FLORIDA TRADE AND LOGISTICS STUDY

Technical Report

APRIL 2011



talent supply & education



Innovation & Economic Development



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business climate & competitiveness



CIVIC & GOVERNANCE SYSTEMS



QUALITY of life & quality places

FLORIDA CHAMBER Foundation

report

Florida Trade and Logistics Study

Technical Report

prepared for

Florida Chamber Foundation

prepared by

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date

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About the Florida Chamber Foundation

The Florida Chamber Foundation is a research organization and problem solver, working in partnership with state business leaders to advance and fund activities in public policy research that promote the future of Florida. Founded 42 years ago by the Florida Chamber of Commerce, the Foundation is a critical voice for improving the state's pro-business climate to enable Florida to grow and prosper. The Foundation produces innovative research, with long term results, by advancing public policy, research, and leadership development; promoting a statewide community; and, serving as a resource and catalyst for creative solutions to statewide challenges.

Supported by Foundation research, a clear vision for Florida was developed and a framework created to help move Florida forward. That vision set three simple goals: to achieve prosperity and high-paying jobs, to support vibrant communities, and to advance global competitiveness. The framework to accomplish this vision is known simply as the "Six Pillars." The product of years of collaboration and more than a million dollars in research, the Six Pillars identifies the critical factors determining Florida's future:

- Talent Supply and Education
- Innovation and Economic Development
- Infrastructure and Growth Leadership
- Business Climate and Competitiveness
- Civic and Governance Systems
- Quality of Life and Quality Places

The Six Pillars framework serves as an organizing force for strategic planning at the local, regional, and state levels. Its power is in the efficiency of harnessing disparate viewpoints into a common and consistent conversation. Building on the widespread adoption of the Six Pillars framework and previous Cornerstone research series, the Foundation's current objective is to develop a dynamic statewide strategic plan for Florida in 2030. This ongoing effort will require a commitment to measuring current status and progress toward stated goals. To this end, the Foundation offers a dynamic online tool – the Florida Scorecard (www.thefloridascorecard.com) – to track metrics within each of the Six Pillars.

To learn more about the Foundation and the vision for 2030, visit our web site at www.FLFoundation.org. If you would like copies of this report or more information, please contact:

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Florida Trade and Logistics Study

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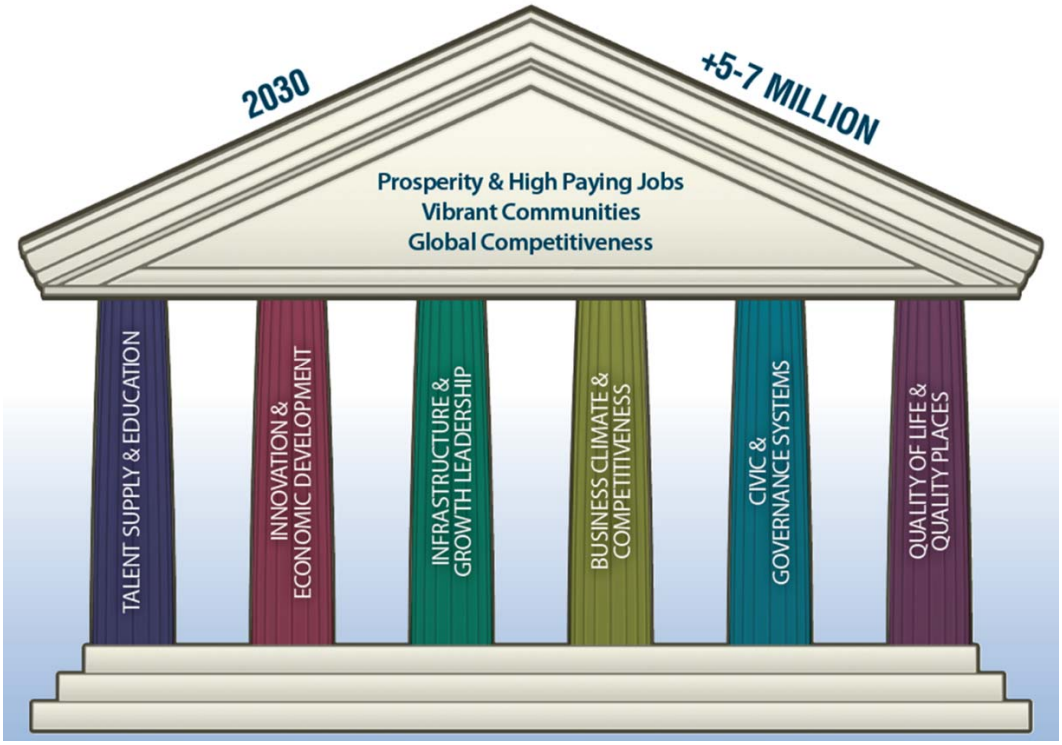
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1.0 Introduction

Florida's economy is in a period of transition. Six decades of nearly uninterrupted growth have yielded to the state's deepest recession and first year of population loss since World War II. Florida faces significant economic challenges – yet its economic opportunities remain bright.

The Florida Chamber Foundation is leading a statewide initiative to develop an economic blueprint for the next two decades. This effort will position Florida for prosperity and high paying jobs, vibrant communities, and global competitiveness by focusing on the Six Pillars of Florida's future economy. A critical element is diversifying Florida's economic base and identifying new drivers of Florida's economy.

Figure 1.1 Six Pillars of Florida's Future Economy



At the same time, the Florida Department of Transportation over the past few years has worked closely with more than 80 statewide partners to update statewide plans covering the statewide Strategic Intermodal System, aviation, rail, and seaports, and to develop the 2060 Florida Transportation Plan, the state's first ever 50 year transportation policy framework. All of these initiatives pointed to the need to prepare for anticipated growth in domestic and international trade.

Building on these two initiatives, the Foundation convened a statewide partnership of public and private organizations to explore Florida's opportunities as a global hub for trade and logistics. In partnership with the Florida Department of Transportation, economic development organizations, and other statewide transportation and business stakeholders, the Foundation conducted a comprehensive study of trade flows and logistics in Florida.

The objectives of the Florida Trade and Logistics Study are to:

- Document existing and project future domestic and international trade flows to, from, and within Florida;
- Identify opportunities available to Florida to compete in the global marketplace; and
- Identify the strategies needed to take advantage of the most promising opportunities.

A committee of more than 29 partners representing all freight transportation modes, major shippers and receivers, economic development organizations, and landowners provided overall direction for the study. The Foundation commissioned Cambridge Systematics, Inc., with support from Martin Associates, Inc., to conduct the research. The research team:

- Developed a comprehensive database of freight flows to, from, and within Florida, covering both domestic and international trade and all transportation modes;
- Projected flows over the next 10, 25, and 50 years;
- Identified the economic value of flows using transportation and economic models which are industry standards in Florida and nationally; and,
- Conducted personal interviews with more than 75 shippers, receivers, trucking companies, railroads, airports, seaports, terminal operators, distribution centers, economic developers, landowners, and public agencies to document trends, identify issues and opportunities, and develop and assess strategies.

The study identifies global trade opportunities for Florida over the next few decades, and recommends statewide strategies to maximize these opportunities. The emphasis is on statewide opportunities and key ingredients for success, rather than on investments in specific regions or communities. This study intends to provide a coordinating framework for specific investments and recommendations included in plans such as the Strategic Intermodal System Plan, the Florida Aviation System Plan, the Florida Seaport System Plan and Florida Rail System Plan as well as other investments planned by private industry. Collectively, the strategies identified in this study would position Florida for growth in trade, logistics, and advanced manufacturing industries – supporting the statewide vision of prosperity and competitiveness in the 21st century.

This report provides the technical appendix to the Florida Trade and Logistics Study published by the Florida Chamber Foundation in December 2010. It summarizes:

- Florida's logistics industry and transportation system;

- State, national, and international population and economic forecasts;
- Trade flow data (base and forecasts); and
- Stakeholder input.

2.0 Trade, Logistics and Transportation in Florida System Today

2.1 Overview of Florida's Trade and Logistics Industry Cluster

Contribution to Jobs

A common, easily measurable definition of the trade and logistics industry cluster combines two North American Industry Classification System (NAICS) "super-sectors" – "transportation and warehousing" (NAICS 48-49) and "wholesale trade" (NAICS 42).[1] Table 2.1 shows jobs in both super sectors[2] as well as the individual components within the transportation and warehousing industry. By this measure, the Florida trade and logistics industry cluster accounted for over 530,000 of the state's total jobs in 2009.

Transportation and Warehousing: includes all modes (rail, air, water, truck, transit, pipelines, couriers) of transportation for both passenger and freight. As such, a large number of these jobs are related to passenger travel (e.g., airlines). "Support activities for transportation" includes logistics-related industries such as marine cargo handling, airport operations, and seaport operations. The warehousing component includes storage facilities for general merchandise, refrigerated goods, and other warehoused products. Firms in this industry may also provide a range of logistics services related to the distribution of goods. Logistics services can include labeling, breaking bulk, inventory control and management, light assembly, order entry and fulfillment, packaging, price marking, and transportation arrangement. Unlike wholesalers, warehousing businesses do not sell goods.

[1] This is the definition used by Enterprise Florida to define the industry for its Rural Areas of Critical Economic Concern target industry studies conducted in 2006-2007.

[2] The U.S. Bureau of Labor Statistics has defined aggregations of NAICS sectors as "super-sectors".

Table 2.1 Florida Jobs in Logistics and Distribution Industry, 2009

Industry Name	NAICS Code	Jobs
Transportation and Warehousing	48-49	209,439
Air Transportation	481	30,846
Rail Transportation	482	5,464
Water Transportation	483	12,322
Truck Transportation	484	43,690
Transit and Ground Transportation	485	13,504
Pipeline Transportation	486	249
Support Activities for Transportation	488	45,823
Couriers and Messengers	492	29,126
Warehousing	493	26,059
Wholesale Trade	42	321,232
TOTAL JOBS	-	530,671

Source: U.S. Department of Commerce, Bureau of Economic Analysis, "Wage and Salary" employment, 2009.

Wholesale Trade: The wholesaling process is an intermediate step in the distribution of merchandise. Wholesalers take the outputs of the agriculture, mining, and manufacturing industries and arrange the purchase of these goods to other wholesalers, retailers, and manufacturers (i.e., supplies/inputs to be used in the production process).

Florida Jobs in the Trade and Logistics Industry Cluster Compared to Key Competitors

Among Florida's key southern competitors, only the much larger state of Texas has more total jobs in the trade and logistics industry cluster (see Table 2.2). While Florida posted a growth rate of 1.9 percent in trade and logistics employment between 1999 and 2009, surpassing the national average (a -1.6 percent decline), Texas grew significantly faster during the period, with 9.0 percent growth. South Carolina and Georgia, both home to large and growing container seaports, showed little or no growth during the 10 year period due largely to the recession. Affected by Hurricane Katrina and the recession, Louisiana and Mississippi experienced job declines in the logistics industry.

Table 2.2 Trade and Logistics Industry Cluster Total Jobs, 1999 and 2009

	1999	2009	1999-2009 Change
Texas	807,464	880,391	9.0%
FLORIDA	521,018	530,671	1.9%
Georgia	365,999	364,025	-0.5%
North Carolina	286,476	275,652	-3.8%
Louisiana	148,874	142,824	-4.1%
Alabama	137,693	128,071	-7.0%
South Carolina	111,859	113,424	1.4%
Mississippi	75,893	74,360	-2.0%
UNITED STATES	10,046,000	9,888,000	-1.6%

Source: Bureau of Labor Statistics, 2009, "Current Employment Statistics" data series.

Table 2.3 shows the share of total employment represented by the trade and logistics industry cluster in Florida and its key southeastern competitors. In 2009, 7.0 percent of Florida's total jobs were in the trade and logistics industry cluster, slightly lower than the overall U.S. average (7.2 percent) and a decline from 1999 when the cluster accounted for 7.2 percent of Florida jobs. The relative drop in the trade and logistics industry's job concentration in Florida is primarily due to fast growth in other sectors of the Florida economy, including health care and professional services. The fast growth trend in other sectors, in effect, diluted the trade and logistics' share somewhat between 1999 and 2009.

Table 2.3 Trade and Logistics Industry Cluster Share of Total Jobs, 1999 and 2009

	1999	2009
Georgia	9.1%	8.9%
Texas	8.4%	8.2%
Louisiana	7.5%	7.1%
FLORIDA	7.2%	7.0%
North Carolina	7.0%	6.6%
Alabama	6.9%	6.5%
Mississippi	6.2%	6.3%
South Carolina	5.8%	5.9%
UNITED STATES	7.5%	7.2%

Source: Bureau of Labor Statistics, 2009.

Among the southeastern competitor states, Georgia and Texas have significantly higher shares of total jobs, 8.9 percent and 8.2 percent, respectively, within the trade and logistics industry cluster. Both states include major intersections of U.S. transportation assets and include large seaports (e.g., Savannah, Houston, Beaumont, Corpus Christi) and hub airports (Atlanta, Dallas-Fort Worth, and Houston). Like Florida, these two fast growing states saw concentrations in the trade and logistics industry decrease slightly during the 10 year period.

Contribution to Gross State Product

The trade and logistics industry cluster accounted for $65.5 billion of Florida's gross state product (GSP) in 2009, up from $44.9 billion a decade earlier (see Table 2.4). This represents the value of the services produced by the trade and logistics industry cluster to the Florida economy. Similar to the employment ranking, among the southern states only the much larger state of Texas has a larger trade and logistics industry cluster GSP than Florida. The value of the trade and logistics industry cluster output in Florida increased by 45.9 percent between 1999 and 2009, well outperforming the nation (33.2 percent), and higher than most competitor states.

Table 2.4 Trade and Logistics Industry Contribution to Gross State Product, 1999-2009 (in $billions)

	1999	2009	Growth Rate
Texas	$76.6	$111.5	45.5%
FLORIDA	$44.9	$65.5	45.9%
Georgia	$32.8	$41.8	27.4%
North Carolina	$21.8	$29.0	33.0%
Louisiana	$11.5	$17.2	50.2%
Alabama	$10.1	$13.8	36.7%
South Carolina	$8.8	$11.9	36.0%
Mississippi	$5.8	$7.3	25.7%
UNITED STATES	$864.6	$1,152.0	33.2%

Source: Bureau of Economic Analysis, 2009. Figures in billions of $2005.

The trade and logistics industry cluster's share of the Florida economy grew from 8.6 percent in 1999 to 9.9 percent in 2009 (see Table 2.5). In both years the trade and logistics industry cluster accounted for a higher share of the Florida economy than the nation's. Among the southern competitor states, as in the case with jobs, the trade and logistics industry cluster is relatively more concentrated in Georgia and Texas than Florida, accounting for a larger share of the respective states' economies. In particular, the trade and logistics industry cluster is much more concentrated in Georgia (11.7 percent of the economy) than it is nationally (9.0 percent).

Table 2.5 Trade and Logistics Industry Cluster Share of Gross State Product, 1999-2009

	1999	2009
Georgia	10.4%	11.7%
Texas	9.2%	10.5%
FLORIDA	8.6%	9.9%
Alabama	7.7%	9.0%
Louisiana	6.6%	9.0%
Mississippi	7.7%	8.5%
South Carolina	6.9%	8.5%
North Carolina	7.2%	8.1%
UNITED STATES	8.0%	9.0%

Source: Bureau of Economic Analysis, 2009.

Trade and Logistics Supports the Competitiveness of Large Sectors of the Florida Economy

Florida's trade and logistics industry cluster is crucial to the performance of a large portion of the state's economy. The manufacturing, construction, natural resources and energy (agriculture, forestry, mining, and utilities), retail, and leisure and hospitality (tourism) – all major contributors to the Florida economy are particularly reliant on the movement of goods in order to operate and compete in the U.S. and global markets.[3] In 2009, these "freight intensive" industries accounted for some 36 percent of the state's jobs and 26 percent of the Florida gross state product (see Table 2.6). The flow of

[3] "Freight-intensive" industries require large-scale transportation inputs in order to produce. This is most apparent in the case of manufacturing, an industry that requires reliable transportation to receive supplies and ship finished products. Leisure and hospitality (hotels, restaurants, and recreation), a large Florida industry, is classified as freight intensive because it is more dependent than most industries on transportation inputs (mostly trucking in this instance) to generate economic output.

domestic and international trade in merchandise (i.e., tangible agricultural, mineral, manufactured and consumer goods as opposed to trade in services) is linked almost entirely with these industry sectors.

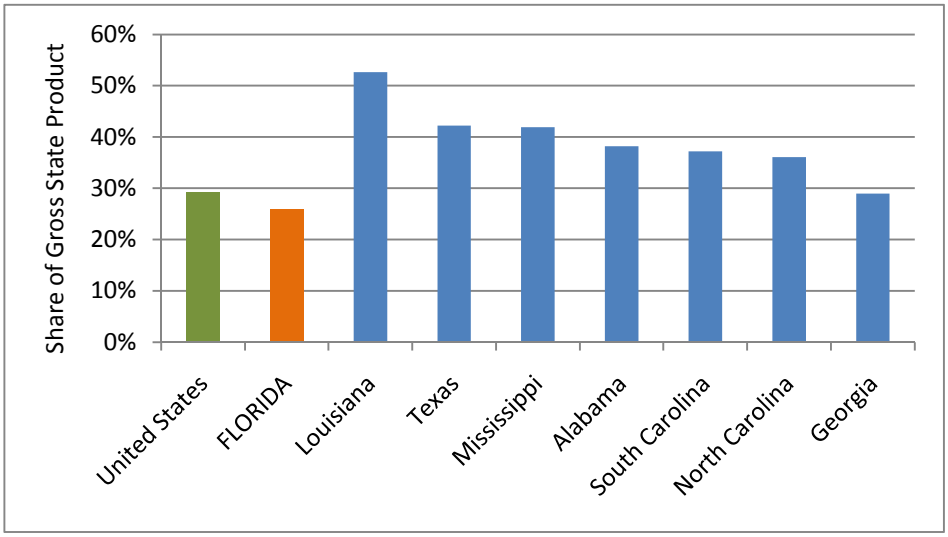
Table 2.6 Freight Intensive Industries' Contributions to the Florida Economy, 2009

Industry	Gross Product (in billions)	Jobs (in thousands)
Natural Resources and Energy	$22.6	152.7
Manufacturing	$36.7	324.3
Construction	$36.8	411.6
Retail	$52.5	938.8
Leisure and Hospitality	$40.2	921.0
TOTAL, Freight Intensive Industries	$188.8	2,748.4
Share of Florida GSP and Jobs	25.9%	36.0%

Source: Bureau of Economic Analysis; data are for 2009. Natural resources and energy includes agriculture, mining, forestry, and utilities

"Freight intensive" industries account for a lower share of the overall Florida economy (26 percent) than the U.S. average (29 percent), reflecting Florida's traditional concentrations in services, finance, and real estate related industries. States such as Texas and Louisiana that combine large manufacturing sectors with nation leading minerals production have among the largest concentrations in freight intensive industries (see Figure 2.1). Manufacturing, in particular, is dependent on the efficient movement of goods (timeliness, reliability, access, costs) to compete. If transportation improvements in Florida result in a more competitive environment for manufacturing, they could also be a factor in strengthening the state's industrial base and diversifying the economy.

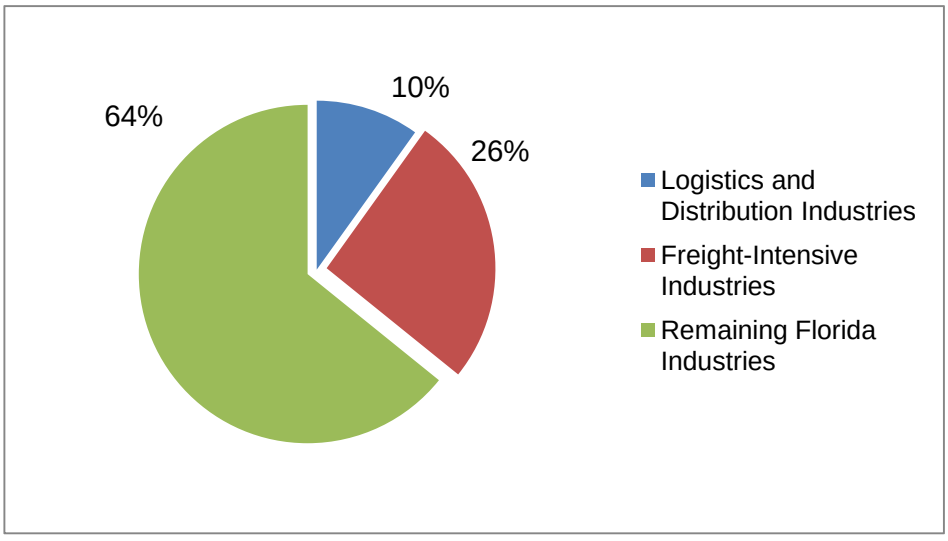
Figure 2.1 Freight Intensive Industry Share of Gross State Product, 2009



Source: Bureau of Economic Analysis; includes agriculture, mining, utilities, manufacturing, construction, retail, and leisure & hospitality.

In total, the logistics and distribution industry combined with Florida's freight intensive industries account for about 36 percent of the state's jobs (see Figure 2.2). Strategies to expand the logistics industry and improve the flow of goods into, out of, and through Florida reverberate throughout the state economy.

Figure 2.2 Florida's Trade and Logistics and Freight Intensive Industries Account for 36 Percent of Gross State Product, 2009



Source: Bureau of Economic Analysis 2009.

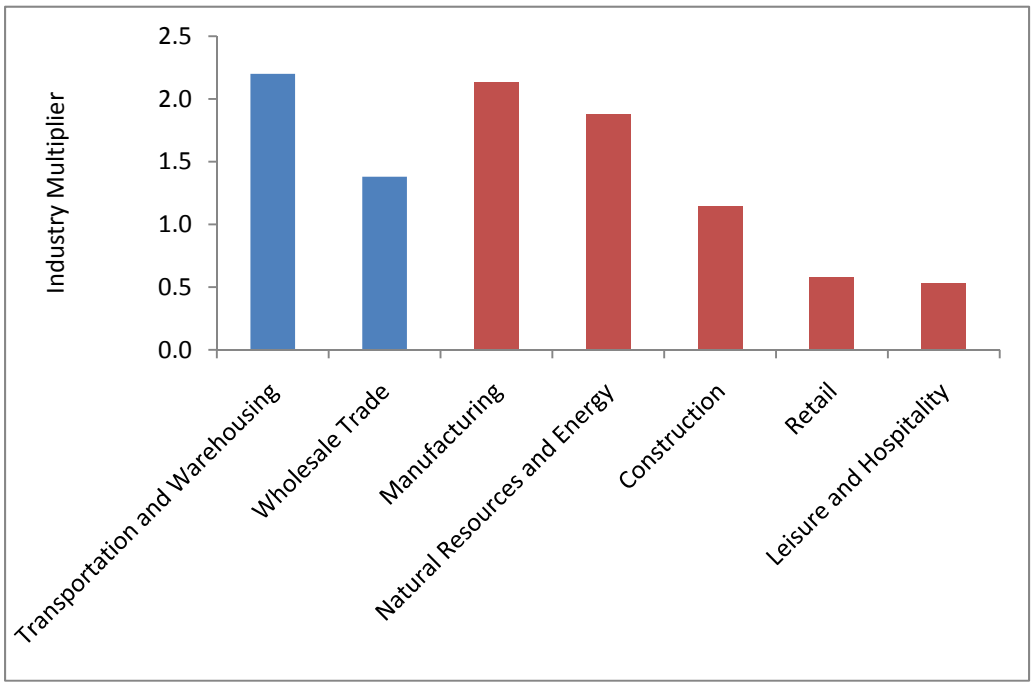
Another way to look the importance of the trade and logistics cluster to the Florida economy is to analyze the multiplier effects of the cluster (e.g., for each job in the cluster, how many additional ones are supported). This approach is distinct from Table 2.6 which shows total employment in related industries. Based on an input-output model, it was found that each job in Florida's trade and logistics cluster supports about two other jobs in the state's economy. These include jobs in industries which supply goods and services to the trade and logistics cluster (such as fuel, packaging, and specialized legal and financial services), as well as jobs in retail and other industries which benefit from consumer spending by employees in the direct and related jobs. Considering these multiplier effects, the trade and logistics cluster directly or indirectly supports about 1.7 million jobs in Florida, nearly 22 percent of the total in the state.[4]

2.2 LOGISTICS AND DISTRIBUTION MULTIPLIERS

By expanding the logistics and distribution industry and improving the conditions for Florida's freight intensive industries to compete, the state has the potential to reap significant economic gains. Figure 2.3 shows the jobs multiplier for these industries, demonstrating the total change in the number of jobs (in all industries) for each additional job in either a logistics and distribution industry or a freight-intensive industry. Each new job generates an increase in industry purchases and household spending in Florida, increases production, and creates greater economic opportunity. This results in more jobs as the spending activity circulates through the economy, and yields a "multiplier effect" which results from the addition of a job in a particular industry.

[4] Note that there are three ways trade and logistics jobs are depicted in this report, each illustrating a particular aspect of the industry: (1) There are the direct jobs within the industry, itself; (2) there are the "multiplier effects" of these jobs, meaning the additional jobs generated throughout Florida to either support the direct jobs in trade and logistics (e.g., their suppliers) or jobs resulting from workers (in trade and logistics or their suppliers) spending their wages (e.g., retail, housing, etc.); and (3) the jobs that are included in "freight-intensive" industries (e.g., agriculture and manufacturing) that are particularly dependent on the movement of goods to operate their businesses.

Figure 2.3 Jobs Multipliers for Logistics and Distribution and Freight-Intensive Industries



Source: Bureau of Economic Analysis, RIMS II multipliers, 2005.

Transportation and warehousing have the highest multiplier among the industry sectors presented in Figure 2.3. For each job created in the sector (direct impact), an additional 2.2 jobs are created elsewhere in the economy (indirect and induced)[5], for a jobs multiplier of 2.2. The wholesale trade sector has a multiplier of 1.4 while manufacturing has the highest multiplier, 2.1, of the freight intensive industry sectors. Thus, improvements to the freight transportation infrastructure can have a bearing on the sectors of the economy – logistics, manufacturing, and natural resources—that also have the greatest relative impacts on the Florida economy as they expand. Given its high multiplier effect, it is not surprising that most economic development organizations (EDOs), whether statewide, regional, or local, include manufacturing as a focus. In a similar manner, numerous EDOs are also targeting the logistics industry. These activities often rely on incentives. Several incentive programs used by competitor states are summarized in Appendix A.

[5] The indirect impacts include jobs resulting from inter-industry transactions such as for supplies and the materials needed to produce a product. Induced impacts are from changes in income resulting from the increased economic activity due to the direct and indirect impacts. Induced impacts commonly come in the form of increased spending in local retail activities, entertainment, and restaurants.

2.3 OVERVIEW OF FLORIDA'S FREIGHT TRANSPORTATION SYSTEM

Overview of Modal Systems

Florida is home to a well developed, intermodal transportation system. This system supports Florida's economy, providing consumers and businesses with access to markets, goods, and services. The system consists of roadways, railroads, seaports, airports, pipelines, and spaceports.

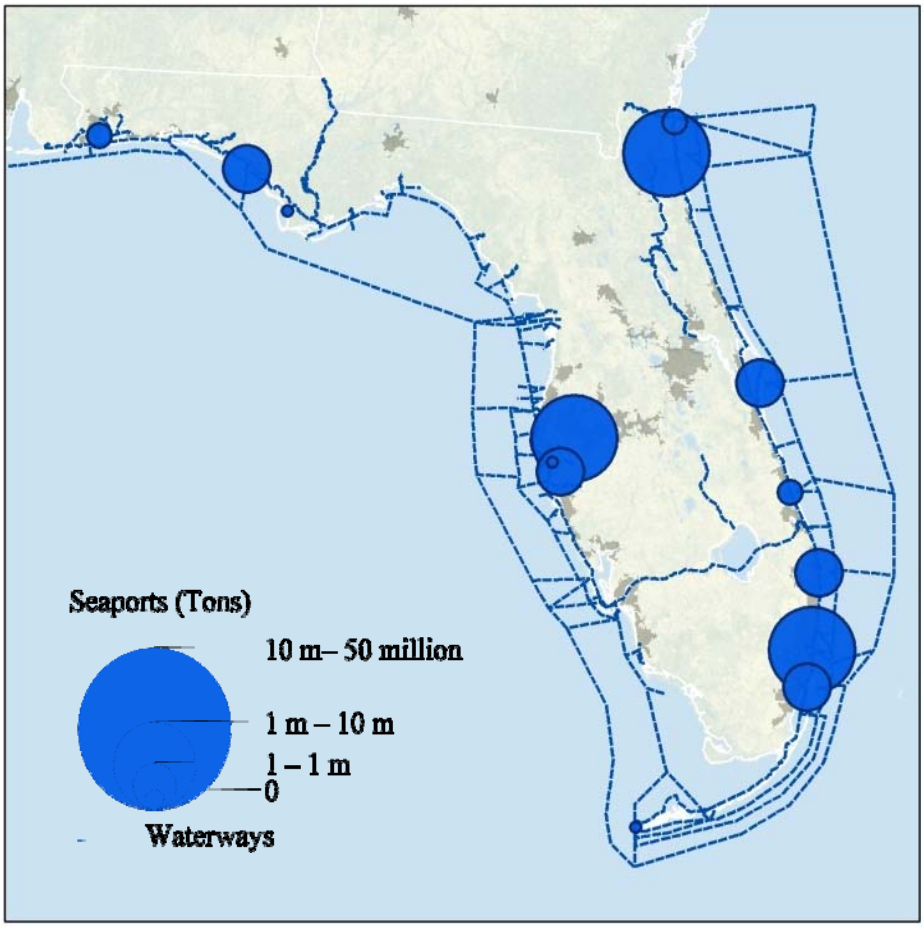
These modes are developed and maintained by private and public entities. The state of Florida maintains comprehensive modal plans for its roadways, railroads, seaports and airports. Key facilities of each are further discussed in the Strategic Intermodal System (SIS) Strategic Plan. For detailed information on each of these modes, readers are referred to those plans, as follows:

- 2010 Strategic Intermodal System Strategic Plan
  - http://www.dot.state.fl.us/planning/sis/strategicplan/2010sisplan.pdf
- 2010 Florida Seaport System Plan
  - http://www.dot.state.fl.us/seaport/publications.shtm
- 2010 Florida Rail System Plan
  - http://www.dot.state.fl.us/rail/publications.shtm
- 2008 Florida Air Cargo System Plan
  - http://www.dot.state.fl.us/aviation/cargo.shtm

The following maps, provided in Figures 2.4 through 2.8, provide an overview of this system.

Figure 2.4 illustrates the volume of cargo handled at each of Florida's deepwater seaports, based on tonnage. Three seaports dominate the tonnage – Port of Tampa, Port Everglades, and the Port of Jacksonville. Bulk products are a significant proportion of cargo handled at these seaports, including phosphates and petroleum products.

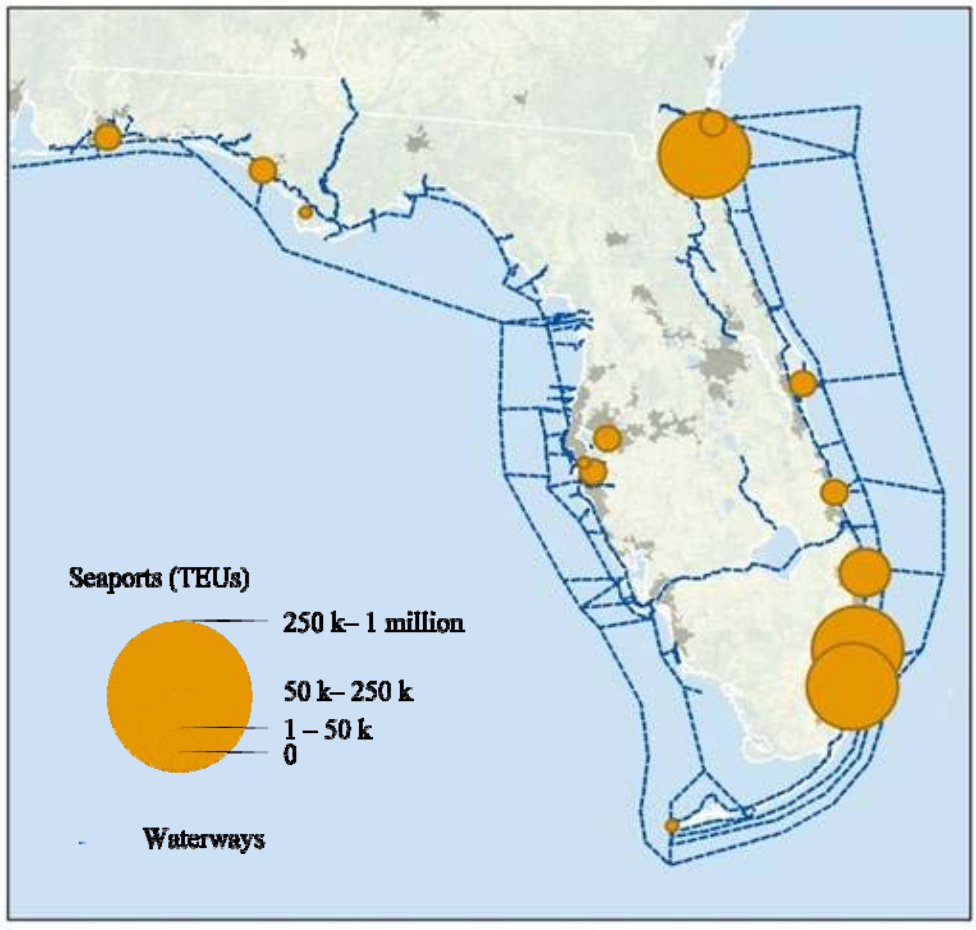
Figure 2.4 Tons Handled at Florida's Seaports



Source: A Five Year Plan to Achieve the Mission Florida's Seaports, FY 2009/10 through 2013/14.

Figure 2.5 illustrates the volume of container traffic at each of Florida's deepwater seaports. Port of Miami, Port Everglades, and the Port of Jacksonville represent the three largest container operations. Although not currently a significant operation, the container terminal at the Port of Tampa is growing rapidly.

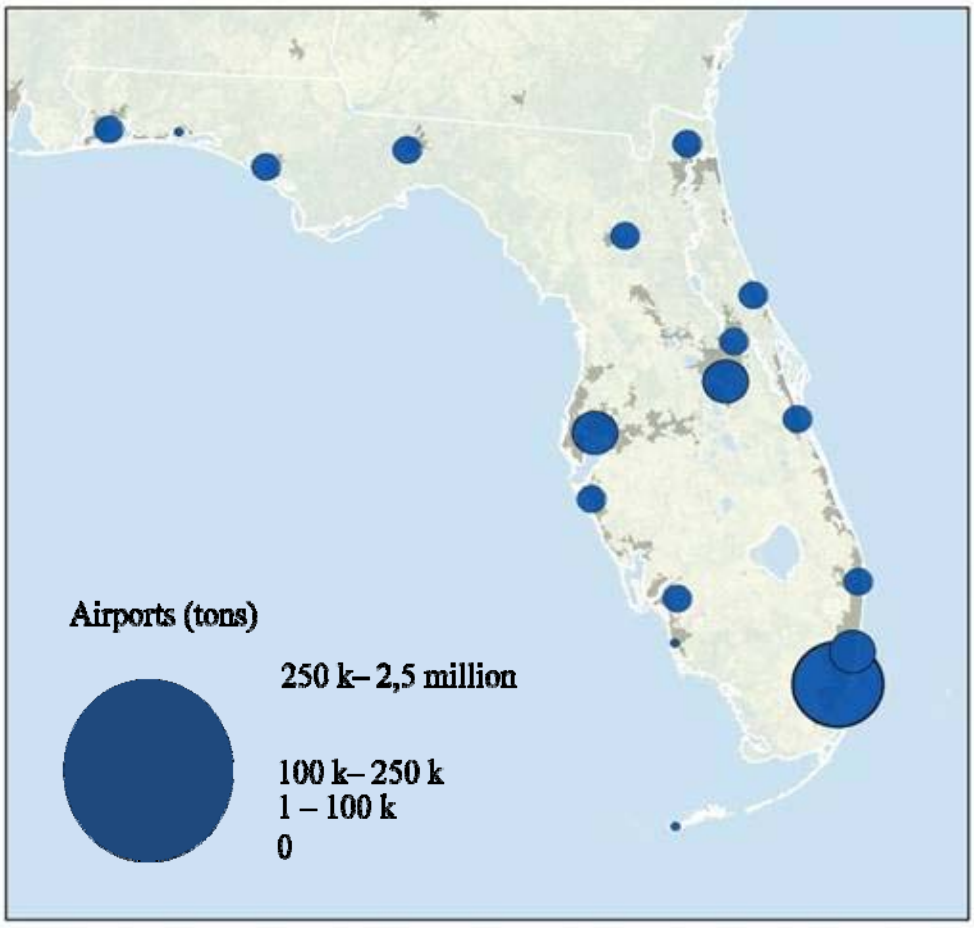
Figure 2.5 TEUs Handled at Florida's Seaports



Source: A Five Year Plan to Achieve the Mission Florida's Seaports, FY 2009/10 through 2013/14.

Figure 2.6 illustrates the air cargo handled at Florida's commercial airports. Miami International Airport is the dominant cargo operation in Florida, handling almost 80 percent of the state's air cargo, including international and domestic movements. Cargo includes perishables, high value, light weight consumer products, and courier and mail shipments. Miami International is the 12th busiest cargo airport in the world. Fort Lauderdale, Orlando, and Tampa represent the second tier of operations, primarily consisting of mail and courier traffic.

Figure 2.6 Tonnage Handled at Florida's Airports



Source: Florida Air Cargo System Plan, 2008.

Figure 2.7 illustrates the existing truck volumes on the state's Strategic Intermodal System (SIS) highways. Interstates 95, 75, 10, and 4 carry the most significant volume of trucks, providing access to each of the major urbanized areas.

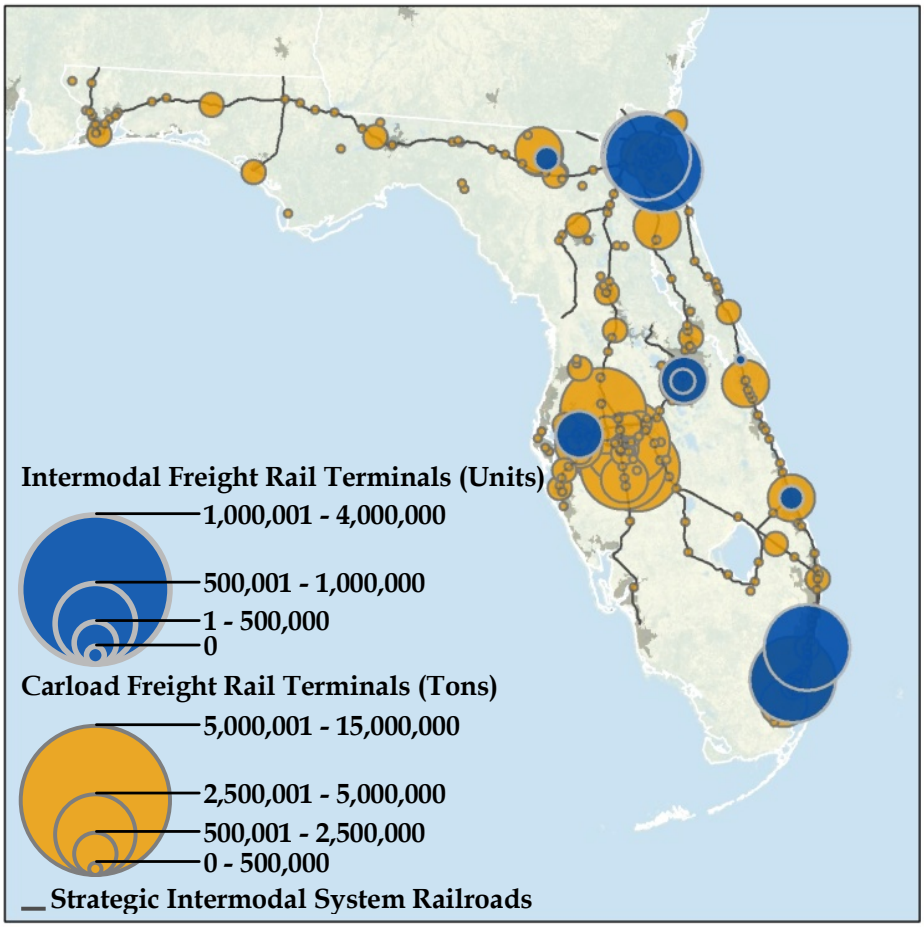
Figure 2.7 Truck Volumes on the Strategic Intermodal System



Source: Florida Department of Transportation, Strategic Intermodal System Plan.

Figure 2.8 illustrates the state's rail system, including the locations of intermodal and carload rail terminals. The rail system provides access to Florida's key freight generators and markets. Northeast Florida and Southeast Florida reflect the largest intermodal operations while the Tampa Bay region is home to the most significant concentration of carload terminals. The rail system is primarily privately owned, consisting of Class I, regional, and short line railroads.

Figure 2.8 Rail System and Intermodal and Carload Terminals



Source: Florida Department of Transportation, Strategic Intermodal System Plan.

Overview of Intermodal Logistics Center (ILC) Developments

Over the last several years, there has been an increasing interest in the expansion of Florida's logistics and supply infrastructure. Key components consist of transportation corridors and hubs, warehouses and distribution centers, and industrial parks, including manufacturing operations. While each of these elements can be developed separately, many have begun to focus on the joint or adjacent development of these elements to improve Florida's ability to compete domestically and internationally in trade and logistics industries.

There are a variety of examples throughout the U.S. – the Virginia Inland Port[6], Alliance Texas[7], and Kansas City Smartport[8] – to name a few. Many use terms like inland ports, integrated logistics centers, intermodal logistics centers, and logistics parks interchangeably. Although there are nuances in specific definitions, the terms typically are used to describe an industrial site with warehouse/distribution center capacity, intermodal rail yard, and trucking facilities that is designed to serve a large consumer market as well as connect key trade gateways (e.g., deepwater seaports, international airports) with regional and hinterland markets. These facilities integrate transportation and distribution activities, often functioning as extensions of seaport terminals, cross dock trucking operations, free trade zones, and more.

Figure 2.9 illustrates the density of distribution centers throughout the Southeastern U.S. Note this figure is meant to illustrate key concentrations of the distribution center infrastructure – not an actual account of every location. Not all of these distribution centers represent ILCs; in fact, the majority of them do not. They represent individual operations designed to distribute goods and services to a defined market. However, many of these distribution centers rely on the ILCs as gateways to distant markets and suppliers, domestic and international.

ILC developments are underway and/or being discussed in both urban and rural settings throughout the state.

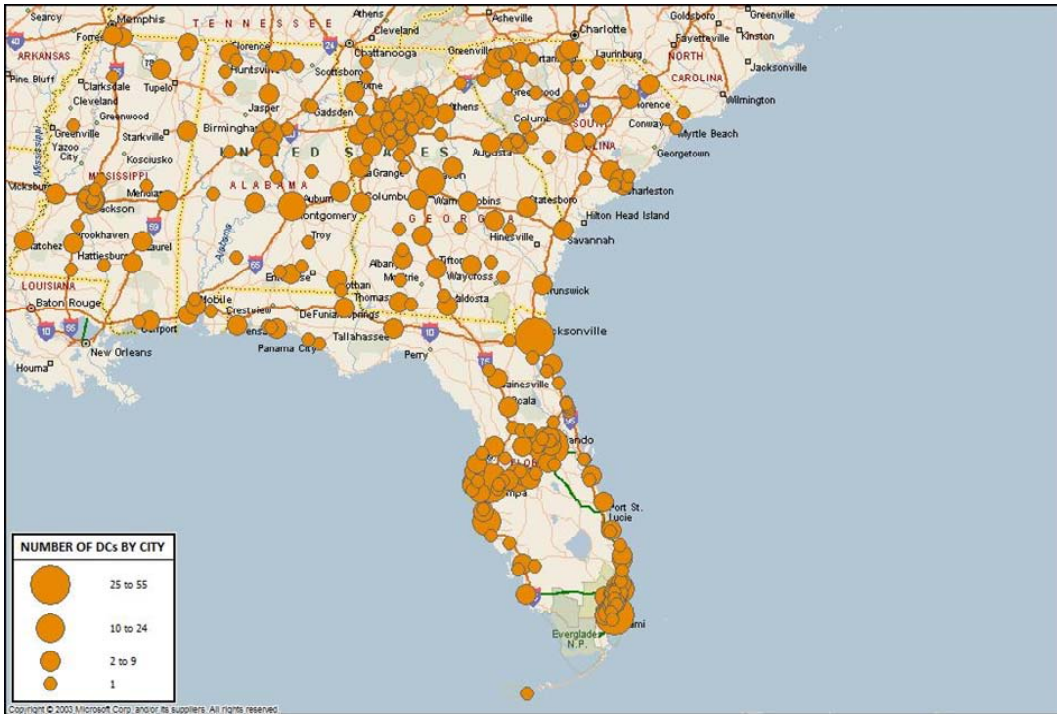
- **Northwest Florida.** Northwest Florida is one of the least populated areas in Florida. There are a few discussions underway in this region to develop ILCs, including sites in Escambia and Bay counties. These would primarily be economic development initiatives designed to build off of seaport opportunities.

[6] http://www.portofvirginia.com/facilities/virginia-inland-port.aspx

[7] http://www.alliancetexas.com/

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

Figure 2.9 Illustration of Distribution Center Density in the Southeast U.S.



Source: Chain Store Guide, http://www.chainstoreguide.com/

- **Northeast Florida.** Home to the Port of Jacksonville and the Port of Fernandina as well as significant rail and highway infrastructure, this region has embraced logistics and distribution as a key industry for the region's future economic prosperity. Multiple sites are being considered and developed, including Cecil Field in the urbanized area to more rural, inland sites in Columbia County.
- **Central Florida/Tampa Bay.** The combination of Tampa Bay and Orlando markets makes this a well established and growing urban setting. CSX currently is developing a major ILC in Winter Haven. This is anticipated to be the hub of CSX's rail service to/from Florida markets south of Jacksonville.
- **Southeast Florida.** Southeast Florida has received significant attention over the last several years based on the Port of Palm Beach's push for the development of an ILC in the rural communities of western Palm Beach County, as well as complimentary proposals to develop ILCs in other parts of rural south central Florida. In addition, the Port of Miami is working with the Florida East Coast Railroad to develop an enhanced inland port at FEC's facility in Hialeah.

These proposals will continue to receive attention as the state continues to position itself for future growth in domestic and international trade.

3.0 Forecasts Underlying Future Trade

Florida's future trade growth will be influenced by a number of factors, including the ability of the state's infrastructure to handle trade and the overall competitiveness of the state's industries (e.g., manufacturing and agriculture). Strategically, Florida can influence support the expansion of key industries through the successful development and implementation of targeted economic development strategies. Fundamentally, however, the volume of trade flowing into, out of, and through Florida will be a function of domestic and international - population and economic growth, as well as the long term demographic and business trends (e.g., domestic and international migration, aging, health, trade agreements, technology, availability and cost of factors of production, etc.). Increases in demand resulting from the expansion of economic activity and a rising population will translate into higher trade volumes, overall, while the locations of this growth will be influenced by evolving trade patterns. For these reasons, forecasts of long term population and economic (gross product) growth are essential inputs for predicting the future demand for goods worldwide, and hence trade volume in Florida. This section describes how the both global and Florida specific forecasts for population and gross product were developed.

3.1 Population Trends and Forecasts

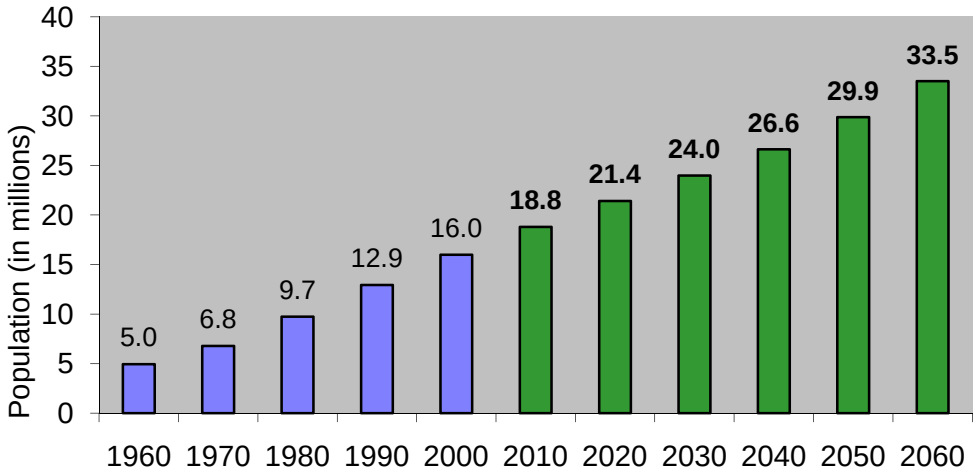
Florida Population Trends and Forecasts

For decades, Florida has ranked among the fastest growing states in the United States. Florida's population grew very strongly between 2000 and 2007, helping to fuel an economic expansion and construction boom. Population growth, however, slowed markedly between 2007 and 2010 as the state and national economies stalled and the flow of domestic in-migrants entering Florida from the Northeast and Midwest dropped considerably. A resumption of the migration flows that have fed Florida's growth in the past will be critical if the state is to continue as a leader in population growth. As the baby-boomer generation retires and the United States' economy recovers, Florida should be positioned to resume moderate to fast population growth in coming decades.

The University of Florida's Bureau of Economic and Business Research (BEBR) closely monitors these and other trends and formulates the official population forecasts used for planning at the statewide, regional, and local levels throughout Florida. The long term Florida population estimates applied to the trade flow forecast uses BEBR's statewide population forecast through 2035, with an extrapolation through 2060 developed by the Florida Department of Transportation. BEBR provides low, medium, and high forecasts for the state. The "medium" forecast is the one that provides the basis for the forecast to 2035. Between 2035 and 2060, the population forecast

assumes similar growth rates as experienced historically in Florida. Between 2010 and 2060, Florida is expected to grow from 18.8 million to 33.5 million people (see Figure 3.1). The increase, 14.7 million, is the equivalent of adding the present day population of metropolitan Los Angeles to the state over the next 50 years.

Figure 3.1 Florida Population Growth, 1960-2060



Sources: University of Florida, Bureau of Economic and Business Research, and Florida Department of Transportation

Global Population Trends and Forecast

The U.S. Census Bureau regularly updates a population forecast by country worldwide through 2050. The Census forecast formed the basis for the global population growth used in the trade flow forecast. For 2060, Cambridge Systematics extended decennial growth rate trends discerned in the Census 2050 forecast for an additional 10 years. Table 3.1 shows population growth by world region for the 2000 to 2060 period. Countries were grouped by region following the same global definitions used by Enterprise Florida in its historical analyses of Florida imports and exports.

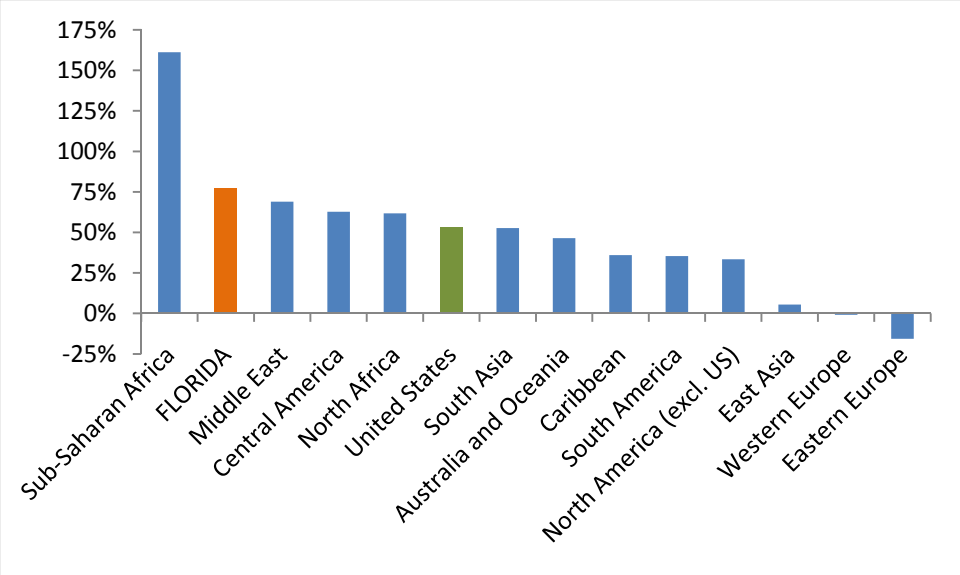
Table 3.1 Population Growth by Global Region, 2000-2060 (in millions)

	2000	2010	2020 (est)	2030 (est)	2040 (est)	2050 (est)	2060 (est)
East Asia	2,018.9	2,168.5	2,292.0	2,353.5	2,357.1	2,324.6	2,287.8
South Asia	1,356.8	1,588.0	1,804.4	2,002.1	2,165.5	2,300.8	2,423.7
Australia and Oceania	27.9	32.1	36.1	39.7	42.5	44.7	47.1
Eastern Europe	386.9	379.9	374.0	363.1	349.9	334.5	320.5
Western Europe	480.9	501.6	514.3	519.5	517.0	506.8	497.2
Middle East	166.5	201.8	234.6	264.9	292.1	320.2	340.9
North Africa	138.4	163.7	189.1	211.7	231.4	247.4	264.9
Sub-Saharan Africa	665.0	848.5	1,064.6	1,306.7	1,574.7	1,887.9	2,216.3
Caribbean	32.5	36.2	39.9	43.3	45.9	47.8	49.2
Central America	35.3	41.8	48.3	54.2	59.2	63.1	68.1
North America	413.3	456.5	502.5	547.3	588.8	628.1	670.3
South America	347.9	396.4	440.3	476.9	504.0	520.0	536.6
WORLD	6,070.3	6,815.2	7,540.1	8,183.0	8,728.0	9,225.9	9,722.7

Sources: U.S. Census Bureau (December 2009 update) and Cambridge Systematics

As a high growth state in a moderately fast growing country, Florida's population growth between 2010 and 2060 is expected to be faster than all global regions with the exception of Sub-Saharan Africa (see Figure 3.2). The United States is expected to add people at a faster pace than most other parts of the developed world, including Europe, Australia, Canada, and Japan due to its continued attractiveness to international in-migrants as well as higher fertility rate than most developed countries. Obviously, this is only a forecast and will depend in part on the United States to maintain its desirability as a preferred destination for people from around the world. A clear trend in the Census forecast through 2050 is the slowdown of population growth, long term, throughout much of what is considered, today, the "developing world." Generators of much of the world's recent population growth, including such countries as China, India, Mexico, and Brazil, are expected to experience dramatic slowdowns in their population growth in coming decades. In fact, China's population is expected to peak in 2030 and then begin to decline. The slower population growth rates are due to population control policies in China, as well as rising education levels, better health, and higher living standards throughout the developing world.

Figure 3.2 World Population Growth by Region, 2010-2060



Sources: U.S. Census Bureau, University of Florida, Bureau of Economic and Business Research, Florida Department of Transportation, and Cambridge Systematics.

3.2 GROSS PRODUCT TRENDS

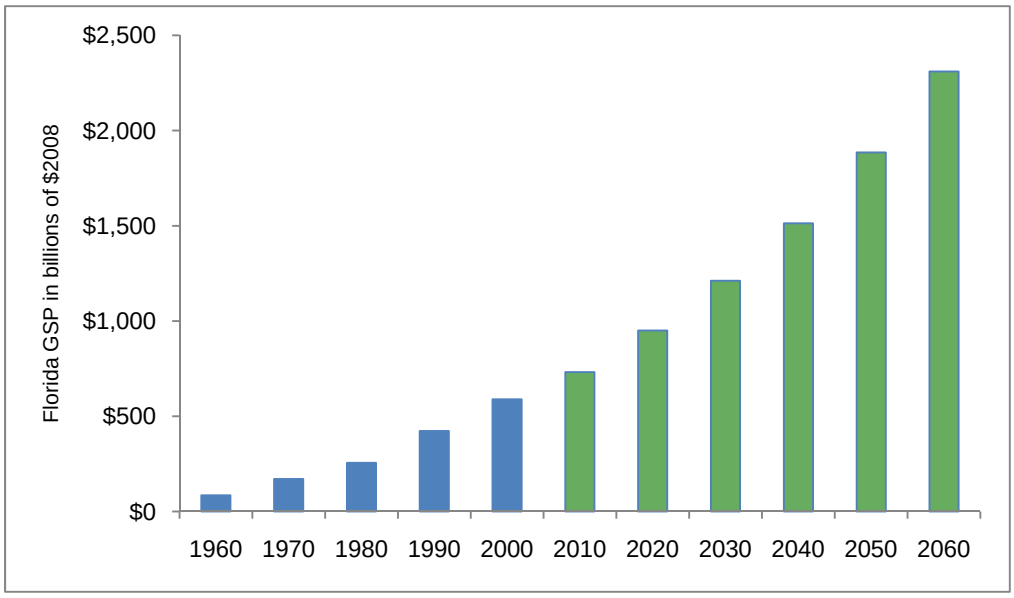
The volume of goods coming into and out of Florida and other locations throughout the world is a reflection of economic size and growth. Just as more people add to freight demand (consumer goods, construction materials, etc.), increases in business activity also stimulate growth in the movement of goods (shipments of supplies, intermediate goods, and finished products). A measure for business activity is gross domestic or state product (GDP and GSP), which is an indicator of the total value of goods produced by all industries in a particular region. As gross product increases, there is a commensurate expansion of freight movements. This section explains how the gross state product forecasts for Florida and global regions were developed.

Florida Gross State Product Trends and Forecast

The Florida economy grew by more than eight-fold between 1960 and 2010 (see Figure 3.3). Growth, however, trailed off and stalled in the latter part of the first decade of 2000s. In order to construct the long term GSP forecast for Florida, an estimate for 2010 was applied from the University of Central Florida's Institute for Economic Competitiveness. The 2010 GSP estimate from UCF showed a decline in Florida's gross state product from 2008 to 2010, which was considered realistic given economic conditions in Florida between 2008 and 2010. Moving forward, the Florida GSP forecast pivots from the United States' GDP forecast and the state's historic decennial increases in its share of the U.S. economy and population. The United States GDP forecast, like the world country forecasts, is based on historic growth, combined with forecasts from the International Monetary Fund (through 2016) and the U.S. Department of

Transportation's Federal Aviation Administration, which forecasts world growth by global region (as part of its aviation demand forecasting process) through 2025. The incremental changes in the rate of growth observed during the 2000 to 2025 period were then applied to develop the 2060 forecasts. Using this approach, Florida grows from a $730 billion economy in 2010 to a $2.3 trillion one in 2060. The scale of this growth will rely on a resumption of higher economic growth rates than currently being experienced but would still be slower than Florida's historical growth over the past decades.

Figure 3.3 Florida Gross State Product Growth, 1960-2060 (in billions of $2008)



Sources: Bureau of Economic Analysis and Cambridge Systematics

Global Gross Domestic Product Trends and Forecast

The global forecasts for economic growth in the United States were developed in the same manner as described above using the IMF and FAA forecasts. To reflect the changing demographics of China – slowing population growth and actual population declines post-2030 – the forecast for China's GDP growth was lowered from the 2000 to 2030 trends for the 2030 to 2060 period. The growth rates for China after 2030 are still robust but assume that in the long term, China will not be able to sustain the type of growth rates it has experienced in recent decades as its economy matures and its workforce begins to decline in size. Historically, there is a significant precedence that booming countries (e.g., post-war Germany and Japan, Taiwan, South Korea) do not sustain extremely high rates of growth indefinitely. Although it may take decades to materialize, maturing economies, increased competition, the scarcity of resources, and changing demographics over time combine to bring growth down to lower, more sustainable levels than achieved during boom periods.

Table 3.2 shows gross product growth by world region for the 2000 to 2060 period. Countries were grouped by region following the same global definitions used by Enterprise Florida in its historical analyses of Florida imports and exports.

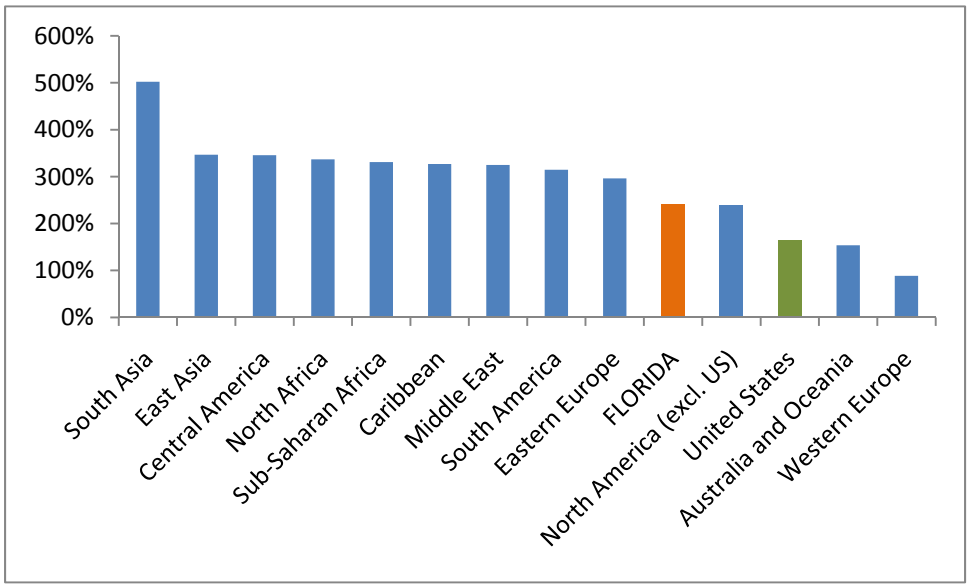
Table 3.2 Gross Product Growth by Global Region, 2000-2060 (in billions of $2008)

	2000	2010	2020 (est)	2030 (est)	2040 (est)	2050 (est)	2060 (est)
East Asia	9,366	13,363	21,296	28,914	38,594	52,085	65,330
South Asia	757	1,654	2,698	3,912	5,497	7,501	9,961
Australia and Oceania	557	1,098	1,317	1,633	1,985	2,371	2,786
Eastern Europe	909	2,908	4,606	5,988	7,605	9,453	11,521
Western Europe	11,081	17,191	19,352	22,411	25,627	28,965	32,393
Middle East	772	1,843	2,738	3,696	4,860	6,238	7,830
North Africa	311	573	875	1,181	1,553	1,993	2,502
Sub-Saharan Africa	426	998	1,505	2,032	2,672	3,429	4,304
Caribbean	70	106	151	206	275	358	454
Central America	87	139	205	281	374	486	618
North America	14,132	16,925	21,427	26,753	32,759	39,400	46,612
South America	1,655	3,045	4,191	5,742	7,654	9,948	12,632
WORLD	40,124	59,843	80,361	102,750	129,456	162,228	196,942

Sources: International Monetary Fund and Cambridge Systematics.

Florida's economic growth between 2010 and 2060 is expected to be in line (though slightly higher because of the state's faster increases in population) with the growth rates experienced in the more developed parts of the world (Australia, Canada, U.S., and Western Europe). Developing areas such as South Asia (includes India), Africa, Latin America, the Middle East, and Eastern Europe, all starting at lower points of wealth, are expected to have higher economic growth rates in coming decades (see Figure 3.4). However, developed countries will continue to command large portions of the world's gross economic growth in coming decades. The United States, for example, according to this forecast will garner about 17.5 percent of world economic growth in the next 50 years though it accounts for about one quarter of world economic activity today.

Figure 3.4 World GDP Growth by Region, 2010-2060 (inflation adjusted)



Sources: International Monetary Fund and Cambridge Systematics.

4.0 Florida's Cargo Flows and Port Competitiveness

4.1 DATABASE DEVELOPMENT METHODOLOGY

Several sets of data were used to identify current trade flows and potential opportunities for Florida. Each data element is described below. The most recent data was acquired for each mode. Base flows were all normalized for 2010. Forecasts were developed for 10, 25, and 50 year time periods.

Journal of Commerce Piers Data

The Journal of Commerce's Port Import Export Reporting System (Piers) Data base was used to describe Florida's waterborne imports and exports.[9] This database includes international waterborne trade flows for containerized, bulk, and break bulk cargo.[10] For each data record, the following information was included in the database:

- Commodity (4 digit commodity description);
- Handling type (containerized cargo, break bulk, bulk);
- US port of entry/export;
- Foreign port of exit/import; and
- Location of shipper/consignee.

It is important to note that the location of the shipper/consignee is not necessarily the actual location of the point of production of an export or the point of consumption of an import. In fact the address of the shipper/consignee can provide an inaccurate assessment of the actual origin of an export or destination of an import, and judgment by the analyst is required to determine to the best extent possible, the validity of the

[9] Domestic waterborne data was obtained from the U.S. Army Corp of Engineers' US Waterborne Commerce Statistics Center. This source provided total domestic flows moving into and out of each of Florida's deepwater seaports. Origin/destination information was not available.

[10] These terms are defined as follows: Breakbulk cargo is miscellaneous goods packed in boxes, bales, crates, cases, bags, cartons, barrels, or drums; may also include lumber, motor vehicles, pipe, steel, and machinery. Bulk cargo is loose cargo loaded directly into a ship's hold; often including grain, coal, petroleum, chemicals, aggregates, and similar products. Containerized cargo is general or special cargoes stored in a container for transport in the various modes.

location data. It is for this reason that additional databases including the TRANSEARCH data and the 1% Waybill Sample are used. Therefore, the location data provided in the Piers data used in this analysis must be viewed as an indicator of waterborne trade flows, not an absolute indicator of import or export destination or origin.

Truck Cargo Flows Based Developed From IHS/Global Insight TRANSEARCH Data

To identify the truck flows of cargo moving between Florida counties and other Bureau of Economic Analysis (BEA) economic areas[11] throughout the United States, IHS/Global Insight TRANSEARCH data for 2009 were analyzed. The truck data analyzed includes:

- Import and export flows by truck for all cargo moving to/from Florida counties to/from U.S. BEAs.
- Domestic shipments and receipts by truck for all cargo moving to/from Florida counties to/from U.S. BEAs. This includes warehouse, distribution center, rail intermodal, other general cargo, and bulk cargo.

Air Cargo Flows Based Developed From IHS/Global Insight TRANSEARCH Data

The IHS/Global Insight TRANSEARCH data base was used to identify the handling of domestic air freight at Florida airports. It provided air cargo enplaned at Florida airports, and the destination of the air cargo unloaded at Florida airports. Truck movements associated with the enplaned and unloaded cargo also were included. International air cargo was obtained from available Census data.

Rail Flows Based on Surface Transportation 1% Waybill Sample[12]

Rail freight flows to and from Florida counties were analyzed. The data are based on the Surface Transportation Board 1% Waybill Sample. The data have been organized to assess rail freight flows into, out of and within the state of Florida for container on flat car (COFC) cargo, trailer on flat car (TOFC) cargo, and other general cargo and bulk cargo.

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[11] The U.S. Department of Commerce Bureau of Economic Analysis has divided the U.S. into 179 BEA economic areas. The Bureau maintains economic data for these areas. For further information readers are referred to: http://www.bea.gov/index.htm

[12] The Surface Transportation Board (STB) has statutory authority over the Carload Waybill Sample (49 CFR 1244). Railroads terminating over 4,500 cars per year are required to file a sample of waybills with the STB. This database contains rail shipments data such as origin and destination points; type of commodity; number of cars, tons, revenue; length of haul; participating railroads; interchange locations; and Uniform Rail Costing System (URCS) shipment variable cost estimates. The Waybill Sample contains confidential information and is used primarily by Federal and State agencies. It is not available for public use. Information about the Carload Waybill Sample can be found at the STB's website: www.stb.dot.gov/stb/industry/econ_waybill.html.

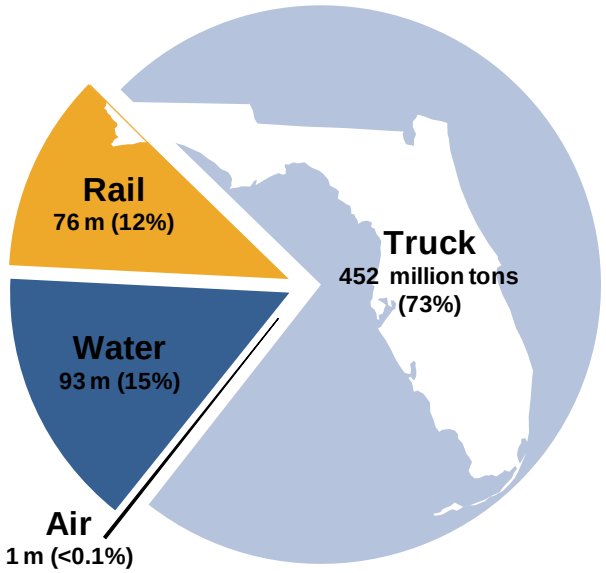
The combination of these data sources created the ability to better track the flow of cargo, specifically international trade, that is consumed or produced in Florida but enters and exits the country through non-Florida gateways. Understanding these nuances in international trade helps the state identify key opportunities for growth.

4.2 OVERVIEW OF TRADE FLOW DATA

Florida consumes and produces a significant volume of freight. The following provides a high level state summary of Florida's freight flows. Detailed modal summaries are provided in the following sections. In addition, a detailed set of data summary tables are provided in Appendix B.

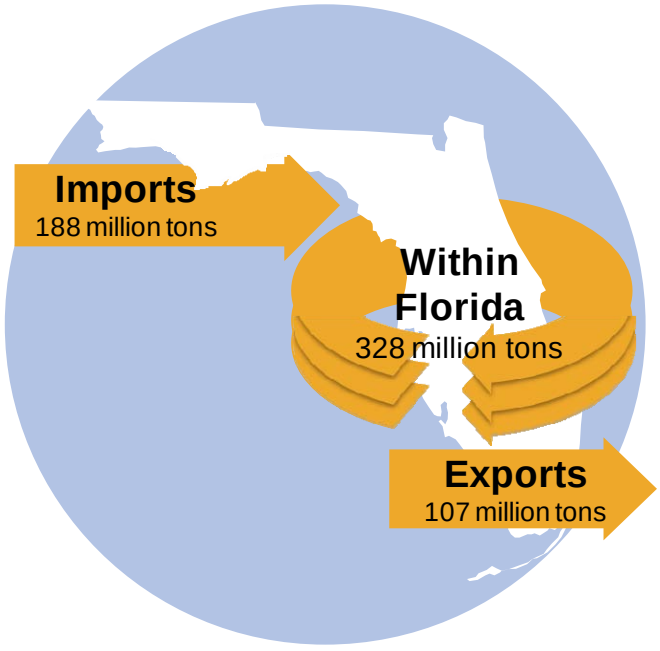
- Domestic and international trade flows to, from, and within Florida are estimated at about 623 million tons in 2009, or about 33 tons per resident.
- Trucking is the dominant form of goods movement, accounting for more than 73 percent of all tonnage; most freight shipments use a truck at some point in their trip. Water accounts for about 15 percent of all freight flows, followed by rail at 12 percent; air accounts for less than 1 percent by volume, but a significant share of high value goods (see Figure 4.1).
- More than one half of all freight flows (328 million tons) originated and terminated within the state of Florida; these are shipments of raw materials and intermediate goods, as well as shipments from distribution centers to retail stores. About one third of the total, or 188 million tons, are imports from other nations and states to businesses and consumers in Florida. The remaining 107 million tons are exports produced in Florida and shipped to other states or nations (see Figure 4.2).

Figure 4.1 Florida Trade Flows, 2009
Estimated Domestic & International Trade Flows



Source: Martin Associates, 2010 estimate based on TRANSEARCH, PIERS, and STB Rail Waybill data.

Figure 4.2 Florida Trade Flows, 2009
Estimated Domestic & International Trade Flows



Source: Martin Associates, 2010 estimate based on TRANSEARCH, PIERS, and STB Rail Waybill data.

4.3 WATERBORNE TRADE DATA

Analysis of Containerized Cargo Data

With respect to the containerized cargo, the data were analyzed by import and export activity, by U.S. seaport of entry/exit, by trade lane, and by location of shipper/consignee as identified in the data base.

Containerized Export Cargo

Figure 4.3 presents the location of exporters within the state of Florida regardless of the seaport used for export. The darker the shading, the greater the volume of activity in the county. The locations of exporters are concentrated in Miami-Dade, Broward, Palm Beach, Duval, Hillsborough, and Orange counties. In addition, the exporters tend to be located along the Atlantic Ocean, with additional concentration in Sarasota and Manatee counties.

Table 4.1 identifies the seaports used by Florida exporters of containerized cargo. As illustrated, nearly 75 percent of the containerized cargo exports originating in the state of Florida (based on Piers data) move through Florida seaports. Port Everglades and Miami are the dominant Florida seaports, followed by Jacksonville in terms of handling exported containerized cargo originating in Florida.

Figure 4.3 Location of Florida Exporters of Containerized Cargo

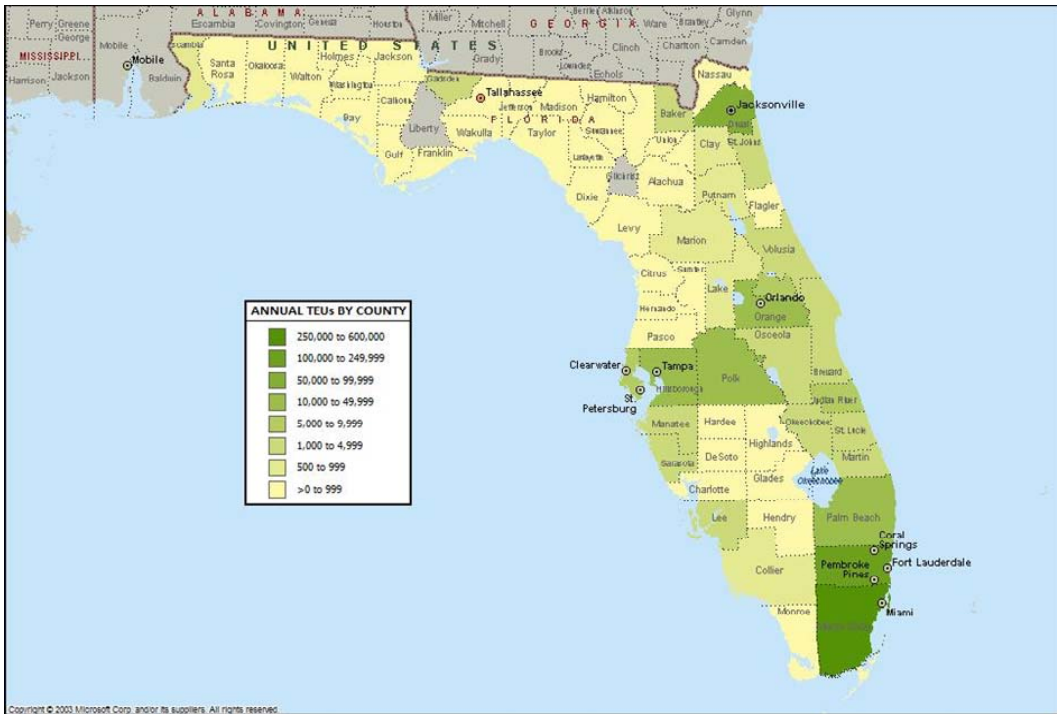


Table 4.1 Port of Exit for Containerized Exports Originating in Florida

PORT	TEUs	SHARE
PT EVERGLADES	237,805	25.4%
MIAMI	220,949	23.6%
JACKSONVILLE	137,191	14.7%
W PALM BCH	69,484	7.4%
NEW YORK	54,333	5.8%
HOUSTON	48,059	5.1%
SAVANNAH	36,940	4.0%
CHARLESTON	30,491	3.3%
NORFOLK	12,760	1.4%
LOS ANGELES	8,280	0.9%
BALTIMORE	7,947	0.9%
FT PIERCE	7,405	0.8%
TAMPA	7,217	0.8%
NEW ORLEANS	6,800	0.7%
SAN JUAN	6,541	0.7%
LONG BEACH	6,203	0.7%
CHESTER PA	5,594	0.6%
GULFPORT	5,415	0.6%
FERNANDNA BCH	5,168	0.6%
PENNSAUKEN	4,533	0.5%
GALVESTON	2,186	0.2%
FREEPORT TX	2,099	0.2%
OAKLAND	1,800	0.2%
SEATTLE	1,546	0.2%

PORT	TEUs	SHARE
PHILADELPHIA	1,354	0.1%
WILMINGTON DE	1,123	0.1%
PANAMA CY FL	1,080	0.1%
CAMDEN	989	0.1%
MOBILE	869	0.1%
MANATEE	602	0.1%
WILMINGTON NC	397	0.0%
TACOMA	333	0.0%
PORTLAND OR	302	0.0%
PT HUENEME	286	0.0%
SALEM NJ	164	0.0%
BOSTON	119	0.0%
HONOLULU	54	0.0%
RICHMOND VA	53	0.0%
SAN DIEGO	46	0.0%
NEWPORT NEWS	39	0.0%
PT ANGELES	20	0.0%
PASCAGOULA	13	0.0%
LONGVIEW	12	0.0%
PT CANAVERAL	3	0.0%
LK CHARLES	3	0.0%
ANCHORAGE	2	0.0%
S LOUISIANA	2	0.0%
MAYAGUEZ	2	0.0%
TOTAL	934,612	

The Caribbean, Central, and South America are the key trading partners for Florida's exports. More than 85 percent of the exports from Florida seaports are destined for these three areas.

Figures 4.4, 4.5, and 4.6 show the major Florida seaports used for the export of containerized cargo from Florida exporters, by trade lane. The shaded counties indicate the level of exports to a specific trade lane from exporters located in those counties, the darker shading corresponding to a greater concentration of exports. The pie charts overlayed on each major area of export volume indicate the distribution of seaports used by Florida exporters located in the specific Florida counties. As Figure 4.4 shows, for the Caribbean market, the Port of Jacksonville primarily serves the exports from North Florida counties, while the South Florida seaports of Miami, Port Everglades, and Palm Beach serve the Caribbean exports originating in South Florida. Both the North Florida seaports and the South Florida seaports compete for the Caribbean exports originating in the Central portions of the state. Note references to Central Florida refer in general to the I-4 Corridor.

Figure 4.4 Caribbean Containerized Exports by Florida County and Seaport of Exit Used

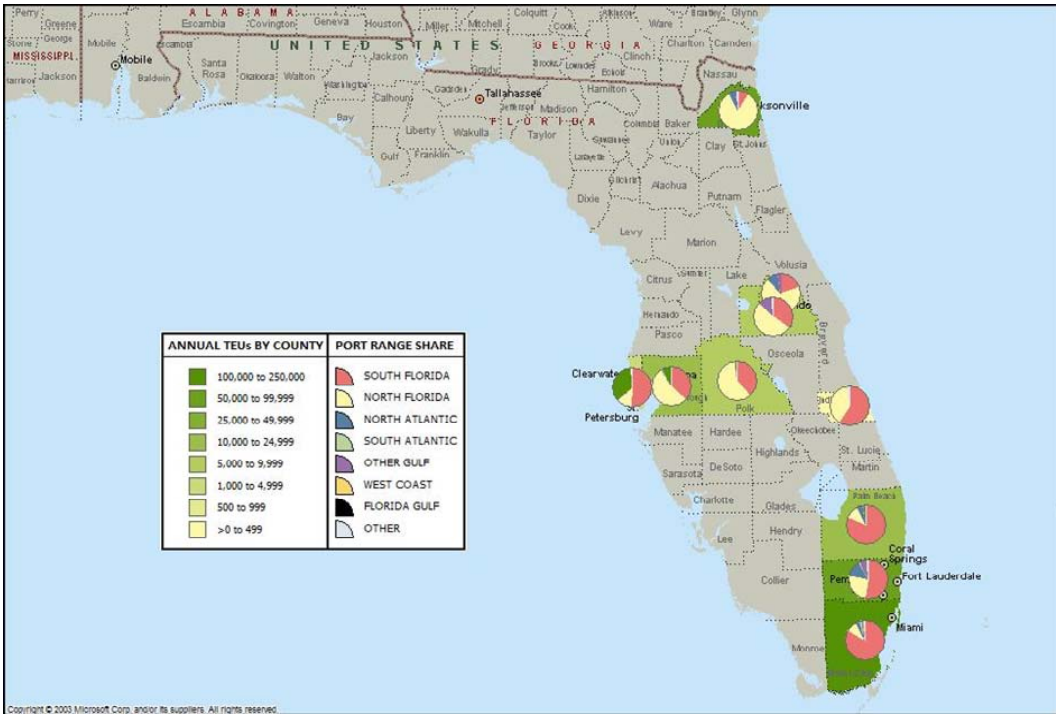


Figure 4.5 shows the Florida exports to South America. Again, the South American exports originating in Duval County tend to move via the Port of Jacksonville, while the exports to South America originating in South Florida tend to move (more than 50 percent of the time) via the South Florida seaports (Palm Beach, Miami, and Port Everglades). Other Gulf ports such as Mobile are used to a large extent by Florida exporters located in Central Florida.

With respect to the Central American exports, Figure 4.6 shows that the South Florida seaports dominate this trade lane for Florida exporters located in North Florida and South Florida, while the South Florida seaports compete with the Florida Gulf Coast seaports for Central American exports originating in Central Florida.

Figure 4.5 South American Containerized Exports by Florida County and Port Used

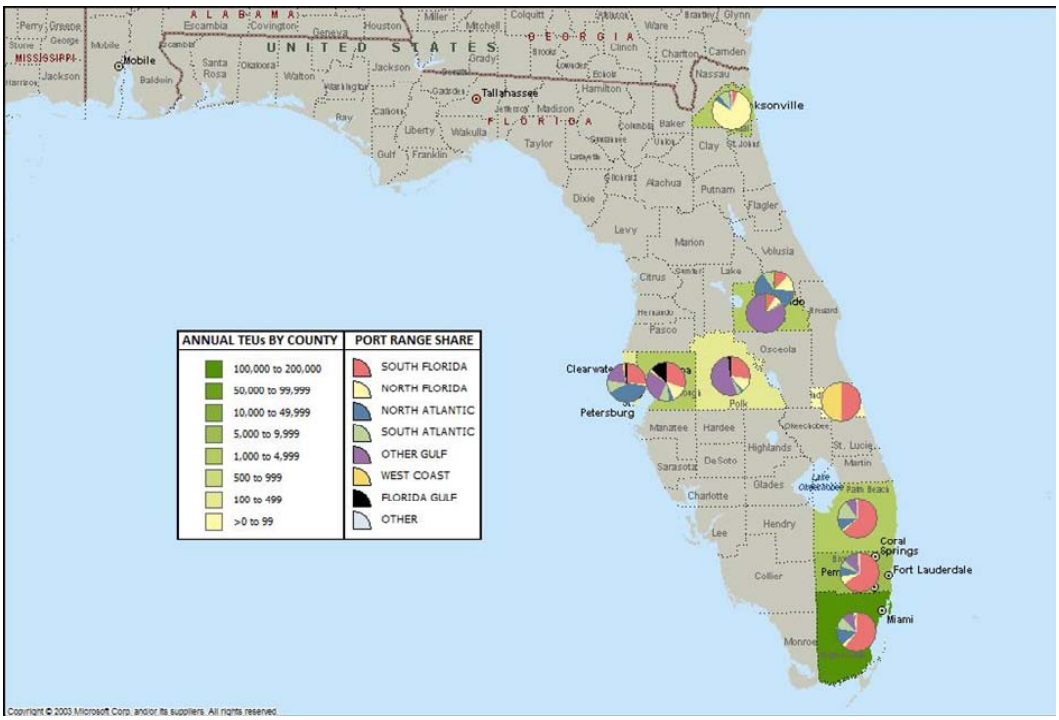
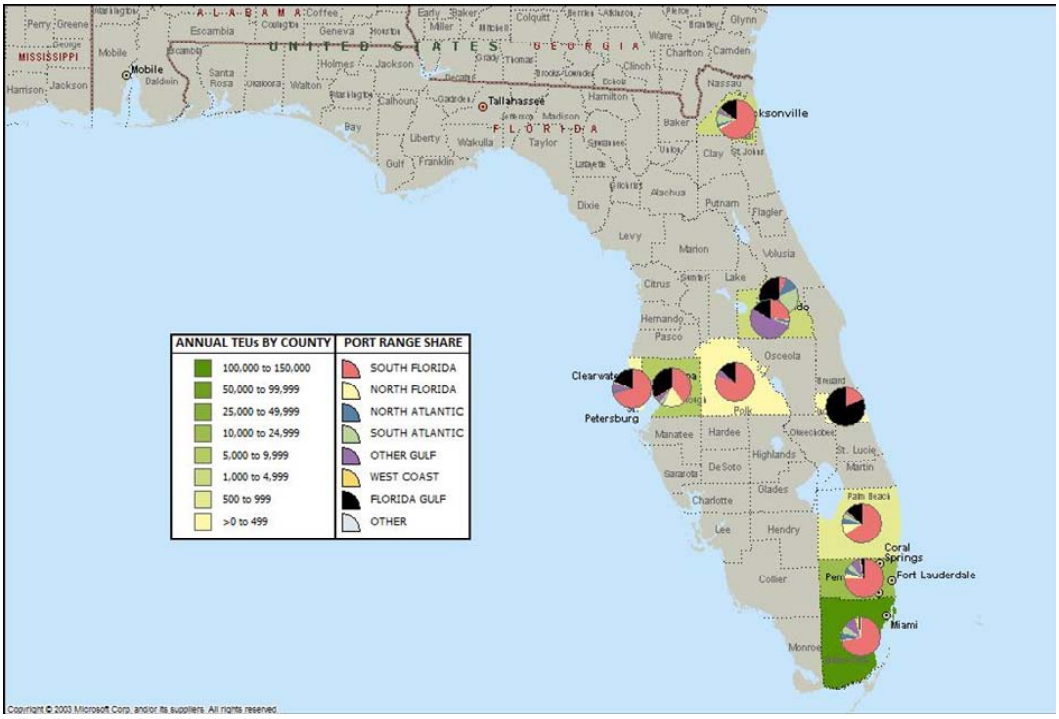


Figure 4.6 Central American Containerized Exports by Florida County and Port Used



Containerized Imports into Florida

Figure 4.7 shows the location of containerized cargo importers within the state of Florida. The darker the green shading, the greater the volume of containerized cargo imported into these counties. These locations correspond to the distribution of population by county, as well as the location of distribution center activity. It is to be emphasized that the mapped locations of the containerized cargo importers by Florida county are based on Piers data, and the use of this data to identify importers and exporters actual locations does have limitations, as described above. However, it is useful to use the Piers data base as it is most likely representative of the flows of containerized imports into Florida, since it logically reflects population centers as well as locations of distribution centers.

Table 4.2 shows the seaports used to serve the Florida importers. Florida seaports handle about 55 percent of the imported containerized cargo consumed in Florida, a substantially smaller share than the Florida exported containerized cargo handled by Florida seaports (nearly 75 percent move via Florida seaports).

Figure 4.7 Location of Florida Importers of Containerized Cargo

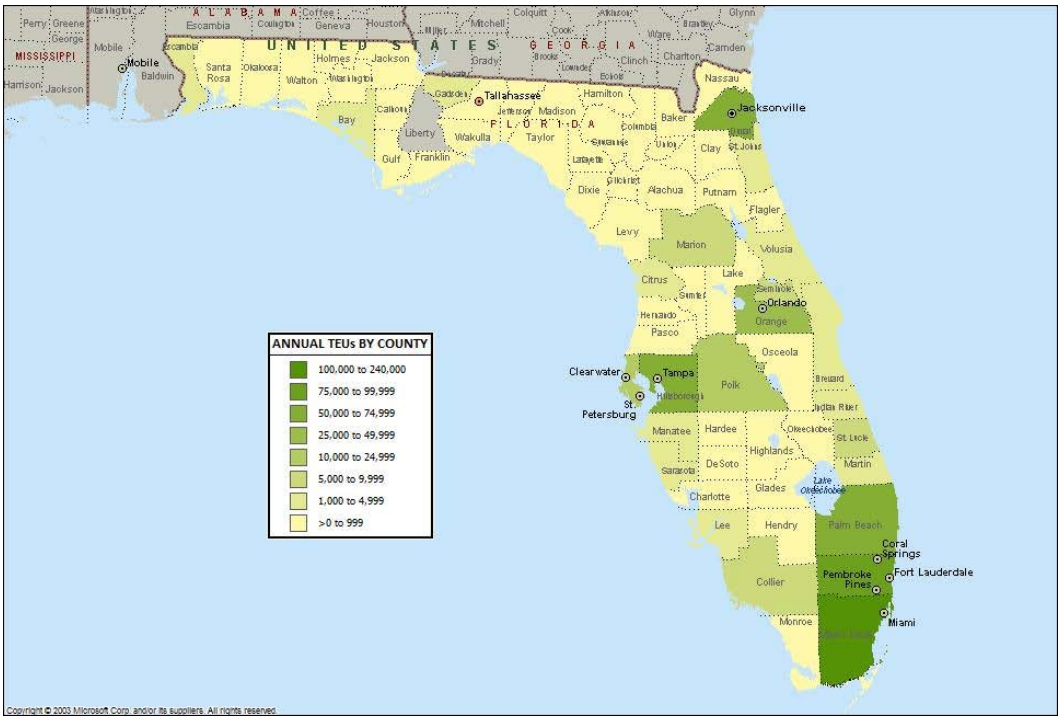


Table 4.2 Ports Handling Containerized Imports into Florida

PORT	TEUs	SHARE
MIAMI	136,859	22.4%
PT EVERGLADES	116,219	19.0%
LOS ANGELES	58,609	9.6%
JACKSONVILLE	55,179	9.0%
LONG BEACH	50,894	8.3%
SAVANNAH	49,131	8.0%
NEW YORK	34,837	5.7%
CHARLESTON	15,539	2.5%
W PALM BCH	14,544	2.4%
TAMPA	12,794	2.1%
HOUSTON	9,854	1.6%
NORFOLK	8,145	1.3%
NEW ORLEANS	7,425	1.2%
PHILADELPHIA	6,668	1.1%
OAKLAND	5,633	0.9%
BALTIMORE	4,018	0.7%
FT PIERCE	3,726	0.6%
SEATTLE	2,936	0.5%
TACOMA	2,544	0.4%
MOBILE	2,480	0.4%
SAN JUAN	1,903	0.3%
WILMINGTON DE	1,662	0.3%
WILMINGTON NC	1,634	0.3%
PANAMA CY FL	1,315	0.2%
VANCOUVER BC	812	0.1%
BOSTON	712	0.1%

PORT	TEUs	SHARE
CHESTER PA	707	0.1%
GULFPORT	689	0.1%
FREEPORT TX	687	0.1%
PENNSAUKEN	650	0.1%
PORTLAND OR	445	0.1%
FERNANDNA BCH	397	0.1%
RICHMOND VA	369	0.1%
SAN DIEGO	248	0.0%
PT CANAVERAL	237	0.0%
NEWPORT NEWS	144	0.0%
MANATEE	100	0.0%
GLOUCESTER NJ	88	0.0%
HONOLULU	85	0.0%
PT HUENEME	72	0.0%
VANCOUVER WA	55	0.0%
CORPUS CHRSTI	51	0.0%
GALVESTON	44	0.0%
LONGVIEW	42	0.0%
NEW WESTMINST	29	0.0%
PAULSBORO	26	0.0%
LK CHARLES	15	0.0%
PASCAGOULA	8	0.0%
PONCE	6	0.0%
CAMDEN	4	0.0%
PRINCE RUPERT	1	0.0%
TOTAL	611,270	

The majority of containerized imports are from Asia, followed by Central America, South America, and the Caribbean.

With respect to containerized imports into Florida from Asia, as displayed in Figure 4.8, the majority of imports move via non-Florida South Atlantic seaports. This results in truck and rail moves into Florida from Los Angeles/Long Beach, Savannah, and Atlanta. North Florida importers receive the majority of their cargo via the West Coast seaports and non-Florida South Atlantic seaports, with a small share moving via North Florida seaports. Central Florida importers received imports from Asia from the South Atlantic seaports, and the West Coast seaports, with a small share moving into the Hillsborough County via Florida Gulf Coast seaports. It is to be emphasized that very little imported Asian cargo moves into the Central Florida region from South Florida or North Florida seaports. Savannah appears to be the major seaport supplying this central Florida I-4 Corridor. The South Florida seaports do serve the South Florida importers, to some extent, but the West Coast seaports are a major gateway region used to serve this area with imports from Asia. It is also to be emphasized that these data are for waterborne cargo only that moves from a seaport directly to a point of consumption in Florida. Not

included in these data are imported containerized cargo that moves via the Port of Savannah to an import distribution center in Savannah or Atlanta, and then is repackaged into a domestic truck trailer (usually 53 ft. in length) to a regional distribution center in Florida or to a final point of consumption in Florida. Similarly, Asian containerized cargo that is imported via the West Coast seaports, moved to an inland point for repackaging (Chicago, Memphis, Dallas, etc), and then is trucked to the consumption points or regional distribution centers in Florida is not included in these data. To identify the volume of this distribution center cargo, TRANSEARCH data were used, as described below.

Figure 4.8 Containerized Imports from Asia by Florida County and Port Used

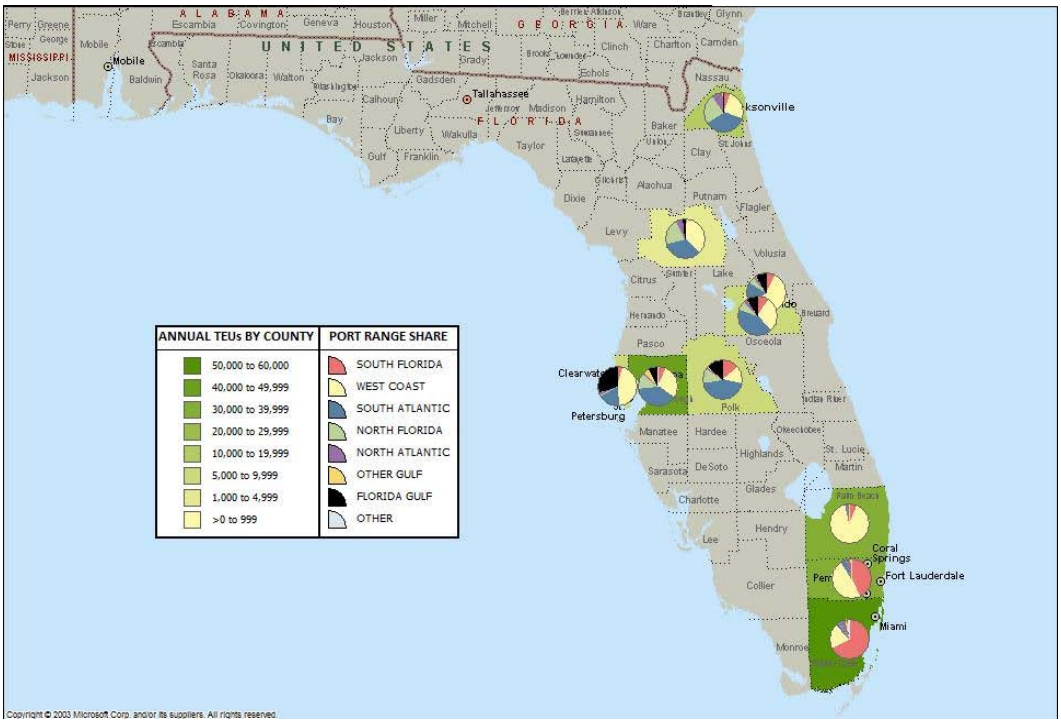
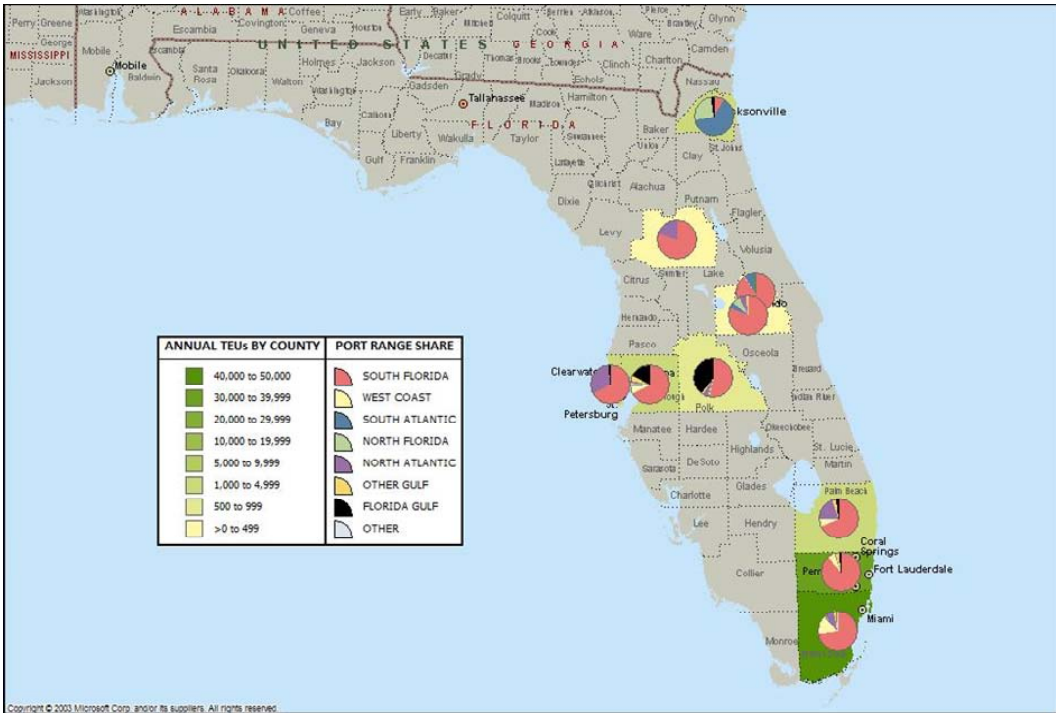


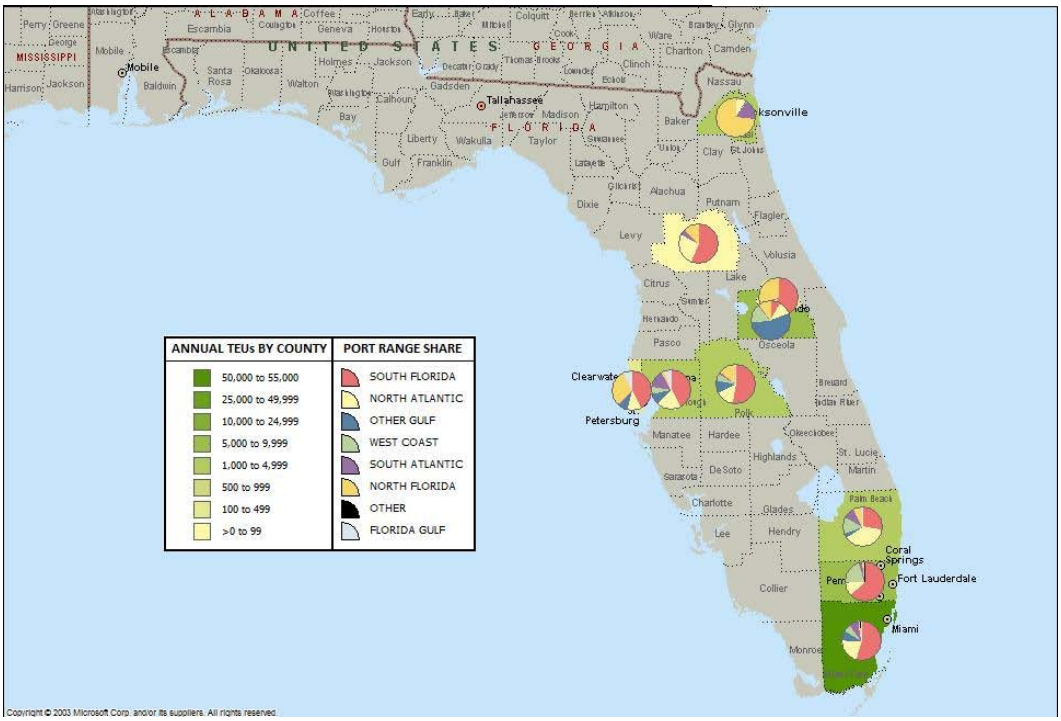
Figure 4.9 shows the location of the Central American importers, and the seaports used to serve the key destinations of containerized cargo imports on this trade lane. South Florida seaports are dominant gateways used to import the containerized cargo from Central America, reflecting the vessel services in place at the Port of Miami and Port Everglades. North Atlantic seaports as well as Florida Gulf Coast seaports also are used to some extent to serve Central Florida. The North Atlantic seaports reflect the rotation of specific carriers providing services to Central America via North Atlantic seaports, such as seaports along the Delaware River and the Port of New York and New Jersey. The South Atlantic seaports (Charleston and Savannah) provide a large share of the imported containerized cargo into Duval County.

Figure 4.9 Containerized Imports from Central America by Florida County and Port Used



As shown in Figure 4.10, numerous seaports, including those in South Florida, North Florida, the North Atlantic, and, to a smaller extent, South Atlantic, are used to serve the Florida importers receiving containerized cargo from South America. The South Florida seaports serve the South Florida markets, as well as Central Florida markets, and other Gulf Coast ports have a penetration into the I-4 corridor.

Figure 4.10 Containerized Imports from South America by Florida County and Port Used



Summary of Containerized Cargo Analysis

The data reviewed for containerized cargo identified immediate opportunities for Florida seaports to capture additional cargo now moving via non-Florida seaports. As noted, a significant percent of imported cargo from Asia comes via non-Florida ports. The import containerized cargo market moving from non-Florida ports into Florida is estimated at 2.7 million tons.

The key non-Florida seaports serving Florida containerized cargo consumption markets accounting for the 2.7 million tons are:

- 40.7% via Southern California seaports
- 18.3% via Savannah
- 13.0% via New York
- 5.8% via Charleston

- 3.7% via Houston
- 3.1% via Norfolk

The data include international cargo that moves from a seaport to a distribution center, but excludes the move of the cargo from the distribution center to the destination. Therefore the Piers data most likely understate the imported containerized cargo moving into the state that was moved from a non-Florida port to a non-Florida distribution center initially then repackaged and moved into Florida. To estimate this potential market for Florida ports, IHS/Global Insight prepared a detailed TRANSEARCH data base. The use of distribution centers to serve the Florida market and how that cargo moves to and from the state are discussed in the analysis of truck flows.

In addition to the containerized imports that move from other seaports into Florida, discretionary containerized cargo also moves through Florida seaports to other U.S. destinations. Similarly, discretionary containerized export cargo also moves from other states through Florida seaports. This discretionary containerized cargo also represents potential for the Florida seaports. The Piers data indicated that about 44 percent (or 546,853 TEUs) of the 1.2 million TEUs exported via Florida seaports originate in other states. With respect to containerized imports moving through Florida seaports to other states, a review of Piers data indicated that 41 percent of the 581,314 TEUs (or 239,946 TEUs) move through Florida seaports from other states.

4.4 TRUCK FLOWS BASED ON IHS/GLOBAL INSIGHT TRANSEARCH DATA

Domestic Truck Flows

Figure 4.11 shows the domestic truck flows of cargo originating in Florida. The shading on the map indicates the number of truck trips originating by county for all domestic cargo. The darker the shading, the greater the number of truck trip origins within the specific county.

This figure shows that most domestic cargo originates in South Florida (particularly Miami-Dade County), Hillsborough and Polk counties, and Duval County. Figure 4.12 shows the destinations of the domestic truck cargo that originates within Florida. The domestic cargo shipped from Florida tends to be destined for the Southeastern United States, followed by the Baltimore/Washington region, New York, and New England. Pockets of domestic Florida truck shipments are also located in Texas, Southern California, and the Midwest. Table 4.3 shows the major domestic truck commodities shipped from Florida.

Figure 4.11 Origins of Truck Shipments from Florida

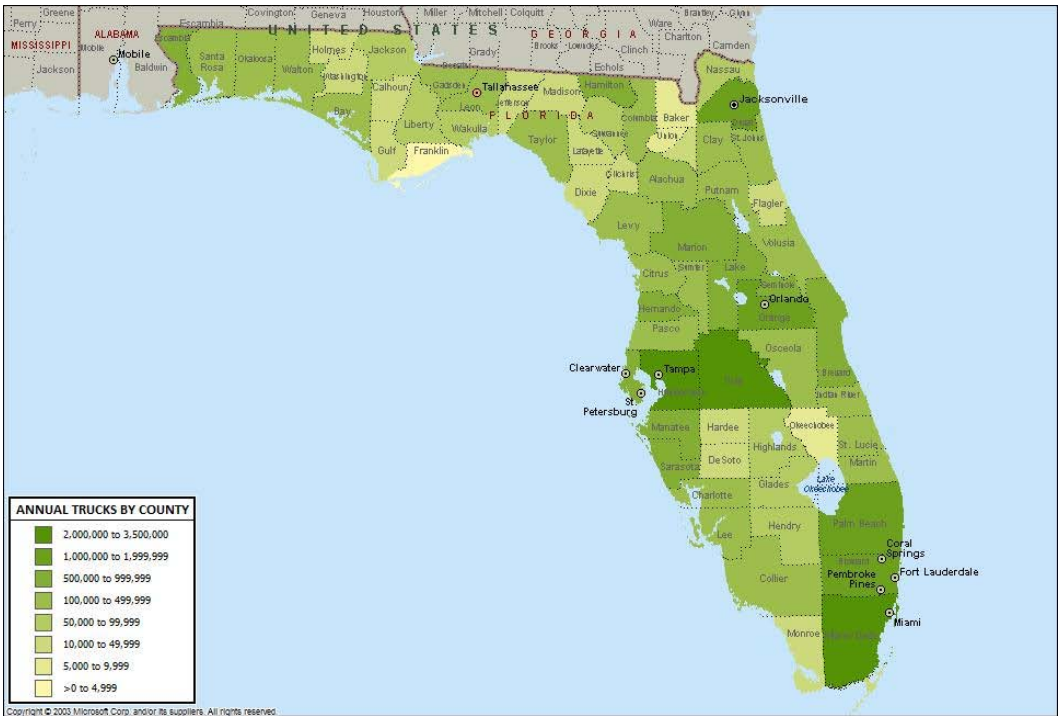


Figure 4.12 Destinations for Truck Shipments Originating in Florida

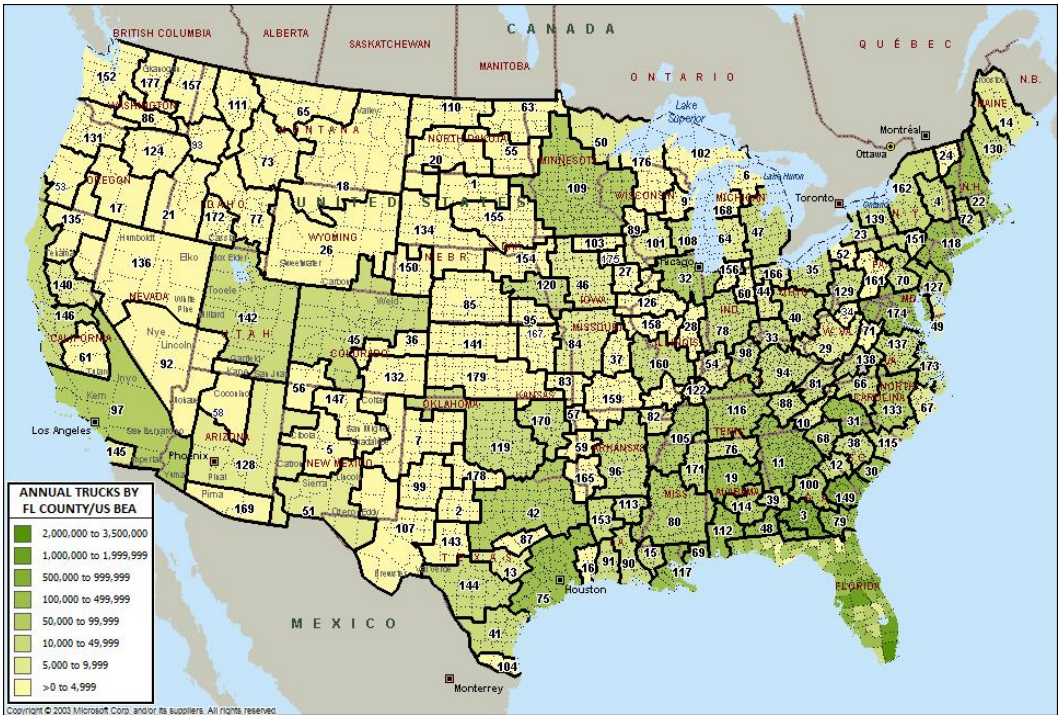


Table 4.3 Major Commodities Shipped by Domestic Truck from Florida

Commodity	Trucks
Empty Containers, Carriers	2,087,926
Chemicals or Allied Products	683,665
Farm Products	437,592
Non-Metallic Ores/Minerals	364,882
Clay, Concrete, Glass, Stone Prod	359,753
Food and Kindred Products	339,987
Petroleum or Coal Products	257,520
"Warehoused Goods"	226,131
Printed Matter	191,679
Lumber or Wood Products	146,267
Fabricated Metal Products	83,971
Pulp, Paper or Allied Products	71,705
Rubber or Misc Rubber Prods	54,927
Apparel or Fin Textile Products	48,029
Machinery, excl Electrical	45,096
Elec Machinery, Equip, Supplies	38,452
Instruments, Photo/Opt Goods, Etc	38,028
Transportation Equipment	33,868
Primary Metal Products	28,903
Misc Products of Manufacturing	22,953
Tobacco Products	18,175
Textile Mill Products	17,999
Furniture or Fixtures	11,799
Leather or Leather Products	911
Metallic Ores	332
Total	5,610,551

Figure 4.13 shows the destinations within Florida of all domestic truck shipments into the state from all sources. For the most part, the destinations of the domestic truck cargo within Florida reflect the distribution of population density within the state, as well as the location of bulk mineral deposits and phosphate mines.

Figure 4.14 shows the origins of all domestic truck shipments that are destined for Florida. The major origins of the Florida truck receipts are South Florida, Hillsborough County, and BEAs throughout the Southeastern U.S.

Table 4.4 shows the major commodities received by domestic truck into Florida.

Figure 4.13 Destinations within Florida of Domestic Truck Cargo Originating from All Sources

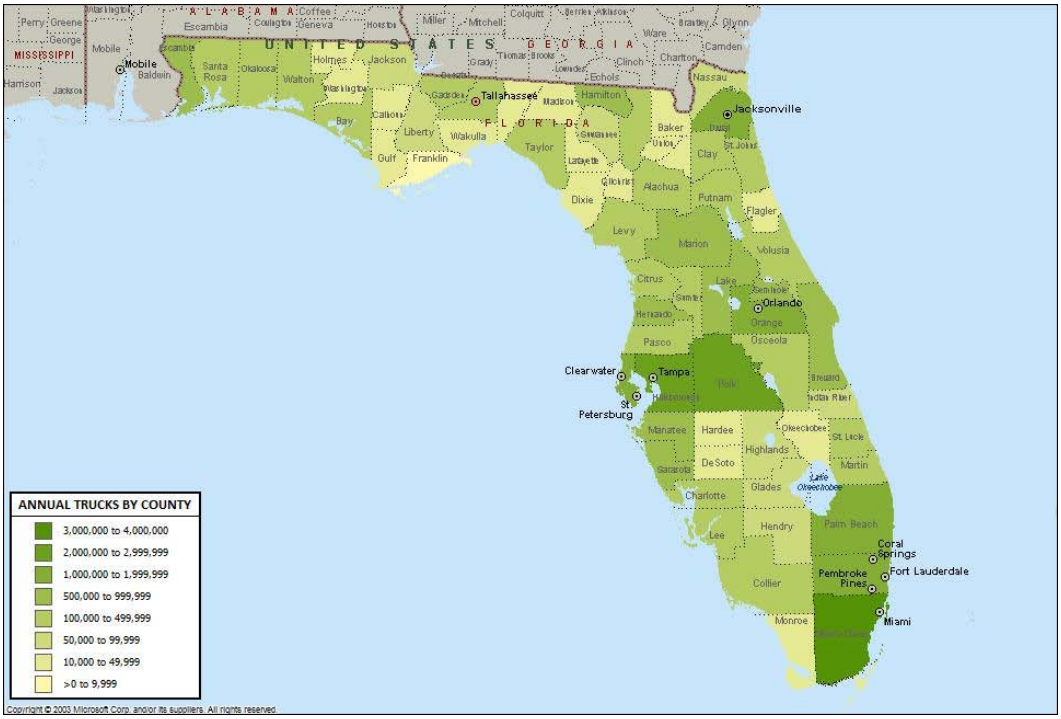


Figure 4.14 Origins of All Domestic Truck Shipments to Florida

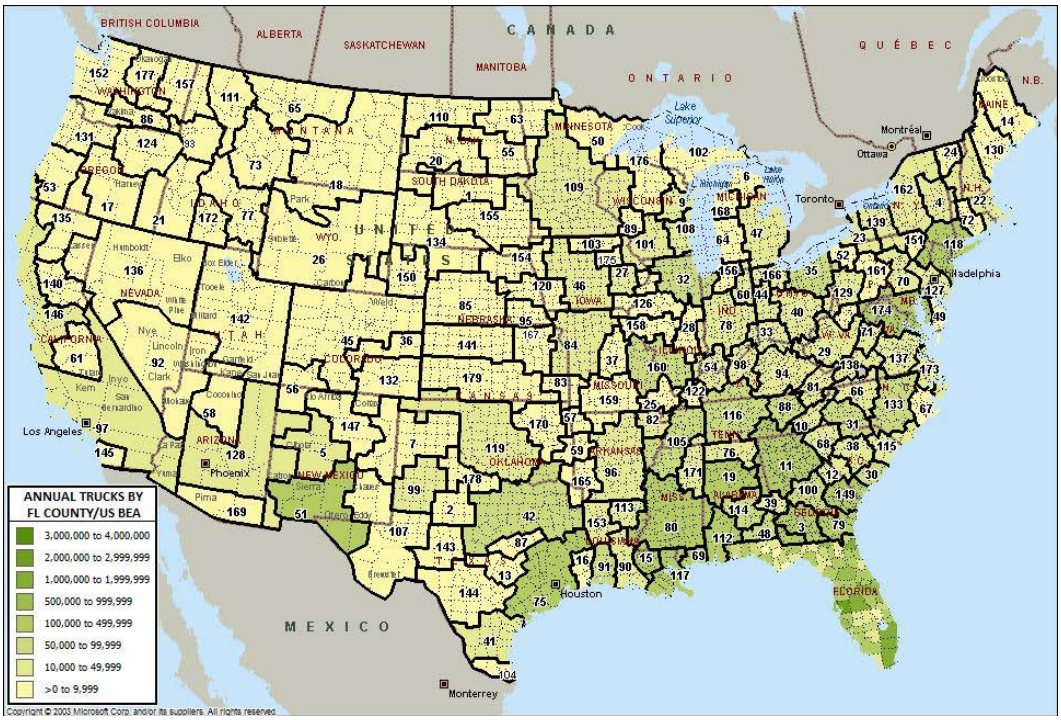


Table 4.4 Major Commodities Trucked into Florida

Commodity	Trucks
Empty Containers, Carriers	1,295,078
"Warehoused Goods"	883,507
Primary Metal Products	524,485
Food and Kindred Products	507,953
Clay, Concrete, Glass, Stone Prod	354,091
Petroleum or Coal Products	321,724
Chemicals or Allied Products	319,502
Lumber or Wood Products	221,321
Farm Products	166,524
Rubber or Misc Rubber Prods	116,559
Non-Metallic Ores/Minerals	104,585
Machinery, excl Electrical	54,348
Fabricated Metal Products	54,262
Elec Machinery, Equip, Supplies	47,769
Pulp, Paper or Allied Products	44,611
Printed Matter	36,210
Transportation Equipment	28,160
Textile Mill Products	18,464
Instruments, Photo/Opt Goods, Etc	15,803
Furniture or Fixtures	15,634
Misc Products of Manufacturing	15,566
Apparel or Fin Textile Products	5,423
Tobacco Products	1,942
Ordnance or Accessories	211
Leather or Leather Products	190
Total	5,153,924

International Truck Movements

International truck movements include export cargo moving from Florida origins to seaports throughout the United States for export and imported cargo moving directly from a seaport in the United States to a consumption point in a Florida county.

Cargo Originating In Florida and Trucked to a Seaport for Export

Figure 4.15 shows all cargo from Florida counties moving to all U.S. seaports for export. Polk County and Hillsborough counties are the leading counties producing Florida exports that are trucked to a seaport in the United States for export. The Polk County exports are driven by fertilizer exports (phosphate) and other local cargo produced in the region.

Figure 4.16 shows the port of exit for all truck cargo originating in Florida and destined for an export seaport. Besides the South and North Florida seaports, the major port of exit for Florida origin export cargo is the Port of Houston.

Cargo Imported into Florida that is Trucked from U.S. Seaports

Figure 4.17 shows the destination counties in Florida of all imported cargo that is trucked from all U.S. seaports. These destinations reflect the population concentration of South Florida as well as the Tampa and Jacksonville areas.

Figure 4.15 Origins of Florida Cargo Trucked to a Seaport for Export

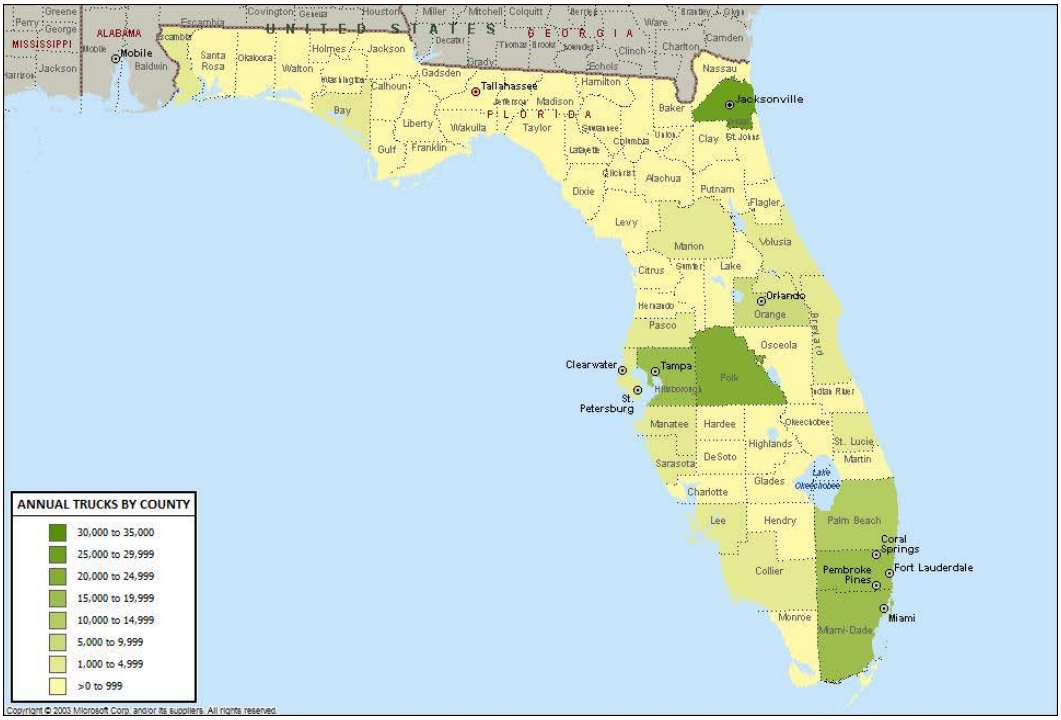


Figure 4.16 Destination Port Regions of All Exports Originating In Florida and Trucked to the Port for Export

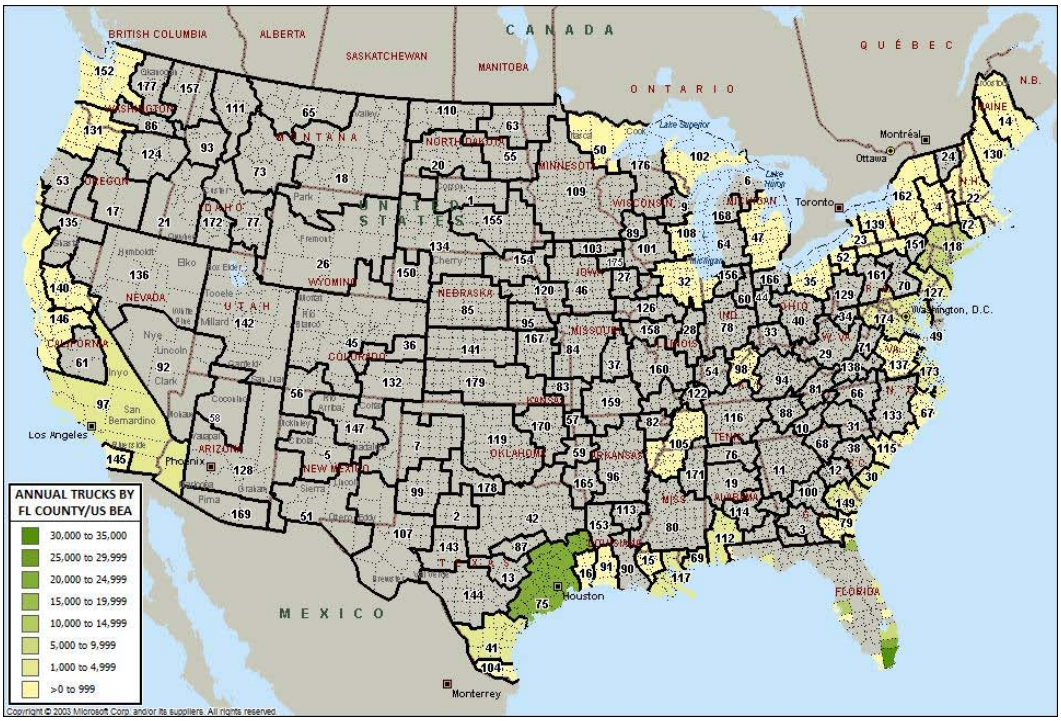


Figure 4.17 Florida Destinations of Imported Cargo Trucked from All US Ports

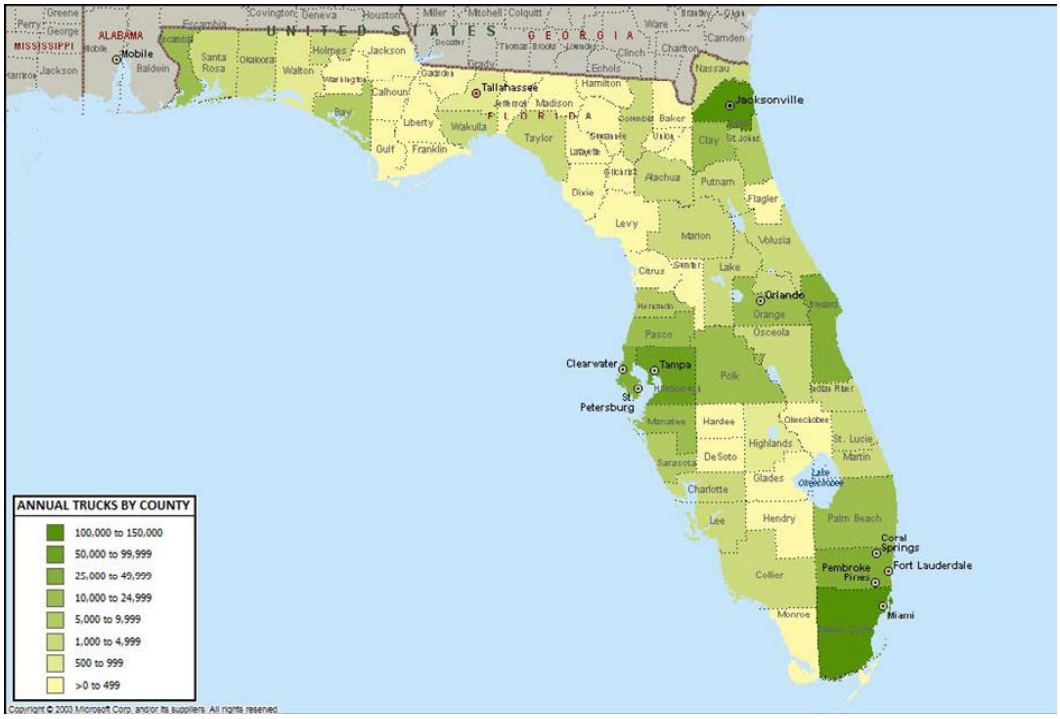
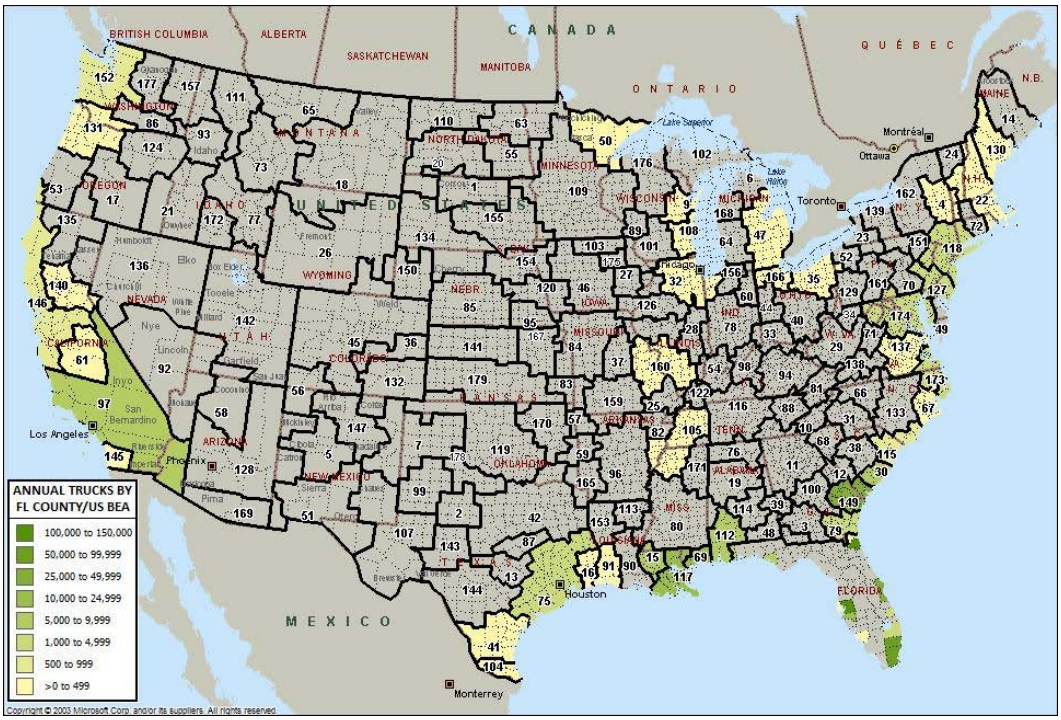


Figure 4.18 shows the origin seaport regions of imports trucked into Florida for consumption.

Figure 4.18 Origin of Imports that are Trucked to Florida Counties



Domestic Warehouse/Intermodal Truck Cargo

The use of distribution centers to supply Florida consumers is a major area of opportunity to identify additional cargo potential for Florida seaports. The Retail Chain Store Guide was used to identify the location and density of distribution centers throughout the state of Florida (and the Southeast U.S.). It is to be emphasized that these distribution centers include international distribution centers as well as regional distribution centers. The Atlanta area is a major center for distribution center development. These distribution centers are served by truck and rail from the Port of Savannah, as well as by rail from the West Coast ports and from Chicago distribution centers. The I-4corridor within Florida is also a major region for distribution center location, as is South Florida. A majority of these distribution centers in Florida are regional distribution centers rather than international distribution centers and are supplied by the international distribution centers in the Atlanta region, as well as distribution centers located in Memphis and St. Louis.

Figure 4.19 shows the origins of the warehouse and intermodal cargo that is trucked into Florida. The major non-Florida sources of warehoused cargo trucked to Florida are the distribution centers located in the Atlanta region, as well as the Minneapolis region, and regions in Illinois, Ohio, Indiana, New Orleans, Mississippi, and Arkansas. The distribution centers located along the I-4 Corridor as well as in South Florida and Duval County are also major suppliers of the trucked warehouse cargo received in Florida.

Figure 4.19 Origins of Warehouse/Intermodal Cargo Trucked Shipped to Florida

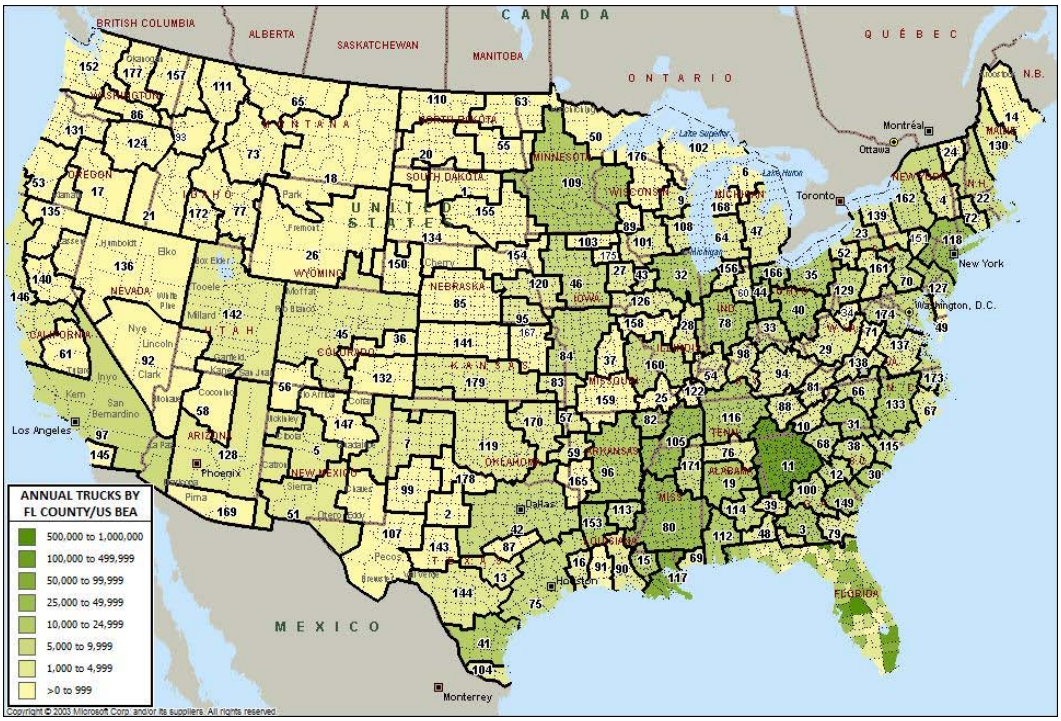


Figure 4.20 shows the destination of the warehouse/intermodal cargo trucked into Florida. The majority of this cargo is destined for distribution centers in Florida, as well as the population centers. It is likely that the majority of distribution centers in Florida are regional distribution centers being served by the international distribution centers in Atlanta, the Midwest, and other portions of the Southeast.

As indicated in Figure 4.21, the origins of the warehouse cargo in Florida is consistent with the locations of the distribution center locations in Florida. South Florida, the I-4 corridor, and Duval County are the key origins of the warehouse cargo.

Figure 4.22 shows that this Florida originating warehouse/intermodal cargo is destined for the population centers in Florida, for the most part, followed by the BEAs in Georgia.

Figure 4.20 Florida Destinations of Warehoused Cargo

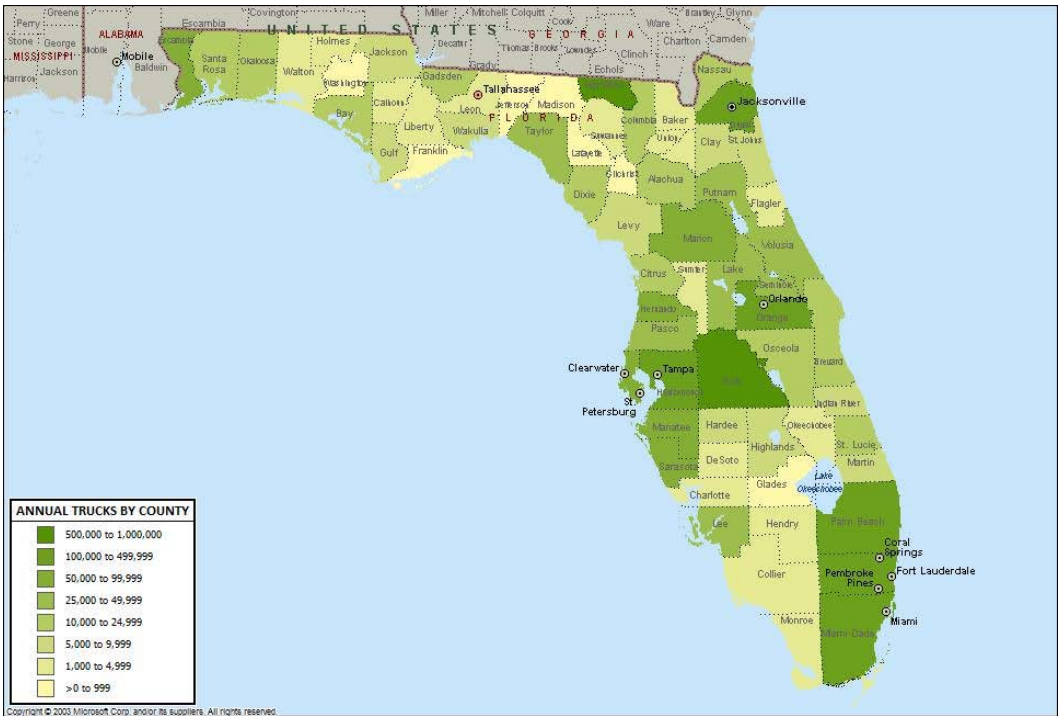


Figure 4.21 Origins of Warehouse Cargo Trucked From Florida

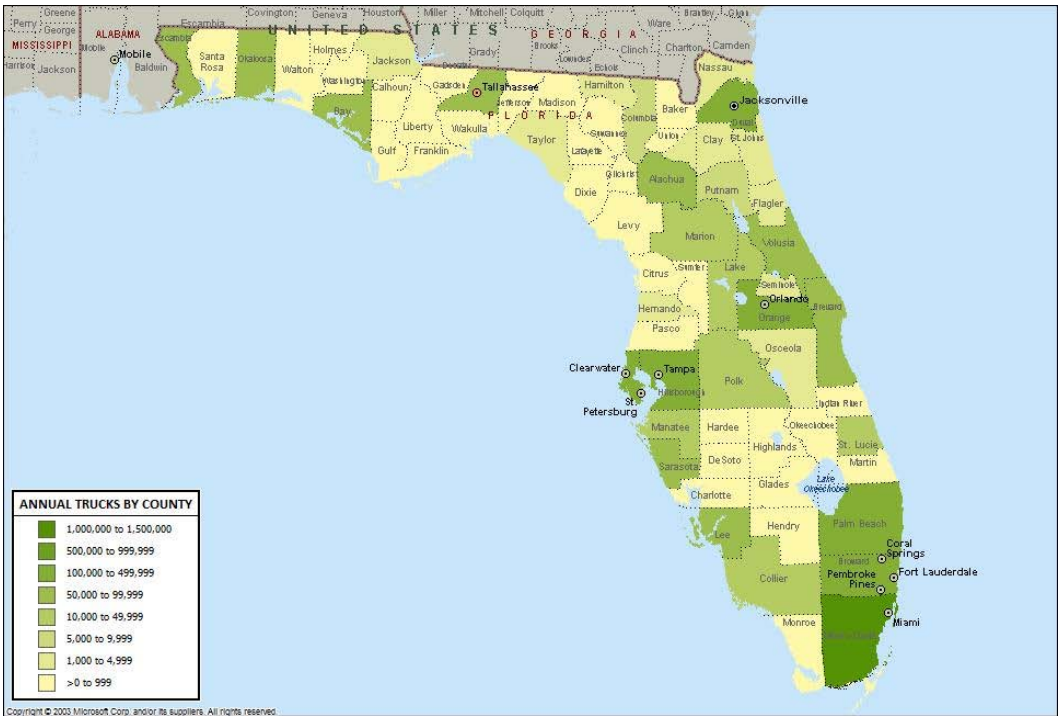
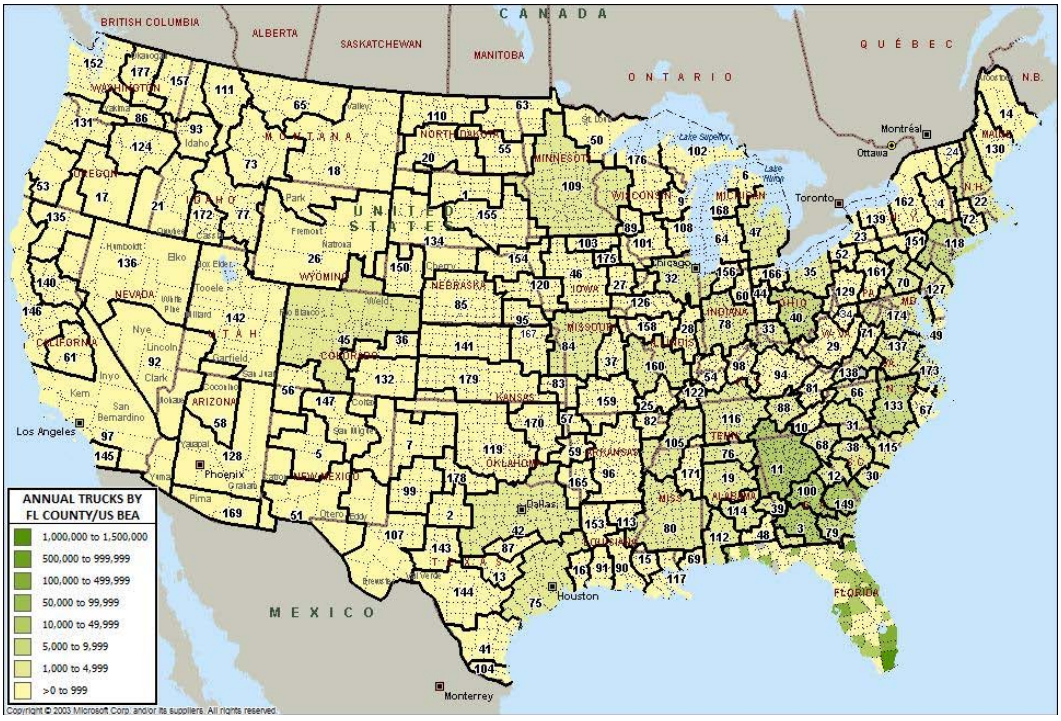


Figure 4.22 Destinations of Warehouse Cargo Originating in Florida



Intra-State Truck Moves

Intra-state truck moves are truck moves that originate and are destined within Florida. Table 4.5 shows the intra-state trucks by commodity. The repositioning of empty containers represents the dominant move, followed by bulk commodities and consumer products and food.

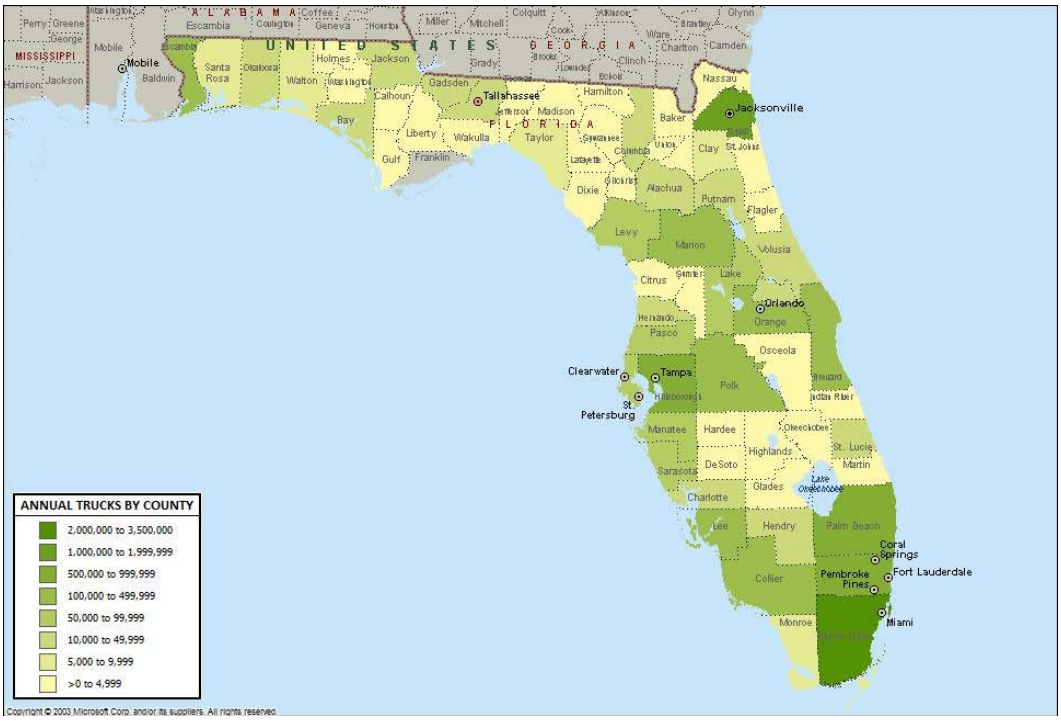
Table 4.5 Major Commodities Trucked Within Florida

Commodity	Trucks
Empty Containers, Carriers	15,712,301
Non-Metallic Ores/Minerals	4,577,750
Clay, Concrete, Glass, Stone Prod	3,856,830
"Warehoused Goods"	3,770,728
Food and Kindred Products	532,522
Petroleum or Coal Products	505,111
Farm Products	184,230
Chemicals or Allied Products	145,647
Lumber or Wood Products	116,524
Printed Matter	99,251
Fabricated Metal Products	66,955
Pulp, Paper or Allied Products	48,812
Rubber or Misc Rubber Prods	45,831
Primary Metal Products	34,765
Machinery, excl Electrical	19,327
Transportation Equipment	14,181
Textile Mill Products	13,435
Elec Machinery, Equip, Supplies	12,271
Apparel or Fin Textile Products	12,143
Misc Products of Manufacturing	6,845
Instruments, Photo/Opt Goods, Etc	5,081
Furniture or Fixtures	4,930
Tobacco Products	837
Leather or Leather Products	553
Fresh Fish	104
Forest Products	45
Ordnance or Accessories	39
Total	29,787,048

Intra-County Truck Moves

Intra-county truck moves are truck moves that originate and are destined within a Florida County. Figure 4.23 shows that most intra-county truck moves correspond to the population centers and distribution center locations within Florida.

Figure 4.23 Intra-County Truck Moves



4.5 AIR CARGO FLOWS DEVELOPED FROM IHS/GLOBAL INSIGHT TRANSEARCH DATA

The IHS/Global Insight TRANSEARCH data base was used to identify the handling of domestic air freight at Florida airports, the source of the air cargo enplaned at the Florida airports, and the destination of the air cargo unloaded at Florida airports. Figure 4.24 shows the counties where air cargo is loaded in the state of Florida. As expected, the counties where the air cargo loading occurs are Miami-Dade, Broward, Palm Beach, Hillsborough, Orange and Duval, reflecting the locations of the state's major airports.

Figure 4.25 shows the destinations by BEA region of the air cargo loaded at Florida airports. As this exhibit indicates, the Florida airports serve a large number of destinations throughout the United States, reflecting the locations of major airports in these BEAs, as well as air freight hubs such as Memphis (Federal Express).

Figure 4.24 Air Cargo Loaded at Florida Airports

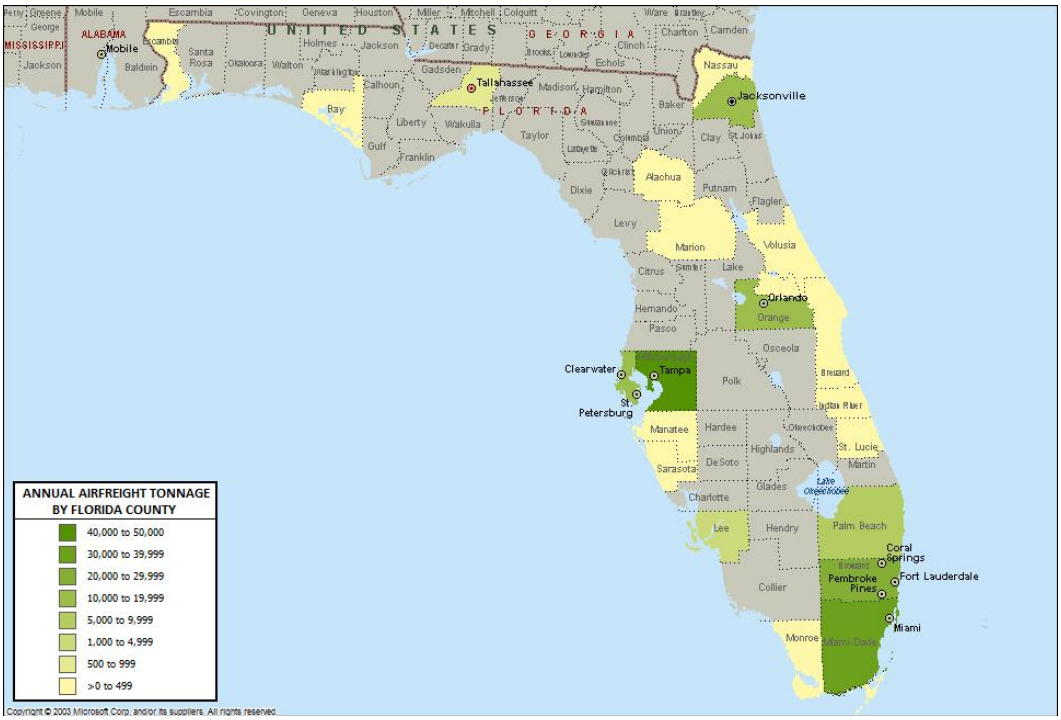
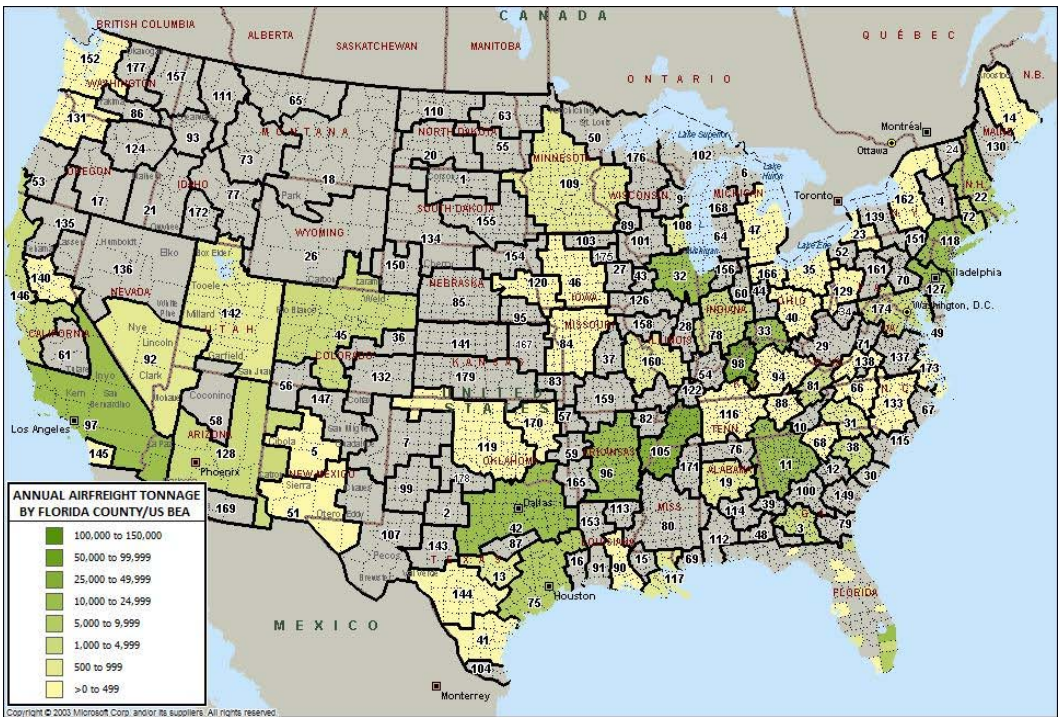


Figure 4.25 Destinations of Air Cargo Loaded at Florida Airports



As Figure 4.26 shows, the counties where air freight is unloaded again reflects the location of Florida's major airports. Figure 4.27 shows the origins of the air freight offloaded at Florida airports. The major origins reflect the freight hub of Federal Express in Memphis, as well as the volume of air freight leaving Atlanta, Chicago, Los Angeles, Denver, Philadelphia, and New York.

Figure 4.28 shows the origins of air freight cargo that is trucked to the Florida airports, and indicates that most air cargo that is trucked to the Florida airports originates within the state.

Figure 4.29 shows the destinations of airfreight unloaded at Florida airports and trucked to these destinations. Most of the airfreight discharged at Florida airports is trucked to local destinations in the counties in which the air freight is discharged.

The TRANSEARCH data base does not provide air freight flows for international cargo. To identify the commodities moving internationally by each Florida airport, Census data were used. Miami International Airport is by the far the largest cargo operation in Florida (handling over 2.1 million tons in 2007), representing over 75 percent of the state's air cargo. Orlando International Airport is a distant second (handling just over 200,000 tons). Tables 4.6 and 4.7 show the international air cargo moving via these two largest facilities. Table 4.8 shows the major trading partners.

Figure 4.26 Air Freight Discharged by Florida County

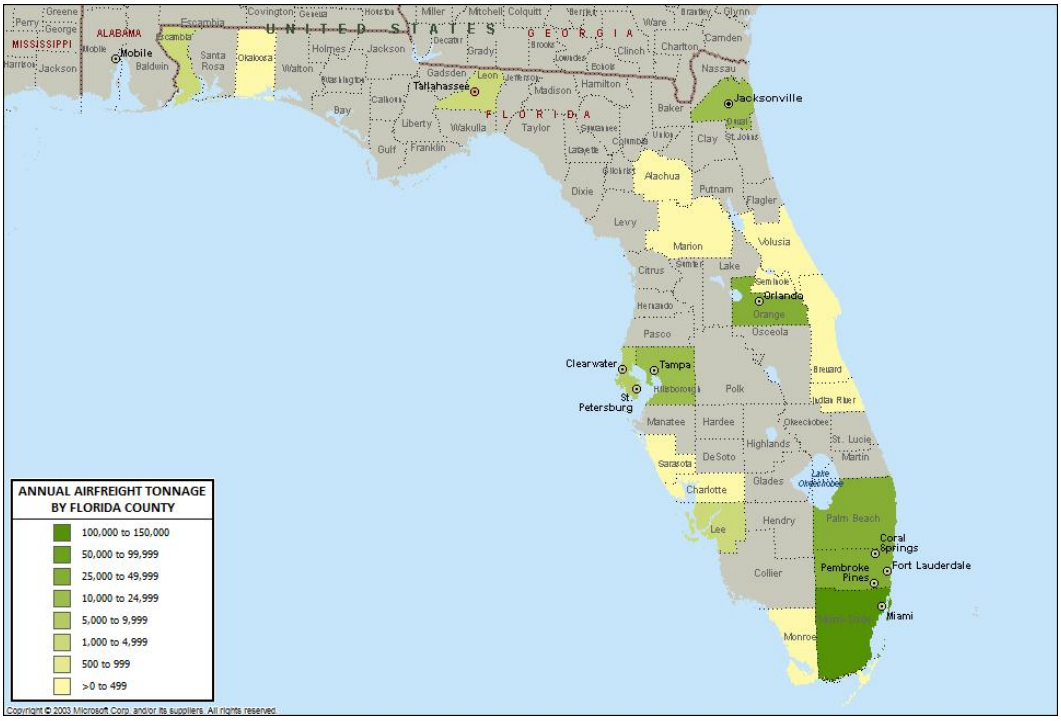


Figure 4.27 Origins of Air Freight Unloaded at Florida Airports

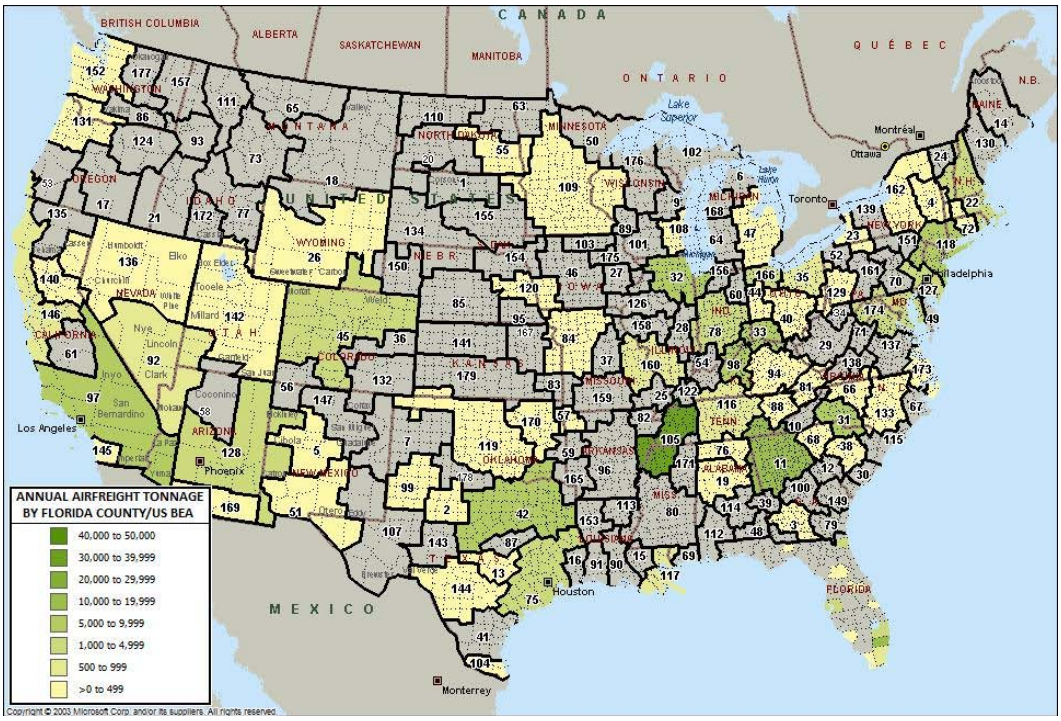


Figure 4.28 Origins of Air Freight Trucked to Florida Airports

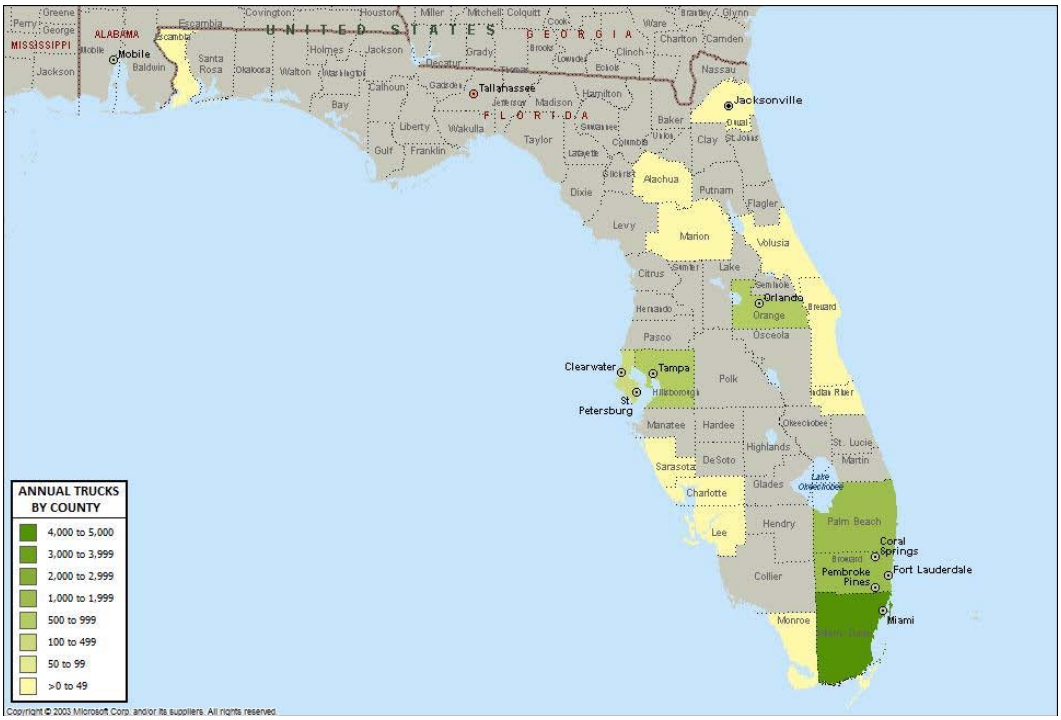


Figure 4.29 Destinations of Air Freight Discharged at Florida Airports

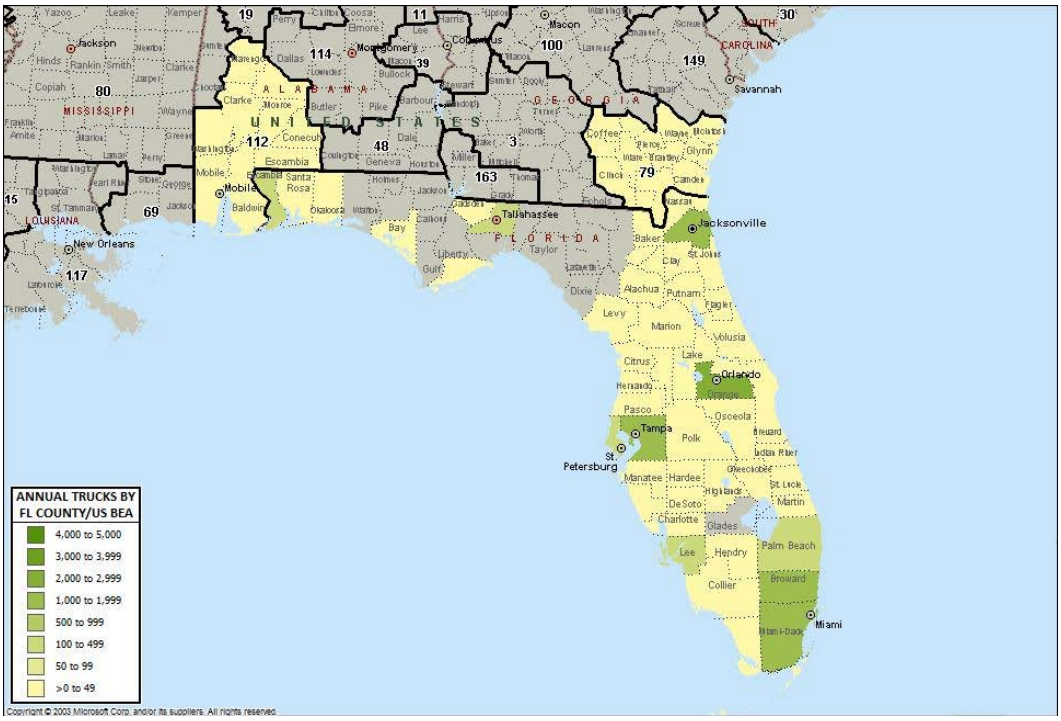


Table 4.6 Value of International Air Cargo Loaded and Discharged at Miami and Orlando Florida Airport (2009)

MIAMI INTERNATIONAL - IMPORTS

World Region	Value ($)
71 Nat Etc Pearls, Prec Etc Stones, Pr Met Etc; Coin	$2,586,756,373
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	$2,477,241,635
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	$1,156,175,006
98 Special Classification Provisions, Nesoi	$795,329,000
03 Fish, Crustaceans & Aquatic Invertebrates	$708,592,027
06 Live Trees, Plants, Bulbs Etc.; Cut Flowers Etc.	$702,452,615
90 Optic, Photo Etc, Medic Or Surgical Instrments Etc	$446,853,858
97 Works Of Art, Collectors'' Pieces And Antiques	$316,228,955
61 Apparel Articles And Accessories, Knit Or Crochet	$314,463,862
29 Organic Chemicals	$307,382,769
Other	$1,460,516,317
Total	**$11,271,992,417**

ORLANDO INTERNATIONAL - IMPORTS

World Region	Value ($)
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	$63,448,180
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	$60,348,147
90 Optic, Photo Etc, Medic Or Surgical Instrments Etc	$38,940,118
98 Special Classification Provisions, Nesoi	$18,384,416
03 Fish, Crustaceans & Aquatic Invertebrates	$17,884,346
29 Organic Chemicals	$4,712,397
93 Arms And Ammunition; Parts And Accessories Theree	$3,928,489
30 Pharmaceutical Products	$3,916,935
73 Articles Of Iron Or Steel	$3,691,752
94 Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd	$3,251,361
Other	$35,265,189
Total	**$253,771,330**

MIAMI INTERNATIONAL - EXPORTS

World Region	Value ($)
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	$6,747,134,858
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	$5,376,117,542
71 Nat Etc Pearls, Prec Etc Stones, Pr Met Etc; Coin	$3,484,596,532
88 Aircraft, Spacecraft, And Parts Thereof	$3,273,099,135
90 Optic, Photo Etc, Medic Or Surgical Instrments Etc	$2,308,848,905
30 Pharmaceutical Products	$977,054,557
38 Miscellaneous Chemical Products	$252,451,378
95 Toys, Games & Sport Equipment; Parts & Accessorie	$243,552,758
39 Plastics And Articles Thereof	$219,412,540
29 Organic Chemicals	$203,706,654
Other	$1,807,695,955
Total	**$24,893,670,814**

ORLANDO INTERNATIONAL - EXPORTS

World Region	Value ($)
90 Optic, Photo Etc, Medic Or Surgical Instrments Etc	$111,919,966
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	$90,933,777
30 Pharmaceutical Products	$40,813,323
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	$35,567,450
88 Aircraft, Spacecraft, And Parts Thereof	$24,145,944
49 Printed Books, Newspapers Etc; Manuscripts Etc	$6,104,456
06 Live Trees, Plants, Bulbs Etc.; Cut Flowers Etc.	$4,347,471
95 Toys, Games & Sport Equipment; Parts & Accessories	$3,270,834
29 Organic Chemicals	$2,799,616
71 Nat Etc Pearls, Prec Etc Stones, Pr Met Etc; Coin	$2,584,716
Other	$23,791,157
Total	**$346,278,710**

Table 4.7 Tonnage of International Air Cargo Loaded and Discharged at Miami and Orlando (2009)

MIAMI INTERNATIONAL - IMPORTS

World Region	Tons
06 Live Trees, Plants, Bulbs Etc.; Cut Flowers Etc.	147,532
03 Fish, Crustaceans & Aquatic Invertebrates	108,859
07 Edible Vegetables & Certain Roots & Tubers	84,113
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	28,498
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	14,250
61 Apparel Articles And Accessories, Knit Or Crochet	12,263
10 Cereals	11,137
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	10,720
62 Apparel Articles And Accessories, Not Knit Etc.	5,407
98 Special Classification Provisions, Nesoi	4,632
Other	41,280
Total	**468,692**

ORLANDO INTERNATIONAL - IMPORTS

World Region	Tons
03 Fish, Crustaceans & Aquatic Invertebrates	2,561
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	1,097
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	732
90 Optic, Photo Etc, Medic Or Surgical Instrments Etc	450
94 Furniture; Bedding Etc; Lamps Nesoi Etc; Prefab Bd	252
87 Vehicles, Except Railway Or Tramway, And Parts Etc	190
39 Plastics And Articles Thereof	184
30 Pharmaceutical Products	161
40 Rubber And Articles Thereof	151
07 Edible Vegetables & Certain Roots & Tubers	139
Other	1,920
Total	**7,837**

MIAMI INTERNATIONAL - EXPORTS

World Region	Tons
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	91,751
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	48,065
90 Optic, Photo Etc, Medic Or Surgical Instrments Etc	17,723
73 Articles Of Iron Or Steel	13,220
39 Plastics And Articles Thereof	11,200
04 Dairy Prods; Birds Eggs; Honey; Ed Animal Pr Nesoi	8,742
87 Vehicles, Except Railway Or Tramway, And Parts Etc	7,878
38 Miscellaneous Chemical Products	7,396
88 Aircraft, Spacecraft, And Parts Thereof	6,878
30 Pharmaceutical Products	6,723
Other	94,681
Total	**314,256**

ORLANDO INTERNATIONAL - EXPORTS

World Region	Tons
07 Edible Vegetables & Certain Roots & Tubers	1,244
06 Live Trees, Plants, Bulbs Etc.; Cut Flowers Etc.	964
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	879
90 Optic, Photo Etc, Medic Or Surgical Instrments Etc	740
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	432
39 Plastics And Articles Thereof	363
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	328
87 Vehicles, Except Railway Or Tramway, And Parts Etc	319
30 Pharmaceutical Products	259
73 Articles Of Iron Or Steel	221
Other	1,974
Total	**7,723**

Table 4.8 Major International Trading Partners for Miami and Orlando

MIAMI INTERNATIONAL - IMPORTS

World Region	Tons
South America	334,442
Central America	65,730
Northern Europe	27,707
Caribbean	18,257
Southeast Asia	11,921
Mediterranean	5,430
Japan/Korea	1,968
South Asia	1,666
Africa	830
Middle East	451
Canada	213
Australia/New Zealand	73
Other	3
Total	**468,692**

ORLANDO INTERNATIONAL - IMPORTS

World Region	Tons
Northern Europe	5,560
Mediterranean	855
South America	734
South Asia	408
Southeast Asia	156
Africa	38
Canada	28
Middle East	23
Japan/Korea	12
Caribbean	11
Central America	9
Australia/New Zealand	3
Total	**7,837**

MIAMI INTERNATIONAL - EXPORTS

World Region	Tons
South America	232,693
Central America	34,705
Caribbean	18,587
Northern Europe	10,691
Mediterranean	6,661
Southeast Asia	4,639
Middle East	2,258
Africa	1,653
Japan/Korea	1,502
Australia/New Zealand	350
South Asia	336
Canada	131
Other	50
Total	**314,256**

ORLANDO INTERNATIONAL - EXPORTS

World Region	Tons
Northern Europe	5,852
Mediterranean	470
Middle East	335
South America	316
South Asia	300
Japan/Korea	120
Africa	109
Southeast Asia	102
Canada	54
Australia/New Zealand	44
Central America	12
Caribbean	7
Other	0
Total	**7,723**

4.6 RAIL FLOWS BASED ON SURFACE TRANSPORTATION 1% WAYBILL SAMPLE

Rail Freight Destined For Florida

Figure 4.30 shows the origins of all rail cargo destined for Florida. The major origins of the rail cargo destined for Florida are the Georgia, Tennessee, West Virginia, Chicago BEAs, as well as Miami-Dade County and Polk County. The major consumption points for rail cargo in Florida are shown in Figure 4.31. Hillsborough, Polk, and Duval counties are the leading counties in terms of rail freight receipts, while the Atlantic Coast Florida all receive significant rail cargo.

Containerized Cargo Railed into Florida

Figure 4.32 shows the origins of containerized cargo (container on flat car [COFC] and trailer on flat car [TOFC]) destined for Florida. As depicted, the origins are the major seaport areas in the United States, such as Los Angeles/Long Beach, New York, New Orleans and Savannah, as well as the major intermodal points in the region such as Chicago, Atlanta and Dallas.

Figure 4.33 shows the destinations of the COFC/TOFC cargo in Florida. These are consistent with the location of rail hubs and population centers in the state. The major containerized cargo destined for Florida are mixed shipments/freight of all kind followed by food and kindred products, apparel, chemicals and hazardous materials. The largest moves are from Duval County to Miami-Dade County, followed by Chicago to Duval County and then Duval County to Broward County.

Figure 4.30 Origins of Rail Freight Destined for Florida

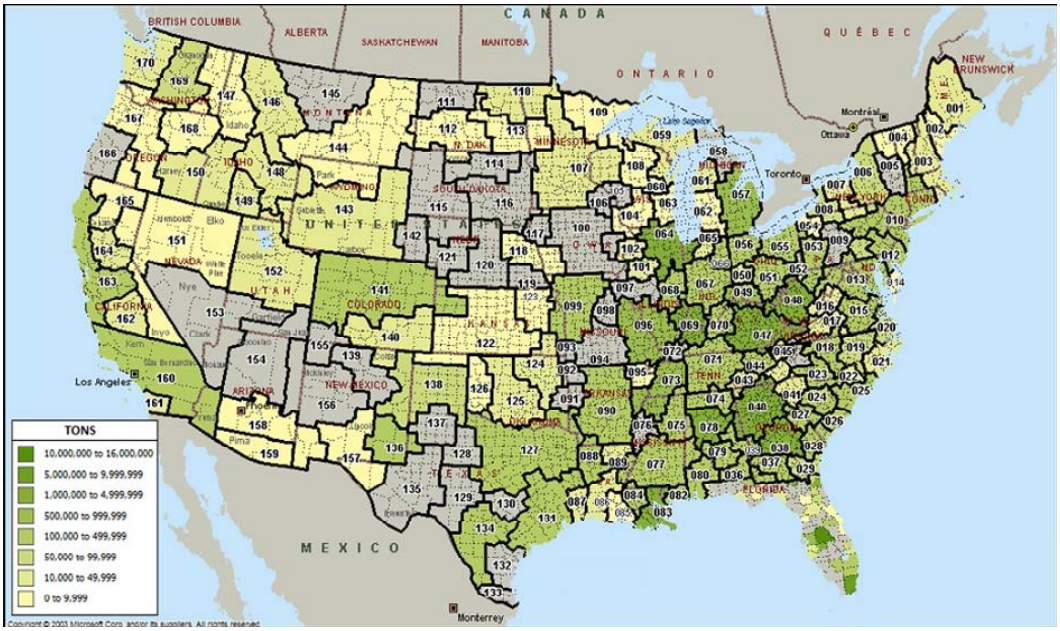


Figure 4.31 Destinations of All Rail Freight Cargo in Florida

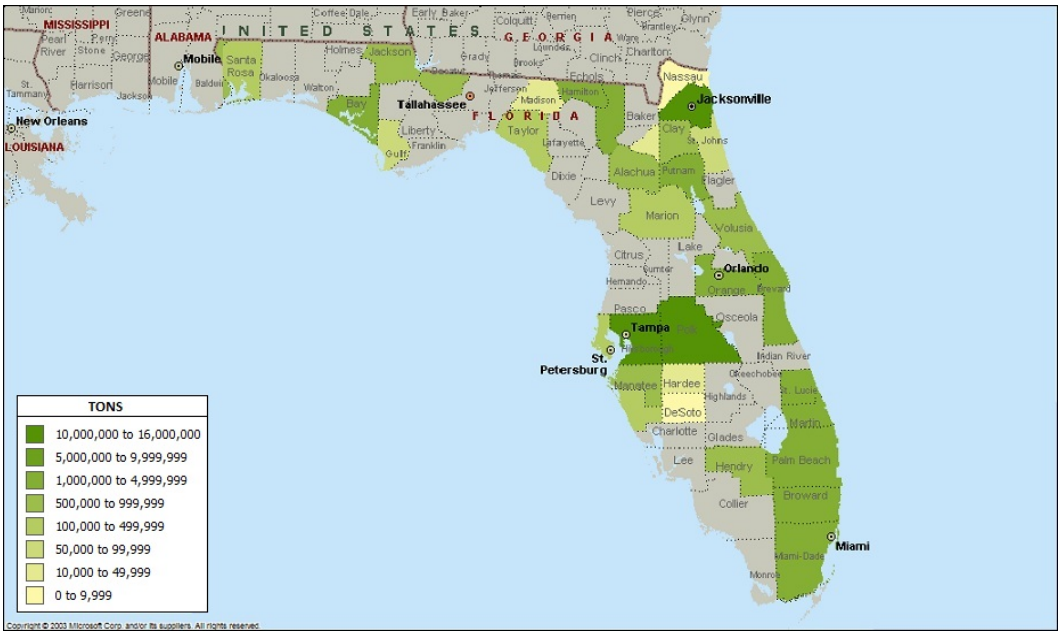


Figure 4.32 Origins of COFC/TOFC Cargo Destined for Florida

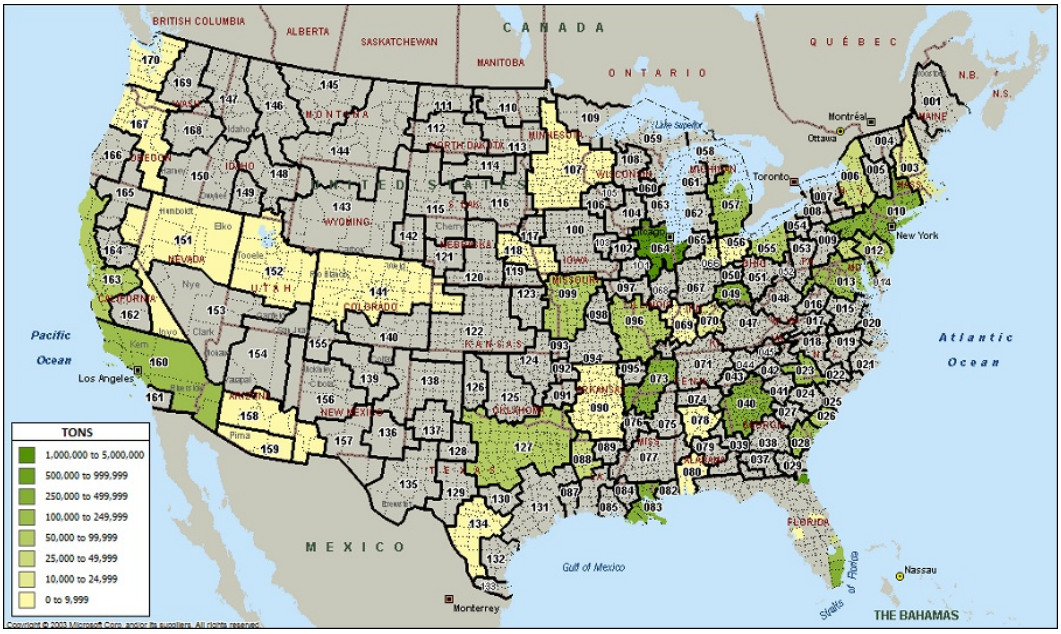
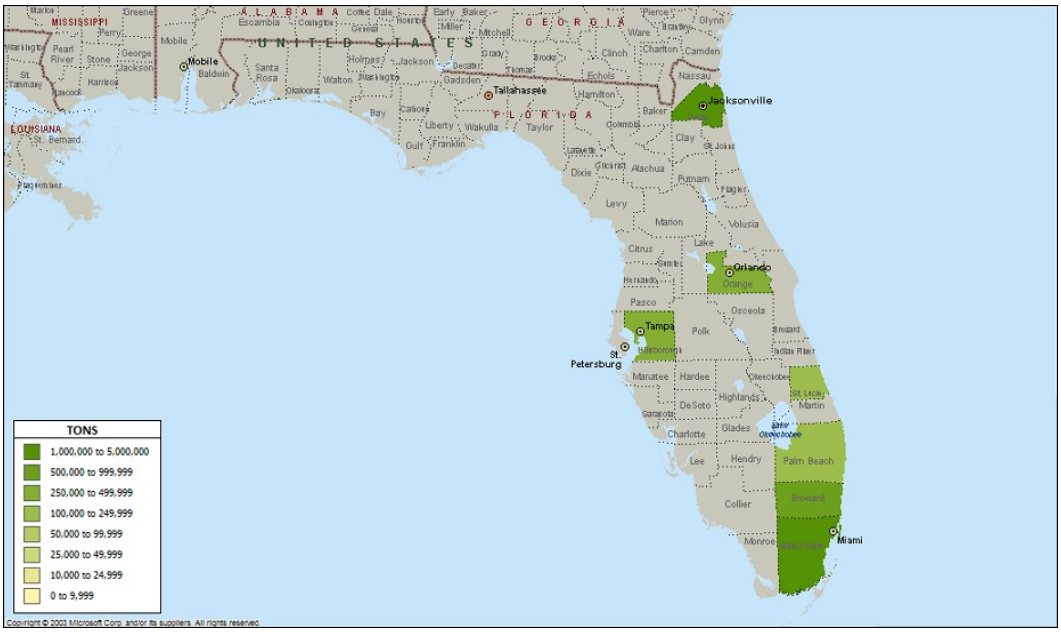


Figure 4.33 Destinations of COFC/TOFC Cargo in Florida



Non-Containerized General Cargo Railed into Florida

The origins of non-containerized general cargo rail freight are shown in Figure 4.34. The major commodities moving from these origins to Florida include transportation equipment (automobiles), food and kindred products (particularly from the San Francisco BEA), and primary metal products. The major origins of non-containerized cargo into Florida are the Louisville, Detroit, Birmingham, New Orleans, and San Francisco BEAs.

As shown in Figure 4.35, the major destination areas of the break bulk cargo are Duval, Miami-Dade, Hillsborough, Orange, Broward, and Palm Beach counties. These locations represent the major population areas.

Figure 4.34 Origins of Non-Containerized General Cargo Moving by Rail into Florida

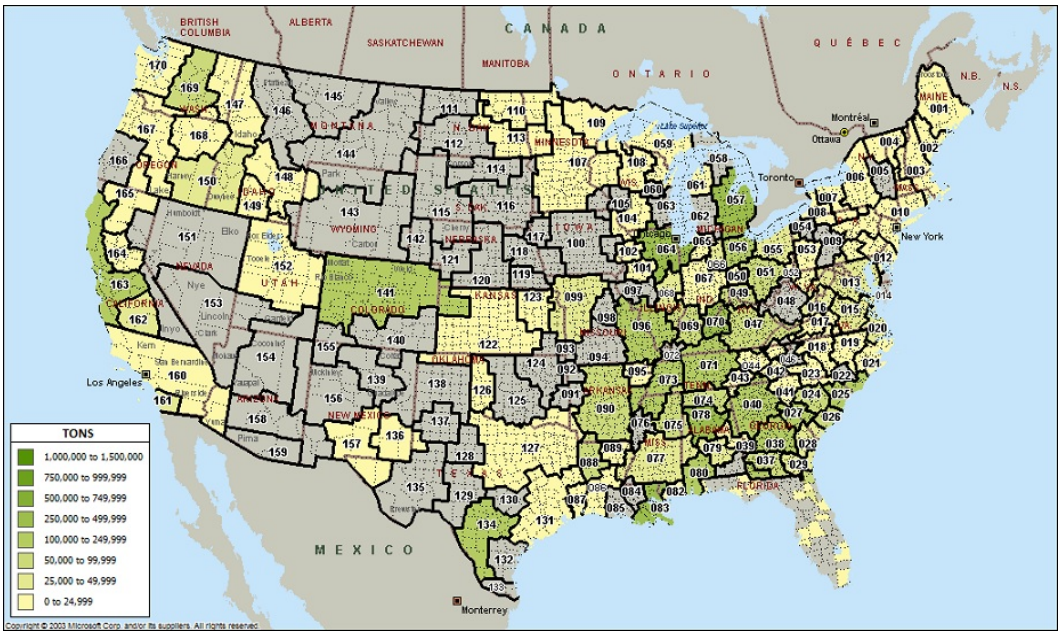
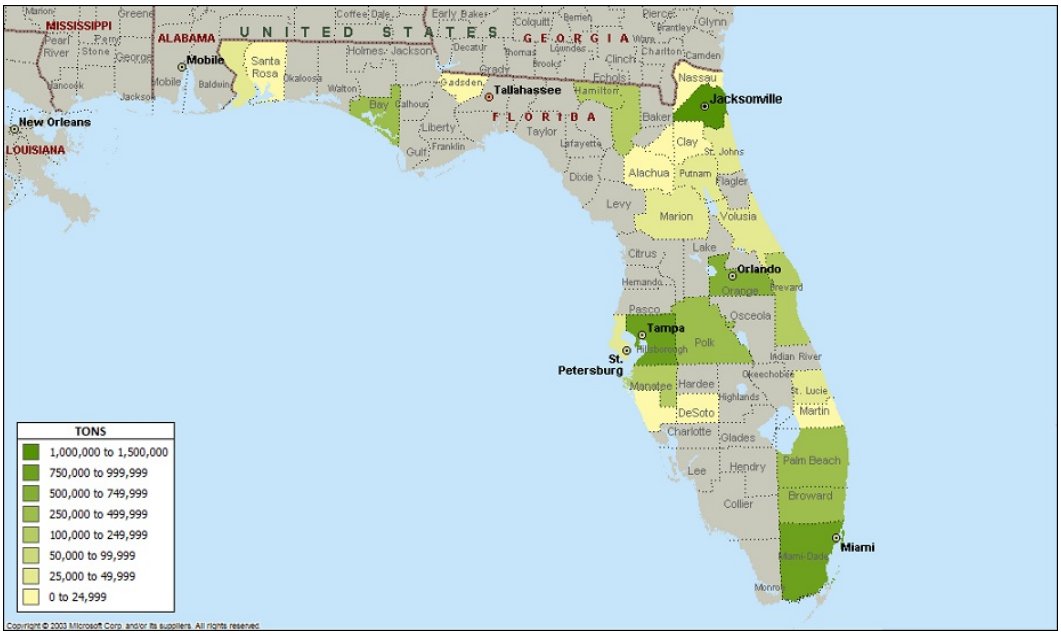


Figure 4.35 Florida Destinations of Non-Containerized General Cargo



Bulk Cargo Railed into Florida

Figure 4.36 shows the origins of bulk cargoes railed into Florida. The bulk cargoes represent greatest tonnage moved into Florida, and the key non-Florida origins are Evansville (IN), Lexington (KY), and Charleston (WV). Within Florida, the key origins of intrastate bulk rail moves are Polk County, Hardee County, and Miami-Dade. The major commodities from out of state origins are coal and chemicals. Within state, the major bulk moves are non-metallic ores/minerals, clay/concrete, and chemicals and allied products.

Figure 4.37 presents the major destinations of bulk cargoes railed into Florida. The major origin and destination of railed bulk cargo is Polk County, which consists of more than 7 million tons of non-metallic ores and minerals, primarily phosphate mined in the County. The next largest rail move is the non-metallic ores moved from Polk County to Hillsborough County, primarily to the Port of Tampa.

Figure 4.36 Origins of Bulk Cargoes Railed into Florida

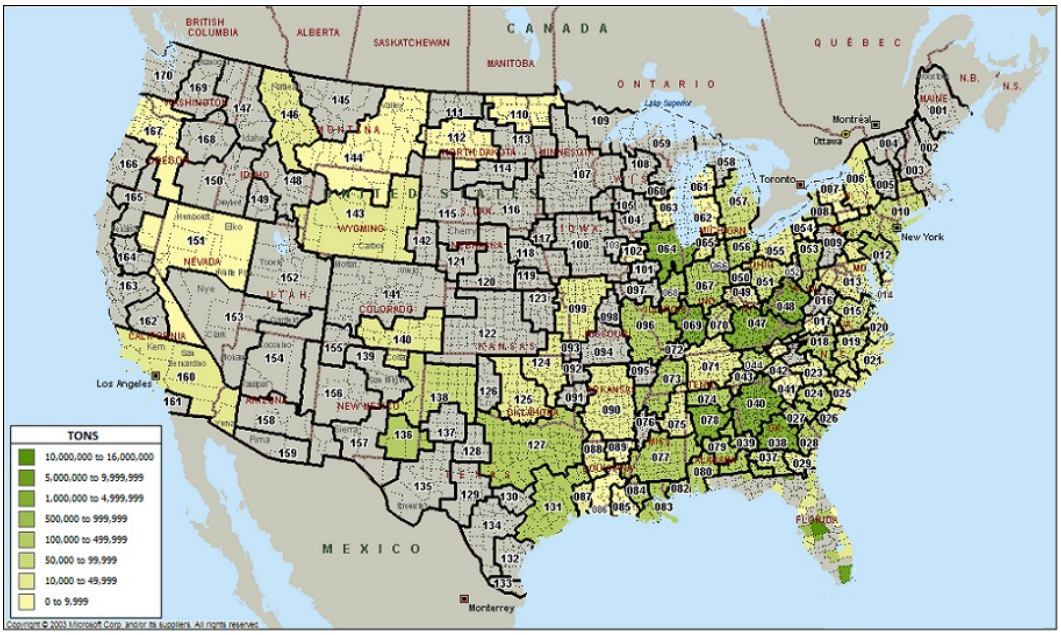
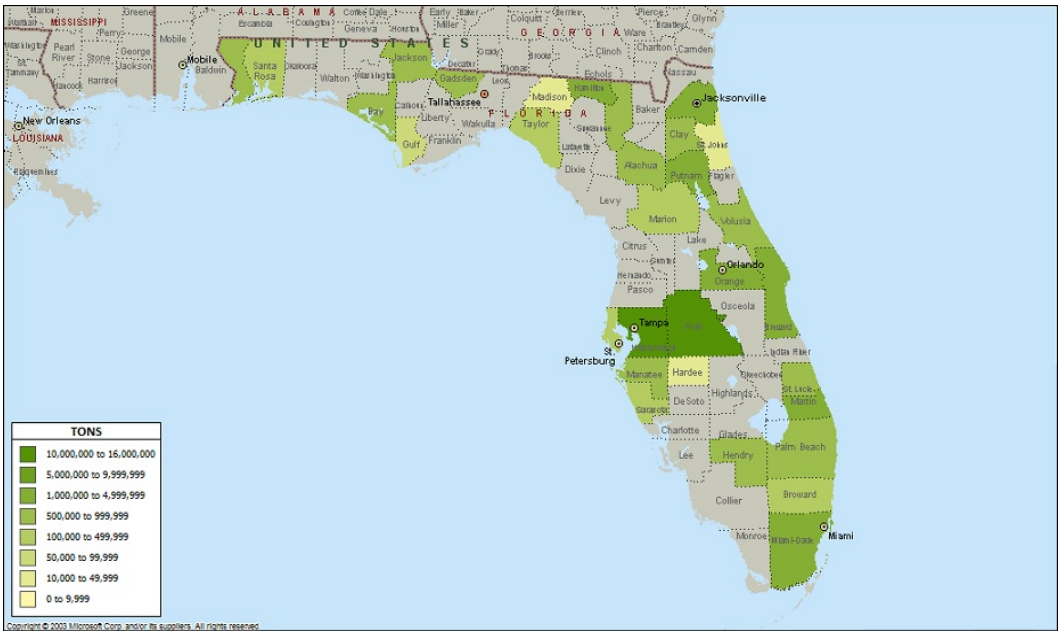


Figure 4.37 Destinations of Bulk Cargo Railed Into Florida Counties



Rail Flows Originating in Florida

Figure 4.38 presents the sources of all rail cargo originating in the state of Florida. The major origins of rail traffic from Florida origins are Polk County and Miami-Dade County, reflecting the railed phosphate that originates in this county. The concentration of rail moves from Miami-Dade County reflects the movement of limestone from this county.

Figure 4.39 shows the destinations of rail cargo that originates in Florida. As this map indicates, unlike the rail moving into Florida, the majority of rail originating in Florida is distributed to a more regional market.

Figure 4.38 Origins of All Rail Cargo from Florida Counties

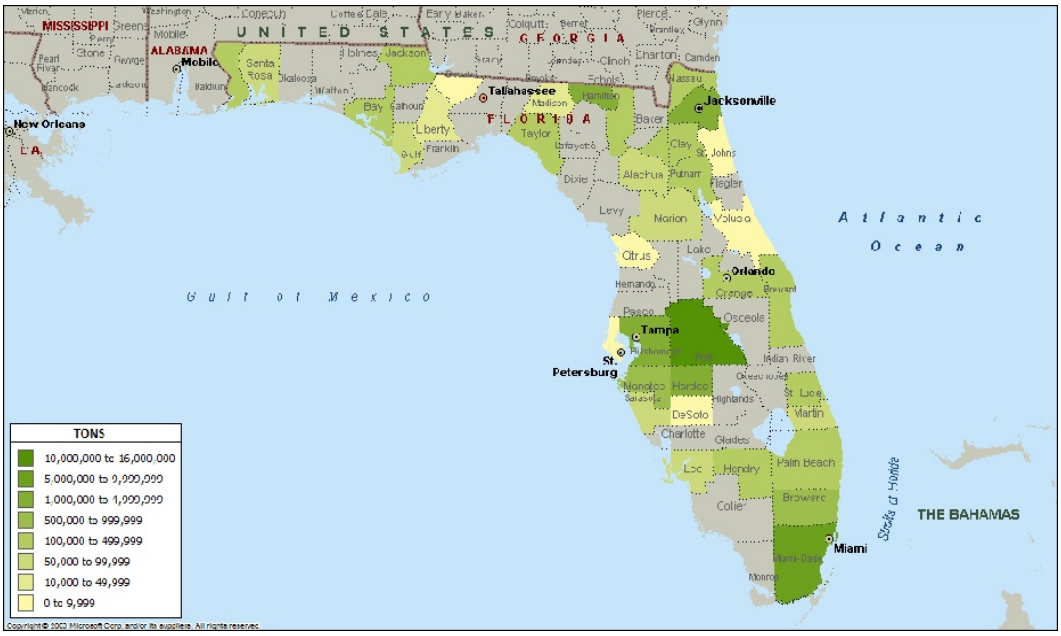
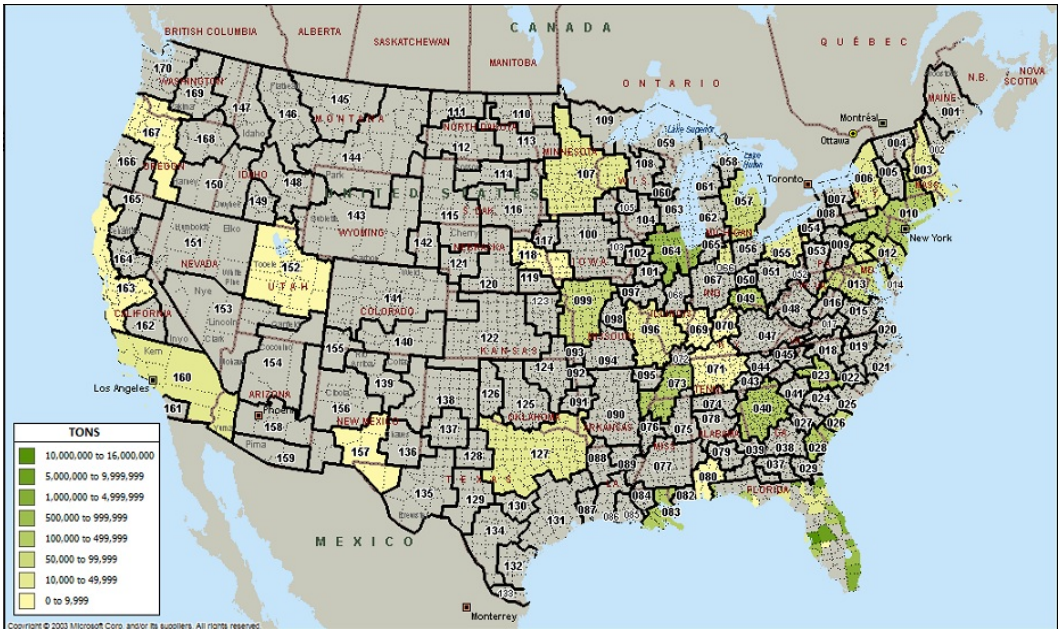


Figure 4.39 Destinations of Rail Cargo Originating in Florida



Rail Flows of Containerized Cargo (COFC/TOFC) Originating in Florida Counties

Figure 4.40 shows the origins of COFC/TOFC cargo in Florida. Duval County is the major origin of the COFC/TOFC cargo in Florida, followed by Miami-Dade, Broward, Palm Beach, and Hillsborough counties, reflecting the seaport activities in these counties. Figure 4.41 shows the destinations of the COFC/TOFC cargo originating in Florida. The major cargoes moving from the Florida counties include freight of all kind/miscellaneous mixed shipments moving from Duval County to Miami-Dade County and Broward County, a portion of which is exported to the Caribbean islands. Pulp and paper also moves from Duval County to Chicago, as does empty containers and mixed shipments. A major COFC/TOFC move from Miami-Dade County includes mixed shipments and empty containers to Duval County.

Rail Flows of Non-Containerized Break Bulk Cargo Originating in Florida Counties

Figure 4.42 shows the origins of break bulk rail flows from Florida. This is a limited sized market, and the majority of commodities moving from Florida include food and kindred products from Manatee County, autos and pulp and paper from Duval County, and pulp and paper from Taylor County.

Figure 4.43 shows the destinations of break bulk cargo railed from Florida counties. The major out of state destinations include the New York BEA, Cincinnati BEA, Savannah BEA, Los Angeles BEA, Johnson City (TN) BEA, the Nashville BEA and the Chicago BEA. The key commodities moving out of state include food and kindred products from Manatee and St. Lucie counties and pulp and paper from Duval County.

Figure 4.40 Origins of COFC/TOFC Cargo in Florida

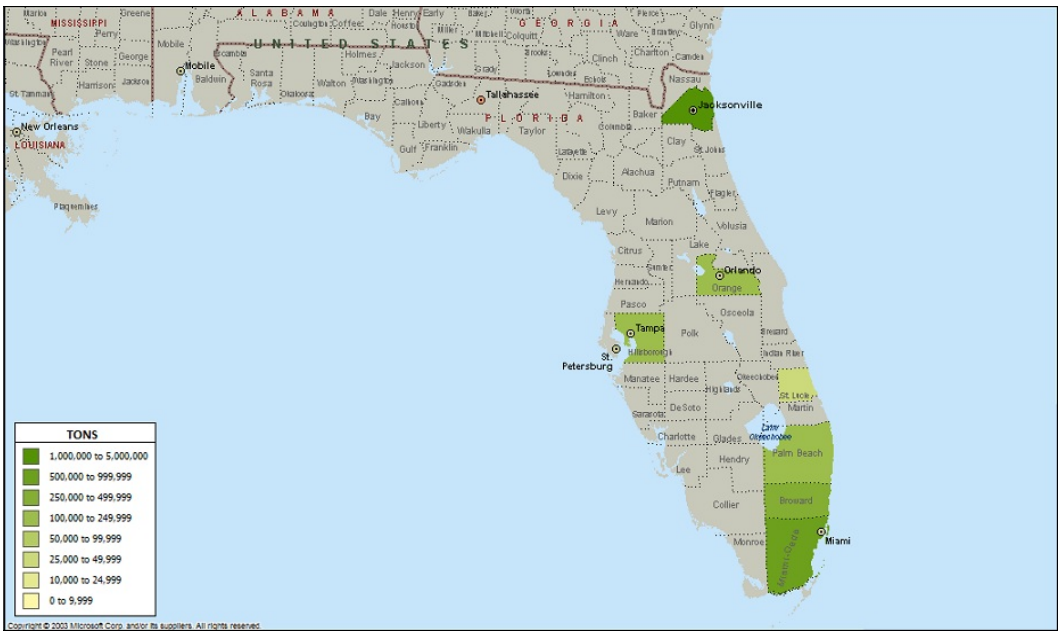


Figure 4.41 Destinations of COFC/TOFC Cargo Originating in Florida

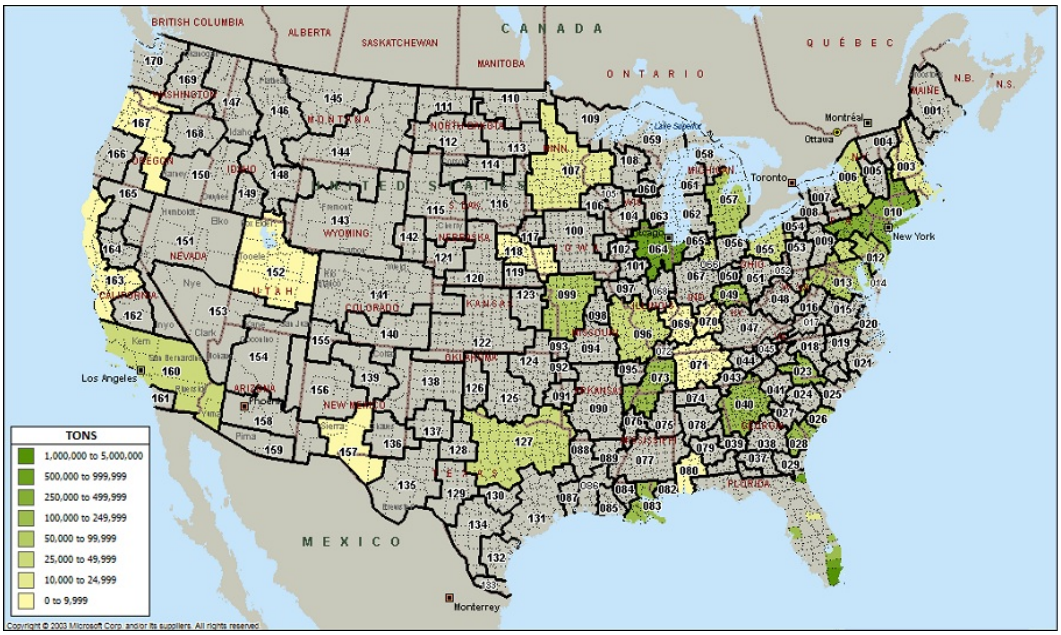


Figure 4.42 Origins of Break Bulk Cargo Railed from Florida Counties

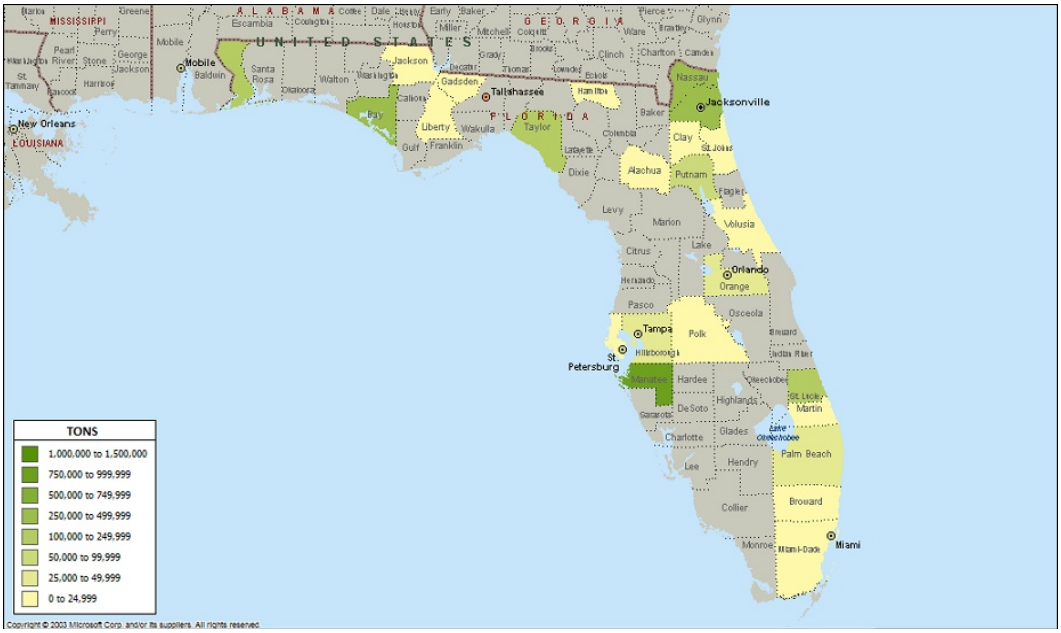
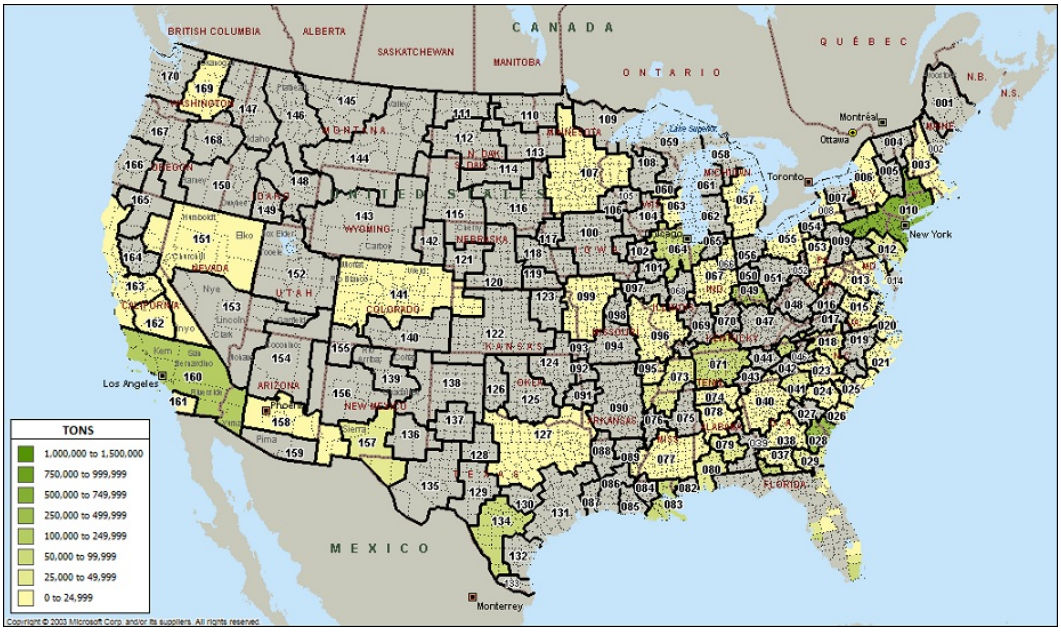


Figure 4.43 Destinations of Break Bulk Rail Flows from Florida



Rail Flows of Bulk Cargoes Originating in Florida Counties

Figure 4.44 shows the origins of bulk cargoes railed from Florida counties. The major bulk rail moves originating in Florida are also consumed in Florida. Polk County is the major origin of the railed bulk cargoes, reflecting the phosphate moves from the mines in this county to other counties within Florida, particularly Hillsborough County for export via the Port of Tampa. The key moves of bulk cargoes originating in Miami-Dade County consist of ores including limestone and cement.

Figure 4.45 shows the destinations of bulk rail cargo moving from Florida. The majority of the rail moves are within the state, while other major destinations of the bulk rail moves are destined to areas east of the Mississippi River. There is a major move of minerals/ores (phosphate) to the Houston BEA.

Figure 4.44 Origins of Bulk Cargoes Railed From Florida

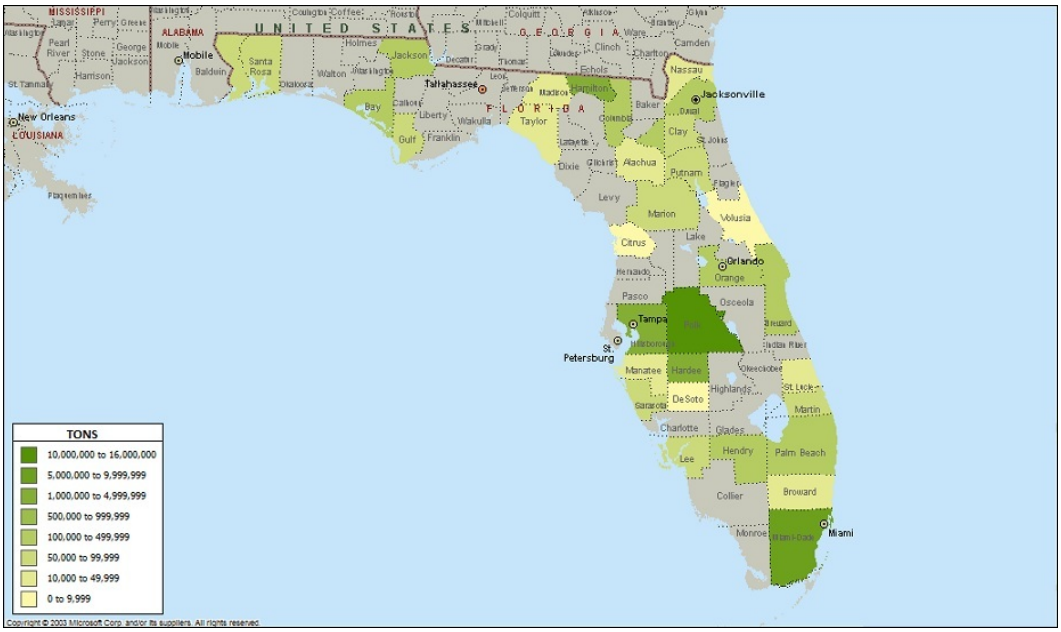
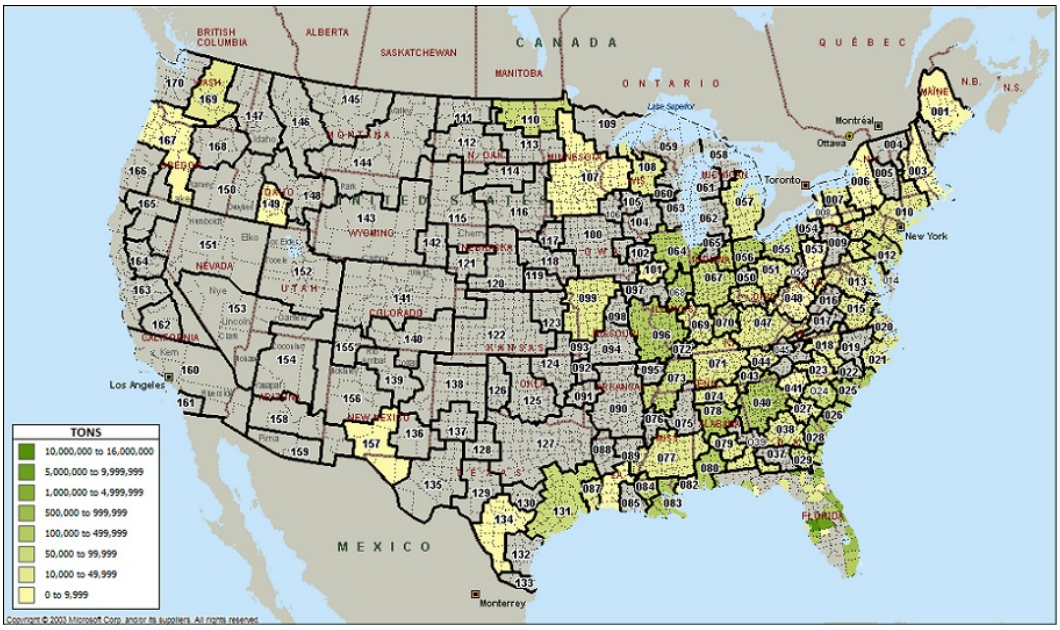


Figure 4.45 Destinations of Bulk Cargo Railed from Florida



4.7 CARGO FORECAST METHODOLOGY

Forecasts were developed for each modal data set. Ten, twenty-five, and fifty year forecasts were developed to provide a short, medium and long term forecasts. This section defines the methodology by mode, cargo type, and direction. Appendix C provided detailed documentation of the growth factors and forecasts.

For International Waterborne Cargo Moving Via Florida Seaports

Separate projection analyses were used for each cargo category (containerized, break bulk, and bulk imports and exports.

Containerized Cargo

For the baseline containerized imported cargo projections, projected state GDP drives future container flows by Florida seaport. This relationship between imported containers and GDP is a demonstrated statistical relationship.

Baseline exported containerized cargo was based on GDP projections of trading partners for Florida export cargoes. The weighted GDP of the trading partners was developed based on the share of export containers moving on the trade lanes associated with the Florida seaports. The weighted growth rates for GDP were then used to project the baseline export cargo. Growth estimates did not assume any shift in trade patterns other than the differences in GDP growth.

Break Bulk and Bulk Cargo Flows

Break bulk export cargoes were projected by applying the appropriate trading country GDP growth rates, as developed from data supplied by Cambridge Systematics. The break bulk imports into Florida are driven by the average Florida state employment projections for retail and wholesale trade, construction, trade and transportation and utilities, as supplied by Moody's.

Truck Flows

Domestic and International Bulk and Break Bulk Truck Flows from Florida Counties

The starting point for the domestic truck flows originating in a Florida county was to develop the top two digit commodities that move out of the state by truck, for domestic break bulk or bulk truck moves. Each commodity was associated with a producing industry, and the employment projections for that industry in Florida area were used to project the flows out of each county, based on the composition of the baseline truck flows by commodity in each county. This methodology, using industry employment projections, was applied to each Florida county to U.S. BEA (region) or to another Florida county, based on commodity moving out of the county by truck. For an export commodity moving out of a Florida county by truck to a seaport area, the weighted average country GDP of each trading partner for break bulk and bulk commodities were generated, and applied to either the break bulk move or the bulk move.

Domestic and International Bulk and Break Bulk Truck Flows to Florida Counties

For domestic inbound truck cargo destined for Florida, the major two digit commodity was associated with a consuming industry. The Florida state employment growth rates for the associated consuming industries were then used to forecast the break bulk truck flows into the Florida counties. This same methodology was used for truck cargo (break bulk and bulk) imported via non-Florida ports and consumed by Florida county. For international truck cargo both bulk and break bulk, trucked into a Florida county for export via a Florida seaport, the weighted average GDP growth rates for the associated trading partners with Florida seaports for bulk and break bulk cargoes were used to forecast the international bulk and break bulk truck flows into Florida for export.

Warehouse/Intermodal/Distribution Center Cargo

For warehouse cargo trucked from Florida to non-Florida destinations, U.S. GDP projections are used to project the truck flows. For warehoused cargo moving into Florida, the baseline truck flows were driven by Florida GSP projections.

Air Cargo

Interviews were conducted with Miami, Tampa, and Fort Lauderdale airports. Given its dominant position (over 75 percent of the state's air cargo), the projected growth of

international cargo and domestic cargo was based on forecast estimates provided by Miami International Airport. A 3.6 percent annual growth rate was applied to all air cargo (domestic and international) based on the internal projections for international air cargo prepared by Miami International Airport.

Rail Cargo Projections

Bulk and Break Bulk Rail Commodities Projections

The two digit commodities for the rail shipments from Florida were identified. The top commodities (bulk and break bulk) shipped by rail from each Florida County were associated with a producing industry and the employment projections for that industry are used to drive the rail shipments from the Florida County. For rail shipments into Florida, the top two digit commodities were identified and associated with a consuming sector for the bulk and break bulk rail receipts. The employment growth projections in these consuming industries by county and U.S. BEA regions were used to grow the rail bulk and break bulk receipts. One exception was the use of population projections in the state to project automobile receipts by rail.

Rail COFC/TOFC Projections

TOFC/COFC rail shipments from a Florida County to U.S. BEAs were driven by U.S. GDP projections. For TOFC/COFC cargo shipped to another Florida County, Florida GSP projections were the driver. For TOFC/COFC rail moves into Florida Counties, the state GDP is the driver.

4.8 CARGO FLOW FORECASTS

Based upon the methodology described above, and the detailed growth rates provide in Appendix C, forecasts were developed for mode.

Projected Waterborne Cargo Flows

Total international waterborne imports through Florida seaports are projected to grow by 2.1 percent per year over the next 10 years. Imports are projected to grow at 1.6 percent per year, and exports are projected to grow at 2.8 percent per year.

Imported containers are projected to grow at 3.1 percent annually over the next ten years, assuming that Florida seaports do not increase their share of imported Asian containers moving into Florida from other non-Florida seaports. Containerized exports are projected to grow by 2 percent annually over the same 10 year period.

Break bulk imports are projected to remain nearly constant over the next 10 years, while break bulk exports are projected to grow by 3.2 percent annually.

Bulk imports are projected to grow 1.4 percent annually over the next 10 years, while bulk exports are projected to grow by 4.3 percent annually.

The 10, 35 and 50 year waterborne cargo projections for total tonnage and containers are presented in Tables 4.9 through 4.12.

Table 4.9 Waterborne Cargo Projections by Major Commodity Group

IMPORT TONS

CARGO TYPE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
BREAK BULK	2,314,780	2,326,343	2,366,555	2,385,808	2,379,827	2,363,137	2,343,470	2,321,955	2,303,754	2,284,085	2,262,894	2,152,562	2,332,903
BULK	20,546,673	21,270,780	21,769,347	22,235,628	22,500,578	22,699,424	22,869,974	23,034,047	23,169,947	23,337,478	23,518,833	25,230,546	27,938,337
CONTAINER	5,120,602	5,315,766	5,555,603	5,748,161	5,910,122	6,076,192	6,250,712	6,429,221	6,601,931	6,774,059	6,947,917	9,727,340	15,895,424
TOTAL	**27,982,054**	**28,912,888**	**29,691,505**	**30,369,597**	**30,790,527**	**31,138,753**	**31,464,156**	**31,785,223**	**32,075,631**	**32,395,621**	**32,729,644**	**37,110,449**	**46,166,664**

EXPORT TONS

CARGO TYPE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
BREAK BULK	1,758,877	1,812,688	1,868,830	1,927,402	1,988,508	2,052,259	2,118,769	2,188,159	2,260,557	2,336,096	2,414,915	3,647,999	6,570,244
BULK	4,677,868	4,871,056	5,073,842	5,286,738	5,510,289	5,745,070	5,991,689	6,250,788	6,523,048	6,809,191	7,109,977	11,456,570	22,429,783
CONTAINER	11,013,881	11,183,280	11,365,730	11,561,731	11,771,814	11,996,542	12,236,518	12,492,379	12,764,804	13,054,516	13,362,281	19,216,355	33,107,054
TOTAL	**17,450,627**	**17,867,025**	**18,308,402**	**18,775,871**	**19,270,611**	**19,793,871**	**20,346,975**	**20,931,326**	**21,548,410**	**22,199,803**	**22,887,174**	**34,320,923**	**62,107,080**

Table 4.10 Waterborne Cargo Projections by Trade Route All Commodities

IMPORT TONS

TRADE ROUTE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
CARIBBEAN	9,054,180	9,319,394	9,550,196	9,747,342	9,869,074	9,968,554	10,060,698	10,151,613	10,235,127	10,326,888	10,422,061	11,585,641	14,245,017
S AMERICA	5,221,932	5,470,719	5,636,600	5,789,797	5,873,293	5,935,678	5,989,706	6,041,065	6,082,184	6,134,420	6,191,214	6,965,407	7,963,317
N EUROPE	3,945,211	4,029,916	4,114,273	4,186,286	4,231,815	4,268,723	4,303,051	4,337,130	4,369,410	4,403,305	4,438,399	4,839,999	5,918,607
CANADA	3,108,118	3,253,324	3,343,489	3,428,671	3,473,007	3,504,234	3,529,699	3,553,405	3,571,010	3,595,757	3,623,249	3,931,143	4,200,376
C AMERICA	2,937,540	3,022,982	3,111,900	3,186,517	3,242,076	3,294,243	3,346,582	3,399,581	3,450,246	3,502,182	3,555,187	4,300,920	6,009,446
SE ASIA	1,565,450	1,616,569	1,681,788	1,733,021	1,773,257	1,813,242	1,855,010	1,897,596	1,938,728	1,979,463	2,020,559	2,682,923	4,206,071
MED SEA	964,247	992,094	1,021,241	1,045,306	1,061,827	1,076,718	1,091,497	1,106,373	1,120,363	1,134,687	1,149,352	1,355,620	1,838,072
FAR EAST	846,747	859,039	874,407	887,351	896,255	903,765	910,932	918,164	925,273	932,345	939,591	1,011,732	1,250,553
AFRICA	131,839	135,947	139,224	142,176	143,882	145,183	146,342	147,465	148,455	149,582	150,784	166,722	197,428
AUSTRALIA/NZ	103,663	107,183	110,030	112,563	114,179	115,542	116,820	118,088	119,225	120,480	121,794	137,616	169,751
MID EAST	62,539	63,274	64,354	65,224	65,688	65,989	66,249	66,498	66,761	67,006	67,260	71,518	86,352
S ASIA	40,493	42,350	43,904	45,240	46,070	46,781	47,466	48,143	48,748	49,406	50,092	61,100	81,536
OTHER	96	97	100	101	102	102	102	102	102	102	102	109	140
TOTAL	**27,982,054**	**28,912,888**	**29,691,505**	**30,369,597**	**30,790,527**	**31,138,753**	**31,464,156**	**31,785,223**	**32,075,631**	**32,395,621**	**32,729,644**	**37,110,449**	**46,166,664**

EXPORT TONS

TRADE ROUTE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
CARIBBEAN	6,929,987	6,931,247	6,937,914	6,950,066	6,967,782	6,991,152	7,020,268	7,055,232	7,096,152	7,143,141	7,196,322	9,492,630	15,145,136
S AMERICA	2,688,403	2,773,343	2,861,319	2,952,458	3,046,894	3,144,766	3,246,221	3,351,414	3,460,507	3,573,671	3,691,086	5,819,726	11,038,836
C AMERICA	2,434,559	2,530,887	2,631,191	2,735,643	2,844,419	2,957,703	3,075,690	3,198,581	3,326,585	3,459,924	3,598,825	5,692,412	10,845,908
S ASIA	2,172,456	2,285,038	2,403,466	2,528,045	2,659,093	2,796,948	2,941,963	3,094,511	3,254,984	3,423,794	3,601,375	6,189,769	13,295,375
SE ASIA	1,042,020	1,112,125	1,187,213	1,267,651	1,353,833	1,446,183	1,545,157	1,651,246	1,764,977	1,886,918	2,017,679	3,278,720	5,579,805
N EUROPE	752,484	764,309	776,455	788,936	801,764	814,955	828,522	842,483	856,854	871,651	886,893	1,126,627	1,586,625
MED SEA	400,196	411,043	422,288	433,947	446,038	458,578	471,585	485,079	499,080	513,609	528,687	766,610	1,313,035
FAR EAST	341,876	348,244	354,802	361,560	368,523	375,702	383,103	390,736	398,610	406,734	415,119	547,107	849,320
AUSTRALIA/NZ	271,011	276,101	281,286	286,568	291,950	297,432	303,018	308,708	314,506	320,412	326,429	446,352	690,744
MID EAST	239,015	249,161	259,740	270,769	282,269	294,260	306,763	319,799	333,391	347,564	362,343	560,939	1,036,264
AFRICA	157,102	163,545	170,266	177,279	184,596	192,232	200,201	208,518	217,198	226,260	235,719	363,877	670,610
CANADA	20,525	20,992	21,469	21,957	22,456	22,967	23,489	24,023	24,569	25,128	25,699	35,140	54,381
OTHER	991	992	992	993	994	994	995	995	996	997	997	1,012	1,043
TOTAL	**17,450,627**	**17,867,025**	**18,308,402**	**18,775,871**	**19,270,611**	**19,793,871**	**20,346,975**	**20,931,326**	**21,548,410**	**22,199,803**	**22,887,174**	**34,320,923**	**62,107,080**

Table 4.11 Container Projections by Trade Route

IMPORT TONS

TRADE ROUTE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
CARIBBEAN	1,346,865	1,394,953	1,453,061	1,500,792	1,541,850	1,583,937	1,628,017	1,673,105	1,717,031	1,760,955	1,805,394	2,518,982	4,084,990
C AMERICA	1,190,917	1,234,706	1,288,031	1,331,376	1,368,284	1,406,121	1,445,810	1,486,407	1,525,834	1,565,200	1,604,998	2,242,797	3,649,525
SE ASIA	1,176,215	1,223,630	1,282,687	1,329,242	1,367,674	1,407,091	1,448,631	1,491,122	1,531,990	1,572,604	1,613,568	2,265,937	3,727,679
S AMERICA	596,527	620,518	650,384	673,944	693,409	713,372	734,408	755,926	776,627	797,201	817,954	1,148,508	1,888,875
N EUROPE	384,593	398,491	415,338	429,117	440,920	453,019	465,700	478,670	491,290	503,901	516,657	721,315	1,171,372
MED SEA	288,738	301,165	316,868	329,004	338,812	348,875	359,514	370,397	380,793	391,091	401,460	565,841	938,338
FAR EAST	57,711	59,900	62,587	64,747	66,568	68,434	70,395	72,401	74,342	76,278	78,233	109,501	178,833
CANADA	29,690	31,135	33,006	34,405	35,493	36,610	37,798	39,013	40,159	41,288	42,421	60,225	101,434
AUSTRALIA/NZ	15,910	16,548	17,342	17,969	18,487	19,019	19,579	20,152	20,703	21,251	21,804	30,610	50,325
S ASIA	15,399	16,049	16,868	17,505	18,022	18,553	19,114	19,687	20,236	20,780	21,328	30,030	49,686
AFRICA	13,766	14,257	14,850	15,337	15,757	16,187	16,637	17,098	17,546	17,995	18,449	25,740	41,738
MID EAST	4,255	4,395	4,561	4,702	4,826	4,954	5,086	5,222	5,356	5,490	5,626	7,819	12,568
OTHER	18	18	20	20	21	22	22	23	24	24	25	36	60
TOTAL	**5,120,602**	**5,315,766**	**5,555,603**	**5,748,161**	**5,910,122**	**6,076,192**	**6,250,712**	**6,429,221**	**6,601,931**	**6,774,059**	**6,947,917**	**9,727,340**	**15,895,424**

EXPORT TONS

TRADE ROUTE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
CARIBBEAN	6,260,191	6,250,013	6,244,668	6,244,220	6,248,733	6,258,280	6,272,938	6,292,790	6,317,928	6,348,446	6,384,448	8,285,335	12,964,486
C AMERICA	1,814,921	1,885,954	1,959,898	2,036,879	2,117,025	2,200,471	2,287,358	2,377,833	2,472,050	2,570,167	2,672,353	4,226,973	8,053,767
S AMERICA	1,693,087	1,745,047	1,798,846	1,854,561	1,912,273	1,972,067	2,034,033	2,098,267	2,164,868	2,233,940	2,305,593	3,636,788	6,902,433
SE ASIA	557,860	595,972	636,837	680,662	727,668	778,092	832,191	890,240	952,535	1,019,397	1,091,168	1,762,521	2,933,357
N EUROPE	276,730	280,740	284,837	289,024	293,305	297,683	302,159	306,738	311,423	316,217	321,123	407,197	571,817
MED SEA	124,500	127,262	130,117	133,068	136,121	139,278	142,544	145,923	149,421	153,041	156,788	217,696	352,093
FAR EAST	121,439	125,558	129,844	134,305	138,949	143,784	148,817	154,057	159,513	165,195	171,112	255,500	475,822
S ASIA	86,068	90,380	94,910	99,669	104,669	109,923	115,443	121,243	127,338	133,741	140,470	241,429	518,580
MID EAST	41,063	42,845	44,705	46,646	48,672	50,785	52,992	55,294	57,697	60,205	62,823	97,256	179,667
AFRICA	33,075	34,486	35,963	37,510	39,130	40,826	42,602	44,463	46,413	48,457	50,599	78,024	143,664
AUSTRALIA/NZ	3,472	3,536	3,601	3,667	3,735	3,804	3,874	3,945	4,017	4,091	4,167	5,697	8,817
OTHER	852	852	853	853	854	855	855	856	856	857	858	873	903
CANADA	622	636	650	665	680	696	712	728	744	761	779	1,065	1,647
TOTAL	**11,013,881**	**11,183,280**	**11,365,730**	**11,561,731**	**11,771,814**	**11,996,542**	**12,236,518**	**12,492,379**	**12,764,804**	**13,054,516**	**13,362,281**	**19,216,355**	**33,107,054**

Table 4.12 Container Projections by Major Commodity

IMPORT TONS

COMMODITY	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
FURNITURE	344,062	358,448	376,515	390,597	402,084	413,868	426,310	439,036	451,229	463,325	475,513	669,123	1,105,677
FRUITS,MISC	252,191	263,779	278,622	289,882	298,797	307,947	317,653	327,581	337,001	346,301	355,649	503,182	841,292
VEGETABLES	242,254	252,516	265,442	275,477	283,628	291,991	300,826	309,863	318,510	327,082	335,716	472,755	782,448
BANANAS	231,463	239,160	248,277	255,970	262,756	269,710	276,967	284,390	291,676	298,988	306,400	425,978	685,250
EMPTY CONTAINERS,DRUMS ETC	207,052	216,662	228,996	238,327	245,693	253,252	261,275	269,481	277,260	284,935	292,649	414,293	693,558
GENERAL CARGO,MISC	166,398	173,238	181,796	188,501	194,001	199,642	205,593	211,680	217,523	223,323	229,171	322,174	531,263
MEDICAL EQUIP&SUPPLIES	161,335	165,878	170,971	175,594	179,933	184,377	188,973	193,673	198,371	203,126	207,965	286,884	453,316
NON ALCOHOLIC BEVERAGES	157,816	162,467	167,766	172,474	176,817	181,265	185,877	190,594	195,286	200,023	204,839	283,151	449,547
AUTO&TRUCK TIRE&TUBES	111,475	115,027	119,178	122,743	125,938	129,210	132,618	136,103	139,540	142,997	146,504	203,255	325,417
WOODENWARE,MISC	109,920	114,698	120,749	125,411	129,167	133,021	137,098	141,268	145,248	149,188	153,154	215,987	358,614

EXPORT TONS

COMMODITY	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
GENERAL CARGO,MISC	1,286,735	1,285,851	1,286,014	1,287,242	1,289,555	1,292,974	1,297,520	1,303,217	1,310,092	1,318,173	1,327,488	1,728,165	2,709,211
GROCERY PRODS,MISC	916,409	921,106	926,604	932,921	940,076	948,090	956,983	966,780	977,504	989,182	1,001,840	1,359,940	2,236,980
PAPER&PAPERBOARD,INCL WASTE	780,243	808,186	838,375	870,961	906,103	943,975	984,762	1,028,665	1,075,899	1,126,695	1,181,302	1,791,771	2,949,400
AUTOMOBILES	508,274	521,622	535,538	550,047	565,171	580,935	597,365	614,488	632,334	650,931	670,311	991,964	1,757,451
AUTO PARTS	368,304	375,976	383,971	392,298	400,969	409,995	419,388	429,162	439,329	449,904	460,900	698,137	1,278,698
YARNS,MISC	262,017	272,496	283,409	294,773	306,608	318,932	331,767	345,134	359,053	373,550	388,647	613,851	1,168,194
HOUSEHOLD GOODS	256,360	262,654	269,222	276,073	283,217	290,664	298,426	306,514	314,940	323,716	332,856	502,933	918,665
FABRICS,INCL.RAW COTTON	251,015	260,034	269,437	279,239	289,455	300,102	311,199	322,762	334,812	347,367	360,448	563,738	1,063,292
BUILDING MATERIALS	221,715	225,228	228,969	232,944	237,161	241,628	246,352	251,344	256,610	262,163	268,010	388,875	685,853
POULTRY,CHIEFLY FRESH&FROZEN	203,357	202,908	202,641	202,562	202,673	202,981	203,491	204,208	205,139	206,291	207,671	265,747	407,697

Projected Truck Flows

Total Florida truck tonnage is projected to grow from 452.3 million tons in 2010 to 552.2 million tons in 2020, a 2 percent annual growth. Total Florida bulk truck tonnage is projected grow from 223.4 million tons in 2010 to 252.6 million tons in 2020, a 1.2 percent annual growth. Total Florida break bulk truck tonnage is projected to grow from 133.5 million tons in 2010 to 163.6 million tons in 2020, a 2.1 percent annual growth. The total container truck tonnage is projected to grow from 95.6 million tons in 2010 to 136.0 million tons in 2020, a 3.6 percent annual growth.

Growth in intra- Florida truck moves is greater than to and from Florida. A large share of the intra Florida break bulk truck cargo consists of construction materials, and is projected to grow at 3.4 percent annually over the next 10 years The forecast for in the intra Florida bulk truck tonnage is driven by the downturn in phosphates as well as the projected growth in bulk construction materials, for an overall average intra-Florida bulk projection of a 1.6 percent annual growth over the 10 year period. Intra Florida containers moving by truck are driven by the GSP projections, and as a result trucked containerized cargo grows at 3.6 per year over the next 10 years

Growth in Florida to out of state destinations truck traffic is less than intra Florida due to several reasons. For break bulk cargoes trucked out of the state, the construction forecast for the United States is less robust than the construction forecast for non-Florida. Break bulk trucked cargo out of Florida is also driven by U.S. population growth for food stuffs from Florida, which is a modest growth. Bulk outbound truck tonnage consists primarily of chemicals and phosphates, both declining industries in Florida. Trucked container cargo originating in Florida and trucked to non-Florida destinations grows at 2.3 percent annually through 2020, reflecting the overall U.S. GDP growth.

Growth in out of state to Florida truck tonnage is less than the intra state tonnage due to break bulk and bulk movements. Containers trucked into Florida grow at same rate as intra Florida trucked container traffic, based on the GSP projections.

Table 4.13 shows the total truck tonnage projections the truck tonnage projections by market and major commodity groups. Table 4.14 shows the truck flows from Florida to out of state destinations by key commodities. Table 4.15 show the truck flows to Florida by key commodity, while Table 4.16 shows the truck flows within Florida by key commodity.

Table 4.13 Truck Tonnage Projections by Market and Major Commodity Groups

TRUCKS ORIGINATING IN FLORIDA DESTINED FOR US (NON-FLORIDA) MARKETS

CARGO TYPE & MARKET	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	**4,138,538**	**4,211,670**	**4,308,604**	**4,391,490**	**4,452,210**	**4,506,149**	**4,558,848**	**4,613,833**	**4,670,259**	**4,727,726**	**4,786,821**	**5,686,106**	**7,872,497**
Domestic (origin/source)	4,109,156	4,181,434	4,277,489	4,359,471	4,419,260	4,472,242	4,523,955	4,577,926	4,633,308	4,689,701	4,747,691	5,626,301	7,762,623
Export (origin/source)	29,382	30,236	31,115	32,019	32,950	33,907	34,893	35,907	36,951	38,025	39,130	59,805	109,874
Bulk	**1,301,665**	**1,306,615**	**1,322,635**	**1,335,035**	**1,323,248**	**1,302,812**	**1,280,330**	**1,258,198**	**1,236,488**	**1,214,267**	**1,191,664**	**996,786**	**971,678**
Domestic (origin/source)	1,275,264	1,279,426	1,294,634	1,306,200	1,293,551	1,272,229	1,248,835	1,225,762	1,203,085	1,179,867	1,156,237	943,393	875,298
Export (origin/source)	26,401	27,189	28,000	28,836	29,697	30,583	31,496	32,436	33,404	34,400	35,427	53,393	96,380
Container	**226,131**	**231,272**	**236,531**	**241,908**	**247,409**	**253,034**	**258,787**	**264,671**	**270,689**	**276,843**	**283,138**	**387,149**	**599,130**
Domestic (origin/source)	226,131	231,272	236,531	241,908	247,409	253,034	258,787	264,671	270,689	276,843	283,138	387,149	599,130
TOTAL	**5,666,334**	**5,749,557**	**5,867,769**	**5,968,434**	**6,022,867**	**6,061,995**	**6,097,965**	**6,136,702**	**6,177,436**	**6,218,837**	**6,261,623**	**7,070,042**	**9,443,305**

TRUCKS ORIGINATING IN OTHER US (NON-FLORIDA) MARKETS DESTINED FOR FLORIDA

CARGO TYPE & MARKET	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	**3,519,197**	**3,733,106**	**3,891,118**	**4,018,718**	**4,101,360**	**4,172,689**	**4,240,884**	**4,311,554**	**4,378,040**	**4,446,098**	**4,517,888**	**5,699,551**	**6,414,779**
Domestic (consuming point)	3,387,337	3,597,744	3,752,471	3,876,992	3,957,086	4,026,007	4,091,782	4,159,954	4,223,865	4,289,251	4,358,273	5,486,046	6,067,128
Export (location of port)	72,517	74,625	76,794	79,026	81,323	83,687	86,120	88,623	91,199	93,849	96,577	147,606	271,181
Import (consuming point)	59,343	60,737	61,853	62,700	62,950	62,995	62,983	62,978	62,976	62,997	63,037	65,899	76,469
Bulk	**922,906**	**948,244**	**968,020**	**985,959**	**991,451**	**993,022**	**993,243**	**993,161**	**992,110**	**992,610**	**993,800**	**1,013,945**	**1,050,804**
Domestic (consuming point)	883,081	907,427	926,451	943,882	949,526	951,490	952,177	952,557	951,958	952,909	954,536	979,648	1,015,847
Export (location of port)	1,595	1,643	1,692	1,742	1,794	1,848	1,903	1,960	2,018	2,079	2,141	3,272	6,011
Import (consuming point)	38,230	39,174	39,877	40,335	40,131	39,685	39,162	38,645	38,134	37,623	37,123	31,026	28,947
Container	**883,507**	**926,844**	**983,047**	**1,024,958**	**1,057,495**	**1,090,897**	**1,126,438**	**1,162,795**	**1,197,067**	**1,230,787**	**1,264,628**	**1,796,245**	**3,028,373**
Domestic (consuming point)	883,507	926,844	983,047	1,024,958	1,057,495	1,090,897	1,126,438	1,162,795	1,197,067	1,230,787	1,264,628	1,796,245	3,028,373
TOTAL	**5,325,609**	**5,608,195**	**5,842,186**	**6,029,635**	**6,150,306**	**6,256,608**	**6,360,565**	**6,467,510**	**6,567,216**	**6,669,495**	**6,776,316**	**8,509,742**	**10,493,956**

TRUCKS ORIGINATING IN AND DESTINED FOR FLORIDA MARKETS

CARGO TYPE & MARKET	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	**18,157,365**	**19,258,661**	**20,396,372**	**21,267,467**	**21,933,407**	**22,595,849**	**23,282,988**	**23,988,184**	**24,653,083**	**25,313,823**	**25,985,696**	**36,529,557**	**40,188,700**
Domestic	17,942,178	19,035,553	20,167,534	21,033,175	21,694,490	22,352,597	23,035,494	23,736,312	24,396,775	25,052,895	25,719,932	36,175,586	39,645,465
Export	89,383	91,981	94,654	97,405	100,236	103,150	106,148	109,233	112,408	115,676	119,038	181,934	334,249
Import	125,805	131,128	134,184	136,887	138,681	140,102	141,346	142,639	143,899	145,253	146,726	172,037	208,986
Bulk	**8,399,541**	**9,237,530**	**9,665,150**	**10,024,412**	**10,184,267**	**10,258,224**	**10,289,525**	**10,329,524**	**10,356,188**	**10,400,396**	**10,465,819**	**11,695,730**	**12,243,446**
Domestic	8,074,142	8,896,310	9,312,136	9,662,856	9,821,809	9,897,925	9,932,471	9,975,512	10,005,448	10,052,602	10,120,686	11,373,433	11,918,267
Export	4,533	4,668	4,808	4,951	5,099	5,251	5,408	5,569	5,735	5,907	6,083	9,297	17,080
Import	320,866	336,552	348,206	356,605	357,358	355,047	351,647	348,443	345,005	341,887	339,050	313,001	308,098
Container	**3,770,728**	**3,955,689**	**4,195,560**	**4,374,431**	**4,513,294**	**4,655,852**	**4,807,540**	**4,962,705**	**5,108,975**	**5,252,889**	**5,397,321**	**7,666,217**	**12,924,831**
Domestic	3,770,728	3,955,689	4,195,560	4,374,431	4,513,294	4,655,852	4,807,540	4,962,705	5,108,975	5,252,889	5,397,321	7,666,217	12,924,831
TOTAL	**30,327,634**	**32,451,880**	**34,257,082**	**35,666,310**	**36,630,967**	**37,509,925**	**38,380,054**	**39,280,414**	**40,118,246**	**40,967,107**	**41,848,836**	**55,891,504**	**65,356,976**

Table 4.14 Truck Flows From Florida by Key Commodities

CARGO TYPE, MARKET & COMMODITY	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	**4,138,538**	**4,211,670**	**4,308,604**	**4,391,490**	**4,452,210**	**4,506,149**	**4,558,848**	**4,613,833**	**4,670,259**	**4,727,726**	**4,786,821**	**5,686,106**	**7,872,497**
Domestic	**4,109,156**	**4,181,434**	**4,277,489**	**4,359,471**	**4,419,260**	**4,472,242**	**4,523,955**	**4,577,926**	**4,633,308**	**4,689,701**	**4,747,691**	**5,626,301**	**7,762,623**
Empty Containers, Carriers	2,087,926	2,135,399	2,183,951	2,233,606	2,284,391	2,336,331	2,389,451	2,443,780	2,499,343	2,556,170	2,614,289	3,574,656	5,531,931
Farm Products	436,554	440,752	444,990	449,268	453,588	457,949	462,353	466,798	471,287	475,818	480,393	500,643	611,075
Food and Kindred Products	318,434	321,496	324,587	327,708	330,859	334,040	337,252	340,495	343,769	347,074	350,411	365,182	445,734
Export	**29,382**	**30,236**	**31,115**	**32,019**	**32,950**	**33,907**	**34,893**	**35,907**	**36,951**	**38,025**	**39,130**	**59,805**	**109,874**
Machinery, excl Electrical	5,211	5,362	5,518	5,678	5,843	6,013	6,188	6,368	6,553	6,743	6,939	10,606	19,485
Lumber or Wood Products	4,647	4,782	4,921	5,064	5,211	5,362	5,518	5,678	5,844	6,013	6,188	9,458	17,376
Food and Kindred Products	4,067	4,186	4,307	4,432	4,561	4,694	4,830	4,971	5,115	5,264	5,417	8,279	15,210
Bulk	**1,301,665**	**1,306,615**	**1,322,635**	**1,335,035**	**1,323,248**	**1,302,812**	**1,280,330**	**1,258,198**	**1,236,488**	**1,214,267**	**1,191,664**	**996,786**	**971,678**
Domestic	**1,275,264**	**1,279,426**	**1,294,634**	**1,306,200**	**1,293,551**	**1,272,229**	**1,248,835**	**1,225,762**	**1,203,085**	**1,179,867**	**1,156,237**	**943,393**	**875,298**
Chemicals or Allied Products	580,968	578,229	581,234	581,207	572,896	561,929	550,552	539,013	527,940	516,448	504,632	348,255	291,191
Non-Metallic Ores/Minerals	364,882	366,152	367,905	372,843	369,157	362,149	354,197	346,528	339,021	331,263	323,404	323,404	323,404
Petroleum or Coal Products	255,087	258,446	265,297	269,274	267,159	262,750	257,786	252,888	247,914	243,057	238,138	180,624	163,878
Export	**26,401**	**27,189**	**28,000**	**28,836**	**29,697**	**30,583**	**31,496**	**32,436**	**33,404**	**34,400**	**35,427**	**53,393**	**96,380**
Chemicals or Allied Products	26,317	27,103	27,912	28,745	29,603	30,486	31,396	32,333	33,298	34,292	35,315	53,224	96,075
Machinery, excl Electrical	83	86	89	91	94	97	100	103	106	109	112	169	305
Container	**226,131**	**231,272**	**236,531**	**241,908**	**247,409**	**253,034**	**258,787**	**264,671**	**270,689**	**276,843**	**283,138**	**387,149**	**599,130**
Domestic	**226,131**	**231,272**	**236,531**	**241,908**	**247,409**	**253,034**	**258,787**	**264,671**	**270,689**	**276,843**	**283,138**	**387,149**	**599,130**
"Warehoused Goods"	226,131	231,272	236,531	241,908	247,409	253,034	258,787	264,671	270,689	276,843	283,138	387,149	599,130

Table 4.15 Truck Flows to Florida by Key Commodity

CARGO TYPE, MARKET & COMMODITY	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	**3,519,197**	**3,733,106**	**3,891,118**	**4,018,718**	**4,101,360**	**4,172,689**	**4,240,884**	**4,311,554**	**4,378,040**	**4,446,098**	**4,517,888**	**5,699,551**	**6,414,779**
Domestic	**3,387,337**	**3,597,744**	**3,752,471**	**3,876,992**	**3,957,086**	**4,026,007**	**4,091,782**	**4,159,954**	**4,223,865**	**4,289,251**	**4,358,273**	**5,486,046**	**6,067,128**
Empty Containers, Carriers	1,295,078	1,358,604	1,440,989	1,502,423	1,550,117	1,599,079	1,651,177	1,704,470	1,754,707	1,804,135	1,853,741	2,633,006	2,868,616
Primary Metal Products	521,594	522,391	529,004	534,411	530,371	523,674	516,697	509,500	502,251	494,879	487,210	399,447	375,393
Food and Kindred Products	414,226	419,479	424,799	430,187	435,642	441,167	446,762	452,429	458,166	463,977	469,861	565,438	735,030
Export	**72,517**	**74,625**	**76,794**	**79,026**	**81,323**	**83,687**	**86,120**	**88,623**	**91,199**	**93,849**	**96,577**	**147,606**	**271,181**
Food and Kindred Products	17,935	18,457	18,993	19,545	20,113	20,698	21,299	21,919	22,556	23,211	23,886	36,507	67,070
Transportation Equipment	7,987	8,219	8,458	8,704	8,957	9,218	9,485	9,761	10,045	10,337	10,637	16,258	29,869
Machinery, excl Electrical	7,586	7,806	8,033	8,267	8,507	8,754	9,009	9,271	9,540	9,818	10,103	15,441	28,368
Import	**59,343**	**60,737**	**61,853**	**62,700**	**62,950**	**62,995**	**62,983**	**62,978**	**62,976**	**62,997**	**63,037**	**65,899**	**76,469**
Food and Kindred Products	11,751	11,900	12,051	12,204	12,359	12,515	12,674	12,835	12,998	13,162	13,329	16,041	20,852
Farm Products	11,090	11,231	11,373	11,517	11,663	11,811	11,961	12,113	12,266	12,422	12,580	15,138	19,679
Primary Metal Products	8,555	8,569	8,677	8,766	8,699	8,590	8,475	8,357	8,238	8,117	7,992	6,552	6,157
Bulk	**922,906**	**948,244**	**968,020**	**985,959**	**991,451**	**993,022**	**993,243**	**993,161**	**992,110**	**992,610**	**993,800**	**1,013,945**	**1,050,804**
Domestic	**883,081**	**907,427**	**926,451**	**943,882**	**949,526**	**951,490**	**952,177**	**952,557**	**951,958**	**952,909**	**954,536**	**979,648**	**1,015,847**
Petroleum or Coal Products	306,282	307,919	313,297	320,079	323,539	326,612	329,683	332,247	333,916	336,898	340,109	371,398	368,158
Chemicals or Allied Products	270,092	268,819	270,216	270,203	266,339	261,241	255,952	250,587	245,439	240,096	234,603	161,903	135,375
Non-Metallic Ores/Minerals	104,585	105,962	108,771	110,402	109,534	107,727	105,691	103,683	101,644	99,653	97,636	74,055	67,189
Export	**1,595**	**1,643**	**1,692**	**1,742**	**1,794**	**1,848**	**1,903**	**1,960**	**2,018**	**2,079**	**2,141**	**3,272**	**6,011**
Chemicals or Allied Products	1,518	1,564	1,610	1,658	1,708	1,759	1,811	1,865	1,921	1,978	2,037	3,114	5,721
Machinery, excl Electrical	77	79	82	84	87	89	92	95	97	100	103	158	290
Import	**38,230**	**39,174**	**39,877**	**40,335**	**40,131**	**39,685**	**39,162**	**38,645**	**38,134**	**37,623**	**37,123**	**31,026**	**28,947**
Chemicals or Allied Products	27,210	27,081	27,222	27,221	26,832	26,318	25,785	25,245	24,726	24,188	23,634	16,311	13,638
Non-Metallic Ores/Minerals	7,411	7,508	7,707	7,823	7,762	7,633	7,489	7,347	7,202	7,061	6,918	5,248	4,761
Clay, Concrete, Glass, Stone Prod	3,609	4,584	4,947	5,291	5,538	5,733	5,888	6,053	6,205	6,374	6,570	9,468	10,548
Container	**883,507**	**926,844**	**983,047**	**1,024,958**	**1,057,495**	**1,090,897**	**1,126,438**	**1,162,795**	**1,197,067**	**1,230,787**	**1,264,628**	**1,796,245**	**3,028,373**
Domestic	**883,507**	**926,844**	**983,047**	**1,024,958**	**1,057,495**	**1,090,897**	**1,126,438**	**1,162,795**	**1,197,067**	**1,230,787**	**1,264,628**	**1,796,245**	**3,028,373**
"Warehoused Goods"	883,507	926,844	983,047	1,024,958	1,057,495	1,090,897	1,126,438	1,162,795	1,197,067	1,230,787	1,264,628	1,796,245	3,028,373

Table 4.16 Truck Flows Within Florida by Key Commodity

CARGO TYPE, MARKET & COMMODITY	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	**18,157,365**	**19,258,661**	**20,396,372**	**21,267,467**	**21,933,407**	**22,595,849**	**23,282,988**	**23,988,184**	**24,653,083**	**25,313,823**	**25,985,696**	**36,529,557**	**40,188,700**
Domestic	**17,942,178**	**19,035,553**	**20,167,534**	**21,033,175**	**21,694,490**	**22,352,597**	**23,035,494**	**23,736,312**	**24,396,775**	**25,052,895**	**25,719,932**	**36,175,586**	**39,645,465**
Empty Containers, Carriers	15,712,301	16,483,018	17,482,539	18,227,880	18,806,510	19,400,536	20,032,609	20,679,169	21,288,661	21,888,338	22,490,177	31,944,471	34,802,958
Clay, Concrete, Glass, Stone Prod	1,046,034	1,328,548	1,433,767	1,533,354	1,604,971	1,661,531	1,706,366	1,754,230	1,798,229	1,847,090	1,904,042	2,743,852	3,056,737
Food and Kindred Products	479,134	485,210	491,364	497,596	503,906	510,297	516,769	523,323	529,960	536,681	543,487	654,041	850,207
Export	**89,383**	**91,981**	**94,654**	**97,405**	**100,236**	**103,150**	**106,148**	**109,233**	**112,408**	**115,676**	**119,038**	**181,934**	**334,249**
Food and Kindred Products	21,582	22,209	22,855	23,519	24,203	24,906	25,630	26,375	27,142	27,931	28,743	43,929	80,707
Transportation Equipment	14,872	15,305	15,749	16,207	16,678	17,163	17,662	18,175	18,704	19,247	19,807	30,272	55,616
Clay, Concrete, Glass, Stone Prod	12,718	13,088	13,468	13,859	14,262	14,677	15,103	15,542	15,994	16,459	16,937	25,887	47,559
Import	**125,805**	**131,128**	**134,184**	**136,887**	**138,681**	**140,102**	**141,346**	**142,639**	**143,899**	**145,253**	**146,726**	**172,037**	**208,986**
Food and Kindred Products	25,207	25,527	25,851	26,178	26,510	26,847	27,187	27,532	27,881	28,235	28,593	34,409	44,729
Farm Products	25,115	25,434	25,757	26,083	26,414	26,749	27,088	27,432	27,780	28,132	28,489	34,284	44,567
Transportation Equipment	20,057	20,311	20,569	20,830	21,094	21,361	21,632	21,907	22,184	22,466	22,751	27,379	35,590
Bulk	**8,399,541**	**9,237,530**	**9,665,150**	**10,024,412**	**10,184,267**	**10,258,224**	**10,289,525**	**10,329,524**	**10,356,188**	**10,400,396**	**10,465,819**	**11,695,730**	**12,243,446**
Domestic	**8,074,142**	**8,896,310**	**9,312,136**	**9,662,856**	**9,821,809**	**9,897,925**	**9,932,471**	**9,975,512**	**10,005,448**	**10,052,602**	**10,120,686**	**11,373,433**	**11,918,267**
Non-Metallic Ores/Minerals	4,577,750	4,638,029	4,760,979	4,832,353	4,794,391	4,715,276	4,626,181	4,538,295	4,449,030	4,361,869	4,273,584	3,241,445	2,940,926
Clay, Concrete, Glass, Stone Prod	2,810,796	3,569,939	3,852,672	4,120,272	4,312,714	4,464,695	4,585,172	4,713,788	4,832,017	4,963,310	5,116,348	7,373,000	8,213,752
Petroleum or Coal Products	497,964	500,625	509,370	520,395	526,022	531,018	536,010	540,180	542,892	547,741	552,962	603,832	598,565
Export	**4,533**	**4,668**	**4,808**	**4,951**	**5,099**	**5,251**	**5,408**	**5,569**	**5,735**	**5,907**	**6,083**	**9,297**	**17,080**
Chemicals or Allied Products	4,359	4,489	4,623	4,761	4,903	5,050	5,200	5,355	5,515	5,680	5,849	8,940	16,425
Machinery, excl Electrical	174	179	185	190	196	202	208	214	220	227	234	357	656
Import	**320,866**	**336,552**	**348,206**	**356,605**	**357,358**	**355,047**	**351,647**	**348,443**	**345,005**	**341,887**	**339,050**	**313,001**	**308,098**
Non-Metallic Ores/Minerals	259,921	263,344	270,325	274,378	272,222	267,730	262,671	257,681	252,613	247,664	242,651	184,047	166,984
Clay, Concrete, Glass, Stone Prod	45,670	58,005	62,599	66,947	70,074	72,543	74,500	76,590	78,511	80,645	83,131	119,797	133,458
Chemicals or Allied Products	15,275	15,203	15,282	15,281	15,063	14,774	14,475	14,172	13,881	13,578	13,268	9,156	7,656
Container	**3,770,728**	**3,955,689**	**4,195,560**	**4,374,431**	**4,513,294**	**4,655,852**	**4,807,540**	**4,962,705**	**5,108,975**	**5,252,889**	**5,397,321**	**7,666,217**	**12,924,831**
Domestic	**3,770,728**	**3,955,689**	**4,195,560**	**4,374,431**	**4,513,294**	**4,655,852**	**4,807,540**	**4,962,705**	**5,108,975**	**5,252,889**	**5,397,321**	**7,666,217**	**12,924,831**
"Warehoused Goods"	3,770,728	3,955,689	4,195,560	4,374,431	4,513,294	4,655,852	4,807,540	4,962,705	5,108,975	5,252,889	5,397,321	7,666,217	12,924,831

Rail Flow Projections

Total Florida rail tonnage is projected to grow from 75.9 million tons in 2010 to 80.3 million tons in 2020, a 0.6 percent annual growth. Total Florida bulk rail tonnage is projected to essentially remain flat at about 57.5 million tons in both 2010 and 2020, due to the contraction of the phosphate industry as well as the contraction in Florida chemical/fertilizer industry sector. Total Florida break bulk rail tonnage is projected to grow from 7.9 million tons in 2010 to 8.2 million tons in 2020, a 0.4 percent annual growth. Break bulk includes autos and food stuffs, which are driven by population growth, as well as pulp and paper, which is a declining industry in Florida. Total container rail tonnage is projected to grow from 10.5 million tons in 2010 to 14.6 million tons in 2020, a 3.4 percent annual growth.

Table 4.17 shows the growth in rail cargo by major commodity and markets. Table 4.18 shows the projected rail tonnage into Florida by key commodities. Table 4.19 shows the projected rail flows from Florida, by key commodity, and Table 4.20 presents the intra Florida rail moves by key commodity.

Table 4.17 Projected Rail Flows by Market and Major Commodities

RAIL TONNAGE ORIGINATING IN FLORIDA DESTINED FOR OTHER US (NON-FLORIDA) MARKETS

CARGO TYPE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	2,738,915	2,736,111	2,782,609	2,787,079	2,759,012	2,721,028	2,641,103	2,609,037	2,680,977	2,576,185	2,540,999	2,104,152	2,250,375
Bulk	5,905,668	5,945,507	6,012,995	6,054,919	6,032,325	5,988,371	5,891,203	5,844,604	5,939,672	5,795,995	5,746,703	4,900,021	4,996,196
Containers	2,499,285	2,556,111	2,614,228	2,673,667	2,734,457	2,796,630	2,925,248	2,991,758	2,860,216	3,059,781	3,129,350	4,278,927	6,621,820
TOTAL	**11,143,868**	**11,237,728**	**11,409,832**	**11,515,665**	**11,525,794**	**11,506,029**	**11,457,554**	**11,445,399**	**11,480,864**	**11,431,961**	**11,417,052**	**11,283,100**	**13,868,392**

RAIL TONNAGE ORIGINATING IN OTHER US (NON-FLORIDA) DESTINED FOR FLORIDAMARKETS

CARGO TYPE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	4,757,618	4,922,499	5,038,863	5,119,920	5,161,047	5,187,597	5,207,529	5,229,423	5,255,336	5,283,801	5,314,672	5,945,514	7,156,758
Bulk	24,134,052	24,595,760	25,099,240	25,547,900	25,653,701	25,655,772	25,628,823	25,590,768	25,523,913	25,501,611	25,491,575	25,387,469	25,964,315
Containers	4,605,309	4,831,208	5,124,170	5,342,631	5,512,228	5,686,338	5,871,600	6,061,109	6,239,752	6,415,519	6,591,919	9,362,993	15,785,503
TOTAL	**33,496,980**	**34,349,467**	**35,262,272**	**36,010,451**	**36,326,976**	**36,529,707**	**36,707,952**	**36,881,300**	**37,019,000**	**37,200,930**	**37,398,166**	**40,695,976**	**48,906,576**

INTRA FLORIDA RAIL TONNAGE

CARGO TYPE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	357,217	377,619	391,380	399,435	400,330	398,521	395,528	392,799	390,523	388,595	386,959	383,811	403,367
Bulk	27,450,690	27,960,434	28,683,254	29,124,396	28,945,932	28,533,365	28,059,182	27,592,586	27,118,677	26,656,883	26,193,874	20,835,029	19,374,737
Containers	3,446,033	3,615,067	3,834,283	3,997,752	4,124,657	4,254,940	4,393,566	4,535,370	4,669,045	4,800,566	4,932,562	7,006,085	11,811,883
TOTAL	**31,253,940**	**31,953,121**	**32,908,918**	**33,521,584**	**33,470,919**	**33,186,825**	**32,848,277**	**32,520,756**	**32,178,245**	**31,846,043**	**31,513,394**	**28,224,925**	**31,589,987**

Table 4.18 Projected Rail Flows from Florida to other US Destinations, by Key Commodity

CARGO TYPE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	**2,738,915**	**2,736,111**	**2,782,609**	**2,787,079**	**2,759,012**	**2,721,028**	**2,680,977**	**2,641,103**	**2,609,037**	**2,576,185**	**2,540,999**	**2,104,152**	**2,250,375**
Pulp, Paper or Allied Products	1,253,189	1,236,697	1,265,426	1,253,104	1,216,295	1,172,872	1,128,128	1,083,642	1,046,555	1,008,988	968,871	508,442	404,331
Food and Kindred Products	971,887	981,232	990,666	1,000,192	1,009,809	1,019,518	1,029,321	1,039,218	1,049,210	1,059,299	1,069,484	1,114,565	1,360,416
Miscellaneous Freight Shipments	124,172	124,516	125,773	126,796	126,112	124,594	122,891	121,018	119,335	117,538	115,782	115,782	115,782
Machinery, excl Electrical	103,770	104,057	105,107	105,963	105,391	104,122	102,699	101,133	99,727	98,226	96,758	96,758	96,758
Primary Metal Products	94,171	94,498	94,951	96,225	95,274	93,465	91,413	89,434	87,496	85,494	83,466	83,466	83,466
Bulk	**5,905,668**	**5,945,507**	**6,012,995**	**6,054,919**	**6,032,325**	**5,988,371**	**5,939,672**	**5,891,203**	**5,844,604**	**5,795,995**	**5,746,703**	**4,900,021**	**4,996,196**
Chemicals or Allied Products	2,607,804	2,595,511	2,609,000	2,608,878	2,571,570	2,522,345	2,471,278	2,419,479	2,369,779	2,318,192	2,265,155	1,563,218	1,307,076
Hazardous Materials	1,112,140	1,106,897	1,112,650	1,112,598	1,096,687	1,075,695	1,053,916	1,031,825	1,010,630	988,630	966,012	666,660	557,424
Waste or Scrap Materials NEC	1,107,712	1,118,464	1,129,321	1,140,283	1,151,352	1,162,529	1,173,815	1,185,210	1,196,717	1,208,335	1,220,067	1,277,526	1,562,894
Food and Kindred Products	584,657	590,279	595,955	601,685	607,470	613,311	619,208	625,162	631,173	637,242	643,369	670,489	818,385
Clay, Concrete, Glass, Stone Prod	143,785	149,506	158,911	165,744	169,200	171,528	173,401	175,645	177,442	179,268	181,296	181,296	181,296
Containers	**2,499,285**	**2,556,111**	**2,614,228**	**2,673,667**	**2,734,457**	**2,796,630**	**2,860,216**	**2,925,248**	**2,991,758**	**3,059,781**	**3,129,350**	**4,278,927**	**6,621,820**
Miscellaneous Mixed Shipments	940,074	961,448	983,309	1,005,666	1,028,531	1,051,917	1,075,834	1,100,295	1,125,312	1,150,898	1,177,065	1,609,464	2,490,713
Empty Containers, Carriers	680,732	696,210	712,039	728,229	744,786	761,720	779,039	796,752	814,868	833,395	852,344	1,165,455	1,803,591
Pulp, Paper or Allied Products	319,097	326,352	333,772	341,361	349,123	357,061	365,179	373,482	381,974	390,659	399,541	546,313	845,443
Chemicals or Allied Products	156,242	159,795	163,428	167,144	170,944	174,831	178,806	182,871	187,029	191,282	195,631	267,496	413,962
Food and Kindred Products	139,308	142,475	145,714	149,027	152,416	155,881	159,426	163,050	166,758	170,549	174,427	238,503	369,093

Table 4.19 Projected Rail Flows to Florida from other US Origins, by Key Commodity

CARGO TYPE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	**4,757,618**	**4,922,499**	**5,038,863**	**5,119,920**	**5,161,047**	**5,187,597**	**5,207,529**	**5,229,423**	**5,255,336**	**5,283,801**	**5,314,672**	**5,945,514**	**7,156,758**
Transportation Equipment	1,542,945	1,562,514	1,582,330	1,602,398	1,622,720	1,643,300	1,664,141	1,685,246	1,706,619	1,728,263	1,750,182	2,106,195	2,737,906
Food and Kindred Products	1,155,065	1,169,714	1,184,548	1,199,571	1,214,785	1,230,191	1,245,793	1,261,592	1,277,592	1,293,795	1,310,204	1,576,719	2,049,625
Pulp, Paper or Allied Products	918,322	906,237	927,289	918,260	891,287	859,466	826,679	794,080	766,903	739,374	709,977	372,581	296,289
Lumber or Wood Products	361,796	459,511	495,903	530,348	555,118	574,681	590,188	606,743	621,961	638,861	658,560	949,028	1,057,247
Primary Metal Products	245,997	246,373	249,492	252,042	250,137	246,979	243,688	240,294	236,875	233,398	229,781	188,390	177,045
Bulk	**24,134,052**	**24,595,760**	**25,099,240**	**25,547,900**	**25,653,701**	**25,655,772**	**25,628,823**	**25,590,768**	**25,523,913**	**25,501,611**	**25,491,575**	**25,387,469**	**25,964,315**
Coal	8,955,280	9,003,142	9,160,414	9,358,685	9,459,874	9,549,716	9,639,497	9,714,483	9,763,263	9,850,465	9,944,360	10,859,198	10,764,473
Non-Metallic Ores/Minerals	5,847,211	5,924,205	6,081,250	6,172,418	6,123,928	6,022,874	5,909,072	5,796,814	5,682,795	5,571,463	5,458,696	4,140,333	3,756,478
Hazardous Materials	3,084,559	3,070,018	3,085,973	3,085,829	3,041,700	2,983,477	2,923,073	2,861,804	2,803,018	2,742,000	2,679,267	1,849,004	1,546,034
Food and Kindred Products	1,590,484	1,610,655	1,631,082	1,651,768	1,672,717	1,693,931	1,715,414	1,737,169	1,759,201	1,781,512	1,804,106	2,171,088	2,822,263
Chemicals or Allied Products	1,379,445	1,372,943	1,380,078	1,380,013	1,360,278	1,334,240	1,307,227	1,279,827	1,253,537	1,226,250	1,198,195	826,893	691,402
Containers	**4,605,309**	**4,831,208**	**5,124,170**	**5,342,631**	**5,512,228**	**5,686,338**	**5,871,600**	**6,061,109**	**6,239,752**	**6,415,519**	**6,591,919**	**9,362,993**	**15,785,503**
Miscellaneous Mixed Shipments	3,006,658	3,154,140	3,345,406	3,488,032	3,598,757	3,712,428	3,833,379	3,957,103	4,073,734	4,188,486	4,303,652	6,112,797	10,305,848
Food and Kindred Products	540,892	567,423	601,832	627,490	647,409	667,858	689,617	711,875	732,856	753,500	774,218	1,099,680	1,854,001
Apparel or Fin Textile Products	258,414	271,089	287,528	299,786	309,303	319,073	329,468	340,102	350,126	359,988	369,887	525,377	885,758
Hazardous Materials	171,320	179,723	190,621	198,748	205,057	211,534	218,426	225,476	232,122	238,660	245,222	348,308	587,228
Chemicals or Allied Products	105,899	111,094	117,831	122,854	126,754	130,758	135,018	139,376	143,484	147,525	151,582	215,303	362,989

Table 4.20 Projected Rail Flows within Florida, by Key Commodity

CARGO TYPE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
Break Bulk	**357,217**	**377,619**	**391,380**	**399,435**	**400,330**	**398,521**	**395,528**	**392,799**	**390,523**	**388,595**	**386,959**	**383,811**	**403,367**
Pulp, Paper or Allied Products	128,559	126,867	129,814	128,550	124,774	120,319	115,729	111,165	107,361	103,507	99,392	52,159	41,478
Non-Metallic Ores/Minerals	86,996	88,142	90,478	91,835	91,113	89,610	87,917	86,246	84,550	82,893	81,216	61,601	55,890
Lumber or Wood Products	48,399	61,471	66,339	70,947	74,261	76,878	78,952	81,167	83,203	85,463	88,098	126,956	141,433
Primary Metal Products	27,298	27,340	27,686	27,969	27,758	27,407	27,042	26,665	26,286	25,900	25,499	20,906	19,647
Clay, Concrete, Glass, Stone Prod	27,230	34,585	37,324	39,916	41,781	43,253	44,420	45,666	46,811	48,083	49,566	71,428	79,573
Bulk	**27,450,690**	**27,960,434**	**28,683,254**	**29,124,396**	**28,945,932**	**28,533,365**	**28,059,182**	**27,592,586**	**27,118,677**	**26,656,883**	**26,193,874**	**20,835,029**	**19,374,737**
Non-Metallic Ores/Minerals	23,149,386	23,454,211	24,075,960	24,436,895	24,244,923	23,844,843	23,394,298	22,949,862	22,498,456	22,057,689	21,611,238	16,391,776	14,872,074
Chemicals or Allied Products	2,470,311	2,458,765	2,471,664	2,471,636	2,436,328	2,389,708	2,341,333	2,292,269	2,245,187	2,196,324	2,146,090	1,481,406	1,238,950
Hazardous Materials	705,913	702,585	706,237	706,204	696,105	682,780	668,956	654,935	641,481	627,517	613,160	423,151	353,816
Clay, Concrete, Glass, Stone Prod	680,282	864,014	932,442	997,208	1,043,784	1,080,567	1,109,726	1,140,854	1,169,468	1,201,244	1,238,283	1,784,449	1,987,932
Waste or Scrap Materials NEC	160,688	162,726	164,789	166,879	168,996	171,139	173,309	175,507	177,733	179,987	182,270	219,346	285,135
Containers	**3,446,033**	**3,615,067**	**3,834,283**	**3,997,752**	**4,124,657**	**4,254,940**	**4,393,566**	**4,535,370**	**4,669,045**	**4,800,566**	**4,932,562**	**7,006,085**	**11,811,883**
Miscellaneous Mixed Shipments	2,645,134	2,774,883	2,943,150	3,068,627	3,166,038	3,266,041	3,372,449	3,481,296	3,583,903	3,684,858	3,786,176	5,377,787	9,066,661
Empty Containers, Carriers	458,897	481,407	510,599	532,368	549,268	566,617	585,077	603,961	621,762	639,276	656,854	932,978	1,572,951
Mail, Express or Other Contract Traf	116,497	122,212	129,623	135,149	139,439	143,843	148,530	153,324	157,843	162,289	166,751	236,849	399,315
Food and Kindred Products	98,489	103,320	109,585	114,257	117,884	121,608	125,570	129,622	133,443	137,202	140,974	200,236	337,588
Hazardous Materials	97,254	102,024	108,211	112,824	116,406	120,083	123,995	127,997	131,769	135,481	139,206	197,725	333,354

5.0 Jobs and Economic Impacts by Scenario

The study identified three major opportunities for Florida to significantly expand its role in domestic and international trade and logistics:

1. Maximize Florida's ability to serve its businesses and consumers through Florida gateways;
2. Grow Florida origin exports; and
3. Expand Florida's ability to serve non-Florida markets and provide value added to discretionary trade.

This section describes each opportunity and documents alternative scenarios developed to estimate the trade and economic impacts of each alternative. Detailed descriptions of the economic impact models used to test these scenarios are provided in Appendix D.

5.1 Maximize Florida's Ability to Serve its Businesses and Consumers through Florida Gateways

A significant share of international imports destined for Florida markets do not enter the state through Florida trade gateways – rather, they enter the country through seaports and airports in other states, and then move to Florida via truck or rail. Likewise, a large share of the international exports produced by Florida businesses do not exit the state through Florida gateways. Other states are generating jobs and economic activity by importing/exporting, consolidating/deconsolidating, and otherwise managing and adding value to the flow of goods destined for (or produced in) Florida. Florida has an immediate opportunity to expand trade and logistics activity simply by capturing cargo ultimately consumed or generated in Florida.

The key opportunity is to capture a larger share of imported containers, particularly Asian cargo consumed in Florida but moving via other seaports. In 2009, Florida seaports handled 55 percent of the containerized waterborne imports ultimately consumed in Florida – 38 percent of containerized cargo originating in Asia, and 70 percent of cargo originating in other continents. This represents a loss of 1.4 million tons of Asian cargo and 0.9 million tons of non-Asian cargo to other states in that year. Of the Asian imported cargo moving through seaports and then directly to market in Florida, 38 percent entered the United States through a Florida seaport, 36 percent through Los Angeles/Long Beach, 13 percent through Savannah, and 4 percent through New York/ New Jersey. Of the non-Asian imported cargo moving through seaports and then directly to market in Florida, 70 percent entered the United States through a Florida seaport, 7 percent via New York/New Jersey, 6 percent via Los Angeles/Long

Beach, 3 percent each via Savannah and Charleston, and 2 percent each via New Orleans, Houston, Philadelphia, and Norfolk.

In addition, an estimated 8.8 million tons of cargo enter the United States through seaports in other states, are consolidated through distribution centers in other states, and then move via truck to Florida for final consumption. Major distribution center regions serving Florida include Atlanta (27 percent), New Orleans (13 percent), Memphis (11 percent), and New York/New Jersey (9 percent).

In total, the volume of imports handled through other states' seaports and consumed in Florida is more than 11 million tons – equivalent to about 12 percent of all waterborne freight in Florida today. This represents about 1.3 million fully loaded containers (assuming a ratio of 8.8 tons per full TEU). This equates to about 3.1 million total containers including exports and empty containers. Capturing all of this import flow (and associated returns) directly through Florida seaports essentially would double the total number of containers moving through Florida's system.

The study analyzed the transportation and logistics costs involved in moving an imported container from Hong Kong to distribution centers located in northeast, central, or southeast Florida via three paths for entering the United States: Florida seaports, the Port of Savannah, and the Port of Los Angeles/Long Beach (Table 5.1). The cost of moving an imported container from Hong Kong into via a direct all water service, to a Florida seaport, to a Florida distribution center is estimated at about $3,000 for a 40 foot container. In contrast, the cost of routing the container from Hong Kong, to the Port of Los Angeles, and then via a cross country intermodal rail trip into Florida is currently about $3,200 to $3,500 per container, depending on the final destination in Florida. This suggests all water direct services from Hong Kong to Florida seaports could compete on a cost basis with the Pacific Coast routings. A direct all water service to Florida also would be cost competitive with an all water service to the Port of Savannah, followed by a truck or rail trip from Savannah to Florida.

To capture this opportunity, the Florida seaports must aggressively demonstrate these potential cost savings to Florida importers, including major import distribution centers, as well as to ocean carriers considering all water services. A focused effort could shift trade flows, so the majority of imports flow through Florida seaports and only specific niches flow through other states. Expanding import volumes may create significant economies of scale to reduce overall logistics costs, which would facilitate greater exports as well as expansion of Florida's role as a gateway and hub for multiple types of trade flows.

Table 5.1 Total Logistics Cost to Serve Florida Retail Markets by DC Location – 250,000 SF Least Cost Routing Highlighted in Yellow

DC SITE - ORLANDO/I-4 CORRIDOR					Los Angeles 6000	Los Angeles 6000
Port of Entry, Vessel Size	South FLA 4800	NE FLA 4800	Gulf FLA 4800	Savannah 4800	ATL intermodal	ORL intermodal
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000
Subtotal Vessel	$2,249	$2,287	$2,234	$2,291	$1,047	$1,047
Subtotal Intermodal to Ramp	$0	$0	$0	$0	$1,150	$1,400
Subtotal Truck/Drayage to DC	$516	$336	$200	$670	$1,047	$150
Subtotal Average DC Lease Cost	$229	$229	$229	$229	$229	$229
Subtotal Truck/Drayage DC to Retail	$330	$330	$330	$330	$330	$330
Total Cost via Truck	**$3,324**	**$3,183**	**$2,994**	**$3,521**		
Total Cost via Intermodal Rail					**$3,803**	**$3,156**
DC SITE - JACKSONVILLE/DUVAL COUNTY					Los Angeles 6000	Los Angeles 6000
Port of Entry, Vessel Size	South FLA 4800	NE FLA 4800	Gulf FLA 4800	Savannah 4800	ATL intermodal	JAX intermodal
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000
Subtotal Vessel	$2,249	$2,287	$2,234	$2,291	$1,047	$1,047
Subtotal Intermodal to Ramp	$553	$0	$0	$0	$1,150	$1,250
Subtotal Truck/Drayage to DC	$812	$80	$537	$332	$823	$150
Subtotal Average DC Lease Cost	$172	$172	$172	$172	$172	$172
Subtotal Truck/Drayage DC to Retail	$551	$551	$551	$551	$551	$551
Total Cost via Truck	**$3,784**	**$3,090**	**$3,494**	**$3,345**		
Total Cost via Intermodal Rail	**$3,525**				**$3,743**	**$3,170**
DC SITE - HIALEAH					Los Angeles 6000	Los Angeles 6000
Port of Entry, Vessel Size	South FLA 4800	NE FLA 4800	Gulf FLA 4800	Savannah 4800	ATL intermodal	ORL intermodal
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000
Subtotal Vessel	$2,249	$2,287	$2,234	$2,291	$1,047	$1,047
Subtotal Intermodal to Ramp	$0	$513	$0	$681	$1,150	$1,400
Subtotal Truck/Drayage to DC	$110	$845	$670	$1,169	$1,591	$516
Subtotal Average DC Lease Cost	$203	$203	$203	$203	$203	$203
Subtotal Truck/Drayage DC to Retail	$413	$413	$413	$413	$413	$413
Total Cost via Truck	**$2,974**	**$3,747**	**$3,520**	**$4,076**		
Total Cost via Intermodal Rail		**$3,416**		**$3,588**	**$4,404**	**$3,579**
DC SITE - MEDLEY					Los Angeles 6000	Los Angeles 6000
Port of Entry, Vessel Size	South FLA 4800	NE FLA 4800	Gulf FLA 4800	Savannah 4800	ATL intermodal	ORL intermodal
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000
Subtotal Vessel	$2,249	$2,287	$2,234	$2,291	$1,047	$1,047
Subtotal Intermodal to Ramp	$0	$513	$0	$663	$1,150	$1,400
Subtotal Truck/Drayage to DC	$110	$845	$670	$1,169	$1,582	$516
Subtotal Average DC Lease Cost	$265	$265	$265	$265	$265	$265
Subtotal Truck/Drayage DC to Retail	$413	$413	$413	$413	$413	$413
Total Cost via Truck	**$3,037**	**$3,810**	**$3,583**	**$4,138**		
Total Cost via Intermodal Rail		**$3,475**		**$3,633**	**$4,457**	**$3,641**

The study modeled the impacts of capturing 25 and 50 percent of the 1.2 million TEU originating in Asia and consumed in Florida but imported via non-Florida seaports. Based on the logistics cost analysis, one third of the potential new market was allocated equally to the South Florida seaports, the North Florida seaports, and the Gulf Florida seaports. The rail flows from Southern California were reduced accordingly. Similarly, truck flows moving via the other non-Florida seaports or from the out of state distribution center locations into Florida destinations were reduced accordingly, based on the TRANSEARCH data on existing flows. The truck flows from each of the Florida seaports to the Florida consumption points were increased accordingly. From a transportation perspective, this scenario would shift truck and rail flows from long distance interstate corridors to shorter regional routes, which could improve the overall efficiency and reliability of the transportation system, and reduce associated energy consumption and emissions of greenhouse gases and air quality pollutants.

The analysis assumed the diversion occurs over the first 10 years. Under the medium scenario under which Florida seaports capture 25 percent of the Asian cargo imported into Florida via other non-Florida seaports, the annual growth rate increases to 7.4 percent over this period. Under the aggressive market scenario, under which Florida seaports capture 50 percent of the imported Asian imported containers, containerized imports are projected to grow at an annual growth rate of 10.5 percent over the next 10 years. After that point, the containers are projected to grow at the state GSP rates for the imported containers.

Table 5.2 shows the impact of the diversion scenarios for Asian imported containers now moving via other non-Florida ports, under a 25 percent and 50 percent capture rate of the cargo now moving into Florida from these non-Florida ports.

The study also estimated the economic impacts of this diversion. The additional TEUs were input into a Florida seaport economic impact model developed by Martin Associates, Inc. for the Florida Ports Council.[13] The model produced estimates of additional jobs, business revenue, personal income, local purchases, and state and local tax revenues. All estimates are annual totals for the period of full impact.

[13] The Statewide Economic Impacts of Maritime Cargo Handled At Florida's Public Seaports, 2008. Prepared for Florida Ports Council, March 30, 2009, by Martin Associates, Inc.

Table 5.2 Projected Container Imports under the Medium and Aggressive Capture Rates

INCLUDING 25% DIVERSION

TRADE ROUTE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
CARIBBEAN	1,346,865	1,394,953	1,453,061	1,500,792	1,541,850	1,583,937	1,628,017	1,673,105	1,717,031	1,760,955	1,805,394	2,518,982	3,280,135
SE ASIA	2,808,215	2,921,419	3,062,417	3,173,567	3,265,322	3,359,431	3,458,609	3,560,055	3,657,629	3,754,595	3,852,396	5,409,926	8,899,839
C AMERICA	1,190,917	1,234,706	1,288,031	1,331,376	1,368,284	1,406,121	1,445,810	1,486,407	1,525,834	1,565,200	1,604,998	2,242,797	2,879,394
S AMERICA	596,527	620,518	650,384	673,944	693,409	713,372	734,408	755,926	776,627	797,201	817,954	1,148,508	1,408,313
N EUROPE	384,593	398,491	415,338	429,117	440,920	453,019	465,700	478,670	491,290	503,901	516,657	721,315	933,887
MED SEA	288,738	301,165	316,868	329,004	338,812	348,875	359,514	370,397	380,793	391,091	401,460	565,841	668,236
FAR EAST	950,211	986,252	1,030,490	1,066,065	1,096,036	1,126,767	1,159,054	1,192,078	1,224,046	1,255,915	1,288,107	1,802,932	2,944,481
CANADA	29,690	31,135	33,006	34,405	35,493	36,610	37,798	39,013	40,159	41,288	42,421	60,225	65,949
AUSTRALIA/NZ	15,910	16,548	17,342	17,969	18,487	19,019	19,579	20,152	20,703	21,251	21,804	30,610	37,592
S ASIA	40,899	42,627	44,802	46,492	47,866	49,276	50,765	52,288	53,746	55,191	56,647	79,758	131,964
AFRICA	13,766	14,257	14,850	15,337	15,757	16,187	16,637	17,098	17,546	17,995	18,449	25,740	33,531
MID EAST	4,255	4,395	4,561	4,702	4,826	4,954	5,086	5,222	5,356	5,490	5,626	7,819	10,549
OTHER	18	18	20	20	21	22	22	23	24	24	25	36	39
TOTAL	**7,670,602**	**7,966,484**	**8,331,169**	**8,622,790**	**8,867,083**	**9,117,588**	**9,380,999**	**9,650,433**	**9,910,783**	**10,170,098**	**10,431,938**	**14,614,489**	**21,293,908**

INCLUDING 50% DIVERSION

TRADE ROUTE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2035	2060
CARIBBEAN	1,346,865	1,394,953	1,453,061	1,500,792	1,541,850	1,583,937	1,628,017	1,673,105	1,717,031	1,760,955	1,805,394	2,518,982	3,280,135
SE ASIA	4,440,214	4,619,207	4,842,147	5,017,892	5,162,971	5,311,771	5,468,586	5,628,988	5,783,267	5,936,585	6,091,225	8,553,916	14,071,998
C AMERICA	1,190,917	1,234,706	1,288,031	1,331,376	1,368,284	1,406,121	1,445,810	1,486,407	1,525,834	1,565,200	1,604,998	2,242,797	2,879,394
S AMERICA	596,527	620,518	650,384	673,944	693,409	713,372	734,408	755,926	776,627	797,201	817,954	1,148,508	1,408,313
N EUROPE	384,593	398,491	415,338	429,117	440,920	453,019	465,700	478,670	491,290	503,901	516,657	721,315	933,887
MED SEA	288,738	301,165	316,868	329,004	338,812	348,875	359,514	370,397	380,793	391,091	401,460	565,841	668,236
FAR EAST	1,842,712	1,912,605	1,998,393	2,067,382	2,125,504	2,185,100	2,247,712	2,311,756	2,373,751	2,435,552	2,497,982	3,496,363	5,710,129
CANADA	29,690	31,135	33,006	34,405	35,493	36,610	37,798	39,013	40,159	41,288	42,421	60,225	65,949
AUSTRALIA/NZ	15,910	16,548	17,342	17,969	18,487	19,019	19,579	20,152	20,703	21,251	21,804	30,610	37,592
S ASIA	66,399	69,204	72,736	75,480	77,710	79,999	82,416	84,889	87,256	89,602	91,966	129,486	214,241
AFRICA	13,766	14,257	14,850	15,337	15,757	16,187	16,637	17,098	17,546	17,995	18,449	25,740	33,531
MID EAST	4,255	4,395	4,561	4,702	4,826	4,954	5,086	5,222	5,356	5,490	5,626	7,819	10,549
OTHER	18	18	20	20	21	22	22	23	24	24	25	36	39
TOTAL	**10,220,602**	**10,617,203**	**11,106,736**	**11,497,420**	**11,824,044**	**12,158,984**	**12,511,286**	**12,871,645**	**13,219,635**	**13,566,136**	**13,915,959**	**19,501,638**	**29,313,994**

Source: Martin Associates, Inc.

For the purposes of this analysis, three types of job and income impacts are measured:

- Direct jobs and income, which are those immediately associated with moving the additional freight. These include employment at airports, seaports, railroads, trucking companies, and other businesses directly involved in moving freight, and the income associated with these jobs;
- Indirect jobs and income, which are those related to purchases of fuel, supplies, warehousing, and other services to support the direct jobs; and
- Induced jobs and income, which are those in industries such as retail trade, restaurants, recreation, and personal services supported by additional consumer spending from the employees at the direct and indirect jobs.

A 50 percent capture rate would create an additional 4,600 jobs, including those directly handling these containers as well as spinoff jobs in related logistics industries and other jobs created by additional consumer spending of the trade workers (Table 5.3). This would result in about $345 million in personal income statewide and about $32 million in state and local tax revenues. All of these impacts are annual totals in the full year of maximum impact from the scenario.

Table 5.3 Economic Impacts of Capturing 50 Percent Share of Asian Waterborne Containers Destined for Florida but Entering the United States through Seaports in Other States

Measure	*Annual Impact*
Trade and Logistics Related Impacts	
Jobs	
Direct	1,792
Indirect	930
Induced	1,839
Total Jobs	4,560
Personal Income ($millions)	
Direct	$78
Indirect	$41
Induced	$226
Total Personal Income	$345
Business Sales ($ millions)	$205
Local Purchases ($ millions)	$78
State and Local Tax Revenues ($ millions)	$32

Source: Martin Associates, Inc.

To avoid double counting with other scenarios focused on exports and discretionary trade, the scenario did not account for the jobs and economic activity involved in returning any of these containers, whether empty or full. This estimate also does not include the benefits of more efficient logistics patterns and lower delivery costs on business productivity and consumer budgets.

5.2 GROW FLORIDA ORIGIN EXPORTS

The second opportunity is to grow exports of goods produced in Florida, expanding markets for more businesses worldwide and creating more balanced trade flows.

Florida exported $46.9 billion of Florida produced goods in 2009, a total which ranks 5th among the states. The Florida Chamber of Commerce, Enterprise Florida, and other partners have called for the state to double the value of Florida origin exports during the next five years. This would repeat the recent past, when Florida origin exports surged from an inflation adjusted $29.0 billion in 2003 to a record $54.2 billion in 2008. Florida origin exports account for 7.3 percent of the state's gross domestic product, below the 9.2 percent average nationally.

Florida's recent export growth has been led by technology and manufactured goods, including computers, machinery, transportation equipment, and fabricated metal products. High-technology exports totaled $14.6 billion in 2009, representing 30 percent of all exports in the state. Florida exports are underrepresented in some of these goods, so there is room to grow. Florida origin exports have been strong to most of Latin America, western Europe, Canada, and Japan. Brazil, Asia (especially China and India), Australia, and the Middle East are relatively untapped markets for Florida origin exports.

Growing Florida origin exports would have broad impacts throughout the economy, creating opportunities not only for transportation and logistics businesses but also for manufacturing, technology, mining, and agricultural businesses which produce goods for export. A broader global market could catalyze much needed diversification of Florida's economic base to include a stronger presence for advanced manufacturing.

Florida's distance from U.S. markets has been one factor limiting its manufacturing to industries relying on Florida's natural resources and agricultural products, as well as industries serving the local market. An enhanced, multi-directional logistics system would reduce costs and produce economies of scale, shifting Florida from its current position at the end of the line in the United States to a central position in global trade lanes. These changes could make Florida a more viable location for advanced manufacturing to serve broader markets in the Western Hemisphere and globally. Existing or emerging Florida industries such as aerospace, life sciences, and environmental solutions all could create manufacturing exports.

As Florida exports grow, efforts should be made to maximize the share flowing through Florida seaports and airports rather than other states. About 950,000 TEU of waterborne containerized exports were produced in Florida in 2009. About 25 percent of this total exited the United States through seaports in other states – a gap of about

250,000 TEU. New York, Houston, Savannah, and Charleston all are ports of exit for Florida origin exports to Europe and Asia today.

The study modeled the impacts of doubling containerized exports of Florida manufactured goods. This scenario would create an additional 6,900 trade and logistics jobs (both direct and spinoff jobs) related to moving the additional exports (see Table 5.4). These jobs would result in about $506 million in personal income statewide and about $47 million in state and local tax revenues. The scenario assumes the additional exports following the existing trade patterns, with 75 percent exiting via Florida seaports; if a higher proportion is handled through Florida seaports, the impact would be higher.

Depending on the mix of industries successful at expanding exports, the doubling could create as many as 88,600 jobs with businesses producing or adding value to the exports, with an additional $4.6 billion in personal income and $423 million in tax revenues. This estimate assumes the existing allocation of Florida origin exports among manufacturing industries continues in the future. This estimate does not include a comprehensive analysis of the indirect and induced impacts of these additional jobs.

Table 5.4 Economic Impacts of Doubling Florida Origin Containerized Exports

Measure	*Annual Impact*
Trade and Logistics Related Impacts	
Jobs	
Direct	2,636
Indirect	1,430
Induced	2,753
Total Jobs	6,859
Personal Income ($millions)	
Direct	$113
Indirect	$64
Induced	$330
Total Personal Income	$506
Business Sales ($ millions)	$316
Local Purchases ($ millions)	$120
State and Local Tax Revenues ($ millions)	$47
Potential Additional Export Related Impacts	
Jobs	88,584
Personal Income ($ millions)	$4,600
Business Sales ($ millions)	$14,549
State and Local Tax Revenues ($ millions)	$423

Source: Martin Associates, Inc.

5.3 EXPAND FLORIDA'S ABILITY TO SERVE NON-FLORIDA MARKETS AND PROVIDE VALUE ADDED TO DISCRETIONARY TRADE

Florida's international gateways historically have served regional markets. The shifting trade patterns, along with potential investments at Florida gateways, provide opportunity to compete for a greater share of discretionary cargo, which is cargo generated and consumed in other states or nations but moving through Florida. Florida has been successful as an importer and exporter of goods to and from the Caribbean and parts of Latin America. Florida also has been successful in establishing a global air cargo hub in Miami. Now Florida's opportunity is to become a global hub for trade in all modes, taking advantage of its location on north-south and east-west trade lanes. Some examples:

- A Florida seaport with 50 feet of water and efficient landside connections could compete as a port of call for the post-Panamax container ships;
- Continued expansion and modernization of Florida's airports – particularly Miami – could help Florida remain a hub for shipping high value, time sensitive freight; and
- Florida's unique commercial space launch capabilities could add a new dimension of suborbital transport to shipping options over time.

Like Singapore, Hong Kong, or the Netherlands, Florida's position as the gateway to a large consumer market and on the junction of multiple trade lanes could enable the state to become a hub for global commerce and investment, including trade flows neither produced nor consumed in Florida. This would create additional jobs and income not only in trade and logistics, but also in advanced manufacturing and international finance, law, and business services. Increasing the overall trade flow could enable Florida to be a more competitive location for final assembly and customization of consumer goods flowing to the United States, the Caribbean, or Latin America.

The study modeled two scenarios for a stronger global hub role for Florida. First, the study modeled doubling cargo tonnage exported by Florida airports. Currently about 1 million tons of air cargo are enplaned at Florida airports, primarily at Miami International Airport. A large share of this cargo originates in other states and is handled through Miami due to the large number of direct passenger flights and the supporting cluster of service businesses.

Doubling this air cargo activity would create more than 15,300 jobs, primarily with freight forwarders, dedicated air carriers, trucking companies, and service providers (see Table 5.5). This would result in nearly $800 million in personal income and $74 million in state and local tax revenues.

Table 5.5 Economic Impacts of Doubling Air Cargo Exported by Florida Airports

Measure	Annual Impact
Trade and Logistics Related Impacts	
Jobs	
Direct	6,725
Indirect	4,520
Induced	4,071
Total Jobs	15,316
Personal Income ($millions)	
Direct	$253
Indirect	$162
Induced	$377
Total Personal Income	$792
Business Sales ($ millions)	$2,508
Local Purchases ($ millions)	$281
State and Local Tax Revenues ($ millions)	$74

Source: Martin Associates, Inc

Second, the study modeled doubling the amount of discretionary container flows to or from other states moving through Florida seaports. About 547,000 TEU originate in other parts of the United States are exported to markets such as Latin America and the Caribbean using Florida seaports; similarly, about 240,000 TEU are imported from other nations through Florida seaports and ultimately consumed in other states. These 787,000 TEU currently account for nearly 6,000 direct and spinoff jobs (see Table 5.6). There is potential to increase these flows along trade lanes where Florida has a cost advantage or a historically dominant role, particularly between the eastern United States and Latin America and the Caribbean. Doubling these flows would double the economic impacts, and also create greater economies of scale for distribution center and related value added activities.

If all discretionary imports were processed through Florida distribution centers, an additional 22,300 jobs in distribution, final assembly, value added manufacturing, and other elements of the supply chain could be created, along with an additional $430 million in personal income and $40 million in tax revenue. This estimate does not include a comprehensive analysis of the indirect and induced impacts of these additional jobs.

Table 5.6 Economic Impacts of Doubling Discretionary Flows of Containerized Cargo through Florida Seaports

Measure	Annual Impact
Trade and Logistics Related Impacts	
Jobs	
Direct	2,237
Indirect	1,193
Induced	2,342
Total Jobs	5,771
Personal Income ($millions)	
Direct	$96
Indirect	$53
Induced	$281
Total Personal Income	$430
Business Sales ($ millions)	$263
Local Purchases ($ millions)	$100
State and Local Tax Revenues ($ millions)	$40
Potential Additional Export Related Impacts	
Jobs	22,327
Personal Income ($ millions)	$1,159
Business Sales ($ millions)	$3,697
State and Local Tax Revenues ($ millions)	$107

Source: Martin Associates, Inc.

Summary

If pursued together, these opportunities could support over 32,000 jobs annually in the trade and logistics sector. They would generate $3.3 billion in business sales, $2.1 billion in personal income, and $193 million in state and local tax revenues. If supporting economic impacts are realized, these opportunities could create up to an additional 111,000 jobs in export oriented industries including advanced manufacturing. They would generate with an additional $18.2 billion in business sales, $5.8 billion in personal income, and $530 million in tax revenues. These estimates are preliminary, and should be refined as the timing and nature of specific opportunities becomes clearer.

6.0 Summary of Interview Findings

6.1 SUMMARY OF INTERVIEW FINDINGS

As part of the process to inform the study, numerous organizations throughout Florida were interviewed to gather their insights concerning Florida's current competitiveness as a trade gateway and hub and as a shipper location. Considerable detail was collected concerning Florida's strengths and weaknesses in terms of infrastructure, business climate, and economic development incentives, as well as insights on what the state needs to do in a strategic sense to capitalize on future trade opportunities.

Interviews were conducted with seaports, developers, beneficial cargo owners (the importers of record who physically take possession of cargo at the destination but do not act as a third party in the movement of such goods), ocean carriers and terminal operators, rail carriers, motor carriers, economic development organizations, land owners, and industry associations. Interviewees were selected based on input provided by the study advisory committee, the Florida Chamber Foundation and extensive contact lists maintained by the consultant team. An effort was made to interview a diverse set of stakeholders within each category listed above.

The main findings of the interviews with these organizations are reviewed in this section.

Seaports

The following seaports were interviewed:

- Port of Miami
- Jacksonville Port Authority (JAXPORT)
- Tampa Port Authority
- Port Manatee
- Port Everglades
- Port Canaveral
- Port of Pensacola
- Port St. Joe Port Authority

With respect to container activity, the seaports provided the following insights:

- Large container seaports will continue to focus on developing container trade with Asia;
- Mid-size and developing container seaports will develop facilities to pursue regional carriers as well as Asian feeder services;

- North/south trade with Central America and South America are also areas of growth with regional carriers; and
- Land constraints at some seaports can potentially hinder container growth.

With respect to break bulk and bulk activity, the seaports provided the following information:

- Steel, forest products, cement and aggregate have been off due to economic conditions;
- Once recovery is underway, building materials should resume;
- Seaports have adequate infrastructure to handle these commodities;
- Potential for export opportunities; and
- Petroleum products should remain stable, driven by population demand and aircraft activity.

The seaports provided the following information regarding opportunities. The commodities providing new opportunities for Florida seaports were identified as:

- Wood pellet exports;
- Orange juice – import and export;
- Ethanol;
- Off-site distribution center development; and
- Offshore supply vessels.

The seaports also identified specific trade lanes as offering potential growth. These are South American trade lane activity of Brazil, Peru, Chile, and Ecuador. Six seaports indicate that there is available acreage at near-port inland locations. The seaports indicated a need for increased rail service to Atlanta and Charlotte. The use of private public partnerships in terms of developing long term concession agreements was identified as the key method of funding future capital development programs. Five seaports suggested that they have participated in or investigated a public private partnership deal.

The seaports nearly unanimously identified water depth as the major constraint for future participation in the growing all water services via the Suez Canal and the Panama Canal. Five seaports indicate that there is no on-port land available for terminal expansions. The seaports also were very unified in stating that other states have been very aggressive in attracting waterborne users, in particular Mississippi, Alabama, Georgia. The state of Florida has not provided the same aggressive methods in attracting waterborne users. There is a need for more unification and state visibility and support.

Beneficial Cargo Owners and Developers

The following beneficial cargo owners and developers were interviewed:

- Rooms to Go
- Dole Food Company, Inc.
- Amware Pallet Service
- Chiquita Brands International, Inc.

The following developers were interviewed:

- Industrial Developments International (IDI)
- Duke Realty

The beneficial cargo owners and distribution center developers provided the following information:

- Key industrial/commercial markets are still slow, and plagued by high vacancy rates. There is a surplus of square footage from buildings that have been vacated
- Key factors in location of a distribution center are cost of operations/labor and the proximity to port/market. Supply chain managers are streamlining logistics operations. For example Wal-Mart recently announced a contraction from four to three distribution regions in the United States..
- The major import distribution centers are focused to serve the entire Southeast, not just Florida. Florida is viewed as a peninsula – the "end of the road." Most distribution centers in Florida will fall into the 100-300,000 square foot range. These distribution centers will be more geared to regional distribution center activity, not import activity. Other facilities will fall into 10-50,000 square foot range. Most international distribution centers are located in Savannah and Atlanta and these serve the regional distribution centers in Florida.
- Historically, the developer would build a facility, sell it, take the profit and move on. Current challenges reflect that banks are not lending, and there is credit unworthiness amongst smaller logistics companies. Also the tenant wants shorter lease terms.

Ocean Carriers and Terminal Operators

The following ocean carriers and terminal operators were interviewed:

- NYK Line (Nippon Yusen Kaisha)
- Maersk Line
- CMA-CGM Group
- Seaboard Marine
- Trailer Bridge, Inc.
- Crowley Maritime Corporation
- Tropical Shipping
- Mitsui OSK Lines (MOL)

- Ports America
- TraPac, Inc.

Savannah is the key player in serving the Southeast market. Savannah will continue to have an advantage over Florida ports due to the large import/international distribution center presence in the Southeast. Even if the Savannah River is not deepened, carriers will deploy ships of size compatible with channel due to:

- Established international distribution centers both in Savannah and Atlanta;
- Aggressive rail pricing to Atlanta; and
- Very productive and flexible workforce.

Florida ports have the opportunity to serve the Florida market. The ability to serve the Orlando distribution center market is key, but these are not, for the most part, international distribution centers. The distribution centers willing to locate in Florida to this point are, for the most part, regional, not import distribution centers. The attraction of import distribution centers is critical to induce more all water services into Florida ports. To attract all water services, the ability to complete 50 foot channels is critical. A 50 ft channel is key from a commercial perspective, as is the berth capacity to handle greater than Panamax size ships after the expansion of the canal in 2014.

There is increasing interest by several major carriers directed towards developing services into midsized ports to serve the Central Florida population base. Central Florida is viewed as a growth market due to a younger population base. South Florida is viewed as a mature market, little consumption growth potential. Therefore the ports in proximity to Central Florida population centers are becoming more attractive. These ports can be served via feeder hubs in the Caribbean and Panama

The ocean carriers indicated that island traffic may decline at Florida ports. There is an increasing trend for major island importers to direct source with Asian suppliers and by-pass US sourcing of consumer goods. This will impact island trades from US, as the island markets will be served via transshipment centers in Panama and the Caribbean. Cuba will also be served via off-shore transshipment centers where labor is much less than at US distribution centers. There will likely be an increase in distribution center activity at the transshipment ports, which will serve the island trades.

Rail Carriers

The following three rail carriers were interviewed:

- CSX Corporation
- Florida East Coast Railway (FEC)
- South Central Florida Express

The railroads provided the following information:

Markets and Opportunities – Rail Perspective

- Rail service in Florida is dominated by strong southbound flows. The major flows of cargo are from Atlanta and the Carolinas. Automobiles are key domestic rail moves into South Florida and beverages are another key southbound move due to the weight limitations on trucks.
- Central Florida and Tampa area are major growth markets, and will provide strong intermodal markets from Savannah, Atlanta, Chicago and the West Coast.
- North Florida ports function as a critical gateway to the Caribbean islands.
- On-dock rail in South Florida could improve northbound flows, and provide better access into the Atlanta market. However, volume is needed to guarantee pricing into the Atlanta market; this volume has not been evident to date.
- North Florida ports can effectively compete to move freight inland to major Southeast markets. On-dock rail in will be necessary for JAXPORT to be a national port; as volumes increase, on-dock rail will become a reality; without it, Florida is missing out on an opportunity for global trade.
- JAXPORT is the western most port on the Atlantic Coast so it has the ability to compete for hinterland markets; it has similar attributes to Savannah and Charleston. Savannah has both an economic development and logistics strategy/program; both are critical; Florida is more focused on the logistics strategy.
- Port of Tampa has a great future; good water; plenty of land; significant storage with ability redevelop to meet growing markets/commodities; recession has hit container service but it should be temporary. Primarily a regional port but could be national; opportunities exist for the expansion of rail presence at the port for new products like ethanol.
- Miami is a huge port; it serves a local market and has potential to serve all of Florida; it is hindered by geographic location. Caribbean and Central/South American markets will remain strong; there is a huge Latin cultural base in Miami that will help preserve current services. Miami has significant congestion and currently no on-dock rail. Miami has always been a truck port and has never shown any real interest in being a rail port; same goes for Port Everglades.
- Other states (Georgia and Alabama) have integrated economic development strategies that impact trade and logistics. The competition is more than just Georgia and Alabama; it is the entire Southeast region.
- Trade and logistics is primarily driven by growth and economic incentives.
- Ports that are succeeding along the Atlantic and Gulf coasts have five key characteristics:
  - Deep water;
  - Ability to expand and change footprint to meet evolving terminal needs;
  - Ability to move goods beyond local markets (intermodal rail and interstates);

  - Roadway network that supports local distribution activities; and
  - Effective Free Trade Zone with warehouse and distribution centers nearby.
- Savannah is an example due to its success in recreating the model for a growing port. JAXPORT, Norfolk, Savannah, and Charleston were all about the same size ten years ago; Savannah has been more successful.
- Infrastructure (all modes) needs to be competitive; this is a given – it needs to be in place. Florida is missing several of the key factors when it comes to economic incentives.
  - For example, to successfully attract new manufacturing facilities you need to have the right package. Mobile, AL recently competed for a new company. It provided free land, tax based incentives, all necessary infrastructure connections, and has a qualified work force.
  - For example, Georgia recently competed for a new wood pellets operation with exports to Germany. The Governor was involved in the marketing; Georgia also has a team of high level officials that get involved like the Secretary of Commerce. Note that Florida has the same pines but was not a player.
- Most railroads have moved away from industrial parks; carload business has dwindled; there have been almost no investments in new industrial parks built around a rail network over the last 30 years. Buildings requiring direct rail connections are limited to specific facilities – not leasable industrial park properties. Warehouses/distribution centers are perfectly aligned with intermodal service.
- Miami River has a lot of business serving Caribbean and Central and South American markets; shippers rely on rail service along the industrial Miami River corridor.
- Major investments in rail corridors and intermodal terminals in Central Florida have the potential to shift rail patterns over the next several years. These investments are linked to the state's investment in SunRail.
- South Florida has some challenges as passenger and freight operations operate on the same right of way; future investments may further integrate the services. More service without increasing the infrastructure is a real possibility. Freight rail service will be limited by operating window restrictions.
- The freight rail network in Florida is in good shape; some port connections need to be improved or constructed.
- From an industrial development perspective, Florida is a non-player/non-competitive when it comes to pursuing new business. The rest of the Southeast states have strong programs. Florida lacks incentives; industry that has to be here will come here; major manufacturing facilities that have a choice typically will not. It is important to understand what each state has to offer.
- Relating to the creation of efficient supply chains, all ports on the Atlantic and Gulf coasts are very aggressive to the extent of their resources; each thinks it is positioned to be one of the key ports following completion of the Panama Canal.

- Georgia has a very aggressive port program at the state level; Florida is more driven by local/port level programs that are aggressive but have limited budgets. Savannah does not have much on Jacksonville but it has been significantly more successful in competing for new business.

Recommendations – Rail Perspective

- Florida needs to understand the big picture; Florida should strive to have a strategy for transportation and economic development; economic development drives growth.
- It is important to look at the business environment; not just the transportation system.
- Intermodal connectivity is critical for key freight hubs (seaports and intermodal rail yards).
- Improvements to the supply chain represent an ongoing process; the process should be accelerated as much as possible.
- SR-60 needs to have adequate capacity across the state.
- Infrastructure improvements are very expensive; Florida should consider focused investments; pick winners to compete nationally and internationally.
- Florida is at a crossroads; it has an opportunity to change its economic development mix; Florida has always recovered quickly; this is a great time for Florida to look at its problems and work to diversify away from services and tourism. Manufacturing is a major opportunity and should be evaluated and developed.
- Florida and the US are looking at the freight rail system for passenger service opportunities; the freight rail network must be maintained; need to add infrastructure to deal with passenger service or there will be a system melt down. Florida should promote rail policies that accommodate freight and passenger service.
- The primary strategy for Florida should focus on making Florida a better environment for attracting business.
- From an infrastructure perspective, the state needs to make sure and focus on more than just roadways. North Carolina's rail program is an example. Rail is good public policy and is sustainable; there should be a more holistic focus; Florida is already headed in this direction but moving faster would not hurt.
- Prioritization of projects should be based on project cost and available funding. For example, if you have $1B then go ahead and tackle a major project like dredging; if you have $100M and it will only partially fund a project then pick a different project like on-dock rail; Florida must tackle projects/bottlenecks that it can solve with available funding.
- With the lack of public funding, there need to be other incentives (tax, etc.) to engage and leverage private sector investments.

- Florida should develop a port focused economic development strategy that includes rail connections and service. It is important to pick winners; not everyone can be a winner; if winners are not picked money will be wasted.
- Economic development should be the number one priority for this study. This is where Florida falls short. Attraction of big manufacturing facilities is not happening; everyone seems to be focused only on supply chains.
- From an economic development perspective, manufacturing provides an order of magnitude difference in employment and secondary benefits than warehouses or distribution centers. Florida should be focused on a strategy to grow our manufacturing industry first.

Motor Carriers

The following motor carriers were interviewed:

- American Trucking Associations
- Florida Trucking Association
- Schneider Transportation
- Ryder System and Ryder Truck Rental
- Publix Super Markets
- Rountree Transport and Rigging
- Florida Rock and Tank Lines
- UPS
- Comcar Industries

The main findings from the interviews include the following:

Florida Transportation System – Motor Carrier Perspective

- Motor carriers who operate in the State of Florida rely primarily on the Interstate Highway System for most inter- and intra-state trips. The Interstates connect all of the major metropolitan areas of the state, and provide links to other parts of the country. Florida has several tolled limited-access highways such as the Florida Turnpike, which drivers tend to avoid except in cases when there are no suitable alternative routes, or when the travel time savings benefit of using the tolled facilities outweigh the cost of the toll. In addition, intermodal connectors provide important links to major freight generators such as ports and airports. Several highways, such as Florida Route 45 near the Port of Tampa and parts of U.S. 1 near JAXPORT, are key intermodal connectors between port facilities and the Interstate Highway System.
- Overall, interviewees described the highway system as "good." The condition and maintenance of highways in Florida was generally praised. Major issues with the highway system include chronic congestion in the major metropolitan areas and a

lack of sufficient parking and rest area facilities for long-distance motor freight drivers.

Regulatory and Enforcement Issues – Motor Carrier Perspective

- All of the motor carriers interviewed believe that the enforcement of size and weight restrictions, hours of service, and other regulations are conducted in a fair manner in Florida. The interviewees agree that the enforcement of these regulations is necessary to ensure safety, and several of the carriers prided themselves on their safety records. Some interviewees suggested that enforcement should be expanded to better target and remove the "bad guys" who are operating unsafely.
- Florida seaports issue unique port access cards to truckers; a standardized card to access all seaports is needed. Several motor carriers cited the requirement of unique port access cards at each port in the state as a significant problem. Motor carriers who operate on the ports in Florida believe the adoption of the Transportation Security Administration's (TSA) Transportation Worker Identification Credential (TWIC) system should have eliminated the need for unique cards for individual ports, and thereby standardize and streamline the certification process. Motor carriers believe the unique access cards for each Florida port are consuming large amounts of administrative time, at considerable cost, to ensure their drivers have the proper certification to access each of the state's ports. The requirement of both the TSA's TWIC and the unique access cards "adds a layer of red tape" that results in reduced productivity and frustration among the motor carriers.

Florida as a Competitive Business Location – Motor Carrier Perspective

- The perspectives of short-haul motor carriers (serving the Florida market almost exclusively) and long-haul carriers (those that transport goods from Florida to/from other parts of the United States differ. Short-haul carriers see Florida as a large, lucrative, and growing market while long-haul carriers view Florida as an end-point destination with inherent inefficiencies that add to their costs.
- For short-haul carriers who primarily distribute freight within the large Florida market, the state is perceived as a "good" place to do business. Companies operating intra-state are primarily involved in moving goods, including retail goods and construction materials, between terminals or distribution centers and retail outlets or job sites throughout Florida. The trips are shorter in length relative to long-haul trips completed by national carriers, and backhaul is less of an issue as the emphasis is on the delivery of goods to be consumed. Intra-state motor carriers view the existence of several large consumer markets located throughout the state and a reasonably competitive cost of doing business as Florida strengths.
- For long-haul motor carriers who transport goods into the state from elsewhere in the country, Florida presents a more challenging business environment. There is a significant imbalance of traffic entering and leaving the state. Florida is a consumption market requiring large flows of inbound freight only partially offset by the state's relatively small manufacturing sector. Therefore, the net freight moves are in one direction—moving into the state, while empty containers move out. The

absence of backhaul freight results in fewer revenue miles and hence, higher freight rates for shipments destined for Florida. This problem has made several carriers reluctant to expand their operations in the state. As an "end-of-the-line" location, geographically speaking, several motor carriers believe that Florida is not suitable as a location base for distributing to other parts of the country relative to other, more centrally located, regions. The long-haul carrier representatives were less aware of Florida's business regulations and economic development policies than local carrier representatives, suggesting that they presently do not perceive themselves as having a strategic role in the state.

- National and local carriers are concerned about the demographic and economic trends they are observing in Florida. They see stagnating population growth and aging population as trends that will ultimately lead to fewer construction, manufacturing, and logistics jobs. If these trends hold, they would translate into less freight and fewer business opportunities in the future for motor carriers.

Motor Carrier Recommendations

Motor carriers were asked to provide recommendations of policies or initiatives that the state of Florida could implement to make the transportation system operate more effectively, address regulatory issues, or improve Florida's economic competitiveness. Although respondents had ideas for making spot improvements to failing infrastructure elements such as chokepoints, they offered little in the way of long-term transportation improvements or policy positions. Most of the respondents work intensively in the day-to-day operations of their businesses and hence give little thought to strategic issues beyond what they need to do to make it through the next quarter. The recommendations that were received tended to emphasize strategies that would reduce (or help control) costs and increase efficiency for motor carriers, including:

- Optimize signal timing and make minor changes in geometry to improve performance and operational safety on some state and local highways;
- Use public-private partnerships to finance new infrastructure, but do not add tolls to existing facilities;
- Offer incentives for freight receivers to encourage off-peak deliveries; and
- Increase weight limits to reduce the number of trucks on the road.

Economic Development Organizations

The following local, regional, and statewide economic development organizations were interviewed:

- Enterprise Florida
- Bay County Economic Development Alliance
- Central Florida Development Council
- Charlotte County Economic Development Office
- Jacksonville Cornerstone

- Lake Okeechobee Regional Economic Alliance
- Metro Orlando Economic Development Commission
- Ocala/Marion County Economic Development Commission Columbia County Industrial Development Authority
- Economic Council of Palm Beach County
- Economic Development Commission of Florida's Space Coast Glades County Economic Development Commission
- Tampa Bay Partnership

The main findings from the interviews include the following:

Current Trends in Economic Development

- Distributors are often postponing expansions until economy strengthens further.
- Prospects are seeking suitable buildings that are ready for occupancy; otherwise they are looking for shovel-ready sites.
- Manufacturing opportunities are rising.
  - There is significantly more prospect interest, indicative of a recovering economy.
  - There are recognized advantages for domestic production, including:
    - » Quality control;
    - » Control over intellectual property;
    - » Shorter, less complex, and more nimble supply chains;
    - » Proximity to customers;
    - » Sustainability/reduced carbon footprint; and
    - » Foreign companies needing a US presence.

Florida Advantages

- Quality of life
  - Many companies *want* to be in Florida.
    - » Access to recreational opportunities was a factor for a battery manufacturer that chose to locate in Jacksonville.
    - » Florida's quality of life advantages make it easier to attract labor.
    - » Quality of life is rising in importance as a site location criteria among manufacturers and distributors.
- Workforce
  - The availability of specialized logistics-training helped attract a national pharmacy distributor to Polk County.

  - Companies are focusing on the local workforce's ability to assimilate advanced technologies, both for distribution and manufacturing.
  - Prospects are contacting local human resources (HR) departments for private one-on-one conversations about workforce quality.
- Labor Costs
  - Florida offers competitive labor rates on an occupation-by-occupation basis.
- Location
  - Florida offers unparalleled access to Latin American markets.
  - Florida also offers access to 3 of 11 U.S. "Megaregions" (Florida, Gulf Coast, and Piedmont-Atlantic).
- Transportation
  - Florida has strong air service to Latin America and Europe as well as comprehensive domestic air links.
  - Large ports throughout the state provide businesses with port access to ship their products overseas.

Florida Weaknesses

- A peninsular location translates into higher logistics costs.
  - A precision metals manufacturer eliminated Florida due to transportation costs, and is now looking at North Carolina and Kentucky.
  - The state is not under initial consideration by many businesses due to its location.
  - "Dead head" (i.e., empty) trucks and trains outbound from Florida add to costs, Increased trade and global logistics activities in Florida would help balance freight flows
- Even if/when deep-draft ships will be able to enter Southeast Florida ports, poor intermodal connections unless rectified will limit potential.
- Florida can no longer compete as a "low cost" alternative.
  - Companies are very cost-conscious coming out of recession.
  - Florida has high electricity, workers compensation and real estate costs.
- Florida is perceived as not as business friendly, with more onerous regulations compared to key Southeast competitors.
  - Fees, permitting, and disparate requirements between communities hinder infrastructure projects with a regional or statewide scope.
- Workforce readiness
  - Additional engineering, managerial, computer/IT, and science and technical talent are needed to bolster the competitiveness of some parts of the state.

Use of Incentives and Florida Competitiveness

- Incentives are generally not the deciding factor in site location decisions.
  - Once a company is comfortable with other site location factors, it will *then* look at incentives.
- Florida is only "moderately" competitive on incentives according to numerous economic development organizations.
  - Incentives are needed to be "in the game" in multi-state competitions for some manufacturing prospects.
  - There is a perception that Florida may not pass initial cuts by site-location consultants.
- Border state incentives are presenting a challenge to Florida.
  - The free land, buildings, and cash grants offered by other states can make it challenging for Florida to compete on incentives.
  - Georgia provides refunds of employee income tax withholding dollars, a significant incentive Florida cannot match.
  - The Alabama Industrial Development Training (AIDT) is well-funded, flexible, and difficult to beat if a site decision is hinging on incentives. A Korean company selected an Alabama location over a Florida site due at least in part to this incentive.
- The Economic Development Transportation Fund is inadequately funded.
  - Most states have a similar incentive at this point.
  - Transportation access is now an expectation, not a decision variable.
- The use of local incentives is increasing when working with prospects.
  - They offer more flexible requirements (e.g., wage levels) than State incentives.
  - Individual manufacturing and logistics prospects often cannot meet State incentive requirements.
  - The local incentives are not as lucrative as those offered by the State, but can make a difference on a case-by-case basis.
- Companies are now expecting "front-end" incentives but most of Florida's incentives are "claw-back" – collected after demonstrating jobs targets have been met.

Business Climate – Taxation on Manufacturers

- Florida's taxation structure may discourage capital investment by manufacturers in the state.
  - Sales tax on manufacturing equipment discourages capital investment in this key strategic industry but progress is being made to reduce or eliminate this burden and make Florida more competitive.

  - Ad valorem tax depreciation schedules need to be faster on the capital equipment used by manufacturers.
  - Corporate income tax apportionment needs to be shifted to a single factor (sales based in Florida) from the current three (sales, payroll, and property) to make Florida more competitive with other states.
- Economic development officials hear from site location consultants that Florida is eliminated early in national competitions for manufacturing expansions.

Strategies Posited by Economic Development Officials to Encourage Trade and More Value-Added Activity in Florida

- Florida needs to secure and leverage expanded direct sea service to/from Asia.
  - Mitsui O.S.K. and Hanjin Shipping (expected) to expand at JAXPORT which would be a boon to trade. Hanjin's expansion, however, is currently being delayed pending a deepening of the ship channel.
  - Carriers' relationships with major shippers throughout world could be leveraged into active prospects for the State.
  - Expanded sea service would elevate Florida's global position in logistics, allowing it to better compete with other states.
- Florida can leverage its business, cultural, and geographical ties to Latin America.
  - Latin America, led by Brazil, is emerging as a world economic leader.
  - Florida's bi-lingual workforce can be a plus in attracting businesses if they are already present or planning to expand in Latin America.
- Statewide strategies should be developed to prepare workforce for distribution jobs.
  - Engineering, managerial, computer/IT, and science and technical talent are needed to bolster competitiveness.
- Intraregional permitting needs to be streamlined and standardized to move projects of regional/statewide scale forward.
- Infrastructure capacities (speed, volumes, interconnectivity) need to be expanded to overcome geography, reduce costs, and make logistics competitive in Florida.
  - Investments (e.g., on-dock rail) that will help a larger volume of goods to move more quickly into and out of Florida need to be emphasized.
  - Higher volumes and faster speeds will increase efficiencies and lower costs, making Florida more competitive.
- The State should consider developing a north-south multi-modal transportation spine to move goods into/out of Florida while avoiding congested coasts.
  - "Lateral" (east-west) connections would need to be built from the spine and integrated logistics centers (ILCs) to the ports.

  - This type of a network would allow inland Florida to become a low-cost alternative for value-added manufacturing and distribution.

- Florida ports should be encouraged to commit to work collaboratively to secure funds to invest in infrastructure projects to add capacity and connectivity.
  - The completion of key capacity and connectivity projects are essential to transform Florida into a global logistics hub.
- Greater collaboration between multiple political jurisdictions and planning entities are needed to realize strategic goals in transportation operations and infrastructure.
  - A logistics hub and supporting infrastructure needs to be a defined regional priority in order to move forward.
- Stronger cooperation between economic development organizations and key transportation facilities helps to attract business.
  - Strong coordination is a tool to support business expansions and attract prospects. Companies take notice when they see active cooperation among the agencies that will be affecting their operations.
- Shippers should be actively encouraged to use Florida gateways.
  - Economic development organizations can introduce the use of Florida gateways when speaking with companies in the following ways:
    - » With existing companies , EDOs can engage companies when they are fielding inquiries regarding export opportunities to diversify markets and increase sales;
    - » With prospects, there is an opportunity to encourage future exporters to use Florida gateways as soon as they begin operations; and
    - » With foreign companies who are contacting EDOs to identify Florida suppliers, there is an opportunity to promote Florida gateways for trade.
- A stronger support structure is needed to encourage exports from companies in interior of State.
  - Additional expertise in finance, marketing, logistics, and law are needed in some parts of the state to assist companies in exporting.
- Other states have put port-use incentives into practice and Florida should consider evaluating whether similar incentives would benefit the state. Such an evaluation would include:
  - An evaluation of their effectiveness to increase international trade;
  - A determination of their effectiveness in attracting shippers; and
  - An estimation of potential benefits versus lost revenues.
- Florida should consider adapting the strengths of the Alabama Industrial Development Training program.

  - The AIDT is flexible, well-funded, and promotes long-term state-business relations

- Florida should consider adapting its major state incentives – Qualified Target Industry Tax Refund (QTI), Quick Response Training Program (QRT), and High Impact Performance Incentive (HIPI) to stimulate major capital investments as well as jobs.

Land Owners

The following landowners were interviewed:

  - Lykes Brothers
  - Plum Creek Timber Company
  - U.S. Sugar Corporation

- Florida's strengths and opportunities
  - Position state for longer term growth with new trade/industrial infrastructure
  - Land is available for development with direct rail connections to major ports
- Florida's weaknesses and challenges
  - The process to change land use is too lengthy
  - New SB360 (a growth management law) has resulted in no central leadership and cities are doing mobility plans differently
- Florida needs and strategies
  - State needs to focus on more than just growth, tourism, and agriculture to spur economic activity.
  - Florida needs to strengthen efforts to diversify the economy. Rural areas remain poor because there are few alternatives other than agriculture.

Industry Association

The following findings were based on an interview conducted with the Florida Customs Brokers and Forwarders Association.

  - Florida's strengths and opportunities Backhaul is a great opportunity for Florida.
  - Florida ports could provide transshipment services to support smaller Caribbean ports that cannot expand.
  - Florida has a significant international trade infrastructure already in place that can be further leveraged to expand trade.

- Florida's weaknesses and challenges
  - Congestion in Florida can derail existing and future opportunities.
  - As security requirements continue to increase, trade could suffer if they become too onerous.

  - Florida's higher security requirements impact the competitiveness of Florida's ports.
  - Agriculture inspections can create significant delay and perishable shipments can be lost.

- Florida needs and strategies
  - The State needs to determine Florida's strategic direction – preservation or growth?
  - Modern transportation facilities are needed for Florida to be competitive.
  - Florida needs more incentives that promote ports and help to attract/retain manufacturers.
  - The State needs to understand competition in other states/countries to buttress its position as it competes for trade and business prospects.

A. Overview of Seaport-Specific Incentives in Other States

Numerous states, including South Carolina, Louisiana, North Carolina, Alabama, Georgia, Mississippi, and California have introduced, or are considering, incentives to encourage in-state shippers to use their seaports (see Table A.1). In addition to incentives for shippers, Louisiana and California are also considering incentives to stimulate the development of seaport infrastructure.

Table A.1 Seaport Incentives by State

State	Incentive	Status
Alabama	Alabama State Docks Capital Credit	Active
Georgia	Georgia Port Authority Tax Bonus	Active
Mississippi	Mississippi Export and Import Port Charges Tax Credits	Active
North Carolina	North Carolina State Ports Tax Credit	Active
South Carolina	Port Volume Increase Tax Credit	Active
California	Port Economic Growth Incentive Program	Legislation Introduced
Louisiana	Louisiana Ports Import-Export Cargo Tax Credit and Investor Tax Credit	Passed but not implemented

Alabama State Docks Capital Credit

Companies that locate or expand operations on property which is owned or leased by the Alabama State Port Authority are eligible for specific tax advantages. Projects must have capital costs exceeding $8 million, and their predominant business activity must be industrial, marine handling, warehousing, or research. The annual capital credit (available for up to 20 years) is calculated at five percent of the total capital costs of the qualifying project. The capital credit is applied to the income tax liability generated by the income of the project.

Georgia Port Authority Tax Bonus

Through BEST ("Business Expansion Support" Act), the "Port Authority Tax Bonus" is available for industries that locate, or expand, in Georgia and utilize Georgia's ports. This incentive offers additional job tax credits to businesses for each of 4 tiers of counties that add the required threshold of jobs and increase their port traffic through Georgia's port facilities by 10% in one year from the base level. See Table A.2.

Table A.1 Description of BEST Incentives

County Designation	TIER 1	TIER 2	TIER 3	TIER 4
Mandatory Job Creation	5	10	15	25
Tax Credits Per New Full-Time Job	$3,500	$2,500	$1,250	$750
Joint Development Authority Bonus	$500	$500	$500	$500
Port Authority Bonus	$1,250	$1,250	$1,250	$1,250
Total Potential Incentives	$5,250	$4,250	$3,000	$2,500

The base level of port traffic is set at 75 tons, 10 TEUs or five containers. The total tax credit amount cannot exceed 50 percent of the taxpayer's state income liability for a single year. These credits can be carried forward 10 years if jobs and port traffic remain in service and above the base-level increases.

Eligible industries include manufacturing, warehouse / distribution, processing, telecommunications, tourism and research & development.

- Encourages existing port-users to expand jobs and investment in Georgia and heighten the volume of traffic and trade through Georgia's seaports.
- Promotes increased use of GPA, as well as private terminal facilities, making Georgia ports more attractive to shippers and handlers, thus creating more alternatives for Georgia businesses.

The Georgia Ports Authority also assists prospective and existing industries with identification of international and domestic customers for ocean-going freight. They also provide inland shipping / trucking rates to prospects in an effort to identify cost benefits of moving cargo through Georgia's ports.

Mississippi Export and Import Port Charges Tax Credits (on income tax)

An income tax credit is available equal to the charges a business pays for *exporting* cargo through certain Mississippi ports. An income tax credit is also available equal to the charges an eligible business pays for *importing* cargo (except for forest products) through certain Mississippi ports. An eligible business must locate its United States headquarters in Mississippi, or have at least five (5) permanent full-time employees, and have a minimum capital investment of $5 million in Mississippi.

North Carolina State Ports Tax Credit

Businesses and individuals who pay North Carolina state income tax and use North Carolina State Ports (Wilmington and Morehead City) can qualify for tax credits on inbound and outbound cargo. The amount of credit is equal to the excess of the current year's wharfage, handling, and throughput charges assessed and certified by the Ports Authority over the average of the certified charges over a three year period. The credit applies to taxes due the state - **up to 50%** of the total tax liability for each tax year. Any

unused credit may be carried forward for as long as five years for a total credit of up to **$2 million**.

South Carolina "Port Volume Increase Credit"

South Carolina provides a discretionary income tax credit to entities that use state port facilities and increase base port cargo volume by 5% over base-year totals. To qualify, a company must be engaged in manufacturing, warehousing, or distribution and have 75 net tons of non-containerized cargo or 10 loaded TEUs transported through a South Carolina port for their base year. Both imports and exports moving through a South Carolina port can be counted towards the credit. In Florida, there are over 42,000 exporting companies according to Enterprise Florida in addition to a large number of importing companies. Thousands of Florida companies would be eligible for a program similar to South Carolina's Port Volume Increase Credit.

The Coordinating Council for Economic Development has the sole discretion in determining eligibility for the credit and the amount of credit that a company may receive. The total amount of tax credits allowed to all qualifying companies is limited to $8 million per calendar year. A company must submit an application to the Coordinating Council to determine its qualification for, and the amount of, any income tax credit it will receive. The Coordinating Council for Economic Development is comprised of heads or board chairs of 10 state agencies concerned with economic development, including the following:

- South Carolina Department of Commerce;
- State Ports Authority;
- South Carolina Department of Parks, Recreation & Tourism;
- South Carolina Department of Agriculture;
- South Carolina Technical College System;
- South Carolina Research Authority;
- South Carolina Employment Security Commission;
- South Carolina Department of Revenue;
- Jobs for Economic Development Authority; and
- Santee Cooper (state-owned electric and water utility).

Louisiana Ports Import-Export Cargo Tax Credit and Investor Tax Credit

In response to competition with Houston and Mobile, in particular, for general cargo, Louisiana has introduced legislation to stimulate activity at its ports. This includes tax credits for Louisiana firms doing business through state ports (Import-Export Tax Credit) and for developers who invest in port development (Investor Tax Credit). The first credit is a $5 corporate income tax break for every ton of cargo redirected through state ports by businesses located in Louisiana. The maximum allowable credit granted will depend on whether the state receives sufficient revenue from the taxpayer's port

activities to offset the cost of the credits. The second provision of the bill grants an annual income tax credit to developers equal to 5 percent of expenses for port infrastructure projects of $5 million or more. The credit goes to the "Development Company" (may be a limited liability partnership) making the investment. The statue requires that the application include a detailed description of the project, an estimate of the total project cost including estimated payroll for Louisiana resident employees, estimated project start and completion dates and the names of the Development Company. Before issuing an initial certification letter, the Department of Economic Development must obtain certifications that the proposed project will generate sufficient revenue for the state to offset the cost of tax credits provided (tax revenue foregone). These certifications will impact the amount of credits granted to a project.

As of March 2010, the Governor has signed the incentives into law but they have not been put into effect. The certification process proving that proposed projects will generate sufficient revenues to cover the costs of the incentives has introduced complexity into the process that appears to be limiting the appeal of the incentive.[14]

California Port Economic Growth Incentive Program

In the face of increased competition from ports in other states, California has introduced state legislation (AB 2687) that would create an incentive program designed to encourage new investment in trade and environmental infrastructure at California ports and improve the use of current trade infrastructure. The bill is modeled on similar incentives introduced by the State of Louisiana (the Import-Export Cargo Tax Credit and the Investor Tax Credit). The legislation continues to be under review and remains in committee as of May 2010 (most recent legislative update available).

[14] New Orleans CityBusiness Daily, "State keeps import-export tax break on shelf," March 11, 2010.

B. Florida Trade Flow Database Summary Tables

Tables 1 through 41 provide a summary of the Florida trade flow database developed for this project. It summarizes Florida's trade flows by mode, by commodity type, and by direction for 2010, 2035, and 2060.

Table 1 - Total Traffic by Direction

Direction	2010 Tons	2035 Tons	2060 Tons
Inbound	141,316,878	195,702,064	248,288,514
Internal	332,968,119	485,058,444	612,285,257
Outbound	102,855,711	124,857,448	173,189,812
Through	25,662,455	39,868,660	62,119,484
Total	602,803,162	845,486,616	1,095,883,067

Table 2 - Total Traffic by Mode

Mode	2010 Tons	2035 Tons	2060 Tons
Air	833,213	1,227,983	2,114,955
Int'l Waterborne	73,764,609	121,012,600	188,810,625
Rail	75,894,787	80,204,001	94,364,954
Truck	452,310,553	643,042,032	810,592,533
Total	602,803,162	845,486,616	1,095,883,067

Table 3 - Total Traffic by Commodity Type

Commodity Type	2010 Tons	2035 Tons	2060 Tons
Breakbulk	149,732,991	211,126,067	249,646,533
Bulk	324,317,406	379,049,288	416,646,399
Container	128,752,766	255,311,262	429,590,135
Total	602,803,162	845,486,616	1,095,883,067

Table 4 - Traffic by Mode and Commodity Type (Alternate for Tables 4-6)

Mode	Commodity Type	2010 Tons	2035 Tons	2060 Tons
Air	Breakbulk	833,213	1,227,983	2,114,955
	Bulk			
	Container			
	Sub-Total	833,213	1,227,983	2,114,955
Int'l Waterborne	Breakbulk	7,610,127	10,787,740	16,878,239
	Bulk	43,457,046	68,262,700	100,361,417
	Container	22,697,436	41,962,160	71,570,969
	Sub-Total	73,764,609	121,012,600	188,810,625
Rail	Breakbulk	7,853,751	8,433,477	9,810,501
	Bulk	57,490,410	51,122,519	50,335,248
	Container	10,550,627	20,648,004	34,219,206
	Sub-Total	75,894,787	80,204,001	94,364,954
Truck	Breakbulk	133,435,901	190,676,866	220,842,839
	Bulk	223,369,950	259,664,069	265,949,734
	Container	95,504,702	192,701,097	323,799,960
	Sub-Total	452,310,553	643,042,032	810,592,533
Total		602,803,162	845,486,616	1,095,883,067

Table 5 - 2010 Traffic by Mode and Commodity Type (Tons)

Commodity Type	Air	Int'l Waterborne	Rail	Truck	Total
Breakbulk	833,213	7,610,127	7,853,751	133,435,901	149,732,991
Bulk		43,457,046	57,490,410	223,369,950	324,317,406
Container		22,697,436	10,550,627	95,504,702	128,752,766
Total	833,213	73,764,609	75,894,787	452,310,553	602,803,162

Table 6 - 2035 Traffic by Mode and Commodity Type

Commodity Type	Air	Int'l Waterborne	Rail	Truck	Total
Breakbulk	1,227,983	10,787,740	8,433,477	190,676,866	211,126,067
Bulk		68,262,700	51,122,519	259,664,069	379,049,288
Container		41,962,160	20,648,004	192,701,097	255,311,262
Total	1,227,983	121,012,600	80,204,001	643,042,032	845,486,616

Table 7 - 2060 Traffic by Mode and Commodity Type

Commodity Type	Air	Int'l Waterborne	Rail	Truck	Total
Breakbulk	2,114,955	16,878,239	9,810,501	220,842,839	249,646,533
Bulk		100,361,417	50,335,248	265,949,734	416,646,399
Container		71,570,969	34,219,206	323,799,960	429,590,135
Total	2,114,955	188,810,625	94,364,954	810,592,533	1,095,883,067

Table 8A - 2010 Traffic by District and Direction (Tons)

District	Inbound	Internal	Outbound	Total
1	47,896,894	18,485,638	36,190,163	102,572,695
2	71,934,486	29,593,783	27,439,838	128,968,106
3	20,375,904	9,766,556	20,920,377	51,062,837
4	38,173,203	23,367,338	32,477,317	94,017,858
5	36,422,281	28,575,830	53,026,884	118,024,994
6	45,559,593	21,753,211	68,900,764	136,213,568
7	49,053,318	33,326,959	31,998,912	114,379,190
Total	309,415,679	164,869,314	270,954,255	745,239,247

Table 8B - 2035 Traffic by District and Direction (Tons)

District	Inbound	Internal	Outbound	Total
1	69,000,577	24,903,298	49,265,879	143,169,753
2	108,825,834	46,872,911	39,336,224	195,034,969
3	26,599,285	12,376,023	25,720,913	64,696,220
4	57,600,588	34,363,007	52,615,207	144,578,802
5	56,003,753	37,434,675	59,964,990	153,403,418
6	65,480,282	32,054,602	113,044,215	210,579,098
7	70,484,456	38,761,214	43,201,887	152,447,557
Total	453,994,775	226,765,730	383,149,313	1,063,909,818

Table 8C - 2060 Traffic by District and Direction (Tons)

District	Inbound	Internal	Outbound	Total
1	94,739,355	27,636,584	59,229,474	181,605,412
2	151,216,949	61,104,635	51,815,442	264,137,026
3	32,420,970	13,138,237	33,982,994	79,542,202
4	74,595,207	40,172,421	75,657,006	190,424,634
5	69,669,135	40,269,878	72,330,267	182,269,280
6	85,767,436	40,194,134	172,869,897	298,831,467
7	88,397,694	41,251,135	55,821,631	185,470,459
Total	596,806,745	263,767,023	521,706,712	1,382,280,480

Table 9 - District 1 Traffic by Direction

Direction	2010 Tons	2035 Tons	2060 Tons
Inbound	47,896,894	69,000,577	94,739,355
Internal	18,485,638	24,903,298	27,636,584
Outbound	36,190,163	49,265,879	59,229,474
Total	102,572,695	143,169,753	181,605,412

Table 10 - District 1 Traffic by Mode (No Through)

Mode	2010 Tons	2035 Tons	2060 Tons
Air	21,077	30,584	46,918
Int'l Waterborne	1,174,114	1,985,089	3,036,958
Rail	11,814,753	9,687,230	9,534,448
Truck	89,562,751	131,466,850	168,987,088
Total	102,572,695	143,169,753	181,605,412

Table 11 - District 1 Traffic by Commodity Type (No Through)

Commodity Type	2010 Tons	2035 Tons	2060 Tons
Breakbulk	23,731,257	33,055,079	38,049,627
Bulk	55,961,930	63,775,989	65,532,236
Container	22,879,508	46,338,686	78,023,550
Total	102,572,695	143,169,753	181,605,412

Table 12 - District 2 Traffic by Direction

Direction	2010 Tons	2035 Tons	2060 Tons
Inbound	71,934,486	108,825,834	151,216,949
Internal	29,593,783	46,872,911	61,104,635
Outbound	27,439,838	39,336,224	51,815,442
Total	128,968,106	195,034,969	264,137,026

Table 13 - District 2 Traffic by Mode (No Through)

Mode	2010 Tons	2035 Tons	2060 Tons
Air	85,586	124,193	194,575
Int'l Waterborne	8,036,039	10,767,617	12,225,420
Rail	24,740,241	32,641,474	43,477,192
Truck	96,106,240	151,501,684	208,239,840
Total	128,968,106	195,034,969	264,137,026

Table 14 - District 2 Traffic by Commodity Type (No Through)

Commodity Type	2010 Tons	2035 Tons	2060 Tons
Breakbulk	25,429,513	37,836,073	43,599,727
Bulk	57,556,878	65,404,755	66,714,125
Container	45,981,715	91,794,141	153,823,173
Total	128,968,106	195,034,969	264,137,026

Table 15 - District 3 Traffic by Direction

Direction	2010 Tons	2035 Tons	2060 Tons
Inbound	20,375,904	26,599,285	32,420,970
Internal	9,766,556	12,376,023	13,138,237
Outbound	20,920,377	25,720,913	33,982,994
Total	51,062,837	64,696,220	79,542,202

Table 16 - District 3 Traffic by Mode (No Through)

Mode	2010 Tons	2035 Tons	2060 Tons
Air	14,583	21,160	32,741
Int'l Waterborne	686,989	969,767	1,203,472
Rail	5,468,304	5,510,102	5,571,265
Truck	44,892,961	58,195,191	72,734,724
Total	51,062,837	64,696,220	79,542,202

Table 17 - District 3 Traffic by Commodity Type (No Through)

Commodity Type	2010 Tons	2035 Tons	2060 Tons
Breakbulk	8,471,230	12,415,578	14,082,006
Bulk	32,928,386	32,808,277	32,743,699
Container	9,663,221	19,472,365	32,716,496
Total	51,062,837	64,696,220	79,542,202

Table 18 - District 4 Traffic by Direction

Direction	2010 Tons	2035 Tons	2060 Tons
Inbound	38,173,203	57,600,588	74,595,207
Internal	23,367,338	34,363,007	40,172,421
Outbound	32,477,317	52,615,207	75,657,006
Total	94,017,858	144,578,802	190,424,634

Table 19 - District 4 Traffic by Mode (No Through)

Mode	2010 Tons	2035 Tons	2060 Tons
Air	192,706	279,705	448,692
Int'l Waterborne	10,524,865	18,458,440	30,147,382
Rail	5,526,742	7,019,501	8,938,391
Truck	77,773,545	118,821,156	150,890,169
Total	94,017,858	144,578,802	190,424,634

Table 20 - District 4 Traffic by Commodity Type (No Through)

Commodity Type	2010 Tons	2035 Tons	2060 Tons
Breakbulk	27,603,680	39,628,752	48,436,265
Bulk	46,588,440	65,395,665	75,415,711
Container	19,825,738	39,554,385	66,572,657
Total	94,017,858	144,578,802	190,424,634

Table 21 - District 5 Traffic by Direction

Direction	2010 Tons	2035 Tons	2060 Tons
Inbound	36,422,281	56,003,753	69,669,135
Internal	28,575,830	37,434,675	40,269,878
Outbound	53,026,884	59,964,990	72,330,267
Total	118,024,994	153,403,418	182,269,280

Table 22 - District 5 Traffic by Mode (No Through)

Mode	2010 Tons	2035 Tons	2060 Tons
Air	199,317	289,348	449,578
Int'l Waterborne	1,645,878	2,623,568	3,848,671
Rail	27,558,371	21,755,768	21,162,495
Truck	88,621,427	128,734,734	156,808,536
Total	118,024,994	153,403,418	182,269,280

Table 23 - District 5 Traffic by Commodity Type (No Through)

Commodity Type	2010 Tons	2035 Tons	2060 Tons
Breakbulk	25,077,852	41,595,727	47,734,102
Bulk	76,231,181	78,105,295	77,829,415
Container	16,715,961	33,702,397	56,705,764
Total	118,024,994	153,403,418	182,269,280

Table 24 - District 6 Traffic by Direction

Direction	2010 Tons	2035 Tons	2060 Tons
Inbound	45,559,593	65,480,282	85,767,436
Internal	21,753,211	32,054,602	40,194,134
Outbound	68,900,764	113,044,215	172,869,897
Total	136,213,568	210,579,098	298,831,467

Table 25 - District 6 Traffic by Mode (No Through)

Mode	2010 Tons	2035 Tons	2060 Tons
Air	373,640	560,814	1,016,892
Int'l Waterborne	17,532,575	32,990,782	58,063,003
Rail	14,691,703	17,370,627	22,538,920
Truck	103,615,650	159,656,876	217,212,651
Total	136,213,568	210,579,098	298,831,467

Table 26 - District 6 Traffic by Commodity Type (No Through)

Commodity Type	2010 Tons	2035 Tons	2060 Tons
Breakbulk	38,495,705	52,076,884	63,384,752
Bulk	50,890,720	63,854,668	74,492,503
Container	46,827,142	94,647,547	160,954,212
Total	136,213,568	210,579,098	298,831,467

Table 27 - District 7 Traffic by Direction

Direction	2010 Tons	2035 Tons	2060 Tons
Inbound	49,053,318	70,484,456	88,397,694
Internal	33,326,959	38,761,214	41,251,135
Outbound	31,998,912	43,201,887	55,821,631
Total	114,379,190	152,447,557	185,470,459

Table 28 - District 7 Traffic by Mode (No Through)

Mode	2010 Tons	2035 Tons	2060 Tons
Air	213,924	310,482	495,092
Int'l Waterborne	8,501,429	13,347,824	18,164,898
Rail	15,110,103	12,958,209	13,418,200
Truck	90,553,734	125,831,041	153,392,269
Total	114,379,190	152,447,557	185,470,459

Table 29 - District 7 Traffic by Commodity Type (No Through)

Commodity Type	2010 Tons	2035 Tons	2060 Tons
Breakbulk	24,919,776	36,580,149	42,774,352
Bulk	72,638,112	81,920,483	85,527,237
Container	16,821,302	33,946,925	57,168,870
Total	114,379,190	152,447,557	185,470,459

Table 30 - Traffic by Seaport (Tons)

Port	2010 Tons	2035 Tons	2060 Tons
Fernandina	445,031	1,006,620	1,900,650
Fort Pierce	178,211	294,074	502,017
Jacksonville	16,160,756	20,649,277	25,759,554
Key West	493	409	445
Manatee	1,001,141	1,288,460	1,561,248
Miami	6,699,922	12,773,901	21,879,435
Palm Beach	1,325,921	2,214,808	3,745,381
Panama City	991,883	1,706,721	2,695,491
Pensacola	120,116	156,677	167,000
Port Canaveral	1,779,938	2,177,317	2,527,315
Port Everglades	10,660,794	16,813,268	26,234,758
Tampa	10,716,752	19,658,076	32,378,078
Total	50,080,958	78,739,609	119,351,374

Table 31 - Traffic by Seaport (TEUs)

Port	2010 TEUs	2035 TEUs	2060 TEUs
Fernandina	14,002	32,358	60,924
Fort Pierce	14,153	25,040	43,894
Jacksonville	625,936	795,674	1,152,674
Key West	-	-	-
Manatee	1,550	3,703	6,615
Miami	599,309	1,254,024	2,208,565
Palm Beach	119,420	208,039	362,105
Panama City	29,138	61,720	110,543
Pensacola	-	-	-
Port Canaveral	264	536	905
Port Everglades	578,151	1,156,219	2,040,737
Tampa	39,125	88,251	151,217
Total	2,021,048	3,625,564	6,138,180

Table 32 - International Waterborne Traffic
by Seaport Location and Direction (Tons)

Seaport Location	FL Direction	2010 Tons	2035 Tons	2060 Tons
External	Inbound	9,872,164	13,853,600	17,612,976
	Outbound	13,811,487	28,419,391	51,846,275
	Sub-Total	23,683,651	42,272,992	69,459,251
Florida	Inbound	15,311,497	21,797,817	26,659,470
	Outbound	9,107,006	17,073,132	30,572,420
	Through	25,662,455	39,868,660	62,119,484
	Sub-Total	50,080,958	78,739,609	119,351,374
Total		73,764,609	121,012,600	188,810,625

Table 33 - Total Traffic by County (Tons)

County	2010 Tons	2035 Tons	2060 Tons
Miami-Dade	135,907,713	210,063,441	298,236,979
Duval	78,114,764	117,599,534	156,868,398
Hillsborough	81,847,308	107,570,290	130,434,231
Polk	58,363,994	78,521,731	101,408,773
Broward	45,279,799	74,318,996	97,816,118
Palm Beach	41,275,358	63,835,918	84,682,344
Orange	56,736,246	71,613,466	85,910,310
Escambia	19,872,361	25,264,140	30,453,006
Putnam	7,030,012	6,979,482	7,619,076
Gadsden	6,986,811	10,474,772	11,922,404

Table 34 - Truck Traffic by County (Tons)

County	2010 Tons	2035 Tons	2060 Tons
Miami-Dade	103,313,096	159,147,071	216,628,098
Duval	52,163,298	81,828,905	109,031,873
Hillsborough	59,258,829	82,618,606	100,493,970
Polk	47,898,465	69,682,217	92,471,130
Broward	39,351,105	63,855,096	80,447,099
Palm Beach	35,712,782	54,090,861	68,652,148
Orange	33,870,569	52,943,193	66,889,192
Escambia	18,010,397	23,400,610	28,556,625
Putnam	6,502,831	6,571,711	7,205,693
Gadsden	3,474,646	6,243,366	7,726,211

Table 35 - Truck Traffic by County (Truck Units)

County	2010 Trucks	2035 Trucks	2060 Trucks
Miami-Dade	9,169,346	16,366,600	20,056,972
Duval	5,038,471	9,016,190	11,438,097
Hillsborough	5,573,405	9,715,541	11,169,999
Polk	4,414,129	7,756,960	9,301,558
Broward	3,774,637	7,035,922	8,245,893
Palm Beach	3,331,251	6,025,546	7,065,999
Orange	3,180,390	5,831,176	6,858,170
Escambia	1,888,475	3,018,225	3,674,224
Putnam	573,439	885,763	989,548
Gadsden	305,677	594,360	706,989

Table 36 - Rail Traffic by County (Tons)

County	2010 Tons	2035 Tons	2060 Tons
Miami-Dade	14,691,703	17,370,627	22,538,920
Duval	18,044,848	25,227,833	35,953,576
Hillsborough	14,325,034	12,073,056	12,510,305
Polk	9,788,430	7,765,842	7,390,833
Broward	1,634,635	2,870,313	4,274,992
Palm Beach	1,188,216	1,299,991	1,532,438
Orange	21,928,202	17,163,646	16,674,570
Escambia	1,514,094	1,390,840	1,377,906
Putnam	480,736	342,197	311,935
Gadsden	3,507,998	4,225,666	4,187,581

Table 37 - Rail Traffic by County (IM Units)

County	2010 Units	2035 Units	2060 Units
Miami-Dade	244,847	478,950	793,573
Duval	526,197	1,025,470	1,696,164
Hillsborough	49,665	94,981	155,709
Polk	-	-	-
Broward	49,324	100,280	169,067
Palm Beach	8,725	17,739	29,908
Orange	31,007	59,532	97,779
Escambia	-	-	-
Putnam	-	-	-
Gadsden	-	-	-

Table 38 - Air Traffic by County (Tons)

County	2010 Tons	2035 Tons	2060 Tons
Miami-Dade	373,105	560,037	1,015,515
Duval	84,919	123,223	193,151
Hillsborough	173,760	252,199	401,758
Polk	426	619	898
Broward	150,398	218,311	349,559
Palm Beach	74,476	108,062	173,952
Orange	197,432	286,591	445,209
Escambia	6,370	9,243	14,322
Putnam	8	12	17
Gadsden	37	53	77

Table 39 - 2010 County Traffic by Direction (Tons)

County	Inbound	Internal	Outbound
Miami-Dade	45,423,058	21,433,010	69,051,644
Duval	40,803,795	13,414,738	23,896,230
Hillsborough	47,526,992	8,301,033	26,019,282
Polk	35,759,403	2,123,664	20,480,926
Broward	22,864,479	4,458,846	17,956,475
Palm Beach	19,725,311	5,075,526	16,474,521
Orange	23,295,060	2,584,033	30,857,153
Escambia	9,096,403	1,641,929	9,134,029
Putnam	5,330,655	192,428	1,463,728
Gadsden	1,308,976	218,171	5,502,865

Table 40 - 2035 County Traffic by Direction (Tons)

County	Inbound	Internal	Outbound
Miami-Dade	65,299,286	31,606,829	113,157,325
Duval	56,445,212	24,574,623	36,579,700
Hillsborough	58,378,889	11,840,011	37,351,390
Polk	51,827,638	2,667,576	24,026,517
Broward	34,202,451	8,979,784	31,136,760
Palm Beach	28,940,256	7,476,253	27,419,409
Orange	31,346,989	4,616,174	35,650,303
Escambia	11,967,999	2,132,325	11,163,815
Putnam	8,007,984	185,728	2,281,060
Gadsden	1,941,726	176,236	4,861,520

Table 41 - 2060 County Traffic by Direction (Tons)

County	Inbound	Internal	Outbound
Miami-Dade	85,548,646	39,714,078	172,974,256
Duval	72,063,354	35,675,100	49,129,944
Hillsborough	70,016,436	13,443,622	46,974,173
Polk	72,012,497	2,922,027	26,474,250
Broward	42,746,610	11,219,553	43,849,954
Palm Beach	37,127,500	9,149,043	38,405,801
Orange	37,503,248	5,618,295	42,788,767
Escambia	14,376,319	2,240,053	13,836,634
Putnam	9,167,987	181,447	2,572,971
Gadsden	2,596,827	166,072	4,856,177

C. Florida Trade Flow Forecast Tables

Section 4 describes the methodology used to develop Florida's trade flow forecasts. This appendix provides the detailed tables that support those forecasts.

- Figure C.1 presents the industry sectors applied to each waterborne cargo category and the weighted average compound annual growth rates (CAGRs)[15] used in the projections for the waterborne cargo.
- Figure C.2 presents the country GDP annual growth rates. These growth rates were grouped by country area, and further were weighted based on the distribution of the exports by country from the Florida seaports, by commodity type.
- Figure C.3 shows the projection industry or GDP assumption associated with each of the two digit truck commodities moving from Florida to U.S. destinations or from Florida to seaports in the U.S. for export. The projection category/industry applied to each of the two digit industries is underlined, with the commodities listed below the projection assumption.
- Figure C.4 presents projection information for truck cargo moving to Florida.
- Figure C.5 presents projection assumptions for truck cargo moving within Florida.
- Figure C.6 shows the projection industry or GDP assumption associated with each of the two digit rail commodities moving from Florida to US destinations. The projection category/industry applied to each of the two digit industries is underlined, with the commodities for which that projection sector was applied listed below the projection assumption.
- Figure C.7 presents projection information for rail cargo moving to Florida.
- Figure C.8 presents projection assumptions for rail cargo moving within Florida.
- The industry sector growth rates and GDP growth rates used for the projections by mode are presented in Figure C.9.

[15] The CAGR is the year-over-year growth rate of a value over a specified period of time. The CAGR is calculated by taking the nth root of the total percentage growth rate, where n is the number of years in the period being considered.

Figure C.1 Growth Rates Used to Project Waterborne Cargo Imports

MARKET & PROJECTION BASIS	COMPOUNDED ANNUAL GROWTH RATE												
	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2035	2035-2060
BREAK BULK													
FL Market													
FL Textile, Fiber & Printing Mfg.													
FL Transportation & Warehousing													
FL Population													
weighted CAGR	0.912	1.002	1.020	1.004	0.994	0.990	0.989	0.988	0.990	0.989	0.988	0.991	1.003
Other US Market													
US Misc Mfg													
US Population													
US Construction													
weighted CAGR	0.970	1.008	1.015	1.012	1.001	0.996	0.994	0.993	0.994	0.993	0.993	1.002	1.003
BULK													
FL Market													
FL Utilities													
FL Natural Resources & Mining													
FL Construction													
weighted CAGR	0.941	1.060	1.032	1.030	1.014	1.009	1.007	1.006	1.004	1.007	1.008	1.006	1.000
Other US													
US Population													
US Construction													
US Misc Mfg													
weighted CAGR	0.995	1.012	1.016	1.013	1.010	1.008	1.008	1.008	1.008	1.008	1.008	1.003	1.007
CONTAINER													
FL Market													
FL GDP	0.996	1.049	1.061	1.043	1.032	1.032	1.033	1.032	1.029	1.028	1.027	1.024	1.022
Other US													
US GDP	1.008	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.021	1.019

Figure C.2 Growth Rates Used to Project Waterborne Cargo Exports

COUNTRY GDP GROWTH RATES

COUNTRY	Compounded Annual Growth		
	2010-2020	2020-2035	2035-2060
AFGHAN	1.050143	1.036765	1.031053
ALBANIA	1.039698	1.025785	1.021623
ALGERIA	1.038665	1.029563	1.024854
AM SAM	1.054350	1.000000	1.000000
ANGOLA	1.067170	1.029563	1.024854
ARAB EM	1.044699	1.029563	1.024854
ARGENT	1.028080	1.031040	1.026121
AUSTRAL	1.018785	1.021079	1.017620
AUSTRIA	1.010408	1.013631	1.011334
BAHAMAS	1.023085	1.031040	1.026121
BAHRAIN	1.034287	1.029563	1.024854
BARBADO	1.032391	1.031040	1.026121
BELGIUM	1.011083	1.013631	1.011334
BELIZE	1.031571	1.031040	1.026121
BENIN	1.045303	1.029563	1.024854
BERMUDA	1.045629	1.031040	1.026121
BNGLDSH	1.046072	1.036765	1.031053
BOLIVIA	1.039741	1.031040	1.026121
BOTSWAN	1.037957	1.029563	1.024854
BR P IS	1.000136	1.000000	1.000000
BRAZIL	1.034532	1.031040	1.026121
BRUNEI	1.023955	1.036765	1.031053
BULGAR	1.033237	1.025785	1.021623
C RICA	1.036808	1.031040	1.026121
CAMBOD	1.056633	1.036765	1.031053
CAMROON	1.034593	1.029563	1.024854
CANADA	1.022736	1.021079	1.017620
CAYMAN	0.977132	1.000000	1.000000
CHILE	1.025596	1.031040	1.026121
CHINA P	1.077779	1.031784	1.017620
CHINA T	1.039950	1.036765	1.031053
CNRY I	1.000000	1.000000	1.000000
CO BRAZ	1.015012	1.029563	1.024854
COLOMB	1.038877	1.029563	1.024854
CUBA	0.977132	1.000000	1.000000
CYPRUS	1.019692	1.013631	1.011334
CZECHO	1.036016	1.025785	1.021623
DENMARK	1.016500	1.013631	1.011334
DJIBUTI	1.050844	1.029563	1.024854
DOM REP	1.038214	1.031040	1.026121

COUNTRY	Compounded Annual Growth		
	2010-2020	2020-2035	2035-2060
ECUADOR	1.033013	1.031040	1.026121
EGYPT	1.047857	1.029563	1.024854
EL SALV	1.036277	1.031040	1.026121
EQ GUIN	1.025713	1.029563	1.024854
ESTONIA	1.027306	1.025785	1.021623
F GUIAN	1.061824	1.031040	1.026121
F IND O	1.000136	1.000000	1.000000
F W IND	0.977132	1.000000	1.000000
FINLAND	1.015136	1.013631	1.011334
FR P IS	1.000136	1.000000	1.000000
FRANCE	1.012058	1.013631	1.011334
GABON	1.023885	1.029563	1.024854
GAMBIA	1.032845	1.029563	1.024854
GEORGIA	1.037792	1.025785	1.021623
GERMANY	1.004907	1.013631	1.011334
GHANA	1.051029	1.029563	1.024854
GIBRALT	1.006279	1.013631	1.011334
GREECE	1.009583	1.013631	1.011334
GREENLD	1.022736	1.021079	1.017620
GUAM	1.000136	1.000000	1.000000
GUATMAL	1.025622	1.031040	1.026121
GUINEA	1.045462	1.029563	1.024854
GUYANA	1.039270	1.031040	1.026121
HAITI	1.029555	1.031040	1.026121
HG KONG	1.032769	1.031040	1.027966
HONDURA	1.044625	1.031040	1.026121
HUNGARY	1.031417	1.025785	1.021623
ICELAND	1.007408	1.013631	1.011334
INDIA	1.052186	1.036765	1.031053
INDNSIA	1.047932	1.036765	1.031053
IRAN	1.034946	1.029563	1.024854
IRAQ	1.059283	1.029563	1.024854
IRELAND	1.007350	1.013631	1.011334
ISRAEL	1.030425	1.029563	1.024854
ITALY	1.008310	1.013631	1.011334
IVY CST	1.038763	1.029563	1.024854
JAMAICA	1.029318	1.031040	1.026121
JAPAN	1.010153	1.011906	1.009888
JORDAN	1.042608	1.029563	1.024854
KENYA	1.059200	1.029563	1.024854

COUNTRY	Compounded Annual Growth		
	2010-2020	2020-2035	2035-2060
KOR REP	1.043673	1.031040	1.027966
KUWAIT	1.036947	1.029563	1.024854
LATVIA	1.023408	1.025785	1.021623
LEBANON	1.038049	1.029563	1.024854
LIBERIA	1.073164	1.029563	1.024854
LIBYA	1.050223	1.029563	1.024854
LITHUAN	1.025008	1.025785	1.021623
LW WW I	1.029537	1.028667	1.024926
MACAU	1.077779	1.031784	1.017620
MALAGAS	1.045587	1.029563	1.024854
MALAYSA	1.047216	1.036765	1.031053
MALI	1.036797	1.029563	1.024854
MALTA	1.018011	1.013631	1.011334
MAURIT	1.037484	1.029563	1.024854
MAURITN	1.069153	1.029563	1.024854
MEXICO	1.041501	1.031040	1.026121
MOROC	1.038068	1.029563	1.024854
MOZAMBQ	1.039770	1.029563	1.024854
N ANTIL	0.977132	1.000000	1.000000
N ZEAL	1.014992	1.021079	1.017620
NAMIBIA	1.022732	1.029563	1.024854
NEPAL	1.056963	1.036765	1.031053
NETHLDS	1.009326	1.013631	1.011334
NEW GUI	1.012993	1.021079	1.017620
NICARAG	1.023199	1.031040	1.026121
NIGER	1.043351	1.029563	1.024854
NIGERIA	1.041662	1.029563	1.024854
NORWAY	1.011996	1.013631	1.011334
O W AF	1.041400	1.000000	1.000000
OMAN	1.035599	1.029563	1.024854
OPAC IS	1.000136	1.000000	1.000000
P RICO	0.977132	1.000000	1.000000
PAKISTN	1.036600	1.036765	1.031053
PANAMA	1.051224	1.031040	1.026121
PARAGUA	1.039802	1.031040	1.026121
PERU	1.028414	1.031040	1.026121
PHIL R	1.037842	1.036765	1.031053
POLAND	1.030015	1.025785	1.021623
PORTUGL	1.007902	1.013631	1.011334
QATAR	1.044987	1.029563	1.024854

COUNTRY	Compounded Annual Growth		
	2010-2020	2020-2035	2035-2060
REP SAF	1.031058	1.029563	1.024854
ROMANIA	1.059994	1.025785	1.021623
RUSSIA	1.053990	1.025785	1.021623
RWANDA	1.042480	1.029563	1.024854
S ARAB	1.042119	1.029563	1.024854
S HELNA	1.041400	1.000000	1.000000
SENEGAL	1.036974	1.029563	1.024854
SEYCHEL	1.043048	1.029563	1.024854
SIER LN	1.038479	1.029563	1.024854
SINGAPR	1.031264	1.031040	1.027966
SO ASIA	1.050143	1.036765	1.031053
SOMALIA	1.000000	1.000000	1.000000
SPAIN	1.006279	1.013631	1.011334
SRI LKA	1.045171	1.036765	1.031053
SUDAN	1.053349	1.029563	1.024854
SURINAM	1.073689	1.031040	1.026121
SWAZLND	1.022195	1.029563	1.024854
SWEDEN	1.022933	1.013631	1.011334
SWITZLD	1.005564	1.013631	1.011334
SYRIA	1.050492	1.029563	1.024854
T PAC I	1.000136	1.000000	1.000000
THAILND	1.045021	1.036765	1.031053
TNZANIA	1.046112	1.029563	1.024854
TOGO	1.031914	1.029563	1.024854
TRINID	1.052463	1.031040	1.026121
TUNISIA	1.035901	1.029563	1.024854
TURK IS	0.977132	1.000000	1.000000
TURKEY	1.029578	1.029563	1.024854
U KING	1.021988	1.013631	1.011334
U VOLTA	1.043200	1.029563	1.024854
UGANDA	1.043283	1.029563	1.024854
URUGUAY	1.076770	1.031040	1.026121
VENEZ	1.019524	1.031040	1.026121
VIETNAM	1.053830	1.036765	1.031053
VIRG IS	0.977132	1.000000	1.000000
YEMEN	1.040305	1.029563	1.024854
YUGOSLV	1.020163	1.013631	1.011334
ZAIRE	1.046043	1.029563	1.024854
ZAMBIA	1.052181	1.029563	1.024854
ZIMBAWE	1.060873	1.029563	1.024854

Figure C.3 Projection Assumptions for Truck Cargo Moving From Florida

FLORIDA TO OTHER US TRUCK MARKET SECTORS WITH PROJECTION BASES AND COMMODITIES

Break Bulk

Domestic

- FL Chemicals, Energy, Plastics & Rubber Mfg.
  - Chemicals or Allied Products
  - Rubber or Misc Rubber Prods
- FL Natural Resources & Mining
  - Petroleum or Coal Products
- FL Textile, Fiber & Printing Mfg.
  - Printed Matter
- FL Transportation Equipment Mfg.
  - Transportation Equipment
- US Construction
  - Clay, Concrete, Glass, Stone Prod
  - Furniture or Fixtures
  - Lumber or Wood Products
- US Mfg - Electrical Equipment and Appliances
  - Elec Machinery, Equip, Supplies
  - Instruments, Photo/Opt Goods, Etc
- US Mfg - Miscellaneous
  - Machinery, excl Electrical
  - Misc Products of Manufacturing
  - Miscellaneous Mixed Shipments
- US Mfg - Paper and Paper Products
  - Pulp, Paper or Allied Products
- US Mfg - Primary Metals
  - Fabricated Metal Products
  - Primary Metal Products
- US Population
  - Apparel or Fin Textile Products
  - Farm Products
  - Food and Kindred Products
  - Fresh Fish
  - Mail, Express or Other Contract Traf
  - Textile Mill Products
  - Tobacco Products
- US Retail Trade
  - Leather or Leather Products
- US Transportation and Warehousing
  - Empty Containers, Carriers

Export

- Weighted Foreign GDP (Break Bulk)
  - Apparel or Fin Textile Products
  - Chemicals or Allied Products
  - Clay, Concrete, Glass, Stone Prod
  - Elec Machinery, Equip, Supplies
  - Fabricated Metal Products
  - Farm Products
  - Food and Kindred Products
  - Furniture or Fixtures
  - Instruments, Photo/Opt Goods, Etc
  - Leather or Leather Products
  - Lumber or Wood Products
  - Machinery, excl Electrical
  - Misc Products of Manufacturing
  - Non-Metallic Ores/Minerals
  - Petroleum or Coal Products
  - Primary Metal Products
  - Printed Matter
  - Pulp, Paper or Allied Products
  - Rubber or Misc Rubber Prods
  - Textile Mill Products
  - Tobacco Products
  - Transportation Equipment

Bulk

Domestic

- FL Chemicals, Energy, Plastics & Rubber Mfg.
  - Chemicals or Allied Products
- FL Natural Resources & Mining
  - Petroleum or Coal Products
- US Construction
  - Clay, Concrete, Glass, Stone Prod
  - Metallic Ores
- US Mfg - Primary Metals
  - Non-Metallic Ores/Minerals
  - Primary Metal Products
- US Population
  - Farm Products
  - Food and Kindred Products

Export

- Weighted Foreign GDP (Bulk)
  - Chemicals or Allied Products
  - Machinery, excl Electrical

Container

Domestic

- US GDP
  - "Warehoused Goods"

Figure C.4 Projection Assumptions for Truck Cargo Moving To Florida

OTHER US TO FLORIDA TRUCK MARKET SECTORS WITH PROJECTION BASES AND COMMODITIES

Break Bulk

Domestic

FL Chemicals, Energy, Plastics & Rubber Mfg.
- Chemicals or Allied Products
- Ordnance or Accessories
- Rubber or Misc Rubber Prods

FL Construction
- Clay, Concrete, Glass, Stone Prod
- Furniture or Fixtures
- Lumber or Wood Products

FL Electronic & Electrical Mfg.
- Elec Machinery, Equip, Supplies
- Instruments, Photo/Opt Goods, Etc

FL Machinery Mfg.
- Machinery, excl Electrical
- Misc Products of Manufacturing
- Miscellaneous Mixed Shipments

FL Metals & Mining-based Mfg.
- Fabricated Metal Products
- Primary Metal Products

FL Population
- Apparel or Fin Textile Products
- Farm Products
- Food and Kindred Products
- Fresh Fish
- Mail, Express or Other Contract Traf
- Textile Mill Products
- Tobacco Products
- Transportation Equipment

FL Retail Trade
- Leather or Leather Products

FL Textile, Fiber & Printing Mfg.
- Printed Matter
- Pulp, Paper or Allied Products

FL Transportation & Warehousing
- Empty Containers, Carriers

FL Utilities
- Petroleum or Coal Products

Export

Weighted Foreign GDP (Break Bulk)
- Apparel or Fin Textile Products
- Chemicals or Allied Products
- Clay, Concrete, Glass, Stone Prod
- Elec Machinery, Equip, Supplies
- Fabricated Metal Products
- Farm Products
- Food and Kindred Products
- Furniture or Fixtures
- Instruments, Photo/Opt Goods, Etc
- Leather or Leather Products
- Lumber or Wood Products
- Machinery, excl Electrical
- Misc Products of Manufacturing
- Non-Metallic Ores/Minerals
- Petroleum or Coal Products
- Primary Metal Products
- Printed Matter
- Pulp, Paper or Allied Products
- Rubber or Misc Rubber Prods
- Textile Mill Products
- Tobacco Products
- Transportation Equipment

Import

FL Chemicals, Energy, Plastics & Rubber Mfg.
- Chemicals or Allied Products
- Rubber or Misc Rubber Prods

FL Construction
- Clay, Concrete, Glass, Stone Prod
- Furniture or Fixtures
- Lumber or Wood Products

FL Electronic & Electrical Mfg.
- Instruments, Photo/Opt Goods, Etc

FL Machinery Mfg.
- Elec Machinery, Equip, Supplies
- Machinery, excl Electrical
- Misc Products of Manufacturing

FL Metals & Mining-based Mfg.
- Fabricated Metal Products
- Non-Metallic Ores/Minerals
- Primary Metal Products

FL Population
- Apparel or Fin Textile Products
- Farm Products
- Food and Kindred Products
- Textile Mill Products
- Tobacco Products
- Transportation Equipment

FL Retail Trade
- Leather or Leather Products

FL Textile, Fiber & Printing Mfg.
- Printed Matter
- Pulp, Paper or Allied Products

FL Utilities
- Petroleum or Coal Products

Bulk

Domestic

FL Chemicals, Energy, Plastics & Rubber Mfg.
- Chemicals or Allied Products

FL Construction
- Clay, Concrete, Glass, Stone Prod

FL Metals & Mining-based Mfg.
- Primary Metal Products

FL Natural Resources & Mining
- Non-Metallic Ores/Minerals

FL Population
- Farm Products
- Food and Kindred Products

FL Utilities
- Petroleum or Coal Products

Export

Weighted Foreign GDP (Bulk)
- Chemicals or Allied Products
- Machinery, excl Electrical

Import

FL Chemicals, Energy, Plastics & Rubber Mfg.
- Chemicals or Allied Products

FL Construction
- Clay, Concrete, Glass, Stone Prod

FL Natural Resources & Mining
- Non-Metallic Ores/Minerals

Container

Domestic

FL GDP
- "Warehoused Goods"

Figure C.5 Projection Assumptions for Truck Cargo Moving Intra Florida

FLORIDA TO FLORIDA TRUCK MARKET SECTORS WITH PROJECTION BASES AND COMMODITIES

Break Bulk

Domestic

FL Chemicals, Energy, Plastics & Rubber Mfg.
- Chemicals or Allied Products
- Ordnance or Accessories
- Rubber or Misc Rubber Prods

FL Construction
- Clay, Concrete, Glass, Stone Prod
- Furniture or Fixtures
- Lumber or Wood Products

FL Electronic & Electrical Mfg.
- Elec Machinery, Equip, Supplies
- Instruments, Photo/Opt Goods, Etc

FL Machinery Mfg.
- Machinery, excl Electrical
- Misc Products of Manufacturing
- Miscellaneous Mixed Shipments

FL Metals & Mining-based Mfg.
- Fabricated Metal Products
- Primary Metal Products

FL Population
- Apparel or Fin Textile Products
- Farm Products
- Food and Kindred Products
- Fresh Fish
- Mail, Express or Other Contract Traf
- Textile Mill Products
- Tobacco Products
- Transportation Equipment

FL Retail Trade
- Leather or Leather Products

FL Textile, Fiber & Printing Mfg.
- Forest Products
- Printed Matter
- Pulp, Paper or Allied Products

FL Transportation & Warehousing
- Empty Containers, Carriers

FL Utilities
- Petroleum or Coal Products

Export

Weighted Foreign GDP (Break Bulk)
- Apparel or Fin Textile Products
- Chemicals or Allied Products
- Clay, Concrete, Glass, Stone Prod
- Elec Machinery, Equip, Supplies
- Fabricated Metal Products
- Farm Products
- Food and Kindred Products
- Forest Products
- Fresh Fish
- Furniture or Fixtures
- Instruments, Photo/Opt Goods, Etc
- Leather or Leather Products
- Lumber or Wood Products
- Machinery, excl Electrical
- Misc Products of Manufacturing
- Non-Metallic Ores/Minerals
- Ordnance or Accessories
- Petroleum or Coal Products
- Primary Metal Products
- Printed Matter
- Pulp, Paper or Allied Products
- Rubber or Misc Rubber Prods
- Textile Mill Products
- Tobacco Products
- Transportation Equipment

Import

FL Chemicals, Energy, Plastics & Rubber Mfg.
- Chemicals or Allied Products
- Ordnance or Accessories
- Rubber or Misc Rubber Prods

FL Construction
- Clay, Concrete, Glass, Stone Prod
- Furniture or Fixtures
- Lumber or Wood Products

FL Electronic & Electrical Mfg.
- Instruments, Photo/Opt Goods, Etc

FL Machinery Mfg.
- Elec Machinery, Equip, Supplies
- Machinery, excl Electrical
- Misc Products of Manufacturing

FL Metals & Mining-based Mfg.
- Fabricated Metal Products
- Non-Metallic Ores/Minerals
- Primary Metal Products

FL Population
- Apparel or Fin Textile Products
- Farm Products
- Food and Kindred Products
- Fresh Fish
- Textile Mill Products
- Tobacco Products
- Transportation Equipment

FL Retail Trade
- Leather or Leather Products

FL Textile, Fiber & Printing Mfg.
- Forest Products
- Printed Matter
- Pulp, Paper or Allied Products

FL Utilities
- Petroleum or Coal Products

Bulk

Domestic

FL Chemicals, Energy, Plastics & Rubber Mfg.
- Chemicals or Allied Products

FL Construction
- Clay, Concrete, Glass, Stone Prod

FL Metals & Mining-based Mfg.
- Primary Metal Products

FL Natural Resources & Mining
- Non-Metallic Ores/Minerals

FL Population
- Farm Products
- Food and Kindred Products

FL Utilities
- Petroleum or Coal Products

Export

Weighted Foreign GDP (Bulk)
- Chemicals or Allied Products
- Machinery, excl Electrical

Import

FL Chemicals, Energy, Plastics & Rubber Mfg.
- Chemicals or Allied Products

FL Construction
- Clay, Concrete, Glass, Stone Prod

FL Natural Resources & Mining
- Non-Metallic Ores/Minerals

Container

Domestic

FL GDP
- "Warehoused Goods"

Figure C.6 Projection Assumptions for Rail Cargo Moving From Florida

FLORIDA TO OTHER US RAIL MARKET SECTORS WITH PROJECTION BASES AND COMMODITIES

Break Bulk	Bulk	Container
FL Chemicals, Energy, Plastics & Rubber Mfg.	**FL Chemicals, Energy, Plastics & Rubber Mfg.**	**US GDP**
Ordnance or Accessories	Chemicals or Allied Procucts	Apparel or Finished Tex Prod
FL Electronic & Electrical Mfg.	Hazardous Materials	Chemicals or Allied Procucts
Elec Machinery, Equip, Supplies	Hazardous Waste or Substances	Clay, Concrete, Glass, Stone Prod
FL Population	**FL Construction**	Elec Machinery, Equip, Supplies
Waste or Scrap Materials NEC	Metallic Ores	Empty Containers, Carriers
FL Textile, Fiber & Printing Mfg.	**FL Population**	Fabricated Metal Products
Pulp, Paper or Allied Products	Waste or Scrap Materials NEC	Farm Products
FL Transportation Equipment Mfg.	**FL Textile, Fiber & Printing Mfg.**	Food and Kindred Products
Transportation Equipment	Pulp, Paper or Allied Products	Furniture or Fixtures
US Construction	**US Construction**	Hazardous Materials
Lumber or Wood Products	Clay, Concrete, Glass, Stone Prod	Instruments, Photo/Opt Goods, Etc
US Mfg - Miscellaneous	Lumber or Wood Products	Lumber or Wood Products
Machinery excl Electrical	**US Mfg - Primary Metals**	Machinery excl Electrical
Miscellaneous Freight Shipments	Non-Metallic Ores/Minerals	Mail, Express or Other Contract Traf
Miscellaneous Mixed Shipments	**US Population**	Misc Products of Manufacturing
US Mfg - Primary Metals	Food and Kindred Products	Miscellaneous Freight Shipments
Fabricated Metal Products	Waste or Scrap Materials NEC	Miscellaneous Mixed Shipments
Primary Metal Products		Non-Metallic Ores/Minerals
US Population		Primary Metal Products
Food and Kindred Products		Printed Matter
US Transportation and Warehousing		Pulp, Paper or Allied Products
Empty Containers, Carriers		Rubber or Misc Rubber Prods
		Shipper Association or Similar Traffic
		Textile Mill Products
		Transportation Equipment
		Waste or Scrap Materials NEC

Figure C.7 Projection Assumptions for Rail Cargo Moving to Florida

OTHER US TO FLORIDA RAIL MARKET SECTORS WITH PROJECTION BASES AND COMMODITIES

Break Bulk

- **FL Chemicals, Energy, Plastics & Rubber Mfg.**
  - Chemicals or Allied Procucts
  - Hazardous Materials
  - Rubber or Misc Rubber Prods
- **FL Construction**
  - Clay, Concrete, Glass, Stone Prod
  - Lumber or Wood Products
- **FL Electronic & Electrical Mfg.**
  - Elec Machinery, Equip, Supplies
- **FL Machinery Mfg.**
  - Machinery excl Electrical
  - Misc Products of Manufacturing
  - Miscellaneous Freight Shipments
- **FL Metals & Mining-based Mfg.**
  - Fabricated Metal Products
  - Primary Metal Products
- **FL Natural Resources & Mining**
  - Non-Metallic Ores/Minerals
- **FL Population**
  - Farm Products
  - Food and Kindred Products
  - Transportation Equipment
- **FL Textile, Fiber & Printing Mfg.**
  - Pulp, Paper or Allied Products
- **FL Transportation & Warehousing**
  - Empty Containers, Carriers
- **FL Utilities**
  - Petroleum or Coal Products
- **US Population**
  - Waste or Scrap Materials NEC

Bulk

- **FL Chemicals, Energy, Plastics & Rubber Mfg.**
  - Chemicals or Allied Procucts
  - Hazardous Materials
- **FL Construction**
  - Clay, Concrete, Glass, Stone Prod
  - Lumber or Wood Products
- **FL Machinery Mfg.**
  - Metallic Ores
- **FL Metals & Mining-based Mfg.**
  - Primary Metal Products
- **FL Natural Resources & Mining**
  - Non-Metallic Ores/Minerals
- **FL Population**
  - Farm Products
  - Food and Kindred Products
- **FL Textile, Fiber & Printing Mfg.**
  - Forest Products
  - Pulp, Paper or Allied Products
- **FL Utilities**
  - Coal
  - Petroleum or Coal Products
- **US Population**
  - Waste or Scrap Materials NEC

Container

- **FL GDP**
  - Apparel or Finished Tex Prod
  - Chemicals or Allied Procucts
  - Clay, Concrete, Glass, Stone Prod
  - Elec Machinery, Equip, Supplies
  - Empty Containers, Carriers
  - Fabricated Metal Products
  - Farm Products
  - Food and Kindred Products
  - Freight Forwarder
  - Fresh Fish
  - Furniture or Fixtures
  - Hazardous Materials
  - Instruments, Photo/Opt Goods, Etc
  - Leather or Leather Products
  - Lumber or Wood Products
  - Machinery excl Electrical
  - Mail, Express or Other Contract Traf
  - Misc Products of Manufacturing
  - Miscellaneous Freight Shipments
  - Miscellaneous Mixed Shipments
  - Non-Metallic Ores/Minerals
  - Petroleum or Coal Products
  - Primary Metal Products
  - Printed Matter
  - Pulp, Paper or Allied Products
  - Rubber or Misc Rubber Prods
  - Shipper Association or Similar Traffic
  - Small Packaged Freight Shipments
  - Textile Mill Products
  - Transportation Equipment
  - Waste or Scrap Materials NEC

Figure C.8 Projection Assumptions for Rail Cargo Moving within Florida

FLORIDA TO FLORIDA RAIL MARKET SECTORS WITH PROJECTION BASES AND COMMODITIES

Break Bulk	Bulk	Container
FL Construction	**FL Chemicals, Energy, Plastics & Rubber Mfg.**	**FL GDP**
Clay, Concrete, Glass, Stone Prod	Chemicals or Allied Procucts	Apparel or Finished Tex Prod
Lumber or Wood Products	Hazardous Materials	Clay, Concrete, Glass, Stone Prod
FL Machinery Mfg.	**FL Construction**	Empty Containers, Carriers
Machinery excl Electrical	Clay, Concrete, Glass, Stone Prod	Farm Products
FL Metals & Mining-based Mfg.	Lumber or Wood Products	Food and Kindred Products
Primary Metal Products	**FL Natural Resources & Mining**	Fresh Fish
FL Population	Non-Metallic Ores/Minerals	Furniture or Fixtures
Transportation Equipment	**FL Population**	Hazardous Materials
Waste or Scrap Materials NEC	Farm Products	Mail, Express or Other Contract Traf
FL Textile, Fiber & Printing Mfg.	Food and Kindred Products	Miscellaneous Freight Shipments
Pulp, Paper or Allied Products	Waste or Scrap Materials NEC	Miscellaneous Mixed Shipments
		Petroleum or Coal Products
		Rubber or Misc Rubber Prods
		Shipper Association or Similar Traffic
		Small Packaged Freight Shipments
		Textile Mill Products

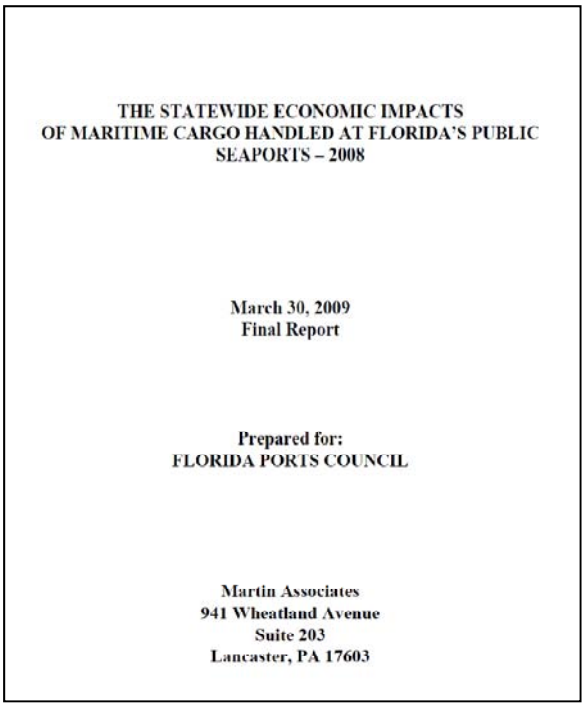
Figure C.9 Growth Rates By Industry Used in Modal Projections

PROJECTION BASIS	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2035	2035-2060
FL Chemicals, Energy, Plastics & Rubber Mfg.	0.950172	0.995286	1.005197	0.999953	0.985699	0.980858	0.979754	0.979040	0.979458	0.978231	0.977122	0.690115	0.577036
FL Construction	0.881545	1.270081	1.079198	1.069458	1.046706	1.035240	1.026984	1.028050	1.025082	1.027172	1.030834	1.441067	1.605393
FL Electronic & Electrical Mfg.	0.948340	1.013777	1.016963	1.007998	0.992703	0.985175	0.983674	0.982177	0.984244	0.982301	0.981397	0.733308	0.672860
FL Food, Beverage & Tobacco Mfg.	0.979574	0.994188	1.006450	1.009552	0.995448	0.990354	0.987587	0.986814	0.987075	0.985579	0.985428	0.798475	0.742433
FL Furniture & Misc. Mfg.	0.934012	1.001609	1.009782	1.003777	0.990012	0.984011	0.983915	0.983362	0.983902	0.982683	0.983010	0.794564	0.739473
FL Machinery Mfg.	0.928561	1.008852	1.022021	1.004250	0.983351	0.975634	0.974466	0.973643	0.971828	0.972848	0.971888	0.703016	0.649041
FL Metals & Mining-based Mfg.	0.884362	1.001528	1.012659	1.010221	0.992440	0.987374	0.986676	0.986071	0.985773	0.985321	0.984505	0.819865	0.770494
FL Natural Resources & Mining	0.965316	1.013168	1.026509	1.014992	0.992144	0.983498	0.981105	0.981002	0.980331	0.980409	0.979760	0.758484	0.688164
FL Retail Trade	0.978548	1.015055	1.025036	1.020572	1.007629	1.003049	1.002014	1.001300	1.002014	1.001939	1.001786	1.047014	1.071142
FL Textile, Fiber & Printing Mfg.	0.909079	0.986840	1.023230	0.990263	0.970626	0.964299	0.961851	0.960566	0.965776	0.964104	0.960241	0.524778	0.417321
FL Total Manufacturing	0.927194	1.001062	1.013447	1.004283	0.988093	0.982047	0.980886	0.979949	0.981177	0.979887	0.978950	0.734841	0.667500
FL Total Nonagricultural	0.976710	1.040865	1.043637	1.039389	1.027342	1.022467	1.021656	1.021977	1.021605	1.021739	1.021459	1.316235	1.410049
FL Trade, Transportation & Utilities	0.976685	1.016065	1.024907	1.020649	1.009114	1.004386	1.003405	1.002766	1.002334	1.002531	1.002302	1.058235	1.087925
FL Transportation & Utilities	0.974699	1.016489	1.024454	1.021876	1.014902	1.009994	1.009181	1.007677	1.006148	1.007160	1.007142	1.068533	1.063738
FL Transportation & Warehousing	0.971927	1.017786	1.025257	1.021903	1.015368	1.010050	1.009156	1.007665	1.006276	1.006959	1.006871	1.065862	1.061606
FL Transportation Equipment Mfg.	0.902982	1.006816	1.010382	1.007075	0.992149	0.985717	0.986004	0.984374	0.985721	0.982851	0.982453	0.767652	0.714356
FL Utilities	0.999558	1.005345	1.017468	1.021644	1.010812	1.009497	1.009401	1.007779	1.005021	1.008932	1.009532	1.091996	1.082470
FL Wholesale Trade	0.972792	1.018663	1.024862	1.019992	1.009240	1.004187	1.003210	1.003384	1.000462	1.000824	1.000200	1.082689	1.153946
US Construction	0.908059	1.039788	1.062906	1.042997	1.020853	1.013760	1.010917	1.012940	1.010230	1.010294	1.011313	1.000000	1.000000
US Mfg - Electrical Equipment and Appliances	0.946151	1.009172	1.019085	1.011558	0.996957	0.988829	0.985969	0.984436	0.984426	0.984206	0.984798	1.000000	1.000000
US Mfg - Miscellaneous	0.964418	1.002768	1.010097	1.008136	0.994603	0.987959	0.986338	0.984754	0.986098	0.984940	0.985056	1.000000	1.000000
US Mfg - Paper and Paper Products	0.959192	0.998427	1.006859	1.007311	0.991962	0.988061	0.985937	0.984704	0.985329	0.984818	0.984496	1.000000	1.000000
US Mfg - Primary Metals	0.933955	1.003479	1.004789	1.013422	0.990114	0.981016	0.978043	0.978347	0.978335	0.977118	0.976276	1.000000	1.000000
US Retail Trade	0.985652	1.009388	1.021703	1.020828	1.005551	1.000057	0.997476	0.996088	0.997034	0.996820	0.997471	1.000000	1.000000
US Transportation and Warehousing	0.972695	1.010157	1.020321	1.018757	1.004040	0.998899	0.996469	0.995003	0.995593	0.994593	0.994443	1.000000	1.000000
FL Population	1.003947	1.012682	1.012682	1.012682	1.012682	1.012682	1.012682	1.012682	1.012682	1.012682	1.012682	1.203415	1.564356
US Population	1.009571	1.009615	1.009615	1.009615	1.009615	1.009615	1.009615	1.009615	1.009615	1.009615	1.009615	1.042152	1.272030
FL GDP	0.996044	1.049052	1.060639	1.042633	1.031744	1.031586	1.032580	1.032275	1.029474	1.028169	1.027496	1.024	1.022
US GDP	1.008014	1.022737	1.022737	1.022737	1.022737	1.022737	1.022737	1.022737	1.022737	1.022737	1.022737	1.021	1.019

D. Overview of Economic Impact Models

Martin Associates has developed economic impact models for several of Florida's seaport, the Florida Ports Council for a statewide analysis, and for Miami International Airport. These models were used, as appropriate, to support the testing of the strategies developed as part of the Florida Trade and Logistics Study. The following provides excerpts from two Martin Associates' studies that describe the methodology used to develop these models.

D.1 Seaport Methodology


THE STATEWIDE ECONOMIC IMPACTS
OF MARITIME CARGO HANDLED AT FLORIDA'S PUBLIC
SEAPORTS – 2008

March 30, 2009
Final Report

Prepared for:
FLORIDA PORTS COUNCIL

Martin Associates
941 Wheatland Avenue
Suite 203
Lancaster, PA 17603

Martin Associates was retained by the Florida Ports Council to measure the statewide economic impacts generated by maritime cargo activity at the fourteen public seaports in the state, including cargo moving over both public and private marine terminals within these ports' navigational districts. Economic impacts generated at the cargo facilities include the impacts created by containerized cargo (both dry and refrigerated), steel products, forest products, autos and other roll-on/roll-off (RO/RO) cargo, miscellaneous break bulk cargo, dry bulk cargo (such as aggregates, phosphate, minerals, etc.), petroleum and petroleum products, and other liquid bulk. Economic impacts of the cruise industry at those ports with cruise operations are not included in this report.

The study employs methodology and definitions Martin Associates has used to measure the economic impacts of seaport activity in more than 300 economic impact studies for ports in the United States and Canada, and at the leading airports in the United States. It is to be emphasized that only measurable impacts are included in this study. To ensure defensibility, the Martin Associates' approach to economic impact analysis is based on data developed through an extensive interview and telephone survey program of more than 1,000 firms providing services to the ports as well as tenants of the ports.

Impact Definitions

The impacts are measured in terms of:

- Jobs [direct, induced, indirect and related shipper/consignee (related users)];
- Personal income;
- Business revenue; and
- State and local taxes.

Each impact measurement is described below:

Direct, Induced, Indirect, and Related User Jobs

- **Direct jobs** are those that would not exist if activity at the seaports' cargo facilities were to cease. Direct employment created by maritime cargo activity at a port's terminals are those jobs with the firms directly providing cargo-handling and vessel services, including trucking companies, terminal operators and stevedores, members of the International Longshoremen's Association (ILA), stevedores and customhouse brokers, vessel agents, pilots, and tug assist companies.
- **Induced jobs** are jobs created in the state by the purchases of goods and services by those individuals directly employed by each of the lines of business at each port. These jobs are based on the in-state purchase patterns of Florida area residents. The induced jobs are jobs with grocery stores, restaurants, health care providers, retail stores, local housing/construction industry, and transportation services, as well as with wholesalers providing the goods to the retailers.
- **Indirect jobs** are created throughout the state as the result of purchases for goods and services by the firms directly impacted by the port activity, including the tenants, terminal operators, and firms providing services to cargo operations – which include containerized cargo, petroleum, general cargo, RO/RO, and dry and liquid bulk. The indirect jobs are measured based on in-state purchase patterns of the directly dependent firms, and occur with such industries as utilities, office supplies, contract service providers, maintenance and repair, and construction.
- **Related shipper/consignee (related user) jobs** are jobs with shippers and consignees (exporters and importers) using the seaport terminals for shipment and receipt of cargo. The majority of the in-state shipper and consignee impacts involve the import and export of waterborne containerized cargo, both international and domestic (that is, coastwise shipments). These Florida shippers/consignees also use other ports (i.e., East Coast ports such as Savannah and West Coast ports served via rail), and are not completely dependent upon the use of Florida's seaports. The level of employment with these firms is driven by the demand for the firms' products, not because the Florida ports are used. Therefore, the degree of

dependence of the related jobs on the Florida ports is less than the other components of the job impact.[16]

These jobs include the direct, induced, and indirect jobs created at each level of production of an export cargo produced in Florida, as well as the total jobs associated with an imported product consumed in state, either as a final consumption good or as an intermediate or primary raw material used by industries within the state. For example, all aspects of the distribution chain associated with an imported container carrying consumer products are included in the related job impacts, from the time the cargo leaves the distribution center to its final sales at a retail outlet in Florida. The aspects of the distribution chain from the discharge of the containers from a ship through the container terminal to its initial destination (i.e., regional distribution center within the state) are included in the port-generated direct, induced, and indirect jobs, not the related impacts.

Other Measures

- **Personal income** impact consists of wages and salaries received by those directly employed by port activity, and includes a re-spending impact which measures the personal consumption activity in the state by those directly employed as the result of cargo activity at the public ports. Indirect personal income measures the wages and salaries received by those indirectly employed.
- **Business revenue** consists of total business receipts by firms providing services in support of the ocean cargo activity. In-state purchases for goods and services made by the directly impacted firms are also measured. These purchases by the dependent firms create the indirect impacts.
- **State and local taxes** include taxes paid by individuals as well as firms dependent upon the cargo activity at the public ports.

Methodology

Within the past three years, Martin Associates has developed detailed economic impact models for the following Florida seaports:

- Port Everglades;
- Port of Tampa;
- Port of Jacksonville; and
- Port of Miami.

These models are based on a 100 percent interview program with tenants of each of the four ports as well as service providers to cargo and vessel activity at each port. In total,

[16] The related jobs, income, value of output and taxes should not be used when evaluating the incremental economic impacts of specific port projects or the impacts of changes in cargo volume.

1,000 firms were interviewed that provide services to the cargo, vessel, and cruise activity at the Port of Tampa, the Port of Jacksonville, the Port of Miami, and Port Everglades. In 2008, these four ports handled 98.2 million tons of cargo, both international and domestic, which represents 86% of the 114.2 million tons handled at all Florida ports in FY 2008. The impacts of these four ports were then expanded to estimate the total statewide impacts of the total domestic and international cargo handled at all Florida ports.

The induced impacts are based on the current expenditure profile of residents in the State of Florida, as estimated by the U.S. Bureau of Labor Statistics, "Consumer Expenditure Survey." This survey indicates the distribution of consumer expenditures over key consumption categories for residents of the communities in which the ports are located. The consumption categories are:

- Housing;
- Food at restaurants;
- Food at home;
- Entertainment;
- Health care;
- Home furnishings; and
- Transportation equipment and services.

The estimated consumption expenditure generated as a result of the re-spending impact is distributed across these consumption categories. Associated with each consumption category is the relevant retail and wholesale industry. Jobs-to-sales ratios in each industry are then computed for the regions in which each port is located, and induced jobs are estimated for the relevant consumption categories. It is to be emphasized that induced jobs are only estimated at the retail and wholesale level, since these jobs are most likely generated in the state. Further levels of induced jobs are not estimated since it is not possible to defensibly identify geographically where the subsequent rounds of purchasing occur.

The “Consumer Expenditure Survey” does not include information to estimate the job impact with supporting business services, legal, social services, state and local governments, and educational services. To estimate this induced impact, a ratio of Florida employment in these key service industries to total Florida employment is developed. This ratio is then used with the direct and induced consumption jobs to estimate induced jobs with business/financial services, legal, educational, governmental, and other social services.

The indirect impacts are estimated based on the local purchases by the directly dependent firms, combined with indirect jobs, income and revenue coefficients for the supplying industries in Florida, as developed for Martin Associates by the U.S. Bureau of Economic Analysis, Regional Input/Output Modeling System.

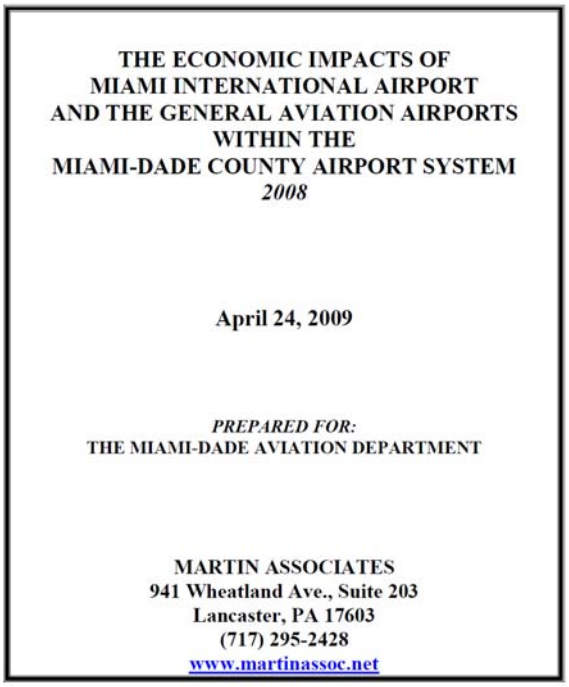
Economic Impact Models

The impacts are measured for 2008, and computer models for cargo operations have been developed to provide an estimate of the impacts of specific investment and development projects, and to test the sensitivity of the impacts to changes in economic conditions and facility utilization. It is to be emphasized that this study is designed to provide a framework which can be used in formulating and guiding the future development of seaport facilities in Florida.

The cargo impact model is designed to test the sensitivity of impacts to changes in such factors as maritime tonnage levels, seaport productivity and work rules, new seaport facility development, inland distribution patterns of ocean cargo, number of vessel calls, and the introduction of new ocean carrier service. The cargo impact model can also be used to assess the impact of developing a parcel of land as a maritime terminal versus other non-cargo land uses. Finally, the maritime cargo impact model can be used to assess the economic benefits of increased maritime activity due to infrastructure development and the opportunity cost of not undertaking specific maritime investments such as dredging, new terminal development, or warehouse development.

D.2 Airport Methodology

This section provides an overview of the methodology used to measure the 2008 economic impacts of Miami International Airport and the economic impacts created by general aviation activity at Kendall-Tamiami Executive Airport, Opa-locka Executive Airport, Homestead General Airport, Opa-locka West and the Training and Transition Airport in Collier County.


THE ECONOMIC IMPACTS OF
MIAMI INTERNATIONAL AIRPORT
AND THE GENERAL AVIATION AIRPORTS
WITHIN THE
MIAMI-DADE COUNTY AIRPORT SYSTEM
2008

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PREPARED FOR:
THE MIAMI-DADE AVIATION DEPARTMENT

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The base year of the analysis is calendar year 2008. The economic impacts created by the airport are measured in terms of jobs, personal income, state and local taxes, and revenue generated directly by airport activity, as well as in terms of the airport's role in providing a gateway for air cargo freight services to the businesses and manufacturing communities of Florida, as well as the United States.

In order to measure the impacts in the most defensible manner possible, the methodology utilized is based on interviews, local economic data, and airport statistics; i.e., direct measurement. This section summarizes the following:

- An overview of the impact structure and describes how the airport activity creates and supports jobs, personal income, business revenue, and taxes in the local, regional and state economies.
- Detailed categories and sectors of the economy in which the impacts occur are defined and described in Section 2 of this chapter.
- An overview of the data collection methodology.

Impact Structure

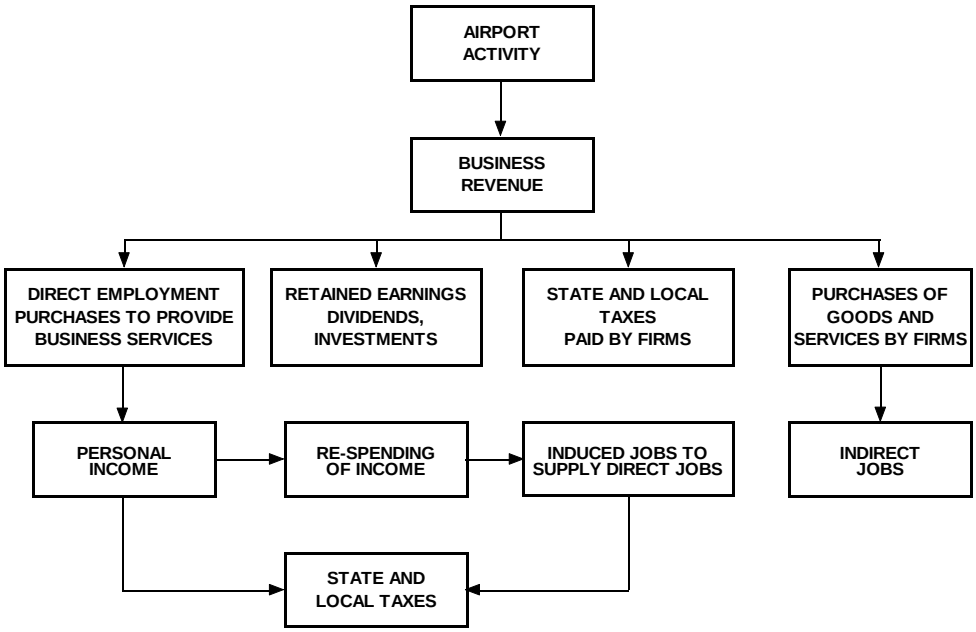
Activity at an airport contributes to the local and state economy by generating business revenue for local and national firms providing air passenger service, freight service and support services to the airport and the airlines. These firms, in turn, provide employment and income to individuals and pay taxes to state and local governments. Figure D.1 shows how air traffic activity at Miami International Airport and the general aviation airports generates impacts throughout the local, state and national economy. As this exhibit indicates, the impact of an airport on a local, state or national economy cannot be reduced to a single number, but instead, airport activity creates several categories of impacts. These are the revenue impact, employment impact, personal income impact, and tax impact. These impacts are not additive. For example, the income impact is a part of the revenue impact, and adding these impacts together would result in double counting.

Revenue Impact

At the outset, activity at the airport generates business revenue for firms which provide air passenger service, concessions, freight service and ground support services. This business revenue impact is dispersed throughout the economy in several ways. It is used to hire people to provide the services, to purchase goods and services, to pay for the use of the airport and to make Federal, state and local tax payments.

The remainder is used to pay stockholders, retire debt, make investments, or is held as retained earnings. It is to be emphasized that the only portions of the revenue impact that can be definitely identified as remaining in the Miami metropolitan region in which the airports are located are those portions paid out in salaries to direct employees, local purchases from other firms, state and local taxes and payments to the airport itself.

Figure D.1 Flow of Economic Impacts Generated by Airport Activity



Employment Impact

The employment impact of aviation activity consists of three levels of job impacts:

- **Direct employment impact** - jobs directly generated by airport activity, which would vanish if activity at Miami International Airport and the general aviation airports were to cease. These jobs include jobs with airlines serving the airport, charter airlines, Federal and City government workers, retail concessions, rental car agencies, construction, taxi cabs moving passengers to and from the airport, fixed base operators serving the airlines, etc.
- **Induced employment impact** - jobs created throughout the local economy because individuals directly employed due to airport activity spend their wages locally on goods and services such as food, housing and health care. Also included in this category are non-consumption driven jobs supporting the direct jobs such as jobs with state and local government agencies (including public schools) and personal and business services (including private education, real estate and financial services).
- **Indirect employment impact** - jobs generated due to the purchase of goods and services by firms dependent upon airport activity. This includes local purchases by the airport tenants, the airport administration, and the hotels, restaurants, and retail outlets in the areas visitors industry.

Income Impact

The income impact is the measure of personal wages and salaries received by individuals directly employed due to airport activity. This direct personal income is re-

spent throughout the region by those that are directly employed. This re-spending effect, in turn, generates additional jobs -- the induced employment impact. This re-spending throughout the Miami metropolitan region is estimated using a regional personal income multiplier specific to Miami. The re-spending effect varies by region: a larger re-spending effect occurs in regions that produce a relatively large proportion of the goods and services consumed by residents, while lower re-spending effects are associated with regions that import a relatively large share of consumer goods and services (since personal income "leaks out" of the region for these out-of-state purchases). For this study, separate personal income multipliers are used for airport generated income versus visitor industry generated income. The use of the two multipliers reflects the differences in average wages and, hence, consumption power generated by on-site activity compared to the impacts supported in the visitors industry.

Tax Impact

Federal, state and local tax impacts are tax payments to the Federal, state and local governments by firms and by individuals whose jobs are directly dependent upon activity at Miami International Airport and the general aviation airports. The Federal aviation-specific taxes include the Cargo Way Bill Tax, the INS tax on international passengers, security charges, and the domestic departure tax. Customs revenue generated by international air passengers and freight is also included.

The four types of impacts outlined above are estimated for calendar year 2008 passenger, air cargo, and general aviation activity at Miami International Airport.

Economic Impact Sectors

An airport is a diverse economic system. The businesses that have employees at Miami International Airport cover a wide spectrum of trade and service sectors. For the purposes of this study, the airport economic system is divided into five sectors:

- Airline/airport service;
- Freight transportation;
- Passenger ground transportation;
- Contract construction/consulting services; and
- Visitor industry services.

Each of these sectors covers a variety of activities. A discussion of these five categories is provided below, with a description of the major participants in each.

Airline/Airport Service Sector

The airline/airport service sector consists of airlines providing passenger services, general aviation, airport administration and firms providing support services to the airlines, passengers, and to the airport. This group consists of the following participants:

- Passenger Airlines;

- General Aviation and Aviation Services, (i.e., corporate hangars and business aircraft, not-for-profit aviation services, flying clubs, fixed base operators, aviation parts suppliers, etc.);
- Airport Administration (Miami-Dade Aviation Department);
- Catering Firms;
- Janitorial Firms;
- Sky Caps;
- Security Firms;
- Airport Retail Tenants (i.e., newsstands, retail shops, and food concessions);
- Federal Government Agencies (i.e., F.A.A., Post Office, TSA, and U.S. Customs); and
- Parking and Miscellaneous (i.e. not-for-profit organizations at the airport).

Jobs in this category are typically located on airport property.

Freight Transportation Sector

Freight transportation includes freight airlines, freight forwarders, and trucking firms involved in transporting air freight. The air freight consists of air cargo and mail transported on dedicated freight airlines and in the cargo section of passenger airlines. Included in this group are air couriers, freight forwarders, and common carrier trucking firms located throughout the Miami metropolitan area. Jobs in this category are located both on and off the airport.[17]

Passenger Ground Transportation Sector

Passenger ground transportation consists of car rental firms and other ground transportation modes, such as buses, taxis and limousines. This group covers all commercial transportation of individuals to and from the airport and includes both drivers and supporting reservation and maintenance employees.

Contract Construction and Consulting Sector

Individuals employed in this group include those providing construction and remodeling work at the airport, as well as architects and engineers providing planning and design services. This sector measures the annual impact of capital projects.

[17] Jobs with passenger airlines dedicated to handling air freight are counted as jobs with airlines and included with jobs in the airline/airport sector. However, when the impacts are estimated by type of activity - passengers versus air freight – these jobs are counted as dedicated to air freight.

Visitor Industry Services Sector

Both domestic and international passengers arrive in the Miami metropolitan area via Miami International Airport for several purposes, including business, pleasure, conventions and connections to cruise services. As a result of these out-of-town residents purchasing lodging, food and entertainment, jobs are created in the service and retail industries in the Miami area.

Data Collection

Impacts were estimated on the basis of interviews with firms in the five economic impact categories described above. A total of 609 firms were interviewed as part of this study, which represents more than 95% coverage of the airport community serving Miami International Airport and the general aviation airports operated within the Miami-Dade County Airport System. Because of this coverage, the resulting direct impacts are highly defensible and traceable back to the individual firms. Published data were used to complement the interview results, particularly in estimating induced, indirect and related job impacts. The major sources of published data are publications by the U.S. Bureau of Census: the Census of Service Industries, Census of Wholesale Industries, Census of Construction, the Census of Retail Industries, County Business Patterns, and the Survey of Manufactures for the Miami Metropolitan Statistical Area (MSA).