

*A Pocket Guide to:*

# Florida Transportation Trends and Conditions



Office of Policy Planning  
Summer 2003

Florida Department of Transportation



## Introduction and Purpose

**T**he Mission of the Florida Department of Transportation is to provide a safe transportation system that ensures the mobility of people and goods, enhances economic prosperity and preserves the quality of our environment and communities. The Mission of the Trends and Conditions process is to assist Florida's transportation policymakers and planning organizations by identifying, analyzing, and disseminating information about the key factors and emerging issues that affect Florida's ability to accomplish its transportation mission.

This *Pocket Guide to Florida Transportation Trends and Conditions* is organized into three areas: the growing demand for transportation facilities and services, the current system or supply of transportation, and the impacts of the transportation system on our society. The ability to understand this information so that changes in aggregate trends can be anticipated and explored opens new opportunities to benefit the state.

We hope you find this publication useful and helpful in understanding Florida's transportation system. More detailed Trends and Conditions information is available from our Web site at:

[www.dot.state.fl.us/planning/trends](http://www.dot.state.fl.us/planning/trends)

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## Transportation Impacts

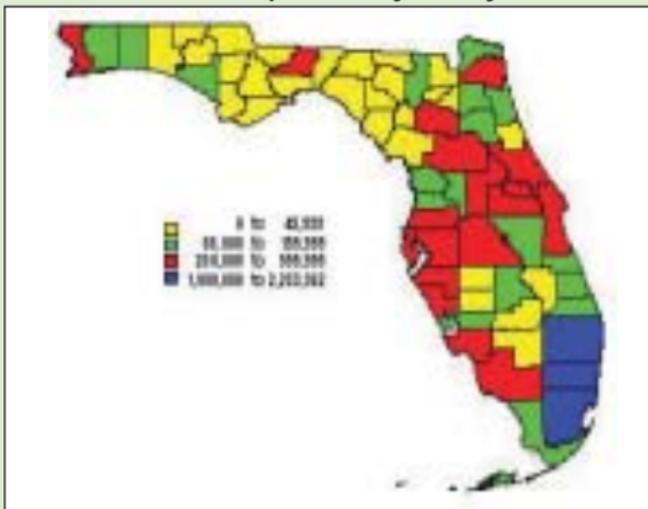
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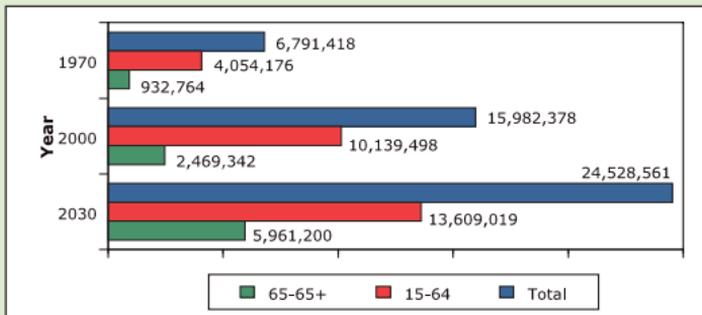
# Growing Travel Demand

## Population

Florida's Total Population by County in 2000



## Changing Population Age Distribution



# Growing Travel Demand

## Population<sup>1</sup>

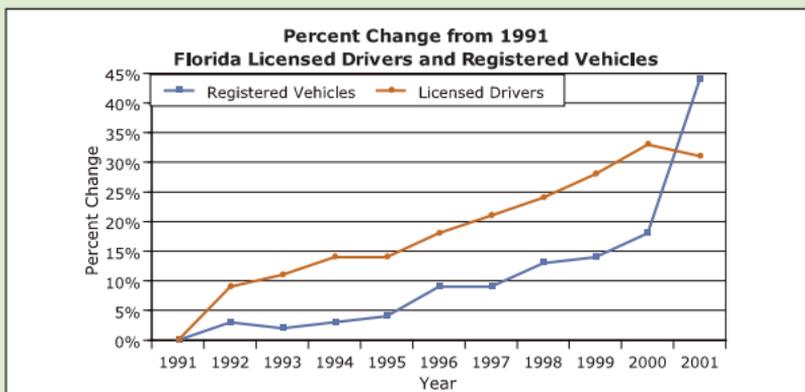
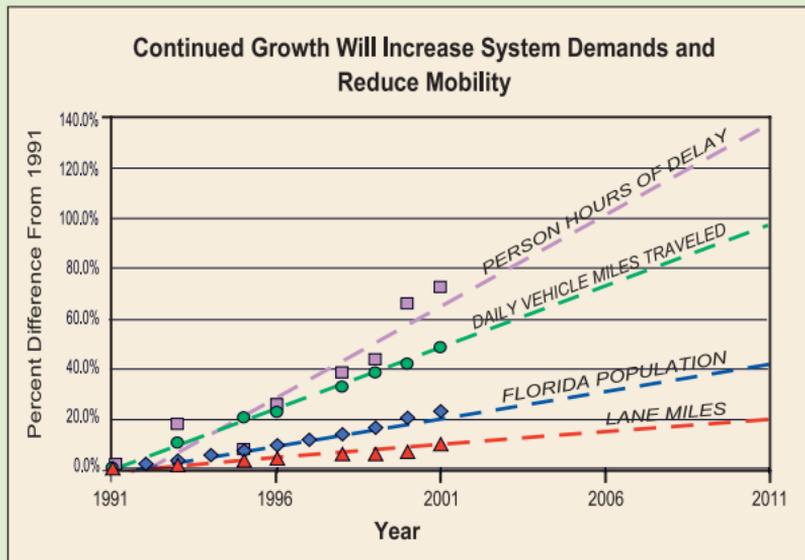
- In the 1990's, Florida passed Pennsylvania to become the fourth most populous state. By 2030, Florida is expected to be the third most populous state with over 24 million residents.
- Florida's population is projected to grow by over 53% from 2000 to 2030, an average annual rate of 1.43%.
- Florida's growth is considerably faster than the projected average annual national growth rate of 0.8%, but considerably slower than over the preceding 30 years, when Florida grew at an average annual rate of 2.85%.
- In 2030, 33% of the driving age population (15 and over) is projected to be of retirement age (65 and over), compared to 20% in 1970 and 22% in 2000. Thus, the average age of drivers on Florida's roads will increase much more rapidly over the next 30 years than it did over the past 30 years.
- The geographic distribution of Florida's population is projected to remain very stable over the next 30 years.
- The population of Florida's Northern region will continue to be somewhat younger than the population of its Central and Southern regions.

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<sup>1</sup> Source: Bureau of Business and Economic Research 2002, based on Census Bureau data

# Growing Travel Demand

## Travel Levels



# Growing Travel Demand

## Travel Levels<sup>2</sup>

- Vehicle Miles of Travel (VMT) is an indicator of overall travel levels on the roadway system.
- Due to strong population growth, Florida VMT growth has out-paced national trends.
- Capacity expansion of the FIHS is not keeping up with the increases in travel demand.
  - ➔ Lane miles is increasing at 0.9% annual rate.
  - ➔ Population is increasing at 2.2% annual rate.
  - ➔ VMTs are increasing at 4.1% annual rate.
  - ➔ Delay on FIHS is increasing at 5.8% annual rate.
- Vehicle registration and total licensure levels have continued to grow as a result of increasing population.

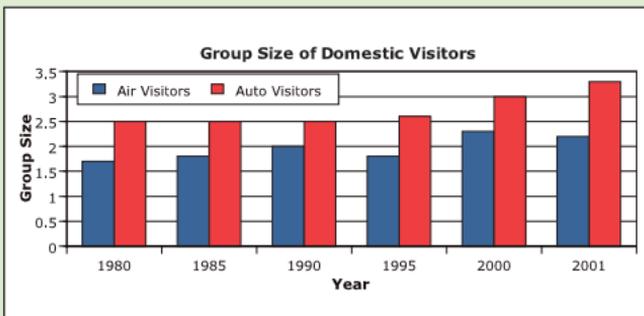
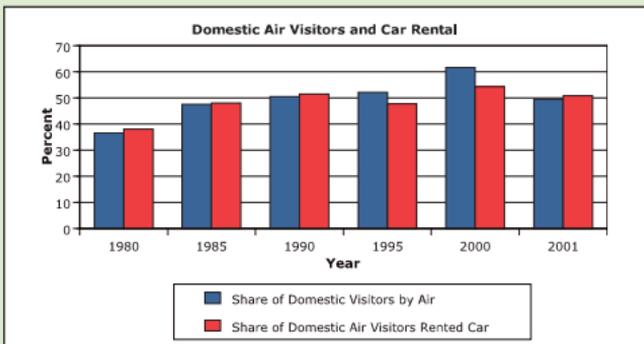
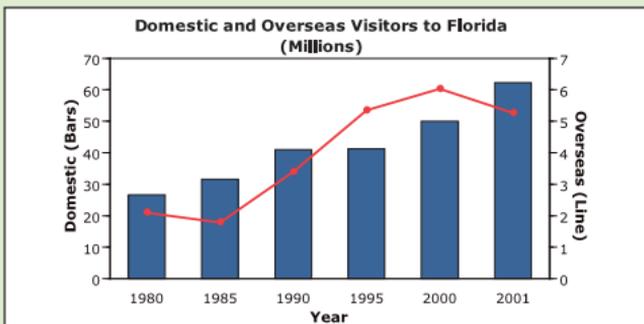
While several factors suggest moderating growth in overall travel demand, strong population and economic growth will result in increasing demands on the transportation system.

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<sup>2</sup>Sources: FHWA Traffic Volume Trends Monthly Report. Florida Department of Highway Safety and Motor Vehicles, Florida Traffic Crash Reports, 1991-2001. FDOT, Systems Planning Office, 2003

# Growing Travel Demand

## Tourism & Travel



# Growing Travel Demand

## Tourism & Travel<sup>3</sup>

- Domestic visitors outnumber overseas visitors by more than 8 to 1.
- There are approximately 3.5 visitors to the state each year for every person in the state. Visitor growth rates have out-paced population growth rates.
- Air travel continues to be a major mode of traveling to Florida.
- More than half of domestic air travelers rent an auto when arriving in Florida.
- The group size of persons traveling to Florida is larger for auto travel and has been increasing for both air and auto travel. Both overseas and domestic visitor rates are significantly influenced by economic conditions.
- Cruise passenger totals were 11.7 million in the fiscal year ending June 2001, with over 3 million passengers each at Port Canaveral, Port Everglades and Miami.

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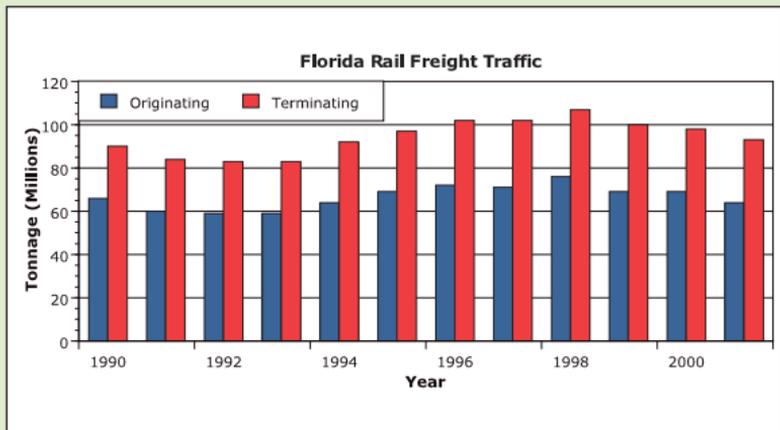
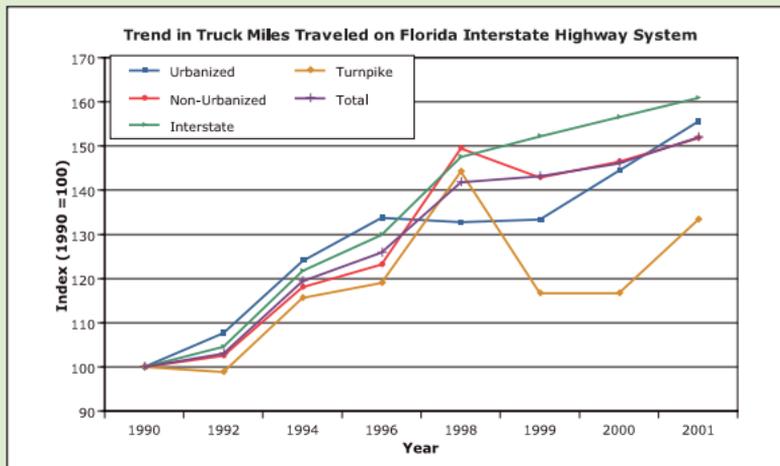
<sup>3</sup> Source: Annual Florida Visitor Study Series

Domestic visitors include Canadian visitors. The official 1980 number of domestic visitors who entered Florida by car was adjusted down to reflect a change in the method in 1984. The official 2000 number of domestic visitors was adjusted down to undo a change in the method in 1999. The definition of a visitor has changed many times in the Florida Visitor Study series:

- 1980: 1) More than 100 miles from their residence; or 2) they have been in FL more than 24 hours.
- 1985: 1) they are not residents of FL; and 2) they have been in FL for 1+nights.
- 1990 & 1995: 1) they are not residents of FL; and 2) they have been in FL for 1 to 180 nights.
- 2000: 1) more than 50 miles from residence; and 2) non-commuting.

# Growing Travel Demand

## Freight & Commerce



# Growing Travel Demand

## Freight & Commerce<sup>4</sup>

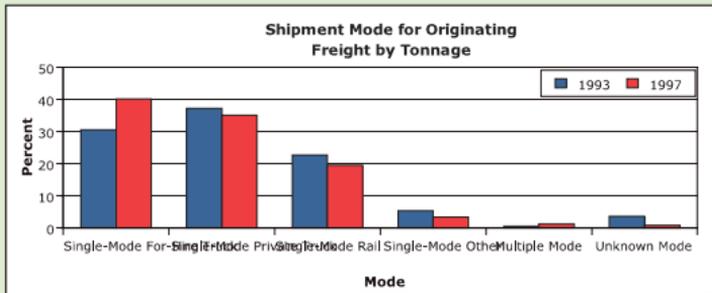
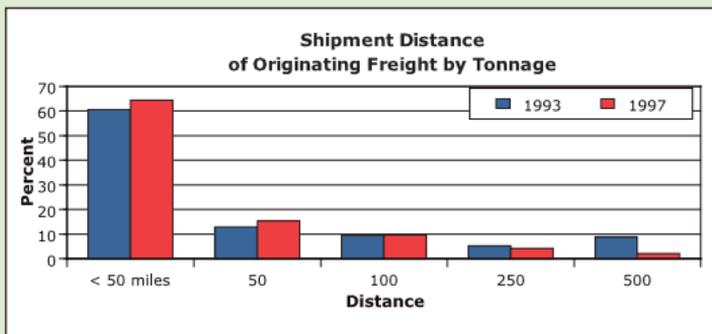
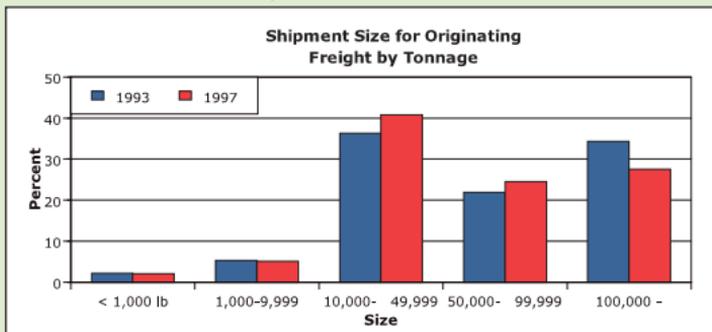
- Truck travel growth on the Florida interstate highway system has significantly outpaced overall vehicle travel growth rates.
- Urban congestion levels and more opportunities for bypassing urban areas appear to have resulted in a flattening of urban Interstate truck miles in recent years.
- Rail freight volume in tonnage has remained about constant during the 1990's, meaning that the roadway system has accommodated the growth in freight traffic to support the growing population and tourism.



<sup>4</sup> Source: 1999 Florida Highway Data Source Book;

# Growing Travel Demand

## Freight & Commerce



# Growing Travel Demand

## Freight & Commerce<sup>5</sup>

- Shipment sizes have been falling reflecting modal shifts, just in time delivery strategies, and greater urbanization of market areas.
- Shorter trip lengths also reflect growing distribution activities in urban areas.
- Declining rail mode for originating freight has been offset by increases in for-hire truck tonnage.
- The growing importance of freight volumes on the transportation system has resulted in efforts to better plan for infrastructure needs to serve freight related traffic.



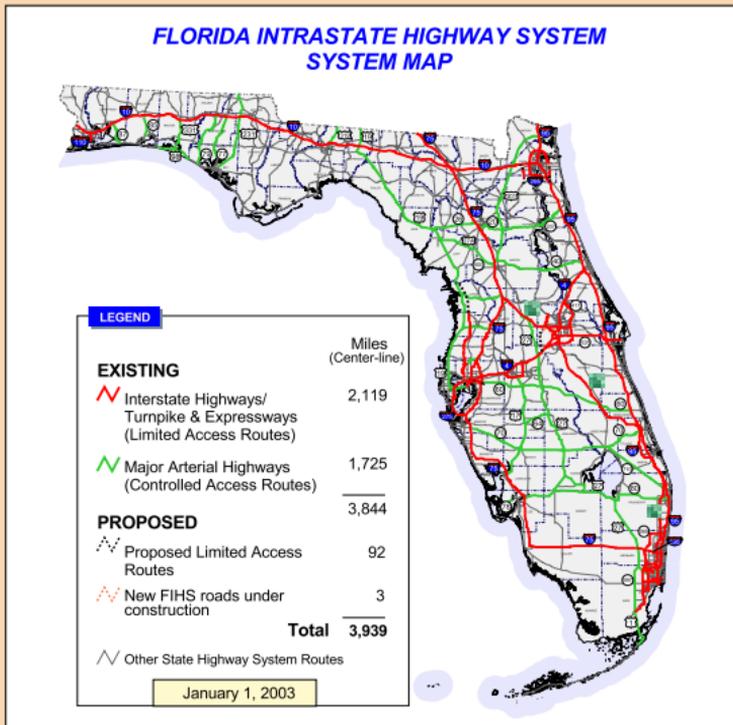
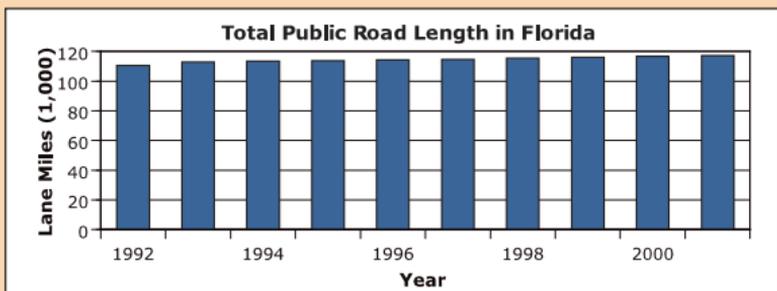
*Port of Tampa  
Adjacent to  
Downtown Tampa*

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<sup>5</sup> Source: The 1993 and 1997 Commodity Flow Survey for Florida.

# The Transportation System

## Roadway System



# The Transportation System

## Roadway System<sup>6</sup>

- The roadway system has been growing steadily but not nearly as fast as population or travel demand. The roadway length growth rate has been approximately 0.7% per year.
- The FIHS is only 3% of the entire Florida highway network, but carries about 30% of all traffic and about 40% of all truck traffic.
- Urban and rural roads functionally classified as local comprise 88% of the roadway miles.
- The pace of new roadway additions has been steady, governed by funding availability and the lead-time for securing right-of-way, engineering and construction.
- Several factors impacted the amount of new roadway system that can be afforded with existing resources:
  - ➔ Rapidly growing right-of-way costs,
  - ➔ Growing costs of maintaining traffic during construction,
  - ➔ The costs of impact mitigation, and,
  - ➔ The commitments to supporting a multimodal system.

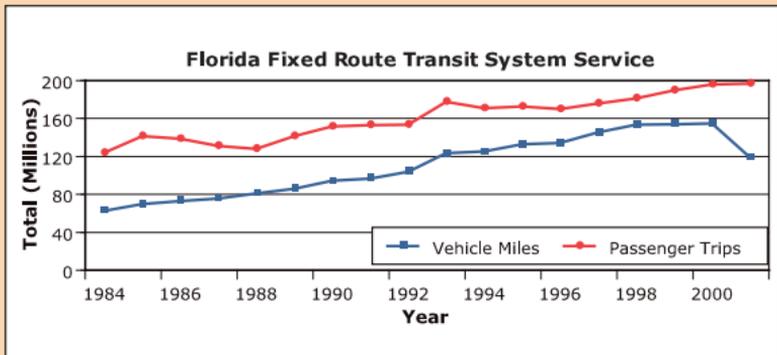
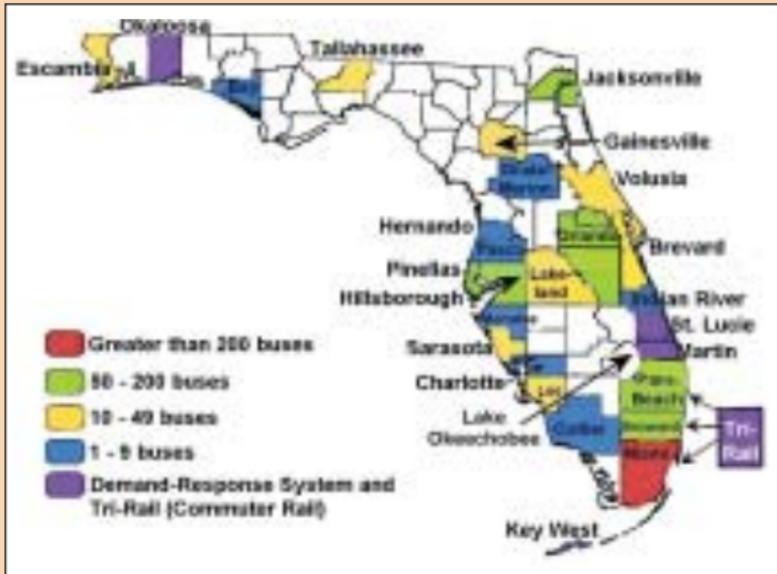
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<sup>6</sup> Source: FHWA Highway Statistics, series Florida Intrastate Highway System, <http://www11.myflorida.com/planning/systems/fihs>

# The Transportation System

## Transit Systems

### Florida Counties with Fixed Route Transit Services



# The Transportation System

## Transit Systems<sup>7</sup>

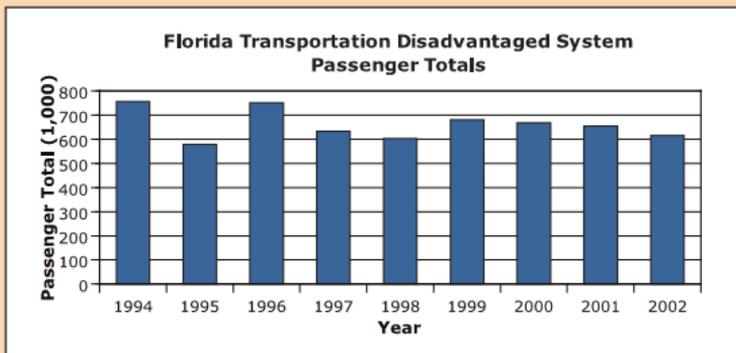
- Nearly 200 million persons boarded Florida's transit vehicles in 2001.
- Fixed route transit services are available in the areas of the state where the vast majority of the population resides. Additional service areas have been added in recent years as areas have grown.
- Florida's generally low densities have impeded the development of more substantial transit services.
- Transit ridership, service levels, and operating costs have grown steadily over the past 15 years.
- In recent years the growth of transit use has outpaced the growth of vehicle miles of travel indicating that transit is playing an increasingly important role in meeting travelers' needs.



<sup>7</sup>Sources: Center for Transportation Research, USF, 2003/Urban

# The Transportation System

## Transportation Disadvantaged Services<sup>8</sup>



- Florida's Transportation Disadvantaged Program coordinated and provided over 51 million trips during FY 00-01, with an increase of 19% from FY 99-00.
- Florida's fixed route transit operators provide over 5 million of those trips.
- Of the trips provided by the TD Program, 29% were for medical purposes, 16% for employment purposes, 23% for education/training/daycare, 5% for nutrition and 27% for other services.
- Florida's elderly and disabled residents have dramatically increased their use of publicly supported services over the past decade.

<sup>8</sup> Source: Florida Commission for the Transportation Disadvantaged, 2003

# The Transportation System

## Pedestrian and Bicycle Services<sup>9</sup>

Number of Trails Open to Cyclists in Florida in 2003

	Number of Trails	Total Trail Distance
North Florida	11	111.7 mi (178.6km)
Central Florida	7	109 mi (176km)
West Coast	6	83.1 mi (132km)
South Florida	7	205.5 mi (321km)
Palm Beach County	5	39 mi (62km)

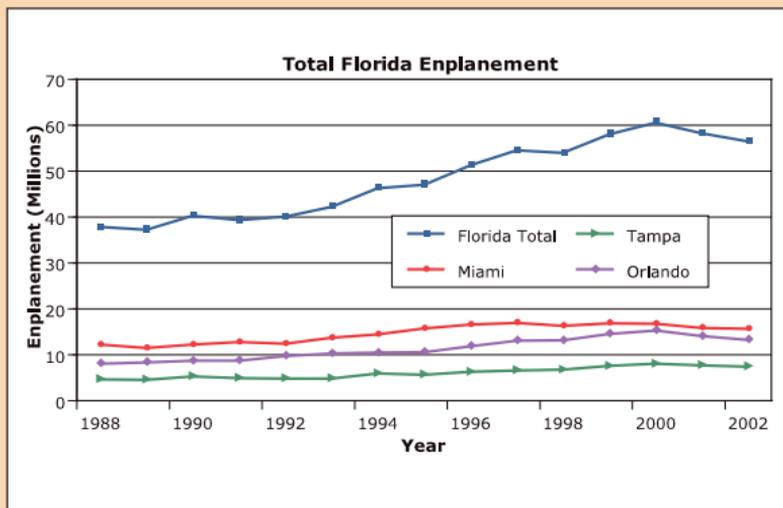


- The Florida Pedestrian and Bicycle Program develops initiatives and programs to improve the environment for safe, comfortable, and convenient walking and bicycling trips.

<sup>9</sup> Sources: Florida Department of Transportation Bicycle Touring Information

# The Transportation System

## Airports<sup>10</sup>



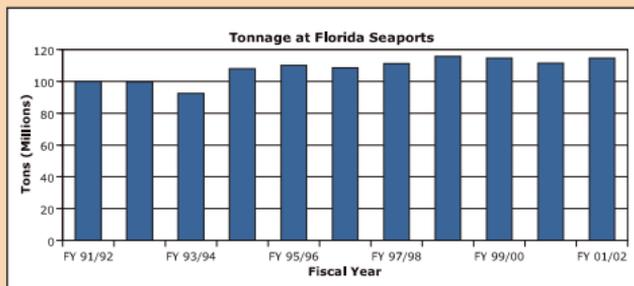
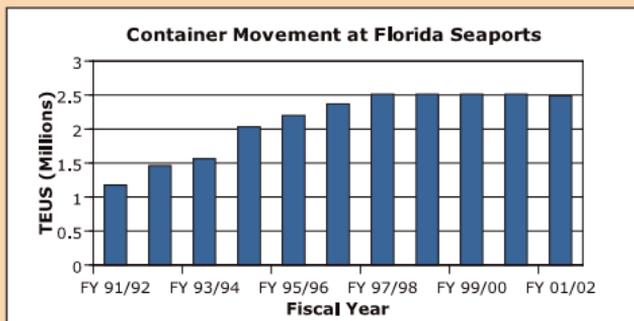
- Population and tourism growth in Florida have resulted in dramatic air travel growth.
- Forecasts of air travel show continued rapid growth in passenger volumes. An abundance of commercial airports and substantial capacity expansion plans provide the capacity to accommodate growing demand.

<sup>10</sup>Source: FDOT Aviation Office, 2003

# The Transportation System

## Seaports<sup>11</sup>

- Florida offers 9 deep sea freight ports providing freight access to various global destinations.
- Port freight activity has remained stable in terms of tonnage, but grown in container movements.
- Florida's seaports also serve the growing passenger cruise business in Florida.



<sup>11</sup> \*Source: FDOT Seaport Office, 2003

\*\*Twenty-foot equivalent unit (TEU) is a unit of measure that is equivalent to a twenty foot shipping container.

# The Transportation System

## Rail System<sup>12</sup>

### Florida Rail Freight Traffic 2001

Commodity	Tonnage (thousands)
Coal	15,992
Nonmetallic Minerals; Except Fuels	81,405
Food or Kindred Products	6,900
Lumber or Wood Products; Except Furniture	3,080
Pulp, Paper, or Allied Products	3,283
Chemical or Allied Products	18,825
Clay, Concrete, Glass, or Stone Products	3,419
Miscellaneous Mixed Shipments	7,794
Hazardous Materials	5,601
Others	11,526
Total	157,825

- The rail system in Florida serves both passenger and freight transportation needs.
- While the vast majority of the rail system is privately owned and operated, Florida Department of Transportation has investments in rail infrastructure and services including Amtrak, and Tri-Rail.
- The Florida rail system consists of approximately 2,900 miles of routes. Thirteen line haul railroads and four terminal companies own the routes. CSX Transportation, Inc. with over 56 percent of the track mileage is the largest carrier.
- In 2001, a total of 158 million tons of freight originated or terminated in Florida.

*(continued on page 20)*

# The Transportation System

## Rail System<sup>12</sup> (continued from page 19)

### Florida Rail System

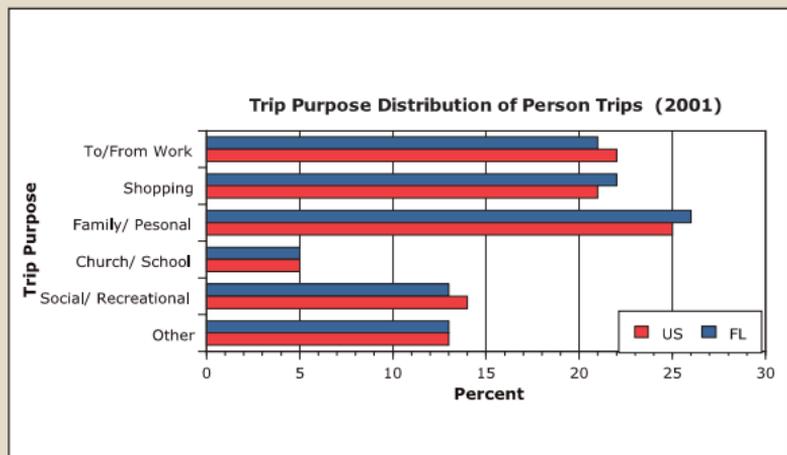
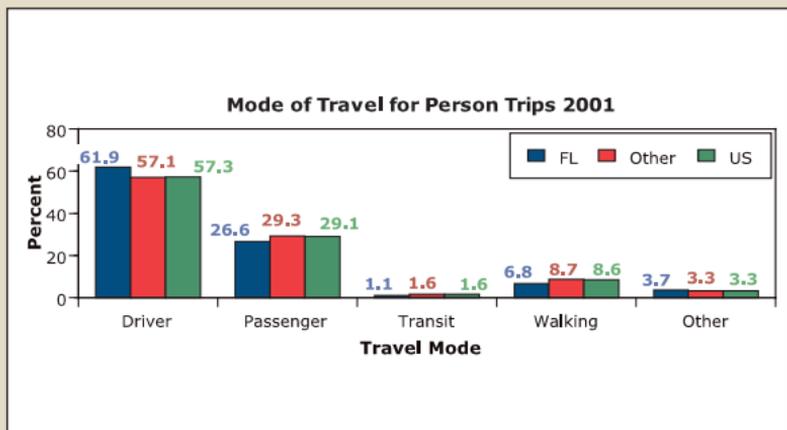


- Amtrak operates over 1,098 route miles, but does not own the track.
- Amtrak carried 934,069 passengers in fiscal year 2001, up from 626,115 passengers in 1980, but down from the peak year of 1993 when ridership reached over 1.2 million.
- Non-metallic minerals are the dominant product by weight followed by chemicals and coal.

<sup>12</sup>Source: 2002 Florida Rail System Plan

# Transportation Impacts

## Travel Behavior of Floridians



# Transportation Impacts

## Travel Behavior of Floridians<sup>13</sup>

- Floridian's travel behavior is similar to that of the rest of the country.
- Floridians make the majority of their trips as auto drivers. Travel as passengers is the second most common means of travel.
- In Florida, transit carries about one percent of trips, about half as much as the average for the rest of the country. Lower densities and service levels make transit less attractive in Florida than in many urbanized areas in other states.
- Walking is similarly a less common means of travel in Florida.
- Family/personal business and shopping are the two most common reasons

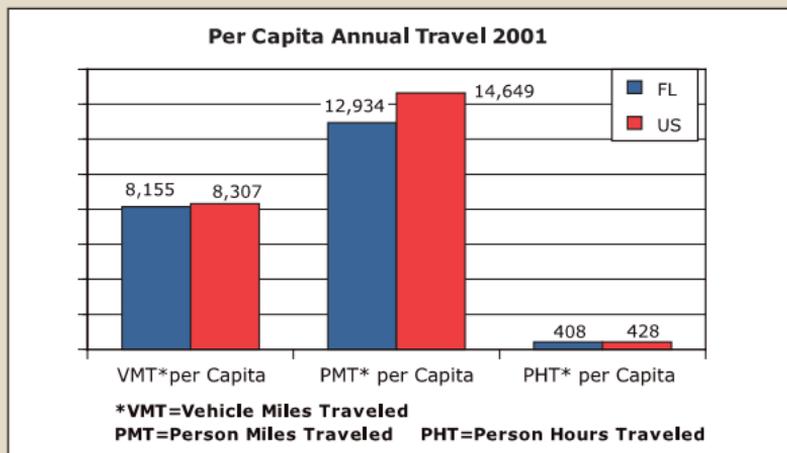
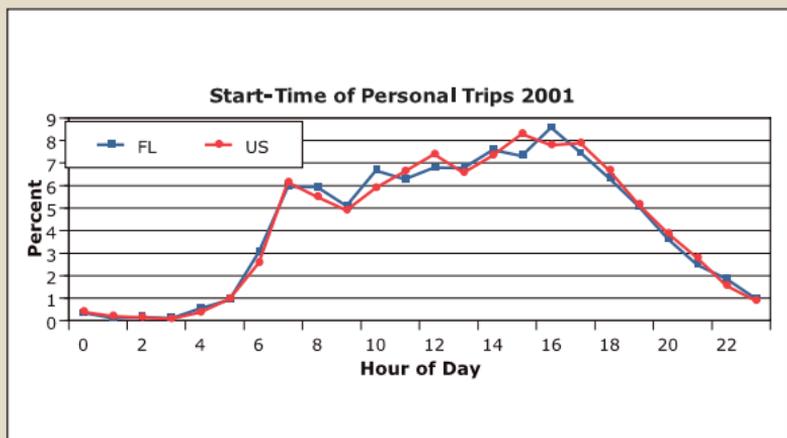


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<sup>13</sup> Based on 2001 National Household Survey data. All persons over 5 years of age, trips less than 100 miles.

# Transportation Impacts

## Travel Behavior of Floridians



# Transportation Impacts

## Travel Behavior of Floridians<sup>14</sup>

- The travel start-time pattern of Floridians is similar to that of the rest of the country.
- The evening peak period is the busiest with noon and then the morning rush periods the next most frequent times of travel.
- Florida has a slightly higher midday and evening peak than the rest of the country.
- Floridians travel slightly fewer miles and make slightly fewer trips in local travel annually than residents in the rest of the country.
- Floridians spend 408 hours per year in local travel versus the national average of 428.

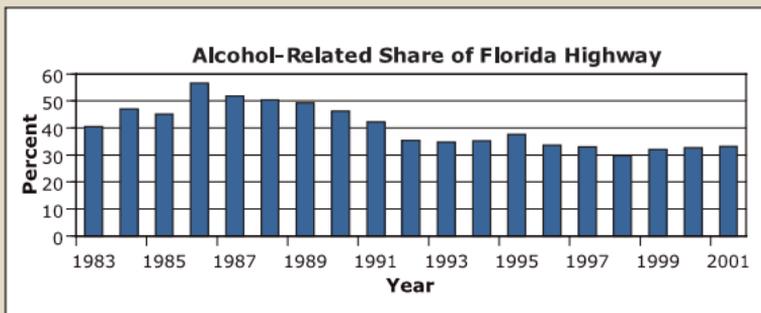
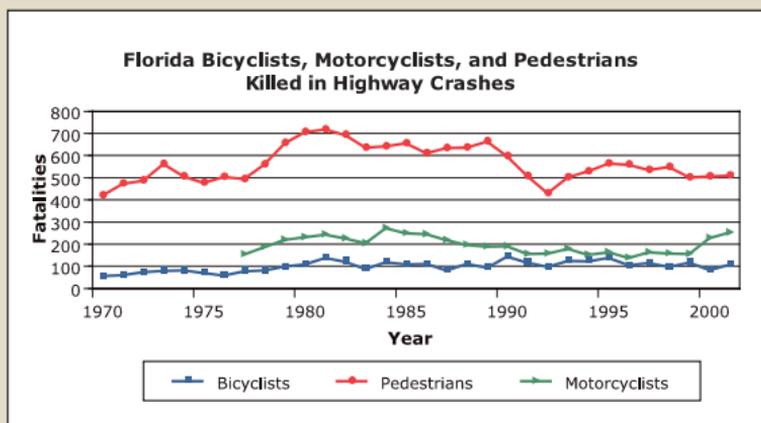
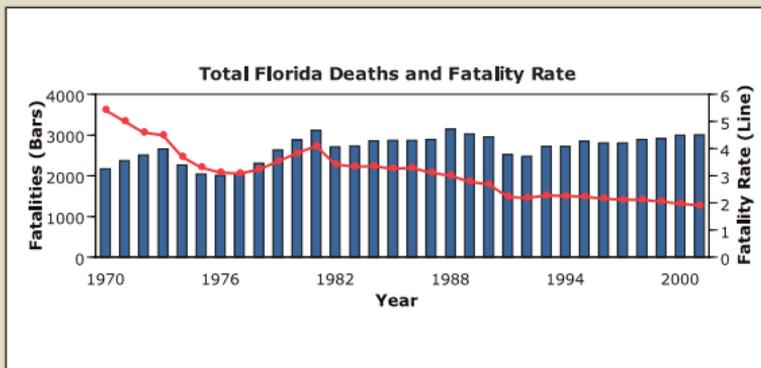


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<sup>14</sup> Based on 2001 National Household Survey data. All persons are over 5 years of age and trips are less than 100 miles.

# Transportation Impacts

## Transportation Safety



# Transportation Impacts

## Transportation Safety<sup>15</sup>

- Safety trends are influenced by a host of factors from population growth and demographic characteristics to vehicle and roadway design characteristics to driver behavior, enforcement and training.
- 
- Counter to national trends, Florida's total number of transportation deaths has increased through the nineties.
  - There has been a decline in the death rate in Florida during the nineties but this decline in rate has been more modest than national trends.
  - Of the 3,013 transportation deaths in 2001, 29% were bicyclists, pedestrians and motorcyclists.
  - More than 33% of traffic deaths in Florida are alcohol related.
  - Florida, like other southeastern states, has a higher than average death rate for transportation accidents, thus motivating initiatives to understand and improve safety for Florida travelers.

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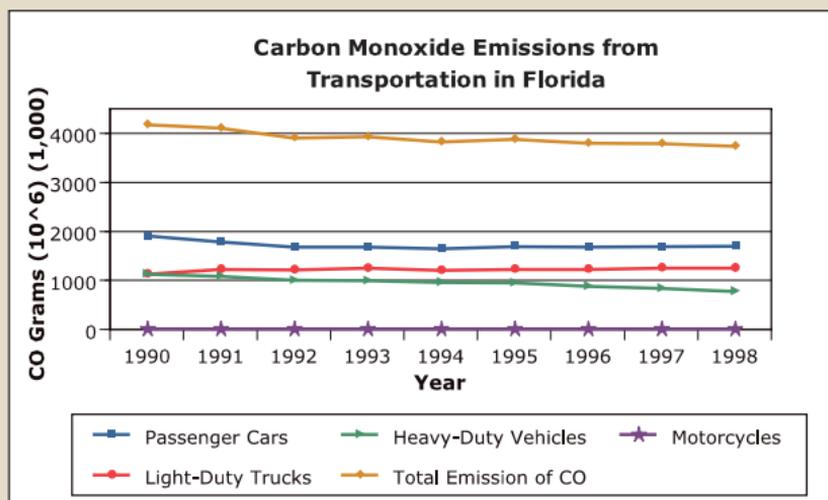
<sup>15</sup> Source: Florida Traffic Crash Facts, annual issues

# Transportation Impacts

## Transportation and the Environment

### Total Contribution of Transportation to Air Pollution

Pollutant	Contribution
CO	93%
NOx	52%
Hydrocarbons	90%
SO <sub>2</sub>	15%
N <sub>2</sub> O	16%



# Transportation Impacts

## Transportation and the Environment<sup>16</sup>

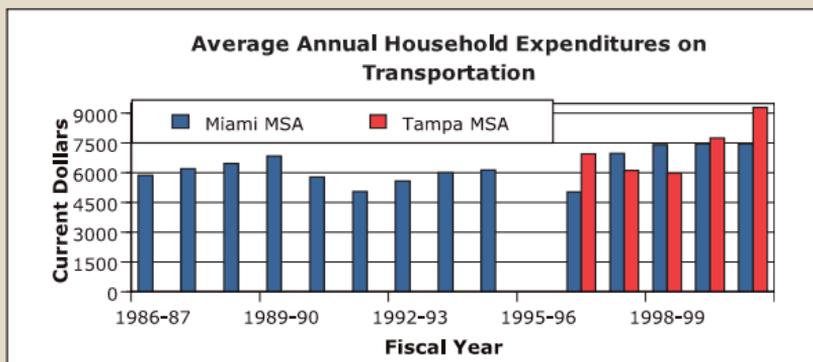
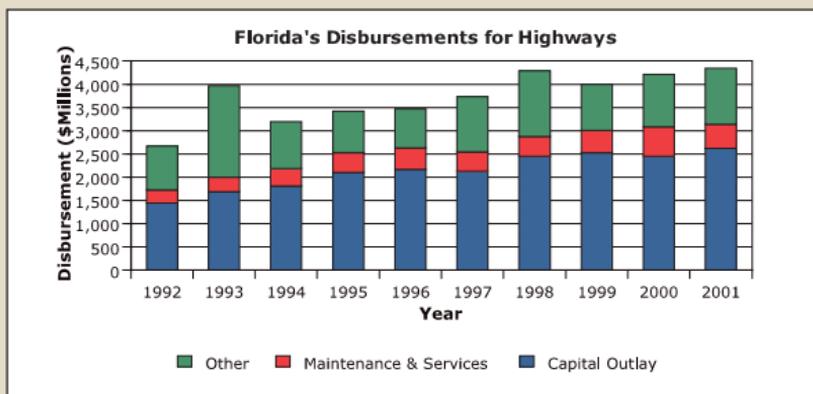
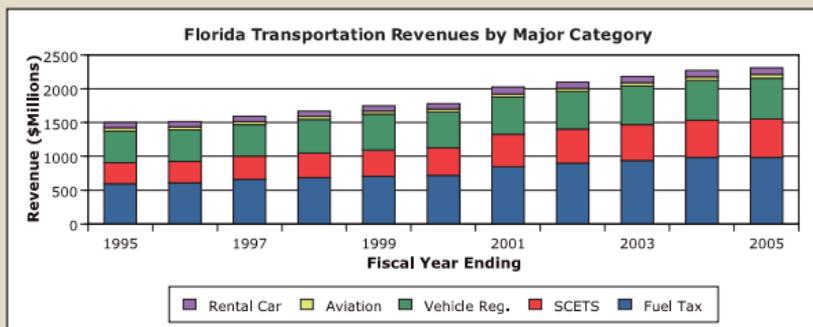
- Transportation plays a significant role in the emission of air pollutants. The three pollutants of most concern are carbon monoxide, nitrogen oxides and hydrocarbons.
- The total emission of carbon monoxide from transportation has decreased from 1990 to 1998. This is mainly caused by reductions in the emissions from heavy-duty vehicles.
- The total emission from passenger cars has been fairly stable since 1992, while emissions from light duty trucks (which includes SUVs) have increased slightly.
- The total emission of hydrocarbons from transportation has decreased slightly from 1990 to 1998.
- The total emission of nitrogen oxides from transportation has not changed between 1990 and 1998.



<sup>16</sup> Source: U.S. EPA Inventory of greenhouse gas emissions and sinks, 1999

# Transportation Impacts

## Transportation and the Economy



# Transportation Impacts

## Transportation and the Economy<sup>17</sup>

- Transportation is a major category of spending by both individuals and businesses.
- Florida collects nearly \$2 billion annually in fees and taxes on transportation related items. This is in addition to local and federal revenues derived from gas and other transportation taxes and fees and in addition to investments by developers.
- Household spending on all forms of transportation constitutes the second largest spending category of households, exceeded only by housing costs. As exemplified by the Miami and Tampa data, average household spending tops \$7,000 dollars annually for transportation.
- Spending on transportation infrastructure and services is similarly a large contributor to the economy.

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<sup>17</sup> Source: Revenue Data from FDOT Transportation Finance, August 1999; Transportation expenditure data from various annual issues of Consumer Expenditure Survey; Selected Southern Metropolitan Statistical Areas, Bureau of Labor Statistics, US Department of Labor

Source for State Fuel Tax Rate: FHWA Highway Statistics 2001, Table MF-205

Source for State Disbursements: FHWA Highway Statistics Series, Table SF-2

\*Administration, research and planning, law enforcement and safety, bond retirements and grants-in-aid are included in the disbursement category of "Other".

SCETS is the State Comprehensive Enhanced Transportation System Tax.

## Other Resources

### Additional Resources

*The Pocket Guide to Florida Transportation Trends and Conditions* is also available at the Department's Website: <http://www.dot.statefl.us/planning/policy/trends>. Other Internet resources that provide useful information related to Florida transportation trends and conditions include:

- **2020 FLORIDA TRANSPORTATION PLAN**  
<http://www.dot.state.fl.us/planning/2020ftp/>
- **FDOT SHORT RANGE COMPONENT**  
<http://www.dot.state.fl.us/planning/policy/pdfs/src.pdf>
- **FLORIDA HIGHWAY DATA SOURCE BOOK**  
<http://www.dot.state.fl.us/planning/statistics/sourcebook/>
- **FDOT AVIATION FORECAST**  
<http://www.florida-aviation-database.com/library>
- **FLORIDA FACTS BY VISIT FLORIDA**  
<http://www.flausa-media.com/Subcategories/Florida Facts/ffmain.htm>
- **ENTERPRISE FLORIDA FACTS AND FIGURES**  
<http://www.eflorida.com/infocenter/default.asp>
- **FLORIDA TRAFFIC CRASH FACTS BY DEPARTMENT OF MOTOR VEHICLE AND HIGHWAY SAFETY**  
[http://www.hsmv.state.fl.us/reports/crash\\_facts.html](http://www.hsmv.state.fl.us/reports/crash_facts.html)

## Other Resources

*For further information, please contact:*

**Florida Department of Transportation  
Office of Policy Planning**  
605 Suwannee Street MS 28  
Tallahassee, FL 32399-0450

Tel: (850) 414-4800

Fax: (850) 414-4898

E-Mail: [david.lee@dot.state.fl.us](mailto:david.lee@dot.state.fl.us)

[monica.zhong@dot.state.fl.us](mailto:monica.zhong@dot.state.fl.us)





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