

# Central Florida Regional Freight Mobility Study

## Delivering the Goods, Supporting our Economy

prepared for  
MetroPlan Orlando  
FDOT District Five  
Lake-Sumter MPO  
Space Coast TPO  
River to Sea TPO

prepared by  
Cambridge Systematics, Inc.

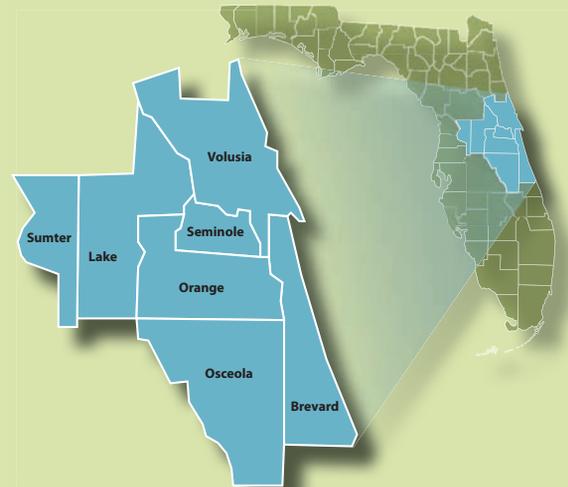
with  
HDR Engineering, Inc.  
Canin Associates  
Aviation Analytics



March 2014

# Freight Drives the Region's Economy

The Central Florida region is home to a vibrant and growing population with significant business and tourism activity. This regional economy is all supported by an expanding multimodal transportation system. Identifying and implementing improvements to accommodate increasing demand for freight and goods movement in the Central Florida region is critical to the region's economic vitality and quality of life.



Because of the relationship between the freight movement and the economy, the region's freight story can be told by linking the goods moving in the region to the region's economy.

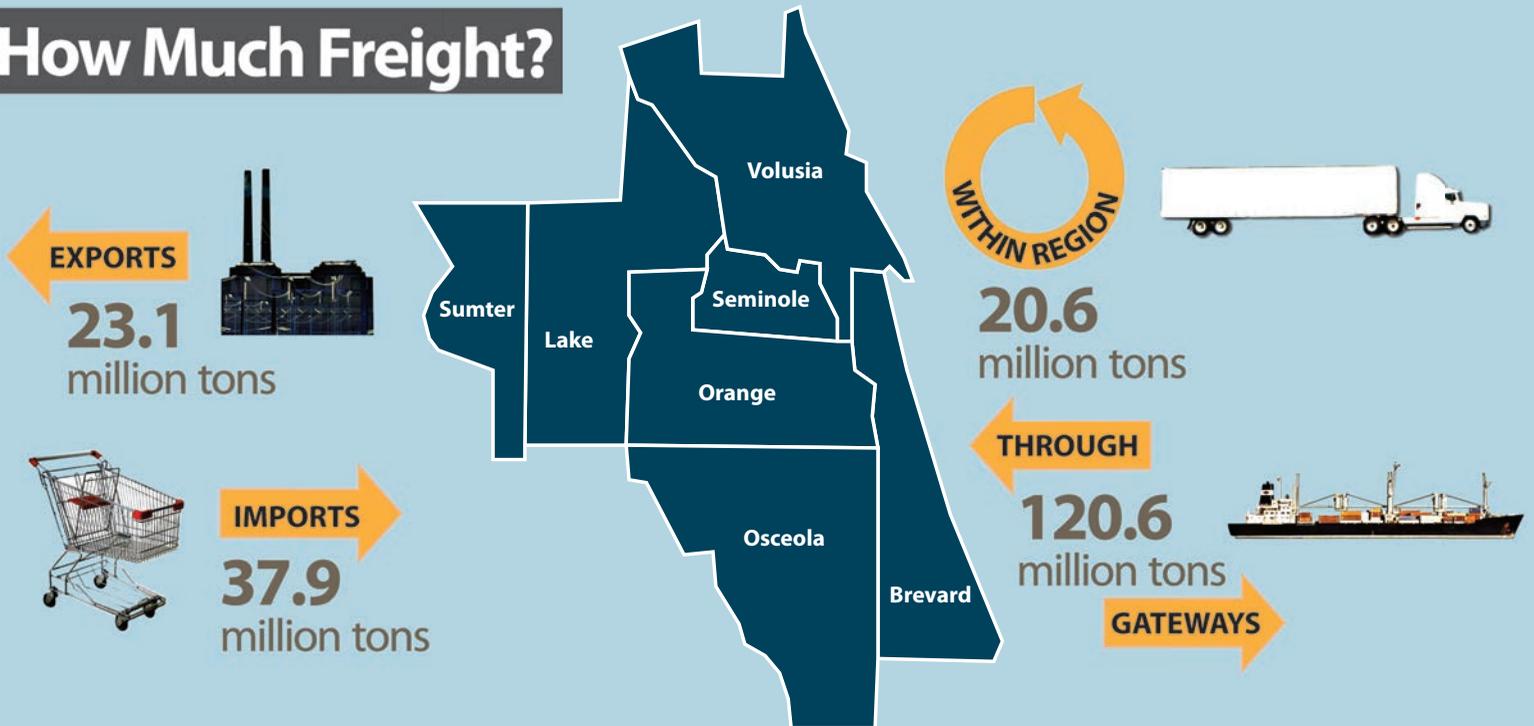
## WHAT IS FREIGHT?

*Freight* refers to any good moved by truck, railroad, waterborne vessel, airplane, pipeline, or launched into space.

*Intermodal* refers to the movement of goods by a combination of two or more modes.

Nearly 202 million tons of freight moved over the Central Florida study region's transportation network in 2010. These goods are demanded by our region's residents, tourists, businesses, and industries.

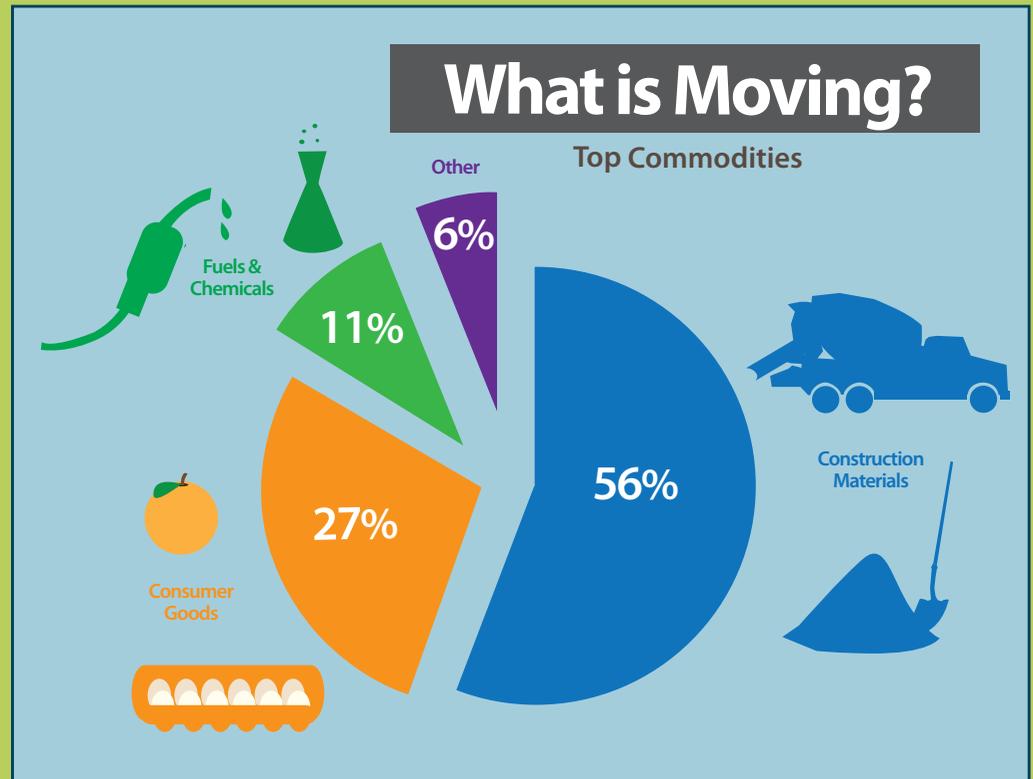
## How Much Freight?



The freight moving on our transportation network can be directly linked to jobs. In 2012, freight-intensive industries generated significant jobs in the region:

- 52,000 construction jobs
- 32,250 transportation and warehousing jobs
- 36,300 wholesale trade jobs
- 6,400 truck jobs
- 67,000 manufacturing jobs

## What is Moving?

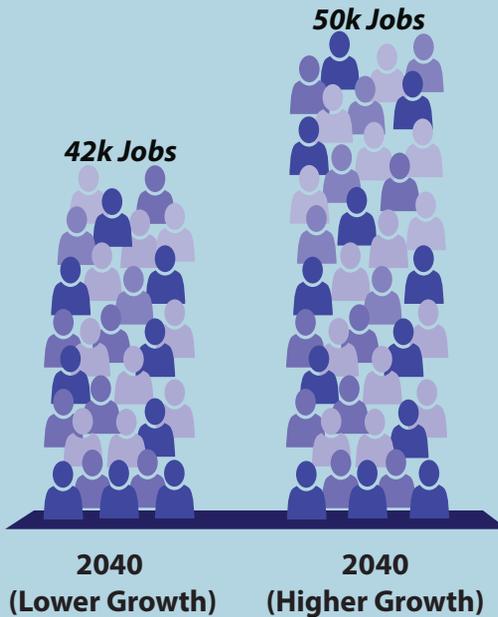
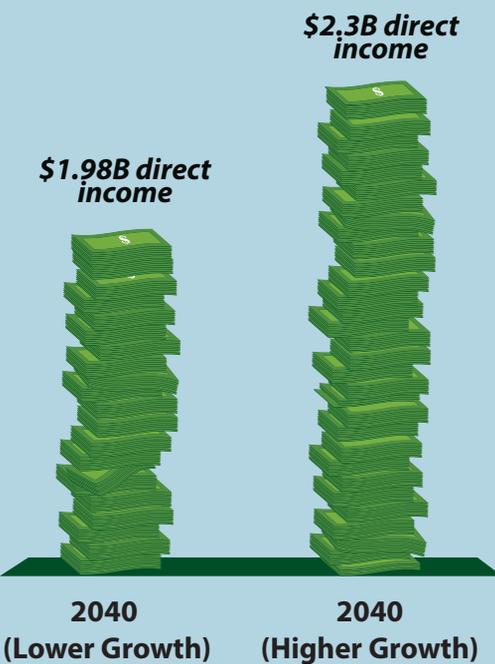
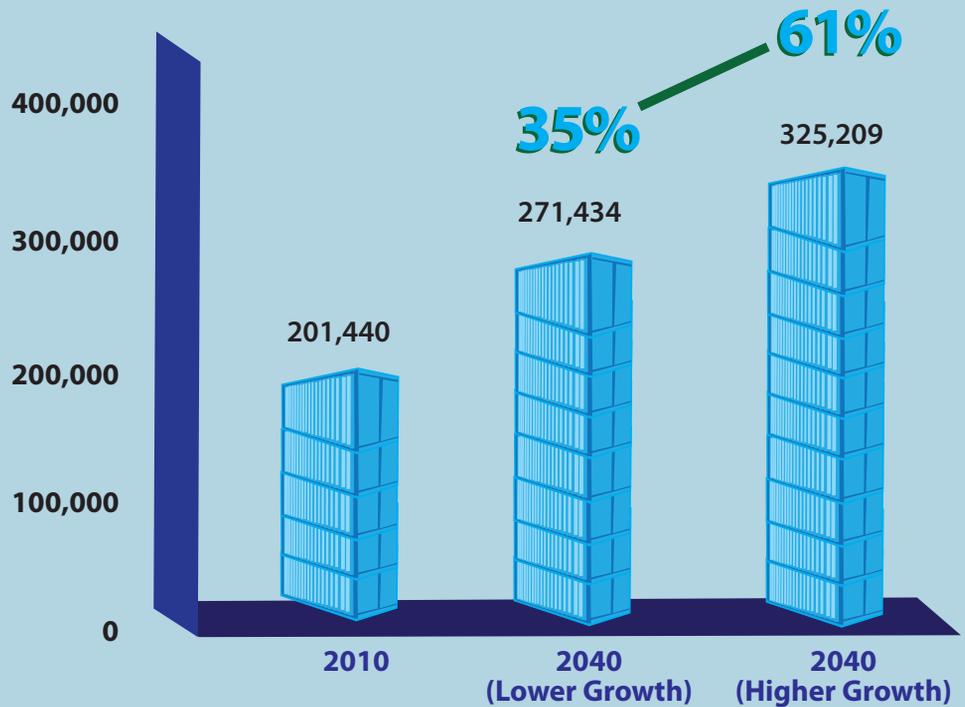


# Freight Volumes and Economic Opportunities will Grow

By 2040 regional freight movements are expected to increase by 35 to 61 percent to 274 to 325 million tons...

For every million tons of freight moved in Central Florida, 155 direct transportation jobs and \$7 million in direct income is created.

 = Thousands of tons



...Resulting in significant economic opportunities.

Preserving and investing in the freight transportation system is critical to maintaining and enhancing sustainable economic growth throughout the Central Florida region.

## World Class Attractions Generate Significant Demand for Freight

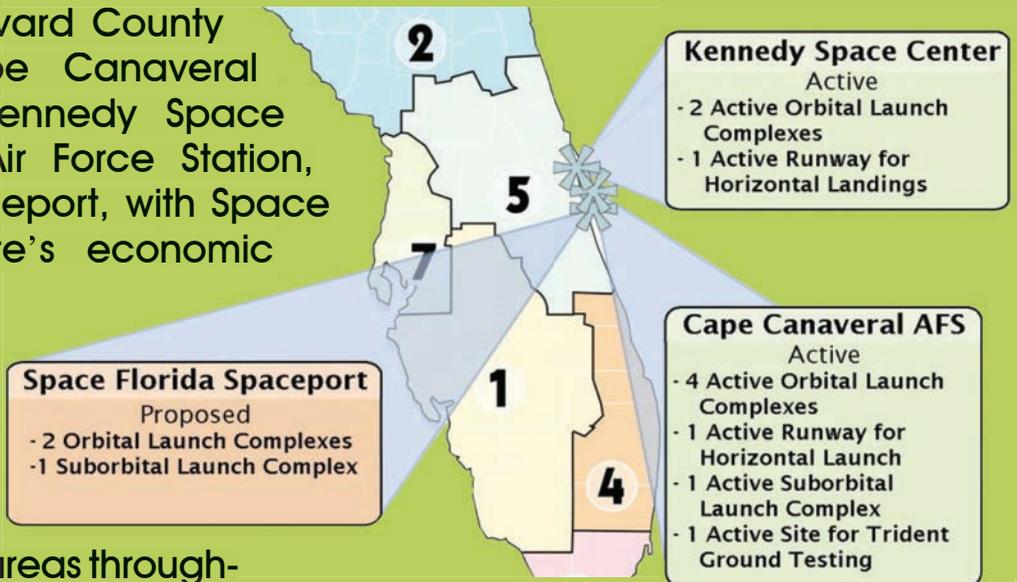
More than 38 million tons of goods are moved into the region annually, many of these destined for the shops, theme parks, hotels and resorts, restaurants, cruise ships, and convention centers serving more than 57 million visitors to Central Florida each year. Inbound freight is critical to maintaining the competitiveness of the region's number one industry – tourism.



### Unique Economic Opportunity with Unique Freight Needs

The property located in Brevard County is collectively called Cape Canaveral Spaceport and includes Kennedy Space Center, Cape Canaveral Air Force Station, and the Space Florida Spaceport, with Space Florida acting as the state's economic development agency.

Currently at Spaceport, the majority of vehicles/payloads for launches arrive at the facility fully assembled from manufacturing facilities from areas throughout the United States, including Alabama, California, Colorado, and Texas. Currently, the majority of launch vehicles (heavy payloads) are coming in on barge from Alabama or via truck from California. Other inbound products to support space launch operations include satellites flown in on C-17/Russian Antonov planes and fuel (including convoys of liquid oxygen, Hydrogen, and Helium) all generally brought in by truck.



Source: 2010 Spaceport Masterplan and stakeholder interviews.

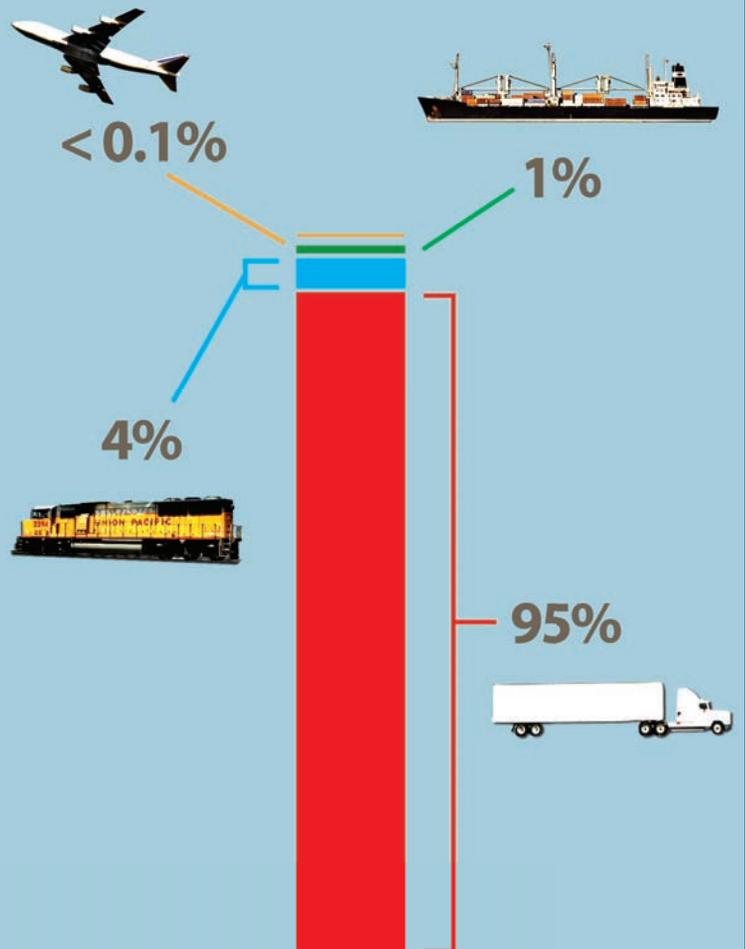
# The Region's Infrastructure is Critical to Accommodating the Increase in Freight and its Related Opportunities

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Florida and the rest of United States are preparing for growth opportunities arising from increases in trade and freight volumes. The Central Florida region needs to be prepared to take full advantage of these opportunities, which means the region's transportation system must be able to handle the increase in freight demand.

## How is Freight Moving?



The Central Florida regional multimodal freight transportation system keeps the region's economy moving:

- More than 17,900 centerline miles of roadways carrying nearly 200 million tons annually
- Three railroads including CSX, Florida East Coast Railway (FEC), and the Florida Central Railroad (FCEN), carrying about 10 million tons of local freight annually
- One deepwater port, Port Canaveral, handling more than 3 million tons of freight annually
- Space Florida, a major spaceport on the east coast
- Air cargo facilities at Orlando International Airport (MCO), Orlando-Sanford International, Melbourne International, and Daytona Beach International handling more than 190,000 tons of domestic and international air freight annually
- The Sanford AutoTrain is Amtrak's only rail service transporting both passengers and their motor vehicles. It served 265K passengers in 2013 with \$73.5M in revenues while removing 126K vehicles from regional roadways



# The Region's Freight Network Faces Challenges



The region's primary freeways and roadways already carry significant truck volumes with some roads carrying more than 20,000 trucks a day. In addition, for 100 trucks on the roadways today, there will be 135 to 165 trucks in 2040.

Overall, the trucking community reports good operating conditions on the region's major highway facilities, with the exception of I-4, which they avoid.

Operational constraints or bottlenecks were reported by freight stakeholders, including short entrance ramps onto interstates which create merging hazards; excessive merging and weaving required along major freeways; insufficient turning radii on major arterials; numerous at-grade crossings on major freight corridors; and lack of sufficient staging areas in and around freight terminals.

Approximately 10 percent of all bridges in Brevard, Orange, Osceola, and Seminole counties and approximately 20 percent of all bridges in Lake, Sumter, and Volusia counties are "functionally obsolete" or "structurally deficient." Up to half of all "functionally obsolete" or "structurally deficient" bridges in the study area may be restrictive to some truck movements.

Nearly 750 at-grade rail crossings create significant delay and safety concerns for both the railroads and motorists.

The introduction of commuter rail must include preservation of freight rail service and investment in additional rail capacity.

Research in recent years has continued to explore the health effects of emissions related to the freight sector and concerns about toxic "hot spots" is often an issue when regions explore expansion of freight transportation facilities. Truck emissions account for 34 percent of transportation related CO<sub>2</sub> emissions and 64 percent of transportation related PM<sub>10</sub> emissions in the study region.

# Identifying, designating, and designing a Regional Freight Subsystem is an important component of freight mobility and balancing people and goods needs

## Benefits of a designated Regional Freight Subsystem:

- Target improvements and design standards
- Improves truck productivity
- Enhances safety for all
- More cost effective
- Mitigates community impacts



# Positioning the Region to Capitalize on Freight and Trade-Related Economic Opportunities



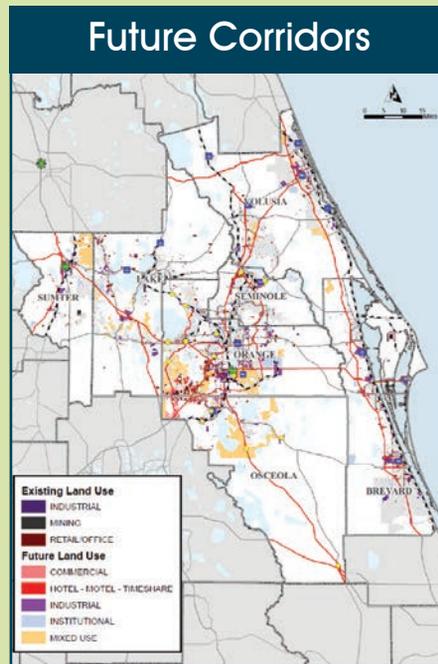
Addressing needs and deficiencies will require multifaceted solutions that include physical infrastructure, operational, and institutional recommendations.



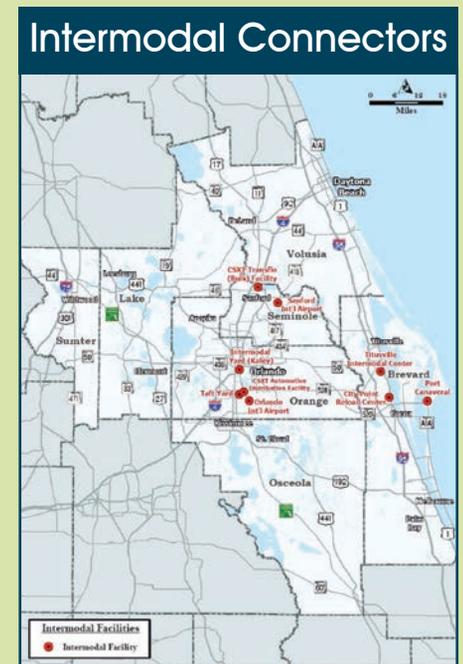
The infrastructure recommendations focused on preserving and enhancing the regional freight subsystem through operational and capacity improvements to existing corridors, investing in new corridors to serve growth regions and multimodal investments, and enhancements to intermodal connectors.



- Existing bottlenecks
- Future needs



- Growth areas
- Multimodal investments



- Modal nodes
- Freight intensive land uses

Input from both private and public sector stakeholders indicated that operational solutions should receive some priority. Operational improvements represent a critical element of the freight mobility strategy by making it possible to get more use out of the existing regional infrastructure by increasing system efficiency. Examples of operational solutions include:



- Prepare a Regional Truck Route Map and Identify Freight Facilities Signage Improvements
- Implement an Off-Peak Delivery Pilot Program Promoting Off-Peak Freight Operations in Key Commercial Areas
- Implement a Freight-User Communications Program

### Orlando Health Campus Off-Peak Delivery Pilot

FDOT secured a grant from the Federal Highway Administration’s Discretionary Grants Program to conduct an Off Hours Freight Delivery Pilot Project. The project will examine the local and regional transportation network serving the Orlando Health campus to determine how to take advantage of off-hour freight delivery. Moving freight deliveries to off-peak hours provides a low-cost solution with the potential to reduce congestion, improve freight flows, and have positive impacts on air quality.

A comprehensive freight program requires a regional approach to planning, public awareness of the challenges and benefits of freight movement, and a planning process that institutionalizes freight needs.



- Develop a Performance-Based Process for Implementing and Funding Investments in the Freight System.
- Incorporate Freight-Specific Measures into Project Prioritization Procedures.
- Develop an Ongoing Regional Freight Program.



**Training and Outreach**



**Freight Advisory Group**



**Freight Data and Tools**



**Freight Performance Measures**

A map of the state of Florida is shown in a light green color. A solid blue horizontal band runs across the middle of the map. The text is located on the right side of this blue band.

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