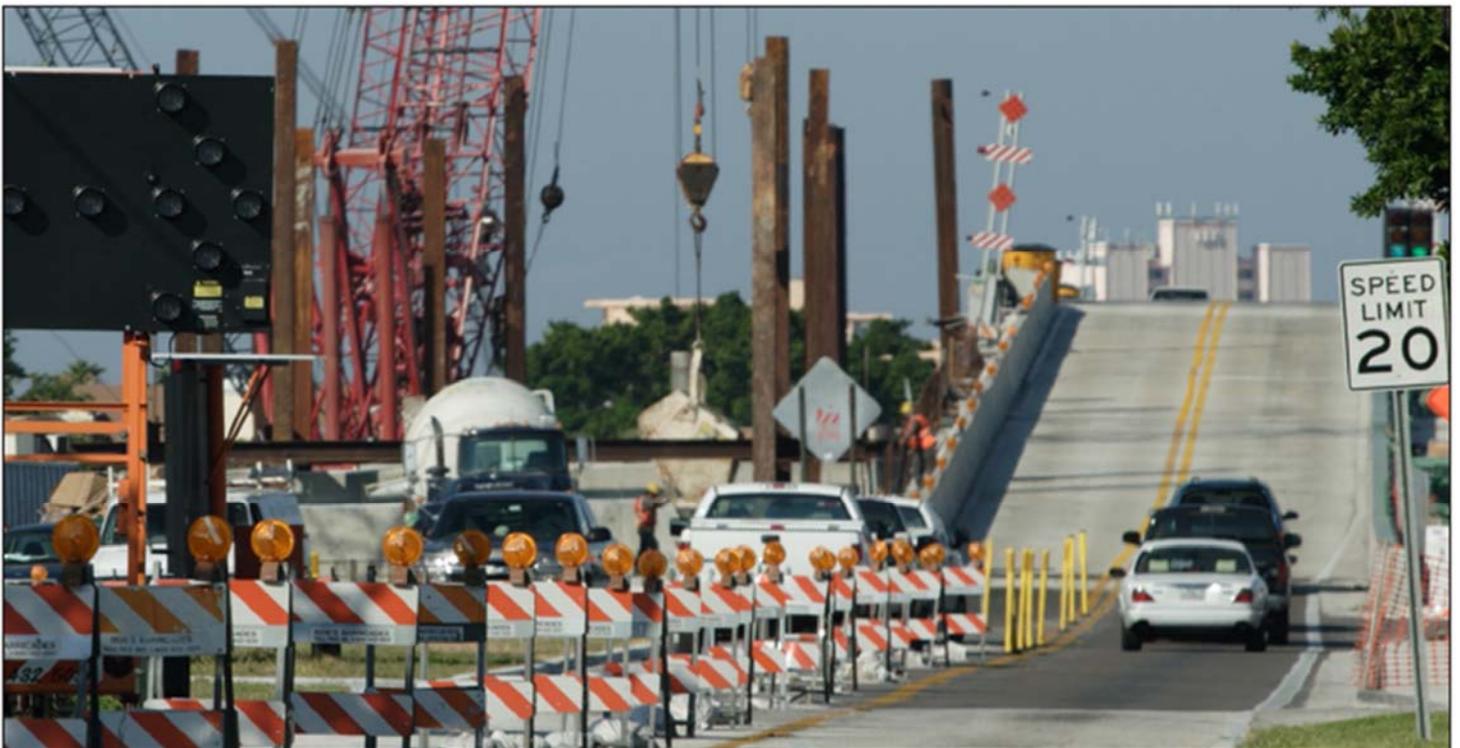


a report on

FLORIDA TRANSPORTATION TRENDS AND CONDITIONS



IMPACT OF TRANSPORTATION Transportation and the Economy



January 2015



Produced by the
Florida Department of Transportation
Office of Policy Planning

with support from the
Center for Urban Transportation Research
University of South Florida



www.dot.state.fl.us/planning/trends

Impact of Transportation: Transportation and the Economy

Table of Contents

Introduction 1

Economic Trends and Impacts on Transportation System Performance.....2

Overview of Demographic and Economic Trends.....2

Florida’s Economy is Operating at a Regional Scale5

Florida Businesses Are Competing in a Global Economy.....6

Tourism and Transportation8

The Service Sector Dominates.....9

Economic Trends Impacting Transportation System Performance9

Impacts of Transportation Investments on the Economy 11

Macroeconomic Impacts 12

Personal Impacts..... 12

Business and Government Impacts 14

Transportation Critical to Florida’s Economic Vitality and Competitiveness 15

Seaports..... 16

Airports..... 16

Roadway Network 17

Rail 17

Resources for Understanding Economic Impacts of Transportation Investments 18

Conclusion 18

List of Figures

Figure 1 – The Role of Transportation in Florida’s Economy.....2

Figure 2 – Population Growth in Florida by Region 2000-20143

Figure 3 – Employment in Florida by Region, 2013.....3

Figure 4 – Florida Gross Domestic Product (2004-2013)4

Figure 5 – Total Product –Private Transportation Carriers (2004-2013).....4

Figure 6 – Transportation Carriers Share of State Gross Domestic Product (2004-2013)5

Figure 7 – Value of Trade, 2004-20137

Figure 8 – Volume of Freight Flows Into, Out of, and Within Florida7

Figure 9 – Total Tourism Spending (Tourism/Recreation Taxable Sales) 2004-20138

Figure 10 – Florida Congested Corridors 2013.....10

Figure 11 – U.S. Average Annual Consumer Expenditures, 2013..... 13

Figure 12 – Florida Counties Classified By Number of Warehouse Employees, 2012 15

List of Tables

Table 1 – Statewide and National Employment Shares of Selected Industries9

Table 2 – Average Household Expenditures by Major Category: 2013 (in Current Dollars)..... 13

Table 3 – Commute Time Comparisons 14

Table 4 – Change in Cargo and Passenger Demand at Florida’s Seaports 16

Impact of Transportation: Transportation and the Economy

Introduction

A lab technician drives down I-10 to his job near a military base in Northwest Florida. A family crosses the Sunshine Skyway Bridge on their way to Clearwater Beach for a day in the sun. Tourists load their luggage into a rental car at Orlando International Airport, excited to visit attractions in the Orlando area and beyond. A trucker pulls out of the Port of Miami ready to cross Alligator Alley to make a delivery in Southwest Florida. A train loaded with new cars leaves the Port of Jacksonville on its way to the Midwest. Transportation networks connect not only the places where we live, work and play but also people and businesses to opportunities.

Florida provides an abundance of opportunities to its residents, visitors and businesses, including a desirable climate, moderate cost of living and extensive opportunities that foster a century-long trend of migration to the Sunshine State. These opportunities have led to strong growth for Florida's economy. In the decade of the 2000s, Florida has experienced an incredible economic boom followed by a serious recession. Although some economic measures have yet to return to pre-recession levels, the state's economy is steadily improving, with changes being evident in the expanding housing industry, improving employment, the return of robust tourism, and increasing business activities.

The levels of accessibility, mobility and interconnectivity that transportation networks provide can help or hinder Florida's status as a competitive economic force in both domestic and global markets. The relationship between transportation and the economy goes both ways; it is interactive. A robust transportation network can drive economic vitality, while a strong economy creates demand for travel and transport and can be leveraged to generate revenue for maintenance and expansion of the system.

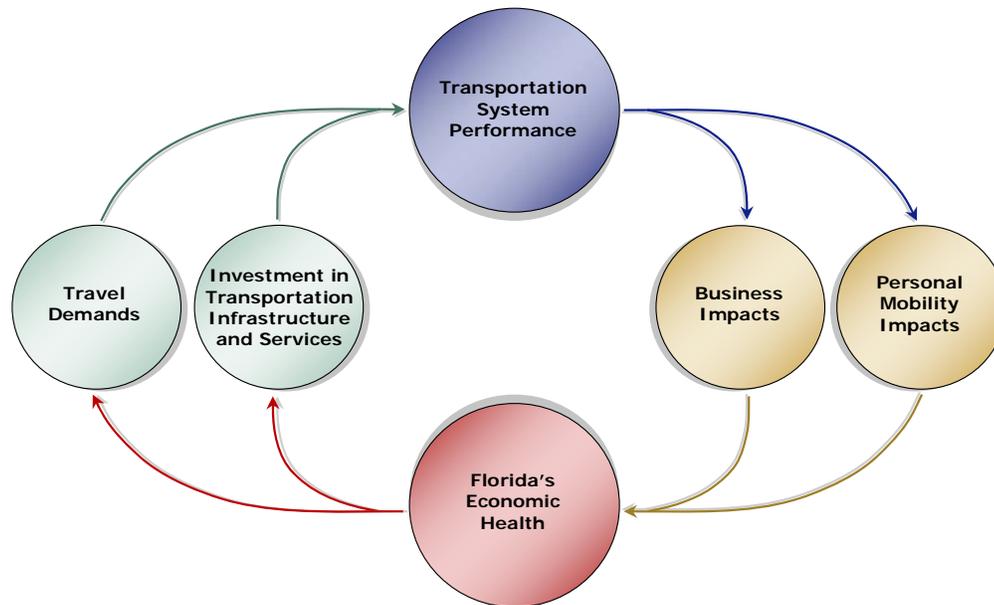
As Florida's economy grows, increased demand for movement of people and goods puts pressure on Florida's transportation system. The first section in this report discusses the economic trends that influence demand for movement of passengers and freight on the transportation system, and how those trends affect system performance.

Investments in transportation infrastructure and services affect the performance of the system, resulting in a broad range of impacts on Florida's economy. The second section illustrates how transportation investments impact Florida's economy.

The movement of people and goods itself accounts for a significant share of economic activity in Florida, which depends directly on how well the transportation system functions. The third section of this report further explains transportation's critical role in Florida's overall economic vitality and competitiveness.

Overall, this report will address the linkages between transportation and the economy as well as how and why the transportation system should adapt to accommodate economic trends. Figure 1 illustrates the primary linkages between transportation and the economy.

Figure 1 – The Role of Transportation in Florida’s Economy



Source: CUTR analysis.

Transportation networks connect not only the places where we live, work and play, but also people and businesses to opportunities.

Economic Trends and Impacts on Transportation System Performance

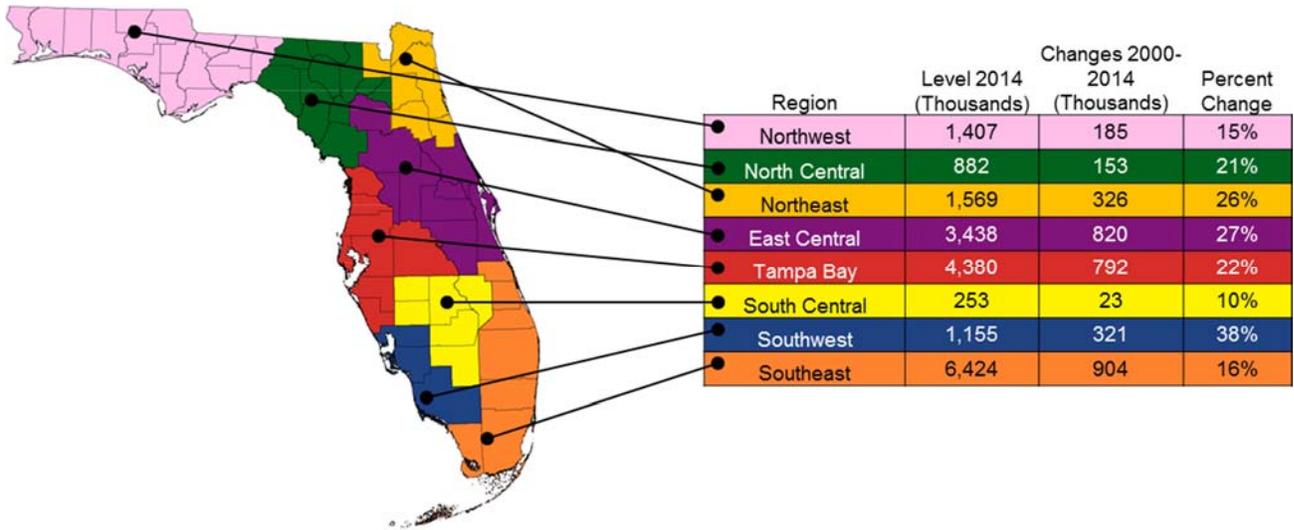
This section presents an overview of the long term demographic and economic trends that are driving changes in Florida's economy. The fact that Florida's economy is operating at a regional scale rather than a local scale has implications for the performance of Florida's future transportation system. Other topics include the globalization of Florida businesses, growth in trade and tourism, and growth in the service sector of Florida's economy.

Overview of Demographic and Economic Trends

With over 19 million residents in 2014, Florida currently is the third largest state in the country. From 2000 to 2014, Florida's population increased by over 3.5 million residents, or over 22 percent. Figure 2 shows how population is distributed among the state's "economic regions" defined by Enterprise Florida. All regions have experienced increases over the depicted fourteen years. The Southwest and East Central regions have experienced the fastest population growth in percentage terms whereas the Southeast region has the largest increase in terms of actual number of residents.

Impact of Transportation: Transportation and the Economy

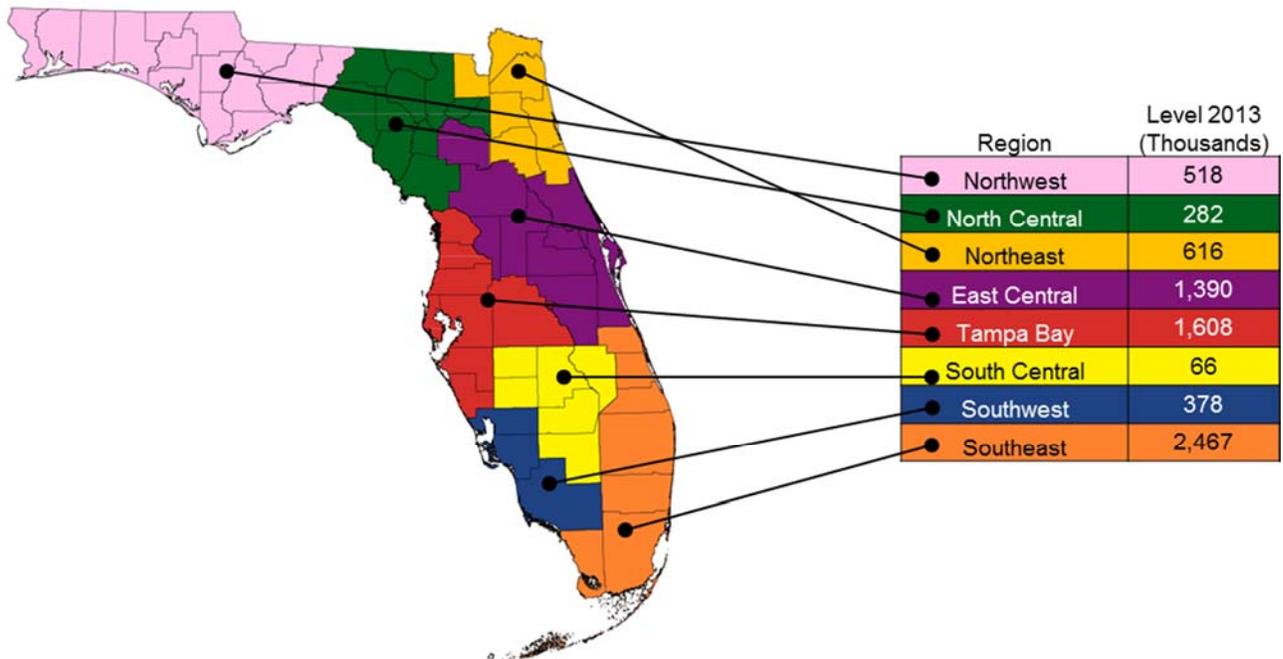
Figure 2 – Population Growth in Florida by Region 2000-2014



Sources: Enterprise Florida, *Florida's Strategic Plan for Economic Development*, Florida Department of Transportation.

In general, employment follows population. As shown in Figure 3, the largest number of jobs is located in the Southeast region, with the Tampa Bay and East Central regions ranking 2nd and 3rd.

Figure 3 – Employment in Florida by Region, 2013

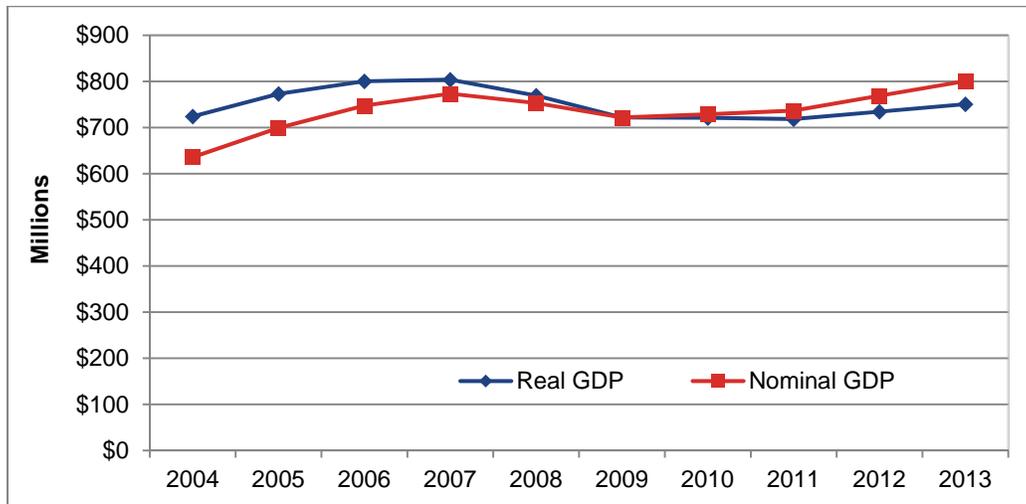


Source: Enterprise Florida

Impact of Transportation: Transportation and the Economy

Gross domestic product (GDP) is the total value of goods and services produced in a year. Florida's GDP grew by 26 percent (in nominal dollars) from 2004 to 2013 (Figure 4). The state GDP is forecast to grow at a more rapid rate than the U.S. Gross Domestic Product. As state GDP grows, transportation demand by both businesses and consumers is expected to expand. The increase has significantly outpaced inflation, reflecting Florida's population growth and real economic growth.

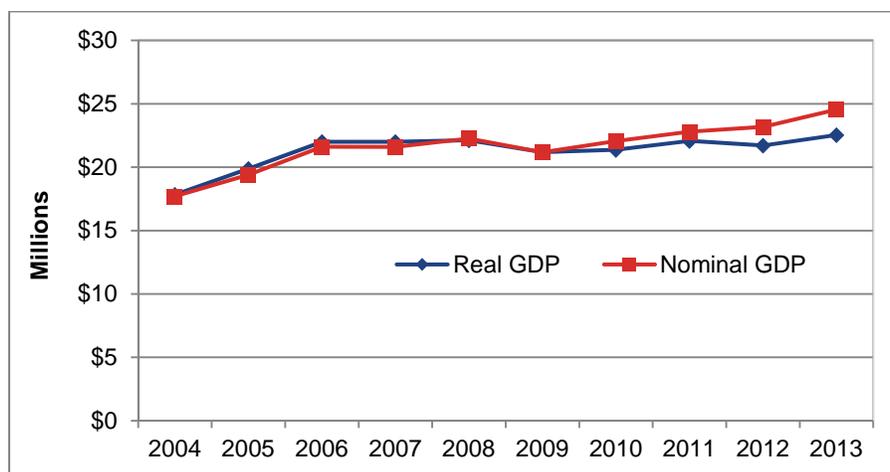
Figure 4 – Florida Gross Domestic Product (2004-2013)



Source: Bureau of Economic Analysis, 2014.

The part of state GDP produced by private transportation carriers has been steadily increasing since 2002 (Figure 5). The percentage share of private transportation carriers in Florida's total GDP has increased since 2007 after being relatively steady from 2002-2007 (Figure 6). This is due to increased efficiency in the transportation sector and strong growth of other services.

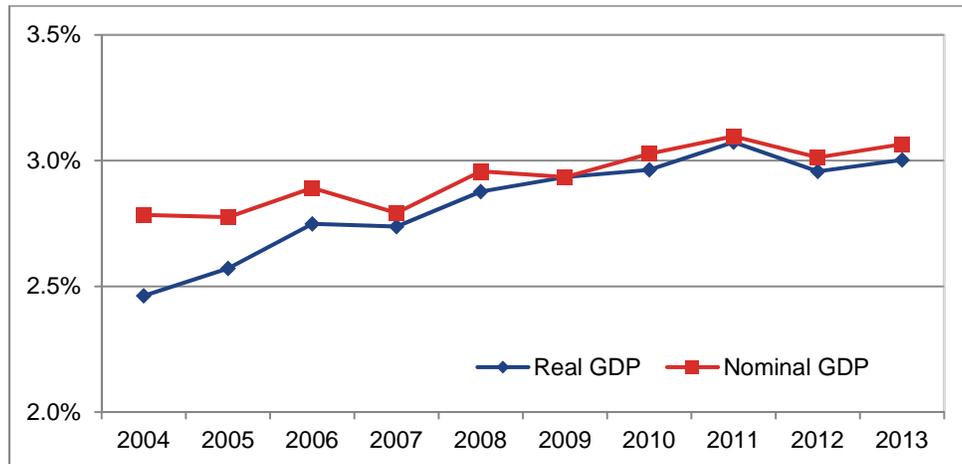
Figure 5 – Total Product – Private Transportation Carriers (2004-2013)



Source: Bureau of Economic Analysis, 2014.

Impact of Transportation: Transportation and the Economy

Figure 6 – Transportation Carriers' Share of State Gross Domestic Product (2004-2013)



Source: Bureau of Economic Analysis, 2014.

Florida's Economy is Operating at a Regional Scale

Florida is home to the nation's 2nd largest foreign trade zone network and would have the 21st largest economy in the world if it were a separate nation. Labor, business, and consumer markets in the state are increasingly organized at a regional level, as a result of connections between clusters of inter-related industries and other economic assets such as universities, research labs and military bases.

As Florida's economy grows, the focal point of economic activity is shifting from individual cities and towns to economic regions.

As expected in a state with a high quality of life, proximity to built and natural amenities has been a strong force in determining where most of Florida's population clusters. As demand for real estate in established communities along the coasts and in the center of the state has driven up land prices, growth is moving outward into traditionally rural areas.

With population growth comes greater economic activity and more demand for transportation services. Within these regions lie Florida's urbanized areas, which will continue to experience significant population growth, as well as a growing demand for new and expanded transportation facilities and services. As of 2013, an estimated 87.5 percent of Florida's total state population was located within urbanized areas.

The growing urbanization in Florida is not due solely to growth in central cities. The total urban area also is increasing as settlement and business patterns become regionalized. In terms of residential growth, for example, this trend can be seen through suburbanization and decentralization. As the distribution of people and firms decentralize, there will be additional demands on the transportation network to accommodate more long-distance travel. As this

Impact of Transportation: Transportation and the Economy

decentralization creates transportation obstacles that transcend the political boundaries of cities and counties, regional and statewide planning will be important in providing a systematic coordinated response.

While urbanizing areas of the state must deal with rapid population and economic growth, economically distressed counties in rural areas have the opposite problem. In three multicounty regions known as Rural Areas of Opportunity (RAO), growth has been limited due to a lack of industry. Unemployment rates in economically distressed regions tend to exceed the state average. Enterprise Florida is currently examining economic development strategies to lure high-growth and emerging industries to these rural areas, including targeted transportation improvements to connect these areas to major markets in Florida.

Florida Businesses Are Competing in a Global Economy

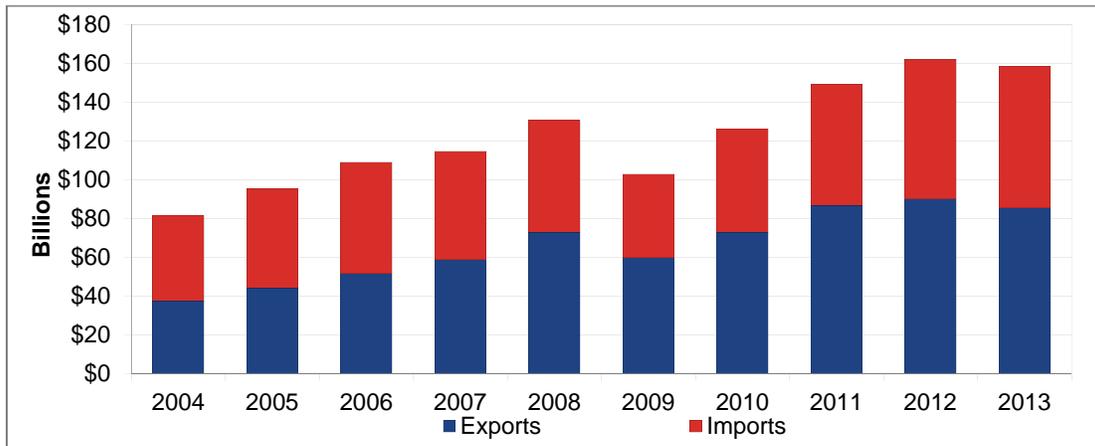
While Florida's internal markets are organizing around these economic regions, its external markets increasingly are shifting from the southeastern United States to national and international trading partners. International trade is an important contributor to Florida's economy, and it impacts multiple modes. Florida has the second largest number of exporters in the U.S. after California. More than 58,000 Florida companies export, accounting for 20 percent of all U.S. exporters. Florida's manufactured exports grew by 148 percent from 2000 to 2012, while U.S. manufactured exports grew by only 90 percent for the same period.

In contrast to many states, where the majority of international trade moves over the surface transportation system to Canada or Mexico, the overwhelming share of Florida's trade moves to and from Latin America and the Caribbean, through the state's seaports and airports. Most of these movements are intermodal in nature, requiring also a highway and/or rail connection.

The nominal value of exports and imports leaving from and coming to Florida has nearly doubled over the last 10 years and more than quadrupled over the last 20 years. Between 1999 and 2006, imports exceeded exports; however, exports have exceeded imports since 2007 (Figure 7). Trade with Asia and Latin America is expected to increase, and improvements to the Panama and Suez Canals will allow a larger share of trade to move directly to Florida and other Atlantic and Gulf Coast ports instead of entering the United States on the West Coast and moving east via rail.

In 2013, Florida exported over \$85 billion in goods. This was the seventh consecutive year that exports exceeded imports. The leading destinations for Florida-origin exports were Brazil, Columbia, and Venezuela with the leading export commodities being motor cars, aircrafts as well as engines and parts, and electric apparatus for line telephony. Florida ranks seventh for annual exports among the states, following three consecutive years of ranking sixth place. The top five importers to Florida come from countries in Asia and South America.

Figure 7 – Value of Trade, 2004-2013



Source: Enterprise Florida.

Figure 8 – Volume of Freight Flows Into, Out of and Within Florida



Source: Federal Highway Administration, *Freight Analysis Framework 3*, 2012 provisional data.

Figure 8 portrays the volume of freight commerce into, within, and out of Florida, measured by weight rather than dollar value. Figure 7 reports an export as any good that had value added in the state of Florida, no matter where the good exits the United States, while Figure 8 reports all

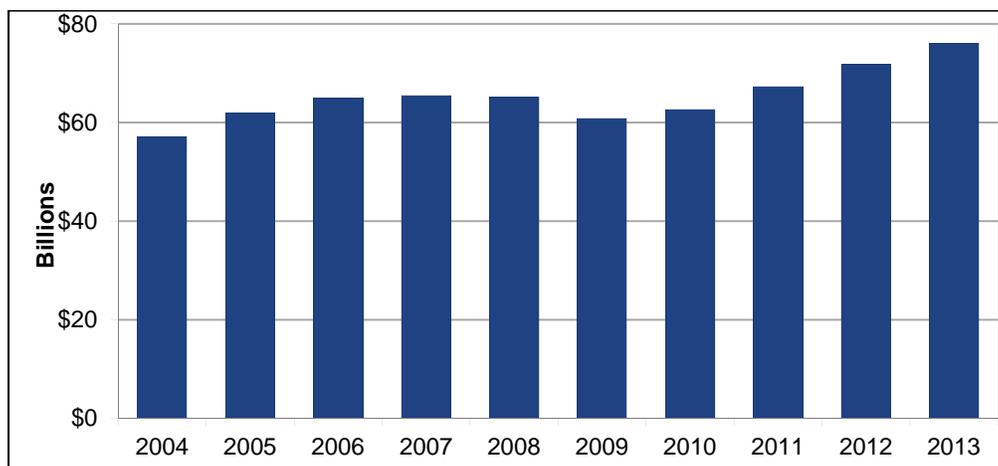
Impact of Transportation: Transportation and the Economy

goods leaving the state as exports. The vast majority of freight traffic in Florida is movements within the state. From 2007 to 2011, intrastate freight volume decreased while imports declined and exports increased. Florida's large population demands increasing volumes of consumer goods. Today's multi-modal freight system moves a remarkable diversity of goods, ranging from heavy commodities such as phosphate, coal and cement to high value items such as flowers, jewelry and cell phones. Airfreight is critical for high-value commodities, but it is less significant when measured in total weight.

Tourism and Transportation

Tourism is one of the main drivers of the Florida economy. In 2013, 94.3 million tourists visited Florida, making it Florida's second consecutive record year for tourism. These visitors to Florida spent approximately \$76.1 billion (Figure 9), which directly contributed to the employment of over one million Floridians and generated an estimated 23% of the state's sales tax revenue. Tourism spending has increased 33% between 2004 and 2013. The number of out-of-state visitors traveling to Florida in 2013 increased 1.5% to 78.8 million and constituted 84.1% of the total visitation to the state. Tourists arriving by air to Florida in 2013 made up 51% of all visitor travel, which peaked in 1998 at a 56% share.

Figure 9 – Total Tourism Spending (Tourism/Recreation Taxable Sales) 2004-2013



Source: Visit Florida, 2004-2013.

Generally, tourists arriving by air, water, or rail must use a car to reach most destinations during their stay in Florida. However, some urban areas in Florida are taking steps to provide alternative modes of transportation, especially catering to tourists and visitors. The Florida Department of Transportation constructed the SunRail line, a 32-mile, 12-station commuter rail system along the existing CSX "A" line Corridor from Volusia County through Seminole County, to Orange County and downtown Orlando. Miami-Dade Transit built a Metrorail extension to serve Miami International Airport and the intermodal hub station should be complete by the end of 2014. Broward County has explored a people-mover to link Fort Lauderdale-Hollywood International Airport to the cruise ship terminals at nearby Port Everglades. Most recently,

Impact of Transportation: Transportation and the Economy

Tampa launched a new Bus Rapid Transit service that connects the downtown area to the USF area. All Aboard Florida, a private sector initiative, is planning to build a higher speed rail connection from Miami to Orlando to provide an alternative opportunity for the large volume of tourists visiting these major destinations.

The Service Sector Dominates

Traditionally, Florida is known for its high-quality citrus crops. Agriculture and other resource-oriented industries, such as phosphate extraction, are still an important part of the economy. However, Florida's economy has shifted from resource-oriented industries toward a more diverse industry mix, including high-value-added industries, such as electronics and biosciences. In turn, the volume of small, higher-value shipments has grown rapidly. These shipments frequently use air freight, courier or less-than-truckload transportation.

As is typical of the nation as a whole, ever more of Florida's economy has shifted to services, including information services. In 2012, Florida's services exports were estimated to be \$36.1 billion, according to the Office of Economic and Demographic Research. Services are forecast to continue to be the fastest growing sector in Florida over the next decade.

Table 2 provides a listing of the employment percentages for Florida and the U.S. for nine major industry groupings. The industries most dependent on transportation are Construction; Manufacturing; Trade; Farm, Natural Resources and Utilities; and Transportation and Warehousing.

Table 1 – Statewide and National Employment Shares of Selected Industries

Industry	Shares (2012)	
	Florida	National
Farm, Natural Resources and Utilities	0.10%	0.84%
Transportation and Warehousing	4.03%	4.41%
Other Services	5.81%	5.40%
Manufacturing	5.86%	11.99%
Construction	6.31%	5.55%
Finance, Information, and Real Estate	9.20%	7.78%
Education and Healthcare	20.52%	20.48%
Professional and Business Services	19.74%	18.04%
Trade	28.42%	25.51%

Source: Bureau of Labor Statistics; Florida Department of Economic Opportunity, 2012.

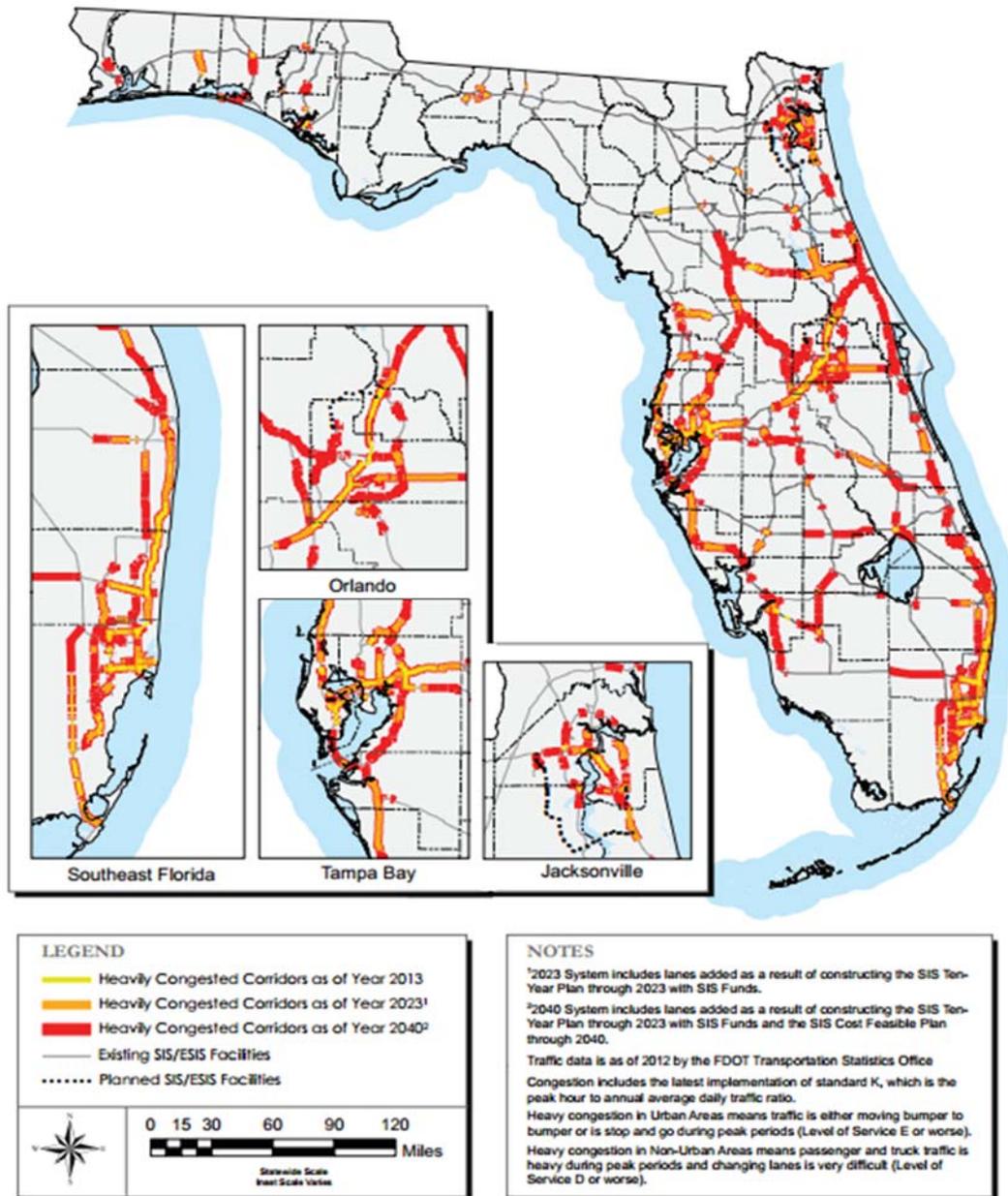
Economic Trends Impacting Transportation System Performance

The previous sections have discussed how various trends in Florida's economy are impacting or could impact the performance of Florida's transportation system. This section provides an overview of trends in transportation system performance. It demonstrates the need for

Impact of Transportation: Transportation and the Economy

investments in transportation improvements to accommodate growth in demand for travel and transport that accompanies a growing economy.

Figure 10 – Florida Congested Corridors 2013



Source: Florida Department of Transportation.

Figure 10 is a map of congested highway corridors on Florida's Strategic Intermodal System (SIS). For 2013, these include large portions of the Interstates 4, 75, and 95 corridors and numerous other highway segments around the state. Congestion is anticipated to grow in the future, and a greater share of the highway component of the SIS is expected to fall below FDOT's level of service standards by 2025 if no measures are taken.

Impact of Transportation: Transportation and the Economy

Similar growth in traffic levels and congestion is happening in non-highway modes. The combination of sheer volumes and more stringent passenger and freight screening requirements at Florida's airports and seaports contributes to delays in passenger and freight movements. According to the Florida Aviation System Plan 2025, without improvements, almost 14 percent of all system airports are projected to exceed the 80 percent demand/capacity threshold around 2040. A lack of system connectivity in some areas of the state prevents passengers and freight from moving easily between transportation hubs and nearby corridors.

Impacts of Transportation Investments on the Economy

Much like land, labor and capital, transportation is a key input to industry productivity and economic growth. Florida is focusing the state's role in transportation provision on statewide and interregional travel as well as reemphasizing the

Well-planned transportation investments consistently yield a positive economic return.

critical linkage among transportation, economic competitiveness, and growth management. In general, transportation investment affects a broad range of economic factors, including:

- **Industry Competitiveness** – Transportation efficiency improvements provide major benefits for industries through reduced production and distribution costs. Properly designed transportation investments increase access to varied and specialized labor pools, improve connections to inventory and raw materials, and expand customer bases. Impacts at an industry level are often concentrated in particular locations. Though they extend to the state and national level, these impacts are a key example of how transportation investments impact a local economy. Growth of a particular industry in a given area can yield extensive spill-over effects as the additional business and personal income generated create opportunities for other businesses.
- **Household Welfare** – Individuals and families benefit from a strong transport network through increased access to new or better jobs, goods and services. Well-maintained roads reduce personal vehicle repair costs. Efficient public transport networks reduce costs associated with driving and automobile ownership. More importantly, less congested, well maintained transportation facilities are safer.
- **Travel** – Both business and leisure travelers depend on transportation infrastructure for access to activities and destinations, such as conferences, trade shows, national parks, beach resorts and everyday business meetings and social events. Localized travel impacts can occur if a particular area develops a major tourist or business attraction. Business conference facilities, for example, can create the need for hotels, restaurants, and other related facilities. These facilities, however, may not be feasible in areas that

Impact of Transportation: Transportation and the Economy

do not already attract business travelers.

- **Direct Employment** – Transportation investments provide employment in several ways. Construction spending generates short-term employment in construction and support industries. After a facility or improvement is completed, increased efficiency for freight transportation and commuting contributes to greater productivity and more employment.

The state economy benefits significantly from transportation investment. These benefits can be estimated at a macroeconomic level, a personal level and the business level. This section discusses all three.

Macroeconomic Impacts

FDOT publishes a five-year investment plan known as the Work Program that identifies funding and investment priorities on the transportation network. FDOT also circulates a performance report regarding economic competitiveness and mobility under the Florida Transportation Plan (FTP). The impacts of these investments, as detailed on the FDOT website, include the following:

- The total funding for the 2015-2019 5-year adopted Work Program is \$41.8 billion, with the vast majority of the funding coming from the state and federal aid. Of this, \$18.8 billion is being invested in construction, with major focuses on capacity improvement, resurfacing, bridges and safety. Approximately \$5.4 billion is being invested in freight logistics and passenger operations, including transit, rail and aviation.
- According to the 2060 FTP, highway vehicle miles are projected to increase 70% from 2009 to 2035, freight volume is projected to increase 91% by 2035, and population as well as employment are projected to double by 2060.
- Building on the 2060 FTP, one of the main motivations for Future Corridors planning is to meet the growing demand for moving people and freight using all modes. These future needs include accommodating Florida's population, visitor and freight growth.
- According to FDOT's new Macroeconomic Analysis, the Five-Year Work Program expenditures yield \$4.40 in long-term economic benefits for every dollar invested.

Personal Impacts

Transportation spending is affected by a host of factors, including energy costs, development patterns, vehicle choice, life stage, income and the accessibility of specific facilities.

Transportation users desire a system that provides adequate connectivity, capacity and travel options.

Impact of Transportation: Transportation and the Economy

Table 2 – Average Household Expenditures by Major Category: 2013 (in Current Dollars)

	National		Southern United States		Miami (2012-2013)	
	Value	Share	Value	Share	Value	Share
Average income (before taxes)	\$63,784		\$58,624		\$53,404	
Average annual expenditures	\$51,100		\$45,956		\$40,604	
Housing	\$17,148	34%	\$15,000	33%	\$16,212	40%
Transportation	\$ 9,004	18%	\$8,673	19%	\$6,573	16%
Food	\$ 6,602	13%	\$6,056	13%	\$5,695	14%
Apparel and services	\$ 1,604	3%	\$1,453	3%	*	*
Personal insurance and pensions	\$ 5,528	11%	\$4,975	11%	\$4,731	12%
Health care	\$ 3,631	7%	\$3,295	7%	\$2,204	5%
Other	\$ 6,716	13%	\$5,969	13%	\$5,189	13%

Note: The other expenditure category includes entertainment, personal care products and services, education, reading, alcoholic beverages, tobacco products and smoking, cash contributions and miscellaneous.

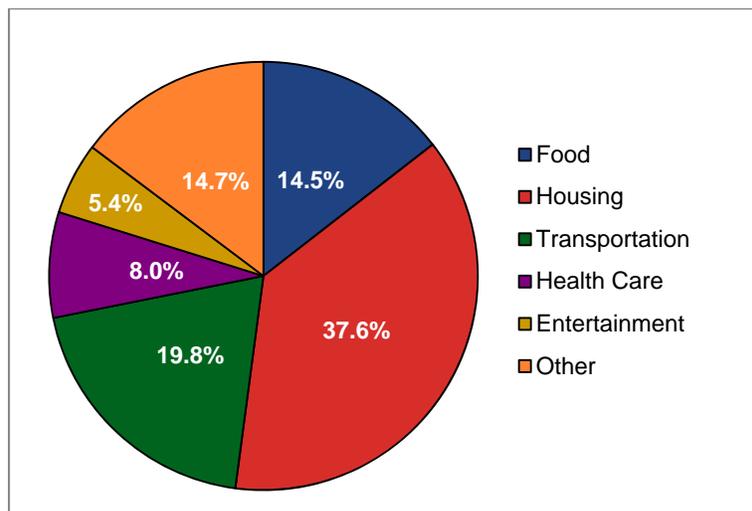
* Included in other category

** Information not available at city level

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditure Survey*.

Two ways in which travelers incur travel costs include direct expenditures on transportation and time spent traveling. Figure 11 shows the average household expenditures by major category for the United States, and Table 3 provides comparative statistics for the U.S., the Southern U.S, and the Miami metropolitan area (statistics are not available for Florida as a whole or for other cities in Florida). Transportation accounts for 18 percent of total household expenditures in the United States, slightly more in the Southeast United States but less in Miami.

Figure 11 – U.S. Average Annual Consumer Expenditures, 2013



Source: U.S. Bureau of Labor Statistics, *Consumer Expenditures*, 2013.

Impact of Transportation: Transportation and the Economy

On a basic level, we all realize that transportation affects our quality of life. However, economists and transportation professionals are now better able to measure the value of improved facilities and services to the state as a whole. In Florida, transportation improvements pay off in billions of dollars of benefits to families and individuals every year. These benefits improve the economy because of reduced travel times, greater educational opportunities and richer experiences for virtually everyone.

Table 3 compares Florida’s commuting travel times with those of other states and the nation. According to currently available data, average commute time in Florida is decreasing and is slightly greater than it is for the U.S. as a whole. Reasonable commuting times are one aspect of being economically competitive.

Table 3 – Commute Time Comparisons

State	ACS 2005	ACS 2013	Change (2005 - 2013)
	(min)	(min)	(min)
Florida	26.0	26.1	0.1
Arizona	24.8	24.8	0.0
Georgia	27.2	27.0	- 0.2
Illinois	28.1	28.0	- 0.1
New York	31.2	32.1	0.9
North Carolina	23.3	23.9	0.6
Texas	24.6	25.5	0.9
U.S. Total	25.1	25.8	0.7

Source: Census Bureau, *American Community Survey* 2013.

Business and Government Impacts

Transportation’s role as a major part of the economy is reflected in the share of total domestic demand attributed to transportation-related final demand. At the national level, transportation comprised 10.0% of gross domestic demand (GDD)¹ in 2013. This is inclusive of personal consumption of transportation, private domestic investment and government related purchases in the transportation sector. As noted above, transportation comprises approximately 18% of household spending. In addition, government and businesses spend significant shares of their resources on transportation, which collectively contribute to its 10.0% share of gross domestic demand.

Within industries, spending for transportation varies depending upon the nature of the industry. In most industry groups, business expenditures on trucking comprise the majority of all

¹ Table 3-5: U.S. Gross Domestic Demand (GDD) Attributed to Transportation-Related Final Demand (Current billions of dollars), <http://www.rita.dot.gov/bts/node/490996>

Impact of Transportation: Transportation and the Economy

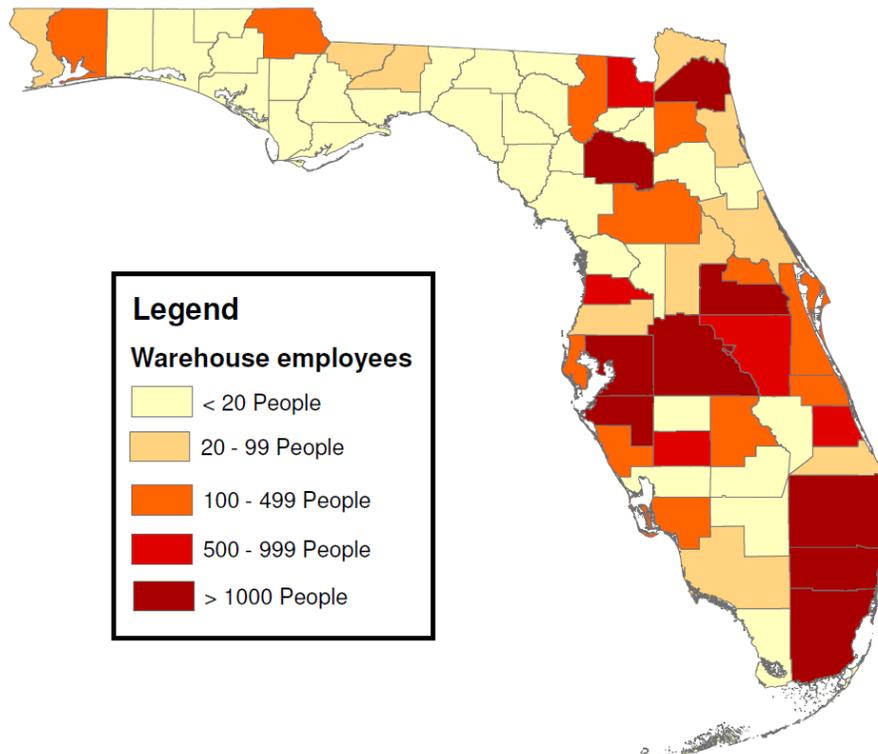
transportation expenditures. The construction and farming industries spend their transportation budget almost solely on trucks. Rail is the most important mode for the natural resources/mining and transportation/warehousing industries, but it is not nearly as significant for other industries. Air travel is most significant when there is a need to transport people or high value goods over great distances. Water transport accounts for a significant portion of expenditures for the transportation/warehousing industry.

Government similarly is a significant contributor to transportation demand. Local government functions such as police and fire and utilities are transportation intensive as is defense and other federal government functions.

Transportation Critical to Florida's Economic Vitality and Competitiveness

As illustrated above, the costs of transportation are manifest in Floridians' personal lives as well as in their places of business. The cost of congestion for a single commuter, for example, may

Figure 12 – Florida Counties Classified By Number of Warehouse Employees, 2012



Source: Census Bureau, 2012 *County Business Patterns* (NAICS).

seem like a minor cost to that individual, but when viewed in the aggregate, the cost of congestion – like other transportation-related costs – can have a significantly deleterious effect on the state's entire economy.

Impact of Transportation: Transportation and the Economy

Warehousing, logistics and distribution firms are sensitive to the quality of the transportation network. Figure 12 shows Florida's counties classified by their number of warehouse employees. Warehouse employment totals over one thousand in each of nine counties, all large urban counties with good Interstate connections. Warehouses in each of 17 other urban counties employ a total of 100 to 999 workers.

Seaports

In 2013, Florida ports handled over 3.2 million 20-foot equivalent units (TEUs), a slight increase from the previous year. Following a record year in terms of international trade value, 2013 experienced a slight decline of 0.6%. According to the Florida Seaport Transportation and Economic Development Council, waterborne trade comprised 53.5% of the state's international trade by value whereas airports comprised 44.3% and over land was just over 2.2%. The first decade of the 2000s has seen slow growth including a decline in the period 2007-2009 and then an increasing trend from 2010 to the projected 2015 TEUs. The global recession has contributed to the dip in volume of international trade. However, Florida's 15 deepwater seaports are favorably positioned to resume vigorous growth as economic recovery takes place.

Florida is an international center for the passenger cruise industry. In fact, Port Miami, the Port Canaveral and Port Everglades are the three largest cruise ports in the U.S. Total cruise passenger volume in Fiscal Year 2012/13 was 14,070,396, a 0.5% decrease from the previous year. As with other industries, the cruise industry is taking steps to maintain volume during the recession while planning for renewed expansion over the next five years.

Table 4 summarizes trends in total waterborne tonnage, total container movements, and number of revenue cruise passengers at Florida's seaports from FY 2010/11 to FY 2012/13.

**Table 4 – Change in Cargo and Passenger Demand at Florida's Seaports
FY 2010/11 to FY 2012/13**

	FY 2010/11	FY 2011/12	FY 2012/13
Total Waterborne Tonnage (Millions)	100.3	100.6	105.1
Total Waterborne Value (Billions)	82.7	85.6	85.9
Total Container Movements (Thousands)	3,025	3,094	3,216
Revenue Cruise Passengers (Millions)	13.5	14.1	14.1

Source: Florida Seaport Transportation and Economic Development Council, *The Five Year Florida Seaport Mission Plan 2014-2018*.

Airports

As air maintains its role as the dominant mode for business travel, service-oriented firms such as financial, legal, and professional services are seeking locations with easy accessibility to

Impact of Transportation: Transportation and the Economy

commercial service airports. Over the past two decades, areas surrounding airports have undergone rapid development of commercial office space and supporting land uses. Professional workers continue to need convenient air connections to facilitate face-to-face meetings with clients and vendors around the globe.

Florida's tourism industry depends on convenient air service to bring tourists from around the world to enjoy the state's many built and natural amenities. Businesses, governments and the academic arena also rely on convenient and on-time air transportation for long-distance trips to conduct business. Total passenger enplanements in Florida grew from 62.5 million in 2004 to approximately 70.5 million in 2013.

Because Florida's airports are gateways for domestic and international tourists, it is easy to overlook their role in trade. As Florida produces, consumes and transships higher-value goods, the role of air freight expands. According to the Bureau of Transportation Statistics, in the strong economy from 2004 to 2007, the enplaned cargo weight at Florida's airports increased from 2.6 to 2.8 million tons. It subsequently decreased the next two years and has now leveled back out at 2.5 million tons in 2013.

Roadway Network

The polycentric and dispersed layout of development in the state of Florida lends itself to roadway based transportation. Most person travel and much of the freight and commercial travel activity within the state is roadway dependent with the roadway systems particularly important for the "first" and "last" mile connections between producers and consumers.

Congestion on the State Highway System is costly to not only the individual on the roadway, but also to businesses whose freight trucks are experiencing the delay, which at an aggregate level can be disadvantageous to the entire state economy. Similarly, many governmental activities such as police, fire, emergency response, school buses, public transportation, waste pickup, etc., are impacted by the performance of the roadway system. Therefore, the maintenance and improvements to the highway infrastructure are imperative to preserving the economy of the state. In 2013, FDOT reported over \$3.8 billion allocated to improving or maintaining highway safety and capacity throughout the state.

Rail

Amtrak has helped to reduce congestion by providing the Auto Train daily service, which carried over 139 thousand vehicles and 265 thousand passengers in 2013. In addition to carrying tourist and residential passengers to and throughout the state, Amtrak has also enhanced Florida's economy by spending close to \$28 million on goods and services to support its Florida operations while employing over 780 Florida residents in 2013.

Impact of Transportation: Transportation and the Economy

In Florida, there are nearly 3,000 miles of rail. The vast majority of those rail lines are owned by 15 freight railroads. As of 2012, these freight railroads employed over 4,980 Floridians with annual wages and benefits of over \$106,000 per employee and nearly \$590 million paid out in railroad retirement benefits. More recently, businesses in Florida have joined forces with local and state economic development agencies to invest nearly \$145 million in new or expanded rail-served facilities on CSX or its connecting regional and short lines.

Resources for Understanding Economic Impacts of Transportation Investments

It is increasingly common for entities evaluating major transportation investments to conduct economic analyses of the benefits of such investments. Examples of these types of studies include the following:

- FDOT economic impact study:
http://www.florida-aviation-database.com/dotsite/pdfs/economic_technical.pdf
- All Aboard Florida economic impact study:
<http://www.allaboardflorida.com/files/economic-impact-full-report.pdf>
- SunRail economic impact study:
<http://corporate.sunrail.com/uploads/allprojectdocs/610.pdf>
- Florida Ports and Airports economic impact studies:
 - <http://flaports.org/wp-content/uploads/2012.pdf>
 - <http://www.portcanaveral.com/general/2012%20Economic%20Impact%20Study.pdf>
 - <http://www.dot.state.fl.us/aviation/economicimpact.shtm>
- American Public Transportation Association economic impact study:
<http://www.apta.com/resources/reportsandpublications/Documents/Economic-Impact-Public-Transportation-Investment-APTA.pdf>
- National Center for Transit Research report on economic impacts of transit spending:
<http://www.nctr.usf.edu/wp-content/uploads/2013/07/77941.pdf>

Conclusion

Transportation is a critical factor affecting Floridians' economic health and quality of life. The cost and quality of transportation directly impact the decisions of businesses, residents and visitors. Florida must have a well-planned and adequately funded transportation system that addresses accessibility and mobility needs. Not only does transportation enable the economy to operate, but investment in transportation infrastructure and services directly affects the quality of life for present and future Floridians.

Impact of Transportation: Transportation and the Economy

Many examples of the interdependence of transportation and the economy are presented in this report. Florida's economy will depend on a transportation system that can move growing numbers of residents and tourists and transport goods within Florida, across the U.S. and internationally. Meanwhile, the transportation system will need a strong economy to support continued investment in transportation infrastructure and services. The relationship between transportation and the economy is a synergy, but it requires public support and political will to ensure it is supported by investment and action. A host of forces has the potential to disrupt the balance and many factors can contribute to success or decline. In order to remain competitive domestically and internationally, Florida must maintain and expand its transportation infrastructure.

Bibliography

- Amtrak. (2013). *State of Florida Fact Sheet*. Retrieved from <http://www.amtrak.com/pdf/factsheets/FLORIDA13.pdf>
- Baskas, H. (n.d.). *NBC News*. Retrieved from <http://www.nbcnews.com/business/travel/cities-look-boost-light-rail-connections-airports-n27771>
- Business Research & Economic Advisors. (n.d.). *2012 U.S. Economic Impact Study*. Retrieved from http://www.cruising.org/sites/default/files/pressroom/2012EconomicStudies/EconStudy_Exec_Summary2012.pdf
- Bureau of Transportation Statistics (T-100 Market, all carrier). 2013. Retrieved from http://www.transtats.bts.gov/Fields.asp?Table_ID=292
- Census Bureau. (2013). *American Fact Finder*. Retrieved from http://factfinder2.census.gov/home/staff/main.html?_lang=en
- Census Bureau. (2013). *American Fact Finder*. Retrieved from http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_1YR_DP03&prodType=table
- Census Bureau. (n.d.). *2013 County Business Patterns (NAICS)*. Retrieved from <http://censtats.census.gov/cgi-bin/cbpnaic/cbpcomp.pl>
- CSX. (2013). *CSX in Florida*. Retrieved from http://www.csx.com/share/wwwcsx_mura/assets/File/About_CSX/State_Fact_Sheets/2013%20Fact%20Sheets/CSXR525_StateFactSheet_Florida.pdf
- Enterprise Florida, *Inc. Info Center*. (n.d.). Retrieved from <http://www.eflorida.com>
- Enterprise Florida, *Statewide Strategic Plan*. (n.d.). Retrieved from <http://www.eflorida.com/strategicplan/>
- Federal Highway Administration. (2014). *Freight Analysis Framework 3*. Retrieved from <http://faf.ornl.gov/fafweb/FUT.aspx>
- Florida Department of Transportation. (n.d.). *2060 Florida Transportation Plan*. Retrieved from <http://www.2060ftp.org/images/uploads/home/2060FTPlanbook7%2004152011.pdf>
- Florida Department of Transportation. (n.d.). *Current and Future Heavily Congested Corridors*. Retrieved from http://www.dotstate.fl.us/planning/systems/programs/mspi/pdf/Congested_Corridors_Dec_2013.pdf

Bibliography

- Florida Department of Transportation. (2013). *Prioritizing Florida's Highway Investments*. Retrieved from <http://www.dot.state.fl.us/planning/systems/programs/mspi/pdf/Prioritizing%20Florida's%20Highway%20Investments%202013.pdf>
- Florida Seaport Transportation and Economic Development Council (FSTEDC). (n.d.). *The Five-Year Florida Seaport Mission Plan 2014-2018*. Retrieved June 2014, from <http://flaports.org/wp-content/uploads/FL-PORT-COUNCIL-BOOK-5302014sm.pdf>
- PB Americas, Inc. (n.d.). *DocStoc*. Retrieved from <http://www.docstoc.com/docs/157569760/Automated-People-Mover-Study---Broward-County>
- Public Transit as Told by HARTride 2012*. (n.d.). Retrieved from http://hartride2012tampa.wordpress.com/transit_focus_pages/tampa-bay-area-florida/hillsborough-area-regional-transit/hart-metrorapid-service/
- State of Florida. (n.d.). *Agency for Workforce Innovation*. Retrieved from www.labormarketinfo.com
- U.S. Department of Commerce. (n.d.). *Bureau of Economic Analysis, Annual Industry Accounts, Advance Statistics on GDP by Industry for 2010*. Retrieved from http://bea.gov/scb/pdf/2012/05%20May/0511_indy_accts.pdf
- U.S. Department of Commerce. (n.d.). *Bureau of Economic Analysis, GDP & Personal Income*. Retrieved from <http://www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrdn=1#reqid=70&step=1&isuri=1>
- U.S. Department of Commerce. (n.d.). *Bureau of Economic Analysis, Regional Economic Accounts*. Retrieved from <http://www.bea.gov>
- U.S. Department of Labor. (n.d.). *Bureau of Labor Statics, Consumer Expenditure Survey*. Retrieved from <http://www.bls.gov/cex>
- U.S. Department of Transportation. (n.d.). *Federal Transit Administration*. Retrieved from http://www.fta.dot.gov/dpuments/FY13_AnnualReport_main_text_1_30_12.pdf
- Visit Florida. (n.d.). Retrieved from <http://media.visitflorida.org/research.php>