Subdivision), thence to Waycross (Fitzgerald Subdivision), thence to Folkston (Jacksonville Subdivision), thence Folkston to Jacksonville (Nahunta Subdivision);
- North-south line from Etowah, Tennessee to Junta (Etowah Subdivision, connecting to the W&A Subdivision);
- East-west line from Abbeville, South Carolina to Atlanta (Abbeville Subdivision), thence to Montgomery, Alabama (A&WP Subdivision);
- East-west line from Parkwood, Alabama to Manchester (Lineville Subdivision, connecting to the Fitzgerald Subdivision); and,
- North-south line from Savannah to Jesup to Folkston (Nahunta Subdivision, connecting with the Jacksonville Subdivision).

The analysis compared volumes of freight trains per day (reported by both CSXT and NS for 2013) to the practical capacity of the line, as determined by the control systems (Centralized Traffic Control

[CTC]⁷⁸ or Automatic Block Signals [ABS]⁷⁹) on the line and the track configurations (single track [1]; one and two main tracks with sidings [1+]; two main tracks [2]). For the CSXT analysis, the practical capacity limits for the respective signalization and track configurations were taken from the *National Rail Freight Infrastructure Capacity and Investment Study, 2007*, prepared for the Association of American Railroads.

The evaluation identified four subdivisions where average train volumes either approached or exceeded the lower end of the practical capacity range. These subdivisions were the Lineville, A&WP, Fitzgerald and Jesup Subdivisions, as seen in **Table 50**.

Beginning and End of Main line Locations		Division	Subdivision	Signalization	Track	Practical Capacity in Trains per Day	Trains per Day	Capacity Constraint?
Lookout, TN	Atlanta	Atlanta	W&A	CTC	1+	30-48	16-26	No
Etowah, TN	Junta	Atlanta	Etowah	CTC	1	30-48	12	No
Abbeville, SC	Atlanta	Atlanta	Abbeville	ABS	1	18-25	14	No
Atlanta	Manchester	Atlanta	Manchester	ABS	1	18-25	11	No
Manchester	Parkwood Jct., AL	Atlanta	Lineville	ABS	1	18-25	19-23	Potential
Atlanta	Montgomery, AL	Atlanta	A&WP	ABS	1	18-25	17	Potential
Manchester	Waycross	Jacksonville	Fitzgerald	CTC	1+	30-48	32	Potential
Waycross	Folkston	Jacksonville	Jesup	CTC	1+	30-48	39	Potential
Savannah	Jesup	Jacksonville	Nahunta	CTC	1	30-48	28	No
Jesup	Folkston	Jacksonville	Nahunta	CTC	1	30-48	15	No
Folkston	Jacksonville	Jacksonville	Nahunta	CTC	2	75-100	64*	No

*CDM Smith estimate.

The lower end of the practical capacity range of the line applies if the railroad were to operate a mix of different kinds of trains on the line. With a more homogeneous traffic flow, higher capacities can be achieved providing a higher end of the range of practical capacity.

Norfolk Southern

NS provided its own evaluation of capacity constraints on its higher volume districts. The lines investigated were:

- North-south line from Chattanooga to Atlanta (Atlanta North District), thence to Macon (Atlanta South District); thence to Valdosta (Macon District); thence to Jacksonville (Valdosta District);
- East-west line from Birmingham to Austell (East End District), connecting to Atlanta North District;
- East-west line from Atlanta to Greenville, South Carolina (Greenville District); and,
- East-west line from Macon to Savannah (Savannah District).

⁷⁸ CTC allows a dispatcher in a remote location to route trains over track segments or blocks by means of wayside signals; switches allowing trains to enter and exit sidings are powered.

⁷⁹ ABS controls the movement of trains between the blocks using automatic signals. ABS operation allows trains operating in the same direction to follow each other in a safe manner without risk of rear end collision. Movement of trains operating against the established flow of traffic would still require train orders or other special manual protections to prevent a collision.

Figure 3 of Appendix A provides a depiction of these main lines. NS has its own methodology for calculating fluid theoretical capacity, which it employed for this evaluation. NS reported five districts as having capacity constraints, where trains per day are taxing the capacity limits of lines. The results of the evaluation appear in **Table 51**.

Beginning and End of Main line Locations		Division	District	Signal-ization	Tracks	Practical Capacity in Trains per Day	Trains per Day	Capacity Constraint?
Austell	Birmingham, AL	Alabama	East End	CTC	1	30-40	35-45	Yes
Chattanooga, TN	Atlanta	Georgia	Atlanta North	CTC	1	45-55	50-60	Yes
Atlanta	Macon	Georgia	Atlanta South	CTC	1	35-55	25-35	Yes
Macon	Valdosta	Georgia	Macon	ABS	1	15-25	20-30	Yes
Valdosta	Jacksonville, FL	Georgia	Valdosta	ABS	1	20-30	10-15	No
Macon	Savannah	Georgia	Savannah	ABS	1	25-35	25-35	Yes
Atlanta	Greenville, SC	Georgia	Greenville (Main Line)	CTC	1+	45-55	30-40	No

Source: Norfolk Southern Railway.

Previous Analysis

GDOT's *Georgia Statewide Freight and Logistics Plan* had identified bottlenecks on several of the lines which the foregoing capacity analysis found. Lines noted in the plan as having bottlenecks today with significant growth expected were:

- The CSXT Abbeville, Etowah, Manchester, Fitzgerald, Nahunta, and W&A Subdivisions.
- The NS East End and Savannah Districts.

In addition, Atlanta was identified as a major bottleneck.

The 2011 *Plan* relied in part on data presented in the 2009 *Georgia State Rail Plan*.

4.2.2 Class I Planned Improvements

CSX Transportation

Table 52 shows projects CSXT anticipates to assist train operations in Georgia. CSXT did not provide cost estimates for the projects cited below. These projects will not require investment by the state.

Table 52: CSXT Proposed Projects	
Short-Range Projects	Subdivision
Extend Pyne Siding	Lineville
New 10,000' siding at Stoval	Lineville
New 10,000' siding Cordele	Fitzgerald
New 10,000' siding Fitzgerald	Fitzgerald
New siding Manchester - construct new yard run-around track	Manchester
Construct improved connection at the Heart of Georgia (HOG) Railroad	Fitzgerald
Manchester bypass track signaling	Manchester
Manchester to Woodland double track segment	Manchester/Fitzgerald
Rebecca siding	Fitzgerald
New Yard at Murfreesboro (Tennessee)	Chattanooga
Pelham siding extension (Alabama)	Lineville
Create connection from the Lineville SD to the S&NA South at Pelham (Alabama)	Lineville
Long-Range Projects	Subdivision
Potential future terminal improvements that would improve freight movement in Georgia	Chattanooga

These proposed projects are intended to address CSXT line and yard capacity constraints, and operating efficiency problems deemed necessary for its operations within Georgia. Eight of the projects cited above are on two subdivisions, Lineville and Fitzgerald, identified in the preceding section as having potential capacity constraints.

Norfolk Southern

Table 53 shows projects NS anticipates for Georgia. These projects will not require investment by the state.

Table 53: Norfolk Southern Proposed Projects			
Short-Range (0-4 Years)			
Corridor	Location	Project	Cost Range (\$M)
Macon - Atlanta	Various	Clearance and track projects to improve fluidity and capacity	25-75
Macon - Savannah	Various	New main line, passing siding, and track improvements	25-75
Long-Range(4+ Years)			
Corridor	Location	Project	Cost Range (\$M)
Atlanta - Chattanooga	Dalton	Upgrade passing track and construct yard improvements	10-20
Atlanta Terminal	Atlanta	Austell Intermodal Facility Expansion	50-100
	Atlanta	Construct Phase 2 of Inman Yard main line bypass (King Plow - Spring)	50-100
	Atlanta	Construct Phase 3 of Inman Yard main line bypass (Rockdale - King Plow)	50-100
	Howell Interlocking	Reconfiguration	150-200
Macon Terminal	Macon	Reconstruct Macon Terminal and main line	100-150
Total Project Cost Range			460-820
Notes: 1: Costs are planning approximations. Detailed engineering will determine actual costs. 2: The above are rail infrastructure projects identified in previous internal studies. 3: Construction schedule would depend on funding availability, NS traffic levels, economic conditions, etc.			

These proposed projects are intended to address NS line and yard capacity constraints, and specific operating efficiency problems deemed necessary for its operations within Georgia. Four of the projects cited above are in the Atlanta area. One long-range project is to address the capacity issue at Howell Interlocking / Junction.

4.2.3 Atlanta Region Rail Capacity Analysis

Class I railroad congestion attributable to Howell Junction is discussed in Section 2.3.5. While there have been solutions conceptualized for the junction, it may be useful to view rail congestion issues related to Howell Junction in a broader context. Rather than finding a solution to the deficiencies of the junction itself, such as a grade separation, perhaps a freight bypass route would prove to be the more cost effective answer. Conceptually, such a route could facilitate north-south freight movements and thus possibly provide capacity for new passenger services serving Atlanta. As there would be public and private benefits resulting from such an initiative, its implementation could be accomplished by a public-private partnership.

The identification of the right solution (e.g., grade separation, by-pass, etc.), that is, one that works best for the railroads and serves the public interest in new passenger trains, will require additional and wider analysis, such as the example that follows.

The Chicago-based CREATE⁸⁰ project is an example of a regional public-private partnership building 70 projects to improve operations for freight and passenger trains and eliminate dozens of at-grade crossings. CREATE is well under way now, but its early planning involved various rail capacity analyses starting early in the previous decade.

The capacity analysis centered on rail operations simulations to identify ways the rail network could operate more efficiently (with major reduction in train delays) under different conditions. Chicago is the nation's largest interchange serving six Class I railroads. It is also a hub of Amtrak long-distance and regional corridor trains, and the Metra commuter rail system. Within the CREATE study area, passenger trains use freight rail lines, freight railroads operate over each other via trackage rights, and congestion at major carload and intermodal yards has resulted in congestion on main lines as trains wait their turn to enter those yards.

In several ways, the Atlanta rail complex is similar to Chicago, though not as large. Still, it is an historic railroad center. It is a hub for two Class I railroads, which share track; and it hosts Amtrak's long-distance *Crescent* service. There are multiple intermodal and carload yards. Most relevant, though, as a nexus of north-south and east-west lines, Atlanta has recurring rail congestion that will only worsen as traffic volumes increase absent a solution.

A rail capacity analysis for Atlanta and the surrounding region, similar to what has been done for CREATE, appears to be a model process to identify alternative ways in which operational efficiency can benefit the private freight railroads and provide capacity for new passenger trains. Alternatives for testing could include a rail by-pass of Atlanta; capacity improvements within the Atlanta rail network (e.g., the grade separation of the NS and CSXT lines at Howell Junction); along with new operating

⁸⁰ Acronym for Chicago Region Environmental and Transportation Efficiency Program.

practices that might hold the promise of enhanced capacity with minimal costly physical improvements. Common metrics for assessing the efficacy of capacity improvements is reduction of aggregate delays and higher aggregate speeds for a given volume of rail traffic.

4.3 Short Line Improvements

As outlined in section 2.4.1, short line railroads face a litany of needs, but also have the potential to enjoy numerous opportunities. GDOT's *Georgia Statewide Freight and Logistics Plan* identified the need to upgrade track sections not capable of handling the de facto railroad standard of 286,000 pounds for maximum loaded car weights. The majority of substandard track miles are located on the state's short line railroads. The plan noted underfunded short line railroads also face speed limitations and vertical clearance restrictions. These restrictions hinder the short lines' operations and degrade service quality relative to the large Class I railroads, with whom they both connect and compete.

All short lines were sent survey forms soliciting their needs, along with details of track mileage, ownership, and connections to Class I railroads. Of the 29 Georgia short lines, 25 completed and returned the surveys. Appendix A.3 presents the information provided by these short line railroads.

4.4 Port-Rail Improvements

The *Georgia Statewide Freight and Logistics Plan* highlighted ways Georgia ports contribute to the economic wellbeing of the state. Their ability to continue to do so depends on continuing investments in the port-rail infrastructure. Noted below are potential rail improvements at the Ports of Savannah and Brunswick which could facilitate efficient operations and ensure the ports' competitiveness relative to other regional ports north and south.

4.4.1 Port of Savannah

Chapter 2 noted recurring rail and rail-related motor vehicle congestion in the Garden City Terminal. Solutions could include building more tracks for storage, double-tracking or reconfiguring storage leads (thus increasing yard capacity); and constructing grade-separated crossings (eliminating conflicts with trucks).

Studies are currently underway investigating potential rail improvements and grade separations, specifically on State Route 25 and State Route 21.

4.4.2 Port of Brunswick

Chapter 2 noted the single rail lead into the Colonel's Island Terminal hindering efficient train operations. Solutions could include a parallel rail lead and the reconfiguration of the rail plant at the terminal to handle bulk cargo and set-up automobiles more efficiently.

Also, as noted in Chapter 2, in order to maximize the rail service opportunities at the East River Terminal, the rail infrastructure could be expanded to provide more efficient access for both CSXT and NS to expand transport capacity to handle growth capability at Colonels Island. Improved access could include additional track or restoring track that had been abandoned.

4.4.3 Network Georgia

As noted in Chapter 2, the GPA identified goods movement in and contiguous with the Georgia market as a strategic opportunity. A GPA initiative named Network Georgia defined six zones of service as shown in the **Figure 40**. Each zone has an inland intermodal facility linked to the Port of Savannah. As the figure shows, the facility serving southwest Georgia is in Cordele, i.e., the Cordele Intermodal Center.

Figure 40: Network Georgia



NETWORK GEORGIA

Zones:

1. SW Georgia - Cordele
2. NW Georgia
3. Port Atlanta
4. I-95 Corridor - North
5. I-95 Corridor - South
6. Middle Georgia

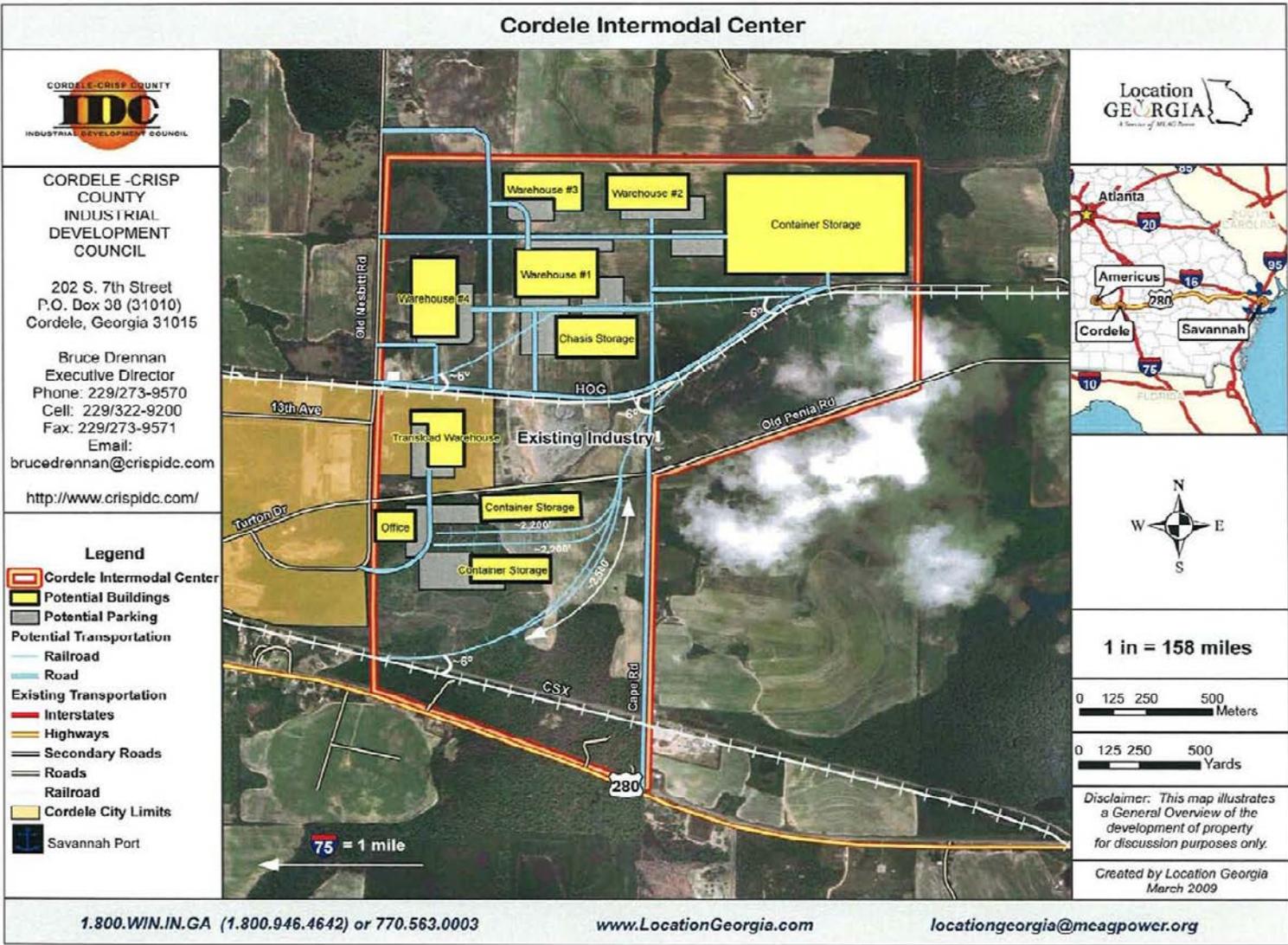
Source: Georgia Ports Authority.

4.4.4 Cordele Intermodal Center Build-out

Plans also exist for the build-out of the Cordele Intermodal Center, to include more container storage and warehouse space, as seen in **Figure 41**. The existing facility is along 13th Avenue just west of the area shown in the figure.

Should the Port of Savannah gain major increases in international container traffic due to its deepening, economic growth in the Southeastern United States and expansion of the Panama Canal, it would be reasonable to expect that container volumes at the Cordele Intermodal Center would grow as a consequence.

Figure 41: Cordele Intermodal Center Build-out



Source: Cordele-Crisp County Industrial Development Council, 2009.

4.5 Highway-Rail Crossing Improvements

GDOT spends about \$8.2 million per year on crossing improvements to enhance safety. Funding comes from the Federal Highway Safety Improvement Program (formerly Section 130 funds). Of this amount, crossing hazard elimination receives \$4.4 million and crossing protection devices receive another \$3.8 million. GDOT strives to consolidate projects where possible (e.g., a combination of closures and warning device installation as one project). Refer to section 2.2.6 for a rail crossing inventory and safety data.

Through 2015, GDOT anticipates spending \$8.5 million, mostly for installation of gates and flashing lights at crossings. The funding source will be the Highway Safety Improvement Program (HSIP). For the long term, GDOT identified specific goals for rail safety and estimated the costs for achieving these goals. The goals and costs are discussed in Chapter 5.

4.6 Concepts from Stakeholder Outreach

Attendees of the three rounds of public meetings and the May 2014 stakeholder workshop, interviews with Class I and short line shippers, and the on-line survey provided on the *Georgia State Rail Plan* webpage on the GDOT website provided numerous project concept suggestions. Excepting the projects identified by CSXT and NS appearing in Section 4.2.2, and those identified by short lines and appearing in Appendix A.3, these concepts included the following.

4.6.1 Proposed Freight Projects

- Address rail congestion at Cordele:
 - This is the crossing of the Heart of Georgia Railroad (HOG) east-west line and the CSXT and NS north-south lines; the three rail lines cross at-grade in Cordele.
 - Occasionally, trains of one or two railroads can be delayed by a third.
 - Solution may be a grade separation of the three lines.
- Construct a downtown intermodal yard in Columbus:
 - The facility would provide intermodal shippers access to NS's east-west line between Birmingham, Macon and Savannah.
- Construct intermodal facility on the east side of the Hartsfield-Jackson Atlanta International Airport:
 - The facility would provide intermodal shippers access to the NS main line between Atlanta, Lovejoy, and Macon.
 - A model for such a facility might be the Rickenbacker Global Logistics Park now under construction nearby Rickenbacker International Airport in Columbus, Ohio, which is in close proximity to an NS intermodal terminal.
- Construct a rail connection to Jasper Port:
 - Jasper Port is a new container port development on the Savannah River, east of Savannah, in South Carolina.

- The port would supplement the container handling capacities of Ports of Savannah and Charleston.
- Rail access would increase attractiveness of the facility for Georgia and South Carolina shippers.

4.6.2 Proposed Safety and Security Projects

- Upgrade East President Street crossing of CSXT in Savannah.
 - A grade separation has been proposed for this crossing by the Coastal Region Metropolitan Planning Organization.⁸¹ The improvement will eliminate the existing at-grade crossing in order to provide a safer, more efficient corridor. It will eliminate delays to motor vehicles, thus providing for more efficient traffic flows on East President Street.
- Upgrade of SR 25 and SR 21 crossings of NS and CSXT lines in Garden City.
 - The Coastal Region Metropolitan Planning Organization proposes a grade separation of SR 25 and the NS and CSXT lines in Garden City.⁸² The grade separation will improve safety, decrease Garden City Fire Department response times, enhance traffic circulation on US 17/SR 25, better facilitate rail car switching, and improve intermodal rail operations to and from the Port of Savannah by closing two at-grade crossings and replacing two additional at-grade crossings with a bridge over the CSXT and NS rail lines serving the GPA's Garden City Terminal.
 - A grade separation of the CSXT crossing of SR 21 would eliminate delays to heavy motor vehicle traffic on August Road.
- Construct depressed track corridor approaching Savannah.
 - No corridor was specifically identified for this improvement; both CSXT and NS approach Savannah from the northwest, and CSXT approaches Savannah from the southwest.
 - A grade separation, with the rail route in trench, would eliminate grade crossings and delays to motor vehicle traffic, but it would very expensive to implement.
 - NS and CSXT main lines cross each other in Garden City, and schedule impacts are felt up and down the East Coast.⁸³ A railroad grade separation with one line in a trench would eliminate train delays due to the crossing.
- Grade separate at-grade crossing of the NS, CSXT and HOG in Cordele (also suggested as a rail efficiency improvement above).

⁸¹ Chatham County Metropolitan Planning Commission site accessed May 29, 2015:

http://www.thempc.org/documents/Transportation/HB%20277/HB_277_project_CORE_MPO_submittal_Revised.pdf, page 49.

⁸² Chatham County Metropolitan Planning Commission site accessed May 29, 2015:

http://www.thempc.org/documents/Transportation/HB%20277/HB_277_project_CORE_MPO_submittal_Revised.pdf, page 183.

⁸³ Freight-Rail Bottom Line Report, American Association of State Highway and Transportation Officials, 2000.

Chapter 5. Rail Service and Investment Program

5.1 Introduction

This chapter describes Georgia’s Rail Service and Investment Program (RSIP), inclusive of three major parts. First is the state’s long-term vision for rail service and its role in the statewide multimodal transportation system. Second are the specific projects, programs, policies, laws, and funding necessary to achieve Georgia’s rail vision. The RSIP is organized as short-range (2015 to 2018) and long-range (2019 to 2040). Lastly, the RSIP describes the related financial and physical impacts of the proposed program of projects.

5.2 Georgia’s Rail Vision

The development of Georgia’s rail vision was informed by an extensive public and stakeholder outreach process (described in Chapter 6), and a review of existing GDOT planning documents and state rail plans of other states. These efforts identified common themes relevant for setting a direction for rail planning in Georgia. Based on a consensus of the *Georgia State Rail Plan* Steering Committee members, the rail vision statement is as follows:

Georgia Rail Vision Statement

“A safe and energy efficient state rail system that enables the economic wellbeing of Georgians by expanding access and enhancing mobility for people and goods in an environmentally sustainable manner.”

5.2.1 Related Rail Goals and Typical Initiatives

A review of existing GDOT planning documents, and comments obtained from the outreach process, assisted in developing more specific goals in support of the broader vision statement. Issues identified during the outreach process included beneficial aspects of the physical rail system and services, as well as negative issues such as the lack of service, poor service quality, deficient infrastructure, regulatory or institutional obstacles, or disruption to communities.

The resulting goals align with the vision, consistent with comments received from public outreach activities and based on consensus of the *Georgia State Rail Plan* Steering Committee members. To more clearly define the goals listed below, each includes typical initiatives as examples.

- **Enhance safety and security** – Typical initiatives could include minimizing grade crossing accidents, hazmat spills, theft from trains and rail facilities, and upgrading deficient rail infrastructure.
- **Provide for a reliable, enhanced and interconnected passenger rail system** – Typical initiatives could include improvements to on-time performance and reliability for existing services, ADA compliance at rail stations, and expansion of intercity and commuter passenger services.
- **Promote and expand intermodal connectivity** – Typical initiatives could include new or improved freight intermodal facilities and highway connectors and better linkages between intercity and urban mass transit passenger services with improved access for pedestrians and cyclists.
- **Develop an energy efficient and environmentally sustainable rail system** – Typical initiatives could include retrofitting to lower emission diesel electric locomotives, and implementing strategies and policies to encourage the diversion of passengers and freight from highways to rail.
- **Preserve and improve the existing rail infrastructure** – Typical initiatives could include projects to accommodate the higher maximum loaded car weights on Georgia short lines (i.e., 286,000 pounds) and upgrading track and bridges to improve operating efficiency and main line capacity, and improved access to rail users through new sidings and additional car storage capacity.
- **Enhance economic development and competitiveness** – Typical initiatives could entail promoting new rail-served development to attract new rail-oriented industries and the implementation of industrial access funding aimed at lowering transportation costs for rail shippers.

5.3 Program Coordination: Integration of the Rail Vision with Other Transportation Efforts

This *State Rail Plan* integrates with and expands upon other Georgia transportation plans including the *Georgia Strategic Transportation Plan, 2010*; the *Georgia Statewide Freight and Logistics Plan*; the *Georgia Highway-Rail Grade Crossing Action Plan, 2011*; and the *Statewide Strategic Transportation Plan Update, 2013*.

The goals of the *Georgia Strategic Transportation Plan* and the 2013 update include:

- Supporting Georgia’s economic and growth competitiveness;
- Ensuring safety and security;
- Maximizing the value of Georgia’s assets; and,
- Minimizing impacts on the environment.

This *State Rail Plan* addresses each of these *Statewide Transportation Plan* goals with respect to how they are affected by the rail mode within Georgia.

As Georgia shares rail corridors and services with other states, it is essential to coordinate with other states through both direct interaction and through comprehensive review and analysis of state rail plans prepared by other states in the region. Georgia invited surrounding states to participate in the *State Rail Plan's* stakeholder workshop held at GDOT May 20, 2014 and submitted the draft *Plan* to the states for their review and comment.

PRIIA legislation directed FRA to develop a *Preliminary National Rail Plan* to address the rail needs of the U.S. The preliminary plan, published in October 2009, provided objectives for rail as a means of improving the performance of the nation's transportation system, which included:

- Increased passenger and freight rail performance;
- Integration of all transportation modes to form a more complementary transportation system;
- Identification of projects of national significance; and,
- Providing for increased public awareness.

Since 2009, the concept of developing a federal national rail plan has evolved toward capturing state rail planning findings, and reflecting the issues and priorities addressed in various state rail plans. An outgrowth of this process will likely be development of regional rail plans and multi-state corridor plans inclusive of solutions for freight and passenger service issues on a regional rather than state-by-state basis. GDOT will work with FRA and other states in the region to ensure that the regions' rail perspectives and issues are adequately addressed within the national rail planning process.

In addition to the need to coordinate Georgia's *State Rail Plan* with a national rail plan process and the existing freight rail network, Georgia will also coordinate as necessary with the U.S. Military Surface Deployment and Distribution Command's Transportation Engineering Agency, which oversees the federal National Strategic Rail Corridor Network (STRACNET). The STRACNET is comprised of a 32,000-mile interconnected network of rail corridors and associated connector lines most important to national defense. **Figure 42** depicts the STRACNET system within Georgia. In addition to providing main line corridor throughput capability, these lines provide access to major defense contractors, logistics sites and military facilities critical to national defense.

5.4 Rail Agencies: Proposed Organizational, Policy, Legislative and Program Changes

GDOT's Intermodal Division performs rail planning for the state. FRA's state rail plan guidance requires states to identify proposed organizational, policy, legislative and program changes. This *State Rail Plan* does not recommend any changes to the Intermodal Division's duties, nor does it recommend the creation or abolition of any other agencies or authorities. Furthermore, this *State Rail Plan* does not propose policy, legislative or program changes.

Figure 42: Strategic Rail Corridor Network



5.5 Intended Effects of Rail Program Implementation

Appearing in Section 5.8 is GDOT’s proposed program of projects, i.e. its Rail Service and Investment Program, for the short-range (from 2015 to 2018) and for the long-range (from 2019 to 2040). Not included are Class I railroad projects, as these railroads are considered sufficiently capable of funding their own improvements.

The projects proposed are based on those activities that best protect the state’s past rail investments and the future viability of state-owned rail lines, improvements to other local short line railroads

operating in the state, the reduction or elimination of major freight bottlenecks, improvements in rail infrastructure at ports, rail safety, and rail passenger improvements that are based on preservation and improvement of existing service, the safety of passengers, and potential rail passenger service expansion. These projects offer substantial potential benefits.

As the majority of intercity rail passengers divert from the automobile, service improvements and expansion will result in a more extensive and diverse intercity transportation network, enhanced mobility, transit-oriented development, increased tourism and access to job opportunities, and increased energy efficiency. For rail freight improvements, the benefits involve increased transportation competition resulting in lower cost to shippers, less highway congestion and damage, and reduced environmental and energy impacts. By their nature grade crossing improvement projects, as well as other rail-related improvements, also increase transportation safety.

5.6 Rail Project Impact and Financing Analysis

FRA's state rail plan guidelines require states to describe how capital projects were analyzed, with regard to their impacts on passenger rail ridership, potential diversion from highway and air to rail, passenger rail revenues and costs, freight rail project benefits, etc. States are also required to describe their 4- and 20-year (or more) financing plans for passenger rail capital and operating costs. Discussion of these analytical areas for both passenger and freight rail projects included in the RSIP are presented below.

5.6.1 Passenger Rail

Passenger Rail Project Impact Analysis

Most significant rail intercity or commuter rail projects have a positive impact on overall rail passenger ridership, rail passenger miles travelled, modal diversion from highway and air, and increased rail passenger revenues and / or reduced costs.

Georgia currently has a limited amount of control over the rail passenger operations within the state. Amtrak operates intercity passenger rail operations, and as these services in Georgia are multi-state long distance routes, operations within the state represent only a portion of the total service area. These limitations also reduce the state's ability to significantly affect positive impacts on other modes or influence major modal diversion.

As noted in Chapter 3, GDOT has conducted studies of potential new intercity and commuter passenger rail services which will allow it to evaluate the estimated ridership, passenger-miles, revenues and costs for new services or service extensions. These studies provide the benchmark information necessary to determine the merit of further analysis and potential investment in the proposed services.

Passenger Rail Project Financing Plan

Georgia is limited in the means available to increase the frequency and level of service of its long-distance passenger trains. Any capital investments related to the overall corridors must be made at the regional level with concurrence by Amtrak, other states served by the route, and the rail line owners.

GDOT, however, can consider contributing to the preservation, and possibly the eventual expansion, of these routes by taking advantage of and leveraging all available opportunities to increase ridership. The proposed improvements, such as improvements that will result in compliance with ADA rail station standards, will provide increased access to the rail services. The *State Rail Plan's* process proposed a number of additional projects that could benefit intercity rail services in the state.

Georgia's lack of direct control over these rail passenger corridors' physical and operational characteristics, as well as the current limited funding available for rail projects, require that public investments be limited to specific, strategic projects that help secure or improve service, increase ridership and provide commensurate public benefits. The state may also investigate the feasibility of expanding rail passenger service's reach through the implementation of shuttle bus service connections, and coordination with other states toward larger, regional solutions.

Passenger Rail Operations Financing Plan

Georgia's intercity passenger rail service is limited to Amtrak long distance routes. Amtrak has sole fiscal responsibility for these long-distance routes. Amtrak service differs from state-supported intercity passenger corridor services where states have the financial responsibility for operating losses but also a voice in the expected performance and operation of the service. Amtrak operates most state-sponsored intercity service as a contractor to states.

The establishment of new corridor services without federal financial assistance would require Georgia to not only provide the financing for capital improvements necessary to upgrade routes to passenger service standards, but also to bear the responsibility for service operating losses in accordance with PRIIA legislation.

Therefore, in light of the current uncertainties with regard to prospective federal rail funding, decisions to move ahead with an aggressive passenger rail program must be supported by a comprehensive planning effort. The more detailed studies of expanded commuter and intercity rail will include a comprehensive examination of all potential financing sources and alternatives to ensure that the public is kept aware of the financial benefits and costs of each alternative.

Passenger Rail Economic Benefits

Studies of new passenger services comprise the largest share of investment dollars in the short term, but there are improvements to existing Amtrak stations and services that will enhance the attractiveness, safety and accessibility of intercity rail travel and thus enhance mobility. Long-range investments will go further, building intercity and Atlanta commuter rail networks with the potential to facilitate economic growth and enhance the quality of life for Georgians.

5.6.2 Freight Rail

Freight Rail Project Impacts and Financing

Georgia has a larger measure of control over freight rail service considering its ownership of some rail lines in the state. The state's ownership of these rail lines provides incentive to not only preserve rail service on these lines, but to improve both the levels of service to induce economic benefits to the local communities as well as the financial viability of the railroads. GDOT strives to accomplish this by

focusing its investments on improving overall service efficiency, meeting the needs of specific shippers, and expanding access and service capability to attract new business.

Freight Rail Financing Approach

With the security of having rail ownership, Georgia has striven to provide the financial resources necessary to meet the infrastructure needs of its railroads through state budget allocations.

The lack of a dedicated, discretionary rail assistance program limits GDOT's ability to address short line railroad needs in a comprehensive manner. GDOT's ability to address strategic rail needs statewide nevertheless is a real need. Presently GDOT relies on authorizations for specific improvements from the Legislature. An additional potential source of freight project funding may be public-private partnerships, whereby railroads, shippers, and GDOT work together to finance projects.

Freight Rail Economic Benefits

Because GDOT's proposed short-range program focuses on short line railroads owned by the state, the public benefits include not only the transportation-related economic and socio-environmental benefits involved in providing competitive rail service itself, but also the preservation and protection of state-owned assets. These rail lines have also steadily produced increased traffic levels which have resulted in former and new shippers receiving cost efficient service.

Through this *State Rail Plan* process, GDOT has also developed a better understanding of the rail industry's plans for growth within the state and the projects deemed necessary to facilitate this growth. Therefore, private sector rail projects, if deemed to provide sufficient public benefits in the future, may receive increased public financial assistance in the future should additional funding become available.

As most proposed long-range projects have yet to be analyzed with regard to their economic feasibility, it is premature to identify any correlation between the level of public investment and benefits.

5.6.3 Rail Program Impacts Summary

As noted in Chapter 2, the impacts of freight and passenger rail services in Georgia provide sizable impacts in terms of cost savings and employment. Palpable benefits of rail improvements include lower transportation costs and enhanced mobility. GDOT's proposed short- and long-range rail investment plans are intended to have a high correlation between the public funding provided and their intended benefits.

The state's proposed short- and long-range projects preserve and increase the efficiency of rail operations of its freight railroads and improve and expand intercity and commuter passenger rail services. Typical benefits related to upgrading short line railroads involve the increase of operating efficiency, and thereby the financial health, of both the railroad and the shippers being served. New or improved passenger rail operations provide more cost effective travel alternatives to both commuters and longer distance travelers.

The existing economic and socio-environmental impacts of the state's freight and passenger services have been documented Chapter 2. In general, any increases in operating efficiency and improved access to rail service for either rail passengers or freight users through continued improvement of the network would enhance these impacts.

With regard specifically to the proposed long-range projects, these have yet to be analyzed with regard to their individual economic impacts and feasibility.

5.7 Rail Studies and Reports

Analysis of Georgia's rail network and comments and recommendations provided at the *State Rail Plan's* outreach meetings resulted in a number of recommendations for studies to determine the feasibility of future projects or state-sponsored services to improve rail operations in Georgia.

Potential rail studies which will be considered in the future, pending the available staff and / or financial assets required, center on the following areas:

- The integration and connection of intercity and commuter passenger rail services;
- Regional commuter-type service studies;
- Other rail freight service efficiency, safety enhancement, and tourist railroad marketing studies.

The sections below discuss this in more detail. Section 5.8 and Appendix E identify specific, proposed studies.

5.7.1 Proposed Rail Passenger Connection Studies or Pilot Initiatives

A number of proposed intercity feeder (rail or bus) initiatives were recommended for further study during the stakeholder outreach process. The feasibility of these initiatives could be determined by undertaking an analysis and prioritizing the feeder connections on the basis of route population or work trips between service endpoints, and then undertaking a short pilot operation to determine the economic feasibility of the service. Indeed, one such pilot program appears in the short-range projects list, i.e., shuttle bus service linked with the Amtrak *Crescent* in Atlanta. Depending on the success of this initiative, other services could be implemented, linked with the *Silver Star*, *Silver Meteor* and the *Palmetto* in Savannah.

5.7.2 Regional Rail Passenger Corridor and Tourist Railroad Studies

Regional rail passenger service studies entail the analysis of establishing new rail passenger corridors or providing additional service over existing corridors. Studies involve the determination of estimated ridership, service economics, and major capital investment needs. Georgia has already undertaken a number of intercity and commuter rail passenger studies to determine the level of feasibility and other data. In light of the limited amount of federal financial assistance available to implement these high cost services past studies must be updated and alternative projects prioritized to ensure that state funds invested return the highest level of public benefits possible.

A more comprehensive study of the state’s tourist railroad operations, with emphasis on coordinated marketing and impacts on the respective local economies, could further support the state’s reputation for tourism and recreational activities.

5.7.3 Other Rail-Related Studies

A number of additional study recommendations resulted from the *State Rail Plan’s* public outreach and Steering Committee. These include the identification of priority rail freight corridors and capacity constraints to ensure that the state’s main line rail network remains competitive and capable of accommodating the increasing level of intermodal and other freight movements necessary to support its port operations and to provide the most efficient level of service possible to its rail users. This requires an additional level of planning and data collection to provide the information necessary to support the state’s ability to work with the freight railroads to implement the needs identified.

To support all of the state’s rail-related goals, an important area of study is to determine the financial sources and partnership arrangements necessary to implement the needs identified and additional services desired. This may involve identifying legislative changes and funding sources that can provide a reliable and transparent source of funds that enable both the investments required but also provide the public with proof that the funds were utilized to provide visible public services and benefits. Partnership arrangements, between the state and localities and with other states, must be carefully structured and coordinated to ensure the efficiency of project implementation and a fair division of both the level of investment and potential benefits. Lastly, safety enhancement at highway-rail crossings is fertile ground for further study. As described in Section 5.8 below, GDOT has embraced a three-faceted goal of improving safety at crossings over the next 25 years. Analysis could provide a path forward for achieving this goal, by identifying and prioritizing specific projects aimed at reducing accidents at crossings given the levels of funding available.

5.8 Georgia’s Short- and Long-Range Rail Program of Capital Projects

This section identifies the short-range and long-range program of projects, consistent with PRIIA requirements, with specific project detail appearing in Appendix E. The short-range projects have been limited to those for which funding will be available based on past legislative budget allocations for rail projects. Long-range projects include specific projects or prospective projects which could arise from various studies for which funding has not been committed, but have been deemed important as part of a multi-year program that exceeds the four-year short-range period. Appendix E lists the projects anticipated public benefits and cost estimates. The projects are prioritized in terms of short-range projects, that is, projects which will occur in the first four years (2015 to 2018); and long-range projects, that is, those projects that will be considered between Years 5 to 25 (2019 to 2040).

Table 54 provides a summarization of Georgia’s Rail Service and Investment Program. It includes short and long-range projects and estimated costs for each. It lists projects by category (passenger improvements and freight and safety improvements) and time frame (short-range and long-range). The following narrative discusses these projects.

Table 54 Rail Service and Investment Program

Short-Range Projects and Studies (Years 1-4)	Cost in Millions
Passenger Improvements	
ADA compliance and state of good repair improvements at Amtrak stations (5)	11.7
Atlanta region commuter rail plan update	1.5
Downtown Atlanta Multimodal Passenger Terminal planning and design	0.5
Analysis of alternative locations for relocation of existing Atlanta Amtrak station	0.5
Studies of new intercity service from Atlanta to Charlotte, Chattanooga, Macon and Columbus	43.6
Pilot shuttle bus between Macon and Atlanta tied to Amtrak <i>Crescent</i> study	1.0
Subtotal	58.8
Freight and Safety Improvements	
GDOT owned short line track and structure improvements	37.8
Atlanta region rail capacity study	2.0
Short line economic impact analysis	1.0
GDOT owned short line infrastructure inventory and needs analysis	1.0
Grade crossing safety improvement projects	36.0
Subtotal	77.8
Short-range Total	\$136.6

Long-Range Projects and Studies (Years 5-25)	Cost in Millions
Passenger Improvements	
Atlanta Multi-Modal Passenger Terminal engineering and design	50.0
Atlanta commuter rail engineering and design	50.0
Engineering and design for new passenger services from Atlanta to Charlotte and Atlanta to Chattanooga	100.0
New Atlanta Amtrak station	35.0
Intercity passenger rail network vision*	TBD
Subtotal	235.0
Freight and Safety Improvements	
Atlanta region rail capacity solution engineering and design	5.0
Specifically identified short line infrastructure projects	218.1
Ongoing maintenance of GDOT owned short line railroads (lump sum)	877.8
Crossing safety improvement program (lump sum)	189.0
Subtotal	1,289.9
Long-range Total	\$1,524.9

Rail Program Total	\$1,661.5
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*Costs to be determined during future, corridor specific studies

5.8.1 Short-Range Rail Investment Program

Proposed short-range projects, totaling \$136.6 million, have been evaluated largely on the basis of their respective sources of funding eligibility and evaluation of benefits to be realized from the completion of the projects.

Projects identified for potential funding have been selected largely on the basis of preserving the state's past investments and improving the levels of service and financial performance of its state-owned railroads as well as the estimated benefits expected for projects in terms of freight and passenger system efficiency, job creation and retention, transportation savings, energy and environmental benefits, and other program-specific benefits.

The short-range grade crossing improvement projects' primary intent is to provide active warning devices at crossing locations where they do not currently exist.

Proposed Short-Range Passenger Rail Projects

GDOT's proposed short-range passenger rail projects are aimed at improving intercity passenger service facilities, expanding ridership on existing routes, and identifying priority commuter rail routes for implementation.

Proposed intercity passenger rail projects will focus on addressing ADA deficiencies at existing Amtrak stations within Georgia (Atlanta, Gainesville, Jesup, and Savannah) to provide full access to existing Amtrak services and improve the level of safety at these stations. These improvements are estimated to cost approximately \$11.7 million.

The short-range program will also be directed at advancing passenger-related projects that are already in various planning stages. Existing commuter rail studies will be updated, and alternatives analyses will be advanced for identifying a priority route(s) for service implementation. With regard to intercity passenger service, various projects are identified. These include:

- Preliminary engineering and design necessary to preserve right-of-way and provide access to a new intercity passenger station in Downtown Atlanta, i.e., the Georgia Multi-Modal Passenger Terminal (MMPT);
- Analysis of alternative locations for the relocation of the existing Atlanta Amtrak station, which could include co-locations with MARTA heavy rail stations to encourage intermodal connectivity (e.g., at stations along MARTA's Northeast Line which parallels the NS main line to Doraville);
- Analysis of the expansion of conventional rail service (79 MPH maximum speeds) between Atlanta and Charlotte;
- A Tier 1 National Environmental Policy Act (NEPA) process for the proposed Atlanta-Columbus intercity passenger service;
- A Tier 1 NEPA process for the proposed Atlanta-Macon intercity passenger service;
- A Tier 2 NEPA process for the proposed Atlanta-Chattanooga intercity passenger service;

- A Tier 2 NEPA process for the proposed Atlanta-Charlotte intercity passenger service; and
- A pilot program to provide shuttle bus intercity route feeder service between Atlanta and Macon for the Amtrak *Crescent*.

Regarding the pilot intercity shuttle service, the buses would be tied to the arrival and the departure of the *Crescent*. The shuttle bus would be able to access the space-constrained Atlanta Amtrak station. *Crescent* tickets would be purchased inclusive of the shuttle service. All of these attributes would make the service as seamless and user friendly as possible, thus encouraging its use by Amtrak riders. Should this pilot shuttle service prove successful, it could warrant further study of an Atlanta to Macon conventional and or higher speed passenger rail service.

The Short-Range – Passenger Projects category of Appendix E includes details of the proposed projects.

Proposed Short-Range Freight Rail Projects

During the four-year short-range program period, the proposed freight rail projects entail upgrading state-owned short line railroads and conducting studies related to relieving strategic rail congestion points.

State-owned short line railroads identified for track, bridge and other infrastructure improvements will include:

- Chattooga and Chickamauga Railway;
- Georgia and Florida Railway (CaterParrott Railnet);
- Georgia Northeastern Railroad;
- Georgia Southwestern Railroad;
- Heart of Georgia Railroad; and,
- Ogeechee Railroad.

The infrastructure upgrades of these railroads will generally include replacement of deficient crossties and rail, and upgrading or replacement of bridges to attain higher FRA track class and / or accommodate 286,000-pound car loadings. This *Plan* allocates approximately \$37.8 million toward short line rail improvements during the short-range period.

The short-range program includes conducting an Atlanta Region Rail Capacity Analysis to assess railroad congestion in and around Howell Junction with the goal to provide additional capacity for both existing freight and new passenger services in the Atlanta region. The estimated cost of this study is \$2.0 million.

This *Plan* identifies two additional and more detailed freight studies. First is a detailed inventory and assessment of needs for GDOT-owned short lines to achieve compliance with the goal of being able to handle FRA Track Class 2 speeds and 286,000-pound loaded car weights. The second study is an assessment of the economic impacts generated by the state-owned short lines. The economic analysis

in Chapter 2 concerned impacts of rail carriers in the aggregate. The cost for the two studies is estimated at \$2 million.

The Short-Range – Freight Projects table in Appendix E describes the above projects in more detail.

Freight Rail Safety Projects

In addition to the short-range projects described above, GDOT will also undertake a number of rail safety-related initiatives over the next four years.

GDOT annually programs at-grade improvement projects on the basis of both project needs outlined in its *State Highway-Rail Grade Crossing Action Plan* and priority projects identified from its crossing accident prediction formula results and corridor analyses. An estimated \$9.0 million is programmed annually, primarily from the federal Highway Safety Improvement Program. Currently, Appendix E lists 2015 programmed projects, totaling \$8.5 million; additional projects will be added to the program as they are identified. Assuming approximately \$9.0 is programmed per year, the short-range program of four years includes \$36.0 million for grade crossings.

5.8.2 Long-Range Rail Investment Program

Georgia's long-range RSIP is comprised of projects identified by GDOT and other rail stakeholders to address rail passenger and freight needs and crossing safety. These projects, however, are not expected to be implemented within the next four years.

The long-range program includes prospective freight and passenger rail projects receiving support during the public outreach process, regardless of funding availability of analysis at this time, and other technical analysis. These projects are subject to additional feasibility analysis and evaluation of potential public and private benefits. Upon completion of these analyses, long-range program updates will reflect more current and accurate information. Upon the availability of state or federal funding resources, projects selected for implementation may move to the short-range RSIP.

Proposed Long-Range Passenger Rail Projects

For the long-range program (Year 5 through Year 25), projects previously identified in the short-range program will be further advanced toward implementation pending confirmation of construction and economic feasibility. These activities would include advancing preliminary engineering and design for the proposed MMPT and incremental commuter rail service. An estimated cost for these phases of work during the period is approximately \$100 million for the two projects. Supplements to this amount could occur as plans progress.

Preliminary engineering and design necessary to implement an upgraded Atlanta – Charlotte service and a new Atlanta – Chattanooga intercity passenger service are projected to occur during this period. The long-range program allocates approximately \$100 million for advanced planning and design, as well as necessary operating subsidy costs once the corridor services commence.

Construction of a new Amtrak station in the Atlanta region to serve the existing New York – New Orleans *Crescent* route as well as Greyhound intercity bus service is deemed necessary not only to

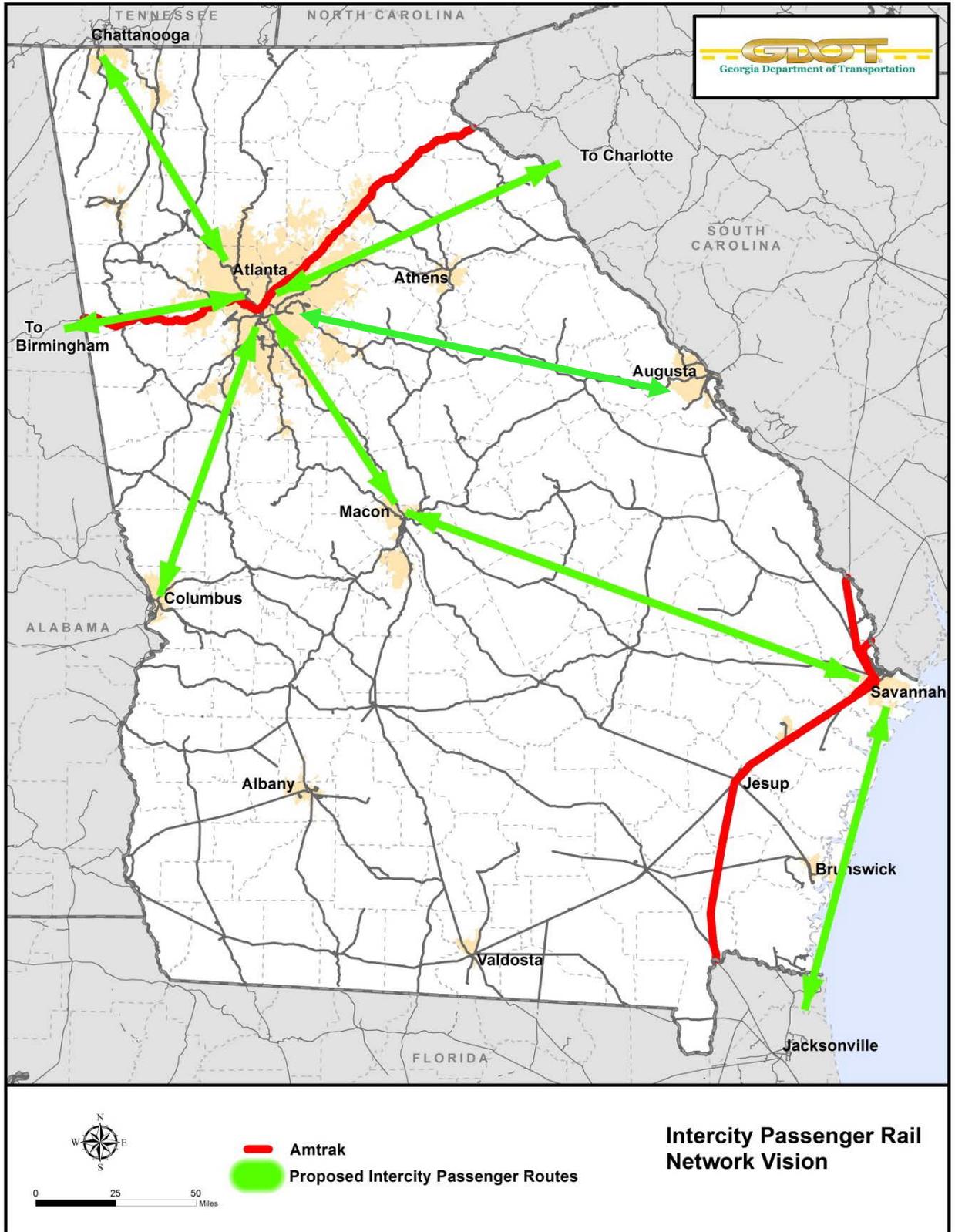
improve access and intermodal efficiency, but also due to the structural and operational deficiencies present at the existing station. The long-range program allocates approximately \$35 million for planning, design and construction of such a facility.

These projects, estimated at \$235 million, are described in more detail in the Long-Range – Passenger Projects table of Appendix E.

Intercity Passenger Rail Network Vision

The long-range program of projects also includes a network of intercity passenger rail routes, as depicted in **Figure 43**. Since the projects identified are long-range and detailed studies of the entire program of routes have yet to be performed, details, especially pertaining to cost estimates, are not available. For this *Plan*, cost assumptions have not been calculated.

Figure 43: Intercity Passenger Rail Network Vision



Proposed Long-Range Freight Rail Projects

Projects proposed for public funding beyond the four-year short-range program period will be subject to funding availability as well as further analysis as to their viability and relative benefits to costs. Short line railroad financial assistance could include independently owned railroads as well as those owned by GDOT.

Similar to the short-range program, the objective of most long-range projects will be to upgrade the track and bridge structures of railroads to increase their operating efficiency and to accommodate higher load weights to benefit the cost efficiencies of both the railroads and their customers. Rail carriers that have identified specific projects include:

- Cater Parrott Railnet
- Chattahoochee Bay Railroad
- Chattahoochee Industrial Railroad
- Chattooga and Chickamauga Railway
- Columbus and Chattahoochee Railroad
- First Coast Railroad
- Georgia Central Railway
- Georgia and Florida Railway
- Georgia Northeastern
- Georgia Southern Railway
- Georgia Southwestern Railroad
- Golden Isles Terminal Wharf Railroad
- Hartwell Railroad
- Heart of Georgia Railroad
- Hilton and Albany Railroad
- Ogeechee Railroad, and
- Valdosta Railway

The estimated cost of specifically identified short line railroad projects submitted for long-range program consideration is approximately \$218 million.

Advancement toward implementing potential recommendations from the Atlanta Region Rail Capacity Study during this period entails progression of preliminary engineering and design costs related to yet

to be defined, potentially recommended projects. \$5.0 million was allocated to this work, and additional work could be advanced depending on the total program of projects and funding availability.

These projects, totaling \$223.1 million, are described in further detail in the Long-Range – Freight Projects category of Appendix E.

Lastly, Chapter 2 identified needs for improvements to the rail infrastructure at Georgia ports. Improvements at the Port of Savannah’s Garden City Terminal could include building more tracks for storage, double-tracking or reconfiguring storage leads (thus increasing yard capacity), and constructing grade-separated crossings (eliminating the need for the current practice of breaking trains down into smaller consists of cars so that trucks can traverse grade crossings freely). At the Port of Brunswick, the single rail lead into the Colonel’s Island Terminal hinders efficient train operations. Solutions could include a parallel rail lead and the reconfiguration of the rail plant at the terminal so that bulk cargo and set-up automobiles can be handled more efficiently. The Georgia Ports Authority did not provide a specific improvements list and cost estimates to implement improvements.

GPA’s Network Georgia, noted in Chapters 2 and 4, is evolving, and no precise estimate of costs is available. To the extent that GDOT makes investments in support of that initiative in the future, these investments will be included in future iterations of the RSIP.

Long-Range Rail Freight and Safety Needs

In conjunction with and in addition to the short- and long-range proposed freight projects above, GDOT has set long-range goals for both the state’s short line railroad network and its public highway-rail crossings.

Within the year 2019 to 2040 long-range period, GDOT has set a goal for GDOT-owned short line carriers to have an infrastructure capable of FRA Class 2 track conditions (allowing 25 MPH operating speeds) and of accommodating 286,000-pound freight cars, which is currently the industry standard. Analyses determined the amount of additional investment that would be required based on the existing track and bridge infrastructure conditions of its short line railroad network and implementation of the proposed projects. Though specific individual projects were not identified in this *Plan*, programmatic costs for long-range improvements were calculated. The analysis resulted in the estimated need for an additional \$877.8 million⁸⁴ between 2019 and 2040 to attain these goals. Specific project will be identified in the future.

Also considered in this *Plan* are long-range roadway grade crossing needs addressing safety issues, as documented in GDOT’s *State Highway-Rail Grade Crossing Action Plan*. GDOT has established the following long-range goals for public grade crossings over the long-range period.

⁸⁴ Assumptions used to derive this figure include:

- 490 miles of GDOT owned and active short line railroad; 175 bridges
- \$400,000 per mile cost to rehabilitate and/or upgrade track
- 6-Year maintenance cycle for track
- Nine bridge replacements per year at an average cost of \$1,000,000 each

- A level of crossing warning devices of no less than gates and flashing lights on all public at-grade crossings over rail lines utilized for passenger services (with a priority on rail lines having passenger trains operating at speeds greater than 25 miles per hour);
- Upgrades of warning devices at crossings which have experienced multiple accidents over the past decade; and,
- Reducing the number of public at-grade crossings without active warning devices by at least 25 percent.

GDOT estimates an additional \$189 million will be required beyond existing crossing funding levels to attain these goals. This figure is based upon the assumption funding of \$9 million per year continues to be available for the 21-year term of the long-range plan.

Chapter 6. Coordination and Review

6.1 Introduction

This chapter describes how rail stakeholders were involved in the development and coordination of the various components of the *Georgia State Rail Plan*. The Georgia Department of Transportation made an early commitment to provide an ongoing stakeholder and public involvement process for all aspects of its *State Rail Plan*.

Stakeholders are individuals and groups affected by or have an interest in a particular project or action. It was determined that a wide variety of stakeholders would be interested in the *State Rail Plan* including the state's railroads; shippers; current and potential rail passenger users; various industrial and manufacturing sectors; state, regional, county and city government agencies; elected and appointed public officials; economic development and business interests; special interest and advocacy groups; and the general public. Stakeholder involvement extended to participation in rail planning activities, providing input to the proposed rail vision and goals for Georgia, identifying rail issues, needs and potential rail investments, and helping to define rail policies and performance metrics to ensure improved rail service into the future.

6.2 Public Participation Approach

To ensure that *Plan* development was guided, reviewed, and supported by a wide range of state public agencies and representation from both public and private transportation and economic development entities in the state, a *State Rail Plan* Steering Committee was developed to provide general direction and input into the *Plan* process.

The project scope of work called for the development of public outreach tools and a comprehensive public outreach effort that included a *Plan* website, holding public meetings and a stakeholder workshop, and conducting focused interviews of various stakeholders involved in or affected by the state's rail system. Each of these public participation elements and issues identified are described below, and in additional detail in Sections 6.3 and 6.4.

6.2.1 State Rail Plan Steering Committee

Georgia's *State Rail Plan* Steering Committee formed through the invitation and acceptance of state transportation officials, private railroad operators, FHWA, and representatives of the Georgia Railroad Association, Georgia Municipal Association, the Georgia Ports Authority, Amtrak, Georgia Center of Innovation for Logistics, Georgians for Passenger Rail, among others. Appendix F lists the Steering Committee members. The Steering Committee provided guidance to the *Plan* process, reviewed project reports, discussed proposed work and deliverables, and reviewed and provided comment on the draft *State Rail Plan* document.

The *Rail Plan* Steering Committee held meetings on March 12, May 21, August 19, and November 12, 2014. The March 12 Steering Committee meeting focused on reviewing the purpose and required content of rail plans, and discussing the proposed approaches for stakeholder outreach and project development. The May 21 meeting presented the results of the first round of outreach and preliminary operational and findings. At its August 19 meeting, the Steering Committee reviewed and recommended approval of the proposed state rail vision, goals, and short- and long-range projects, based on input and recommendations received from all aspects of the public outreach process. The November 12 meeting presented the Steering Committee with the key study findings, projects and recommendations, and solicited members' comment.

6.2.2 GDOT State Rail Plan Website

To provide a medium for public review of project findings, scheduled meetings and other information pertinent to the *Plan*, a project website was established. This website, located at <http://www.dot.ga.gov/IS/Rail/StateRailPlan>, included the project description, copies of public meeting presentations, and upcoming meeting notifications. Until the end of July, 2014, the website provided visitors the capability to take a survey to provide their views as to rail infrastructure and operational needs and rail-related opportunities that could improve both transportation and economic development within the state.

6.2.3 Stakeholder Interviews and Surveys

An effective and direct method of determining issues or areas of concern regarding the rail network in Georgia and soliciting the infrastructure, operational, policy, or other needs of these stakeholders with regard to rail operations is through interviews or surveys. During the analysis period of the *Plan*, all railroads operating in the state were contacted to solicit various information, with the information provided appearing in Chapters 2, 3 and 4, and Appendix A. The effort was to solicit information as to their operations, project or other needs, and their opinion as to what the public sector could do to assist or improve the efficiency and expansion of rail in Georgia. Similar surveys gathered input from shippers on both the Class I and short line railroad networks.

6.2.4 Coordination with Neighboring States

GDOT routinely interacts with neighboring states through involvement in national and regional transportation organizations, and to address specific transportation issues as necessary. GDOT invited rail coordinators in all neighboring states to participate in the *Rail Plan* Workshop (see below). They also had an opportunity to review the draft *State Rail Plan*, which was posted on the GDOT website in March 2015 to solicit comments from the public and other rail plan stakeholders.

6.3 Stakeholder Involvement in the Development of the State Rail Plan

Both public and private sector stakeholders played major roles in providing input into the *Plan*. The sections below describe the actions taken to involve stakeholders.

6.3.1 Public Outreach Meetings

GDOT held two series of public outreach meetings to educate stakeholders and the general public regarding the *State Rail Plan* process, obtain input for development of the state's rail vision, provide a forum for discussion of specific rail issues regarding Georgia's rail network, and provide a forum to review and solicit comments on proposed policies, programs and projects recommended for inclusion in the draft *State Rail Plan*.

The first round of meetings took place at the following locations:

- Dalton – April 15, 2014
- Atlanta – April 16, 2014
- Valdosta – April 17, 2014

These meetings were held in the evening and were open to the public. GDOT invited the public to these meetings using its standard public notification procedures such as press releases, etc.

Following introductions, a presentation by GDOT outlined the purpose of rail plans and federal requirements as to the contents of plans. A general discussion followed to identify appropriate elements for a rail vision and to identify rail-related issues and needs.

Sixty seven people attended the first round of outreach sessions. Participants included county and local government officials; metropolitan planning organization staff; local economic development organizations; short line railroads; rail contractors; rail labor; rail passenger advocacy organizations; rail-served industries; local media; and private citizens.

The second series of public outreach meetings were held August 12 through 14, 2014 at the same locations as above. Forty eight people attended the second round of public outreach meetings including representatives of the Georgia General Assembly; municipalities; economic development agencies; rail intercity and commuter passenger advocacy groups; metropolitan planning organization staff; environmental and environmental justice groups; local media; and private citizens.

Following introductions, GDOT provided a presentation outlining the proposed state rail vision and goals, the findings of the *State Rail Plan* process with regard to rail system operations and infrastructure needs, the estimated economic impacts of rail within the state, rail-related trends, forecasts, needs and opportunities, rail project proposals and rail planning recommendations.

6.3.2 State Rail Plan Stakeholder Workshop

On May 20, 2014, a special Rail Stakeholder Workshop was held in Atlanta to discuss this *Plan's* draft vision and goals, along with issues, strategies and potential projects to be considered in the development of the *State Rail Plan*. Forty stakeholder invitees attended the workshop. These included representatives of Georgia state agencies and authorities, an adjoining state Department of Transportation (Alabama), metropolitan planning organizations, various regional and county economic development organizations, environmental advocacy groups, and rail advocacy groups.

GDOT provided the participants with advanced materials outlining Georgia's draft rail vision and goals. Moderators then held roundtable exercises to solicit issues, strategies and potential projects for each of the goal areas.

6.3.3 Stakeholder Survey

In mid-April, 2014, GDOT publicized in notices and at its public outreach meetings the availability of a *State Rail Plan* website. Within the website, rail stakeholders and the public were invited to respond to a survey which measured their interest in improved rail commuter and intercity passenger service, and freight service within the state. GDOT also invited participants to express their opinions as to the proposed rail vision and goals, their level of support and prospective sources for increased public rail financial investment, and both general and specific proposed improvements to the rail system.

The survey consisted of 16 multiple choice questions to express their level of satisfaction with current services and to express their desire for service improvements. GDOT also provided participants the opportunity to add comments. Upon the close of the survey at the end of July 2014, over 100 survey responses had been received. A summary of the survey results appears in Appendix F.

6.3.4 Rail Shipper Outreach

Private sector freight rail shippers served by both Class I and short line railroads were contacted regarding the *Plan*. Rail shippers are defined as a business or company that uses rail for shipping or receiving all or part of their products or materials used to manufacture or produce their products.

Shippers' transportation managers were asked to comment as to problems or issues with rail service, potential infrastructure or operational improvements that could increase their rail use, and regulatory restrictions that impact rail service. Shippers were also asked their opinion as to the value of public rail retention and infrastructure programs, any other means by which the public sector could assist or enhance rail service to local industries, and their general views as to the future of local rail freight service.

The shippers responding to the outreach represented a large cross-section of the major commodities handled by rail in the state. These commodities included agricultural products (corn, wheat, soybeans, fertilizer), food products (animal fats, oil, meal, peanuts and peanut oil), chemicals, wood products, coal, autos and auto parts, resins and plastics, biodiesel fuel, and kaolin.

Section 6.4 summarizes issues identified in these interviews.

6.3.5 Railroad Interviews

All Class I and short line railroads operating within Georgia were contacted to solicit input into the *Plan*. In addition to describing their rail infrastructure and operations within the state, the railroads were asked to identify past investments and potential capital projects which would increase operational efficiency, capacity, and provide an improved level of service to their shippers. The railroads were also asked their opinion as to the need and value of a public rail assistance program.

Section 6.4 summarizes issues identified in these interviews.

6.3.6 Environmental Justice Interviews

Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income. To determine the level of existing and potential rail-related impacts on these groups, additional effort was made to present the purpose and process of the *State Rail Plan* to these groups. Interviews also solicited information regarding rail services needed to accommodate their future transportation needs.

The interviews consisted of one-on-one discussions with community leaders, officials and neighborhood activists from around the state. Those interviewed represented the African American, Asian American and Latin American communities, as well as agencies advocating for the elderly and aging, low income and disabled members of their communities.

Upon completion of the interviews, a report was prepared for GDOT which focused on which aspects of freight and passenger rail transportation were of greatest concern to Environmental Justice stakeholders and constituencies, their communication preferences regarding rail transportation policies and activities, and how the *State Rail Plan* could advance their transportation efforts. A summary of the issues identified is included in Section 6.4 below. The full report on the Environmental Justice outreach appears in Appendix F.

6.3.7 Public and Stakeholder Written Comments

GDOT received several comments by letter and e-mail during the course of the *Plan's* development. Members of the public, railroads, the Federal Railroad Administration, and public transportation planners, among others provided comments. The comments received appear in Appendix F.

6.4 Issues Identified During the Rail Plan Process

Rail-related issues expressed during stakeholder interviews, surveys or outreach sessions assisted in completing a number of the *State Rail Plan* components.

Information obtained as a result of stakeholder interviews and surveys helped develop and modify profile information as necessary, to identify infrastructure, operational, and regulatory issues, and to ascertain stakeholders' views on the effectiveness of the state's current involvement in rail planning and oversight as well as strategic roles the state could play in the future to address existing needs.

The following sections include summaries of the themes raised during the outreach process regarding existing rail issues at the local, regional or state levels and the direction or actions possible in the future. The rail related themes described include:

- General benefits, opportunities and threats;
- Intercity rail passenger service;
- Commuter rail passenger service;
- Freight;
- Safety and security;
- Economic development;
- Energy consumption and environmental protection;
- Environmental Justice;
- Financing; and,
- The role of public agencies.

6.4.1 General Benefits, Opportunities and Threats

The importance of rail transportation in Georgia is well understood based on comments received during the outreach process. Those stakeholders interviewed and attendees at public meetings appreciate freight railroads' operating and cost efficiencies, environmental and energy-related benefits, and especially its importance to Georgia's economy. They also understand the diverse roles of Class I and short line carriers, with short line carriers focused on providing direct local access to smaller businesses and industries around the state, and Class I railroads focusing on long-haul service and direct service primarily to larger rail users.

The importance of rail freight with regard to the further expansion of the state's ports, intermodal expansion, and reduced highway traffic congestion, which are deemed necessary to maintain Georgia's competitive position in the marketplace, was identified as a major issue. Freight rail-related opportunities were seen in improving intermodal access and diverting truck traffic from congested highways. The state's short line railroad network was also recognized as being essential to provide rail access to the numerous communities not served by the large railroads and to attract new industries or facilitate industry expansion in these communities.

The value and potential of existing and new intercity rail passenger services and the importance of implementing rail commuter service in the future was also understood. Although intercity rail passenger routes in the state are limited, they are recognized as providing an essential service.

The intercity rail passenger network in the state was viewed as lacking the scale and levels of service necessary to serve as a reliable transportation mode. The need for expansion of current services and the possible development of new passenger corridors and connections were viewed as both necessary

to serve the needs of those with limited transportation options and as an opportunity to provide economic development. The economic development potential related to establishing rail commuter service, especially in the Atlanta area, was deemed important to attracting business and industry and to relieve the region's congested highway system.

6.4.2 Intercity Rail Passenger Service

The stakeholder outreach process found a high level of interest in intercity rail passenger service. The reasons behind this interest included an increased demand due the desire for travelers to avoid driving, the need for accessible and affordable transportation for the elderly, low income and disabled, and the level of comfort and productivity which rail passenger service can provide to travelers. Stakeholders expressed the need for existing and future intercity rail passenger services to be reliable, provide access to more destinations, and to have multiple scheduled frequencies of service. Stakeholders were cognizant, however, that Class I railroad ownership of passenger routes and capacity constraints on these lines posed significant barriers to the expansion and improvement of passenger service.

Problems associated with existing intercity passenger service included limited service to major cities, inconvenient schedules with odd departure times, poor travel times and reliability, station needs such as the lack of compliance with ADA requirements and other station deficiencies, and the lack of connections to MARTA heavy rail transit service. Expressed also was the need for additional service frequencies, improved intermodal passenger connections at stations, and increased service reliability. Addressing these problem areas was considered essential to making rail passenger service more competitive with other modes.

It was recommended that GDOT identify and implement a new, short distance rail passenger service which shows significant potential for success. Ideally this service would include access to airport service and MARTA or other commuter modes. Recommended intercity passenger rail corridors identified during the outreach process included:

- Macon to Atlanta;
- Birmingham to Atlanta;
- Charlotte to Atlanta;
- Atlanta to Savannah;
- Valdosta to Atlanta, Savannah and Jacksonville;
- Columbus to Atlanta; and,
- Valdosta to Savannah.

A number of specific rail passenger improvement projects are discussed in detail in Chapter 3 – Proposed Passenger Rail Improvements and Investments.

6.4.3 Commuter Rail Passenger Service

The results of the stakeholder outreach effort found significant support for establishing rail commuter service in the Atlanta region. The major reasons behind this support were to avoid highway commutes, prevent the loss of skilled workers by offering multimodal traffic options, and enhance economic development through improved access to jobs and the establishment of transit-oriented development.

Stakeholders saw rail commuter service as a means to meet the lack of modal options in urban areas, provide transportation hubs as catalysts for economic development and jobs, and to address Environmental Justice needs. At the same time, stakeholders recognized the inherent barriers to establishing a commuter rail network, including the need to establish service on existing freight lines and associated capacity and liability issues.

Supporters envisioned a commuter rail network that provided high service frequencies, travel time savings and access to Downtown Atlanta. A one-seat ride was desirable, as well as access to MARTA and Amtrak connecting services. Recommendations included utilizing existing commuter rail plans to identify commuter segments that could be implemented incrementally. Specific service recommendations included:

- Doraville to Athens;
- Atlanta to Macon; and,
- Atlanta to Gainesville.

All of these are portions of the Atlanta commuter rail concept discussed in detail in Chapter 3 – Proposed Passenger Rail Improvements and Investments.

During the stakeholder outreach effort, a suggestion was made that payments from the freight railroad for the lease of the state-owned Western & Atlantic Railroad (Atlanta – Chattanooga) be used in support of the commuter rail initiative.

6.4.4 Freight

Shippers served by Class I railroads noted the importance of rail service in terms of transportation cost savings, especially regarding the movement of bulk commodities and shipments over long distances. Specific rail service problems identified by shippers included the shortage of locomotive power and train crews which impact their delivery schedules, delays in the interchange of cars between railroads which cause high demurrage (car storage) costs, rate increases, and the expeditious availability of rail cars.

A number of recommendations regarded preserving and improving the state's rail freight network, achieving a more balanced rail freight system in the state and contributing to the state's economic vitality. Foremost among the recommendations was improved and increased rail intermodal (international and domestic container) movements and facilities, such as improved connections to existing ports and establishment of inland intermodal container transfer operations. These improvements were deemed necessary to accommodate expected increases in intermodal movements

due to the Panama Canal expansion and to maintain and improve the state’s competitive position relative to other Atlantic ports.

Increased rail access and service to existing and prospective new businesses and industries within the state was emphasized. Also, improved direct rail connections to markets outside of the Southeast U.S. were recommended to increase transportation options and efficiency, and to reduce highway congestion. The need for increased use of rail for commodities such as agriculture and transportation (autos, etc.) and more efficient rail freight operations through the Atlanta area through the elimination of bottlenecks or creation of bypass routes were also noted.

The noted benefits of service by short line railroad operators included reliability and constancy of service. Issues identified included the need for infrastructure improvements including upgrading rail, ties, and bridges to accommodate 286,000-pound carload weights and for increasing operating efficiency and car availability. Shippers located on short line railroads noted the need for industrial sidings and car storage facilities, perhaps through a publicly supported program.

A number of specific rail freight projects were recommended to address intermodal expansion, existing bottlenecks, access, and rail operating efficiencies on specific rail lines. Chapter 4 – Proposed Freight Rail Improvements and Investments identifies these projects.

6.4.5 Safety and Security

Rail safety and security issues discussed during the stakeholder outreach process centered on at-grade crossing safety, railroad right-of-way trespass, the movement of hazardous materials, and the general condition of rail lines and stations.

Grade crossing safety concerns focused primarily on the need for coordination at the state and local levels to identify high priority crossing needs. Among recommended actions were increased public education for crossing safety including a closer relationship with Operation Lifesaver, emphasis on emergency vehicle response times at crossings to determine the need for grade separations, and implementation of medians and gates at high hazard locations and quiet zone crossings. A number of specific crossings were raised as potential project locations.

Persons trespassing on railroad property were identified as a major contributor to rail-related deaths and injuries. This problem is perceived as being especially serious in urban areas.

The movement of hazardous material, especially the increased movement of crude oil, was identified as an area requiring increased governmental oversight. Recommendations regarding the movement of hazardous material ranged from increased tank car safety standards to the need for improved data regarding hazardous material movements and increased coordination of emergency personnel.

Additional rail safety concerns raised include the condition of rail line infrastructure and the safety and security of rail passenger stations. The need to upgrade rail condition and older rail bridges, especially on short line railroads, was raised as a safety need as well as for the ability to accommodate heavier carload weights. The need for improved safety conditions at passenger stations, such as the installation of security cameras and additional lighting, was also noted.

6.4.6 Economic Development

Discussion regarding the linkage between the state's rail network and economic development centered largely on the need to improve intercity and commuter rail passenger and freight services for community development and increased jobs. There was general agreement that industry follows infrastructure and that improved rail infrastructure could attract businesses and related jobs to places in the state facing economic challenges.

Associated with the expressed need to increase and improve infrastructure was the need to increase rail access for both passengers and businesses and to reduce costs to not only expand the economy but to retain current business and jobs in the state. Environmental Justice stakeholders noted opportunities for job creation related to the rail industry as well as its ability to provide access to commerce through increased mobility.

A specific example of rail-related economic development needs included the need for businesses on short line railroads to be able to accommodate 286,000-pound carload weights. This is needed to remain competitive with similar businesses on rail lines that can accommodate the larger cars.

6.4.7 Energy Consumption and Environmental Protection

Rail transportation was generally portrayed as more energy efficient and environmentally friendly than other modes during the stakeholder outreach process. Participants noted that any diversion from highway to rail would enhance energy conservation and further protection of the environment.

Participants noted a number of energy and environmental issues related to existing rail operations. These included rail noise and traffic delays in the proximity of crossings, the division of communities due to railroads, the potential hazard from spills, the disposal of creosote rail ties, the need to reduce locomotive idling and increase fuel efficiency, and the utilization of older locomotives because they are exempt from more stringent EPA emission regulations. It was noted that there is little financial incentive for smaller railroads to invest in newer or retro-fitted locomotives to reduce emissions, and that the limited capital available has to be invested in areas with a greater financial return.

Stakeholders recommended that priorities to reduce energy consumption and emissions be directed to the use of newer technology and upgrades that enhance operational efficiency as well as the elimination of bottlenecks in congested areas to reduce locomotive idling and associated air pollutant emissions.

6.4.8 Environmental Justice

Environmental Justice stakeholders provided a number of insights related to their rail-related needs, concerns, recommended means of communication to convey information on transportation programs and policies, and requirements to ensure that the *State Rail Plan* be considered credible by the communities involved.

Rail-related needs were primarily associated with the need for employment opportunities and the expansion of economic development. Opportunities were seen in the areas of jobs related to the recent demand for rail cars, increased land values from expansion of rail activities, and improved

business opportunities related to the more efficient delivery of goods and services to the communities who need it.

It was noted that the Environmental Justice community is especially reliant on public transportation to travel both within the state and outside of the state. Rail passenger service was seen as more affordable than other modes and vital to income constrained citizens, as well as the mode that best accommodates citizens with special needs and disabilities. Required improvements to rail passenger service include increased access to rail passenger transportation, expanded and more convenient passenger service within the state, improved passenger rail connections to other states, and the need for improved public awareness of available services and education on how to use those services.

The stated concerns regarding current rail operations within communities were primarily related to environmental factors such as noise, emissions and related health concerns, communities divided by railroads, and the perception that the communities do not benefit from rail operations.

A number of recommendations were offered with regard to improved communications between GDOT and the communities with regard to both the *State Rail Plan* and the potential implementation of policies or programs. Emphasis was placed on the need for honest, face-to-face engagement with the community, recognizing language barriers, and partnering with organizations that the community trusts and respects. It was also recommended that any policy or project proposals clearly demonstrate a factual analysis of costs and benefits, both in total and specific to the affected community. Proposed systems must also understand the needs of the community, be designed with affordability in mind to serve low income users, and include comprehensive assessments of potential jobs and health impacts.

Environmental Justice stakeholders expressed interest in continuing to participate in the *State Rail Plan* process and to assist in communicating the *Plan* to its constituents to ensure comment and feedback.

6.4.9 Financing

The results of GDOT's public survey found a high level of support for the development of a public policy to invest in rail infrastructure and to identify a reliable source of funding for increased rail-related public support. The results of other stakeholder outreach mechanisms also showed general support for GDOT to develop a funding plan for public rail investments, especially when such funding can be linked to increased economic development.

Specific program areas recommended for public financing included increased maintenance of rail rights-of-way and track and bridge structures, especially for short line railroads; the elimination of grade crossings; construction or expansion of intermodal facilities; and new and improved rail passenger services.

A number of recommendations suggested areas GDOT should investigate regarding potential sources for rail funding. Stakeholders recommended Georgia seek federal rail funding to the maximum extent possible. Specific recommendations included utilizing CMAQ funding to retrofit older locomotives, TIGER funding for major rail rehabilitation projects, and investigating the potential of guaranteeing RRIF loans to enable short line carriers to more easily utilize this funding source for infrastructure upgrades. Participants also recommended that research be conducted to determine the potential for

state ad valorem revenue, the state's infrastructure bank, and modest tax increases (e.g., sales, gas, usage taxes) being utilized to fund a rail program. Participants recommended that GDOT seek public-private partnerships, especially for passenger services, to leverage resources and increase collaboration with local organizations, such as chambers of commerce and industrial development agencies, for sharing rail-related economic development project costs.

6.4.10 The Role of Public Agencies

GDOT asked meeting attendees and survey respondents to discuss any actions the public sector could take to improve rail service and operations. These actions could include public financial investment, rail planning or program activities, legal or regulatory reform, and agency coordination.

The general sentiment from the public outreach effort was that GDOT should implement policies to make rail passenger service a priority, preserve existing rail facilities at a statewide level, support and facilitate the movement toward containerization, and educate the public as to the value of addressing rail passenger and freight needs. These sentiments were largely based on the expressed need to shift existing planning and investment priorities from highways and to focus more on diverting freight from trucks to rail and making more rail passenger transportation options available.

Participants recommended a number of actions for GDOT's consideration. With regard to rail planning, participants recommended that GDOT increase its coordination with railroads, shippers, and local transportation agencies to identify capacity and access issues and to develop potential commuter rail corridors. In addition, participants recommended GDOT increase data collection, such as rail volume, commodity flow, and origin / destination information, to better evaluate trends, potential issues, and the scope of problems.

6.5 Consideration of Recommendations Identified During the Rail Plan Process

The comments and recommendations received through all aspects of the public outreach process have been consolidated into recommended actions for GDOT. Input from the Intermodal Division, other GDOT divisions, and comment obtained through the outreach process identified numerous actions that GDOT could take to address rail related issues. These recommended actions are as follows:

- Continue to promote and enhance rail safety through continued safety education programs, and enhancements to the public grade crossing improvement program.
- Expand rail-related data collection efforts including data on hazardous material movements, grade crossing hazards, rail volume and commodity flows, and rail originating / terminating data.
- Develop a rail passenger marketing and education program to promote the benefits of existing rail passenger services. Post intercity passenger rail and tourist rail information and schedules on the GDOT website.
- Continue efforts to preserve strategic rail rights-of-way and support the development of rail spur, rail storage capacity, intermodal facilities, and other infrastructure projects required to

maintain a state of good repair and enhance economic development through support for the establishment of a dedicated, discretionary public rail assistance program.

- Further collaborate with neighboring states on regional issues and solutions to freight and passenger rail needs through regional multi-state organizations such as the Southern Rail Commission.
- Preserve, protect, improve and expand, as necessary, intercity rail passenger service through station facility and access improvements; and continue to study of additional intercity passenger services where transportation and other public benefits merit.
- Develop a commuter rail plan emphasizing an incremental approach and coordination with Amtrak and MARTA services.

Increase the movement of goods by rail and emphasize rail-related intermodal and other rail improvements to ensure a diverse and robust rail network, while maintaining community and environmental stewardship and economic competitiveness.

6.6 State Rail Planning Coordination

As described previously, some aspect of rail planning occurs within a number authorities or offices within the Georgia Department of Transportation.

The Intermodal Division is responsible for rail-related planning and project development for freight, passenger, and commuter rail operations within the state and oversees rail safety and security program compliance.

The Office of Utilities' Railroad Crossing Safety Program is responsible for identifying and developing projects related to safety enhancements at public highway-rail grade crossings, and the Office of Right-of-Way is responsible for the acquisition of properties necessary for transportation projects.

GDOT also works directly with other state agencies such as the Georgia Ports Authority with respect to the operation and funding of rail operations within the GPA's jurisdiction, the Georgia Rail Passenger Authority with regard to the development of rail passenger service, the Southwest Georgia Railroad Excursion Authority and state economic development agencies. At the local level, GDOT works with the 12 regional commissions and 16 metropolitan planning organizations to coordinate planning and development efforts regarding rail transportation. Many of these agencies have participated in the *State Rail Plan* development process and had the opportunity to provide further input through review and comment on the draft *State Rail Plan*.