



Technical Memorandum 4

Economic Development Market Assessment



Prepared by:

**CDM
Smith®**

November 2015

TABLE OF CONTENTS

1. Introduction.....	4
1.1 Purpose	4
1.2 Economy and Population	5
2. Economic Role of freight	7
2.1 Major Freight Industries and Associated Commodities.....	8
2.1.1 Manufacturing.....	8
2.1.2 Transportation and Warehousing	10
2.2 Labor Force and Employment.....	12
2.3 Relationships with Other Regions.....	14
3. Supply chain and transportation	16
3.1 Supply Chain Overview	16
3.2 Roadway.....	17
3.3 Rail.....	21
3.4 Water	24
3.5 Air.....	27
3.6 Other Freight Facilities.....	29
4. Areas of future growth.....	32
4.1 Industry Growth Forecast	32
4.2 Impacts on Freight Transportation	38
5. Next Steps	42

LIST OF TABLES

Table 1-1: Population Growth (2010 – 2030).....	5
Table 2-1: 2013 Industry Mix for Bryan and Effingham Counties	8
Table 2-2: Top Fifteen Manufacturing Companies and Commodities	9
Table 2-3: Top Ten Transportation and Warehousing Companies.....	11
Table 2-4: Distribution Company Employment	13
Table 2-5: Highest Level of Education of the Labor Force in the Savannah MSA.....	14
Table 2-6: Employment Location by County in 2010.....	14
Table 2-7: Employee Origin by County in 2010	15
Table 3-1: Georgia Domestic Truck Volumes (in 2012)	17
Table 3-2: Savannah MSA Truck Volumes (in 2011).....	18
Table 3-3: Major Roadway Facilities in Savannah MSA.....	18
Table 3-4: Distance to Major Metropolitan Areas from Savannah	19
Table 3-5: Truck Volumes in Savannah MSA (in 2013).....	20
Table 3-6: Truck Commodity Distribution on I-95 and I-16 (in 2005).....	20
Table 3-7: Rail Volumes in Savannah MSA (in 2013).....	24
Table 3-8: Top Ten Exports and Imports (in 2012)	26
Table 3-9: Top Five Refrigerated Export and Import Markets.....	27
Table 3-10: Largest Warehousing and Distribution Facilities in Savannah MSA.....	29
Table 3-11: Intermodal Terminals in Savannah, GA	30
Table 3-12: Rail/Highway Bulk Terminals in Savannah, GA.....	31
Table 4-1: Changes in Manufacturing Industry in Chatham County (2010 to 2013).....	33
Table 4-2: Changes in Manufacturing Industry in Bryan County (2010 to 2013).....	34
Table 4-3: Changes in Manufacturing Industry in Effingham County (2010 to 2013).....	34
Table 4-4: Changes in Service Industry in Chatham County (2010 to 2013)	35
Table 4-5: Changes in Service Industry in Bryan County (2010 to 2013)	36
Table 4-6: Changes in Service Industry in Effingham County (2010 to 2013)	37
Table 4-7: 10-Year Industry Projections for Coastal WIA (2010 to 2020)	38

LIST OF FIGURES

Figure 1-1: 10-Year Population Growth Rates (2000 – 2010)	6
Figure 2-1: Chatham County Industry Mix for 2013 (by Employment Share)	7
Figure 3-1: Class I and Class III Railroads in Savannah MSA	22
Figure 3-2: Top Reefer Exports and Imports (in 2012)	27
Figure 3-3: Air Cargo (Freight/Express Mail in Tons)	28
Figure 4-1: Georgia Truck Tonnage Projections (2007-2020).....	40

1. INTRODUCTION

The United States sets the global standard for the extensiveness of its freight transportation infrastructure. According to the Georgia Center of Innovation for Logistics (GCIL), the United States is considered to have the largest freight transportation network in the world,¹ allowing Georgia and the Savannah region to trade within and outside of their boundaries, nationally and internationally. The state of Georgia is home to its own extensive system of roadway and freight rail infrastructure which connects to significant airports and ports for air and waterborne cargo. This integrated multimodal transportation network allows freight to flow efficiently and safely, and brings with it several benefits including income and employment for the residents of Georgia.

The Coastal Region Metropolitan Planning Organization's (CORE MPO's) metropolitan planning area boundary includes Chatham County, home to the City of Savannah known throughout the U.S. Southeast region and internationally as a significant gateway for freight, and portions of Bryan County and Effingham County. The CORE MPO's freight transportation plan study area is larger and includes the Savannah MSA (all of Bryan, Chatham and Effingham Counties). The freight flows which come through the Savannah MSA have a substantial impact on the local, regional, and state economy. The Savannah Economic Development Authority (SEDA) and its international arm, World Trade Center Savannah, have described the City of Savannah and its surrounding area as experiencing a rapidly evolving and growing economy.

Much of this economy is connected with the Port of Savannah, with imports and exports flowing through this deepwater seaport. Import and export commodities benefit from the access to other modes such as freight rail and highway due in part to the presence of intermodal facilities and warehousing and distribution centers in the Savannah region. Chatham County, as the center of the Savannah MSA, is also home to a substantial manufacturing industry which is able to take advantage of local and imported resources to create and ship a diverse portfolio of finished products to clients around the globe. As an integrated economic development region, Bryan County and Effingham County provide human capital and services for freight-related industries. Approximately 52 percent of Bryan County residents and 58 percent of Effingham County residents are employed in Chatham County².

1.1 Purpose

The purpose of this economic assessment is to review the CORE MPO freight transportation plan study area's economic structure and associated major industries. This analysis provides perspective on the Savannah region's economy and its relationships with other regions such as with the metropolitan Atlanta area. This includes a review of freight, goods, and service sectors which include trucking,

¹ Georgia Center for Innovation and Logistics, 2013. 2013 Georgia Logistics Report.

² Georgia Department of Labor. 2014.

railroads, air cargo, waterborne cargo, shipping, logistics companies, warehousing, and distribution centers. In addition, identification and assessment of the impacts of trends in the national and global economy on the Savannah region's freight industry is also examined.

1.2 Economy and Population

The Savannah region's economy benefits from freight flows, which supports tourism, manufacturing, and a significant military presence. Main industries within the area include manufacturing, transportation and distribution, healthcare, government/military, knowledge-based business, and tourism. A number of Fortune 500 and international corporations have locations within the Savannah region, including some with headquarters in Savannah. This includes JCB, Inc., Gulfstream Aerospace Corporation, Ashland, Cummins Engine, Mitsubishi Power Systems, Maersk Sealand, and Nippon Express USA, Inc., to name a few. These industries are supported by the presence of the region's multimodal freight transportation system.

The multimodal freight transportation system within the Savannah region operates and connects the area with the rest of the state, the nation, and the world. Georgia is known for its freight transportation network, being home to one of the most extensive networks of freight rail in the Southeast. The Savannah region is home to several major air, water, and rail freight carriers which are connected to various intermodal facilities and distribution centers by its extensive roadway network. This network supports freight rail lines such as those owned and operated by CSX Transportation and Norfolk Southern Railroads and the Port of Savannah, through interconnections to intermodal facilities such as the Chatham and James D. Mason Intermodal Container Transfer Facilities. However, none of this would matter without the support of a thriving population of consumers and skilled workforce.

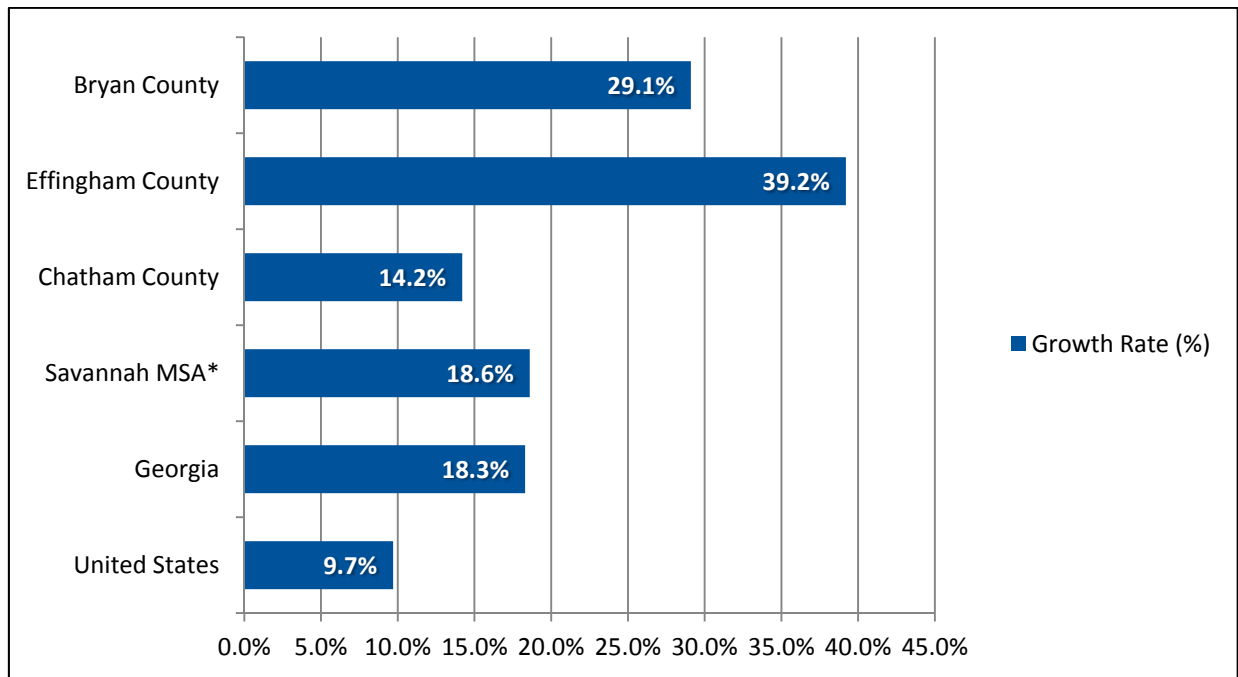
As illustrated in **Figure 1-1**, the population growth rate within the state of Georgia from 2000 to 2010 was almost double that of the nation. The growth rate within the Savannah Metropolitan Statistical Area (MSA) was higher than the state. The Savannah MSA consists of Bryan, Chatham, and Effingham Counties. Even though Chatham County's growth rate during this period appears less than Bryan and Effingham Counties', the actual number increase for Chatham County totaled 33,080 individuals. This increase was higher than Bryan (6,816) and Effingham (14,715) Counties combined. Chatham County's growth accounted for over half of the MSA's growth. In 2010, Chatham County contained roughly 76.2 percent of the population accounted for in the Savannah MSA. This pace of population growth is projected to continue into 2030 as shown in **Table 1-1**.

Table 1-1: Population Growth (2010 – 2030)

Population Area	2010	2020	2030	Population Growth (2010 – 2030)
Bryan County	30,233	36,930	44,465	47.1%
Chatham County	265,128	306,088	354,945	33.9%
Effingham County	52,250	64,553	78,507	50.3%
Savannah MSA	347,611	407,571	477,917	37.5%
Georgia	9,687,653	11,326,787	13,154,530	35.8%

Source: Population Projections. Georgia's Office of Planning and Budget, 2014

Figure 1-1: 10-Year Population Growth Rates (2000 – 2010)



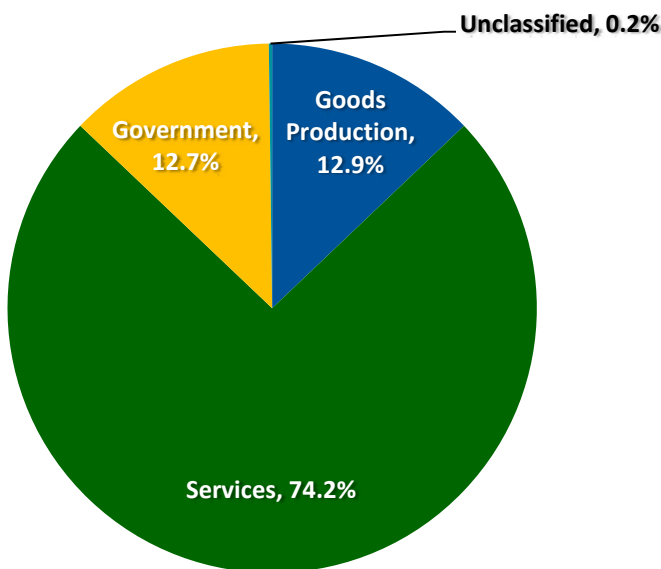
Source: Savannah Economic Development Authority, 2014; U.S. Census Bureau, 2011

As indicated by the U.S. Bureau of Economic Analysis, the Savannah MSA, similar to the rest of the United States, saw its personal income drop during the 2008-2009 recession. However, in 2009-2010 there was a net positive growth in terms of personal income for the MSA and the 2010-2011 period saw an additional 6.4 percent growth over 2009-2010. These increases are faster than the national average. Chatham County, in particular, had average personal income per capita in 2012 reach a level above the average of 2008. These increases provide support, even with a population growth rate higher than the national average, that the success of the region's economy can be seen in the recovery in the growth of earnings for a growing population and workforce.

2. ECONOMIC ROLE OF FREIGHT

Chatham County is the center of a diverse and robust economy of the Savannah MSA, taking advantage of many local and regional resources. For 2013, the overall general industry mix in Chatham County can be broken down into three major categories as illustrated in **Figure 2-1**.

Figure 2-1: Chatham County Industry Mix for 2013 (by Employment Share)



Source: Georgia Department of Labor. 2014. Chatham County Area Labor Profile.

The services industry category is the largest with 6,835 companies and 102,137 individuals employed. As reported by the Georgia Department of Labor, the five largest industries comprising this category include:

- 1) Accommodations and Food Services,
- 2) Health Care and Social Assistance,
- 3) Retail Trade,
- 4) Administrative and Support and Waste Management and Remediation Services, and
- 5) Transportation and Warehousing.

Second to the services industry is goods production, of which the manufacturing industry makes up 74 percent of the category, followed by construction and agriculture.

Government and unclassified industry categories include local, state, and federal government employment such as the military presence in the CORE MPO freight transportation plan study area.

Hunter Army Airfield is located in Chatham County with Fort Stewart located nearby by in Bryan and Liberty Counties. Fort Stewart serves as the headquarters of the U.S. Army's Third Infantry Division.³

Table 2-1 below describes the industry mixes for Bryan and Effingham Counties. Compared to the industry mixes of Bryan and Chatham Counties, the goods production industry has a higher share in Effingham County. However, unlike Chatham County, this area is behind services and government industries. This is a similar share for Bryan County.

Table 2-1: 2013 Industry Mix for Bryan and Effingham Counties

Industry Categories	Bryan County	Effingham County
Goods Production	10.8%	22.4%
Government	25.2%	31.0%
Services	63.3%	46.2%
Unclassified	0.7%	0.4%

Source: Georgia Department of Labor. 2014. *Bryan and Effingham County Area Labor Profiles*.

The following subsections review major freight industry users, the available labor force in Chatham County and surrounding areas, and economic relationships with other regions.

2.1 Major Freight Industries and Associated Commodities

Freight touches all areas of the economy. For the state of Georgia, the four main freight-related industry sectors are transportation and warehousing, manufacturing, wholesale trade, and retail trade.⁴ As identified for Chatham County, retail trade, transportation and warehousing, and manufacturing make up a significant portion of the industry mix within the county. Transportation and warehousing and manufacturing will be the main focus of the section in regards to freight transportation. The retail trade industry sector consists of store retailers and non-store retailers which function as a final step in the distribution of merchandise to a customer.

2.1.1 Manufacturing

The manufacturing industry within Chatham County consists of 209 manufacturing companies who employ more than 12,000 people with a payroll of more than \$1.1 billion for 2014.^{5,6} The largest companies and their associated commodities are listed in **Table 2-2**.

³ Savannah Economic Development Authority. April 2014.

⁴ Georgia Department of Transportation. 2013. Georgia Statewide Freight Plan.

⁵ Savannah Economic Development Authority. April 2014. <http://www.seda.org/savannah/39/manufacturing.html>

⁶ Georgia Department of Labor. 2014. Chatham County Area Labor Profile.

Table 2-2: Top Fifteen Manufacturing Companies and Commodities⁷

Company	Commodity/Service
Gulfstream Aerospace Corporation	Jet aircraft, Aerospace equipment
International Paper	Paper products, Chemicals, Corrugated containers and packaging
JCB Americas, Inc.	Agricultural equipment, Construction equipment
Imperial Sugar	Refined sugar
Brasseler USA, Inc.	Dental instruments
Mitsubishi Power Systems Americas, Inc.	Power plant gas and steam turbines
Weyerhaeuser	Bleached pulp
Derst Baking Company	Bread, rolls, cakes
Diamond Crystal Brand	Salt, Pepper, Sugar packaging
Roger Wood Foods	Smoked sausages, Smoked meats
Kerry Ingredients and Flavours	Formulation, manufacture, and containerization of technological-based flavors, ingredients, and integrated solutions
Savannah Morning News	Information company
Arizona Chemical	Specialty resins, Pine-based chemicals
EMD Chemical	Industrial pigments
Orafol	Adhesive film

Source: Savannah Economic Development Authority, April 2014

The manufacturing industry in the Savannah region is incredibly diverse offering products from the global aerospace industry, equipment for energy production, to food products. Gulfstream Aerospace Corporation is a world premier business jet manufacturer. The company has grown since 1967 and chose the Savannah area to be the headquarters for development of the company's civilian business aircraft division. In recent years, Gulfstream Aerospace has grown in Savannah with a \$400 million expansion to their facilities completed in 2010 and another \$500 million expansion completed in 2013 with some coordination with the Savannah/Hilton Head International Airport. The presence of Gulfstream Aerospace has helped growth of this industry in the Savannah region for logistical reasons.^{8,9}

Another significant manufacturing company is JCB, Inc. Their headquarters for the North and South American region, known as JCB Americas, Inc., is located in Pooler, Georgia, just west of the Savannah/Hilton Head International Airport and within the CORE MPO's freight transportation plan study area. A global company, JCB, Inc., is one of the top three manufacturers of construction equipment in the world, producing 300 different types of machines.¹⁰

Georgia's agricultural and agribusiness industry has a major impact on the statewide economy. Critical aspects for this industry include the production and processing of the food and fiber sector and

⁷ As determined by number of employees. Additional employment information to be found under Section 2.2.

⁸ World Trade Center Savannah. 2014. Key Industries. <http://www.wtcsavannah.org/invest-here/key-industries/>

⁹ Gulfstream Aerospace Corporation. April 2014. The History of Gulfstream: 1958-2011. <http://www.gulfstream.com/history/>

¹⁰ JCB, Inc. 2014. <http://www.jcbamericas.com/About.aspx>

forestry. Forestry alone contributes almost \$20 billion to the state's economy with the state being home to the largest acreage of commercial forest land in the nation at 23.8 million acres.¹¹ The Savannah area is home to International Paper, Weyerhaeuser, Imperial Sugar, Arizona Chemical and other similar companies which benefit from the proximity of agriculture production and raw materials.

International Paper is a major global company with net sales of almost \$29.1 billion in 2013 from 30 brands. The company locations within the Savannah region include the Savannah Container Plant, Savannah Containerboard Mill, and the Savannah Fiber Supply Procurement Office.¹² Imperial Sugar is one of the largest sugar refiners in the world with a presence in 16 commodity trading centers. The company recorded 2013 net sales of \$63.6 billion, an increase of 11 percent from 2012, breaking their own record by shipping over 77 million tons of products the same year.¹³ The company's major refinery is located in Port Wentworth, Georgia, north of the Savannah/Hilton Head International Airport and within the CORE MPO freight transportation plan study area.

The Savannah region is also home to smaller, but still significant manufacturers such as Benedetto Guitars and the Gretsch Company which provide industry diversification. Benedetto Guitars is an internationally renowned company known for their jazz guitar manufacturing. The company, which includes its only manufacturing facility, is located in Savannah. The Gretsch Company is a 130-year old world famous manufacturer of guitars and drums. The company's headquarters are located in Pooler.¹⁴

2.1.2 Transportation and Warehousing

The Port of Savannah is a powerhouse in ocean container shipping. A large deepwater seaport, the Port of Savannah is the fastest growing container port in the nation and the second largest volume container port on the Atlantic Coast. The port was ranked fourth in the nation in waterborne container traffic in 2012 and 2013.¹⁵ The Port of Savannah serves as a major distribution hub for a 26-state region, which includes about 75 percent of the nation's population.¹⁶ In 2013, Chatham County's retail and wholesale trade industry consisted of 1,630 companies and employed almost 21,300 individuals. These, along with other factors, provide a strong incentive for companies associated to transportation and distribution to locate to Chatham County. The transportation and warehousing industry in Chatham County consists of 391 companies with 9,030 employees.¹⁷ The top ten largest companies in the CORE MPO freight transportation plan study area that directly utilize the port and their associated commodities are listed in **Table 2-3**.

¹¹ World Trade Center Savannah. 2014. Key Industries. <http://www.wtcsavannah.org/invest-here/key-industries/>

¹² International Paper. 2014. <http://www.internationalpaper.com/US/EN/index.html>

¹³ Louis Dreyfus Commodities (Imperial Sugar). 2014. Financial Highlights. <http://www.ldcommodities.com/investors-media/key-figures/financial-highlights/>

¹⁴ Gretsch Company. 2014. <http://www.gretsch.com/home>

¹⁵ US Army Corps of Engineers. 2012. Navigation Data Center. http://www.navigationdatacenter.us/wcsc/by_porttons12.html; Georgia Port Authority, 2014.

¹⁶ Savannah Economic Development Agency. 2014. Industries and Companies. <http://www.seda.org/savannah/40/port-related-distribution.html>

¹⁷ Georgia Department of Labor. 2014. Chatham County Area Labor Profile.

Table 2-3: Top Ten Transportation and Warehousing Companies

Company	Commodity/Service
CSX Transportation	Freight Railroad
Home Depot	Home improvement supplies
Dollar Tree Stores	Sundry retail product distribution
Coca-Cola Bottling Company United	Soft drink/water bottling warehouse
Target	Sundry retail import center
Pier 1 Imports	Household goods
Schneider	Warehousing, Distribution, Export Packaging
CalCartage	Warehousing for K-Mart
Chatham Steel Corporation	Steel service center
IKEA Wholesale Inc.	Furniture distribution

NOTE: As determined by number of employees. Additional employment information to be found under Section 2.2.

Source: Savannah Economic Development Authority, April 2014

Home Depot is the world's largest home improvement specialty retailer. The company has retail stores in every state in the nation including the District of Columbia and US territories such as Puerto Rico and the US Virgin Islands. Outside of the US, stores are located in ten provinces within Canada and Mexico. In 2013, Home Depot reported \$78.8 billion in retail sales and \$5.4 billion in earnings.¹⁸ Home Depot has a warehousing and distribution facility located within the Savannah area which employs 365 individuals¹⁹.

A local grown company, Chatham Steel Corporation began in 1915 in Savannah as a scrap iron and metal business. Still headquartered in Savannah, Chatham Steel has additional divisions located in Alabama, the Carolinas, and Florida. Core products are made using aluminum and steel varieties such as alloy, carbon, and stainless made into diverse structures such as sheets, bars, and pipes through different techniques. The company also provides a number of processing capabilities including, but not limited to, sawing, shearing, and tee splitting and straightening. Chatham Steel is also involved in the nuclear industry. The company was acquired by Reliance Steel and Aluminum Company in 1998, a current Fortune 500 company and the largest metals service company in the nation.²⁰ Reliance had reported net sales revenue of over \$9 billion in 2013.²¹

In addition, Chatham County is home to over 45 million square feet of warehousing and distribution with a vacancy rate of 11.5 percent, equating to 5,275,887 square feet available to existing business expansions or new companies. Average rental rate is \$3.72 per square foot per year, which is lower

¹⁸ Home Depot. 2014. Investor Relations. <http://ir.homedepot.com/phoenix.zhtml?c=63646&p=irol-irhome>

¹⁹ Savannah Economic Development Agency. 2014. <http://www.seda.org/Data-Sets/Employers-by-sector.aspx>

²⁰ Chatham Steel Corporation. <http://www.chathamsteel.com/>

²¹ Reliance Steel and Aluminum Company. 2013 Annual Report. http://media.corporate-ir.net/media_files/IROL/61/61001/reliance-2013-annual-report/index.html

than other metropolitan areas such as Seattle (Washington), Philadelphia (Pennsylvania), Charleston (South Carolina), and Norfolk (Virginia).²²

Transportation and warehousing-related companies can also be found in Bryan and Effingham Counties. For example, Orafol is a global manufacturing company which produces vinyl films for graphic design and digital printing applications. The company maintains a 333,000 square foot manufacturing and distribution facility in Bryan County which employs 160 individuals. Bryan County is also home to their 499,000 square foot distribution facility which services the nation's southern region. Oneida is one of the world's largest marketers of stainless steel silverware and associated products. Its facility in Bryan County employs 75 individuals²³. Bonded Service Warehouse, which has only two locations in Atlanta and Effingham County, provides private sector warehousing and distribution services. Its location in Effingham County also provides rail service for CSX Transportation line which interchanges with Port of Savannah's on-port rail system²⁴.

2.2 Labor Force and Employment

Due to the growth in population and industry, the labor force in the Savannah MSA is growing as well. The Savannah MSA had a combined labor force of 181,861 with an unemployment rate of 8.2 percent in 2013. By April 2014, the overall Savannah MSA labor force was reported to be 183,611 with an unemployment rate down to 6.2 percent. For both years, the Savannah MSA's unemployment rate was lower than that of the state of Georgia as a whole. Chatham County provides a significant portion of this labor force. In 2013, Chatham County had a labor force of 137,793 with an unemployment rate of 7.7 percent.

For all industries, between 2010 and 2012, employment has increased by 5.1 percent.²⁵

Table 2-4 lists the top ten distribution company employers in the Savannah area. The majority of companies listed are manufacturing-focused with a few representing transportation and warehousing. The Georgia Ports Authority employment relates to the Port of Savannah employees. However, the number doesn't capture the total local and regional impacts in regards to employment because it does not include individuals employed by private tenants, stevedoring services, and other jobs associated with the port. The total economic impacts from the Port of Savannah's operations support the employment of 37,319 individuals in Chatham County. For the entire Savannah MSA, this number increases to 42,856.²⁶

²² Savannah Economic Development Agency. 2013. Real Estate Market Data. <http://www.seda.org/savannah/128/real-estate/market-data.html>

²³ Development Authority of Bryan Authority. 2014. <http://bryancountyga.com/industrial.php?s=c>

²⁴ Bond Service Warehouse. 2014. <http://www.bondedservice.com/>

²⁵ This includes all non-agricultural employment. <http://www.seda.org/savannah/93/labor-force/labor-force-characteristics.html>

²⁶ Georgia Ports Authority. 2013 State of the Port.

Table 2-4: Distribution Company Employment

Company	Employment Numbers
Gulfstream Aerospace Corporation	9,382
Georgia Ports Authority*	988
International Paper	600
JCB Americas, Inc.	558
Imperial Sugar	450
Brasseler USA, Inc.	420
Mitsubishi Power Systems Americas, Inc.	420
CSX Transportation	308
Derst Baking Company	273
Dollar Tree Stores	271

**Georgia Port Authority is classified as under the government industry because it is not a private company.*

Source: Savannah Economic Development Agency, 2014.

Gulfstream Aerospace Corporation is the largest single employer in the Savannah region. The presence of this company and other manufacturing and distribution companies has had a profound impact on educational opportunities in the Savannah region. For example, Embry-Riddle Aeronautical University, the world's largest, fully accredited school in aviation and aerospace with 150 locations worldwide which has earned several number one and other top ten rankings from U.S. News and World Report²⁷, opened a campus in Savannah in 2010. The Savannah Technical College broke ground in spring 2012 to be an aviation training center.²⁸ There are 11 other colleges and universities within the Savannah MSA which provide educational opportunities in these and other fields.

In regards to education, the Savannah MSA has a significantly educated labor force as detailed in **Table 2-5**.

²⁷ U.S. News and World Report. Embry-Riddle Aeronautical University. <http://colleges.usnews.rankingsandreviews.com/best-colleges/embry-riddle-aeronautical-university-133553/overall-rankings>

²⁸ World Trade Center Savannah. 2014. Key Industries. <http://www.wtcsavannah.org/invest-here/key-industries/>

Table 2-5: Highest Level of Education of the Labor Force in the Savannah MSA

Education Level	Percentage Share
Elementary	3.5%
Some High School	10.5%
High School/GED	31.6%
Some College	23.5%
College Grad 2 year	7.1%
College Grad 4 year	15.9%
Post Grad Studies	7.9%
Total	100%

Source: Georgia Department of Labor. 2013. Savannah, GA Metropolitan Statistical Area Labor Profile

2.3 Relationships with Other Regions

The CORE MPO freight transportation plan study area has a significant and substantial impact on local, regional, and state economies. **Table 2-6** illustrates where the employed residents within the Savannah MSA travel for work. Of the 116,228 Chatham County residents that are employed, almost 94 percent were employed in Chatham County. About 58 percent of Effingham County residents and around 52 percent of Bryan County residents were also employed within Chatham County, with 22,710 and 13,904 employed residents respectively. The majority of those who are employed in the Savannah MSA also work within the area. However, there are significant percentage shares of those who are employed within the Savannah MSA but are located outside the MSA including outside of the state.

Table 2-6: Employment Location by County in 2010

Employed Residents of:					
Bryan County		Chatham County		Effingham County	
County Where Employed	Percentage of Share	County Where Employed	Percentage of Share	County Where Employed	Percentage of Share
Chatham, GA	51.6%	Chatham, GA	93.6%	Chatham, GA	57.9%
Bryan, GA	29.7%	Liberty, GA	1.3%	Effingham, GA	34.2%
Liberty, GA	9.6%	Effingham, GA	1.3%	Beaufort, SC	1.4%
Effingham, GA	2.6%	Beaufort, SC	1.2%	Jasper, SC	1.4%
Bulloch, GA	1.2%	Bryan, GA	0.7%	Bryan, GA	1.1%
Beaufort, SC	0.9%	Bulloch, GA	0.2%	Bulloch, GA	1.0%
Jasper, SC	0.6%	Jasper, SC	0.2%	Screven, GA	0.5%
Mecklenburg, NC	0.5%	Glynn, GA	0.1%	Liberty, GA	0.4%
Other	3.3%	Other	1.3%	Other	2.0%
Total	100%	Total	100%	Total	100%

Source: Georgia Department of Labor, 2013.

In regards to the origins of the workforce within each county of the Savannah MSA, **Table 2-7** illustrates that the origins of the workforce within the area are located within Bryan, Chatham, and Effingham Counties. In addition to those who are located within the MSA, there is a significant amount of the workforce which reside from other parts of Georgia, South Carolina, and even Virginia which shows the strength of the industries located within the Savannah MSA. Of the three counties in the CORE MPO freight transportation plan study area, Chatham County had the largest total workforce in 2010 at 145,867 followed by Effingham County with 10,765 individuals and Bryan County with 7,419 individuals. This illustrates that Chatham County is not only a hub for the Savannah MSA, but also serves as a hub for the Coastal Workforce Investment Area (WIA). The Coastal WIA covers Bulloch, Bryan, Chatham, Effingham, Glynn, Liberty, and Long Counties. The significance of the region goes even beyond this, touching a total of 11 counties with a labor pool of nearly 350,000 which crosses into South Carolina.

Table 2-7: Employee Origin by County in 2010

Persons Working In:					
Bryan County		Chatham County		Effingham County	
County of Residence	Percentage of Share	County of Residence	Percentage of Share	County of Residence	Percentage of Share
Bryan, GA	55.7%	Chatham, GA	74.6%	Effingham, GA	72.2%
Liberty, GA	12.6%	Effingham, GA	9.0%	Chatham, GA	13.7%
Chatham, GA	11.5%	Bryan, GA	4.9%	Bulloch, GA	3.7%
Bulloch, GA	6.6%	Liberty, GA	2.8%	Bryan, GA	3.4%
Effingham, GA	3.5%	Bulloch, GA	2.5%	Screven, GA	2.1%
Long, GA	3.1%	Beaufort, SC	1.1%	Hampton, GA	1.4%
Tattnall, GA	1.9%	Jasper, SC	0.7%	Liberty, GA	0.8%
McIntosh, GA	1.0%	Long, GA	0.3%	Hampton City, VA	0.4%
Other	4.2%	Other	4.1%	Other	2.5%
Total	100%	Total	100%	Total	100%

Source: Georgia Department of Labor, 2013.

Beyond employment, the Savannah region has significant trade partners which are discussed in more detail in Section 3. One such trade partner is the Atlanta area. There are several direct routes via road and freight rail which connect the Atlanta area to the Savannah region. The two areas even complement each other, with the Savannah region being home to the Port of Savannah while Atlanta being home to the Hartsfield-Jackson Atlanta International Airport. The Port of Savannah is a primary deepwater seaport for Atlanta's exports and imports, which travel either by intermodal rail or truck.²⁹ The freight rail connections between Atlanta and Savannah are considered to be one of the most successful in the country due to the amount of freight rail tonnage moved between the municipalities every day.³⁰

²⁹ Atlanta Regional Commission. 2008. Atlanta Regional Freight Mobility Plan.

³⁰ Georgia Department of Transportation. 2013. Georgia Statewide Freight Plan.

3. SUPPLY CHAIN AND TRANSPORTATION

Supply chains can be complex and dynamic frameworks for organizations which transport products from suppliers to customers. Supply chain activities transform natural resources, raw materials, and components into final products that are delivered to the end customers. Participants include suppliers, manufacturers, intermediaries, third-party service providers, and customers. Export, import, and domestic movements of raw materials, intermediate goods and final products are dependent upon the availability and efficiency of a freight transportation network. Logistics costs influence the decisions of which mode of transportation to use, which can account for up to 12 percent of a company's sales and revenues.³¹

Overall, the state of Georgia is home to 121,459 centerline miles of roadways, 4,976 miles of active mainline and short line rail tracks, 22 million square yards of pavement surrounding 104 publicly-owned, public-use airports, and two deep water seaports which are supported by 20,800 acres of dredged material containment areas for waterway maintenance.^{32,33} Each of these modes of transport is available within the CORE MPO freight transportation plan study area.

3.1 Supply Chain Overview

Supply chain management encompasses planning and coordination of sourcing and procurement, conversion, and logistics. In essence, supply chains are used to manage supply and demand within and across companies. A case study of supply chain operations for Home Depot in Georgia will provide an example. Home Depot was founded in 1978 in Atlanta with a significant presence in the Savannah region.

Supply chain operations for Home Depot revolve around its five distribution centers. The Savannah stocking distribution center (SDC) is significant for the company with the Port of Savannah handling 15 to 20 percent of all of Home Depot imported goods, the vast majority of which come from Asia and Europe. The Port of Savannah is one of four key ports for Home Depot with the other ports being Seattle-Tacoma, Los Angeles-Long Beach, and New York-New Jersey. Containers of finished goods are transferred to the Savannah SDC from the Port which is later shipped to Florida or to other distribution centers in Georgia by rail or truck.

Stocking and rapid distribution centers in Braselton, Lake Park, and McDonough receive goods from the Savannah SDC. McDonough SDC receives its goods via truck and rail and distributes these goods to stores in Alabama, the Carolinas, and Georgia. Braselton rapid distribution center (RDC), a cross-docking facility, receives goods from McDonough and Savannah SDCs and redistributes them to stores

³¹ Georgia Center of Innovation for Logistics. 2013. 2013 Georgia Logistics Report: A Global Perspective.

³² Georgia Department of Transportation. 2014.

³³ Georgia Department of Transportation. 2013. Fact Book.

in the Carolinas and Georgia by truck. Lake Park RDC, another cross-docking facility, receives goods via truck from the Savannah SDC and redistributes these goods by truck to stores in Georgia and Florida.

For Home Depot, the interstate system is critical for trucking, specifically I-16 and I-75 for shipments between Atlanta and Savannah. Roadway congestion can impact logistics costs for Home Depot. To battle the potential for rising costs, Home Depot takes advantage of intermodal rail options at Port of Savannah and domestic rail to ship between distribution centers. The effort to reduce cost of waterborne shipments by widening and deepening the channels and turning basins for the Port of Savannah would also benefit Home Depot by allowing larger ships to dock which would allow for more goods to be carried at a lower unit cost³⁴. These supply chain operations take advantage of the integrated freight system located in the Savannah region to distribute and redistribute goods throughout the US Southeast region.

The subsections below provide details of each freight transportation mode and facility located within the Savannah region and its significance in terms of supply chain operations.

3.2 Roadway

The trucking industry moves over 70 percent of all freight worldwide, measured in weight terms, with a significantly higher percentage share when measured in value. For example, export and import trade between the US and Canada in 2011 generated \$195 billion and \$136 billion, respectively³⁵. The state of Georgia ranks 8th nationally in regards to its extensive roadway network connecting all of its major metropolitan areas with each other and beyond. The state is also fortunate to have about 450,000 commercially licensed truck drivers, ranking the state 9th in the nation. This combination allows for 80 percent of the nation's consumer market to be reachable by truck from Georgia in less than 48 hours.³⁶

Table 3-1 illustrates the impact of this winning combination in terms of freight flows and cargo value for Georgia.

Table 3-1: Georgia Domestic Truck Volumes (in 2012)

Freight Movement Direction	Freight Weight (in Tons)	Cargo Value	Number of Truck Freight Movements
Inbound to Georgia	97,490,043	\$363.82 Billion	8,213,232
Outbound from Georgia	111,713,106	\$338.12 Billion	8,687,179
Moved Inside Georgia	203,312,198	\$325.90 Billion	21,340,695
Passed Through Georgia	185,345,836	\$765.50 Billion	10,403,516
Total	597,861,184	\$1.79 Trillion	48,644,621

Source: Georgia Center of Innovation for Logistics. 2013 Georgia Logistics Report.

³⁴ Georgia Department of Transportation. 2013. Georgia Statewide Freight Plan.

³⁵ Georgia Center of Innovation and Logistics. 2013 Georgia Logistics Report.

³⁶ Georgia Department of Labor. 2014. Chatham County Area Labor Profile.

Moving from a statewide level to a regional level, a significant portion of that truck freight traffic travels into, through, and out of the Savannah MSA as shown in **Table 3-2**. Of the three general flows, out-bound truck freight flows are higher in tonnage and value compared to either in-bound or internal movements which is the likely result of the industries within the Savannah MSA including operations at the Port of Savannah.

Table 3-2: Savannah MSA Truck Volumes (in 2011)

Freight Movement Direction	Freight Weight (in Tons)	Cargo Value
Inbound to Savannah MSA	37,663,700	\$38.79 Billion
Outbound from Savannah MSA	42,243,300	\$64.68 Billion
Moved Inside Savannah MSA	16,691,600	\$15.87 Billion
Total	96,598,600	\$119.34 Billion

Source: Freight Analysis Framework, <http://faf.ornl.gov/fafweb/Default.aspx>

Chatham County contains 543 centerline miles of roadways designated on Georgia's State Highway System and the County's Road system. Bryan and Effingham Counties contain 391 and 726 centerline miles of state and county roadways, respectively. For both counties, the majority of mileage exist on the respective County Road system.³⁷ **Table 3-3** describes the major roadway facilities located within the Savannah MSA. In addition, centerline mileages for the municipalities within the Savannah region total to about 840 centerline miles with the majority located within the Savannah municipal jurisdiction.³⁸ Combined, this system of roadways provides access to all of the Savannah region's rail, seaport, and airport facilities.

Table 3-3: Major Roadway Facilities in Savannah MSA

Highway Type	Lane Number Range	Highway Name
Interstates	4 to 6	<ul style="list-style-type: none"> • Interstate 95 (I-95) • Interstate 16 (I-16) • Interstate 516 (I-516)
U.S. Highways	2 to 4	<ul style="list-style-type: none"> • US Highway 17 • US Highway 17A • US Highway 80
State (Georgia) Highways	2 to 4	<ul style="list-style-type: none"> • State Road 21 • State Road 204 • State Road 307

Source: 2014 Savannah Economic Development Agency

³⁷ Georgia Department of Transportation. 2012.

http://www.dot.ga.gov/informationcenter/statistics/RoadData/Documents/437/DPP437_2012.pdf

³⁸ Georgia Department of Transportation. 2009.

http://www.dot.ga.gov/informationcenter/statistics/RoadData/Documents/449/DPP449_2009.pdf

Florida is Georgia's top state trading partner in terms of truck flows. By road, the Savannah area has ready access to six major metropolitan areas located within and outside of the state, including Florida, as identified in **Table 3-4**.

Table 3-4: Distance to Major Metropolitan Areas from Savannah

Metropolitan Area	State	Distance from Savannah (miles)
Atlanta/Sandy Springs/Marietta	Georgia	248
Charlotte/Gastonia/Concord	North Carolina South Carolina	252
Charleston/North Charleston	South Carolina	107
Hinesville/Fort Stewart	Georgia	40
Jacksonville	Florida	140
Macon	Georgia	166

Source: 2014 Savannah Economic Development Agency

The most significant metropolitan area in terms of freight flows for Savannah is the Atlanta area. According to the Federal Highway Administration, intercity travel time reliability is an important freight performance measure used to judge the impacts of the unexpected delays on travel time. Significant travel time delays can negatively impact logistics costs for companies and may dissuade future use of congested routes in response. Travel time maximums between Savannah and Atlanta are 4 hours 45 minutes for north/east travel and 4 hours 37 minutes for south/west travel. Respectively, the travel time reliability percentages for both travel directions are 17.2 and 14.1^{39,40}. In travel time reliability, the lower the percentage, the more reliable the route with a lower likelihood of delays. The data illustrates that travelers utilizing the Savannah to Atlanta route are less likely to encounter unexpected delays compared to other routes such as Los Angeles to San Francisco, Miami to Tampa, and Tampa to Orlando.

As shown in **Table 3-5**, Chatham County receives a significant amount of freight via road with in-bound truck freight flows with goods originating from outside of Georgia, terminating in the County, accounting for over \$18 billion. Truck freight flows with origins and destinations within the state accounts for over \$34 billion. Out-bound freight leaving the County for areas outside of Georgia account for more than double the value compared to in-bound alone. Chatham County is the largest single-county generator of truck freight flows compared to other counties in the state with over 21 percent of the outbound trucks.⁴¹ This illustrates the strong influence of the manufacturing industry

³⁹ FHWA. 2014. Freight Facts and Figures 2013.

http://ops.fhwa.dot.gov/freight/freight_analysis/nat_freight_stats/docs/13factsfigures/table3_18.htm

⁴⁰ As described, travel time reliability measures the extent of unexpected delays a traveler experiences on the transportation network either day-to-day or across different times of the day. This illustrates constraints including congestion experienced along a route. The percent change is the difference between observed minimum and maximum times by direction. For example, the minimum travel time for Savannah and Atlanta for north/east travel is 4 hours with a maximum of 4 hours and 45 minutes. Thus, the calculated difference between the two times is 17.2 percent to reflect the increase of 45 minutes. The FHWA encourages the use of travel time reliability as a measure and additional information can be found here:

http://ops.fhwa.dot.gov/publications/tt_reliability/

⁴¹ Georgia Department of Transportation. 2013. Georgia Statewide Freight Plan.

and imported containers from the Port of Savannah within the Savannah region. In addition, the County is second to Fulton County in regards to in-bound freight flows.

For Bryan and Effingham Counties, in-bound, internal and out-bound truck volumes are substantially smaller in terms of tonnage and value when compared to Chatham County. However, as shown in **Table 3-5**, in-bound and out-bound truck volumes are generally higher valued in Bryan and Effingham Counties.

Table 3-5: Truck Volumes in Savannah MSA (in 2013)

Truck Freight	Inbound	Outbound	Within the State
Bryan County			
Weight (In Tons)	65,995	99,609	221,569
Value	\$191,607,426	\$266,594,457	\$36,360,562
Number of Truck Freight Movements	6,771	5,865	18,027
Chatham County			
Weight (In Tons)	8,115,841	23,030,519	19,734,679
Value	\$18,148,574,000	\$43,320,545,645	\$34,234,326,006
Number of Truck Freight Movements	1,125,243	1,253,618	1,867,368
Effingham County			
Weight (In Tons)	378,372	617,230	2,059,265
Value	\$2,691,110,670	\$2,151,289,002	\$239,035,949
Number of Truck Freight Movements	55,104	34,654	129,682

Source: Georgia Center of Innovation for Logistics. 2014. *Bryan County, Chatham County, and Effingham County Logistics Spotlights*.

The commodities that comprise these truck freight movements are varied. **Table 3-6** provides an example of the percentage share distribution of goods by commodity category.

Table 3-6: Truck Commodity Distribution on I-95 and I-16 (in 2005)

Commodities	Percentage of Share	
	I-95 (Chatham Co.)	I-16 (Pembroke)
Food and Farm Products	25%	14%
Textiles	8%	4%
Chemicals	7%	10%
Clay/Concrete/Glass/Stone	5%	5%
Transportation Equipment	4%	10%
Lumber/Wood/Logs	4%	2%
Warehousing (Secondary Traffic)	<1%	4%
Sand and Gravel (Non-Metallic Minerals)	<1%	<1%
Others	48%	49%

Source: Georgia Department of Transportation. 2013. *Georgia Statewide Freight Plan*

3.3 Rail

Georgia ranks 5th in the nation in rail tonnage terminating (ending) within the state.⁴² The CORE MPO freight transportation plan study area is serviced by three main rail carriers:

- 1) CSX Transportation (CSXT),
- 2) Genesee & Wyoming, Inc. (G&W), and
- 3) Norfolk Southern (NS).

These carriers are also illustrated on the following page in **Figure 3-1**.

CSX Transportation and Norfolk Southern are classified as Class I Railroads. There are seven large railroads in the United States which qualify for this distinction. These railroads function as the main regional rail freight carriers with operating revenues of greater than \$433.2 million in 2011.⁴³ In 2012, the Association of American Railroads reported freight revenue from freight transport of about \$67.8 billion. Class I Railroads make up more than half of rail line track mileage in the nation. In Georgia, CSX Transportation and Norfolk South own and operate 71 percent of the entire active rail track in the state. These rail carriers as well as 25 short line rail carriers transport more than 80 million gross tons of freight annually; these rail lines are among the heaviest used in the nation.⁴⁴ Chatham County is also home to three intermodal rail terminals, three bulk transload terminals, and two large carload yards, most of which are associated with the Port of Savannah. There are no rail terminals or yards other than rail lines which run through Bryan County. The CSX Transportation rail line runs directly through Bryan County to connect to the Norfolk Southern's line in Chatham County. Effingham County also does not contain any rail terminals or yards⁴⁵. However, industrial sites within Effingham County have rail access for both CSX Transportation and Norfolk Southern lines as well as one of the three short line railroads which service the county⁴⁶.

⁴² Georgia Center of Innovation and Logistics. 2013 Georgia Logistics Report.

⁴³ <https://www.aar.org/StatisticsAndPublications/Documents/AAR-Stats-2013-07-09.pdf>

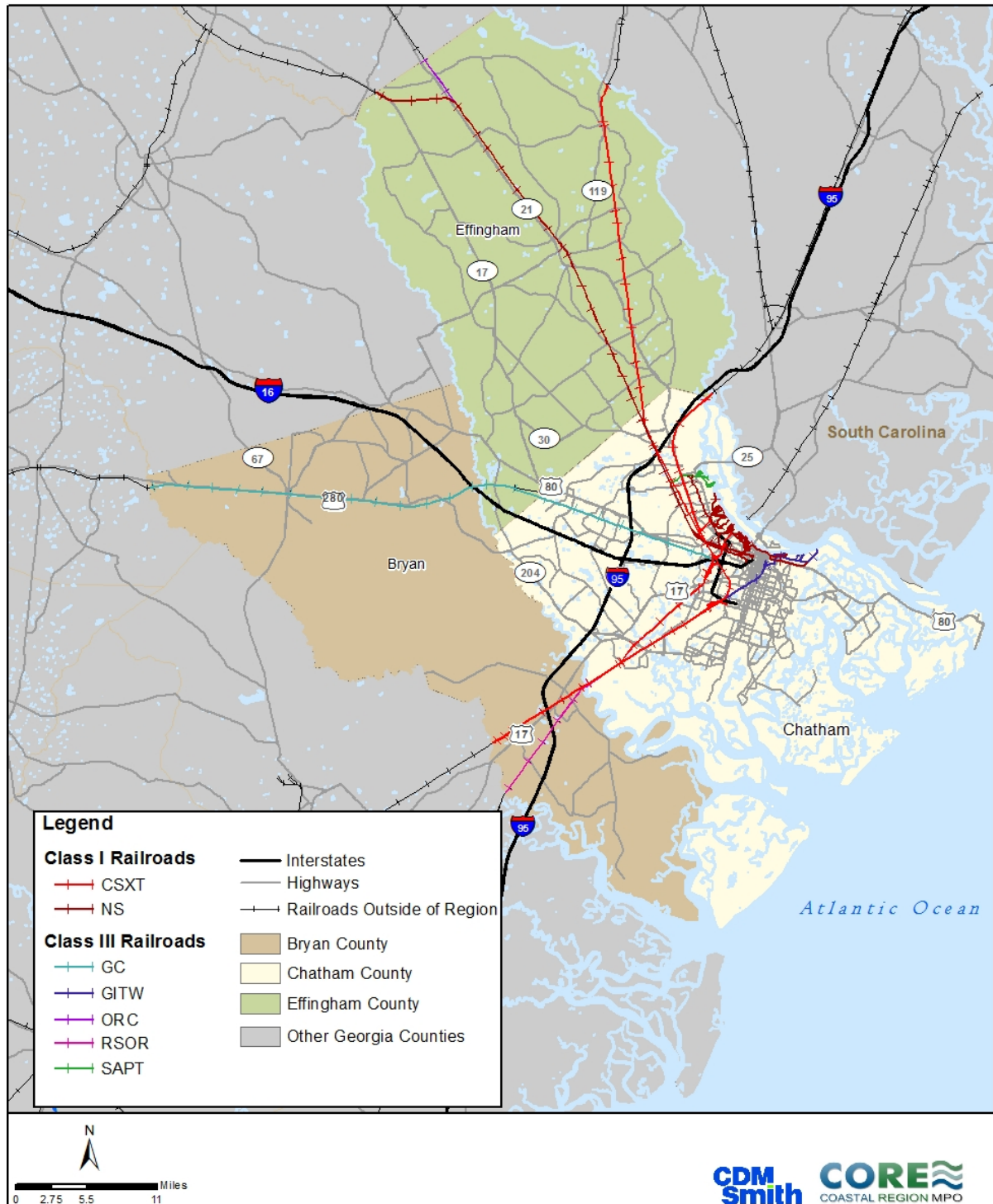
⁴⁴ Georgia Department of Transportation. 2013. Fact Book.

<http://www.dot.ga.gov/informationcenter/pressroom/Documents/publications/FactBook/GeorgiaDOT-FactBook.pdf>

⁴⁵ Georgia Center for Innovation of Logistics. 2014. Bryan County and Effingham County Logistics Spotlights.

⁴⁶ Effingham County Industrial Development Authority. 2014. <http://www.effinghamindustry.com/community-data/>

Figure 3-1: Class I and Class III Railroads in Savannah MSA



CSX Transportation's freight rail network reaches almost 67 percent of the nation's population in 23 states as well as the Canadian provinces of Ontario and Quebec. CSX Transportation has 1,626 miles of

rail lines within Georgia of which a yard is located within Savannah.⁴⁷ 22 states as well as the nation's capital are served by Norfolk Southern's extensive freight rail network which consists of 20,000 miles.⁴⁸ Of this amount, Norfolk Southern owns and operates 1,912 miles of rail lines within Georgia which includes the portion within the Savannah region.⁴⁹ Of the portion within the Savannah region, Norfolk Southern operates a "straight-line" rail alignment between Atlanta and Savannah which spans about 250 miles. This rail alignment aids in alleviating congestion along roadway routes between Atlanta and Savannah and providing a lower cost alternative to trucking.

Genesee & Wyoming, Inc., is the owner of 112 short line, or Class III, and regional freight rail lines in Australia, Europe, and North America. This includes the Georgia Central Railway (GC), on-port Savannah Port Terminal Railroad (SAPT), Riceboro Southern Railway (RSOR) and Golden Isle Terminal Wharf (GITW), which are four Class III railroads within the Savannah MSA region. These lines are operated by one of Genesee & Wyoming, Inc.'s subsidiaries, Rail Link, which primarily operates port-related railroads⁵⁰. The Georgia Central Railway is a 171-mile freight short line which runs between Savannah and Macon, Georgia, similar to Norfolk Southern's line to Atlanta. The rail line connects with CSX Transportation, Heart of Georgia Railroad, and Norfolk Southern lines. Several industrial developments lie along the track length with five transload locations in Macon. Generally, commodities transported along this line include coal, chemicals, farm and food products, forest products, minerals and stone, plastics, and pulp and paper products.⁵¹ The Savannah Port Terminal Railroad is an 18-mile short line freight rail line at the Port of Savannah which connects with rail lines and intermodal facilities for CSX Transportation and Norfolk Southern. The rail line's commodity flows consist of chemicals, food products, intermodal containers, and pulp and paper products.⁵²

Riceboro Southern Railway is an 18-mile freight short line which runs between Riceboro and Georgetown, Georgia. The rail line connects with a CSX Transportation line. There are two transload locations along the line; one outside and one within Bryan County at the Belfast Commerce Park industrial site. Commodities typically carried include chemicals and pulp and paper products⁵³. Finally, Golden Isle Terminal Wharf is a 7-mile short line which serves the Savannah Wharf customers and connects with a CSX Transportation rail line. Commodity flows for this rail line consist of chemicals, food/feed products, metals, minerals, petroleum products, pulp and paper products, wood pellets, and bulk freight⁵⁴.

⁴⁷ <http://www.intermodal.com/index.cfm/intermodal-maps/>

⁴⁸ Norfolk Southern. 2013. Annual Report.

⁴⁹ Georgia Department of Transportation. 2013. Fact Book.

⁵⁰ Genesee & Wyoming, Inc., 2014. Rail Link Overview.

http://www.gwrr.com/operations/industrial_switching/rail_link_overview

⁵¹ Genesee & Wyoming, Inc. 2014. Georgia Central Railroad.

http://www.gwrr.com/operations/railroads/north_america/georgia_central_railway

⁵² Genesee & Wyoming, Inc. 2014. Savannah Port Terminal Railroad.

http://www.gwrr.com/operations/railroads/north_america/savannah_port_terminal_railroad

⁵³ Genesee & Wyoming, Inc. 2014. Riceboro Southern Railway.

http://www.gwrr.com/operations/railroads/north_america/riceboro_southern_railway

⁵⁴ Genesee & Wyoming, Inc. 2014. Golden Isles Terminal Wharf.

http://www.gwrr.com/operations/railroads/north_america/golden_isles_terminal_wharf

Another short line railroad which was listed above but is located in Effingham County as shown in **Figure 3-1** is Ogeechee Railway (ORC), which is owned by the state of Georgia and operated and maintained by GDOT⁵⁵. The rail line runs between Effingham and Screven Counties. The rail line connects with the Norfolk Southern's line in Ardmore, located within Effingham County.

Table 3-7 describes inbound, outbound, and within freight movements by rail for the Savannah MSA. The highest volumes in terms of weight and value are associated with freight rail volume moved within the state, followed by in-bound and out-bound rail freight.

Table 3-7: Rail Volumes in Savannah MSA (in 2013)

Rail Freight	Inbound	Outbound	Within the State
Bryan County			
Weight (In Tons)	N/A*	3,005	N/A*
Value		\$922,580	
Number of Rail Freight Movements		32	
Chatham County			
Weight (In Tons)	2,958,165	1,709,255	4,664,517
Value	\$6,447,396,538	\$4,078,182,862	\$4,707,837,793
Number of Rail Freight Movements	37,961	20,878	52,350
Effingham County			
Weight (In Tons)	643,299	17,397	147,675
Value	\$146,921,496	\$16,297,674	\$4,623,868
Number of Rail Freight Movements	6,471	181	4,771

Source: Georgia Center of Innovation for Logistics. 2013. Chatham County Logistics Spotlight

*N/A – There is no recorded in-bound or intra-rail freight volumes for Bryan County.

3.4 Water

The Port of Savannah is one of the two deep water ports located within Georgia. The Port of Savannah has a substantial fiscal impact from its distribution operations on local, state, and federal governments. In fiscal year 2011, the deepwater seaport has contributed:

- \$66.9 billion in sales
- \$32.4 billion in state GDP
- \$18.5 billion in income
- 352,146 full- and part-time jobs
- \$4.5 billion in federal taxes
- \$1.4 billion in state taxes
- \$1.1 billion in local taxes

The Port of Savannah's revenues account for 9.5 percent of the entire state of Georgia's total sales. Employment at the port accounts for 8.3 percent of the total employment in the state⁵⁶. The seaport

⁵⁵ Georgia Department of Transportation. 2014. <https://www.dot.ga.gov/travelingingeorgia/rail/Pages/default.aspx>

⁵⁶ Georgia Ports Authority. 2013. Fiscal Year 2011 Economic Impacts of Georgia's Deepwater Ports.

hosts several tenants, some of which were previously identified in Section 2. Below identifies the non-public companies that operate at the seaport⁵⁷:

- | | | | |
|------------------|-----------------------|----------------------------|-------------------|
| • Colonial Group | • Imperial Sugar | • Southern LNG | • Vopak |
| • Conoco Philips | • International Paper | • Standard Concrete | • Metro Ports |
| • Georgia Kaolin | • NuStar Refinery | • Weyerhaeuser | • Georgia Pacific |
| • Hercules | • Epic Midstream | • Wood Chip Exporting Corp | • National Gypsum |
| • Valero | • Dulany Industries | | • GAF Materials |

The seaport is equipped with a substantial yet diverse set of capabilities for handling varying types of commodities. The seaport has two main terminals, Garden City and Ocean, which combined provide 15,461 feet of contiguous berth space for waterborne vessels.⁵⁸ In general, the channel widths for these terminals are 500 feet with a current depth of 42 feet. Future dredging plans, to a depth of 47 feet, will allow the Garden City Terminal, with a throughput capacity of 6.5 million TEUs, to increase the volume of containers through the facility.⁵⁹

At 1,200 acres with 9,693 feet of berth space, Garden City Terminal specializes in containerized and refrigerated cargo. It is this terminal that is often cited as one of the busiest containerized cargo seaports in the nation. The terminal provides cargo access to 44 percent of the nation's consumers within two to three days from Chatham County. The berths are equipped with Post- and Super Post-Panamax class cranes. Garden City Terminal has the largest refrigerated container capacity of any other located along the Gulf and East coasts with almost 2,000 reefer rack slots for containerized cargo, 738 wheeled plugged refrigerated container slots, and two wash areas. Both refrigerated and non-refrigerated container cargo has access to on-terminal and off-terminal storage facilities.⁶⁰

Smaller in size is the Ocean Terminal at 200.4 acres, which specializes in breakbulk, roll-on/roll-off (ro/ro),⁶¹ and heavy lift cargo. The terminal can also handle containerized cargo, but not at the level as Garden City. The terminal contains 80 acres of open storage for ro/ro, breakbulk, and container cargo. Ocean Terminal also contains another 33 acres of paved storage area dedicated to ro/ro cargo and 10 acres of paved area for containerized cargo. On-terminal warehousing provides over 1.4 million square feet of space with over 11,100 feet of rail siding to provide for intermodal transfers.

The seaport has access to the largest concentration of import distribution centers on the eastern coast with direct roadway and rail connections. The seaport has immediate access to I-16, running east-west, and I-95, running north-south. This allows for four-hour commuting for truckers for major markets such as Atlanta, Orlando (Florida), and Charlotte (North Carolina). As discussed in the previous section, Genesee & Wyoming, Inc., operates a short line rail line on the seaport itself which connects with CSX Transportation and Norfolk Southern main line rail lines. The seaport is also in close proximity

⁵⁷ Georgia Center of Innovation for Logistics. 2013 Georgia Logistics Report.

⁵⁸ Georgia Port Authority.

⁵⁹ US Army Corps of Engineers. 2012. Final General Re-Evaluation Report for Savannah Harbor Expansion Project.

⁶⁰ Georgia Port Authority. 2013. <http://www.gaports.com/portofsavannah/GardenCityTerminal.aspx>

⁶¹ Ro/ro cargo is for roll-on/roll-off and is in reference to wheeled cargo such as automobiles or rail cars.

to the Savannah/Hilton Head International Airport. A trip between the two facilities' gates is less than 6 miles.

The Port of Savannah is unique in that it has an almost even balance of exports and imports, which is different from most other U.S. container ports that are dominated by import flows.⁶² **Table 3-8** describes the top ten imports and exports in 2012 for the Port of Savannah. Ranked number one in exports is wood pulp. As described earlier, Georgia has a significant forestry industry. Weyerhaeuser is a company with a pulp mill location within Chatham County near Savannah. Another of the top exports for the seaport is kaolin clay, a resource found in Georgia. Kaolin clay, or "china clay", is commonly used for paper, plastics, rubber, paints and other products⁶³. Over 66 percent of Savannah's clay products are exported to Northeast Asia, followed by North Europe, Southeast Asia, the Mediterranean, and East Coast of South America.

Table 3-8: Top Ten Exports and Imports (in 2012)

Rank	Exports		Imports	
	Commodity	Amount (in TEUs)	Commodity	Amount (in TEUs)
1	Wood pulp	178,654	Furniture	143,412
2	Food	157,531	Retail and consumer goods	132,244
3	Paper and paperboard	144,710	Machinery, appliances, and electronics	121,482
4	Clay	97,054	Hardware and housewares	98,877
5	Automotive	87,778	Automotive	96,576
6	Machinery, appliances, and electronics	80,760	Food	80,078
7	Fabrics/raw cotton	74,877	Apparel	55,800
8	Chemicals	73,871	Toys	49,666
9	Retail and consumer goods	63,299	Minerals	49,373
10	Resins and rubber	61,021	Chemicals	36,436
	Other	214,324	Other	220,900
	Total	1,233,877	Total	1,084,844

Source: Georgia Center of Innovation and Logistics. 2013 Georgia Logistics Report

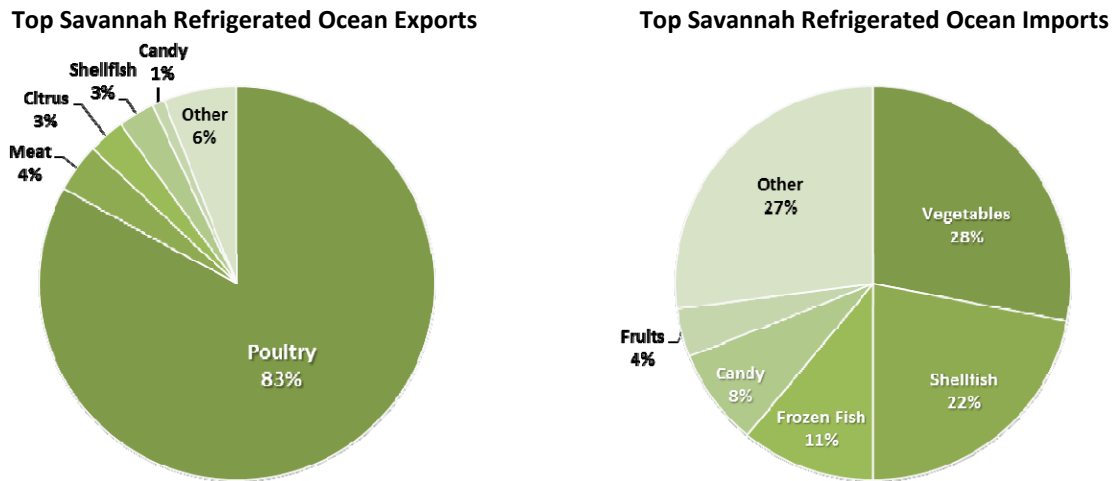
Another imported and exported commodity is "Food". Although, not exclusive, as described previously, the Port of Savannah has extensive refrigerated infrastructure.

Figure 3-2 shows the breakdown of the top refrigerated commodities. The Garden City Terminal handles 40 percent of the nation's poultry exports which total 3 billion pounds a year. In terms of markets, Mexico is a top market for poultry products from Georgia. For other forms of refrigerated cargo products, the top five exporters and importers are identified in **Table 3-9**.

⁶² Georgia Department of Transportation. 2013. Georgia Statewide Freight Plan.

⁶³ Georgia Mining Association. 2014. Georgia's Kaolin Industry. <http://www.georgiamining.org/GMA-georgia-kaolin-industry.php>

Figure 3-2: Top Reefer Exports and Imports (in 2012)



Source: Georgia Center of Innovation and Logistics. 2013 Georgia Logistics Report

Table 3-9: Top Five Refrigerated Export and Import Markets

Rank	Import Markets	Export Markets
1	West Coast South America	Northeast Asia
2	Southeast Asia	Eastern Europe
3	Northeast Asia	Africa
4	Mediterranean	Southeast Asia
5	North Europe	Mediterranean

Source: Georgia Center of Innovation and Logistics. 2013 Georgia Logistics Report

3.5 Air

Ten of Georgia's airports provide significant air cargo operations for the state. Statewide, air cargo and passenger operations contribute \$62.6 billion to the state and federal economy with 471,000 employees and \$17.8 billion payroll.⁶⁴ The Savannah/Hilton Head International Airport provides local air cargo options within Chatham County, located seven miles northwest of Savannah and in proximity to the Port of Savannah. The airport has two runways and direct flights to 17 major US markets. The Savannah Airport Commission also owns and operates Foreign Trade Zone 104, allowing domestic and international freight movements to be processed without formal customs entry and duties and tax payments.⁶⁵

The airport is a general aviation and commercial airport which provides both passenger and freight services. Air cargo companies which utilize this airport include Delta Airlines, DHL, FedEx, and American Airlines and allows Gulfstream Aerospace use of their facilities in conjunction with their recent \$500

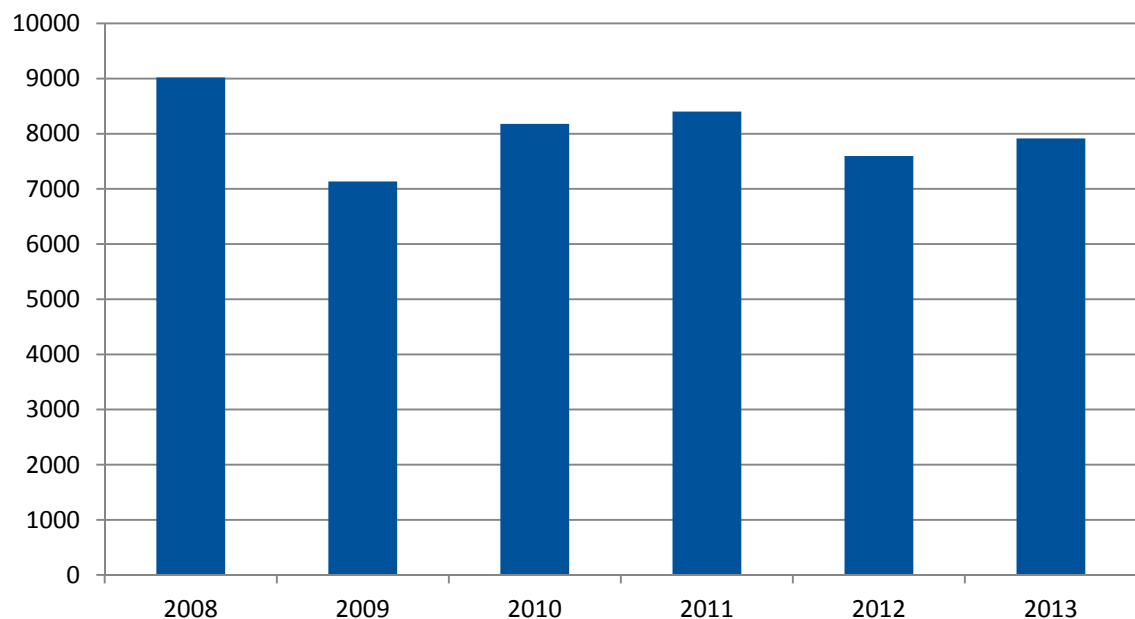
⁶⁴ Georgia Center of Innovation for Logistics. 2013. Chatham County Logistics Spotlight.

⁶⁵ Savannah Economic Development Agency, 2014. <http://www.seda.org/savannah/20/infrastructure.html>

million expansion mentioned in Section 2.1.1.⁶⁶ In 2013, the airport moved 7,914.8 tons of air cargo. Although air freight tonnage increased in 2013, **Figure 3-3** illustrates that the air cargo tonnage at the airport has decreased from 2008 to 2012.

In addition to the Savannah/Hilton Head International Airport is the military's Hunter Army Air Field, which receives air cargo for the Savannah area's military operations and personnel, and Hodges Air Park, a privately owned airfield. Neither Hunter Army Air Field nor Hodges Air Park offers commercial services.

Figure 3-3: Air Cargo (Freight/Express Mail in Tons)



Source: Savannah/ Hilton Head International Airport. 2014. Statistics.

Beyond Savannah/Hilton Head International Airport, companies in the Savannah region also have access to Atlanta's Hartsfield-Jackson International Airport. This airport handles 98 percent of the state's annual air cargo volumes and is the 10th and 31st largest in the nation and the world for air cargo, respectively. In 2012,⁶⁷ the state's top ten air cargo commodities were:

- | | |
|---------------------------------|---------------------------------|
| 1) Miscellaneous mixed | 6) Electrical equipment |
| 2) Mail or contract traffic | 7) Printed matter |
| 3) Machinery | 8) Precision instruments |
| 4) Chemicals or allied products | 9) Apparel and related products |
| 5) Transportation equipment | 10) Fabricated metal products |

⁶⁶ Savannah Economic Development Agency, 2014. <http://www.seda.org/savannah/106/airport.html>

⁶⁷ Georgia Center of Innovation for Logistics. 2013 Georgia Logistics Report.

3.6 Other Freight Facilities

Warehousing and distribution and intermodal facilities are critical to freight movements via roadway, water, rail or air. There are 230 retail distribution centers located throughout the state operated by over 170 retailers. 28 of these centers are more than 1 million square feet in size. Another 28 pharmaceutical distribution warehouses call the state home, which are certified through the Drug Enforcement Administration under the US Department of Justice. Lastly, Georgia is home to 216 million square feet of warehousing and distribution facility space for over 920 facilities. More than 20 million square feet of these facilities are located within a 2.5 hour traveling radius of the Port of Savannah.

Associated with the Port of Savannah cargo services, Chatham County is home to 125 warehousing and distribution facilities with a total of 26,471,243 square feet.⁶⁸ The largest of these facilities are identified in **Table 3-10** and are located in Chatham County. Chatham County is home to five cold storage warehousing and distribution facilities which are essential to food, pharmaceutical, and other temperature-sensitive supply chains.

Table 3-10: Largest Warehousing and Distribution Facilities in Savannah MSA

Rank	Facility Name	Size (in Square Feet)
1	Target Import Warehouse	2,000,000
2	Home Depot	1,364,000
3	Schneider Logistics	1,200,000
4	Dollar Tree Stores	1,000,000

Source: Georgia Center of Innovation for Logistics. 2014. Chatham County Logistics Spotlight

Bryan County is home to seven warehousing and distribution facilities with a total capacity of 1,386,000 square feet with the Oneida facility being the largest at 499,000 square feet. The county also has one cold storage facility⁶⁹. Effingham County has seven warehousing and distribution facilities with a total capacity of 1,745,600 square feet. The largest of these facilities is the Bonded Service Warehouse at 700,000 square feet. In addition, the county has one cold storage facility⁷⁰.

Intermodal facilities are generally concentrated within the Atlanta and Savannah areas.

Table 3-11 identifies the intermodal facilities located in the Savannah area.

⁶⁸ Georgia Center of Innovation for Logistics. 2014. Chatham County Logistics Spotlight

⁶⁹ Georgia Center of Innovation for Logistics. 2014. Bryan County Logistics Spotlight

⁷⁰ Georgia Center of Innovation for Logistics. 2014. Effingham County Logistics Spotlight

Table 3-11: Intermodal Terminals in Savannah, GA

Terminal Name	Annual Volume (Lifts)	Length of Loading Cars (in Feet)	Storage/Stack Capacity
Chatham Intermodal Container Transfer Facility	20,000 initial capacity with future growth to 100,000	6,435	12,406 feet of storage rail tracks
Dillard Yard	15,000	1,246	210 wheeled spaces
James D. Mason Intermodal Container Transfer Facility	230,000 +	12,500	7,500 feet of storage rail tracks
Savannah Yard	50,000 +	4,800	650 wheeled spaces

Source: Georgia Department of Transportation. 2013. Georgia Statewide Freight Plan.

All of these intermodal facilities are associated with the Port of Savannah and either CSX Transportation or Norfolk Southern for rail service. The Savannah Yard, operated by CSX Transportation, serves domestic and international intermodal freight products such as UMAX (domestic interline container service), private containers, and door-to-door deliveries.⁷¹ The yard provides service Monday through Saturday.

Chatham Intermodal Container Transfer Facility (ICTF) is located on-terminal in the Garden City Terminal at the Port of Savannah, and includes 3 working tracks totaling over 6,400 feet, and an additional 12,406 feet of storage track. The ICTF calls to CSX Transportation and provides unrestricted double-stack service and two- to three-day transit times to major hubs throughout the Midwest, Gulf Coast and Southeast, including overnight service to Atlanta. The other ICTF, James D. Mason, is served by Norfolk Southern. Both ICTFs are owned and operated by the Georgia Ports Authority with two to five day double-stack rail service available to inland destinations such as Atlanta, Charlotte, Chicago, Dallas, Memphis, and more.⁷² The ICTF is a 25 acre yard also at the Garden City Terminal, and includes 5 working tracks totaling over 12,500 feet, and an additional 3 storage tracks of 7,500 feet. This facility also provides the same unrestricted service as Chatham ICTF. Dillard Yard, an intermodal facility, which specializes in domestic containers and is served by Norfolk Southern, is located in close proximity to the Port of Savannah⁷³.

In addition to these intermodal facilities are rail/highway bulk terminals. Rail/highway bulk terminals are where out-bound rail freight of dry or liquid bulk arrives by truck and transferred to specialized rail cars for transport. There are several of these facilities throughout Georgia with three located in the Savannah region as described in **Table 3-12**, which are in proximity to the Port of Savannah.

⁷¹ <http://www.intermodal.com/index.cfm/intermodal-maps/>

⁷² Georgia Ports Authority. 2013.

⁷³ Norfolk Southern. <http://www.nscorp.com/content/nscorp/en/ship-with-norfolk-southern/shipping-options/intermodal/terminals-and-schedules/savannah-ga-portwentworthdillardyard.html>

Table 3-12: Rail/Highway Bulk Terminals in Savannah, GA

Terminal Name	Rail Carrier Served	Loading/Unloading Spots	Commodities Handled
Colonial Terminals	CSX Transportation Norfolk Southern	N/A	Acids, chemicals (liquid), petroleum products
CSXT Transflo	CSX Transportation	45	Acids, chemicals (liquid)
Paktank	CSX Transportation Norfolk Southern Savannah State Docks	18	Acids, chemicals (liquid), foods (liquid), petroleum products, clay slurry

Source: Georgia Department of Transportation. 2013. Georgia Statewide Freight Plan.

4. AREAS OF FUTURE GROWTH

The ability for the Savannah region to take advantage of the growth in freight flows moving domestically and internationally depends on the growth of industry and the availability and quality of the freight transportation network. The following subsections review areas of industry change in the past and look forward to how future global and national trends impact freight flows in the Savannah region.

4.1 Industry Growth Forecast

The nation's economy has been going through changes for the last several years which have impacted many industries. According to the US Census Bureau, between 1997 and 2012, there has been drastic increase in employment demand from service industries such as accommodation and food services, health care and social assistance, and administrative and support and waste management and remediation services. These are strong industries identified currently in the Savannah region, particularly Chatham County. Transportation and warehousing nationally has seen increases between 1997 and 2007 after which it has leveled off. Employment for the retail trade industry increased as well, up 5.3 percent from 1997 to 2007. During the 2008-2009 recession, the industry saw a decrease in employment despite retail trade companies still having the most establishments in the US of all industry sectors. However, the industry sector impacted the most heavily nationally was manufacturing. The manufacturing industry had the largest decrease in employment amongst all industry sectors, declining 32.9 percent or 5.5 million since 1997. However, annual payroll per employee has increased by 55.4 percent during this time period.⁷⁴ The broad decrease in manufacturing has also led to concentration in manufacturing geographically in enclaves around the nation including in Chatham County.

In Chatham County, there was a decrease in the number of manufacturing companies between 2010 and 2013. However, there was a dramatic increase in the number of employees as described in **Table 4-1**.

⁷⁴ US Census Bureau. Measuring America. http://www.census.gov/how/infographics/changing_us_economy.html

Table 4-1: Changes in Manufacturing Industry in Chatham County (2010 to 2013)

Industry Name	Number of Companies (Percent Change)	Number of Employees (Percent Change)
Manufacturing (Overall)	-66.3%	160.7%
Apparel	-99.5%	N/A*
Beverage and Tobacco Product	0.0%	N/A
Chemical	21.43%	-4.5%
Computer and Electronic Product	0%	14.8%
Electrical Equipment, Appliance, and Component	0%	36.4%
Fabricated Metal Product	-3.5%	24.5%
Food	-9.5%	-49.4%
Furniture and Related Product	-15.4%	-31.6%
Leather and Allied Product	0.0%	N/A
Machinery	-14.3%	-15.8%
Miscellaneous	0.0%	16.7%
Nonmetallic Mineral Product	0.0%	4.3%
Paper	0.0%	4.6%
Petroleum and Coal Products	-25.0%	-8.0%
Plastics and Rubber Products	0.0%	N/A
Primary Metal	50.0%	N/A
Printing and Related Support Activities	-21.1%	0.0%
Textile Mills	100%	N/A
Textile Product Mills	16.6%	54.0%
Transportation Equipment	10.0%	N/A
Wood Product	-16.7%	24.4%

*Note: N/A denotes incomplete data because of confidential data relating to individual employees that cannot be released.

Source: Georgia Department of Labor

Several manufacturing industry sectors listed above saw decreases in the number of companies active within the County such as apparel, fabricated metal product, and machinery. Although some of these projected decreases in employment as well, others have shown no change or increased employment, suggesting consolidation or company acquisition such as with Chatham Steel and Reliance.⁷⁵ A company acquisition allows regional, national, or international companies to establish footholds in markets with existing local experience. If successful, acquired locations may even increase employment opportunities in response to market demand. This is a possible explanation for how, despite the decrease in the number of companies from 847 in 2010 to 794 in 2013, there was an increase in employment from 16,661 to 17,535 during the same time period. Industry sectors that increased the most include textile products mills and wood product. SEDA has indicated that three new companies will be locating to the Savannah region: Coby Electronics, Dorel Juvenile, and Diageo-Guinness Brands.⁷⁶

⁷⁵ This acquisition happened outside of the time period, but it is here to provide a local example.

⁷⁶ <http://www.seda.org/savannah/4/industries-companies.html>

Table 4-2: Changes in Manufacturing Industry in Bryan County (2010 to 2013)

Industry Name	Number of Companies (Percent Change)
Manufacturing (Overall)	-35.3%
Chemical	-66.7%
Fabricated Metal Product	50.0%
Food	-50.0%
Machinery	0.0%
Nonmetallic Mineral Product	-25.0%
Paper	0.0%
Plastics and Rubber Products	0.0%

Source: Georgia Department of Labor

*Please note that the employment data for majority of areas identified under manufacturing in Bryan County is designated confidential.

During the same time period and shown in **Table 4-2**, Bryan County's overall manufacturing sector has seen a decrease in the number of firms from 17 to 11 with a resulting decrease of 9.3 percent in the number of employees. Industry sectors which saw a loss in firms were chemical, fabricated metal products, food, and nonmetallic mineral product. Other industry sectors, such as machinery, paper, and plastics and rubber products, stayed the same. In addition, there were firms in the industry sectors of primary metal, transportation equipment, and wood product. As of 2013, those firms are no longer located in Bryan County which is why those sectors are not represented in the above table.

Table 4-3: Changes in Manufacturing Industry in Effingham County (2010 to 2013)

Industry Name	Number of Companies (Percent Change)
Manufacturing (Overall)	8.0%
Beverage and Tobacco Product	0.0%
Chemical	-75.0%
Electrical Equipment, Appliance, and Component	-50.0%
Fabricated Metal Product	66.7%
Furniture and Related Product	-66.7%
Machinery	-33.3%
Miscellaneous	33.3%
Nonmetallic Mineral Product	400%
Paper	-80.0%
Printing and Related Support Activities	0.0%
Wood Product	0.0%

Source: Georgia Department of Labor

*Please note that the employment data for majority of areas identified under manufacturing in Effingham County is designated confidential.

For Effingham County, the overall manufacturing sector has increased the number of firms from 25 to 27 with new firms being added in the fabricated metal product, nonmetallic mineral product, and

miscellaneous areas as shown in **Table 4-3**. These additions appear to lessen the impact of losses in firms in sectors including, but not limited to, chemical, electrical equipment, machinery, and paper.

For industry sectors identified under the service industry, the trend is different with overall company and employee numbers increasing during the same time period for Chatham County as shown in **Table 4-4**.

Table 4-4: Changes in Service Industry in Chatham County (2010 to 2013)

Industry Name	Number of Companies (Percent Change)	Number of Employees (Percent Change)
Service (Overall)	7.4%	8.6%
Utilities	8.3%	9.2%
Wholesale Trade	12.0%	1.6%
Retail Trade	4.9%	9.0%
Transportation and Warehousing	8.0%	5.4%
Information	-14.1%	-11.5%
Finance and Insurance	36.9%	14.5%
Real Estate and Rental and Leasing	-1.7%	-2.2%
Professional, Scientific & Technical Svc	6.9%	17.5%
Management of Companies and Enterprises	42.9%	-10.9%
Admin., Support, Waste Mgmt, Remediation	1.5%	14.3%
Education Services	14.8%	4.6%
Health Care and Social Assistance	8.4%	5.9%
Arts, Entertainment, and Recreation	16.0%	12.0%
Accommodation and Food Services	6.0%	14.2%
Other Services (except Public Admin.)	-1.3%	6.2%

**Note: N/A denotes incomplete data because of confidential data relating to individual employees that cannot be released.
Source: Georgia Department of Labor*

Among service industry subsections, information, real estate and company management decreased the most during the 2010 to 2013 time period. All other industry subsections have fared moderately or even significantly well. The industry subsectors with the highest growth during this period include finance and insurance, professional services, accommodation and food services, arts and entertainment, health care, and transportation and warehousing.

Table 4-5: Changes in Service Industry in Bryan County (2010 to 2013)

Industry Name	Number of Companies (Percent Change)	Number of Employees (Percent Change)
Service (Overall)	-81.0%	-71.1%
Utilities	2700%	N/A*
Wholesale Trade	-57.9%	-82.1%
Retail Trade	-64.0%	-72.1%
Transportation and Warehousing	-26.7%	-64.4295
Information	833.3%	785%
Finance and Insurance	-96.2%	N/A*
Real Estate and Rental and Leasing	82.6%	308.3%
Professional, Scientific & Technical Svc	-94.6%	-93.7%
Management of Companies and Enterprises	32.4%	203.6%
Admin., Support, Waste Mgmt, Remediation	100%	N/A*
Education Services	63.0%	91.9%
Health Care and Social Assistance	771.4%	438.0%
Arts, Entertainment, and Recreation	-50.0%	-97.0%
Accommodation and Food Services	1236.2%	1955.8%
Other Services (except Public Admin.)	53.3%	7029.2%

**Note: N/A denotes incomplete data because of confidential data relating to individual employees that cannot be released.*

Source: Georgia Department of Labor

As displayed in **Table 4-5**, the service industry in Bryan County saw a significant decline between 2010 and 2013, particularly in areas of wholesale trade, retail trade, transportation and warehousing, finance and insurance, professional services, and the arts. However, the services which saw growth during this period included health and tourism, information, as well as real estate.

Table 4-6: Changes in Service Industry in Effingham County (2010 to 2013)

Industry Name	Number of Companies (Percent Change)	Number of Employees (Percent Change)
Service (Overall)	0.6%	1.1%
Utilities	-20.0%	N/A*
Wholesale Trade	33.3%	18.6%
Retail Trade	-1.0%	4.9%
Transportation and Warehousing	-17.0%	-9.8%
Information	-14.3%	-17.9%
Finance and Insurance	12.1%	5.5%
Real Estate and Rental and Leasing	6.9%	-14.1%
Professional, Scientific & Technical Svc	-1.6%	17.1%
Management of Companies and Enterprises	-89.2%	N/A*
Admin., Support, Waste Mgmt, Remediation	850.0%	3612.5%
Education Services	-96.2%	N/A*
Health Care and Social Assistance	2600.0%	N/A*
Arts, Entertainment, and Recreation	-98.3%	N/A*
Accommodation and Food Services	18.4%	132.3%
Other Services (except Public Admin.)	0.6%	1.1%

*Note: N/A denotes incomplete data because of confidential data relating to individual employees that cannot be released.

Source: Georgia Department of Labor

As reflected in **Table 4-6**, during the 2010 to 2013 period, there was a slight increase in overall service-related firms and employees for Effingham County. The industry areas that contained growth included wholesale trade, finance and insurance, real estate, waste management, health, and accommodations.

The subsectors of industry growth and decline provide a general picture on how these subsectors are currently operating within the Savannah MSA. The Georgia Department of Labor has developed a series of 10-year long-term industry outlook projections within Workforce Investment Areas (WIAs). As identified briefly in Section 2.3, the Savannah MSA is within the Coastal WIA which includes nine counties. **Table 4-7** identifies those industries that are projected to decline or increase from 2010 to 2020.

Table 4-7: 10-Year Industry Projections for Coastal WIA (2010 to 2020)

Rank	Growing Industries	Declining Industries
1	Educational Services	Total Federal Government Employment
2	Food Services and Drinking Places	Food Manufacturing
3	Administrative and Support Services	State, Excluding Education and Hospitals
4	Ambulatory Health Care Services	Chemical Manufacturing
5	Hospitals	Agriculture, Crop and Animal Production
6	Professional, Scientific, and Technical Services	Support Activities for Transportation
7	Warehousing and Storage	Personal and Laundry Services
8	Nursing and Residential Care Facilities	Telecommunications
9	Accommodation	Wholesale Electronic Markets and Agents and Brokers
10	Social Assistance	Forestry and Logging
11	Amusement, Gambling, and Recreation Industries	Sporting Goods, Hobby, Book, and Music Stores
12	Specialty Trade Contractors	Printing and Related Support Activities
13	Local, Excluding Education and Hospitals	Petroleum and Coal Products Manufacturing
14	Religious, Grantmaking, Civic, Professional, and Similar Org	Food and Beverage Stores
15	Transportation Equipment Manufacturing	Fabricated Metal Product Manufacturing
16	Credit Intermediation and Related Activities	Water Transportation
17	General Merchandise Stores	Postal Service
18	Motor Vehicle and Parts Dealers	Publishing Industries
19	Repair and Maintenance	Broadcasting (except Internet)
20	Building Material and Garden Equipment and Supplies Dealers	Rental and Leasing Services

Source: Georgia Department of Labor. <http://explorer.dol.state.ga.us/qsipub/index.asp?docid=386>

In general, several of these sectors and subsectors that grew during the 2010 to 2013 period include health care, accommodations, warehousing and storage (transportation and warehousing), and transportation equipment manufacturing. However, these projections show that “support activities for transportation” and water transportation declining over the 10-year period. Both subsectors are part of the transportation and warehousing sector and may indicate either that the Port of Savannah deepening was not factored in or a consolidation of services was expected.

4.2 Impacts on Freight Transportation

As discussed throughout this technical memorandum, the freight transportation system in the Savannah region has a strong relationship to the Port of Savannah along with its extensive system of roadways and freight rail interconnected by intermodal facilities and warehousing that provide access to major markets. For the past twenty years, the port has been successful at capturing U.S. East Coast

containerized cargo traffic market share with the consequential positive impacts on Chatham County, the Savannah region, and the state's economies.⁷⁷

The value of worldwide merchandise trade increased from 48 to 51.8 percent of the global gross domestic product from 2010 to 2011. Between 2007 and 2012, the United States has increased its global Logistics Performance Index rank from 14 to 9, ranked higher than other countries such as the United Kingdom, Canada, and France. This ranking takes into account the quality of freight transportation infrastructure which impacts the growth of the nation's industries. There are two main factors that may impact the Savannah region's industries and freight network: changes in business practices and the expansion of the Panama Canal.

In terms of business, two significant trends which impact freight flows globally are near-sourcing and sustainability. Near-sourcing is a variant on the out-sourcing which became popular in 1980s and 1990s. Near-sourcing is the trend to move production closer to consumer markets to reduce logistics costs, especially for small- and medium-sized businesses. On-shoring is the actual repatriation of production back inside U.S. borders. Sustainability is the trend that company's practices and production incorporate sustainable raw materials, greener best practices, responsible use of conflict minerals, and attention to environmental impacts and human rights. This impacts location and expansion projects for companies.⁷⁸

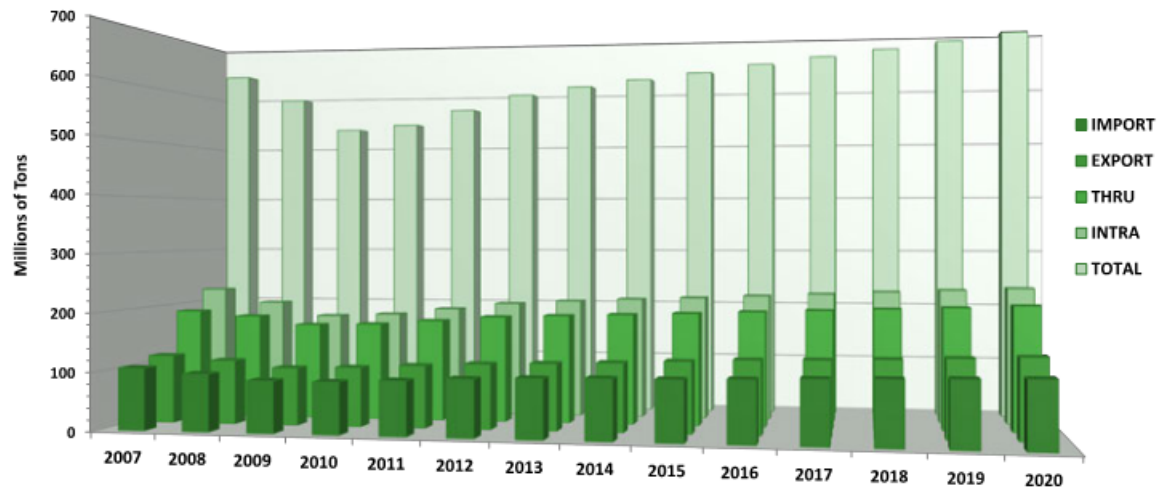
Near-sourcing would impact both the industry growth in the Savannah region and the network. This may encourage growth of manufacturing industries such as the transportation equipment manufacturing sector identified in Section 4.1. Section 2.1.1 describes Gulfstream Aerospace Corporation which has expanded twice in the last five years and has become a major private employer in Chatham County and the surrounding area. The Savannah World Trade Center has identified that other major aerospace companies including Boeing are establishing themselves along the east coast which is leading towards growth of a wider supplier network with significant number of service providers and suppliers locating nearby to reduce logistics costs.

With the rise of importance of use of renewable resources, there is growth in demand for products of the Georgia forest products industry, which will likely impact companies such as International Paper and Weyerhaeuser who have wood pulp mills located in Chatham County. Growth of manufacturing and service industries in locations closer to consumer markets will have significant impacts on modes of freight transportation. The use of the highway and freight rail system may increase while there may be less use of air and water modes of freight transportation for certain industry subsectors. Freight carried by truck and rail will carry more of the movements between suppliers, warehousing and distribution centers and storefronts. For example, **Figure 4-1** illustrates truck tonnage projections from 2007 to 2020 which indicate that freight truck movements through and within Georgia will make up the majority of truck tonnage through 2020.

⁷⁷ Georgia Department of Transportation. 2013. Georgia Statewide Freight Plan.

⁷⁸ Georgia Center of Innovation for Logistics. 2013 Georgia Logistics Report.

Figure 4-1: Georgia Truck Tonnage Projections (2007-2020)



Source: Georgia Center of Innovation for Logistics. 2013 Georgia Logistics Report.

Another major impact on the Savannah region will come from the expansion of the Panama Canal. The expansion of the Panama Canal includes the construction and completion of the third set of locks that will allow container ships that are 250 percent larger than the current ships to transit the Canal. Current lock container vessel's maximum capacity is 4,400 TEUs which will increase to 12,600 TEUs with the completion of the new locks. Since its opening in 1914, the canal has serviced more than 1 million waterborne vessels which total over 9 billion in long tons (or 10,080 billion short tons). The main advantage of the Panama Canal is the transportation cost savings due to reduced distances between markets. Traveling through the Panama Canal, the Guayaquil (Ecuador) to New York route distance is 1,770 miles. If navigating around Cape Horn, located at the southern tip of Southern America, the distance between the same two destinations would be over 6,450 miles. Distance savings like this example can be seen for other routes such as those between East Asia and the U.S.⁷⁹ This is important for the Port of Savannah since 77 percent of the Port of Savannah's trade comes through Asian trade routes.⁸⁰ Any significant increase of freight movements through the Panama Canal will be of significance to the Savannah region with its strong reliance on the Port of Savannah as a gateway for trade.

In March 2014, the Georgia Port Authority (GPA) announced that waterborne cargo movements through the state's deep water ports has increased by 7.6 percent between July 2013 and February 2014, as compared to fiscal year 2013, with all major cargo sectors contributing to the growth. This includes an increase in roll on/roll off (ro/ro) cargo (5.6 percent) and bulk cargo which includes agricultural products (up 6.6 percent). GPA identified that seaports handled the highest volume of containerized cargo for February, an increase of 2.6 percent. Break bulk cargo also saw an increase of 8.8 percent.⁸¹ These increases are supported by the GPA's investment in port infrastructure. Ahead of

⁷⁹ Canal de Panama. 2013 Annual Report (Informe Anual). <https://www.pancanal.com/eng/general/reporte-anual/2013/pdf/Report-v2.pdf>

⁸⁰ Georgia Department of Transportation. 2013. Georgia Statewide Freight Plan.

⁸¹ Georgia Port Authority. March 24, 2014. Press Release: GPA Achieves 6 Percent Container Growth.

the expansion of the Panama Canal, the Port of Savannah has already acquired several Post- and Super Post-Panamax cranes to handle the larger size of the new container ships. In addition, the Savannah Harbor Expansion Project received the last of its approvals in 2014 with the project moving toward the construction phase.⁸² As identified earlier, this project will increase channels depths for the seaport by five feet, from 42 to 47. Improvements to port infrastructure and the deepening of channels are critical to take advantage of the Panama Canal expansion. Carriers and their shipper customers will use the larger ships to help decrease logistics costs, a focus also found in the trend towards near-sourcing today.

To keep the Savannah region and the Port of Savannah competitive, a focus must be maintained on providing needed improvements to the roadway and freight rail system connecting the Port to its markets.

⁸² Georgia Port Authority. 2014. Savannah Harbor Deepening Expansion.
<http://www.gaports.com/About/SavannahHarborDeepeningExpansion.aspx>

5. NEXT STEPS

This technical memorandum identified the economic influence the CORE MPO Freight Transportation Plan study area has at home and abroad. The region's significance has been affected by a combination of a multimodal, integrated freight transportation network, a strong population base with associated labor force, and a diverse and growing economy. The region has a strong integration between the Port of Savannah with its roadway and freight rail infrastructure providing an efficient and cost effective system linking Georgia to the world. The region's links to the world will expand thanks to the deepening of the channels and turning basins of the Port of Savannah. Unlike many areas of the United States, the Savannah region is home to a growing manufacturing sector and service industry which promotes and utilizes freight flows. With ample warehousing and distribution space available, this industry sector in the region is equipped to grow.

Review of the findings of this analysis is critical to ensure that all input is weighed and incorporated into the final CORE MPO Freight Transportation Plan document for CORE MPO. For example, it was identified that portions of the transportation and warehousing industry may decline in terms of employment in the future. A review by stakeholders would help ensure that industry sectors have been correctly identified, particularly those cited for decline or growth. Working with limited infrastructure funding, this analysis along with other tasks of this project will assist decision makers in the assessment and prioritization of future improvement projects for the Savannah region's freight transportation network.