I-95 Corridor Coalition

Southeast Rail Operations (SEROps)

Phase I
Summary Report

I-95 CORRIDOR COALITION

May 2008

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Prepared for:
I-95 Corridor Coalition

Sponsored by:

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North Carolina Department of Transportation
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This report was produced by the I-95 Corridor Coalition, a partnership of state departments of transportation, regional and local transportation agencies, toll authorities, and related organizations, including law enforcement, port, and transit and rail organizations, from Maine to Florida, with affiliate members in Canada. Additional information about the Coalition, including other project reports, can be found on the Coalition's web site at http://www.i95coalition.org.

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1.0 Introduction and Background

The I-95 Corridor Coalition is a partnership of state departments of transportation (DOT), regional and local transportation agencies, toll authorities, and related organizations (including law enforcement, transit, port, and rail organizations) from Maine to Florida with affiliate members in Canada. With a population of almost 108 million, the Coalition region is home to nearly 37 percent of the nation's inhabitants and one-third of the nation's jobs, yet only contains 10 percent of the United States' total landmass.[1] Between 1970 and 2005, the total population of the Coalition region increased by almost 30 million, or 37 percent. The U.S. Census Bureau estimates that by 2025, an additional 26 million people will live in the Coalition region, bringing the population total to 134 million.

In the Southeast region of the United States (Florida, Georgia, North Carolina, and South Carolina), these population growth trends are even more staggering. The Southeast is one of the fastest growing regions in the nation. According to the U.S. Census Bureau, the state populations are expected to increase by 29 percent for South Carolina, 47 percent for Georgia, 52 percent for North Carolina, and 80 percent for Florida. By 2030, three Southeastern states (Florida, North Carolina, and Georgia) will be included within the top 10 most populated states in the nation (3, 7, and 8, respectively). These population growth patterns will have several impacts on the region's transportation system, including increased volumes of both freight and passengers along highway and rail lines; increased congestion on the region's highway systems; increased residential, commercial, and industrial development in and around urbanized areas; and worsening air and water quality. As a result, there is increasing recognition that the public and private sectors in the region – acting independently – may not have the necessary resources to fully address rising passenger and freight demands related to these growth trends.

The Coalition and its member agencies have been actively addressing similar issues in other parts of the Coalition region through the Mid-Atlantic Rail Operations Study (MAROps), the first phase of which was completed in 2002; and the Northeast Rail Operations (NEROps) Study, the first phase of which was completed in 2007. These two studies examined the transportation systems in the Mid-Atlantic and Northeast regions as a system, identified key infrastructure, operational, and institutional chokepoints affecting rail efficiency, and provided planning and policy guidance to the states and railroads to improve the efficiency of these systems moving forward.

This Southeast Rail Operations (SEROps) study represents an initial effort by the I-95 Corridor Coalition and its member agencies in the Southeast to build on these previous efforts and complete the rail picture in the Coalition region by identifying and describing key rail issues, activities, and initiatives in the Southeastern states. Identifying and describing the rail issues, activities, and initiatives affecting these states *at a regional level* can help facilitate the identification of chokepoints and institutional issues in the

[1] U.S. Census Bureau.

Southeast, complement existing statewide rail planning and policy-related activities, and encourage rail stakeholders in the Southeast to work cooperatively to address key rail issues affecting the region's transportation system and economic vitality.

This Summary Report documents the first phase of the SEROps study. Phase I investigated the regional rail transportation network in Florida, Georgia, North Carolina, and South Carolina as a system, and it engaged a diverse group of rail stakeholders to identify several broad factors and trends that are impacting the efficiency of the system today and will affect the ability of the region's freight and passenger railroads to attract additional traffic in the future. Subsequent phases will entail the identification of specific infrastructure, operational, and institutional chokepoints that are most severely impacting the efficiency of the region's rail system and the identification of projects, strategies, and initiatives that will allow the Southeastern states and the I-95 Corridor Coalition to address these systemwide issues and chokepoints across jurisdictional, interest, and financial boundaries. By engaging rail stakeholders in the region, describing key trends and issues affecting freight and passenger rail in the Southeast, and identifying the high-level infrastructure, operational, and policy issues hindering effective freight and passenger rail service in the region, the results of this phase of the SEROps study provide a foundation that will facilitate and guide these future efforts.

This SEROps Summary Report serves as a companion to the SEROps Regional Profile (included as Appendix A) which describes the study region, its economy, and its transportation system, focusing on freight movements and passenger rail transportation systems. This document builds on and complements the Regional Profile with information gathered through stakeholder meetings and additional outreach efforts to a range of rail stakeholders in the region. Specifically, this Summary Report:

- Describes key trends and issues affecting current and future operations of rail throughout the Southeast region; and

- Provides insights to guide the structure and management of future SEROps phases, outreach to the rail industry and business community, and how the Southeastern states and the Coalition can work to improve the consideration of rail issues within existing planning and programming practices.

2.0 Regional Trends and Impacts

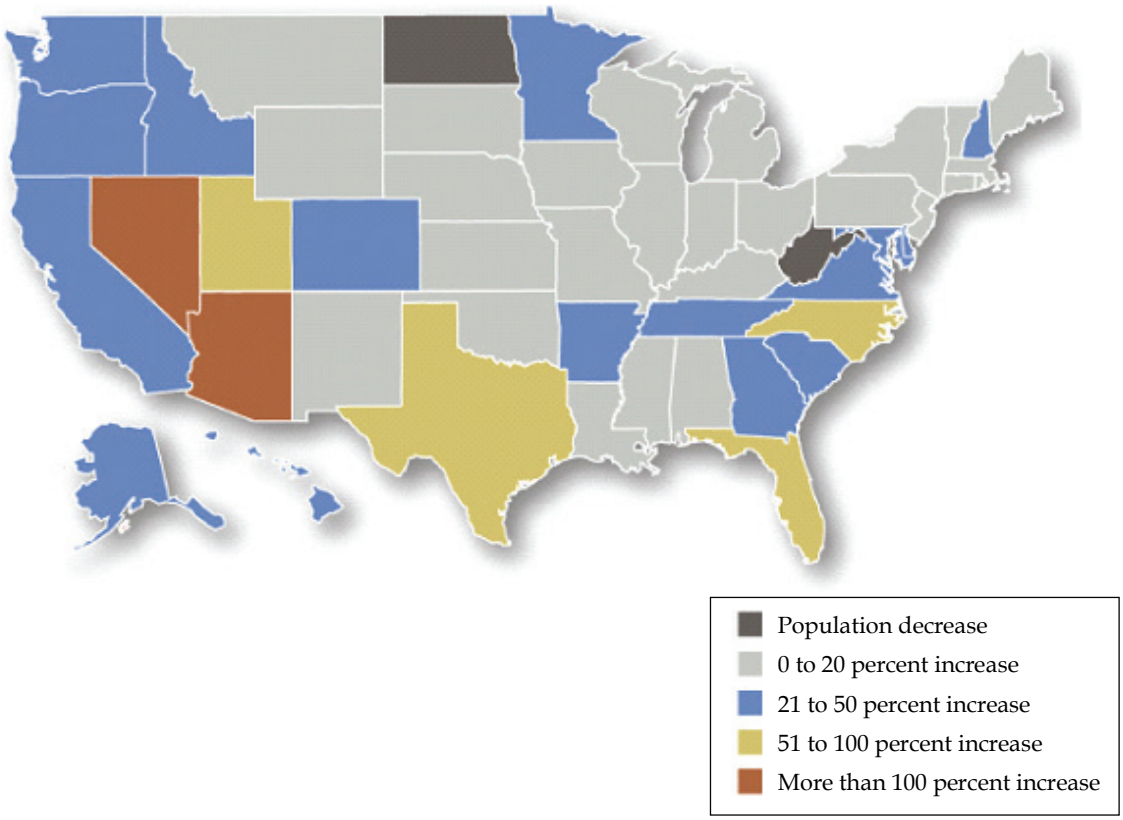
Rail infrastructure and operations in the Southeast are affected by a number of trends and issues which have transportation, domestic and international trade, financial, and demographic components. These trends and issues are dynamic in nature and will have important implications on the ability of the existing rail system to meet future freight and passenger mobility needs in the region. Understanding these key trends and issues – and how they could affect passenger and freight rail efficiency in the Southeast with related impacts on land use and air quality – is a critical first step that provides a groundwork for the identification of major regional rail chokepoints and constraints and the future development of strategies to address them. This section focuses on four key trends affecting the Southeast rail system, listed below, and describes implications for railroads, shippers, and states in the Southeast:

1. Regional population and employment growth;
2. Evolving logistics patterns;
3. Commuter and high-speed rail planning and implementation; and
4. Evolving and new freight rail markets.

2.1 Key Trend No. 1 – Regional Population and Employment Growth

As discussed earlier, the Southeast is experiencing significant population growth and is one of the fastest growing regions in the nation. As shown in Figure 1, the populations of North Carolina and Florida are expected to increase between 51 and 100 percent by 2030; the populations of South Carolina and Georgia are expected to increase between 21 and 50 percent in the same time period. This increase in population, combined with high-employment rates and a vigorous economic expansion, is making the Southeast region a significant contributor to the economic growth and prosperity of the United States.

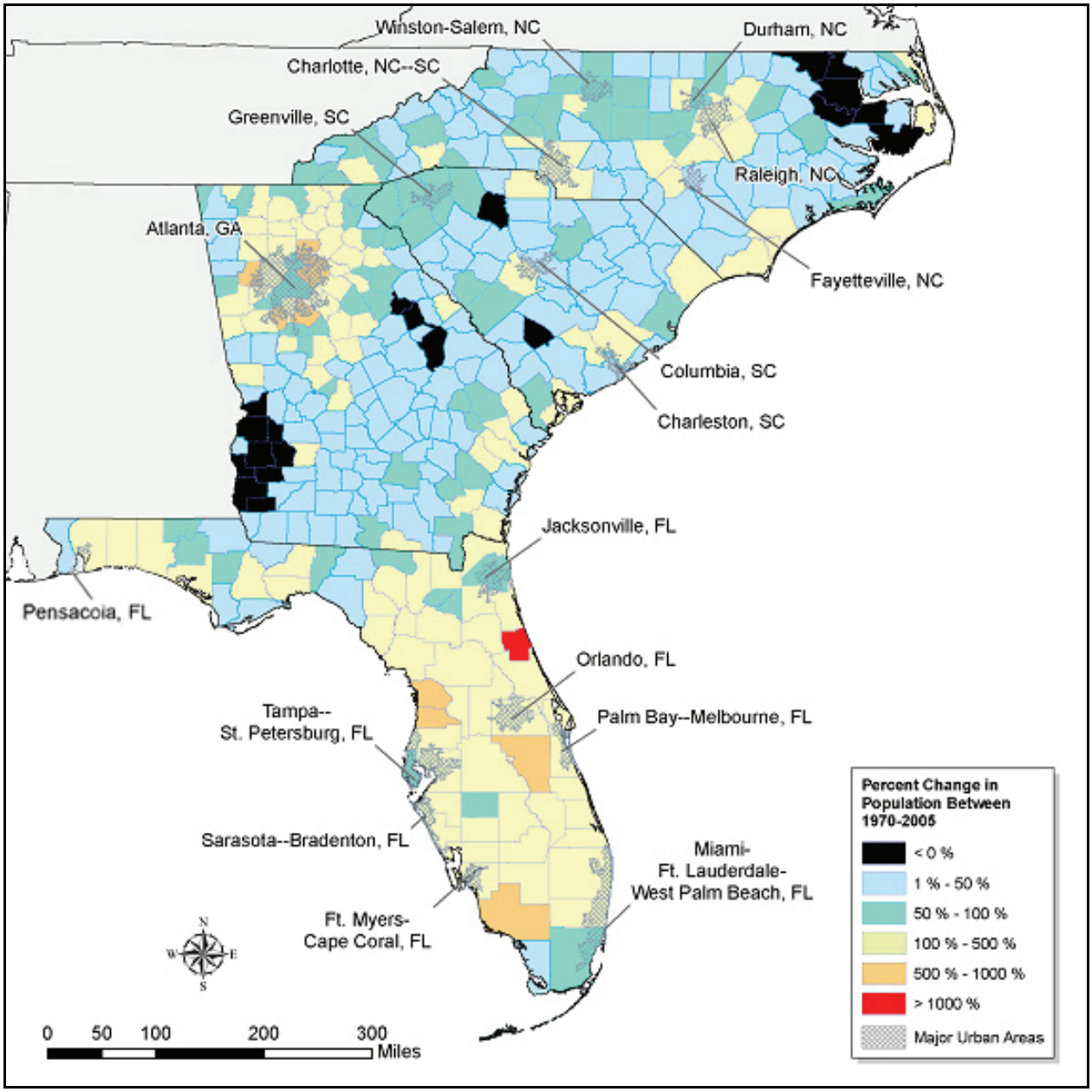
Figure 1. Anticipated Population Increase
2000-2030



Source: The News and Observer using U.S. Census Bureau data.

Much of this growth is occurring and will continue to occur on the fringes of the region's traditional urban centers and in several newly developing centers, as shown in Figure 2.

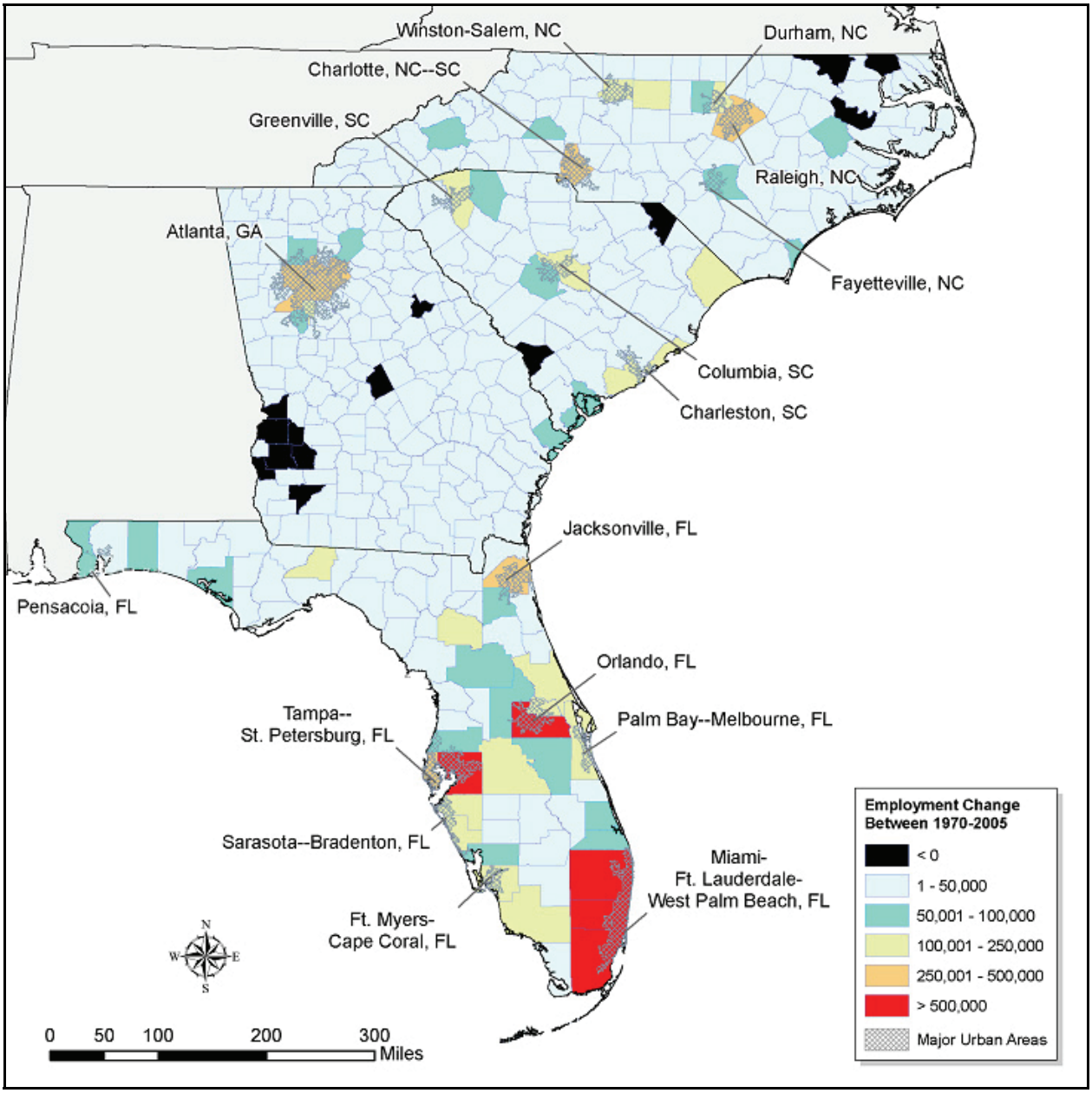
Figure 2. Percent Change in Population (by County)
1970 to 2005



Source: U.S. Census Bureau.

Employment growth has followed a similar pattern. The Southeast region has added over 4.5 million jobs over the last 10 years, many of which are being created not in the urban cores, but in suburban and exurban areas. As shown in Figure 3, some of the fastest-growing counties within the Southeast region (as measured by employment growth) are located away from the region's major metropolitan areas.

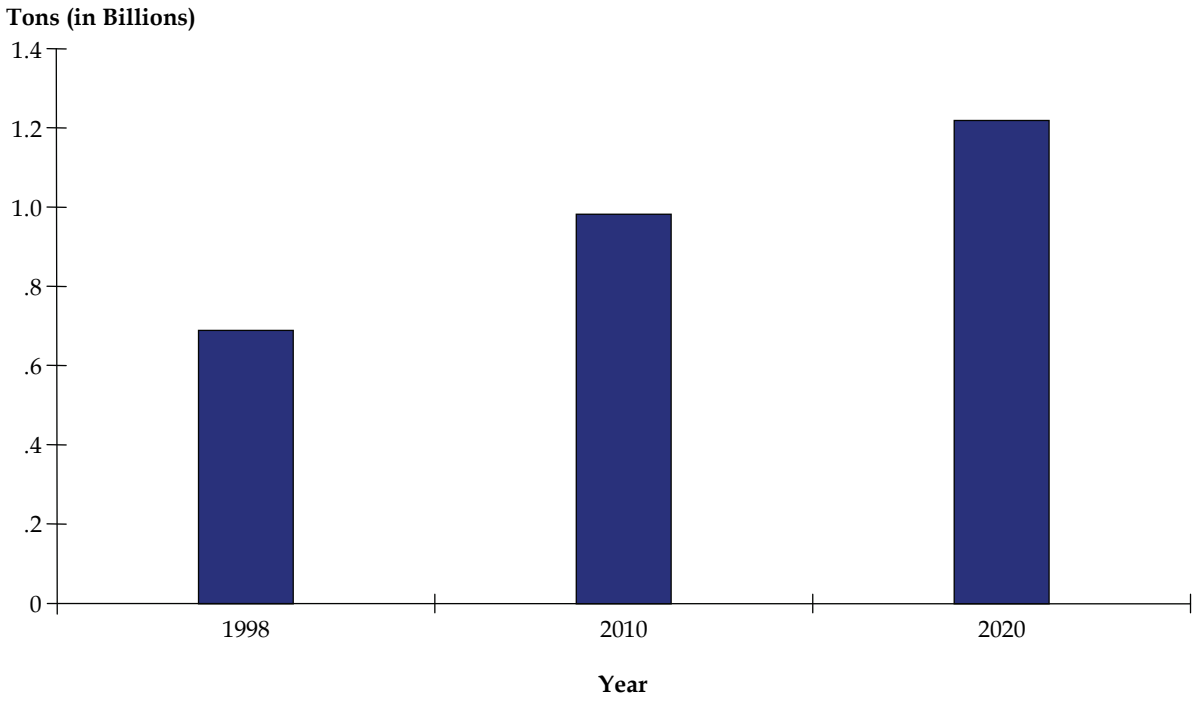
Figure 3. Percent Change in Employment (by County)
1970 to 2005



Source: U.S. Census Bureau.

This decentralization of both population and employment centers will have several key implications on transportation and freight and passenger movements in the region. First, the volume of freight transported to, from, and within the region will continue to increase, as shown in Figure 4.

Figure 4. Growth in Freight Traffic
by Weight



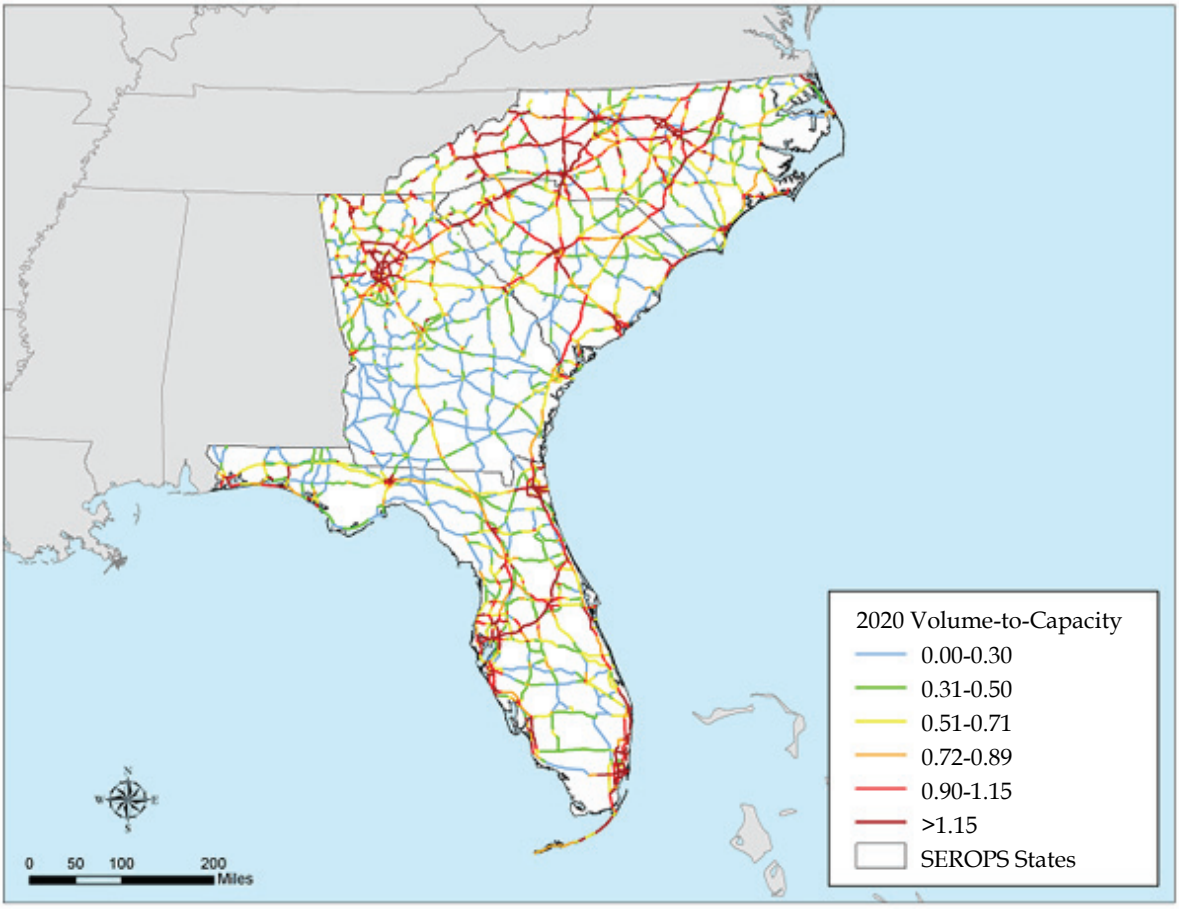
Source: FHWA Freight Analysis Framework (FAF).

The growth in freight traffic is a particular concern for the region's rail system, the majority of which was designed and built in the late 19th and early 20th centuries and is struggling to efficiently serve modern-day rail traffic and equipment in many areas. As demands on this system continue to increase, additional stress will be placed on the system, which may result in the deterioration of its condition and performance.

Second, volume (and congestion) on the region's highway network will increase. The Southeast already is very reliant on its highway infrastructure. In fact, while the region is home to 10.2 percent of the nation's total roadway infrastructure, it handles over 15 percent of the vehicle miles traveled (VMT). Moreover, from 1998 to 2003 the VMT in the Southeast grew at double the rate of the national average (21 percent versus 10 percent). This trend is not only a reflection of the region's rapid population growth; during that same period, the growth of the VMT per capita in the Southeast significantly outpaced the national trend (11 percent versus 4 percent), meaning that residents of the region are becoming more dependent on highways for personal travel and goods movement.[2] This trend will continue with Texas, Florida, California, Arizona, Georgia, and North Carolina expected to account for 63 percent of all projected VMT growth by 2030. As both population and industry centers become more dispersed, this reliance on automobile and truck movements will be exacerbated, as automobiles and trucks are often better able to serve dispersed markets. In fact, continued growth and distribution of population and employment in the region will result in worsening congestion on the region's highway systems, as shown in Figure 5. Note that this congestion will not be limited to metropolitan areas; key intercity links and travel lanes also are expected to experience serious congestion.

[2] Bureau of Transportation Statistics, 2004.

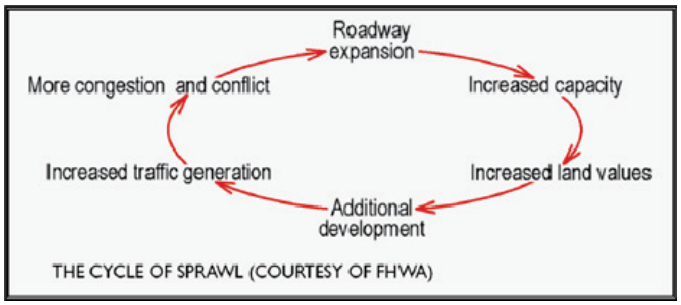
Figure 5. Level of Service on SEROps Region Highway System
2020



Source: Highway Performance Monitoring System (HPMS) data.

Third, these growth patterns will present challenges to transportation planning agencies and other stakeholders to meet mobility needs. As urban regions expand and residential communities move further from the region's metropolitan centers, additional transportation capacity will be required, either through the expansion of existing highway infrastructure, the development and implementation of commuter rail services, or the development and deployment of operational strategies to improve the performance of the existing system. These strategies can be politically, financially, and environmentally challenging, and are certain to have a reciprocal effect on the way that land use develops throughout the region. Working to coordinate transportation and land use will be critical as the region grows to ensure that it develops in a way to protect the existing quality of life for future residents. Without efforts to plan for and manage growth, the region risks developing in a pattern described in Figure 6.

Figure 6. The Cycle of Sprawl



Source: Federal Highway Administration.

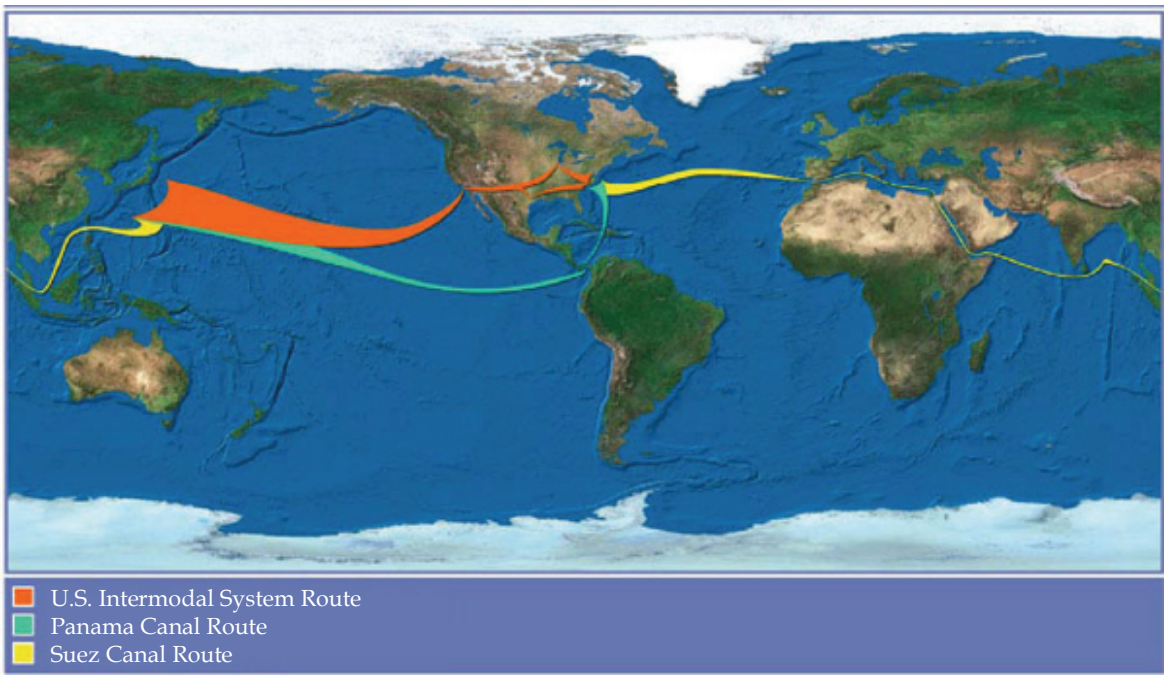
2.2 Key Trend No. 2 – Evolving Logistics Patterns

Lower logistics and transportation costs have allowed shippers and manufacturers to outsource production, to reduce the cost of labor and components; implement just-in-time manufacturing and logistics processes, to reduce the cost of holding inventory; and support larger, more effective regional warehousing strategies, to reduce distribution costs. Shippers and manufacturers in the Southeast are managing increasingly complex supply and distribution chains, which are dynamic in nature and can have significant impacts on regional, statewide, and local transportation systems. In addition to the just-in-time logistics practices being employed by many of the region's shippers, the Southeast also is being affected by the routes used by international containerships to connect Asian-based manufacturers and exporters with major consumer markets on the United States Gulf and East Coasts.

The Panama Canal, the Suez Canal, and the United States West-to-East rail intermodal system are the three most common routes used to connect Asian manufacturers with eastern U.S. markets. These routes are shown in Figure 7. For many years, consumer markets on the East Coast were served most effectively by the rail intermodal system, which transported Asian imports arriving at West Coast ports to major East Coast markets. However, congestion at the ports of Los Angeles and Long Beach (which handle approximately half of all U.S. imports), increasing costs and decreasing capacity on the rail intermodal system, and the proliferation of distribution and warehousing centers near ports along the Gulf and East Coasts of the United States, have combined to make the Panama Canal and Suez Canal routes more attractive options to shippers serving these markets, particularly those shipping consumer goods in intermodal containers.

Both the Panama and Suez Canals are critical conduits for trade between Asia and the Southeast. Shipments moving through these canals typically arrive at Gulf Coast or Southeastern ports, such as Charleston, Savannah, Miami, or Jacksonville, and are distributed via rail or truck to major consumer markets. Driven by congestion at West Coast ports, the use of these canals has increased sharply in recent years. In fact, total container shipments through the Panama Canal between Asia and the United States have increased

Figure 7. Common Asia – U.S. Trade Routes



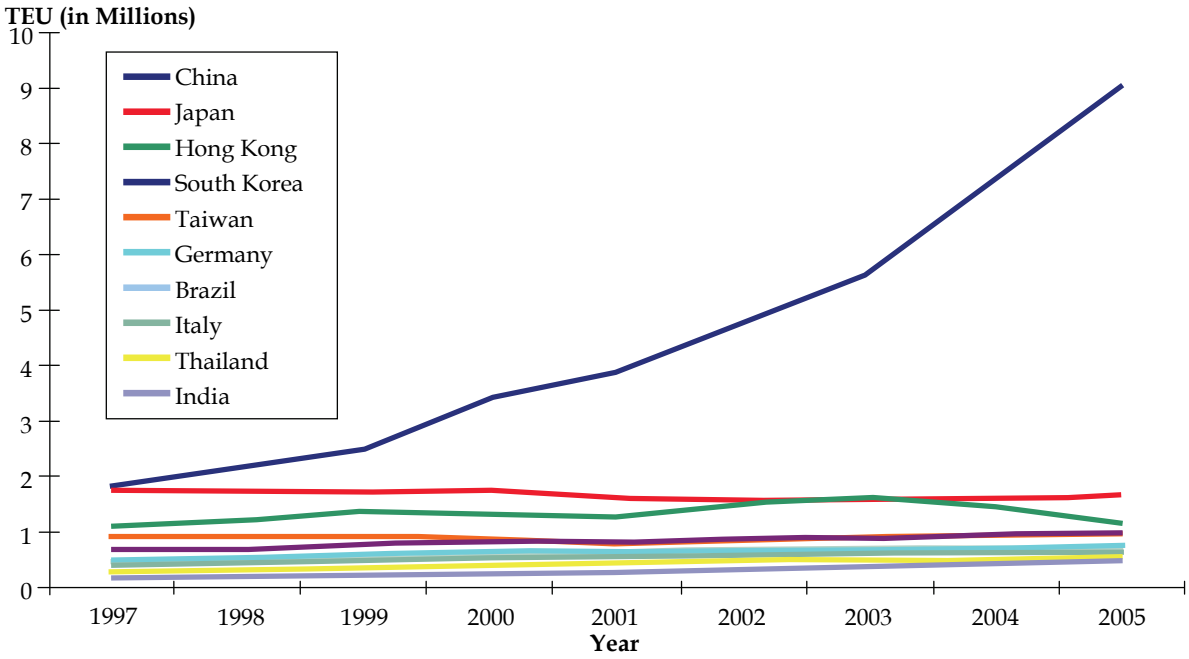
from 11 percent in 1999 to over 38 percent in 2004.[3] Total container shipments through the Suez Canal also increased by 12 percent between 2004 and 2005.[4] Panama Canal expansion plans (the Panama Canal Authority currently is undertaking a $5.25 billion expansion project that will allow it to continue to serve the larger containerships transiting between Asia and the United States), coupled with increasing use of the Suez Canal will result in increasing volumes of containerized cargo moving through ports in the Southeast.

Layered on top of these trade patterns is a tremendous increase in the volume of containerized imports from China. As shown in Figure 8, China is far and away the largest trading partner of the United States for containerized cargo and is expected to continue to be for the near future. The combination of low labor costs, a large labor force, and inexpensive, efficient transoceanic transportation has allowed China and other Asian countries to evolve into major exporters of consumer goods. As a result, China's economy is expanding rapidly and creating increasing demand for consumer goods. Although China's gross domestic product (GDP) currently is seventh in the world (behind Italy), by 2020, it is expected to be second behind the United States and may even overtake the United States by 2050. Rising volumes of Chinese exports and increased demand for imports within China are placing increasing pressure on existing trade lanes, particularly the Panama and Suez Canals, Southeastern ports, and the intermodal rail system.

[3] Panama Canal Authority, 2006.

[4] Arab Republic of Egypt, Ministry of Transport, 2007.

Figure 8. U.S. Container Trading Partners
1987-2006



Source: World Shipping Council, 2006.

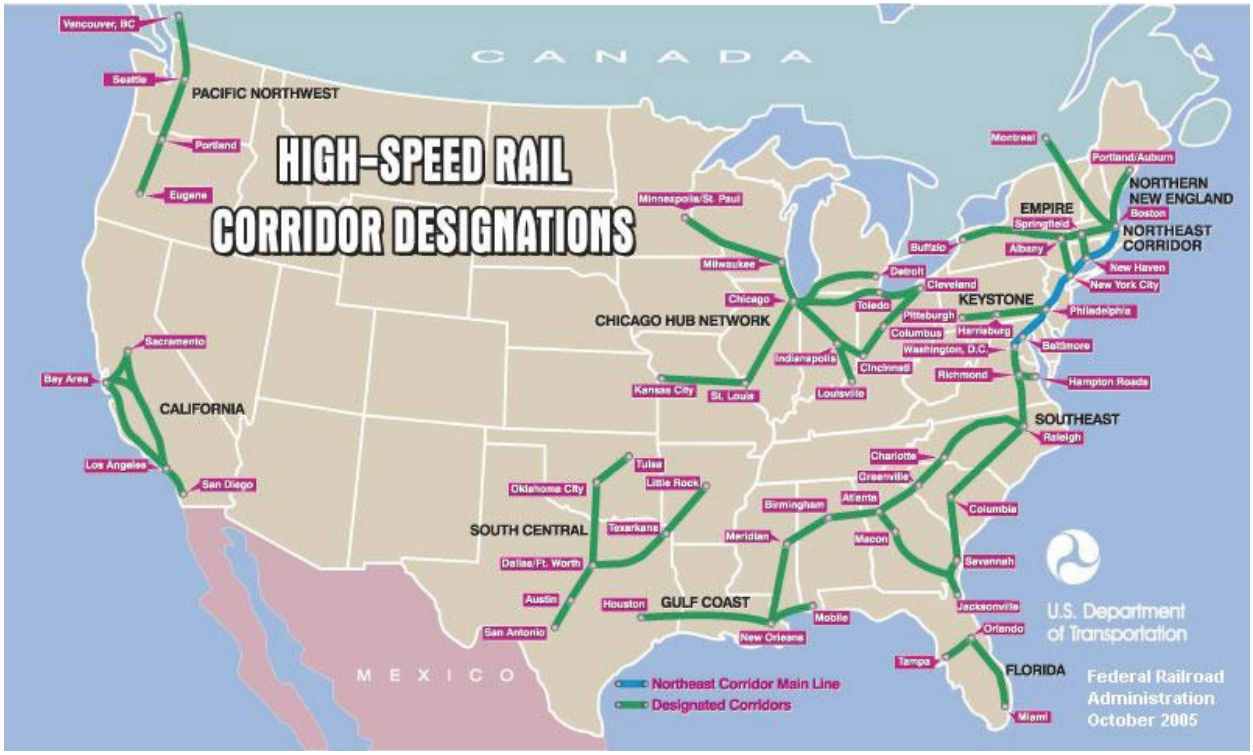
These trends will have two key impacts in the Southeast. First, there will be increased pressure on the region's deepwater seaports to increase their capacity. Already several of the region's ports, including Wilmington, Charleston, and Jacksonville, are planning significant terminal expansions or the development of new terminals to handle the expected growth in container volumes. These new facilities will likely attract additional warehousing and distribution activities, straining the region's existing highway systems. Maintaining efficient intermodal access will be a particular challenge in the Southeast, as many Southeastern ports also handle a significant amount of cruise passengers. Ensuring safe and efficient access for both passenger and freight operations may be a significant challenge, as both passenger and freight volumes continue to grow.

Second, these trends will bring to the forefront the importance of efficient connections between the region's deepwater seaports and the mainline rail network, as more and more Asian trade comes through the region's major ports and is shipped out via rail. Ports in the region will be more interested in utilizing existing on-dock rail infrastructure; shippers will stress the importance of shipment reliability and visibility; and rail carriers serving the region will be encouraged to maintain scheduled services between key markets and along key corridors and to enhance the capacity and efficiency of the intermodal terminal network.

2.3 Key Trend No. 3 – Commuter and High-Speed Rail Planning and Implementation

The Federal Rail Administration (FRA) authorized a program of high-speed rail corridors within the Intermodal Surface Transportation Efficiency Act (ISTEA, 1991) and the Transportation Equity Act for the 21st Century (TEA-21, 1998). This designation allows states through which these corridors pass to receive earmarked funding for the study, design, and construction of high-speed rail facilities as well as specially targeted funding for highway-rail grade-separation projects. As can be seen in Figure 9, there is one designated high-speed rail corridor proposed in the region.

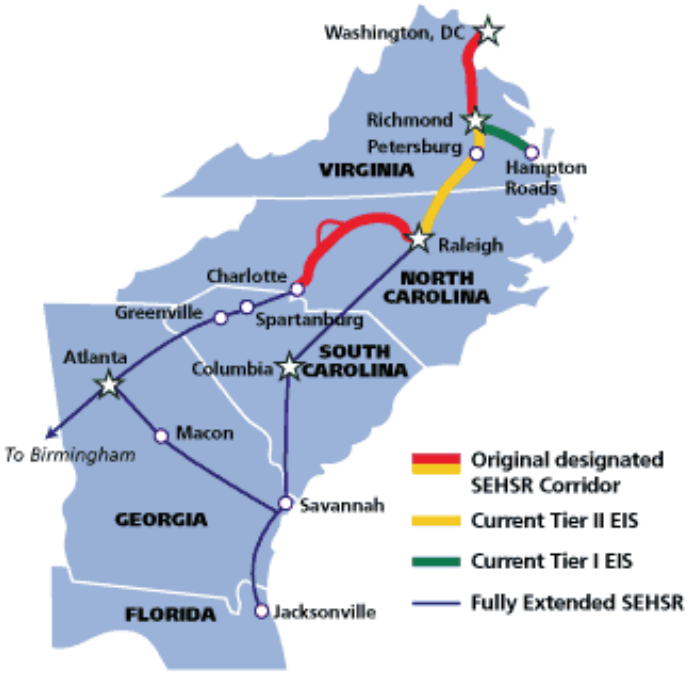
Figure 9. High-Speed Rail Corridor Designations



The first designation of the corridor in 1992 included the route from Washington, D.C. continuing through Richmond and Raleigh and ending in Charlotte. Additions to the SEHSR created three branches (see Figure 10). In 1995, the Richmond to Hampton Roads segment was added, and in 1998 two branches starting in Raleigh were added in. One continues from Charlotte to Greenville, Atlanta, and Macon; and the other was routed through Columbia and Savannah to Jacksonville. The last segment between Macon and

Jessup, Georgia was designated in 2000 and completed the route to Jacksonville.[5] Initial planning and development of the Corridor was guided by a four-state coalition – Virginia, North Carolina, South Carolina, and Georgia. Currently, North Carolina and Virginia are progressing planning for the Charlotte to Washington section of the Corridor and Georgia, South Carolina, and North Carolina are progressing work on the Charlotte to Macon segment of the Corridor.

Figure 10. Southeast High-Speed Rail Corridor Status



North Carolina and Virginia, working with FHWA and FRA, completed the first part of a two-part environmental study for the Washington, D.C. to Charlotte portion of the SEHSR in October 2002. The first study phase – referred to as the Tier I Environmental Impact Statement (EIS) – examined the need for the project and looked at potential impacts on both natural and man made environments along nine possible routes. The Tier I EIS identified the preferred route and the overall project purpose and need.

The Final Tier 1 EIS, which outlines why the recommended alternative was selected, was completed in June, and a formal Record of Decision was issued in October 2002. This Federal document confirms and approves the corridor recommended by the Tier I EIS. Virginia and North Carolina are now proceeding with the next phase, Tier II, which provides a detailed analysis on the impacts, including track location, station arrangement,

[5] Source: http://www.fra.dot.gov/us/content/618.

and detailed design. Rather than a single large document, smaller Tier II environmental studies are being conducted for the Richmond the Raleigh segment of the corridor and for specific segments of the route, between Raleigh and Charlotte, where track work will be needed.

Developing and enhancing commuter rail services to connect key population and employment centers in the region also has been a focus area for many Southeastern states, particularly as the region's population and employment centers become more dispersed (as discussed earlier). The North Carolina DOT and regional transportation authorities have studied the feasibility of implementing commuter service: between Burlington, Greensboro, High Point, and Winston Salem, between Raleigh, Durham, and Chapel Hill, and between Raleigh and Wilson and Raleigh and Goldsboro. The first corridor of the Charlotte Lynx light-rail service, which serves the greater metropolitan area, began operations in November 2007.

Georgia's Passenger Rail Program, a partnership among the Georgia Department of Transportation (GDOT), the Georgia Rail Passenger Authority (GRPA), and the Georgia Regional Transportation Authority (GRTA), recently has opened two lines: Dacula-Griffin (2003) and Athens-Macon (2004). The program has scheduled the opening of several other lines by the year 2011, including Albany, Savannah, Augusta, Columbus, and Gainesville. The Central Midlands Council of Governments (MPO for Fairfield, Lexington, Newberry, and Richland counties in South Carolina) has identified 22 possible rail station sites that could serve three future commuter rail and high-speed transit lines: Columbia to Newberry, Columbia to Camden, and Columbia to Batesburg-Leesville. Florida's commuter rail service, Tri-Rail, is double-tracking its route between Fort Lauderdale and Pompano Beach and rehabilitation of the signal system are underway so that more frequent, reliable service can be implemented. In the Orlando region, the Central Florida Commuter Rail project advanced into Preliminary Engineering in March 2007.

As these high-speed and commuter rail planning and implementation activities continue, there are a number of issues individual states and the region as a whole will face, including:

- **Traffic Rights Agreements –** Individual freight railroads own and maintain significant portions of the proposed commuter and high-speed rail corridors. Agreements that allow state access to this infrastructure must be negotiated in a way that allows for efficient freight and passenger service along key parts of those corridors. In addition, the Association of American Railroads (AAR) recommends that these agreements include compensation agreements and limitations on liability.[6]
- **Infrastructure Improvements –** Expansion of intercity passenger service and implementation of commuter or high-speed passenger service in the region will likely require significant track, signal, station, and other infrastructure improvements along strategic portions of the proposed routes. In fact, the AAR recommends that high-speed passenger trains exceeding 90 mph operate on dedicated tracks and along "sealed" corridors

[6] AAR Position Paper, *Passenger Service on Tracks Owned by Freight Railroads*, August 2006.

with no at-grade crossings.[7] Where freight and passenger traffic share the same tracks, states and railroads must develop cost-sharing agreements that allow all parties to share equitably in the costs and benefits of these and other improvements.

- **Potential Impacts to Existing Freight Service and Flow Patterns –** A final issue is the potential impact that implementation of commuter or high-speed rail service in the region may have on existing rail freight flow patterns. Any disruption to existing rail service, including those caused by changes in commodity flow patterns or rail operating strategies, can have cascading effects throughout the Southeast and other regions, affecting the efficient flow of people and goods regionwide. The potential impact of commuter or high-speed rail service on freight rail operations and flow patterns should be investigated, as these changes could have potential impacts on other states in the region and beyond. Again, AAR encourages the freight railroads to work with DOTs, high-speed rail authorities, and other stakeholders to ensure that adequate infrastructure capacity exists to accommodate existing and future volumes of freight and passenger traffic.[8] All the states are cognizant of the capacity and operational issues, which are associated with freight and passenger services sharing rail infrastructure and are including the freight railroads in the planning efforts and using design standards provided by the host railroads.

The efficient movement of goods and services by rail are essential to the economic development of the region and the states are sensitive to this fact as is evidenced by the track and signal improvements being funded by North Carolina to improve passenger and freight service along the corridor from Raleigh to Charlotte.

2.4 Key Trend No. 4 – Evolving and New Freight Rail Markets

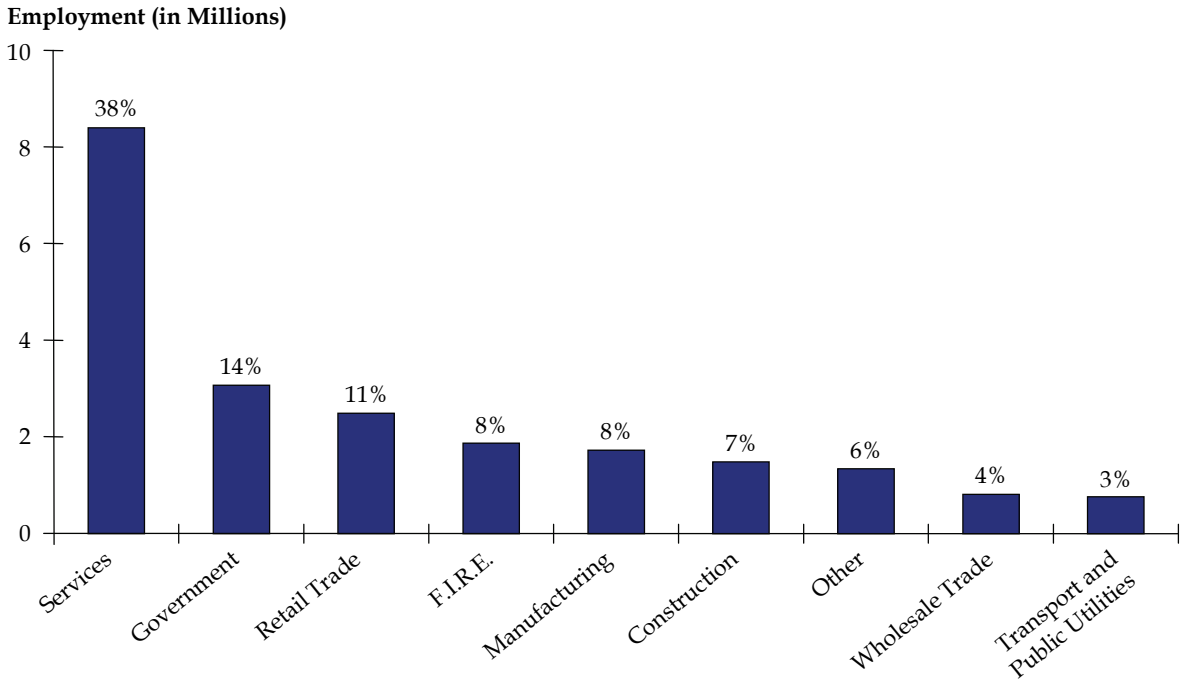
The United States economy is continuing to evolve from its traditional manufacturing base to a service and information economy. In the past several decades, manufacturing employment dropped slightly, while employment in services doubled. This trend of a rapidly growing service sector combined with a declining manufacturing sector is mirrored in the Southeast region. As shown in Figure 11, the service industry currently accounts for 38 percent of the region's total employment, a figure close to 8.5 million jobs, while manufacturing accounts for only 8 percent.

The shift towards service industries impacts the composition of freight moved regionally as well as nationally and internationally, as service-related industries have different transportation needs than manufacturing industries. Shipments from service-related industries often consist of low-weight, high-value commodities that require a high degree of visibility and reliability. In fact, many businesses in these types of industries employ

[7] Ibid.

[8] Ibid.

Figure 11. Southeast Region Employment (by Industry)
2005



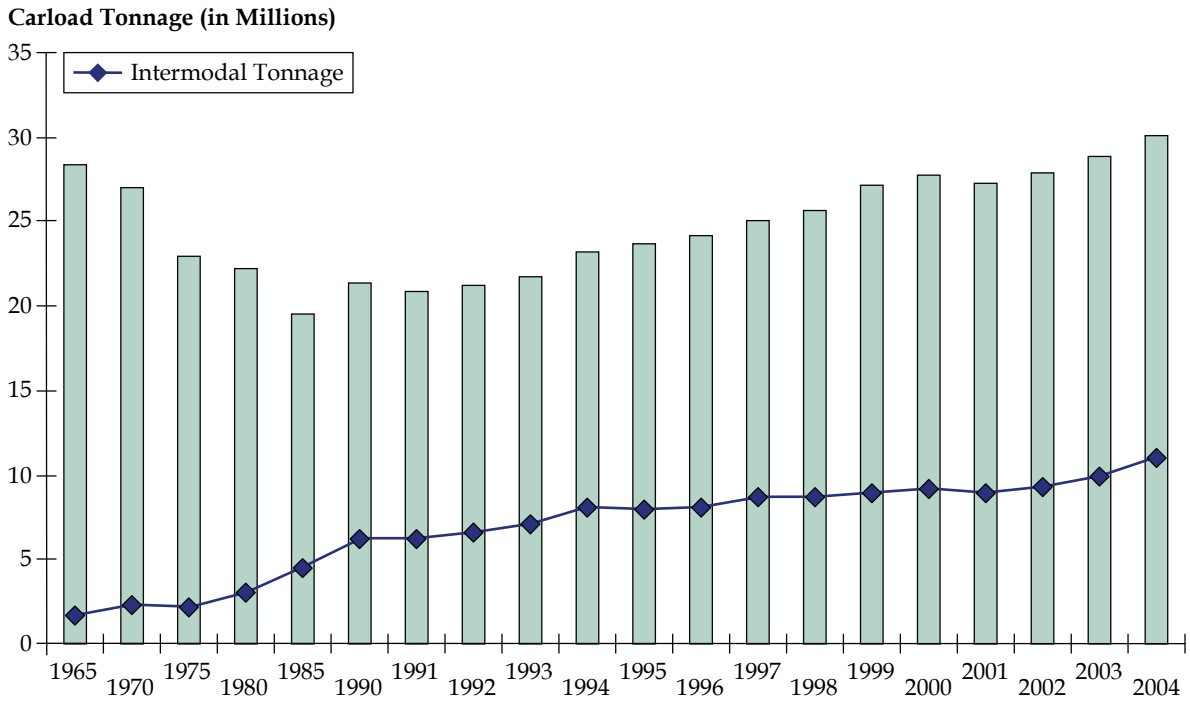
Source: Bureau of Economic Analysis.

just-in-time logistics practices, which involve lower inventory levels, more flexible freight services, and time-definite delivery windows. These just-in-time logistics practices also depend on timely and accurate information to track market movements and fast and reliable transportation to meet customer demand. In many cases, this results in a greater reliance on truck and air shipments, which are highly flexible and responsive.

The result of evolving market trends is a significant change in the traffic mix handled by the railroads in the Southeast and the rest of the United States. Both carload and unit train traffic continues to be an important contributor to the revenue of the Class I railroads. Carload traffic, in particular, continues to be the bread and butter of many of the region's regional and shortline railroads. Beginning in the early 1990s, however, the Class Is began to handle greater volumes of intermodal traffic. As shown in Figure 12, growth in intermodal traffic has greatly outpaced growth in carload traffic (560 percent to 6 percent growth since 1965, respectively) and currently is the primary revenue generator for the Class I railroads.[9]

[9] Note that total tonnage can be calculated by adding the figures associated with the bar and line charts represented in Figure 13.

Figure 12. Growth in Rail Carload and Intermodal Tonnage

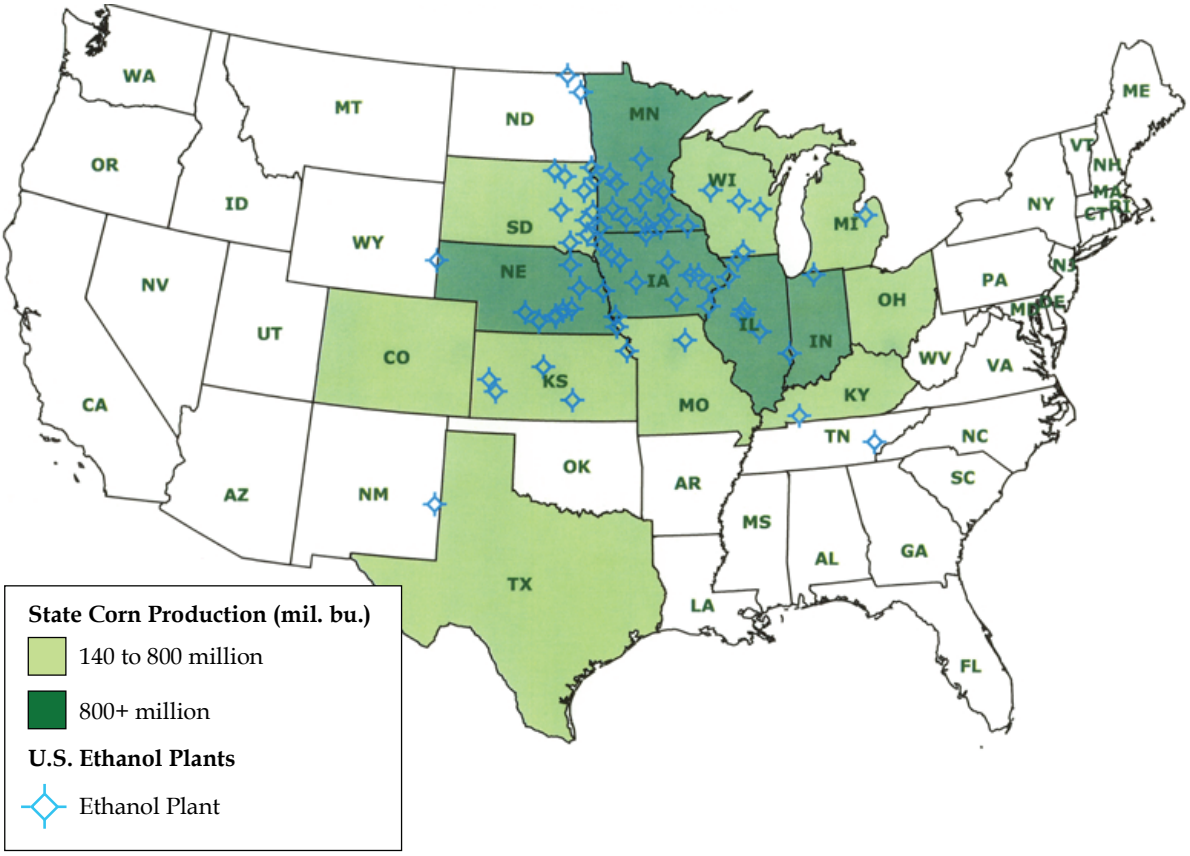


Source: AAR.

Already their primary revenue generator as well as a rapidly growing market segment, intermodal service will continue to be a focal point for the larger railroads nationally and in the Southeast. This trend can have significant impacts on the smaller rail operators, as well as some shippers and manufacturers in the Southeast. The Class I railroads are important partners for the region's shortline and regional railroads, as they allow the region's smaller shippers, manufacturers, and ports to access the national rail system. As the Class Is continue to focus on intermodal traffic, however, shippers and manufacturers that generate traditional carload (less than approximately 60 car lots) traffic (e.g., bulk food products, lumber, coal, and scrap metal) may have difficulty accessing competitive rail rates and consistent service quality, as Class I railroads choose to allocate capacity to more profitable shipments. Without the ability of the railroads to provide cost-effective service, some bulk shipments would likely occur by truck and increase highway maintenance cost.

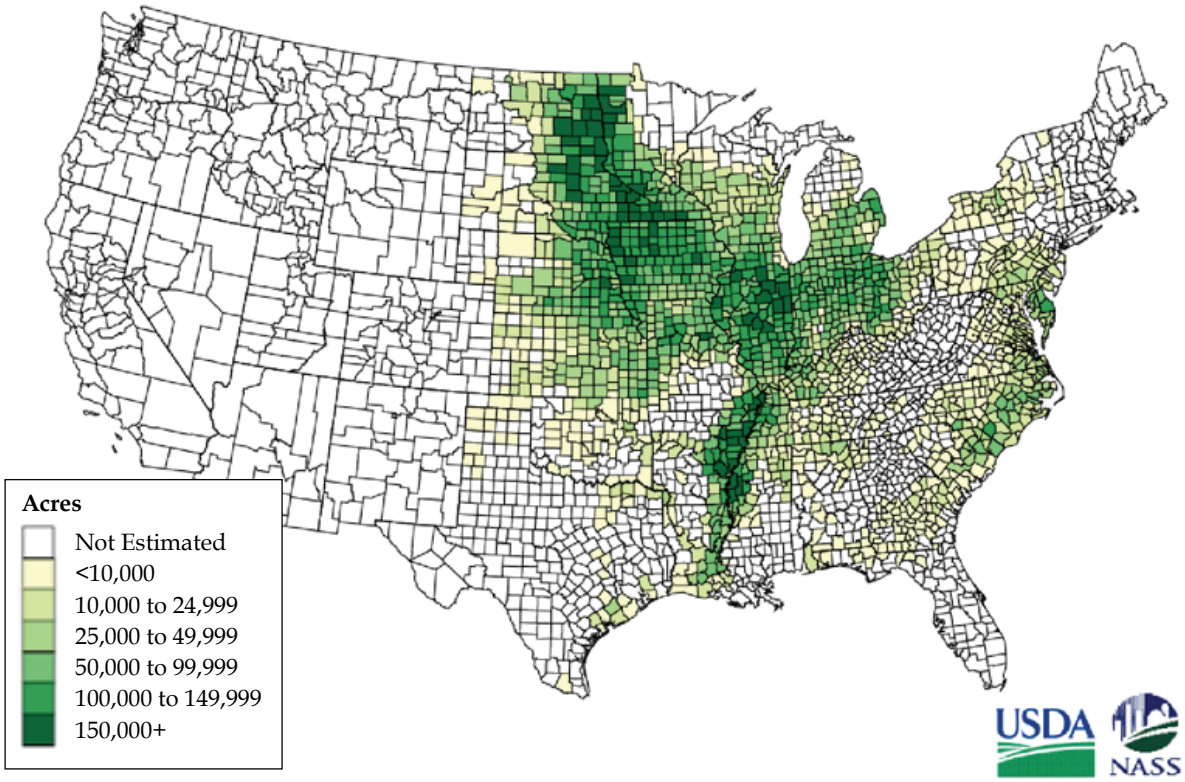
Despite the increasing focus on intermodal traffic, some segments of the carload market are expected to rise in importance, particularly products related to the production of ethanol and biodiesel. Ethanol is produced by fermenting sugar or starch contained in crops, primarily corn. As expected, the vast majority of ethanol production is centered in the Corn Belt states, as shown in Figure 13.

Figure 13. Domestic Ethanol Plants



Biodiesel is a mixture of vegetable or animal oil and traditional diesel fuel. In many cases, biodiesel is derived from the oil contained in soybeans. As shown in Figure 14, soybeans are an important crop in many of the Southeastern states.

Figure 14. Planted Acres of Soybeans (by County)
2004



Source: U.S. Department of Agriculture, National Agriculture Statistics Service.

Significant and increasing concerns over U.S. dependence on foreign oil and climate change related to greenhouse gas emissions are leading to a more serious interest in alternative fuels, including ethanol and biodiesel, as potential additives or replacements. The Energy Policy Act of 2005 includes a nationwide renewable fuels standard that will double the use of ethanol and biodiesel by 2012. Through the National Energy Policy, the Federal government is promoting and supporting investment in the biofuel industry. In February 2007, President Bush proposed a budget that includes $4 billion in loans for projects that promote biofuels and other clean transportation fuels.

The growth in the production and use of biofuels will have a significant impact on the transportation industry because these fuels and their by-products often cannot move cost-effectively by truck, and rail movements have a natural advantage for moving large quantities over long distances. As both production and consumption of biofuels rise, railroads and government agencies may be forced to focus on infrastructure and capacity improvements in the Midwest and their connections to large markets in the Southeast and elsewhere.

3.0 Chokepoints, Issues, and Constraints

In addition to key trends and issues, interviews with rail stakeholders in the region identified a number of initial chokepoints, issues, and constraints that currently are or will soon begin to impact rail operations and efficiency in the region.

These chokepoints, issues, and constraints were identified as part of the interview process and have not been fully vetted by all the SEROps stakeholders. However, describing them here provides a solid foundation on which to build future phases of the study. Chokepoints, issues, and constraints are provided in two categories:

1. **Infrastructure and operational issues,** which affect the performance and efficiency of the region's rail system; and

2. **Institutional challenges,** which affect the ability of states, MPOs, railroads, and other stakeholders to improve the performance of the system.

3.1 Infrastructure and Operational Issues

The most frequently cited infrastructure or operational issue was the limited capacity of the region's rail system. In many cases, interviewees described the capacity of the rail system in the region as insufficient to efficiently handle modern-day freight and passenger traffic. Rail capacity is not only a function of the number of tracks in a region, but also the number of sidings, the location and performance of signal and information systems, and the location and operations of yards and terminals. It also is a function of the region's traffic mix, as different types of traffic (i.e., intermodal, carload, or passenger) have different schedule, delivery, and capacity needs. Specific issues noted by interviewees included:

- **Many yards are becoming capacity-constrained**, particularly in Lovejoy (Atlanta), Athens, Gainesville, Charlotte, Raleigh, and Greensboro. The CSX hump yard in Waycross, Georgia and the NS yard in Linwood, North Carolina and Columbus, Georgia also were noted as being capacity-constrained. Understanding the operations at yards in the region is critical, as congestion at yard facilities in one state are causing delays in other states. One interviewee mentioned that freight trains are being held in Atlanta due to yard congestion in Charlotte. This is a key example of how delays and inefficiencies in one part of the region can impact movements in other parts.

- **Mainline capacity is increasingly tight –** Although the region's Class I railroads are making targeted investments in the region, overall capacity on the Class I system in the region is increasingly tight. Many of the Class Is are running longer trains that are too long for the existing sidings. These longer trains are beginning to impact mainline operations, particularly if there are delays at yards or other locations. In addition, many of the shortline interviewees indicated that capacity constraints on the Class I system are impacting their ability to access that system, as the larger railroads

continue to dedicate large portions of their available capacity to serve intermodal traffic. Some interviewees noted that capacity constraints are causing passenger trains coming out of Virginia to be held south of Richmond, impacting reliability of intercity passenger service within North Carolina. Others noted that alternating single- and double-track corridors, such as between Florida and Georgia, are hindering overall efficiency.

- **Many of the region's tracks are not capable of handling 286,000-pound railcars**, which are the new national standard. Motivated by lowering costs and maximizing efficiency, the Class I railroads in North America have been replacing 263,000-pound railcars, which are capable of handling 100 tons, with 286,000-pound cars that can handle 111 tons. While the Class I rail network is generally able to accommodate these heavier cars, much of the shortline system in the Southeast region is not. These networks often suffer from thin ballast sections, limited tie maintenance, and old bridges. Upgrading tracks to handle 286,000-pound cars can be challenging, given that smaller railroads often do not have access to sufficient capital to make large-scale track improvements. Many shortline railroads noted that the lack of 286,000-pound capacity prevents them from efficiently serving existing customers and from attracting new traffic.

- **Grade crossings are an issue in the state and in the region –** The Southeast region contains over 25,000 at-grade crossings. Many of these are located in areas that were once rural, but have since developed and now create significant safety, accessibility, and reliability issues. Although programs exist to improve these crossings, overall funding is limited. In addition, some interviewees noted that it is difficult to accelerate grade-crossing improvements because many of the stakeholders do not have a solid understanding of how individual grade crossings impact the entire rail system. In many cases, these stakeholders are only concerned with how it will impact their own community, neglecting the overall mobility and efficiency impacts that may impact the larger system. Finally, some interviewees noted that many communities are very hesitant to give up their grade crossings because they fear it will reduce mobility and access. Few realize that grade crossing collisions cannot only cause injury and property damage, but can interrupt rail services for hours to days resulting in significant capacity and reliability issues for the railroad and its customers.

- **Limited railcar availability is impacting the efficiency and reliability of the region's rail system**, particularly for shortlines. Railcars, particularly specialized cars necessary for carload shipments, are typically provided by one of three entities: railroads (primarily Class I), car companies, and individual shippers. However, the Class I railroads have significantly decreased their investment in railcars, particularly in the last 20 years. As a result, the burden of providing railcars has shifted to regional and shortline railroads, car companies, and individual shippers, many of whom do not have sufficient capital to invest in this equipment. Some interviewees noted that limited availability of railcars, particularly specialized cars for finished wood products and open-top hoppers, prevent them from adequately serving some existing and potential carload markets.

- **Dispatching can be an issue –** Some interviewees mentioned that trains operating within the region are not dispatched as "tightly" as they have been in the past. The deployment of Positive Train Control (PTC) and Computer-Aided Dispatch and Scheduling technologies could help by making the system "smarter" and allowing for a reduction in the number of sidings needed.

3.2 Institutional Challenges

The most frequently cited institutional challenge was limited funding for rail investments, by the Federal government and the region's state DOTs and MPOs. Many interviewees indicated that there is some institutional resistance to spending public transportation funds to improve privately owned and operated infrastructure. Specific issues noted by interviewees included:

- **There are limited funding sources for rail improvements –** Many interviewees noted that it is challenging to use "traditional" transportation funding sources, e.g., gas tax revenues, to fund rail improvements. In some states, planners are legislatively prohibited from using gas tax revenues to fund improvements on anything other than highways and bridges. In other states, rail issues are not integrated within the traditional transportation planning and programming processes, making it difficult for rail needs to be included in the setting of priorities and the allocation of funds. Although many of the states in the region fund shortline rail infrastructure improvement programs, overall funding is limited and some states do not provide any funding at all. As a result, the ability of some states to attract and retain industries can be hindered, particularly if neighboring states have more viable rail access or infrastructure improvement programs. Federally funded programs exist for commuter rail through the Federal Transit Administration. However, there is a need for additional funding in this area and a similar program to support the large investments required to provide needed capacity for intercity passenger and freight rail services. The current lack of funding provides an incentive to choose highway solutions, leading to further dispersal of development patterns, increased trip lengths, and the associated costs and air quality impacts.

- **It is difficult to incorporate rail needs within the traditional planning and programming process –** As discussed above, there is little to no coordination of freight rail capital investment issues during the setting of statewide or regional priorities and the allocation of funds in the State Transportation Improvement Program (STIP). Some interviewees traced some of these challenges to the difficulties in "bringing the railroads to the table." These interviewees noted that there is limited understanding by many railroads about the appropriate role and responsibility of state DOTs in funding rail improvements, making it difficult to match railroad priorities with state priorities. As a result, there is not a "true partnership" with the railroads, and there is a significant gap between national, state, and local rail policies and available funding.

- **There is limited understanding by transportation decision-makers of the importance of rail to the region –** Both passenger and freight rail service are essential elements of the transportation solutions for a rapidly growing Southeast. However, many interviewees noted that few transportation decision-makers in the region have a solid understanding of how rail fits within the intermodal transportation system and even fewer have a grasp of the issues facing the region's rail system and the challenges faced by the railroads, state, and metropolitan transportation planning agencies, and other stakeholders in addressing them. Educational efforts can help groom high-level advocates within state DOTs, MPOs, and state legislatures for multimodal planning activities. Providing elected officials and other public agency staff with information about the true costs and benefits of freight transportation can help ensure that freight and passenger rail issues along with associated land use planning are appropriately reflected in transportation planning and policy guidance and also can help provide or allocate staff and funding resources to accomplish planning, programming, and project development activities essential to the management of projected growth.

- **There is limited coordination among states regarding rail planning –** State DOTs in the region recognize that the planning activities of neighboring states, ports, and railroads will have significant impacts on rail efficiency and overall mobility in the Southeast. Many interviewees noted that terminal improvements to the Port of Virginia as well as the ones planned in their own states will have enormous implications for the Southeast. However, many of these same interviewees noted that there were limited opportunities to discuss these issues at a regional level and coordinate infrastructure investments among states in a way that best meets the region's future mobility needs.

4.0 Recent Regional Rail Activities

The trends identified throughout this report already are having a visible impact and driving private sector infrastructure improvements and instigating planning efforts. Market shifts derived from a changing economy coupled with congested west coast ports have caused an increase in demand for intermodal containers in the SEROps region. Ports in the SEROps states are building new intermodal terminals to meet growing container demand. Similarly, railroads are building new intermodal rail yards to provide efficient links between the ports and mainline rail lines and upgrading the rail mainline to provide more efficient transit of goods. The following section outlines new and planned intermodal terminals at ports and rail yards as well as planning efforts by the railroads and other organizations that are designed to increase efficiency in the transportation system.

4.1 Intermodal Port Terminals

- **Chatham Yard Intermodal Container Transfer Facility (ICTF) at Port of Savannah –** The Georgia Port Authority is adding a new terminal at the Port of Savannah to pair with its existing James D. Mason Transfer Facility. The new ICTF will increase intermodal container capacity and improve rail connections to CSX rail lines.

- **North Carolina International Port –** The North Carolina State Port Authority has closed on a 600-acre plot of land where they are planning a 2 million container per year (20-foot equivalent units) intermodal facility. If constructed, the port will compete for intermodal business from other nearby ports in South Carolina and Virginia. The site is accessible by I-40, I-95, and CSX rail.

- **Port Everglades ICTF –** The port plans to increase container capacity by building a new ICTF in Southport. The plan includes programmed improvements to both rail and highway access to the port. The planned port will be able to accommodate 1.5 million containers per year (20-foot equivalent units). This facility will be accessible by the Florida East Coast Railway (FEC).

- **Port of Palm Beach Inland Port –** A regional feasibility study suggests that the construction of an inland port facility as a warehouse and distributor of goods would be beneficial. The proposed inland Port of Palm Beach would provide additional capacity to the existing Port of Palm Beach, which is operating at capacity.

4.2 Intermodal Rail Yards

- **Winter Haven Intermodal Yard –** CSX is planning to construct an intermodal rail yard in Winter Haven, Florida. The proposed 1,250-acre rail yard would move operations from the existing Taft rail yard in Orlando, Florida. If CSX is successful in moving operations from Orlando to Winter Haven, it would create usable capacity for commuter rail operations in the Orlando area.

- **CSX Expanding Charlotte Yard –** CSX is planning to double the capacity of their intermodal rail yard in Charlotte, North Carolina from 80,000 lifts to 160,000 lifts per year (one lift moves a container onto or off of a train).

- **Charlotte-Douglass Airport –** Norfolk Southern is planning the construction of a 70-acre railyard at Charlotte-Douglass Airport. The planned terminal would replace a smaller rail yard north of the airport that currently is operating over capacity.

4.3 Mainline Railroads

- **Mainline Capacity Analysis –** CSX, in conjunction with Virginia and North Carolina, is performing capacity modeling on the CSX mainlines from Baltimore to Miami. Norfolk Southern and North Carolina Department of Transportation are in discussion stages of future mainline capacity studies.

- **Crescent Corridor –** Norfolk Southern has proposed a network of premium service intermodal trains serving the I-81 long-haul truck markets between the New York metropolitan area and Louisiana/Texas called the Crescent Corridor. This market is underserved today and has significant potential for growth. Upgrading to accommodate the proposed service will consist of adding track (new sidings and siding extensions, as well as some segments of double track), upgrading signals and train control systems, and removing choke points that adversely affect running times or reliability. The I-81 Crescent Corridor service is designed to attract one million additional truckloads annually within six years, provided sufficient public funding materializes.

- **America 2050 –** America 2050 is a planning document that outlines goals and strategies for keeping America competitive in the international marketplace. The document was assembled by a committee composed of business and civic leaders, policy-makers, and regional planners. Including Gulf Coast, Piedmont Atlantic, and Florida in the SEROps region, the plan identifies 10 mega-regions, defined as "agglomerations of metropolitan regions with integrated labor markets, infrastructure, and land use systems."[10] Among the key objectives that are outlined in the document is to create capacity for growth by enhancing redundancy in the transportation network and creating intermodal hubs that will offer appropriate modal choices for the traveling and transporting public. Meeting these goals will help mega-regions compete globally.

- **National Gateway –** CSX Railroad has proposed a plan to create a more efficient rail route linking Mid-Atlantic ports with Midwestern markets, aimed at improving the flow of rail traffic between these regions by increasing the use of double-stack trains through public-private partnerships.[11]

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[10] http://www.america2050.org/pdf/America2050prospectus.pdf.

[11] http://www.nationalgateway.org.

5.0 Next Steps

Addressing the ability of the Southeast rail system to adequately serve future passenger and freight mobility needs in the region will require a concerted, cooperative effort led by the four Southeastern states and involving the region's railroads, the Federal government, the I-95 Corridor Coalition, other regional rail stakeholders, and local and regional transportation and land use planning officials. The projected population growth offers the region an important opportunity to provide a desirable place to live with a vibrant economy. However, without careful, comprehensive, and coordinated planning, the region could be a victim to worsened congestion and unmanageable sprawl.

This report provides a foundation that will allow the Southeast states to start addressing specific systemwide issues and chokepoints that cross jurisdictional interest and financial boundaries. The following recommendations describe actions that the four Southeastern states should take to build on this foundation and provide a framework for future phases of the SEROps study. These recommendations also outline areas where the I-95 Corridor Coalition should provide support.

5.1 Work Cooperatively as a Region to Establish Vision and Identify Key Rail Chokepoints

The second phase of the SEROps study should include the establishment of a vision for rail in the Southeast region. The vision, developed collaboratively among the states and railroads, would set the stage for future programming and planning efforts undertaken through this effort and beyond.

In concert with the established vision, SEROps Phase II should begin to identify and quantify specific physical, operational, and institutional chokepoints and constraints that impact regional rail operations and the mobility of both passengers and goods. This should be accomplished by conducting a detailed commodity flow and passenger analysis so as to better identify strategic traffic lanes within the Southeast region and the flow of both people and goods along those lanes.

This analysis, which would be guided by the state DOT Steering Committee that was assembled as part of this Phase I effort, should highlight how specific chokepoints, constraints, and issues impact the movement of people and goods and the potential for additional or different types of traffic along these lanes. This would entail several specific steps, including:

- **Developing a better understanding of existing and planned rail improvements –** Several states and railroads have recently implemented improvements to their lines or have committed to plans that incorporate railroad upgrades. These projects should be placed into a regional context so as to allow for a more comprehensive understanding of the impact that these projects will have on critical travel lanes. In so doing, it will be

possible to determine if these upgrades will have an effect on an entire corridor or simply on a surrounding area.

- **Identifying gaps where further investment would improve regional operations –** The detailed commodity flow and passenger analysis should be compared and contrasted to the existing and planned rail improvements in the region. This would facilitate the development of a gap analysis in order to identify key points on the railroad network or critical travel lanes where improvements would be most beneficial to regional rail operations. This gap analysis would serve as a basis for the development of any regionwide plans designed to address the improvement of regionwide rail operations.

- **Listing and prioritizing regional rail improvements and evaluating estimated costs and potential benefits of the program –** The gap analysis should be utilized as a base map with which to approach regional stakeholders in order to develop a consensus-based list of potential regional rail improvements. The projects should be analyzed to help stakeholders select those that provide the greatest benefit/cost ration to the region.

5.2 Better Integrate Rail Freight and Passenger Issues throughout the Transportation Planning and Programming Process

One key to an ongoing, successful, and comprehensive transportation improvement program is to fully integrate rail issues within an existing statewide or metropolitan transportation planning and programming process. Although many states address freight rail issues within long-range plans and many actively invest in freight-rail projects, few have done so within the traditional transportation planning and programming process. Instead, rail planning efforts often are undertaken in parallel with the existing transportation planning process or on an ad hoc basis. That is, the identification, prioritization, development, and implementation of rail improvement projects in many areas is separate from the process used to plan, develop, and implement more "traditional" highway, pedestrian, and bicycle projects. As a result, rail often is not viewed as a normal component of a state or MPO transportation planning program, making it more difficult for potential improvement projects to be included in discussions of statewide or regional transportation priorities or to compete for funds and planning resources.

The Southeastern states should ensure that rail issues are more effectively mainstreamed within their existing transportation planning and programming processes. There are many specific strategies that can be employed by the states to guide this integration, including designating a dedicated resource/rail point-of-contact (if one does not exist); actively engaging the region's railroads in the planning and programming process; and/or developing private sector "advisory committees" to identify rail needs and discuss potential solutions. One key strategy is to update current statewide rail plans. Some states in the region, most notably Florida and North Carolina, have developed or are in the process of developing comprehensive statewide rail plans. Not only does the development and implementation of these plans open opportunities for funding by the Federal

Railroad Administration (FRA), it also can ensure that rail-specific policies and programs are in line with overall statewide and regional transportation and economic development goals. States within the region that have not recently updated their statewide rail plans should consider doing so. All states in the region also should look closely at how land use and related air quality impacts and issues are considered in their evaluation of transportation solutions.

Through identification and sharing of best practices, sponsorship of rail planning forums or peer exchanges, or other strategies, the I-95 Coalition should assist the Southeastern states in more effectively mainstreaming rail issues within existing planning and programming processes. Many states throughout the country are developing methods to bring topics such as land use planning and air quality issues into their transportation planning processes. The Coalition could assist the Southeastern states by collecting best practices from throughout the country and around the region, and disseminating this information among the states within the Southeast (e.g., Florida is a leader on this topic). The Coalition also is positioned to create a forum for thinking about these issues, which are not defined by jurisdictional boundaries, on a regional level. In addition, the Coalition should consider investing in detailed commodity flow data to facilitate this process.

5.3 Educate Legislators and Other Transportation Decision-Makers on the Importance of Rail to the Region

Railroads are an important element of the transportation solution for the growing Southeast. However, few transportation decision-makers in the region have a solid understanding of how rail fits within the intermodal transportation system in the region and even fewer have a grasp of the issues facing the region's rail system and the challenges faced by the railroads, state and metropolitan transportation planning agencies, and other stakeholders in addressing them.

It is critical to help regional decision-makers, including DOT/MPO management, industry and business leaders, local citizens, and statewide or local elected officials understand the importance of rail to the region as well as the challenges associated with improving the system's ability to absorb future growth. This educational effort can help groom high-level advocates within state DOTs, MPOs, and state legislatures for multimodal planning activities, which consider rail and highway solutions to address regional freight and passenger transportation needs in conjunction with related land use and air quality issues. These advocates, in turn, can help ensure that freight and rail issues are appropriately reflected in transportation planning and policy guidance and also can help provide or allocate staff and funding resources to accomplish planning, programming, and project development activities.

The Southeastern states should work closely with the I-95 Corridor Coalition and other groups as appropriate to educate regional transportation decision-makers on the importance of rail transportation and investment in the region. Targeted distribution of this summary report is an excellent starting point. The Southeastern states and the Coalition

also should ensure that legislators and other transportation decision-makers are kept appraised of future SEROps-related activities.

5.4 Actively Participate in Regional and National Rail Planning and Policy Efforts

A number of national groups are undertaking policy studies and other activities designed to highlight major rail-related issues, identify strategies, recommendations, and processes to facilitate rail planning and investment, and develop high-level advocates for addressing rail needs as part of a comprehensive statewide or metropolitan transportation planning and improvement program. The National Surface Transportation and Revenue Commission Study, released to Congress in January, 2008, provides an overview of the state of the nation's transportation system, including freight rail and passenger rail. The report details the discrepancy between current funding availability, and projected needs based on current infrastructure and future demand. The American Association of State Highway and Transportation Officials' (AASHTO) Freight Rail Bottom Line Report identified concerns about the capacity of the national freight-rail system to keep pace with the expected growth of the economy and found that relatively small public investments in the nation's freight railroads can be leveraged into relatively large public benefits for the nation's highway infrastructure, highway users, and freight shippers. The America 2050 effort is an important effort which, with the right input and participation, could lead to critical coordination of transportation infrastructure improvements and land use policy changes. The continued development and implementation of the Southeast High-Speed Rail (SEHSR) corridor provides another opportunity for collaboration and coordination.

Representatives from the Southeast states should actively participate in these and other efforts, as their participation can help ensure that specific regional issues are brought to the table and addressed. This is particularly important in the case of the SEHSR, which may dramatically alter travel patterns for both passengers and freight in the Southeastern states. Active participation in these efforts will help the Southeastern states more effectively shape regional and national policy debates regarding the degree to which public sector transportation planning agencies should be involved in planning and funding rail improvements. In addition, participation in these groups will help the Southeastern states more effectively coordinate rail investments that may have regional impacts.

Southeast Rail Operations Study (SEROps)

Technical Memorandum 1
SEROps Regional Profile

1.0 Introduction and Background

The Southeast region of the United States, consisting of Florida, Georgia, North Carolina, and South Carolina, is one of the fastest growing regions in the nation. According to the U.S. Census Bureau, the populations of North Carolina and Florida are expected to increase between 51 and 100 percent by 2030; in the same period, the populations of South Carolina and Georgia are expected to increase between 21 and 50 percent. By 2030, three southeastern states (Florida, North Carolina, and Georgia) will be included within the top 10 most populated states in the nation (3, 7, and 8, respectively). These population growth patterns will have several impacts on the region's transportation system, including increased volumes of both freight and passengers along highway and rail lines; increased congestion on the region's highway systems; increased residential, commercial, and industrial development in and around urbanized areas; and worsening air and water quality.

In addition to these population growth patterns, there are two other key trends that will have significant impacts on the transportation system, economic competitiveness, and quality of life in the Southeast region. The first is the continuing shift of the region's economy toward the service and information sectors. All of the Southeastern states have been experiencing a shift from basic, resource-oriented industries, such as agriculture, mining, and textiles, toward a more diverse industry mix of high-value-added industries, such as financial services, electronics, and biosciences. As a result, demand for moving goods into, out of, through, and within the region is shifting from high-volume bulk movements via rail carload, truckload, and water, to smaller and more frequent, higher-value shipments via rail intermodal, air freight, courier, and less-than-truckload (LTL) operations.

Second, capacity and congestion issues at some load center ports are causing some large shippers to change their supply and logistics chains to make better use of Southeastern ports. Ports throughout the Southeastern states are expanding infrastructure and updating container facilities in order to efficiently handle the anticipated increase in containerized freight moving into their facilities. Changing logistics patterns and increasing container movements into and out of the region's seaports will place additional pressure on the intermodal connectors (both highway and rail) that serve them.

Finally, there is a growing interest within both the public and private sectors to better understand how the region's rail networks could be better utilized to mitigate the effects and impacts of these trade and transportation trends, thereby improving the mobility of

people and goods regionwide. The public sector is increasingly interested in understanding how rail fits into the intermodal transportation system and both the public and private sectors have undertaken efforts to better understand and quantify the public benefits of rail investments.

The Coalition and its member agencies have been actively addressing similar issues in other parts of the Coalition region, through the Mid-Atlantic Rail Operations Study (MAROps), which was completed in 2002; and the Northeast Rail Operations (NEROps) Study, which is currently underway. The Southeast Rail Operations Study (SEROps) study represents an initial effort by the I-95 Corridor Coalition and its member agencies in the Southeast to build on these previous efforts and complete the rail picture in the Coalition region by identifying and describing key rail issues, activities, and initiatives in the Southeastern states. Identifying and describing the rail issues, activities, and initiatives affecting these states can help facilitate the identification of chokepoints and institutional issues in the Southeast and how these issues can impact the Mid-Atlantic and Northeast and vice versa.

Completion of this SEROps study will lead to a more comprehensive understanding of freight and passenger rail trends, issues, and constraints in the entire Coalition region. In addition, it will lay the groundwork for identifying key physical, operational, or institutional chokepoints that most severely impact the ability of the region's rail system to carry more freight and passengers. Finally, the study will further emphasize the importance of rail to the Coalition region's transportation system and will provide resources and information that can influence regional and national transportation policy discussions.

A critical first step in this effort is to better understand the transportation system in the SEROps region and the trends and characteristics that influence its use and performance. This technical memorandum describes the SEROps study region, its economy, and its transportation system, focusing on freight movements and the freight and passenger rail transportation systems. The broad trends and issues in these areas are described from three perspectives:

1. **Transportation profile**, which summarizes the physical extent of the region's transportation system and the freight and passenger movements occurring on that infrastructure;

2. **Socioeconomic and industry profile**, which summarizes the socioeconomic, demographic, and industry characteristics of the region and how they impact regional transportation systems; and

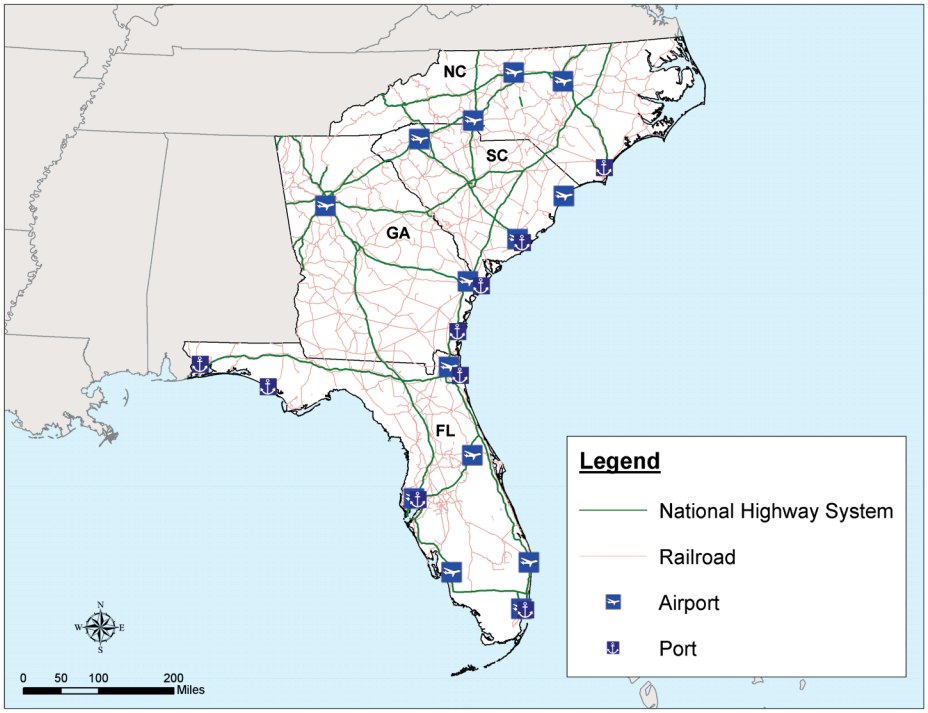
3. **Public policy profile**, which describes the ways in which freight and passenger rail needs and issues are addressed by state DOT and MPO policy-makers in the region.

2.0 The SEROps Region Transportation System

As shown in Figure 1, the SEROps region has a highly developed transportation system, including over 15,000 miles of the National Highway System,[1] 13,000 miles of railroad track,[2] 16 of the top 150 ports (by total cargo tonnage) in the United States,[3] and 26 of the nation's top 160 airports (by tonnage).[4] According to the FHWA's Freight Analysis Framework (FAF), SEROps states combined to move nearly two billion tons in 1998 with an overall value of approximately $2 trillion.

The following subsections provide brief descriptions of the transportation system infrastructure within the SEROps region; an overview of freight and passenger movements along that infrastructure; and a description of the key trends affecting rail transportation in the region.

Figure 1. SEROps Region with Highway, Rail, Air, and Port Infrastructure



[1] FHWA, Highway Statistics, 2003.

[2] Bureau of Transportation Statistics, 2004.

[3] U.S. Army Corps of Engineers, Navigation Data Center, 2003.

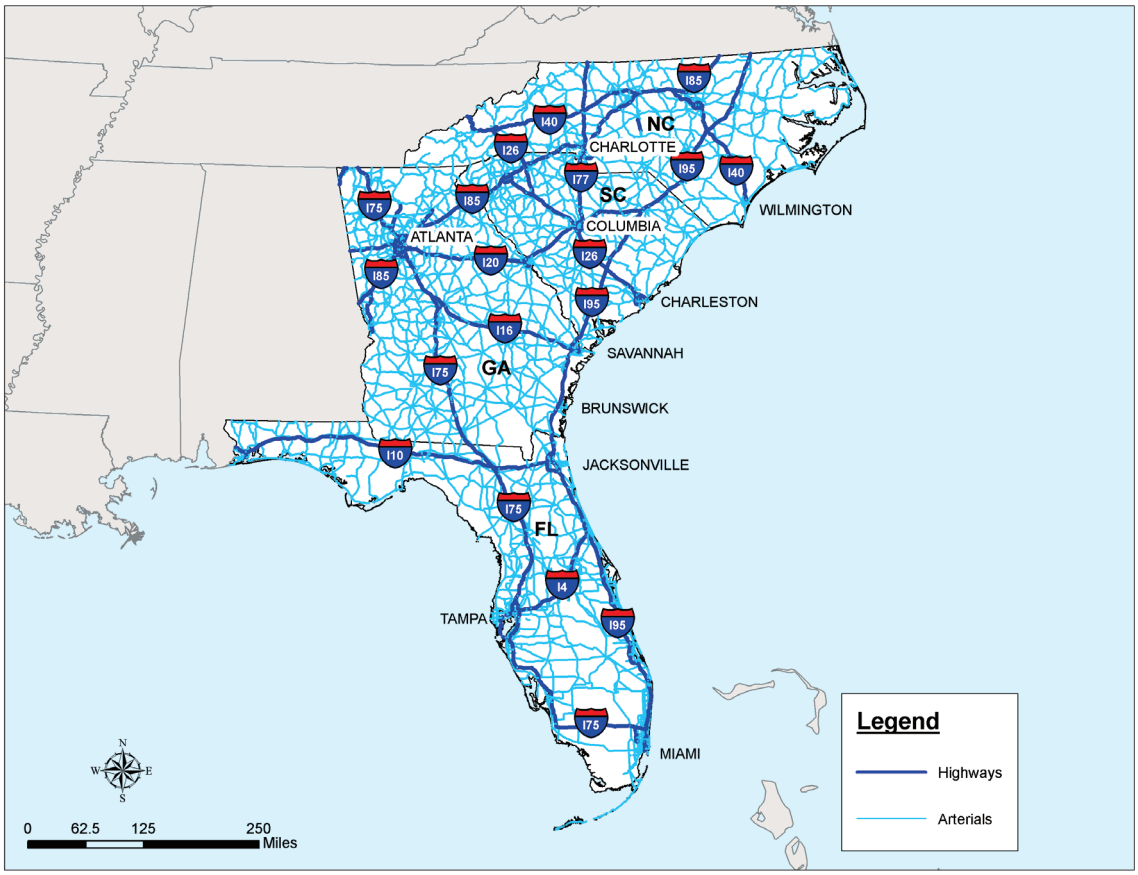
[4] American Association of Port Authorities, 2004.

2.1 SEROps Transportation Infrastructure

Highway Infrastructure

Figure 2 shows the highway facilities in the SEROps region. Overall, the SEROps region contains over 400,000 miles of public roadways, accounting for approximately 10.2 percent of the nation's total roadway infrastructure.[5] The SEROps region also includes approximately 15,000 miles of the U.S. National Highway System (NHS), accounting for 9.5 percent of the system's mileage.[6]

Figure 2. SEROps Highway Infrastructure



[5] Bureau of Transportation Statistics, 2004.

[6] FHWA, Highway Statistics 2003.

Two major highways provide north-south access in the SEROps region:

1. I-95 starts at Miami and traverses major cities such as Ft. Lauderdale and Jacksonville in Florida, Brunswick and Savannah in Georgia, and connects to other interstate highways that lead to Columbia (South Carolina), and Raleigh (North Carolina). This interstate highway also provides an important connection to major markets and facilities north of the SEROps region, such as Richmond (Virginia), Washington D.C., Philadelphia (Pennsylvania), New York (New York), and Boston (Massachusetts). As will be shown later, I-95 also provides key access to many major ports within the region and further north along the East Coast.

2. I-75 travels along the west coast of Florida, and provides a connection from the Miami metro area, to the Tampa Bay region, Macon (Georgia), and Atlanta (Georgia). It also provides a connection to markets and facilities to the north of the SEROps region, such as such as Toledo (Ohio), Detroit (Michigan), and eventually to the Canadian Border through Sault Ste. Marie (Michigan).

Major east-west highway corridors include:

- I-4, which connects the Tampa Bay region to I-95, while traveling through Orlando.

- I-10, which connects Florida to Western markets, especially to the ports along the Gulf Coast. This highway provides interchanges to both I-75 and I-95, and ends in Jacksonville.

- I-16, which is a major connector in the State of Georgia, providing a link between Atlanta and the Port of Savannah.

- I-26, which connects Columbia (South Carolina) to the Port of Charleston and provides a link between I-95 and the Port.

- I-40, which connects the Port of Wilmington (North Carolina) to major metropolitan areas in North Carolina such as Raleigh, Winston-Salem, and Greensboro. I-40 travels west through other significant markets in Tennessee, Arkansas, Oklahoma, Texas, New Mexico, Arizona, and California.

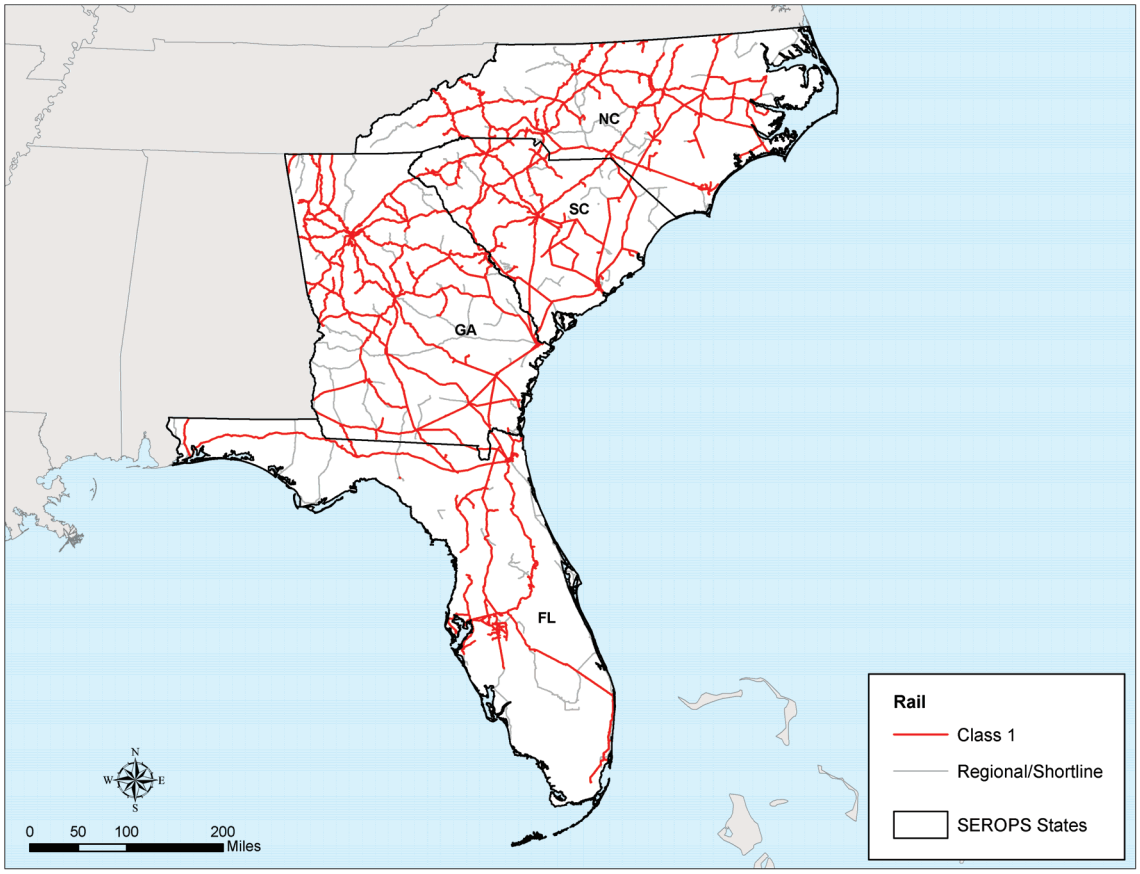
Rail Infrastructure

Currently there are seven Class I and approximately 600 smaller regional and short-line railroads in the United States. These railway companies operate approximately 21,000 locomotives and nearly 1.3 million freight cars in 141,000 route miles of track and employ 177,000 people. Collectively, the Class I railroads provide the core transcontinental railway network that reaches every major city in North America. The smaller railways vary greatly in size; some provide a range of service within a particular region while others may simply serve one industry (e.g., provide service between a coal mine and a power

generation plant). Rail equipment on the North American system is interchangeable and rail cars move freely throughout Canada, the United States, and Mexico.[7]

Within the SEROps Region, there are two Class I carriers and 60 regional, local, and switching and terminal railroads operating on over 13,571 miles of track, as shown on and described in Figure 3 and Table 1.

Figure 3. SEROps Freight Rail Network



[7] Bureau of Transportation Statistics, 2004.

The Class I systems operating in the SEROps region include:

- **CSX Corporation (CSX)**, which has an extensive network throughout the SEROps region (approximately 6,000 miles) and serves many of the region's major deepwater seaports, including the Ports of Wilmington, Georgetown, Savannah, Brunswick, and Jacksonville. The CSX network includes 12 intermodal rail terminals, 9 auto distribution terminals, and 18 bulk transfer terminals in the region. In addition, it connects the Southeast to major metropolitan areas and markets in the Mid-Atlantic, Northeast, and the Midwest.

- **Norfolk Southern (NS)** also operates throughout the SEROps region. The railroad has over 4,000 miles of track in the states of Georgia, South Carolina, and North Carolina. In addition, they have trackage rights along the Florida East Coast Railway (FEC, described below), down the east coast of Florida. NS provides intermodal service to the Ports of Jacksonville, Savannah, Brunswick, Charleston, and Morehead City. This railway system, complemented by trackage rights, provides access to most major cities north up to New York, and west up to Chicago and Kansas City.

The key regional and short-line railroads in the SEROps region include:

- **Florida East Coast Railway**, which provides freight service along a 351-mile corridor between Jacksonville and Miami. It serves the densely populated east coast of Florida and is the primary rail service provider to the Ports of Palm Beach, Everglades (Ft. Lauderdale), and Miami.

- **Georgia and Florida RailNet** is a network of approximately 297 miles of track radiating from its Albany, Georgia headquarters, and extending into northwestern Florida near the Gulf of Mexico. The line's commodity mix is diverse, with carload revenue split between wood pulp, beer, agricultural commodities, limestone/aggregate, and a multitude of other commodities.

- **Georgia Southwestern**, which began operations in 1989, is a short-line common carrier railroad operating in the southwest corner of the State. Previously owned by RailAmerica, Georgia Southwestern was sold to local investors in March 2002. The company operates approximately 270 miles of track in Georgia, going from Columbus to Bainbridge. The Georgia Southwestern connects with CSX at Lynn (Georgia) and with Norfolk Southern in Smithville.

- **Georgia Central Railway** operates the former Macon, Dublin & Savannah Railroad (Macon to Vidalia), as well as former Seaboard Air Line Railway trackage from Vidalia to Savannah. It covers nearly 175 miles of track in Georgia while carrying over 1.3 million tons and 15,000 carloads per year. The Georgia Central Railway connects with CSX at Savannah and with Norfolk Southern in Macon.

- **Rail America, Inc.** is a short-line and regional service provider with 47 short-line and regional railroads covering nearly 9,000 miles in the United States and Canada. In the SEROps region, Rail America operates over 150 miles of track through four of its

subsidiaries: Carolina Piedmont, North Carolina and Virginia, South Carolina Central, and Virginia Southern railroads.

- **Winston-Salem Southbound Railway** operates nearly 90 miles in North Carolina from Winston-Salem through Lexington and Albemarle to Wadesboro, serving agricultural and bulk industries in the central Piedmont counties of Forsyth, Davidson, Stanly, and Anson. The Winston-Salem Southbound connects with four railroads: Norfolk Southern, CSX, High Point, Thomasville & Denton, and Aberdeen, Carolina & Western.

Key Passenger and Commuter Railroads in the SEROps region include:

- **Amtrak** began service on May 1, 1971 with service to 314 stations aboard 184 trains. Today the organization operates a nationwide rail network, serving over 500 stations in 46 states on 22,000 miles of track with approximately 20,000 employees. Amtrak owns 730 route miles primarily between Boston and Washington, D.C. (with the exception of Connecticut), and in Michigan. On weekdays, Amtrak operates up to 265 trains per day, excluding commuter trains. In fiscal year 2003, Amtrak carried more than 24 million passengers, with approximately 66,000 passengers per day. Amtrak is also the nation's largest provider of contract commuter service for state and regional authorities. Through its commuter services, the company serves an additional 61.1 million people per year.[8]

  Amtrak serves the SEROps region through four major routes: The Carolinian and Piedmont, Crescent, Silver Service/Palmetto, and Sunset Limited. Table 2 shows the major cities covered by each service route. Additionally, the company offers an auto train, which allows passengers to travel with their vehicles from Lorton, Virginia to Sanford, Florida.

Table 2. Major Cities Served by Amtrak

Route	Major Cities Served
Carolinian and Piedmont	New York – Raleigh – Charlotte
Crescent	New York – Atlanta – New Orleans
Silver Service/Palmetto	New York – Washington, D.C. – Charleston – Savannah – Jacksonville – Tampa/Miami
Sunset Limited	Orlando – New Orleans – Houston – Los Angeles

[8] http://www.amtrak.com/.

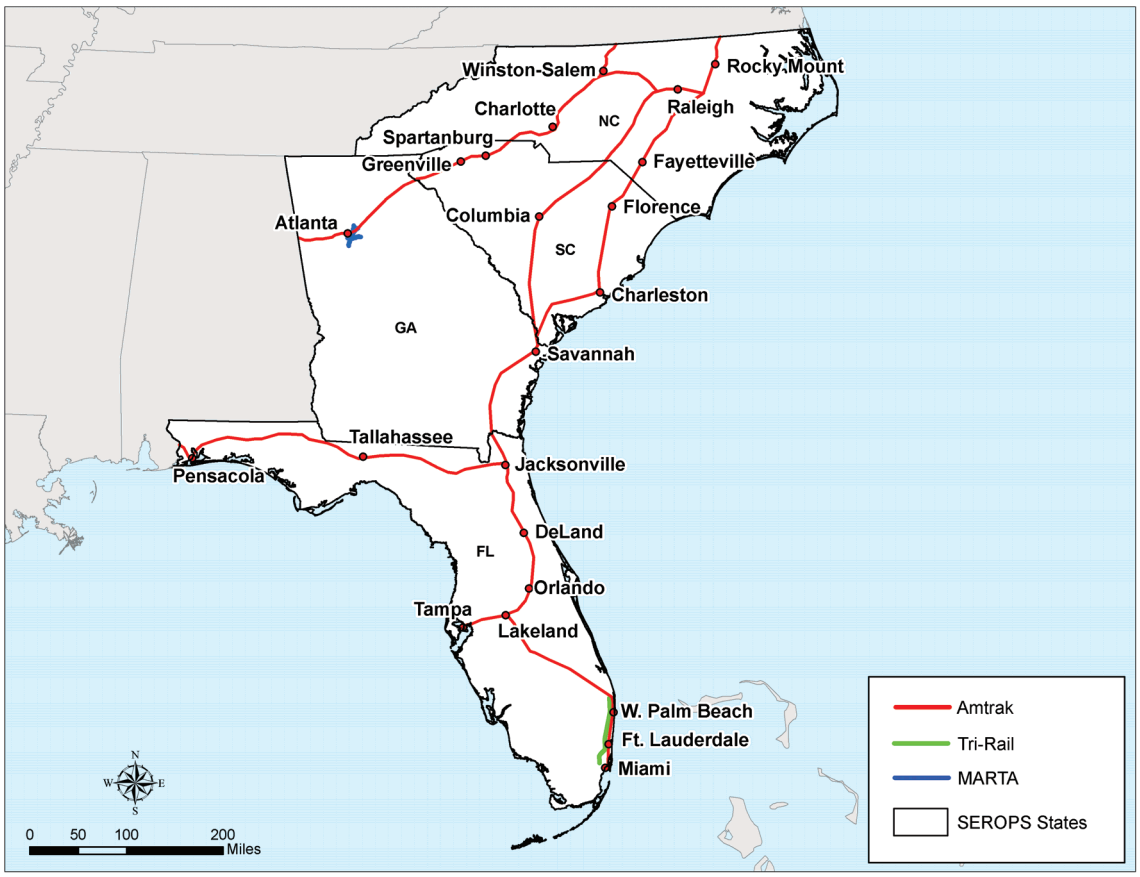
- **Tri-Rail** is operated by the Tri-County Commuter Rail Authority, an agency of the State of Florida based in Fort Lauderdale. Tri-Rail carries more than 8,000 riders daily over its 72-mile, 18-station route. The trains operate on the state-owned South Florida Rail Corridor, the former Seaboard line between West Palm Beach and Miami, which was purchased from CSX in 1988. The right-of-way through Dade, Broward, and Palm Beach counties closely parallels I-95 and is shared with Amtrak passenger trains and CSX freight trains. It is the southern end of the original "Seaboard Airline Railroad" route which was laid with single track. Double-tracking of the route between Ft. Lauderdale and Pompano Beach and rehabilitation of the signal system are underway so that more Tri Rail service can be implemented. Tri-Rail's Federally defined "Service Area" serves approximately 4 million residents, including roughly 2 million in Dade, 1.25 million in Broward, and 75 million in Palm Beach counties. Operating expenses average $20,000,000 annually.

- **Georgia Rail Passenger Program –** This is a joint program of the Georgia Department of Transportation (GDOT), the Georgia Rail Passenger Authority (GRPA), and the Georgia Regional Transportation Authority (GRTA). The aim of the program is to revive rail passenger service in Georgia using to the maximum extent possible existing railroad corridors. Through the program, two lines have already opened, Dacula-Griffin (2003) and Athens-Macon (2004). The program has scheduled the opening of several other lines by the year 2011 including Albany, Savannah, Augusta, Columbus, and Gainesville.

- **Metropolitan Atlanta Rapid Transit Authority (MARTA) –** MARTA serves the greater Atlanta region through a network of bus routes linked to a heavy-rail transit system. The heavy-rail system consists of three lines: the West-East Line, the North Line, and the South Line. The system is surrounded by the I-285 beltway, and travels along several major highways such as I-20, I-75, I-85, and State Route 400. An extensive program is currently underway that will rebuild over 200 of MARTA's oldest rail cars. This $80 million capital project will also renovate all 48 miles of MARTA track by early 2007.[9]

[9] Metropolitan Atlanta Rapid Transit Authority Annual Report, FY 2005.

Figure 4. SEROps Passenger Railroads



Marine Port Infrastructure

Figures 5a and 5b show the location of the major marine ports in the SEROps region. The included ports represent primary deep water seaports and feeder ports in the study region. The SEROps region is home to 16 of the top 150 port (by total cargo tonnage) in the United States.[10] In 2003, SEROps ports handled a combined 183.9 million short tons of cargo, and approximately 5.9 million 20-foot equivalent units (TEUs) of containerized freight. Rail service to these ports is shown in Figure 5d. Figures 6 and 7 show the top gateways for both general and containerized cargo in the SEROps region. The top container ports in the region were Charleston (approximately 1.8 million TEUs), Savannah (nearly 1.6 million), and Miami (1 million). Unlike many other regions, Southeastern ports handle a significant amount of cruise passengers, often at ports that have significant freight operations, as well. In fact, over 80 percent of the nation's cruise business occurs at Florida's seaports. Key cruise ports are shown in Figure 5c. In addition, many the

[10]U.S. Army Corps of Engineers, Navigation Data Center, http://www.iwr.usace.army.mil/ndc/wcsc/portname03.htm/.

region's seaports are critical elements in the strategic mobilization and deployment of armed forces in times of peace and war. Four of the region's seaports, Canaveral, Jacksonville, Charleston, and Savannah, are designated as strategic seaports by the Department of Defense.

Figure 5a. SEROps Marine Ports
Sized by Tons

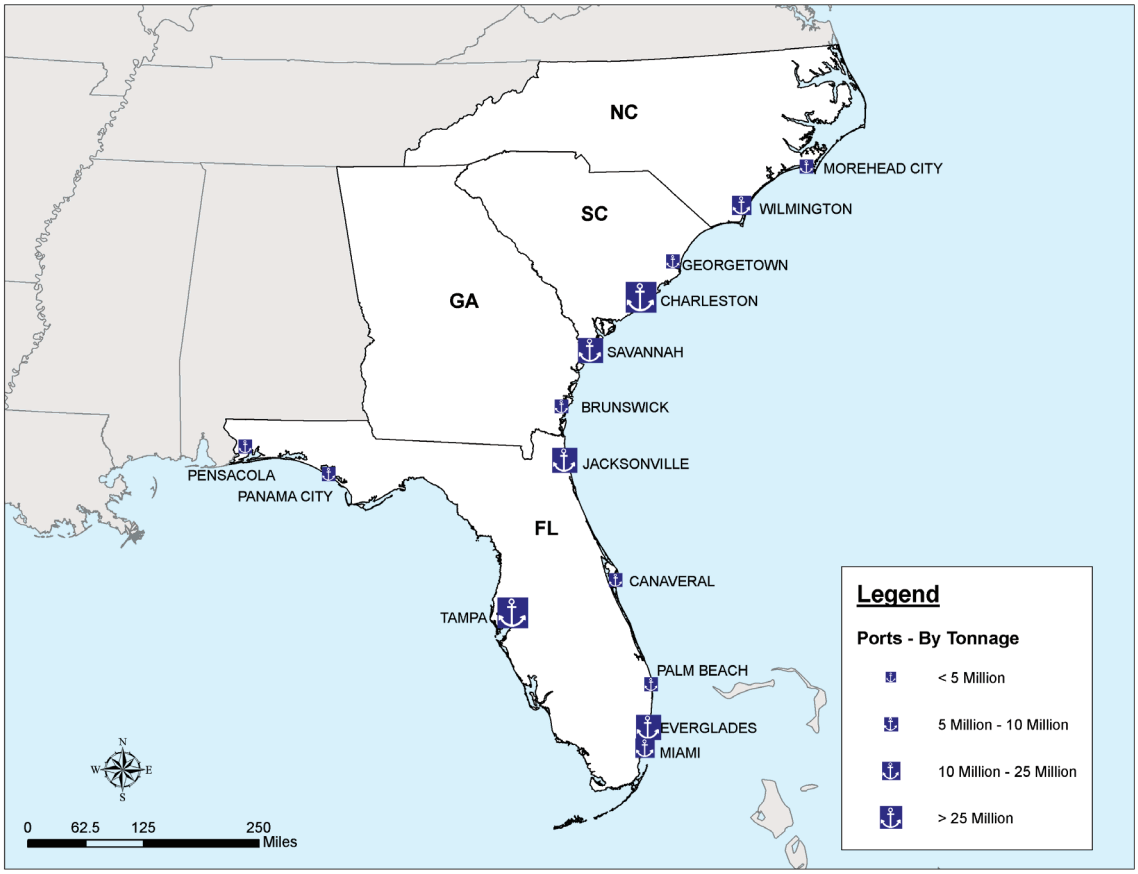


Figure 5b. SEROps Marine Ports
Sized by TEUs

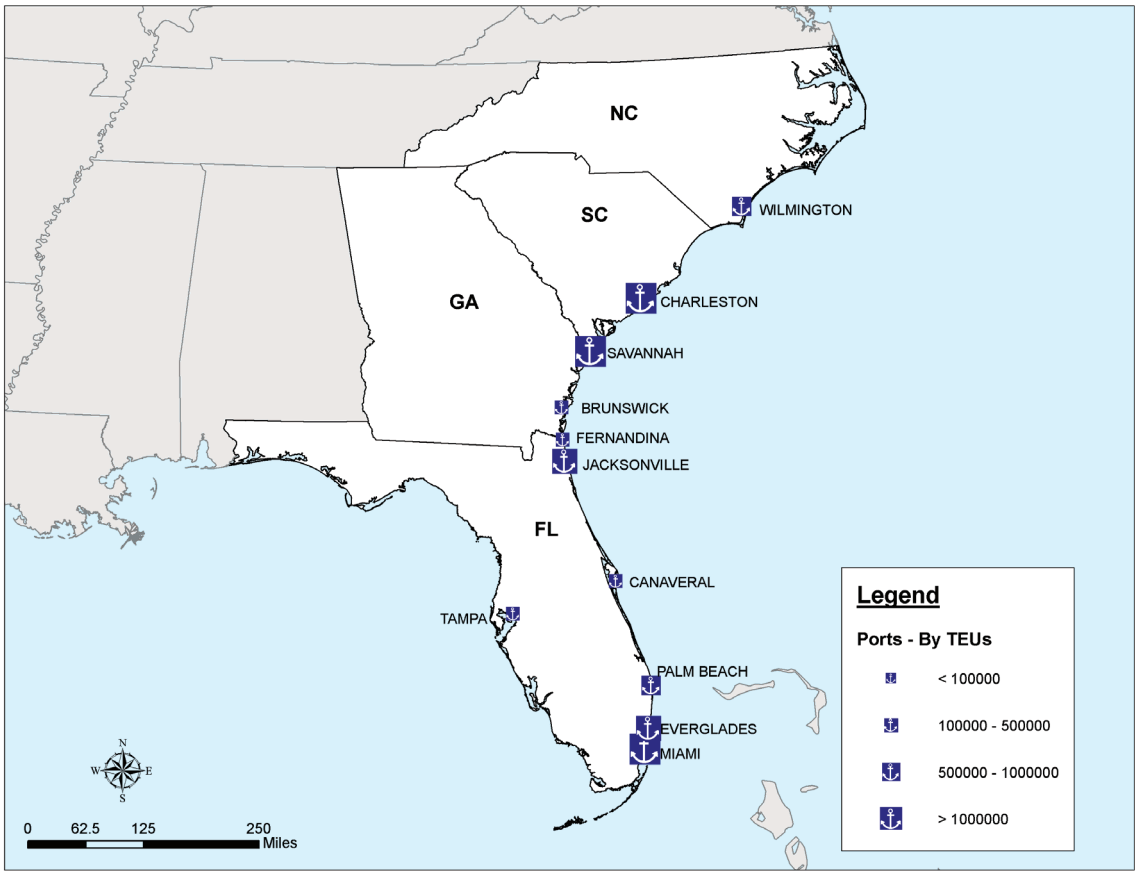


Figure 5c. SEROps Marine Ports
Sized by Cruise Passengers

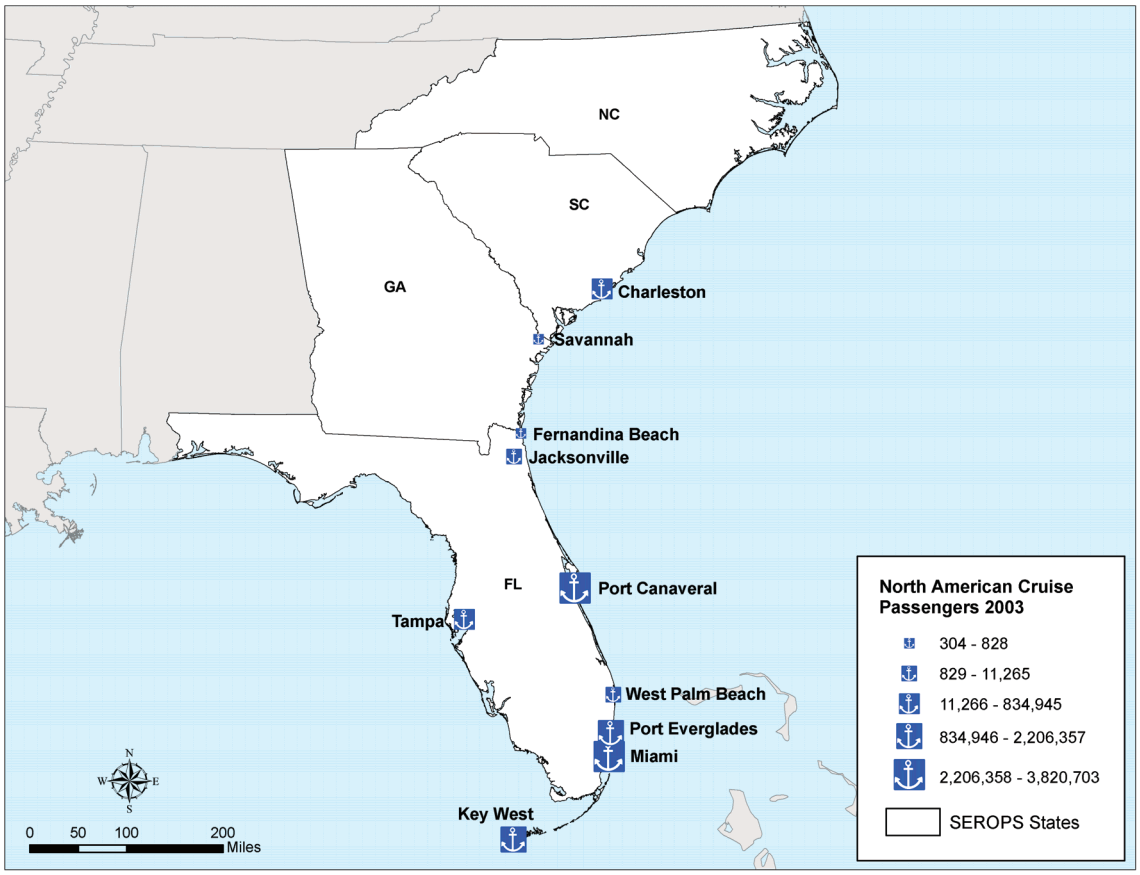


Figure 5d. Rail Access to SEROps Marine Ports

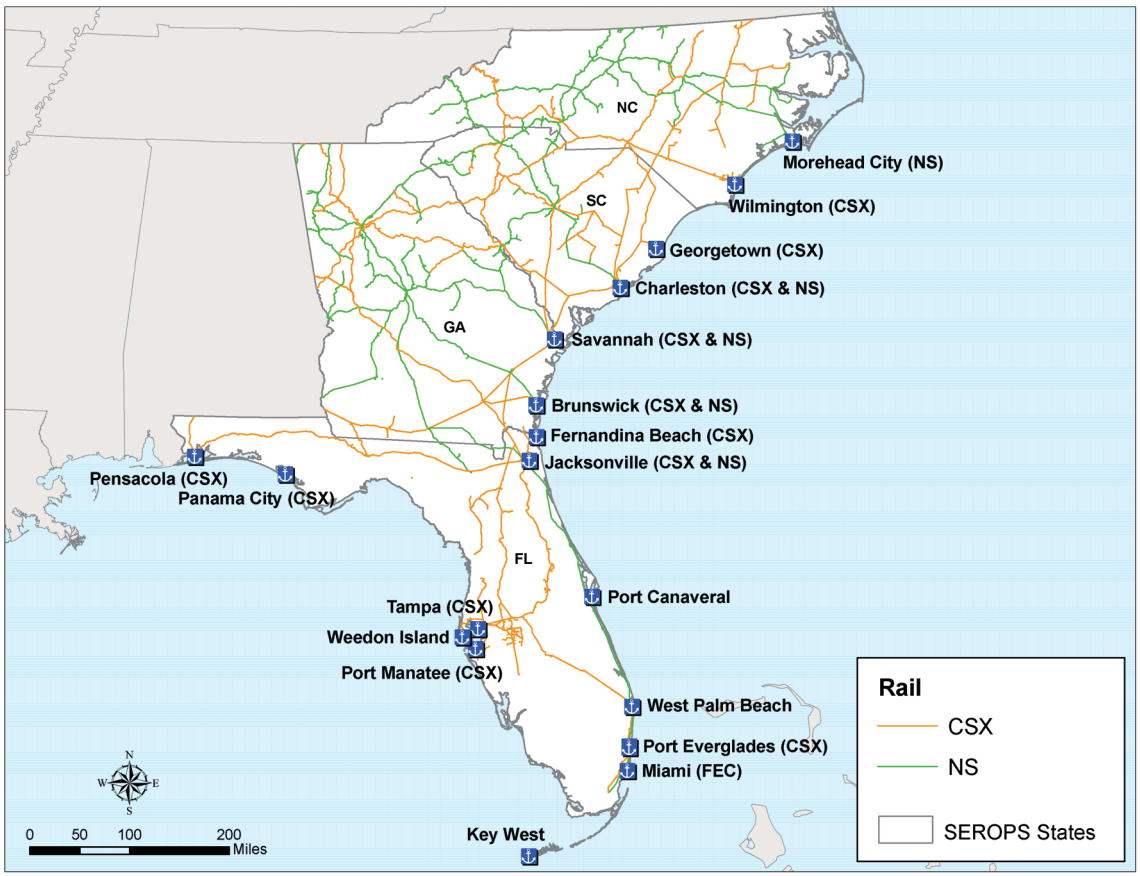
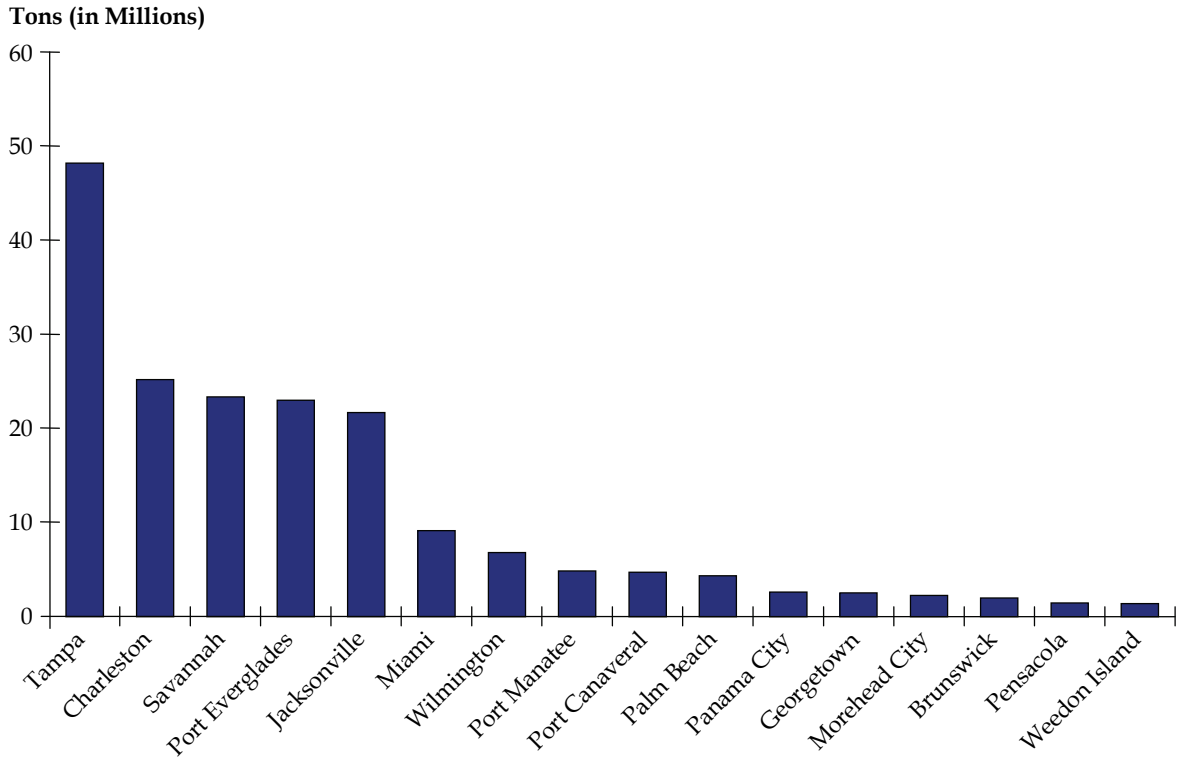
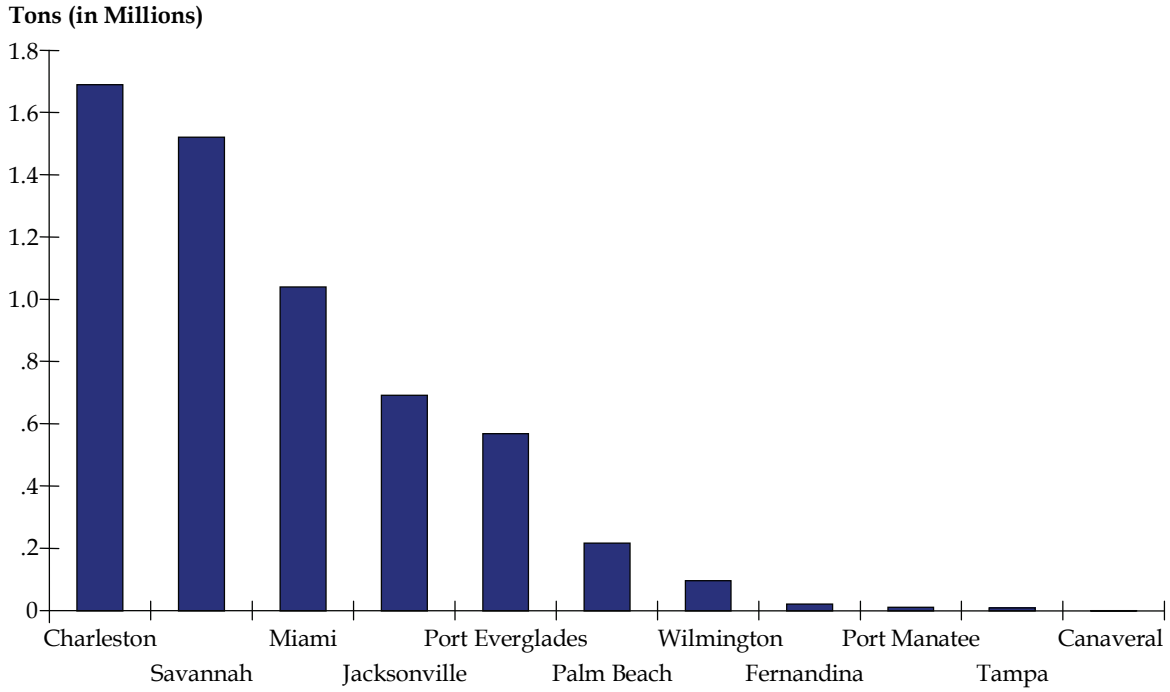


Figure 6. Top Gateways for Cargo in SEROps Study Region
2003



Source: U.S. Army Corps of Engineers, 2003.

Figure 7. Top Gateways for Container Cargo in SEROps Study Region
2004



Source: American Association of Port Authorities, 2004

The top ports in the region include:

- **Port of Tampa (Florida)**, the largest Port in the State of Florida and in the SEROps region by cargo tonnage throughput (50 million tons of cargo per year). This throughput accounts for approximately 50 percent of all maritime cargo in Florida. Top commodities include Fertilizer, Petroleum, Coal, and Building Materials.[11] The port additionally handled over 830,000 passengers in 2003 on 217 vessels.[12]

- **Port Charleston (South Carolina)** serves over 2,300 ships and barges at its seaport terminals. In 2003 the port handled over 25 million tons, ranking 30th in the nation and second in the SEROps region. Top commodities include agricultural products, consumer goods, machinery, metals, vehicles, chemicals and clay products. The Port is

[11] Tampa Port Authority, http://www.tampaport.com/index.asp/.

[12] Maritime Administration, North American Cruise Statistics, 2003.

increasingly serving containerized traffic, as well, handling close to 1.8 million TEUs in 2004, a 13 percent increase from 2000.[13]

- **Port of Savannah (Georgia)** is owned and operated by the Georgia Ports Authority. The Port is divided into the Ocean Terminal and the Garden City Terminal. The Ocean Terminal is a secured, dedicated break-bulk facility that handles primarily forest and solid wood products, steel, roll-on/roll-off (ro/ro), and heavy-lift cargoes. This terminal handled approximately 23.3 million tons of cargo in 2003. The Garden City Terminal is a specialized container facility which handled approximately 1.6 million TEUs in 2003.[14]

- **Port Everglades (Florida)** is one of South Florida's busiest ports, with total waterborne commerce exceeding 23 million tons in liquid, bulk, and containerized cargoes. More than 5,300 ships call at Port Everglades in a year forming the basis of a diverse maritime operation that includes a growing cruise industry. The top commodity handled at the Port of Everglades is petroleum. Port Everglades also moved over 650,000 TEUs in 2004 and handled nearly 4,000 passengers the previous year.[15]

- **Port of Jacksonville (Florida)** is owned and operated by the Jacksonville Port Authority (JAXPORT). JAXPORT develops, manages, and markets its public marine and passenger cruise terminals to promote the growth of maritime and related industries in Jacksonville Florida and beyond. JAXPORT also offers year-round cruise ship service aboard Carnival Cruise Lines' ship Celebration. In 2003 the Port handled over 21 million tons, and approximately 700,000 TEUs, primarily food and paper.[15] The Port of Jacksonville also hosted over 11,000 cruise passengers in 2003.[14]

- **Port of Miami (Florida)** is the largest container port in Florida, surpassing both the one million TEU mark and nine million total tons in FY 2004. The top commodities at the port are textiles, paper, and food products.[15] The Port of Miami is also the largest cruise port in the nation, handling over 3.8 million passengers in 2003 on 775 vessels.[14]

Airport Infrastructure

Air freight is a relatively small component of the SEROps region's freight transportation system in terms of overall tonnage carried, however air freight shipments normally consist of high-value, low-weight commodities such as electronics, computer parts, or other valuable consumer goods. An increased emphasis on service-based and information industries in the region will likely result in an increased demand for premium transportation services such as those provided by couriers and air cargo carriers. As air freight generally moves in cargo holds of passenger aircraft, most air freight activity is concentrated at major passenger airports.

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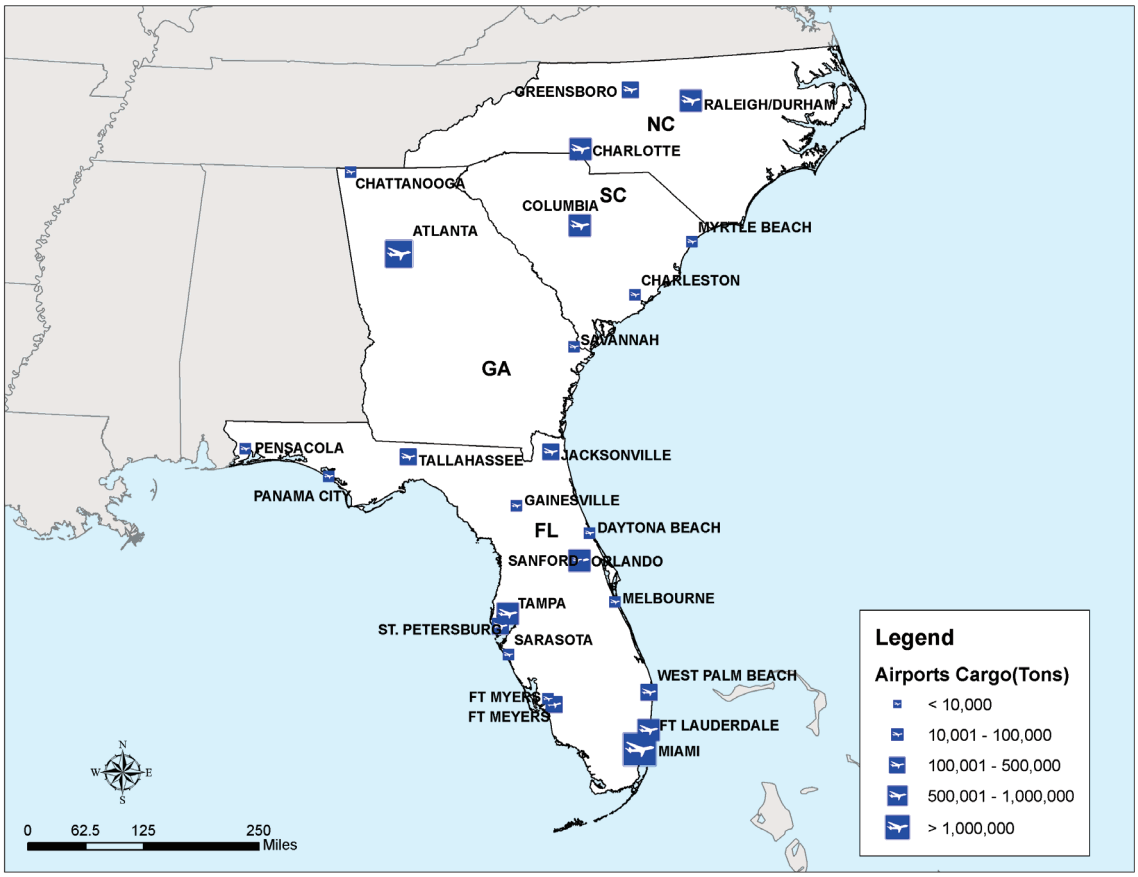
[13]South Carolina State Ports Authority, http://www.port-of-charleston.com/.

[14]Georgia Ports Authority, http://www.gaports.com/.

[15]Florida Ports Council.

Figure 8 shows the location of major cargo handling airports in the SEROps region. The SEROps region is home to two of the top 30 airports (by cargo tonnage) in North America, handling over 2.6 million tons of air cargo in 2004.[16] In total, the region hosts 26 of the nation's top 160 airports (by tonnage) moving more than 3.7 million tons of air cargo during that year. Miami International and Atlanta's Hartsfield International Airports are the two busiest cargo airports in the region, handling 1.97 million and 950,000 annual tons, respectively.

Figure 8. Top SEROps Airports
By Tonnage



[16] Airports Council International, North America.

2.2 Freight and Passenger Movements in the SEROps Region

Highway Movements

As is the case in most regions, highway movements account for the vast majority of passenger and goods movement in the SEROps region. The SEROps region in particular is very reliant on its highway infrastructure. In fact, while the region is home to 10.2 percent of the nation's total roadway infrastructure, it handles over 15 percent of the vehicle miles traveled (VMT). Moreover, from 1998 to 2003 the VMT in the southeast grew at double the rate of the national average (21 percent versus 10 percent). This trend is not simply a reflection of the region's rapid population growth; during that same period, the growth of the VMT per capita in the southeast significantly outpaced the national trend (11 percent versus 4 percent), meaning that residents of the region are becoming more dependent on highways for personal travel and goods movement.[17]

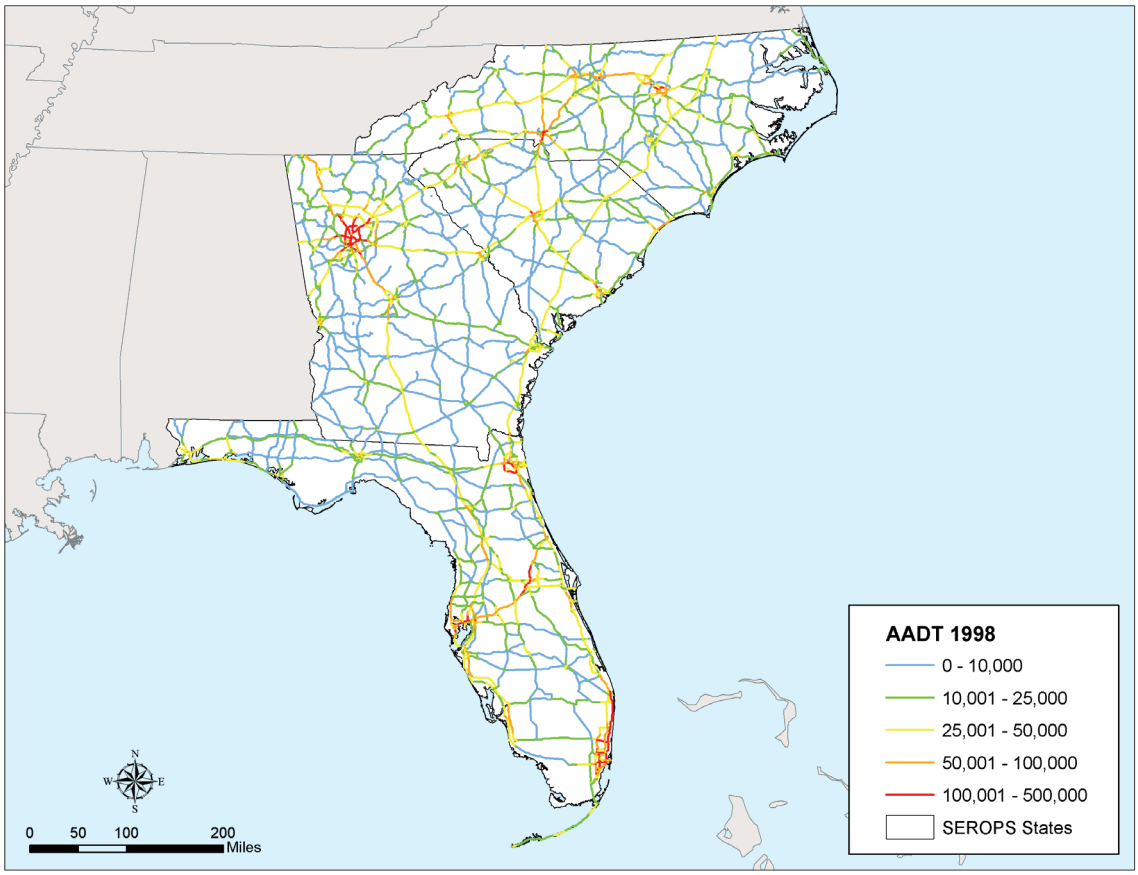
Figure 9 presents the Annual Average Daily Traffic on the region's highway system. As can be seen, the Atlanta and Miami metro regions have the most heavily used highway corridors. Nevertheless, throughout the region, most of the major corridors serve over 25,000 vehicles on a daily basis.

Commodity Movements

Like the Mid-Atlantic and Northeast, the Southeast region is highly dependent on trucks for goods movement. The 1998 FAF figures show that trucks handle nearly 80 and 88 percent of the tonnage and value (respectively) transported to, from, and within the SEROps region. Figures 10 and 11 show the mode split for all goods movement in the region. The next four figures show the commodity split, by weight and value, for the region; Figures 12 and 13 represent the goods transported by all modes, while Figures 14 and 15 show the portion of the goods transported by rail.

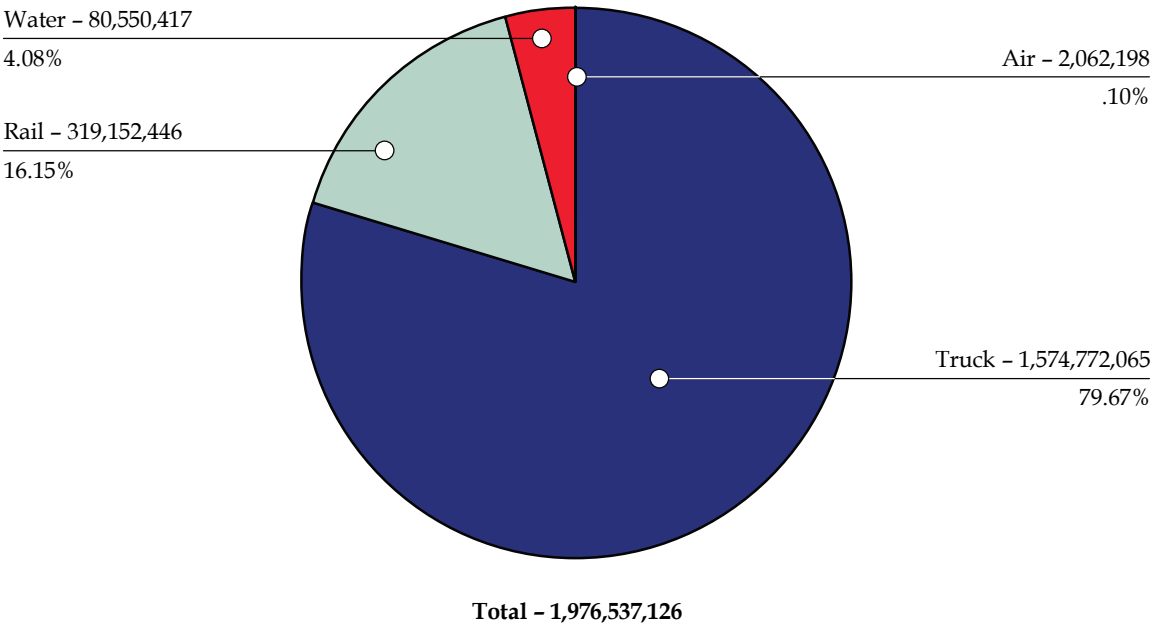
[17] Bureau of Transportation Statistics, 2004.

Figure 9. Annual Average Daily Traffic in the SEROps Region
1998



Source: Highway Performance Monitoring System (HPMS) data.

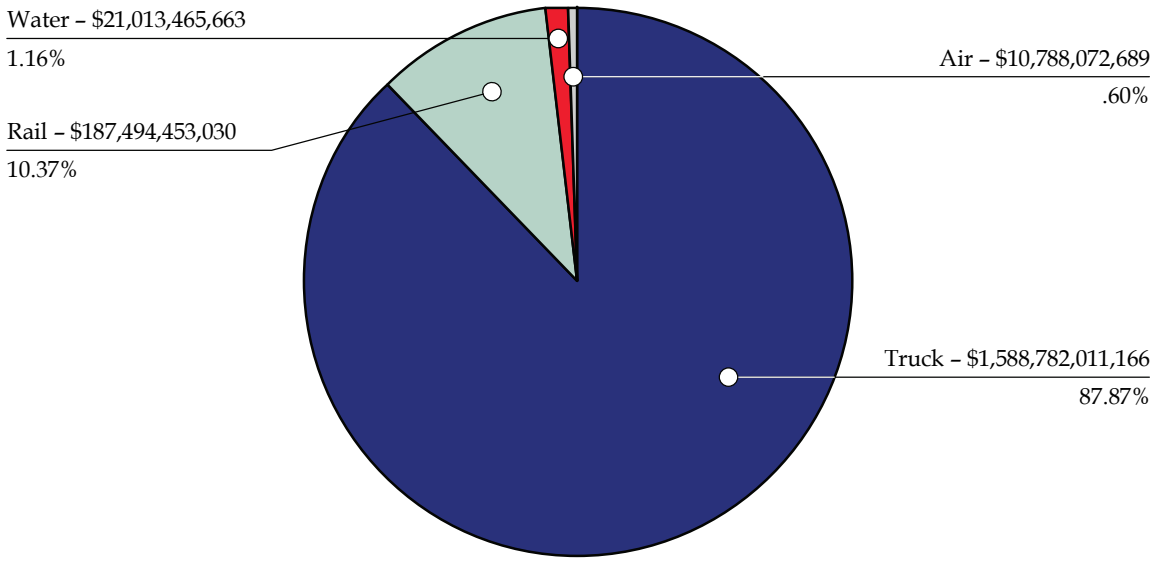
Figure 10. Mode Split of Freight Movement
Weight in Tons, 1998



Total – 1,976,537,126

Source: Freight Analysis Framework, 1998.

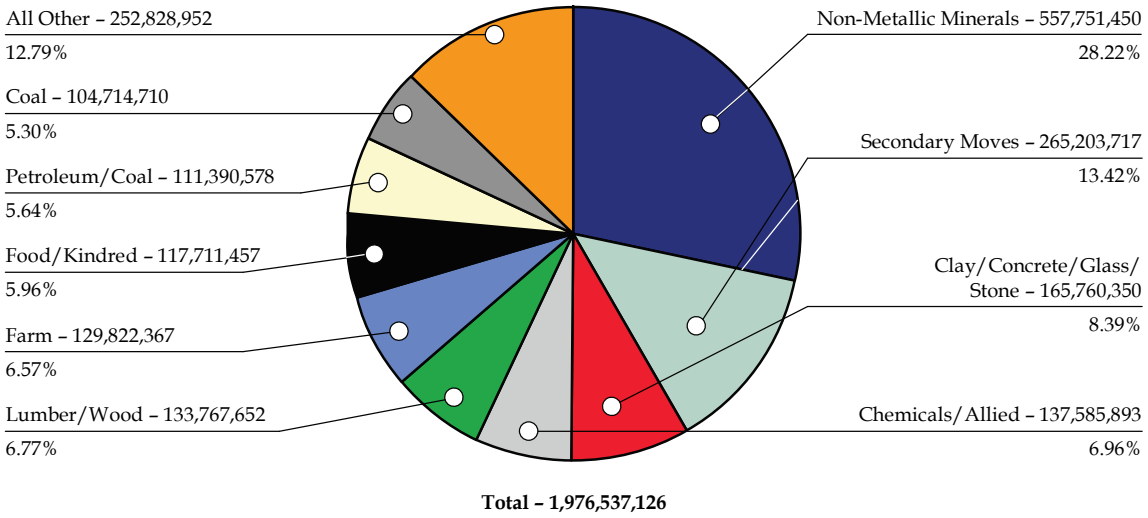
Figure 11. Mode Split of Freight Movement
Value, 1998



Total – $1,808,078,002,549

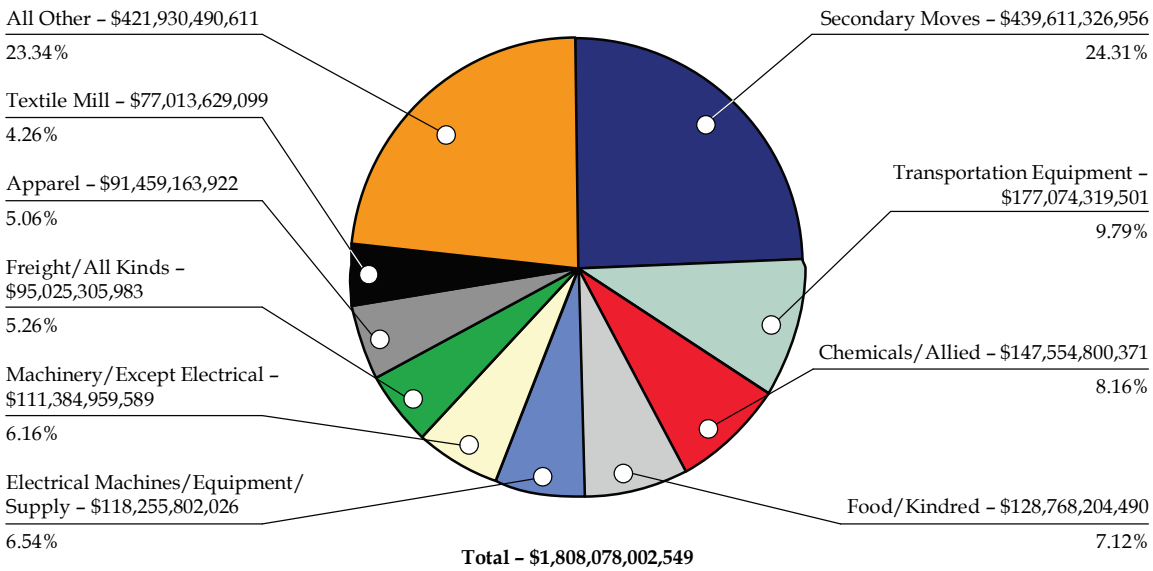
Source: Freight Analysis Framework, 1998.

Figure 12. Top Commodities
Weight in Tons, 1998



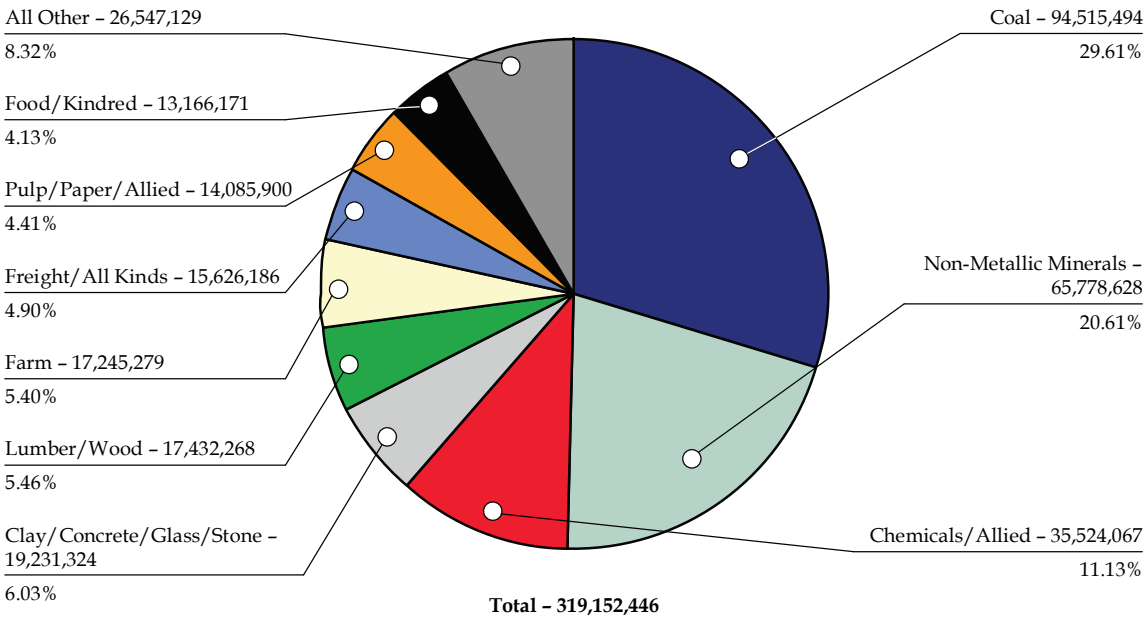
Source: Freight Analysis Framework, 1998.

Figure 13. Top Commodities
Value, 1998



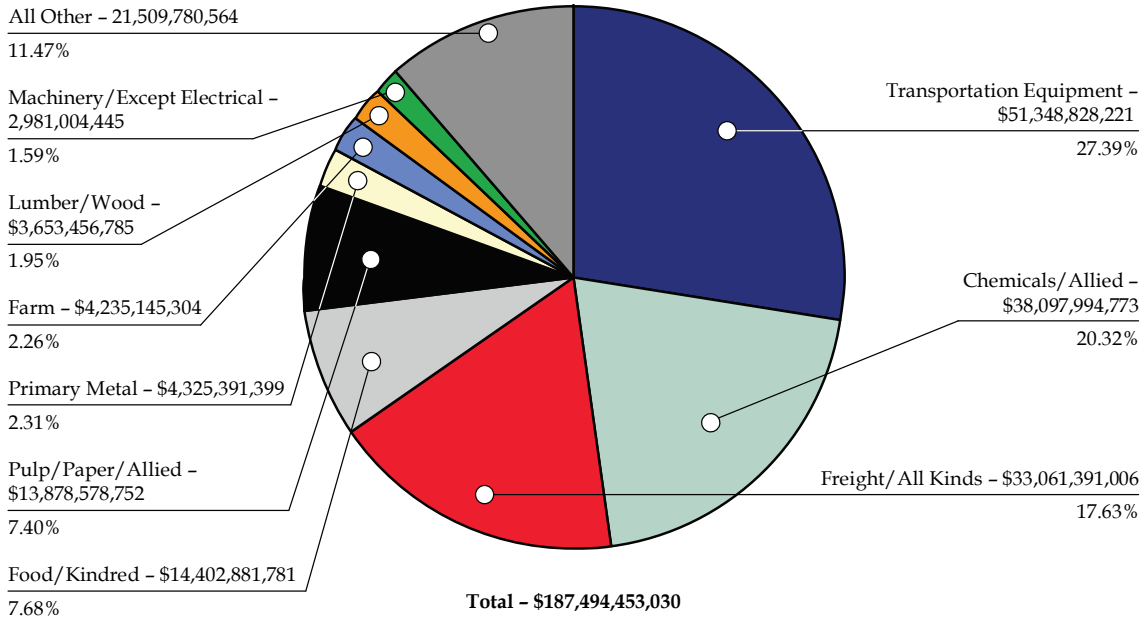
Source: Freight Analysis Framework, 1998.

Figure 14. Top Rail Commodities
Weight in Tons, 1998



Source: Freight Analysis Framework, 1998.

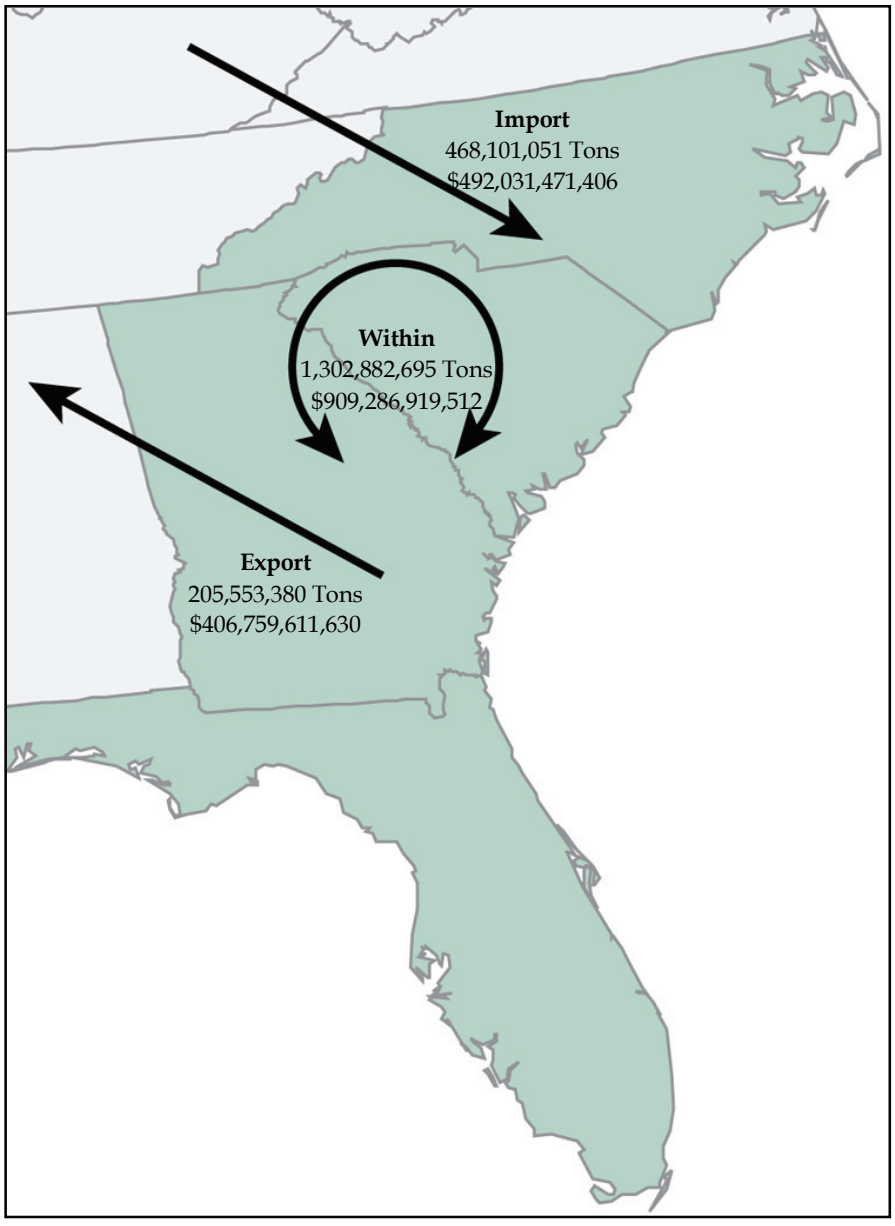
Figure 15. Top Rail Commodities
Value, 1998



Source: Freight Analysis Framework, 1998.

As shown in Figure 16, a significant amount of goods (66 and 50 percent by weight and value respectively) is traded within the SEROps region. It is interesting to note that the SEROps region is primarily a consuming region, i.e., it imports more than it exports. This can have important ramifications on freight service in the region, as carriers may have trouble finding "backhaul" traffic in the region and may set freight rates higher as a result. It is also important to note that the goods being exported from the region typically have a higher value than those being imported to the region. Again, this can have an important effect on freight services in the region, as different commodity types often have different transportation and reliability needs.

Figure 16. SEROps Trading Partners



Source: Freight Analysis Framework, 1998.

Passenger Rail Movements

As discussed earlier, Amtrak serves the SEROps region through four major routes (The Carolinian and Piedmont, Crescent, Silver Service/Palmetto, and Sunset Limited) and the auto train. Along these four routes, Amtrak served 12 cities with an annual ridership of 40,000 passengers or more (see Table 3); in total, including the auto train, Amtrak serves 56 cities in the four states for a combined annual ridership of 1.7 million passengers (Table 4). The auto train's Sanford Station in Florida accounted for approximately 12 percent of the ridership, with nearly 200,000 passengers.

Table 3. Top Cities Served by Amtrak in the SEROps Region

By Ridership

City	State	Ridership
Orlando	Florida	164,273
Raleigh	North Carolina	110,203
Charlotte	North Carolina	107,896
Atlanta	Georgia	86,916
Miami	Florida	82,193
Jacksonville	Florida	70,474
Greensboro	North Carolina	58,274
Charleston	South Carolina	56,823
West Palm Beach	Florida	55,171
Tampa	Florida	50,895
Fort Lauderdale	Florida	48,004
Savannah	Georgia	42,603

Source: Amtrak State Fact Sheets, 2004.

Table 4. Amtrak Boardings by State

FY 2004

State	Ridership
Florida	913,553
Georgia	142,965
North Carolina	485,459
South Carolina	176,300
Southeast Total	1,718,277

Source: Amtrak State Fact Sheets, 2004.

Florida and Georgia offer commuter rail service through the Tri-County Commuter Rail Authority (Tri-Rail, Florida) and the Metropolitan Atlanta Rapid Transit Authority (MARTA, Georgia). Tri-Rail carries more than 8,000 riders daily over its 72-mile, 18-station route. MARTA's heavy rail service covers approximately 48 miles and carries nearly 70 million annual unlinked trips.

2.3 Key Trends Affecting Rail Transportation in the SEROps Region

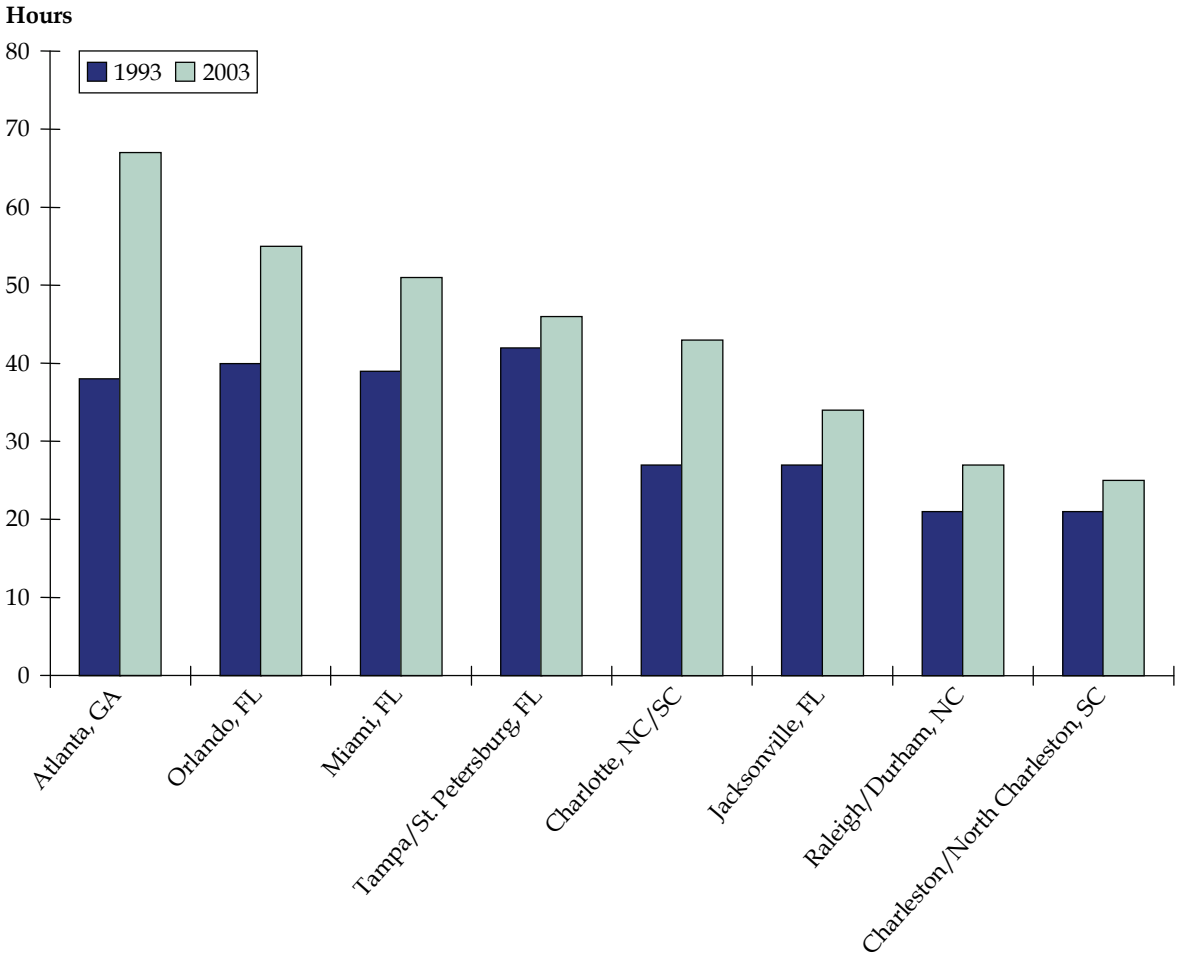
There are several key trends affecting rail transportation in the region and how the region's rail system will develop. These trends include increasing in congestion on the region's highway system, the anticipated growth in freight traffic, and railroad productivity and competitiveness. The following subsections discuss each of these issues in more detail.

Increasing Highway Congestion

As mentioned earlier, the SEROps region is becoming more dependent on highways for personal travel and goods movement. This reliance, coupled with significant population growth, has resulted in an increase in congestion throughout the region's highway systems, especially around major metropolitan regions. Figure 17 shows the annual hours of delay per peak traveler around eight of the region's largest metro areas. As can be seen, all of these regions have experienced a significant increase in delay over the last decade (the average increase was 36 percent, from 1993 to 2003). Atlanta experienced the most significant change, going from 38 to 67 hours of delay during that period (a 76 percent increase). In fact, Atlanta went from being the fourth worst metro region in the Southeast in the early 1990s, to the worst by a 20 percent margin in 2004. Atlanta's travel time index is now the fourth worst in the nation, behind only Los Angeles, San Francisco, and Washington. Other metropolitan areas in the SEROps region, including Charlotte, Miami, and Orlando, also experienced a significant increase in congestion, with each region's delay time worsening by 30 percent or more.

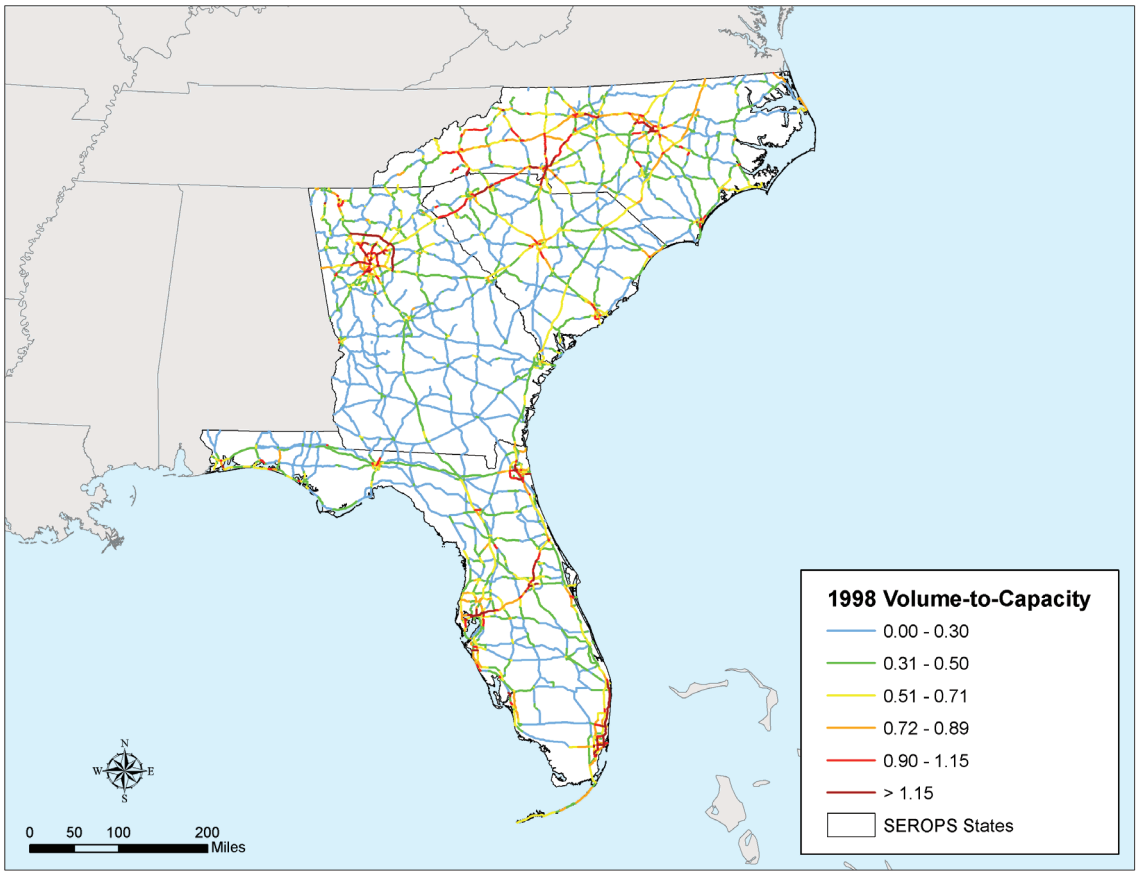
This increase in congestion is not only limited to the region's major metropolitan areas, as shown in Figures 18 and 19, the level of service through all major highways is expected to deteriorate significantly by the year 2020. It is important to note that congestion on the region's highway system will not be limited to major metropolitan areas by 2020. Rather, it will congestion will begin to affect key intercity links, including stretches of I-95 and I-85 that stretch through multiple states. More localized congestion will exacerbate existing inefficiencies at landside access points to marine ports, intermodal terminals, and other important transfer facilities, raising the cost of transporting freight to, from, and within the region. Furthermore, these local congestion points will generate considerable levels of noise and air pollution that deteriorate the region's overall quality of life.

Figure 17. Annual Hours of Delay per Peak Traveler
1993 and 2003



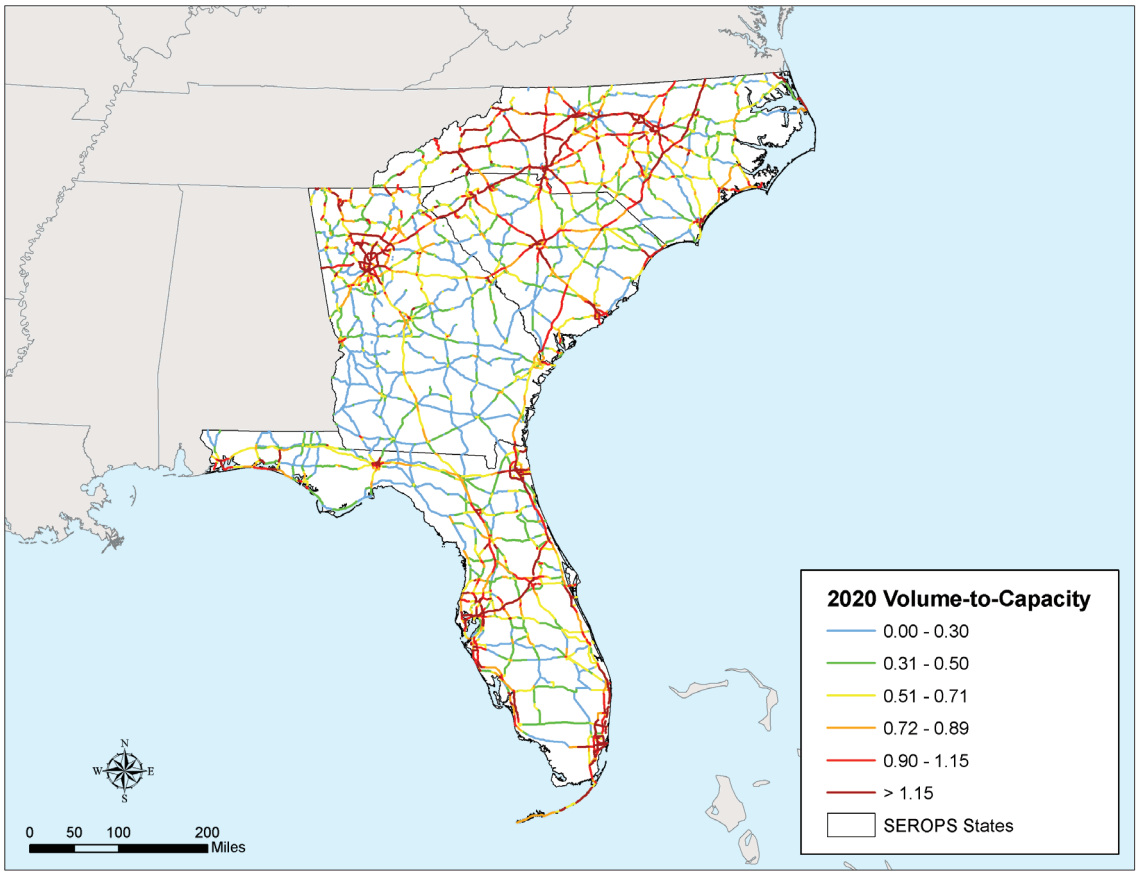
Source: Texas Transportation Institute's Urban Mobility Study, 2005.

Figure 18. Level of Service on SEROps Region Highway System
1998



Source: Highway Performance Monitoring System (HPMS) data.

Figure 19. Level of Service on SEROps Region Highway System
2020

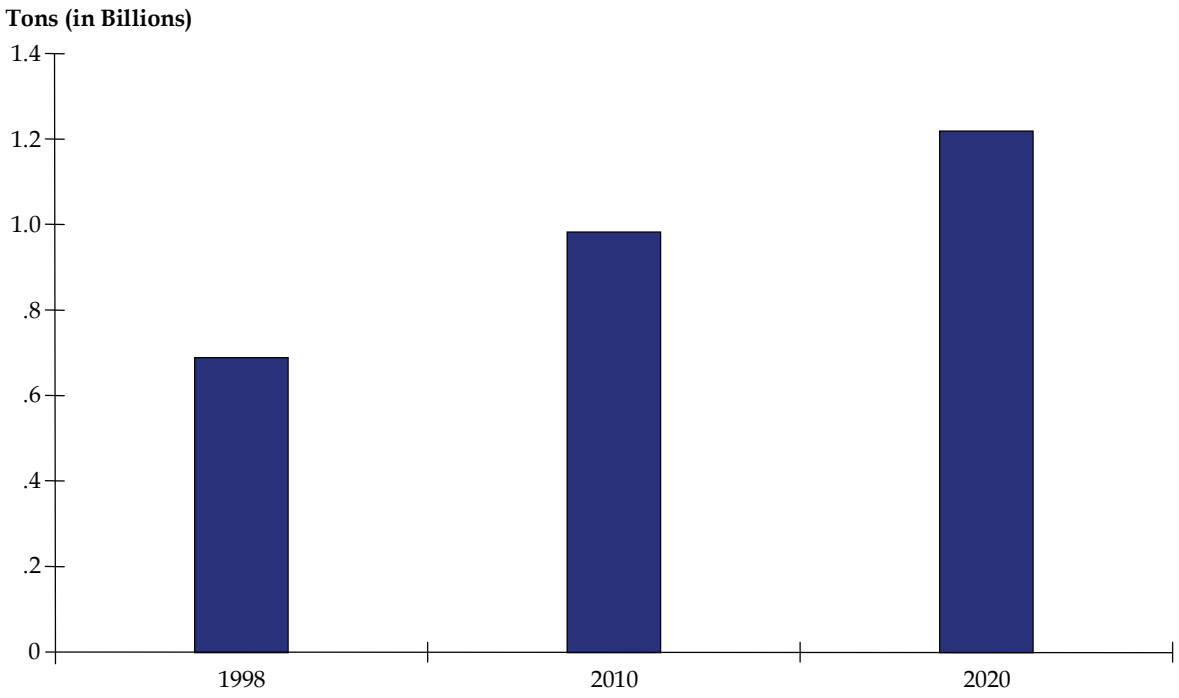


Source: Highway Performance Monitoring System (HPMS) data.

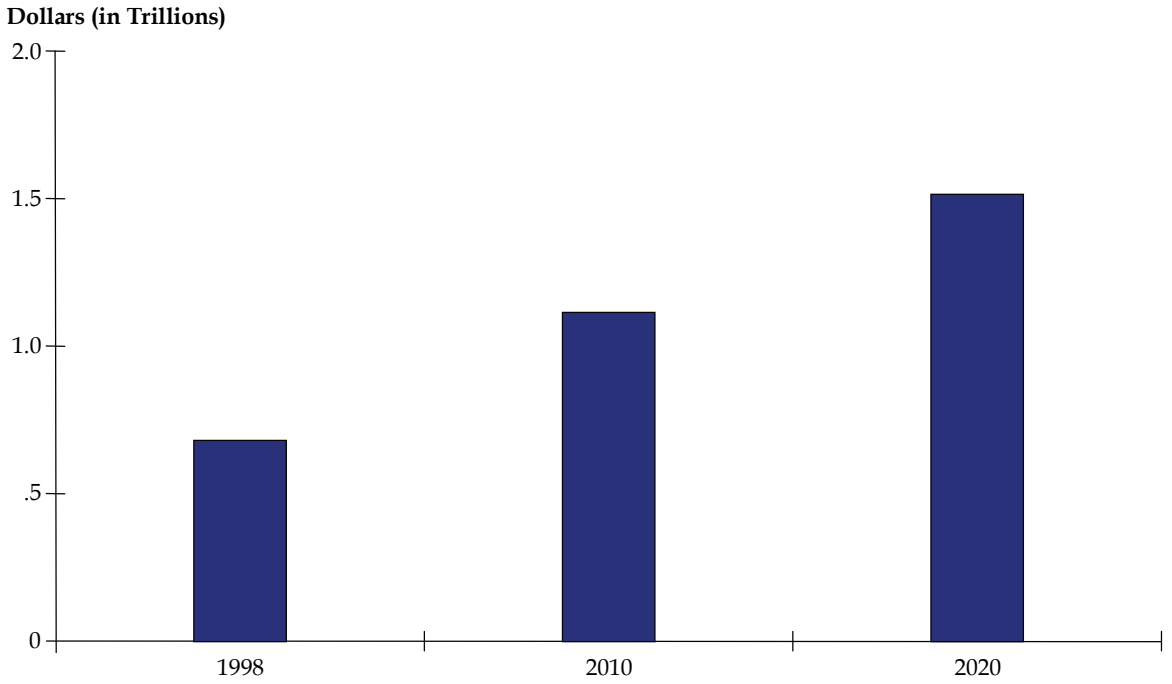
Anticipated Growth in Freight Traffic

The region's substantial population growth has dictated an increase in the volume (and value) of freight transported to, from, and within itself. As shown on Figure 20, the FAF forecasts indicate that the volume of freight transported in the region will increase by more than 40 percent by the year 2010 (compared to 1998), and nearly 80 percent by 2020. These numbers are even more extreme for the value of the goods transported; the total value transported is expected to escalate by 63 percent by the year 2010, and more than double by 2020.

Figures 20. Growth in Freight Traffic
By Weight



Figures 21. Growth in Freight Traffic
By Value



The growth in freight traffic is a particular concern for the region's rail system, the majority of which was designed and built in the late 19th and early 20th centuries and is struggling to efficiently serve modern-day rail traffic and equipment in many areas. As demands on this system continue to increase, additional stress will be placed on the system, which may result in the deterioration of its condition and performance.

Railroad Productivity and Competitiveness

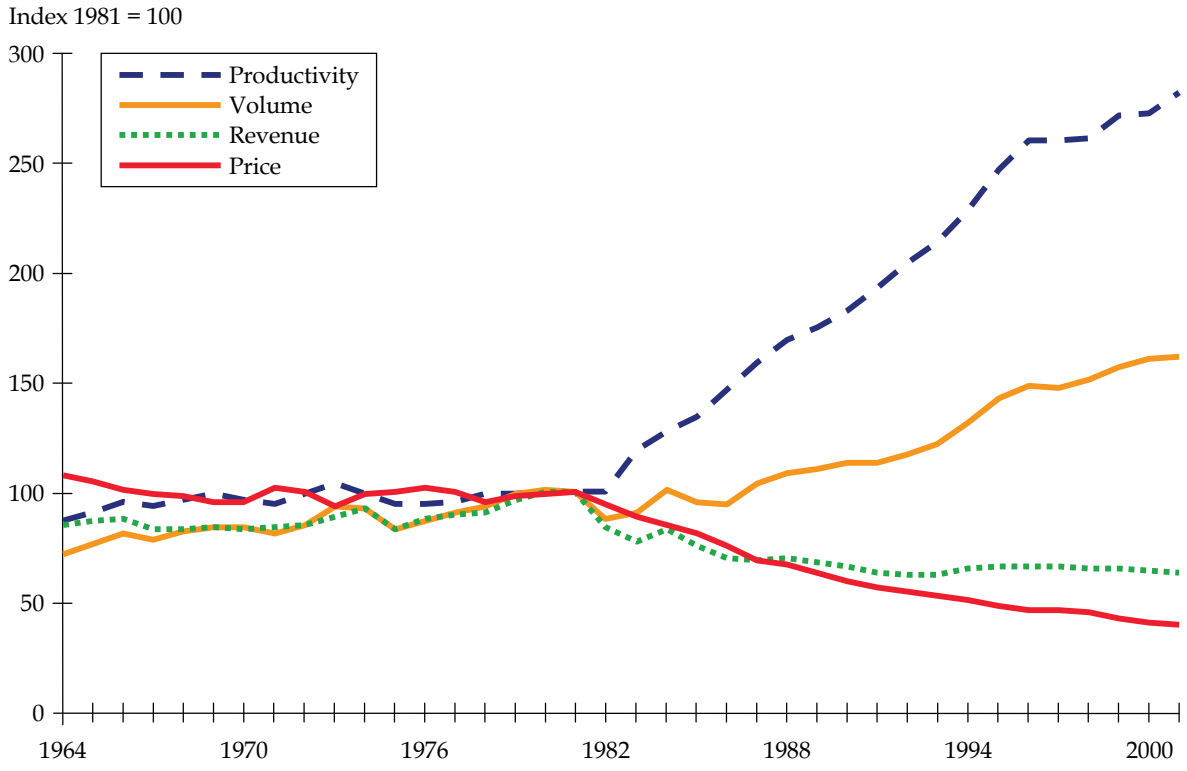
Since the railroad industry was deregulated in the 1980s, the railroads have relied on consolidation, restructuring, and cost-cutting to boost productivity and offer competitive rates and services. Since deregulation, freight productivity has increased, ton-miles handled per railroad employee have nearly quadrupled, rates have fallen, service has improved, and market share has stabilized, as shown in Figure 22. However, these improvements have not been sufficient to significantly expand market share and increase revenue. Competition among the remaining Class I railroads has forced continuing rate reductions, with the result that revenues have declined in real terms (accounting for inflation) despite increasing traffic volume.

While the industry's return on investment has improved from about 4 percent in 1980 to around 8 percent in 2000, it is still below the cost of capital at 10 percent, as shown in Figure 23 REPLACE WITH NEROPS ROI FIGURE. Most of the economic benefits of railroad reorganization and productivity improvements have accrued to shippers and the economy in the form of rate cuts, rather than to the railroads and their investors. In this

environment, rail will continue to generate substantial public benefits in the future, but may not live up to its full potential.

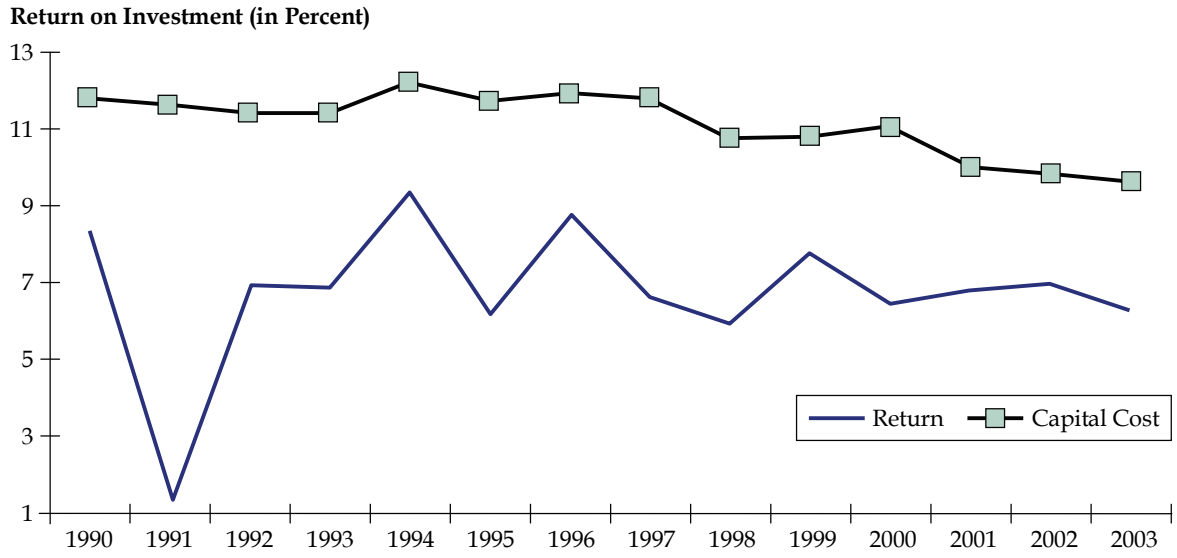
Furthermore, the amount of Class I rail mileage in the United States has decreased significantly in the latter half of the 20th Century, particularly after deregulation in 1980 (see Figure 24). Overall, the extent of the SEROps region's rail system has decreased by approximately 40 percent since 1920 as shown in Figure 24. This shrinking of the system, combined with mergers and consolidation among the major railroads in the region has resulted in the region being served by fewer Class I railroads than in the past.

Figure 22. Railroad Productivity



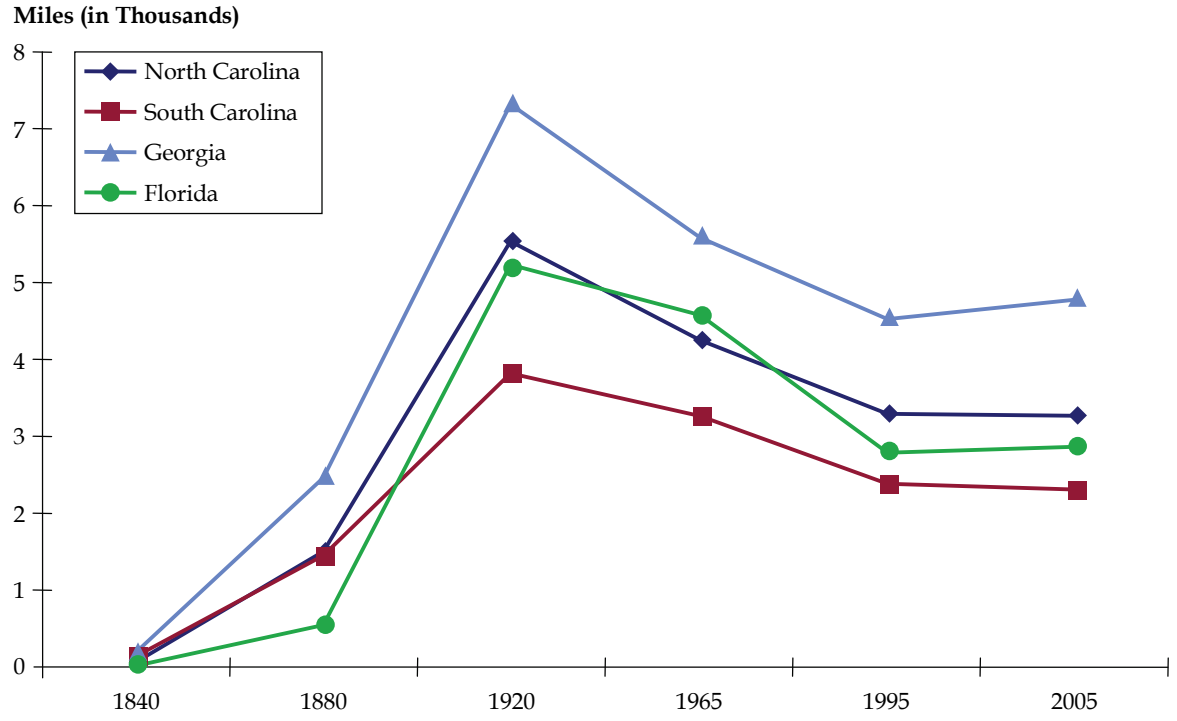
Source: *Railroad Facts*, AAR.

Figure 23. Continued Financial Challenges
Railroad Return Cost of Capital



Source: Association of American Railroads.

Figure 24. Rail System Mileage in SEROps States
1840-2005



2.4 Key Findings – Transportation

- VMT per capita in the southeast significantly outpaced the national trend (11 percent versus 4 percent), meaning that residents of the region are becoming more dependent on highways for personal travel and goods movement.

- Southeastern ports handle a significant amount of cruise passengers, often at ports that have significant freight operations, as well. In fact, over 80 percent of the nation's cruise business occurs at Florida's seaports.

- Four of the region's seaports, Canaveral, Jacksonville, Charleston, and Savannah, are designated as strategic seaports by the Department of Defense.

- The SEROps region is primarily a consumer region, i.e., it imports more than it exports in terms of tonnage and value. This can result in "backhaul" issues and rate increases by freight carriers.

- The goods being exported from the region typically have a higher value than those being imported to the region. Again, this can have an important effect on freight services in the region, as different commodity types often have different transportation and reliability needs.

- Top commodities by weight in the region include nonmetallic minerals (28 percent of total weight), secondary moves (13 percent), and clay, concrete, glass, and stone products (8 percent). When analyzed by value, secondary moves make up the largest share (24 percent), while nonmetallic minerals make up less than 1 percent of the total value traded.

- As with most regions, trucks are the dominant mode of freight transportation in the SEROps region, making up 80 percent of the movements by weight, and 88 percent of the movements by value.

- The volume of freight transported in the region is expected to increase by more than 40 percent by the year 2010 (compared to 1998), and nearly 80 percent by 2020. The total value transported is expected to escalate by 63 percent by the year 2010, and more than double by 2020.

- Several ports in the SEROps region have access to Class I rail service, these include: the Port of Miami, Jacksonville, Tampa, Everglades, Savannah, Brunswick, Charleston, and Morehead City, amongst others. In some cases, this rail access is "off-dock," i.e., it requires a truck move between the port and the rail yard.

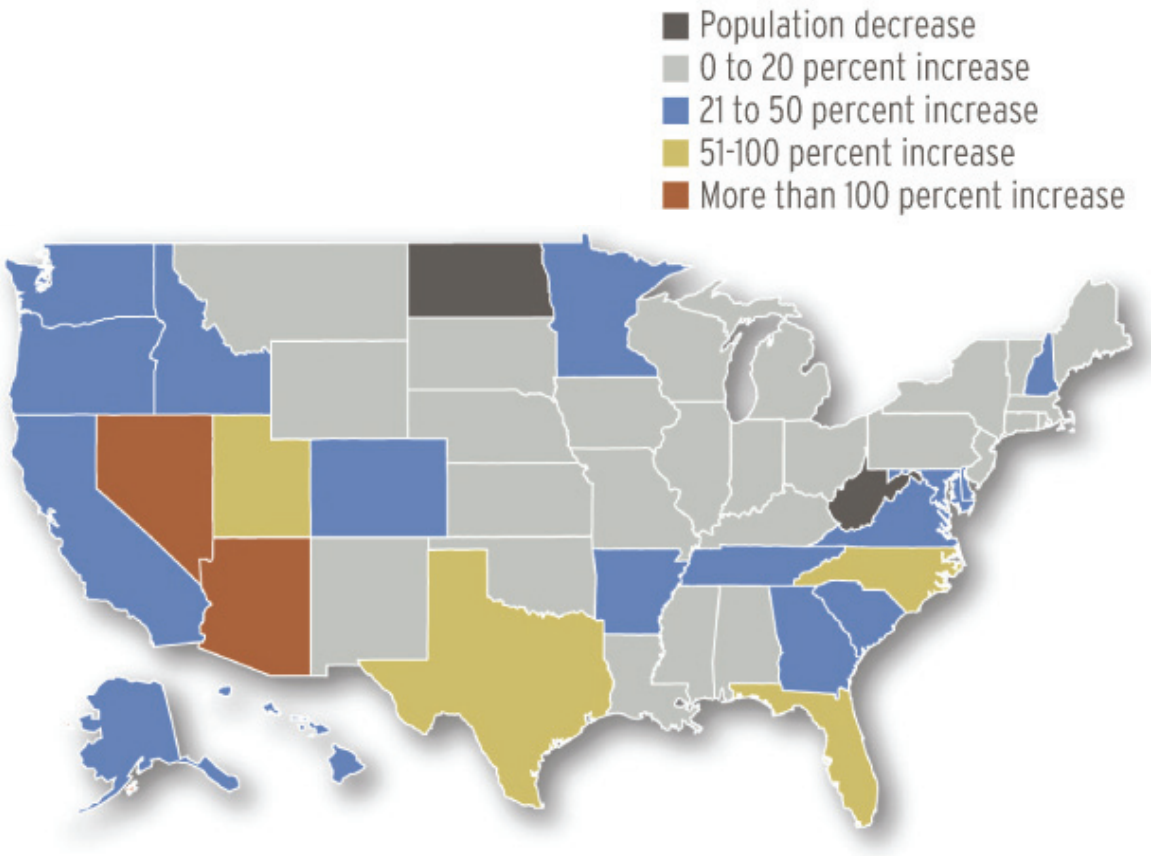
- The performance of the region's highway system is continuing to decline and affect travel time reliability in key metropolitan areas, including Atlanta, Charlotte, Miami, and Orlando. In fact, Atlanta's travel time index is now the fourth worst in the nation, behind only Los Angeles, San Francisco, and Washington.

- The extent of the SEROps region's rail system has decreased by approximately 40 percent since 1920. This shrinking of the system, combined with mergers and consolidation among the major railroads in the region has resulted in the region being served by fewer Class I railroads than in the past.

3.0 SEROps Region Socioeconomic and Industry Characteristics

As discussed earlier, the Southeast is experiencing significant population growth and is one of the fastest growing regions in the Nation. As shown in Figure 25, the populations of North Carolina and Florida are expected to increase between 51 and 100 percent by 2030; the populations of South Carolina and Georgia are expected to increase between 21 and 50 percent in the same time period. This increase in population, combined with high employment rates and a vigorous economic expansion is making the SEROps region a significant contributor to the economic growth and prosperity of the United States.

Figure 25. Anticipated Population Increase, 2000-2030



The following sections provide brief descriptions of the population trends within the SEROps region; an overview of key regional industries and their transportation needs; and a description of the key industry trends affecting rail transportation in the region. Table 5 highlights some of the key economic and demographic indicators of the SEROps region, each of which will be discussed in more detail in the following sections.

Table 5. SEROps Region Socioeconomic Characteristics Summary

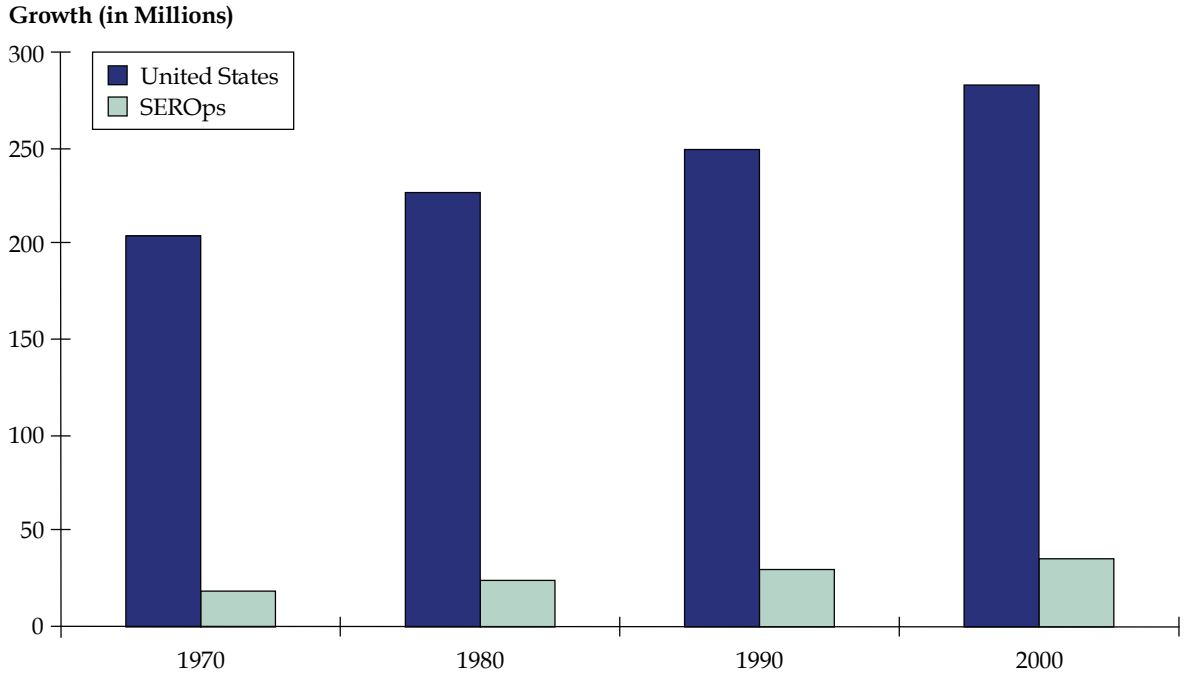
Measure	Figure	Year	Figure	Year	Percent Change
Population	32,289,404	1994	38,965,833	2004	20.68%
Private Employment (Nonfarm)	17,263,636	1994	21,732,490	2004	25.89%
GRP (Millions of Current Dollars)	766,936	1994	1,414,716	2004	84.46%
VA by Manufacture (Millions of Dollars)			227,530	2002	
Per Capita Income	20,894	1994	30,440	2004	45.69%
Exports (Millions of Dollars)			80,105	2004	
R&D (Millions of Dollars)			14,200	2001	

Sources: Bureau of Economic Analysis, U.S. Census Bureau, National Science Foundation.

3.1 Population

The SEROps states account for 13 percent of the United States' population, home to nearly 39 million people in the year 2004, on approximately 5 percent of the nation's land area. The SEROps region encompasses nearly half of the I-95 Corridor Coalition's area, and 36 percent of its population. The Southeast is less densely populated than the Mid-Atlantic and Northeastern regions, yet it is still notably higher than the rest of the United States. Furthermore, as indicated by Figure 26, the region's population has been growing at more than twice the rate of the rest of the United States; between 1970 and 2000, the combined United States population grew by 38 percent, while the SEROps population increased by 90 percent. As stated earlier, this growth rate is expected to keep increasing by the year 2030, making this one of the most intensely populated regions in the country.

Figure 26. Population Growth
1970-2000



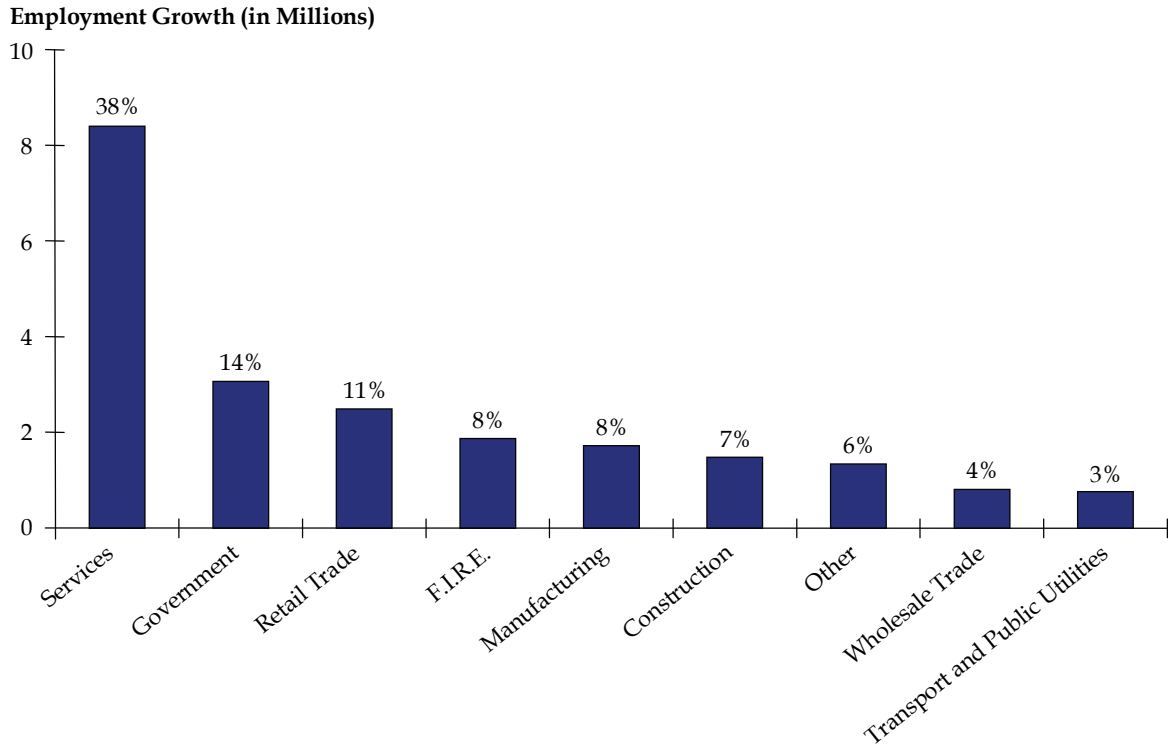
Source: U.S. Census Bureau.

3.2 Employment

As a result of the region's dramatic increase in population, businesses are experiencing rising demand for their products and services, and have had to add employees and equipment to better meet the needs of their customers. From 1994 to 2004, the region's total nonfarm employment grew by nearly 26 percent, adding approximately 4.5 million jobs (nearly three times the growth experienced by the Northeast region during the same time). In 2004, the region employed over 21.7 million people, accounting for 13 percent of the nation's total, and 35 percent of total employment in the entire Coalition region.

As shown in Figure 27, the service industry accounts for 38 percent of the region's total employment, a figure close to 8.5 million jobs. The government is the second largest employer, and accounts for just 14 percent of those employed. Other major industries include retail trade (11 percent); finance, insurance, and real estate (8 percent); and manufacturing (8 percent).

Figure 27. Employment by Industry



Source: Bureau of Economic Analysis.

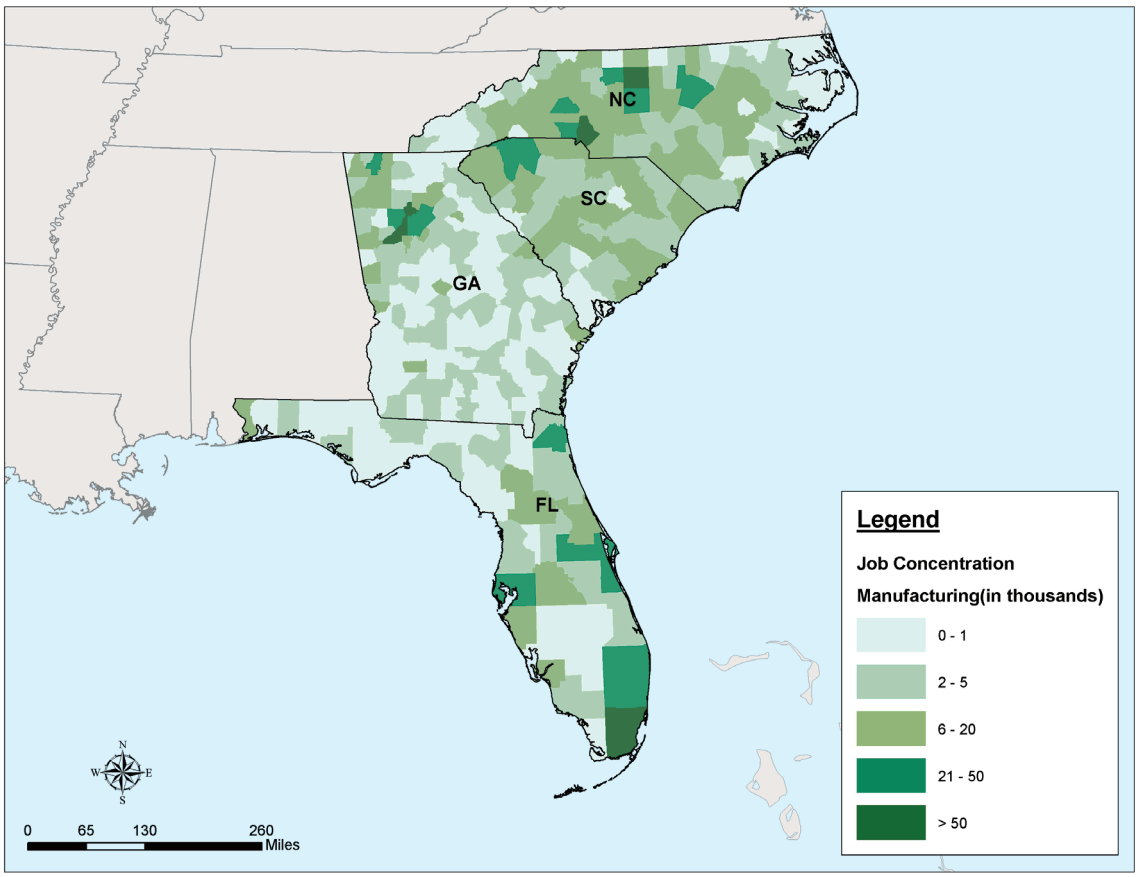
Value-added by manufacturing (the increase in value to a good that results from the manufacturing process) in the SEROps region topped $227 billion in 2002, a figure approximately 20 percent larger than the Northeast, and 4 percent larger than the Mid-Atlantic region. The SEROps region accounts for nearly 12 percent of the total value-added by manufacture in the United States. There are several key industries that play a major role in freight activities: manufacturing, construction and mining, and wholesale trade, transportation, and public utilities. The following sections provide brief snapshots of these key industries.

Industry Snapshot: Manufacturing

Figure 28 shows the concentration of manufacturing jobs throughout the SEROps region. There are several key manufacturing centers in the region (counties that host over 50,000 manufacturing jobs). Florida is home to two of these, Miami-Dade and Pinellas counties, which combine for over 118,000 jobs; North Carolina is home to two more, Guilford and Mecklenburg, which combine for 107,00 jobs; Fulton County in Georgia has 53,000 jobs; and Greenville County in South Carolina hosts approximately 50,000.[18]

[18] Bureau of Economic Analysis and Woods & Poole Economics (2004).

Figure 28. Job Concentration in the Manufacturing Industry



Source: Woods & Poole Economics, Inc., 2004.

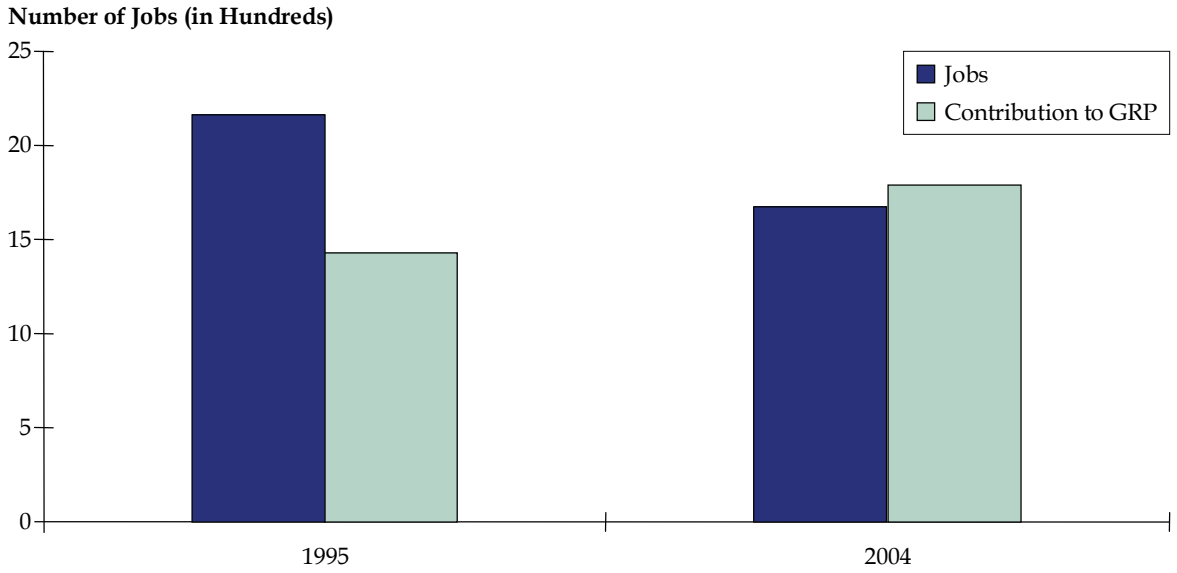
While the number of manufacturing jobs in the region has been on a steady decline since 1995, their contribution to the region's GRP has increased in that same time period. As can be seen in Figure 29, overall manufacturing employment in the region decreased by 22 percent between 1995 and 2004, but its overall contribution to GRP increased by 24 percent.

Industry Snapshot: Construction and Mining

The mining industry comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas. The construction industry comprises establishments primarily engaged in the construction of buildings and other structures, heavy construction (except buildings), additions, alterations, reconstruction, installation, and maintenance and repairs.[19]

[19] Bureau of Economic Analysis.

Figure 29. Change in Manufacturing Industry



Note: Contribution to GRP listed in hundreds of millions of dollars, the jobs are listed as actual number of jobs in the industry.

These two industries combined to account for approximately 7 percent of the region's employment. As shown in Figure 30, Florida has the biggest share of construction jobs in the region; in fact the State is home to nearly 50 percent of all construction and mining jobs in the entire SEROps region. North Carolina and Georgia each have about the same level of employment (each representing 20 percent of the region's total), while South Carolina hosts 10 percent of the region's construction-related jobs.[20] Mining activities are centered around central Florida's Bone Valley, encompassing Hardee, Hillsborough, Manatee, and Polk counties, in which phosphate is mined for use in the production of commercial-grade agricultural fertilizer. Florida currently contains the largest known deposits of phosphate in the United States.

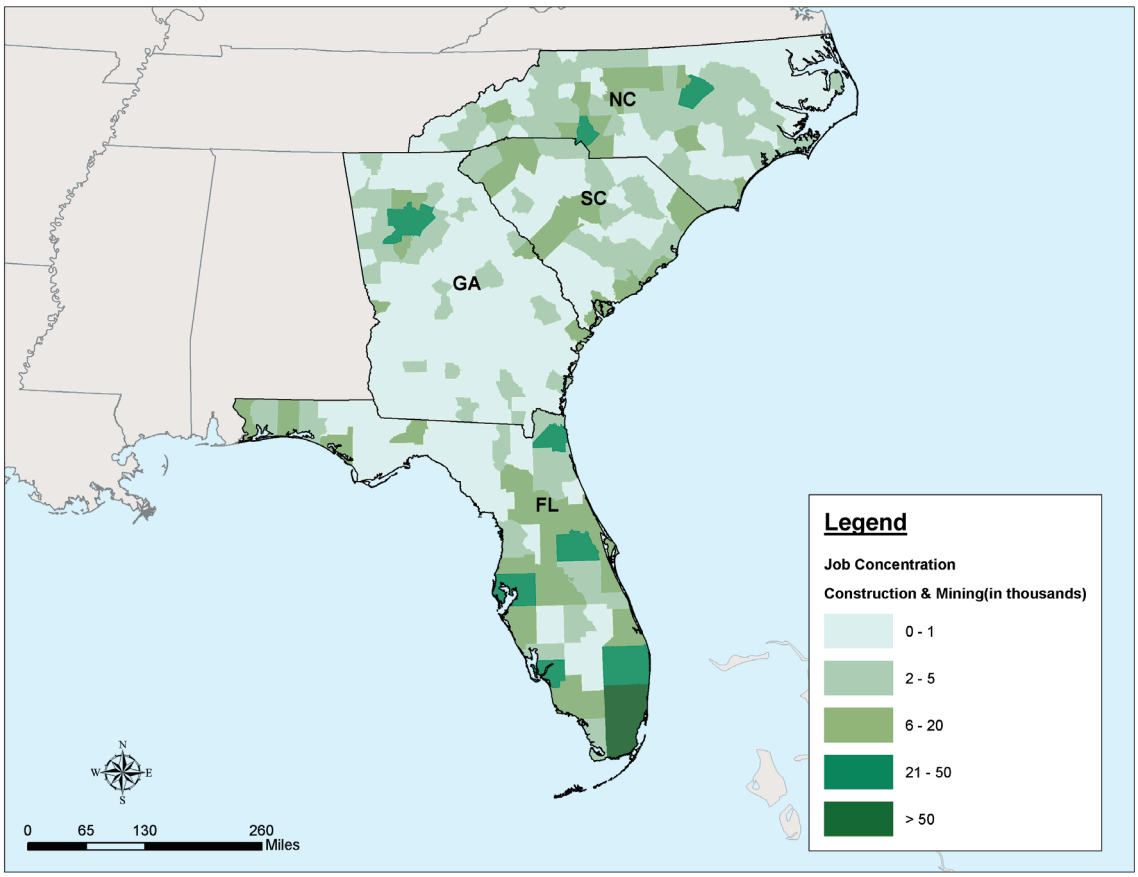
While the number of mining jobs has been decreasing over the past 15 years (24 percent decrease between 1990 and 2004), the number of construction jobs has been increasing at a very high pace (36 percent increase during the same period). Since the number of jobs in construction is significantly higher than those for the mining industry, the combined effect of these is a 33 percent increase in jobs related to both industries.[21]

This upward trend in construction is consistent with the increase in population throughout the region; it also points out a future increase in freight shipments related to the production of new homes and buildings in all four states.

[20] Bureau of Labor Statistics.

[21] Bureau of Labor Statistics.

Figure 30. Job Concentration in the Construction and Mining Industries



Source: Woods & Poole Economics, Inc., 2004.

Industry Snapshot: Wholesale Trade, Transportation, and Utilities

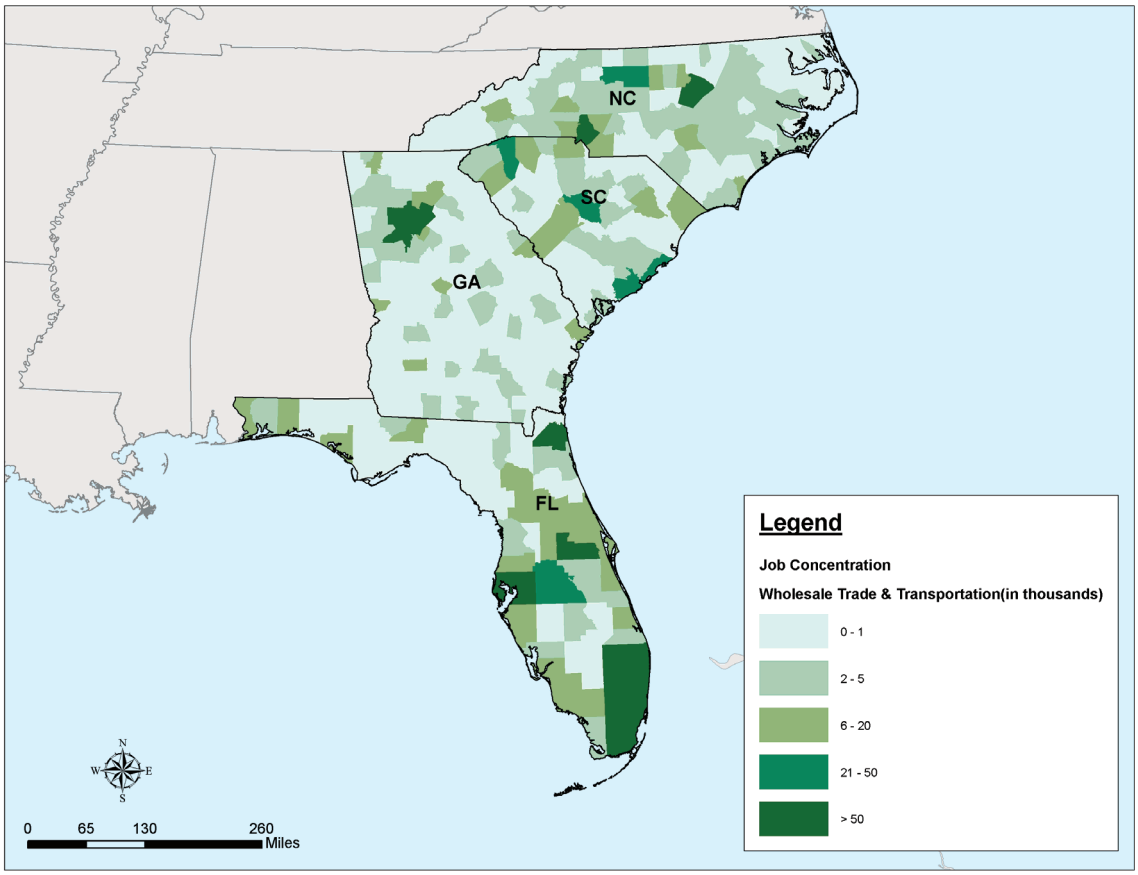
The wholesale trade industry comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. Transportation and warehousing includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation. Finally, the utilities industry comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal. The transportation and utilities industries have been combined in order to provide historical trends in employment (to account for different classification systems in use prior to 2001).[22]

[22] Bureau of Economic Analysis.

The SEROps region has nearly 1.6 million trade, transportation, and utilities-related jobs, 40 percent of which are within Florida. As shown in Figure 31, the majority of jobs are centered in and around the region's major metropolitan areas, including Miami, Tampa, Orlando, and Jacksonville in Florida; Atlanta, Georgia; Charleston, Columbia, and Greenville in South Carolina; and Charlotte and Raleigh in North Carolina.

Trade and transportation industries have experienced a significant increase in jobs through the past 15 years. From 1990 to 2004, the four states have combined to generate nearly 300,000 new jobs, a 22 percent increase.

Figure 31. Job Concentration in the Wholesale Trade, Transportation, and Public Utilities Industries



Source: Woods & Poole Economics, Inc., 2004.

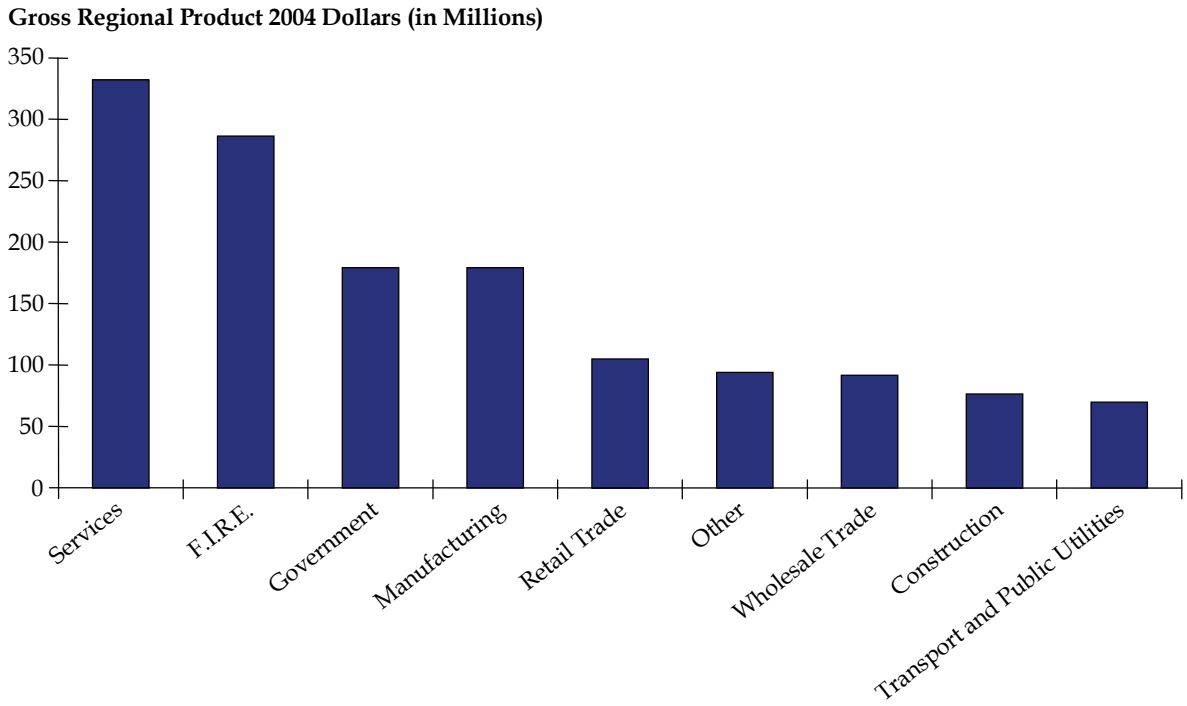
3.3 Gross Regional Product (GRP)

The Gross Regional Product (GRP) is the value of all goods and services produced in a state and is commonly used as the basis for comparing the overall economic size of states, regions, or countries. This value is determined by totaling the sales, operating income,

commodity taxes, and inventory change of businesses within the State, and then subtracting the intermediate inputs acquired from other states and nations. The combined GRP for the Southeast region in 2004 was $1.41 trillion, a figure comparable to that of the NEROps ($1.56 trillion) and the MAROps ($1.50 trillion) regions.

As shown in the Figure 32, approximately one quarter of the GRP was produced through service-related industries. Businesses in the finance, insurance, and real estate industry accounted for an additional 20 percent of the total GRP. Combined, the two industries accounted for just under $620 billion, and nearly 45 percent of the region's economy. Government, manufacturing, and retail trade were also significant contributors to the GRP, combining for $463 billion, and 33 percent of the total.

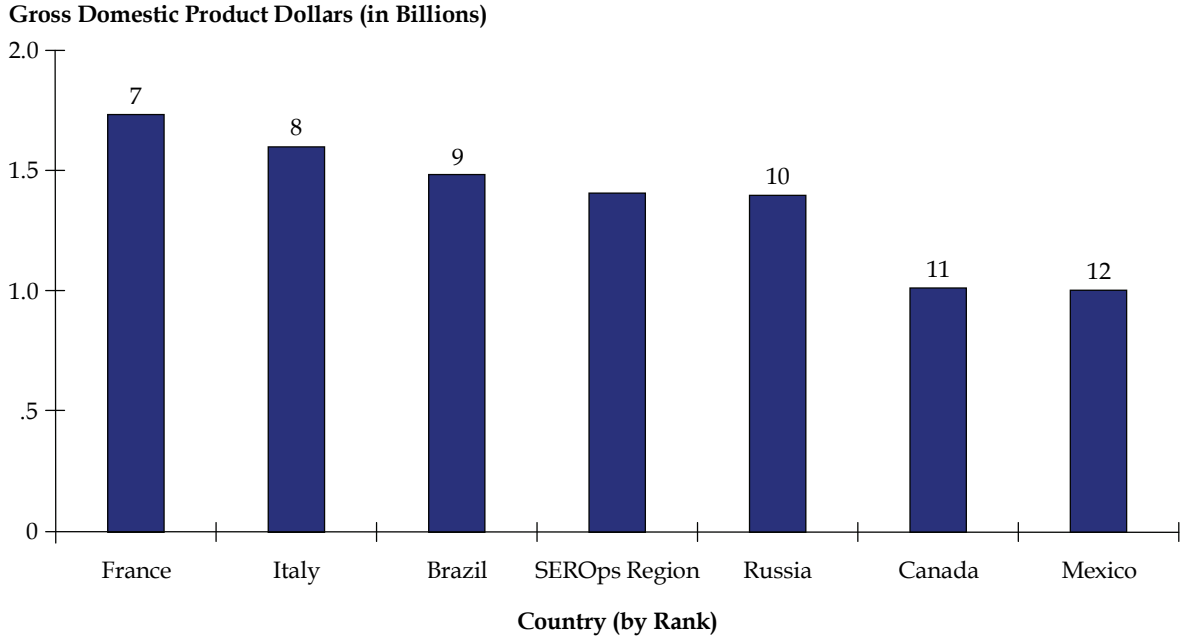
Figure 32. Gross Regional Product by Industry



Source: Bureau of Economic Analysis.

The GRP of the SEROps region is equivalent to the overall GDP of several entire nations, illustrating the economic power of the region. As shown in Figure 33, the Southeast places below just below Brazil, ranked ninth in the world in terms of value of its GDP, and ahead of Russia, Canada, and Mexico. The SEROps region's GRP is equivalent to approximately 3 percent of the world's combined GDP.

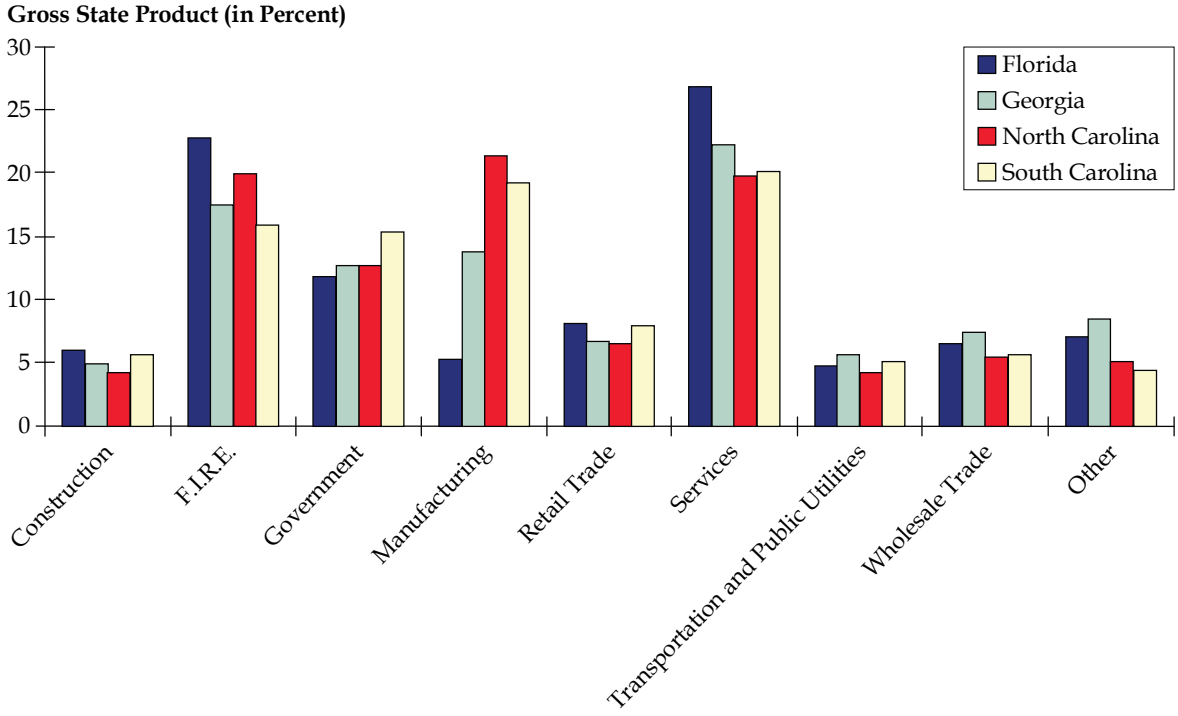
Figure 33. Comparative Gross Domestic Product



Sources: Bureau of Economic Analysis, C.I.A.'s World Factbook.

As shown in Figure 34, the industries that make the most significant contribution to each state's GSP vary slightly. While the economies of Georgia, North Carolina, and South Carolina function in a very similar fashion, Florida's key economic drivers are somewhat more diverse. The main difference is the focus on manufacturing; while this industry makes up 18 percent of the GRP of the three states combined, it only accounts for 5 percent of Florida's economy. Notice that while it accounts for this small share, Florida still produces more through manufacturing than South Carolina, and produces 18 percent of the region's manufactured products (measured by value). The balance of this distribution is felt mostly on the service industry (which accounts for 27 percent of Florida's GSP, and 20 percent of the other three states), and the finance, insurance, and real estate industry where the contribution ranges from 16 percent in South Carolina, to 23 percent in Florida. The effect of each of the remaining industries is very similar throughout all four states.

Figure 34. Distribution of Gross State Product

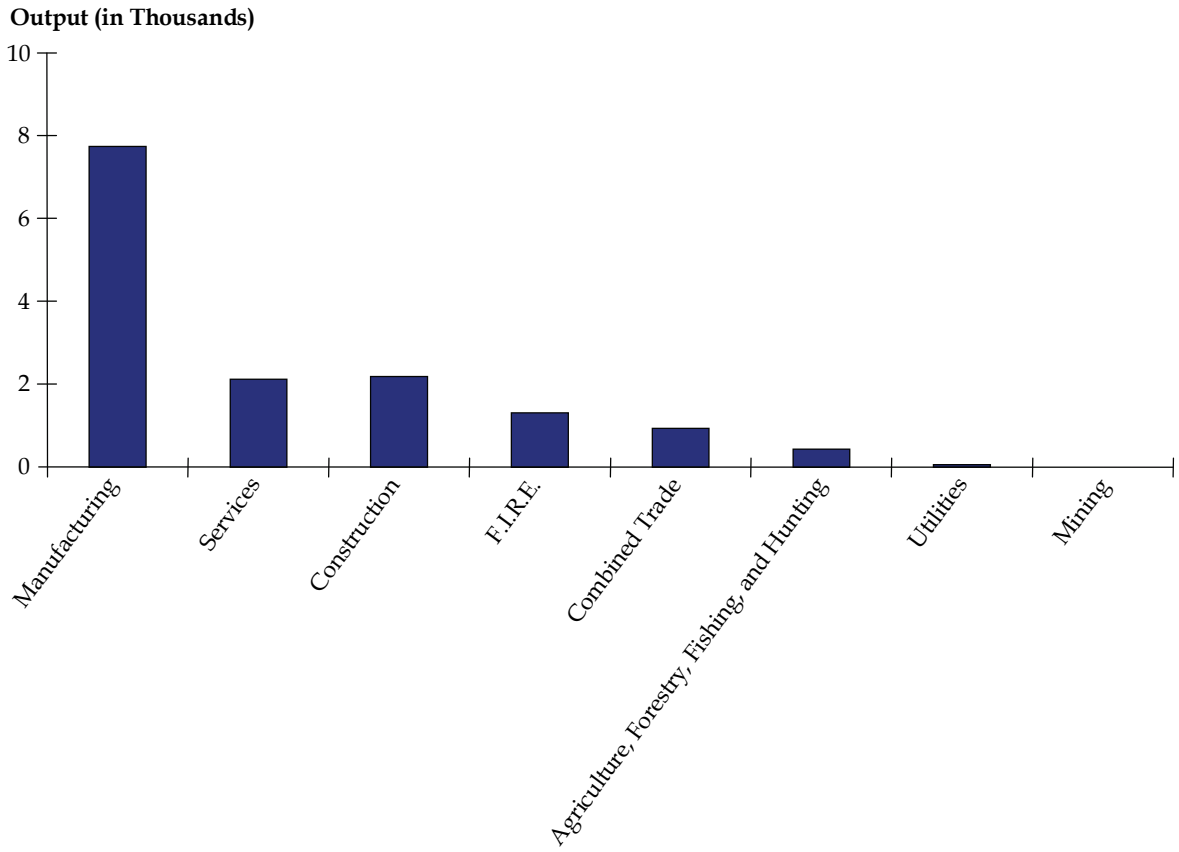


3.4 Contribution of Transportation to GRP

It is important to understand the ways in which different industries use the transportation system and the modes on which they rely. One method for assessing the transportation needs of various industries is to examine transportation's contribution to GSP through the use of Transportation Satellite Account (TSA). The TSA was developed through a partnership of the Bureau of Transportation Statistics and the Bureau of Economic Analysis and incorporates both in-house transportation operations as well as transportation for-hire services. Estimates are provided at an industry level of detail for in-house operations, which allows for a detailed analysis to determine those industries that are most reliant upon the transportation infrastructure and those that contribute most significantly to the region's output.

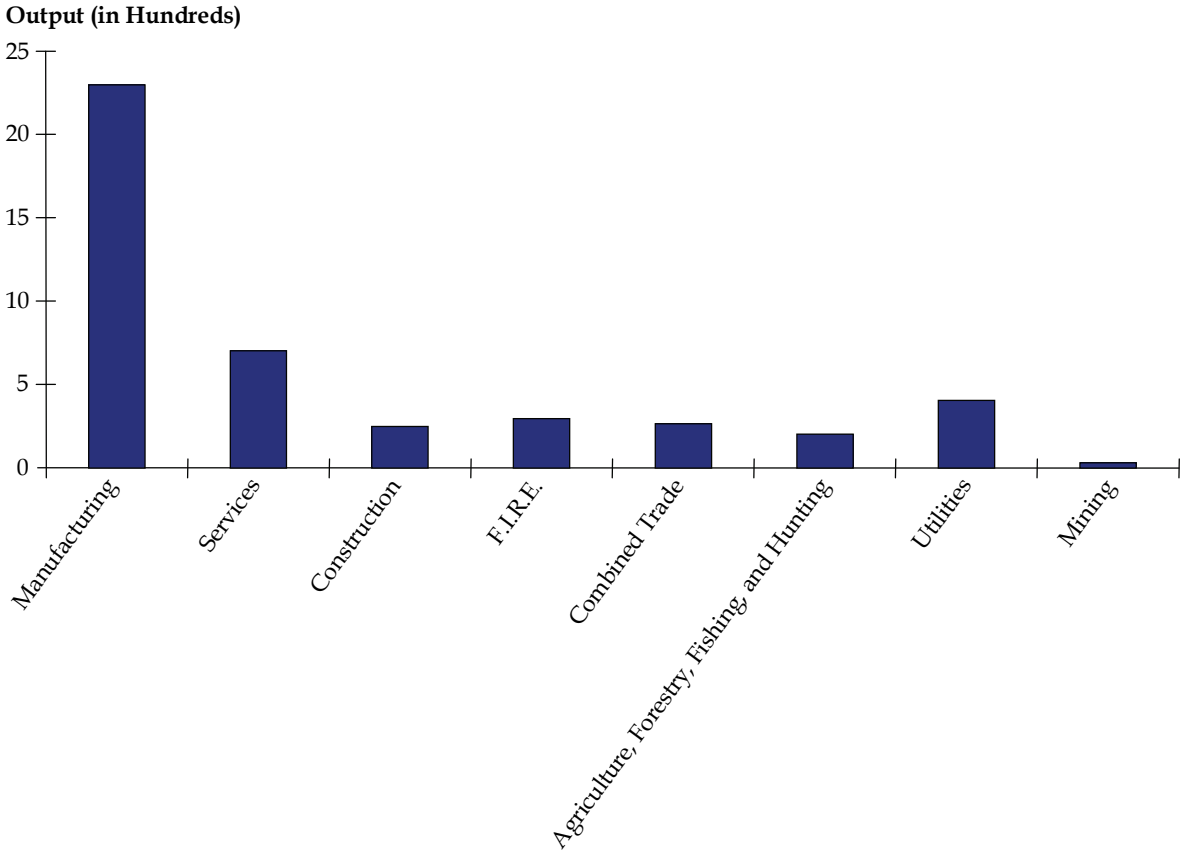
As shown in Figures 35 and 36, in the SEROps region, trucking and rail contributed the most to the manufacturing industry in 2004 and the service and construction industry were also impacted significantly by truck and rail. While trucks are clearly important to the region's key industries, freight rail is an important contributor to the success of these industries, as well.

Figure 35. Contribution of Trucking to Regional Output
Industry Overview



Source: Bureau of Economic Analysis' Transportation Satellite Accounts.

Figure 36. Contribution of Rail to Regional Output
Industry Overview



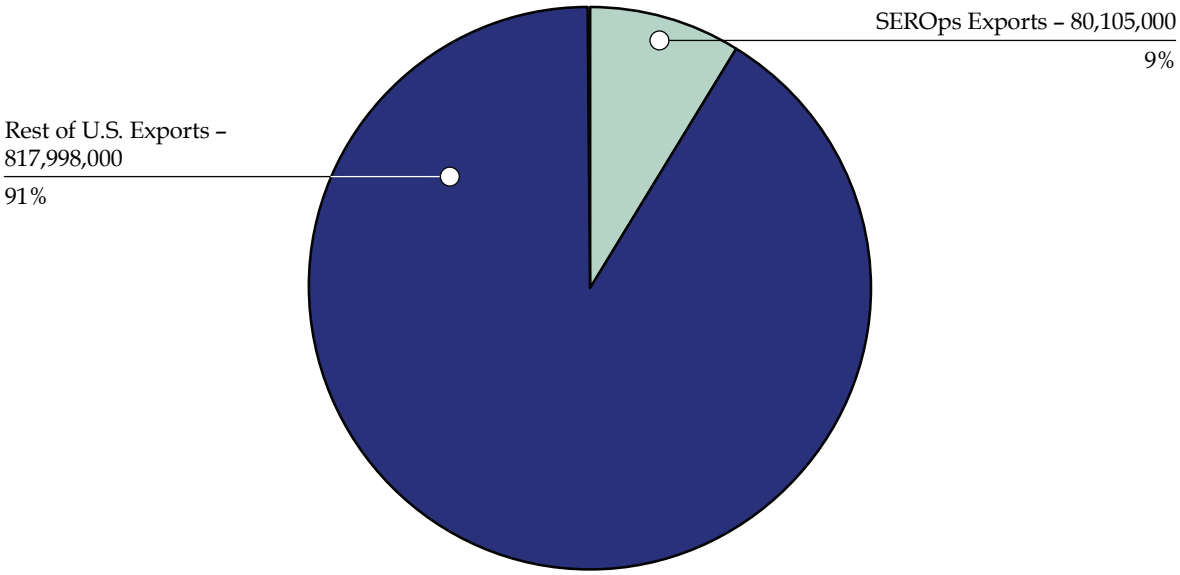
Source: Bureau of Economic Analysis' Transportation Satellite Accounts.

3.5 Exports

Another indicator of economic competitiveness is the value of exports that originate in a region, a demonstration of the worldwide demand for a region's products. In 2004 the SEROps region accounted for nearly 10 percent of the total merchandise exports from the United States, as depicted in Figure 37. The SEROps region's exports were valued at $80 billion in that year.[23]

[23] U.S. Census Bureau.

Figure 37. SEROps Exports in Relation to the Nation
2004



Source: U.S. Bureau of Economic Analysis.

Per Capita Income

As measure of average wealth per person, per capita income reflects the relative economic well-being of the people in a region. This can translate to higher levels of health and education, as well as more substantial government revenues available for infrastructure investments and other priorities. The SEROps region is slightly more underprivileged than the rest of the country. Per capita personal income in the region in 2004 was $30,440, an increase of 45.7 percent from 1994.[24] By comparison, per capita income levels for the United States as a whole were $33,041 in 2004, after experiencing a 49 percent increase during the same period. SEROps per capita income is nearly 8 percent lower than the national average.

3.6 Key Trends Affecting Rail Transportation in the SEROps Region

There are several key socioeconomic and industry trends that may affect rail transportation in the SEROps region, including the continuing shift toward managing national and global supply and distribution chains; the increasing importance of service-based industries in the region; and the increasing use of intermodal services.

[24] Bureau of Economic Analysis.

National and Global Supply and Distribution Chains

International trade (exports and imports) accounted for 21 percent of U.S. Gross Domestic Product (GDP) in 2005, up from 11 percent in 1970, as shown in Figure 38.[25] In 1998, 9 percent of freight tonnage moved by all modes in the United States were international shipments, and 38 percent were national (greater than 500-mile) or regional (100- to 500-mile) shipments.[26] These shares are expected to continue to rise because of strong growth in industrializing nations and strengthening trade partnerships. Continued trade growth will lead to ever more far-flung supply chains and distribution networks, and increasing freight traffic and congestion along trade corridors and at ports, airports, and intermodal facilities. The SEROps region will be particularly affected by north-south trade routes serving Latin America, which will grow in importance, and will also be affected by the emerging trend of international container ships utilizing the Suez Canal (and calling on ports in the Eastern United States) rather than calling on West Coast United States ports and serving east coast markets using rail land bridges.

The increasing emphasis on international trade and in the use of inland transportation routes have created increasing freight traffic and congestion along trade corridors and at ports, airports, and border crossings. Several major United States ports, for example, are facing an acute shortage of land suitable for development into marine terminals due to both burgeoning cargo volumes at existing facilities and the ecological sensitivity of the marine environment. Expansion of port facilities in existing locations also creates serious environmental justice concerns. An option that is being examined at ports around the country is the "inland port" concept. Inland ports are essentially intermodal rail facilities that provide a location for staging containers and offering a variety of port services at remote locations. These facilities can expand a port's hinterland and reduce local congestion problems while increasing rail's mode share for port-related traffic.

Continued Shift from a Manufacturing to a Service Economy

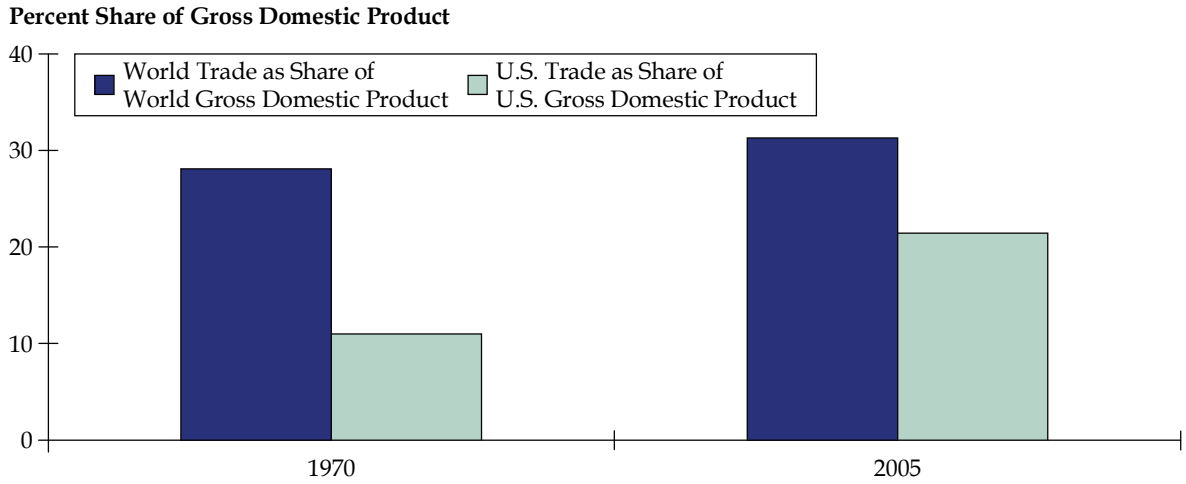
Technological innovation, managerial improvements, improved education, and other factors have allowed the United States to become more productive and wealthier. Productivity improvements in agriculture and communications have long since allowed a major shift in resources from agriculture, mining, and forestry to other activities, notably manufacturing. Productivity improvements in manufacturing, aided by continued technology gains, have allowed another large-scale shift in resources toward providing a broad range of services related to health, education, travel, legal, entertainment, and many other personal and business services.

[25] U.S. Department of Commerce, Bureau of Economic Analysis.

[26] Reebie Associates data compiled for Federal Highway Administration, Office of Freight Operations and Management.

Figure 38. Freight Impacts

Economic Vitality and Competitiveness

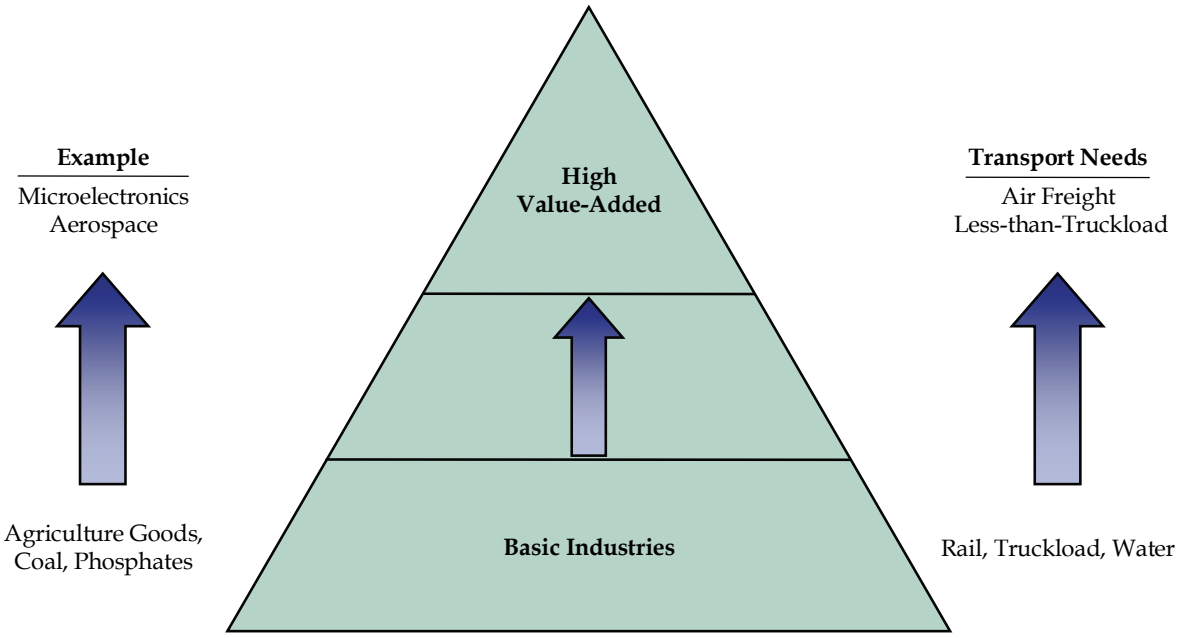


Source: C.I.A. World Factbook.

The United States economy is evolving from its traditional manufacturing base to a service and information economy. In the past several decades, manufacturing employment dropped slightly, while employment in services doubled. Whereas the two sectors had similar employment levels in 1980, the service sector had roughly twice as many employees by 1997. This trend of a rapidly growing service sector combined with a declining manufacturing sector is mirrored in the SEROps region, where the manufacturing field employs one fifth of the people employed in the service industry (see the employment portion of Section 3.0).

This shift is having a significant impact on the composition of freight moved regionally as well as nationally and internationally. Productivity increases have enabled the manufacturing sector to produce more output with fewer employees, yielding continued growth in freight demand. Manufacturing accounts for more than one-third of the nation's economic production despite the immense shift in employment to services – a statistic that reflects the impact of automation on manufacturing productivity. Increased specialization and increased outsourcing of component production also are increasing transportation requirements per manufacturing employee. In many areas of the country, including the SEROps region, inbound shipments to manufacturers are slowly shifting from bulk raw materials to components – implying a shift from rail to truck or from bulk to intermodal rail for many firms. Similarly, the shift in final products toward lighter manufacturing and high-tech goods has increased the demand for truck and air transportation, particularly for small package movement, as shown in Figure 39.

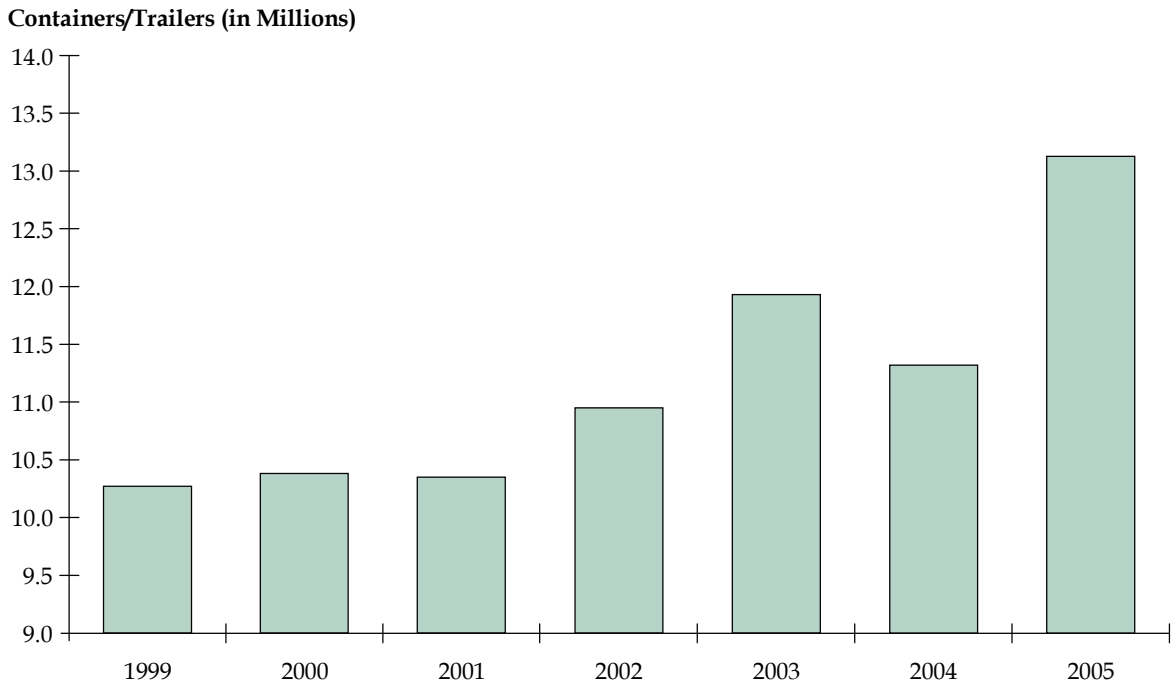
Figure 39. Shift from Manufacturing to Service Economy



Increasing Use of Intermodal Services

As discussed above, industry trends may result in a shift from bulk to intermodal rail by some industries. Intermodal freight movements often depend on partnerships with trucking companies, ports, and others in the transportation logistics chain. Railroads have taken responsibility for the long-haul movement of large quantities of intermodal containers and trailers between major hubs such as ports and major population centers, while truckers have taken responsibility for the short-haul movement to/from the customer's "front door." As can be seen in Figure 40, rail intermodal activity has increased significantly since 1999 (16 percent growth) and now accounts for nearly 12 million containers/trailers. In fact, intermodal traffic now accounts for the largest portion of revenue by the Class I railroads and the intermodal market continues to be a focal point for the industry. Rather than competing for freight traffic, truck-rail partnerships likely will be enhanced in the future as freight movements, particularly intermodal freight shipments through the SEROps region's ports continue to rise.

Figure 40. Intermodal Rail Activity
1999-2003



Source: Intermodal Association of America.

Key Findings – Socioeconomic and Industry Characteristics

- The SEROps states account for 13 percent of the United States' population, home to nearly 39 million people in the year 2004, on approximately 5 percent of the nation's land area. The SEROps region encompasses nearly half of the I-95 Corridor Coalition's area, and 36 percent of its population.

- The Southeast is one of the fastest growing regions in the Nation. From 1970 to 2000 the combined United States population grew by 38 percent, while the SEROps population increased by 90 percent, a rate which is expected to continue through 2030.

- The number of jobs in the region is increasing dramatically. From 1994 to 2004 the region's employment grew by 26 percent, adding approximately 4.5 million jobs. The service industry accounts for 38 percent of the region's total employment, a figure close to 8.5 million jobs.

- Value-added by manufacturing (the increase in value to a good that results from the manufacturing process) in the SEROps region topped $227 billion in 2002, a figure approximately 20 percent larger than the Northeast, and 4 percent larger than the Mid-Atlantic region.

- The combined GRP of the region was $1.41 trillion in 2004, a figure comparable to that of the NEROps ($1.56), and MAROps ($1.50) regions. This total would place the Southeast as the 10th richest nation in the world, just behind Brazil, and in front of others such as Russia, Canada, and Mexico.

- While manufacturing employment in the region has decreased by 22 percent over the last decade, its overall contribution to the GRP has increased by 24 percent.

- In the SEROps region, trucking and rail contributed the most to the manufacturing industry in 2004 and the service and construction industry were also impacted significantly by truck and rail. While trucks are clearly important to the region's key industries, freight rail is an important contributor to the success of these industries, as well.

- The national trend of a rapidly growing service sector combined with a declining manufacturing sector is mirrored in the SEROps region, where the manufacturing field employs one fifth of the people employed in the service industry

- Intermodal traffic now accounts for the largest portion of revenue by the Class I railroads and the intermodal market continues to be a focal point for the industry. This trend will affect rail service and investment in the SEROps region as its economy continues to add jobs in service-related industries.

4.0 Public Policies Affecting Rail Transportation in the SEROps Region

The following sections provide descriptions of the Federal and state plans, programs, and policies affecting rail transportation the SEROps region. A brief discussion of the trends affecting these policies is also provided.

4.1 Federal Plans, Programs, and Policies

High-Speed Rail Corridors

The Southeast High-Speed Rail corridor (SEHSR), linking the metropolitan areas of Washington, D.C., Richmond, Raleigh, Columbia, Savannah, and Jacksonville, was originally designated as a one of several high-speed corridors as part of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. An additional corridor, connecting Charlotte, Greensboro, Spartanburg, Atlanta, and Macon, was designated as part of the Transportation Equity Act for the 21st Century (TEA-21) in 1998. Planning and development of the Corridor is being guided by a four-state coalition – Virginia, North Carolina, South Carolina and Georgia.

North Carolina and Virginia, working with FHWA and FRA, completed the first part of a two-part environmental study for the Washington, D.C. to Charlotte portion of the SEHSR

in October 2002. The first study phase – referred to as the Tier I Environmental Impact Statement (EIS) – examined the need for the project and looked at potential impacts on both natural and man made environments along nine possible routes. The Tier I EIS identified the preferred route and the overall project purpose and need.

The Final Environmental Impact Statement, which outlines why the recommended alternative was selected, was completed in June, and a formal Record of Decision was issued in October 2002. This Federal document confirms and approves the corridor recommended by the Tier I EIS. Virginia and North Carolina are now proceeding with the next phase, Tier II, which provides a detailed analysis on the impacts, including track location, station arrangement, and detailed design. Rather than a single large document, smaller Tier II environmental studies will be conducted for specific segments of the route where track work will be needed.

Federal Rail Financing Programs

Federal transportation legislation provides several funding and financing programs for freight rail movements. This section summarizes the rail programs included in the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU expanded existing and developed several new programs and tools that can be used for rail projects. These programs and tools can be grouped in three categories:

1. **Grants from Transportation Programs –** Grants give states and the Federal government the best control over the use of funds. Funds can be targeted to specific projects that solve freight or other transportation needs.

2. **Loan and Credit Enhancement Programs –** These programs provide states the ability to leverage Federal resources and stimulate capital investment in transportation infrastructure by providing loans or credit support (rather than grants) for transportation projects.

3. **Tax Expenditure Financing Programs –** These programs can be used to provide targeted income tax benefits for investments made to improve the efficiency or increase the capacity of the freight transportation system by reducing or eliminating tax burdens on some interest paid by investors.

The following sections describe the specific programs available within these areas that can be used to fund rail freight improvement projects, paying particular attention to new or expanded programs included in SAFETEA-LU.

4.2 Grants from Transportation Programs

Grants from transportation programs can be targeted to specific projects that solve freight or other transportation needs and deficiencies. This section describes specific types of transportation programs that can be used to fund freight transportation improvements in two areas:

1. **Funding Programs in SAFETEA-LU**, which include traditional funding programs, such as the Surface Transportation Program (STP), that are typically used to fund highway improvements; mode-specific or special programs, such as the Congestion Mitigation and Air Quality (CMAQ) program, which funds transportation improvements that improve air quality; and new programs included in SAFETEA-LU; and

2. **Non-SAFETEA-LU Funding Programs**, which include grant programs funded by other Federal agencies, such as the FTA Rail Modernization program, which can be used for projects that often have freight benefits, or the Department of Commerce Economic Development Administration grants, which can be used to fund freight improvement projects that attract or retain industry.

Traditional Funding Programs in SAFETEA-LU

Table 6 summarizes the traditional Federal funding programs that can be used for freight or rail projects.

Table 6. Traditional Funding Programs in SAFETEA-LU

Funding Program	Description	Authorized Funding (2005-2009)
National Highway System (NHS)	Funds projects on designated highway intermodal connectors to intermodal facilities	$30.5 billion
Surface Transportation Program (STP)	Funds projects on any Federal-aid highway, bridge projects on any public road, transit capital projects, and other state or local projects	$32.6 billion
Interstate Maintenance (IM)	Provides funding for resurfacing, restoring, rehabilitating and reconstructing most routes on the Interstate Highway System	$25.2 billion
Transportation Enhancements (TE)	Supports nontraditional transportation-related improvements.	10% set-aside of STP funds

These programs, which typically require a 20 percent non-Federal match, have historically been used by state DOTs and MPOs to fund highway improvements, including those that may benefit freight movements. One of the strengths of these programs is their flexibility. These funds can be used for many types of transportation projects. STP funds have been used to increase clearances on highway bridges to accommodate double-stack freight trains; NHS funds have been used to improve intermodal connectors to port and intermodal facilities; and TE funds have been used to rehabilitate branch rail lines.

Key Changes in SAFETEA-LU

SAFETEA-LU did not include substantive changes to any of the traditional funding sources described above with the exception of overall funds available, which increased by 38.3 percent 17.3 percent and 27.0 percent for the NHS, STP, and IM programs, respectively.

Mode-Specific or Special Grant Programs in SAFETEA-LU

In addition to the traditional funding sources described above, there are several Federal programs that provide grants to projects that affect specific freight modes or have specific types of mobility, air quality, or safety benefits. These programs are described in Table 7.

There are many examples of states and MPOs that have taken advantage of these programs to fund freight-specific improvement projects.

Table 7. Mode-Specific or Special Grant Programs in SAFETEA-LU

Funding Program	Description	Funding Level[a]
Rail Relocation Grants (Section 9002)	Funds local rail line relocation and improvement projects	$1.4 billion (2006-2009)
Congestion Mitigation and Air Quality (Section 1103)	Funds transportation projects in air quality nonattainment areas	$8.6 billion
Rail-Highway Grade Crossings (Section 130)	Funds elimination of rail-highway crossing hazards	$880 million (2006-2009)

[a] Funding levels are for 2005-2009 unless otherwise noted.

Key Changes in SAFETEA-LU

SAFETEA-LU increased the funding levels of several of the special programs listed in Table 7, including the CMAQ program [increased from $1.4 billion over six years to $1.7 billion over five years (a 27.2 percent increase)] and the Grade Crossing Program. In addition, SAFETEA-LU authorized changes to the Rail Relocation Grant program, which provides grants to states for local rail line relocation and improvement projects that improve vehicle flows, enhance quality of life, or expand economic development opportunities.

Non-SAFETEA-LU Grant Programs

In addition to the funding programs available in SAFETEA-LU, there are several other sources of funds for freight improvements, some of which are described in Table 8.

Table 8. Other Mode-Specific or Special Funding Programs

Funding Program	Description	Funding Level
FTA Rail Modernization (Section 5309)	Funds capital improvements on fixed guideway systems	$6.07 billion
Department of Commerce Economic Development Administration Grants	Funds projects that allow distressed communities to attract or retain jobs	N/A

These and other programs can provide important sources of funds for some types of freight improvement projects and are often used by states and MPOs to leverage other, more traditional sources of funds.

Key Issues Affecting Grant Programs

Though SAFETEA-LU expanded the number and type of funding programs available for freight improvement projects, there remain several key issues affecting the ability of states and MPOs to utilize these programs to fund freight or rail-specific projects:

- **Project Eligibility –** Many of the programs described above are limited to specific modes or specific types of projects. CMAQ funds, for instance, cannot fund capacity improvements and are limited to projects that improve air quality in nonattainment areas, limiting their use in more rural areas. Projects funded by EDA grants must be located in economically distressed areas (as designated by the EDA) and are limited to projects that attract or retain jobs. While these funding programs are useful for some projects, many freight transportation improvement projects do not meet these specific eligibility requirements.

- **Competition from Other Priorities –** Traditional programs, such as STP or NHS funds, are more flexible than mode-specific or special programs and can often be used to address a wide range of transportation needs in an area. However, potential freight projects have to compete with other transportation investments for funding under these programs. Since most freight improvement projects are evaluated using the same set of criteria that are used for evaluating nonfreight improvement projects, many freight improvements do not receive equal consideration in the establishment of priorities and the programming of funds.

- **Multijurisdictional Investments –** The NHS and STP funding programs may not be eligible for multistate freight investments. Federal-aid funds are allocated by formula and must be matched by state or local funds, making it difficult for states to invest in projects beyond their state boundaries.

4.3 Loan and Credit Enhancement Programs

Loan and credit enhancement programs provide the ability to leverage Federal resources and stimulate capital investment in transportation infrastructure by providing loans and credit support for transportation projects. There are several such financing tools included within SAFETEA-LU, as shown in Table 9.

These tools allow states and MPOs to leverage scarce funding sources and some loan and credit enhancement programs encourage the participation of the private sector in freight transportation investments. There are many states, MPOs, and local agencies that have utilized these programs to finance large freight improvement projects.

Table 9. Loan and Credit Enhancement Programs in SAFETEA-LU

Funding Program	Description	Funding Level[a]
Transportation Infrastructure Finance and Innovation Act (TIFIA) (Section 1601)	Provides loans and credit assistance for major transportation investments of national or regional significance	$610 million
State Infrastructure Banks (SIB) (Section 1602)	Allows states to establish infrastructure revolving funds that can be capitalized with Federal transportation funds	N/A
Rail Rehabilitation and Improvement Financing (RRIF) (Section 9003)	Provides loans and credit assistance to both public and private sponsors of rail and intermodal projects	$35 billion

[a] Funding levels are for 2005-2009 unless otherwise noted.

Key Changes in SAFETEA-LU

SAFETEA-LU included several important changes that enhance the ability of states, MPOs, and local agencies to utilize the loan and credit assistance programs described above.

- **TIFIA Enhancements –** The TIFIA program was enhanced by SAFETEA-LU in two important ways. First, the project eligibility was expanded to include public freight rail facilities, private freight rail facilities that provide benefits to highway users, intermodal freight facilities, and access routes. This enhancement will make TIFIA a more enticing method for funding freight improvements. Second, the minimum project size was reduced from $100 million to $50 million, allowing TIFIA loans to be used for groups of smaller projects that, taken together, may have important freight mobility benefits. The minimum project size for ITS deployments using the TIFIA program was also reduced to $15 million (from $30 million).

- **SIB Enhancements –** SAFETEA-LU extended the SIB program to include all states (originally only four states were eligible to develop SIBs). More important to Coalition members, though, is the fact that SAFETEA-LU specifically allows for multistate SIBs. This may encourage states to implement and fund regional freight improvement projects that cross jurisdictional boundaries.

- **RRIF Enhancements –** SAFETEA-LU expanded the program tenfold, from $3.5 billion to $35 billion, with $7 billion reserved for short-line and regional railroads. The legislation also specifically added rail infrastructure and rail bottleneck relief to the list of program priorities. More importantly, though, it removed two major issues limiting the attractiveness of RRIF loans to the railroads. First, it removed the requirement that collateral be provided. Second, it removed the "lender of last resort" provision, which required that applicants provide evidence that private lending was denied for the project by two lenders. These provisions may make the RRIF program more accessible and attractive to both Class I and smaller railroads.

Key Issues Affecting Loan and Credit Enhancement Programs

SAFETEA-LU greatly enhanced the loan and credit enhancement programs available to finance freight improvements. However, these programs are primarily targeted at major transportation improvements, which can limit their applicability in some regions. Though SAFETEA-LU reduced the minimum project size for TIFIA loans, projects must still cost at least $50 million, or 50 percent of the State's annual Federal-aid apportionments, whichever is less. While some freight projects are large, multimodal projects that fit within this category, many others are small, local roadway, rail, or access projects that do not meet this threshold. As a result, these types of projects must compete with other statewide or regional priorities for funding using traditional sources. In addition, while loan and credit enhancement programs can accelerate the time it takes to move projects from the planning stage to actual implementation, some states – particularly those that do not have many large, urban areas or significant congestion problems – do not have a need to accelerate projects, making these types of programs less useful. In these areas, regional or statewide freight mobility can be effectively improved by using smaller projects that do not require innovative financing techniques.

4.4 Tax Expenditure and Other Financing Programs

Tax expenditure and other financing programs reduce or even eliminate tax burdens on some interest paid by investors in large transportation improvements. There are two such financing tools included within SAFETEA-LU, as shown in Table 10.

Table 10. Tax Expenditure Programs in SAFETEA-LU and Other Financing Programs

Funding Program	Description	Funding Level
Private Activity Bonds	Allows the issuance of tax-exempt private activity bonds for highway and freight transfer facilities	Up to $15 billion
Grant Anticipation Revenue Vehicle (GARVEE) Bonds	Allows states to issue tax-exempt debt backed by future Federal-aid highway revenues	N/A

Key Changes in SAFETEA-LU

The inclusion of the private activity bonds program represents an important change in how freight improvement projects can be financed under SAFETEA-LU. The Private Activity Bonds section allows states and local governments to issue tax-exempt bonds to finance the activities of "private persons," i.e., the private sector, to construct specific types of freight facilities. Three types of projects are eligible for tax-exempt facility bonding:

- Highway improvements on roadways eligible for Federal assistance under Title 23;
- International tunnels or bridges eligible for Federal assistance under Title 23; and
- Truck-train transfer facilities eligible for Federal assistance under Titles 23 or 49 (mass transit).

The Private Activity Bond provisions included in SAFETEA-LU will make private sector freight improvements, including improvements to rail facilities, more feasible for many private sector freight stakeholders.

Key Issues Affecting Tax Expenditure and Other Financing Programs

There are several key issues affecting the ability of states and MPOs to utilize tax expenditure and other financing programs to fund freight-specific projects:

- **Financing Tools Require Dedicated Revenue –** The financing tools described above still require a dedicated revenue source, such as tolls, user fees, or dedicated taxes, to repay debt. In some cases, tax revenues and lease payments, are used to repay debt. In other cases, tolls are the likely source of revenue for these financing mechanisms. Many state DOTs and MPOs find it difficult to identify or develop such dedicated sources of revenue, limiting the use of these financing tools.

- **Some States Do Not Have the Authority to Use These Types of Tools –** Some states are prohibited from using these tools because they have limits on the amount of debt that can be incurred or because their constitutions limit the degree to which they can use future Federal-aid highway allocations to pay debt servicing costs. These and other constraints limit the use of innovative financing tools in these areas.

4.5 State and Regional Plans, Programs, and Policies

Florida

Florida's rail network currently covers over 2,800 miles across the State, and serves nearly every major population center. As is the case in most other states, the vast majority of the network is owned and maintained with private funds. In fact, only 81 miles of the rail system are in public ownership, representing less than 3 percent of the total network. The remaining 97 percent is owned and operated by 13 line-haul and four terminal railroads, including CSX, Norfolk Southern, and the Florida East Coast Railway. As a result of this, the State has limited input affecting many railroad decisions, nonetheless, it works with the rail carriers to resolve common problems and issues of mutual concern.

The Florida Department of Transportation (FDOT), however, does have statutorily mandated roles relating to the "proper maintenance, safety, revitalization, and expansion of the rail system to assure its continued and increased availability to respond to statewide mobility needs." Thus, the Department can influence decisions affecting private rail system operations as they may relate to the public interest. Through the FDOT's Rail Office, the State pursues those mandates where authorized by statute.

Florida Rail Planning Activities

Florida Rail System Plan

The Florida Rail System Plan is the rail component of the Florida Transportation Plan which, through an annual series of policies, programs and projects, implements the Transportation element of the State Comprehensive Plan. Section 341.302, Florida Statutes requires that "the Florida Department of Transportation (FDOT), in conjunction with other governmental units and the private sector, shall develop and implement a rail program of statewide application designed to ensure the proper maintenance, safety, revitalization, and expansion of the rail system to assure its continued and increased availability to respond to statewide mobility needs." The statutes also require this plan to be updated every two years. The Plan is divided into two major components, which discuss freight and passenger issues in the State.

The principal purpose of the Freight Rail Component of the Florida Rail Plan is to provide the necessary information in a policy framework through which strategic actions can be taken to achieve the best freight rail system for Florida's future. More specifically, the Freight Rail Component is intended to:

- Place critical information about freight rail issues, needs, choices, costs, and benefits within a larger public policy context;
- Communicate these messages to a wide range of potential audiences; and
- Develop policy options and recommendations for creating a strong freight rail system in Florida.

The freight component of the Rail System Plan identified several key issues affecting freight rail movements in the State, including:

- **Grade Crossings –** The number one issue regarding freight rail in Florida is the more than 5,000 at-grade road-rail crossings in the State. Grade crossings create safety and noise problems, and traffic delays on both the highways and railroads.

- **286,000-Pound Railcars –** The second most important issue identified by key Florida rail stakeholders was the need to upgrade track and bridges to accommodate the industry standard 286,000-pound carloads. Railroads unable to meet this standard are at a disadvantage when competing with trucks and connecting with other railroads.

- **Passenger Rail –** The third most important issue potentially impacting freight rail use in Florida is the growing interest in using available track for intercity and commuter passenger services. This will create capacity and safety issues throughout the network.

- **Capacity Issues –** There are track and yard capacity issues, and also capacity issues due to shortages in blue-collar workers (10 percent nationwide rail labor shortage) and certain rolling stock.

- **Class I Service –** The Class I railroads experienced several well-publicized service "meltdowns" recently because of unexpected increases in the demand for freight movement by rail. This creates problems for shippers and short-lines waiting for pick-ups and equipment to be returned. The situation has improved, but this illustrates the lack of capacity in the network.

- **Security Issues –** Railroads have experienced few security issues related to domestic traffic, but railroads and shippers see this changing, especially for the shipment of hazardous materials.

- **Port-Rail Connectivity –** Several ports would benefit from improved rail connections.

The purpose of the Passenger Rail Component of the Florida Rail Plan is to provide the necessary information through which strategic actions can be taken to achieve the best transportation system for Florida's future. The passenger component found that Florida's passenger rail network is at a critical juncture for several reasons:

- The Florida population continues to grow at twice the national average, generating high congestion and delays in the form of more passenger vehicle travel on the roadways and more commercial vehicles delivering goods.

- Airport congestion and delays will increase as the demand for interstate and intrastate air travel increases.

- The CSXT restructuring will create difficult decisions about the benefits and costs of abandonments, purchases by other rail operators, intercity passenger service, and recreational uses. Unique opportunities to acquire valuable rail corridors for passenger operations may become available.

- Increasing roadway and railroad traffic will create more delays and safety hazards at the 5,000 at-grade crossings in Florida.

- Neither the State, potential private transit operators, nor the freight railroads will have funding to address all of the needs.

Florida High-Speed Rail Planning

Florida has been evaluating high-speed rail since at least the mid-1970s, when the Florida Transit Corridor Study analyzed 150 mph trains operating between Daytona Beach and St. Petersburg.[27] In November 2000, Florida voters approved an amendment to the State Constitution mandating the development of high-speed passenger transportation service linking Florida's five largest urban areas. This service would have speeds in excess of 120 mph and would operate on dedicated rails or guideways. This prompted the Florida Legislature to enact the Florida High-Speed Rail Authority Act, which created the nine member Florida High-Speed Rail Authority.

The Florida High-Speed Rail Authority created a vision for a high-speed rail network linking the major population centers in Florida. The Authority issued a request for proposal in October 2002 to design, build, operate, maintain, and finance an initial high-speed rail service between Tampa and Orlando. The cost estimate was $2.4 billion.

Growing concern over the costs of implementing a high-speed rail network led to efforts to repeal the amendment. In November 2004, Florida voters chose to overturn the original amendment, resulting in removal of the constitutional mandate. Currently, the Florida High-Speed Rail Authority is completing the work in progress (EIS and Record of Decision) for the initial Tampa-Orlando segment. Beyond that, the future of high-speed rail in Florida is unclear.

Central Florida North/South Commuter Corridor Study

The Central Florida North/South Commuter Corridor Alternatives Analysis is currently underway. A proposed commuter rail alignment is being developed, which proposes using existing CSX railroad tracks as its main artery. The route would follow 60.8 miles of existing CSX railroad tracks and begin in DeLand, crossing I-4 to Sanford, then continuing past Longwood, Altamonte Springs, and Winter Park, paralleling I-4 through Orlando, and then terminating in Kissimmee. The initial operating segment proposed is on CSX tracks from DeBary to LYNX Central Station in downtown Orlando. The corridor would provide a higher speed transportation option for commuters traveling from as far as Daytona Beach on the northern end and from Polk County on the southern end. The train would provide at least five trips during "peak" morning (6:00 a.m.-8:30 a.m.) and afternoon (4:00 p.m.-6:30 p.m.) rush hours. It would operate on a 30-minute frequency during those peak hours and a two-hour frequency during nonpeak hours.

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[27] Background information obtained from: http://www.floridahighspeedrail.org/. In particular, the document *History of High-Speed Rail in Florida: Chronology of Events* was used.

The project is currently in the Environmental Assessment (EA) phase of project development. The EA phase will provide the results of more detailed environmental analyses of the locally preferred alternative (LPA) and initial operating Segment (IOS). Final design is expected to begin in early 2006 and operations to begin in 2009.

Proposed Commuter Rail Services in Florida

There are several planning efforts underway that call for expanded and new commuter rail operations within Florida. Key examples include:

- **South Florida Regional Transportation Authority (Tri-Rail) –** SFRTA has several expansion plans, both in progress and being considered, for Tri-Rail. These include: double tracking and development of a new signal system to expand capacity; 15.7-mile extension of service along the Jupiter Corridor; 13.8-mile extension of service along the Scripps Transit Corridor; establishing service on the Florida East Coast between West Palm Beach and Miami; and a 17.4-mile extension connecting the Kendal area with the Miami Intermodal Center.

- **Orlando Light Rail Transit –** FDOT, METROPLAN ORLANDO (the Orlando metropolitan planning organization or MPO), and LYNX (the Central Florida Regional Transportation Authority) have been studying a potential 22-mile light rail transit (LRT) system running between Altamonte Springs and SeaWorld, via downtown Orlando. A Supplemental Draft Environmental Impact Statement (EIS) has been prepared. According to the METROPLAN 2025 Long-Range Transportation Plan,[28] this LRT would require 29 light rail vehicles (LRVs), an annual operating and maintenance budget of $21.9 million, and initial capital costs of $1,290 million (in 2002 dollars). The SeaWorld-LYNX Central Station is projected to have the highest projected ridership at 25,000 boardings per day.

- **Tampa –** In 1995, the Hillsborough County MPO adopted the 2015 Long-Range Transportation Plan, which included a regional rail system. The Hillsborough Area Regional Transit Authority (HART) board selected a 20-mile light rail line that will connect Downtown Tampa to the University of South Florida, Hyde Park, West Tampa, and the Westshore Business District. An estimated 30,000 riders will use the rail service daily. The annual capital cost of the overall system is approximately $985 million, while the annual operating cost is $22 million. If funding is secured, construction is scheduled to start in 2008, with the first 10-mile segment open by 2011.

Georgia

Georgia DOT's Rail Program is charged with preserving and enhancing the State's rail system for safe and efficient freight use and future passenger operations. The State believes that maintaining rail access gives its agricultural and industrial shippers a needed transportation choice and is vital for continued economic development.

[28] Adopted by METROPLAN ORLANDO in September 2004.

Currently, the State's rail network has almost 5,000 miles of track operated by two Class I railroads and 23 class III short-line operators.[29] Approximately 73 percent of the miles (3,522) are owned by CSX and Norfolk Southern, while the remaining percent is divided amongst the local carriers. The two most prominent ones are the Georgia and Florida RailNet, Inc. (255 miles), and the Georgia Southwestern RR (266 miles). The State, through an active corridor preservation program, presently owns over 540 miles of railroad right-of-way.

Georgia Rail Planning Activities

The DOT publishes a rail freight plan (last updated in 2000) and is a key partner in the Georgia Rail Passenger Program. The State is also a member of the Southeast High-Speed Rail Coalition, described earlier.

Georgia Rail Freight Plan

The Georgia DOT first published the State Rail Freight Plan in 1978 to address a series of rail line abandonment experienced in the State since the 1960s. Subsequent updates were published in 1980, 1985, 1989, and 2000. Since the Stagger's Act of 1980 started, 1,294 miles of the State's Class I network have been converted to operation by short-line railroads and short-line and terminal railroads now operate 27 percent of the State's system. Thirty-six percent of the State rail system is comprised of light density lines (those transporting less than 3 million gross ton-miles per mile per year).

Since 1978, the State of Georgia has acquired 281 miles of track and rehabilitated another 352 miles. Nearly 200 million tons of freight moved over the rail system in 1998. Sixty-seven million tons terminated in the State after originating outside of the State. Twenty-three million tons were shipped from Georgia to other states, 15 million moved exclusively within the State, and 88 million passed through to/from other locations. The largest single originating commodity was clay, concrete, glass and stone products, representing 26 percent, and the largest terminating was coal, representing 49 percent. Other major rail commodities included lumber, pulp and paper, farm products, nonmetallic minerals, and chemicals.

Georgia Rail Passenger Program

In 1999 GDOT, the Georgia Rail Passenger Authority (GRPA), and the Georgia Regional Transportation Authority (GRTA) collaborated to develop, modify, and begin implementation of the Georgia Rail Passenger Program (GRPP), a system of commuter and intercity rail passenger services within the State. The first phase of the program involves two key passenger corridors and one key hub, described below:

- **Macon Corridor**, a 103-mile corridor running along new and existing NS tracks. Estimated capital cost of this corridor is $304 million. An Environmental Assessment has

[29]Georgia DOT Office of Intermodal Programs, http://www.dot.state.ga.us/dot/plan-prog/intermodal/rail/index.shtml.

been completed on this corridor with a Finding of No Significant Impact (FONSI). Implementation of commuter rail service in the corridor is expected to progress as funds permit; and

- **Athens Corridor**, a 72-mile corridor between Atlanta and Athens running along CSX and NS tracks. Estimated capital cost of this corridor is $383 million. An Environmental Assessment has been completed on the Athens to Atlanta corridor with a Finding of No Significant Impact (FONSI). Implementation of commuter rail service in the corridor is expected to progress as funds permit.

- **Atlanta Multimodal Passenger Terminal (MMPT)**, located in downtown Atlanta, will serve commuter rail and intercity bus passengers. A Finding of No Significant Impact (FONSI) was issued in 1995 and updated in December 2000. Funding sources include a $14.2 million earmark from TEA-21, $2 million in Federal transportation funds, and $4 million in state transportation funds. Construction is expected to begin on Phase I in 2006.

North Carolina

Twenty-five freight railroad companies operate North Carolina's 3,379-mile rail system serving 90 of the State's 100 counties. CSX and NS operate the majority of the State's rail system (2,597 miles). Twenty-three short-lines operate the remaining 782 rail miles. In addition, six passenger trains provide service to North Carolina including two state-sponsored trains, the Piedmont and Carolinian and four Amtrak national system trains.

North Carolina DOT (NCDOT) recognizes the increasing importance of rail transportation as an alternative to auto and air transport for both freight and passengers. Rail planning activities are handled within the DOT's rail division. The DOT supports rail services, particularly passenger rail services, through marketing, track maintenance, equipment refurbishment, and station rehabilitation and construction.

North Carolina Rail Planning Activities

North Carolina Rail Plan

In 2000, NCDOT published the latest version of the North Carolina Rail Plan, a report that examined the need for assistance for short-line railroads and described the railroad industry in North Carolina. The Plan also provided a description of and information about current programs operated by the Rail Division, as well as plans for the future. In addition, the Rail Plan serves as a guide for programming and funding priorities for rail activities in the State. It also provides a guideline for local communities in developing short- and long-term plans and policies that affect railroads in North Carolina. The Plan has two major sections, focusing on freight and passenger rail transportation in the State.

The State's rail priorities include:

- Improving the Raleigh to Charlotte rail corridor to reduce travel time for both freight and passenger trains. The Rail Plan called for the State to invest $400 million to improve the North Carolina Railroad corridor by adding passing sidings between

Raleigh and Greensboro, adding double tracks between Greensboro and Charlotte, installing a train traffic control system, super-elevating some portions of track and straightening several curves.

- Identifying and making necessary improvements to provide adequate capacity for freight and passenger service between Salisbury and Asheville. Working with the Rural Prosperity Task Force, the State would like to invest in the State's short-line railroads to ensure they are capable of handling their projected share of the load. To achieve this, NCDOT is planning to develop and implement an information and education campaign about the railroads and the service they provide.

- Expanding service to Southeastern North Carolina. In May 2001, the department released results of a feasibility study that indicated there is interest in passenger rail service to/from Wilmington. In July 2005, the department released the results of more detailed studies that identified costs and some needed improvements for reestablishing service to southeastern North Carolina. The study recommended implementing passenger rail service from Raleigh to Wilmington via Fayetteville and Goldsboro in phases as funding becomes available. Other recommendations included investigating the possibility of commuter service between Selma and Raleigh, and working with the State ports to define benefits and investments needed to reestablish freight service between Goldsboro and Wilmington

- Expanding Service to Western North Carolina. In March 2001, the department adopted a phased plan to extend passenger rail service to Asheville and western North Carolina. The most recent Rail Plan includes renovating or building train stations that incorporate other uses.

South Carolina

South Carolina's rail network extends over 2,400 miles throughout the State. The bulk of the system is owned and operated by the two Class I railroads, CSX and NS, while the remaining is operated by seven short-line and four switching and terminal railroads.

A 1993 restructuring designated the South Carolina Department of Transportation (SCDOT) to coordinate rail passenger service and high-speed rail planning and development within the State. This authority includes, the power to apply for and to receive state, Federal, or other funds for rail passenger service, high-speed rail planning and development, bus passenger service, and rail corridor preservation and revitalization programs.

South Carolina Rail Planning Activities

The State has worked with Georgia and North Carolina to conduct passenger rail studies related to the Macon-Charlotte section of the Southeast High-Speed Rail Corridor, described earlier.

4.6 Key Trends Affecting Rail Policy in the SEROps Region

There are two key public policy trends that may affect rail transportation in the SEROps region: regional rail improvement financing and the challenges associated with analyzing modal trade-offs when targeting the transportation investments.

Rail Improvement Financing

The Mid-Atlantic Rail Operations (MAROps) Study concluded that it is in the public interest for all levels of government to work cooperatively with the railroads to plan, finance, and deliver these projects, individual states and railroads cannot afford the larger improvements, especially since the costs and benefits are unevenly distributed among the public sector, who would fund a large portion of the improvements, and the private sector, who would derive most of the benefits. While highway-related freight improvement projects are usually eligible for funding under Federal and state highway programs, rail improvements to private rail terminals and lines are usually not eligible for public support except indirectly through loan credit-support programs.

Despite the obvious link to economic development and jobs, some planning agencies find it is difficult to justify spending money on nonhighway projects, projects that are perceived to inordinately benefit the private sector freight community, or projects whose costs are local, but whose benefits accrue regionally or nationally. While there are some approaches to financing rail improvements that cut across jurisdictional boundaries, many are of limited value because they are not well suited to the regional scale of the problem.

Multimodal Tradeoffs and Decision-Making

Many states and MPOs have recognized that investing in the freight and passenger rail systems is consistent with meeting local, statewide, and regional mobility and economic development goals. Interest by states and MPOs in developing more consistent approaches to evaluating investments across modes, for both passenger and freight movements, has increased even though it is recognized that different policy objectives often drive investments in different modes. However, most states and MPOs find it difficult to develop better approaches to evaluate investment tradeoffs.

Further complicating matters is the regional and national impacts of statewide or local investment decisions, which is particularly relevant to freight rail. Improvements to one element of the freight rail system can have benefits that ripple throughout regional, national, and international supply and distribution chains. When investments in one state or MPO result in benefits to several other states or MPOs, it is often difficult to determine how costs, risks, and benefits should be shared. As a result, some states and MPOs find it difficult to justify spending money on freight rail projects whose costs are local, but whose benefits accrue regionally or nationally.

Key Findings – Public Policies Affecting Rail Transportation

- SAFETEA-LU expanded the existing funding programs and developed several new ones, and tools that can be used for rail projects. These include grant programs such as CMAQ, the STP, and Transportation Enhancements; loan and credit enhancement

programs, including TIFIA, State Infrastructure Banks, and the Rail Rehabilitation and Improvement Financing Program; and tax expenditure financing programs such as private activity bonds and GARVEE bonds.

- Several states in the region are working with Federal agencies to plan and develop the Southeast High-Speed Rail Corridor (SEHSR), which will link the metropolitan areas of Washington D.C., Richmond, Raleigh, Columbia, Savannah, and Jacksonville.

- Some states are also developing individual rail projects and studies such as Florida's High-Speed Rail, the Central/North Florida Commuter Corridor Study, expansions to Florida's Tri-Rail, and the creation of light rail transit in Orlando; Georgia, through its Rail Passenger Program, has plans to implement a system of commuter and intercity passenger rail services within the State, that are expected to progress as funds permit; North Carolina has plans to improve the Raleigh to Charlotte rail corridor, as well as the connections between Salisbury and Ashville, and possibly starting passenger and freight service to/from Wilmington; and South Carolina is working as part of the coalition leading the SEHSR corridor.

- Despite the obvious link to economic development and jobs, some planning agencies find it is difficult to justify spending money on nonhighway projects, projects that are perceived to inordinately benefit the private sector freight community, or projects whose costs are local, but whose benefits accrue regionally or nationally.

- Interest by states and MPOs in developing more consistent approaches to evaluating investments across modes, for both passenger and freight movements, has increased even though it is recognized that different policy objectives often drive investments in different modes. However, most states and MPOs find it difficult to develop better approaches to evaluate investment tradeoffs, particularly as it relates to evaluating rail projects versus highway projects.

Appendix B: Project Steering Committee

The project steering committee for the Southeast Rail Operations Study included the following representatives of I-95 Corridor Coalition member agencies:

- Shirley Williams, North Carolina Department of Transportation, Lead Role;
- Richard Jenkins, South Carolina Department of Transportation;
- Erik Johnson, Virginia Department of Transportation;
- Glennith Johnson, South Carolina Department of Transportation;
- Roy Tolson, South Carolina Department of Transportation;
- Hal Wilson, Georgia Department of Transportation;
- Fred Wise, Florida Department of Transportation; and
- Steve Yost, Georgia Department of Transportation.

For information regarding this project, please contact:

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  Freight, Mobility, Safety and Security Coordinator
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Appendix C: Stakeholders and Interviewees

The Southeast Rail Operations Study involved outreach to and involvement by a range of stakeholders in the Southeast United States, including the following:

- Bill Barkash, Aberdeen, Carolina and Western Railway;
- Virginia Beck, CSX;
- Rick Crawford, Norfolk Southern;
- John Dillard, CSX;
- Drew Galloway, Amtrak;
- Jennifer Kinsella, CSX;
- Mike Kozak, North Carolina Department of Transportation;
- Ed Lewis, Aberdeen and Rockfish Railroad Co.;
- Lisa Mancini, CSX;
- John Moon, Norfolk Southern;
- Cris Mowrey, North Carolina Ports;
- Scott Saylor, North Carolina Railroad Rail;
- Pat Simmons, North Carolina Department of Transportation;
- Earlene Thomas, North Carolina Department of Transportation;
- Mike Thomas, Georgia Department of Transportation;
- Jay Westbrook, CSX;
- Paul Worley, North Carolina Department of Transportation; and
- Ed Lee, Florida Department of Transportation.

Appendix D: Resource List

National Surface Transportation Policy and Revenue Study Commission, 2007. *Transportation for Tomorrow: Report of the National Surface Transportation Policy and Revenue Study Commission*.

Federal Highway Administration, 2002. Freight Analysis Framework. On-line. Available from Internet, htpp://ops.fhwa.dot.gov/freight/freight_analysis/faf/index.htm, accessed March 2008.

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AAR Position Paper, *Passenger Service on Tracks Owned by Freight Railroads*, August 2006.

America 2050: A Prospectus. http://www.america2050.org/pdf/America2050prospectus.pdf.

National Gateway. http://www.nationalgateway.org.