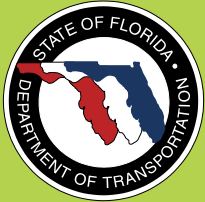


Technical Memorandum: **Identification of Corridor Conditions and Needs**

Prepared for:

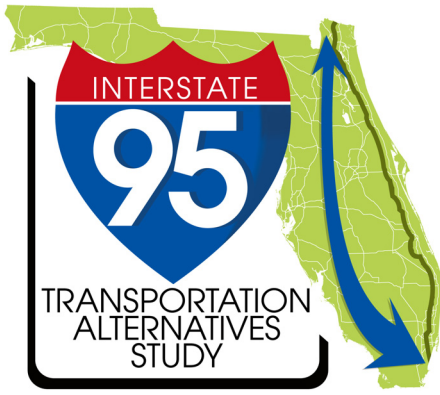


Florida Department of Transportation
Systems Planning Office

June 2010



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Technical Memorandum: Identification of Corridor Conditions and Needs

Prepared for:



**Florida Department of Transportation
Systems Planning Office**

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TranSystems Corporation

June 2010

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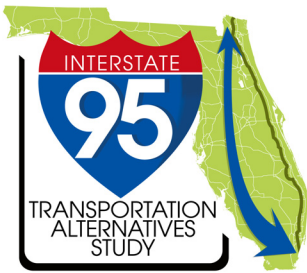
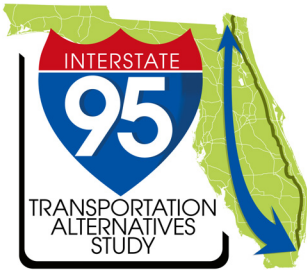


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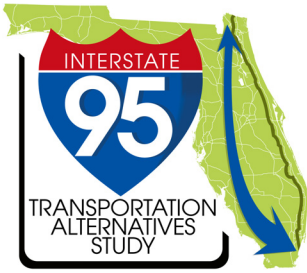
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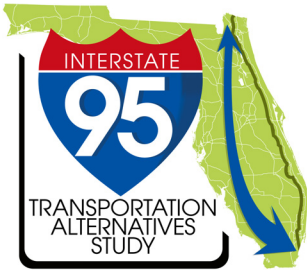
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Chapter 1 - Introduction

1.1 Background

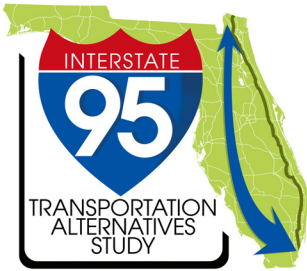
The Department of Transportation is required, as part of recently passed legislation, to conduct a transportation alternatives study of the Interstate 95 (I-95) corridor by June 30, 2010. HB 1021 was signed by Governor Crist on May 27, 2009 adding Section 26, Chapter 2009-85, Laws of Florida. This section, which went into effect on July 1, 2009, includes the following language:

"The Department of Transportation, in consultation with the Department of Law Enforcement, the Department of Environmental Protection, the Division of Emergency Management of the Department of Community Affairs, the Office of Tourism, Trade, and Economic Development, affected metropolitan planning organizations, and regional planning councils within whose jurisdictional area the I-95 corridor lies, shall complete a study of transportation alternatives for the travel corridor parallel to Interstate 95 which takes into account the transportation, emergency management, homeland security, and economic development needs of the state. The report must include identification of cost-effective measures that may be implemented to alleviate congestion on Interstate 95, facilitate emergency and security responses, and foster economic development. The Department of Transportation shall send the report to the Governor, the President of the Senate, the Speaker of the House of Representatives, and each affected metropolitan planning organization by June 30, 2010."

1.2 Study Purpose

The purpose of the study is to assess the travel demand from people and goods moving along the I-95 corridor in the State of Florida against four measures: transportation, emergency management, homeland security, and economic development. Additionally, the study will identify cost effective strategies to alleviate congestion, facilitate emergency and security response, and foster economic development in the State of Florida.

This Technical Memorandum, Identification of Corridor Needs, is the first in a series of documents describing the development of the I-95 Transportation Alternatives Study. This document identifies existing conditions along the I-95 corridor from different perspectives, including transportation, demographic, emergency management, homeland security, and economic development. The document also describes deficiencies from each of these perspectives and identifies corridor related needs for each perspective.



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The second document in the series includes a discussion of transportation alternatives or different approaches to solving the identified needs, along with the policy implications of implementing those alternatives. The second document will not discuss specific projects or recommend solutions, but rather present a comprehensive list of alternative approaches to improving mobility, emergency response, and economic development within the 12 county study area. A final report document summarizing the I-95 Transportation Alternatives Study concludes the series.

1.3 Study Corridor

The development of the I-95 Corridor has occurred over a 50 year period and still continues today. Construction of I-95 was initiated in Miami with a short segment being completed in 1961. Development of the corridor continued from both ends and, except for a gap in Martin and St. Lucie Counties, was substantially completed by 1980. The final segment in Martin and St. Lucie Counties was opened in 1987. Even as construction was being accomplished on new segments, major reconstruction and widening was occurring on older, more heavily traveled segments.

Current plans call for substantial transportation improvements within the existing corridor, and there are only two segments with four lanes remaining in the corridor. These segments, in Volusia/Brevard and Brevard/Indian River Counties, are planned for expansion to 6 lanes. There are currently existing High Occupancy Toll (HOT) lanes in Miami-Dade County with construction eminent to extend the HOT lanes to I-595 in Broward County.

1.4 Study Area

The study corridor under evaluation includes the 12 coastal counties along the east coast of Florida, as identified in **Figure 1.4.1**. The I-95 Corridor is one of the State's most critical transportation facilities, providing for the movement of people and goods along the east coast of Florida. The 12 counties along the study corridor are home to over 8.3 million residents, which constitutes approximately 45% of Florida's total population.

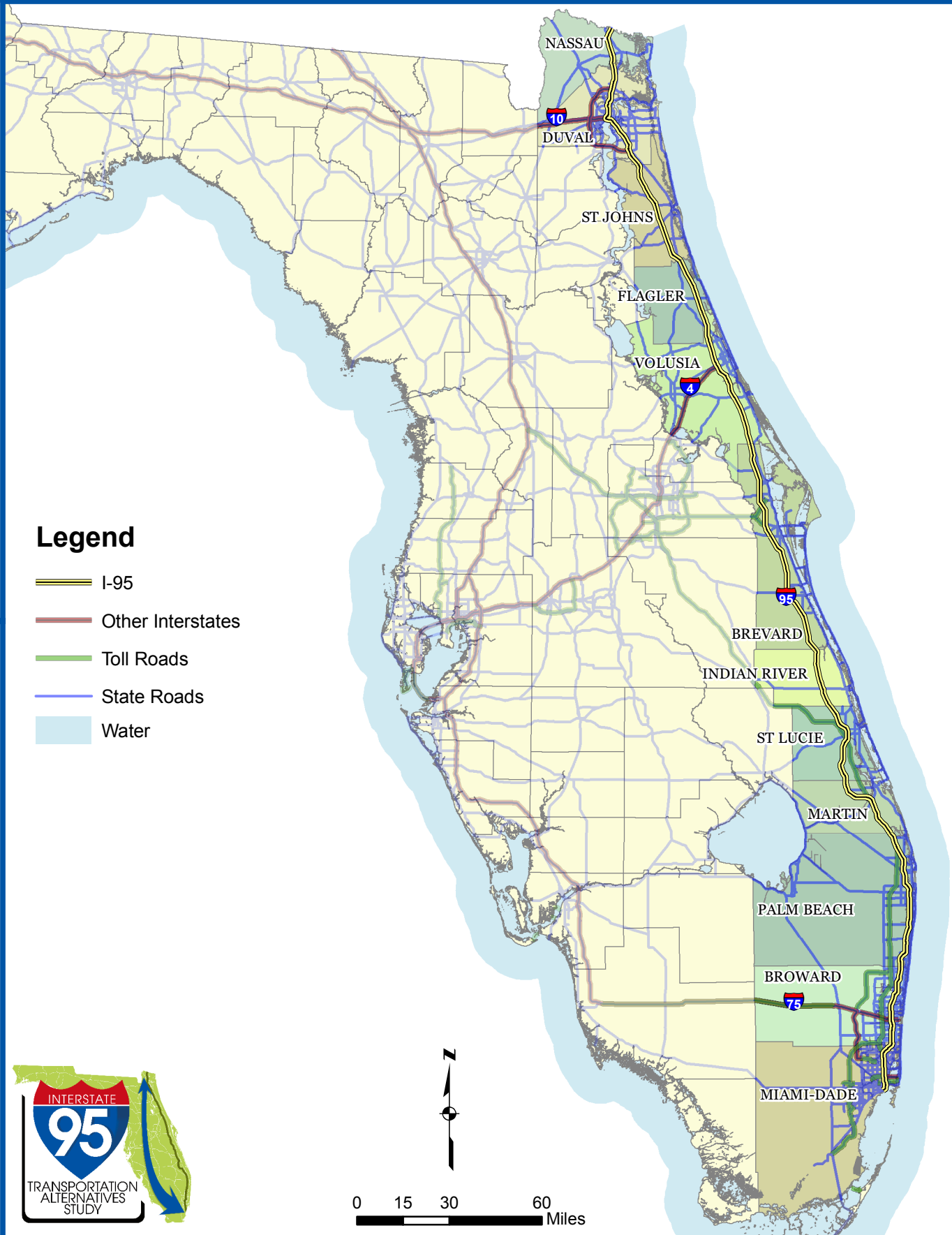
1.5 Study Participants

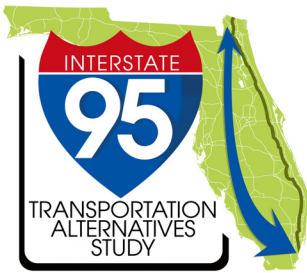
The study includes coordination and consultation with the following agencies and organizations:

- Florida Department of Law Enforcement (FDLE);
- Florida Department of Environmental Protection (FDEP);

Figure 1.4.1

Twelve County Study Area





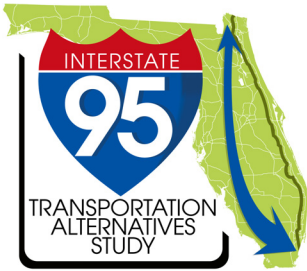
Chapter 1 - Introduction

- Florida Division of Emergency Management (FDEM);
- Florida Highway Patrol (FHP);
- Office of Tourism, Trade, and Economic Development (OTTED);
- Florida Metropolitan Planning Organizations Advisory Council (MPOAC);
- Four Regional Planning Councils (RPCs) along the I-95 Corridor;
 - Northeast Florida Regional Council;
 - East Central Florida Regional Planning Council;
 - Treasure Coast Regional Planning Council;
 - South Florida Regional Planning Council;
- Nine Metropolitan Planning Organizations (MPOs) along the I-95 Corridor;
 - North Florida Transportation Planning Organization;
 - Volusia County Metropolitan Planning Organization;
 - Space Coast Transportation Planning Organization;
 - Indian River County Metropolitan Planning Organization;
 - St. Lucie Transportation Planning Organization;
 - Martin Metropolitan Planning Organization;
 - Palm Beach Metropolitan Planning Organization;
 - Broward Transportation Planning Organization;
 - Miami-Dade Metropolitan Planning Organization;
- Flagler County;
- Multiple offices within the Florida Department of Transportation (FDOT):
 - Districts Two, Four, Five, and Six;
 - State Traffic Engineering and Operations Office;
 - Office of Policy Planning;
 - Emergency Management Office;
 - Environmental Management Office; and
 - Systems Planning Office.

The Florida Department of Transportation, Systems Planning Office (SPO), is the lead office coordinating all study activities. SPO led the coordination and consultation activities between FDOT and its partners who were asked to provide data and information for the study. All comments were incorporated into study product.

The nine MPOs and four RPCs located along the study corridor, as well as Flagler County, are key organizations involved in transportation planning activities. The four FDOT Districts located along the corridor have existing working relationships with the MPOs and served as the key points of contact between the MPOs, RPCs, and the study team.

During the development of the Needs Plan, MPOs and RPCs were asked to provide data, information, and/or other input into the study process to ensure the study

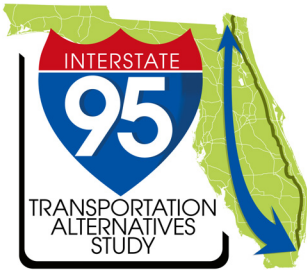


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team is aware of local issues and activities impacting the I-95 Corridor. During subsequent phases of the study, MPOs and RPCs will be asked to review study products, assist with policy development activities relating to the I-95 corridor, and provide additional input to their FDOT District offices.

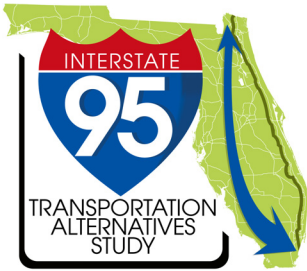
1.6 Project Information and Communications

Up to date information regarding the progress of the I-95 Transportation Alternatives Study can be found at the study website and SharePoint site established for the study (www.I-95Alternatives.com). The SharePoint site was a principal communication link between FDOT and its partner agencies during the course of the study. The site also provides the ability for the general public to review study documents.



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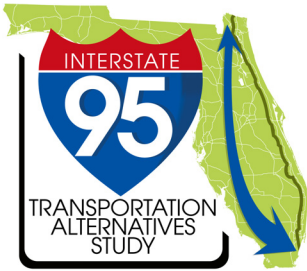
Chapter 2 – Physical Environment

Interstate 95 is a major north-south interstate freeway that hugs the Atlantic coast of Florida. The study limits include the entire length of I-95 from the beginning of the interstate, just south of downtown Miami, to the terminus at the Florida/Georgia state line in Nassau County. In this section, the existing conditions and physical environment of I-95 are presented. The information utilized for this chapter includes existing studies conducted in the corridor and other readily available transportation data. The sections of this chapter provide further detail on the following areas:

- Previous studies in the I-95 corridor and proposed improvements;
- Transportation network system characteristics including existing SIS highway connections, speed limits, number of through lanes, and right of way;
- SIS hubs and intermodal facilities relevant to moving freight and goods;
- Major traffic generators along the corridor;
- Existing Intelligent Transportation System (ITS) infrastructure and capabilities; and
- Importance of the consideration of natural and environmental features.

2.1 Previous Transportation Studies

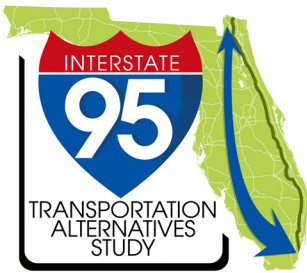
In order to assess the existing conditions on I-95, it is necessary to gather and evaluate data from a variety of sources, which include previous studies, reports, and transportation plans. This section provides a comprehensive summary of the most recent and relevant studies that have been produced for the project corridor. **Table 2.1.1** contains the summaries of the studies completed in the corridor.



Chapter 2 – Physical Environment

Table 2.1.1 Previous Transportation Studies I-95 Corridor

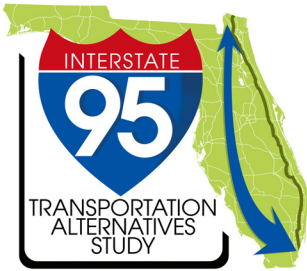
MPO/County	Plan/Study	Date	Overview
Miami-Dade	Miami Central Station	Active	Outlines MIA Mover project, which is a light-rail automated people mover system operating between MIA and the two major structures of the MIC, the Rental Car Center (RCC) and the Miami Central Station (MCS). It is estimated that once the MIA Mover is operational, 30 percent of current vehicular traffic will be removed from the roadways and passenger traffic at the terminal.
Miami-Dade	I-95/Ives Dairy Road Interchange Operational Study	Jul-05	Summarizes the data collection, qualitative analysis, future traffic volume projections, capacity analysis, recommendations, and estimated costs.
Miami-Dade	Miami Toll Truckway: Preliminary Feasibility Study	Nov-07	Explores the feasibility of a dedicated east-west truck only facility, connecting the new Port Tunnel with the area west and northwest of MIA.
Miami-Dade	The Port of Miami Tunnel Project	Active	Analysis of the Port of Miami Tunnel Project. The Tunnel will provide direct access between the Seaport, I-395 and I-95; keeps the Port of Miami competitive; relieve congested downtown Miami streets of Port passenger and cargo traffic; and facilitate ongoing and future development plans in and around downtown Miami.
Miami-Dade MPO	Miami-Dade County 2035 LRTP	Oct-09	One of the major emphases of this Plan Update will be the consideration of the projects in the People's Transportation Plan (PTP) that are currently unfunded in the budget and what priority these remaining projects should have in to the LRTP. I-95 projects include extending the managed lanes north of the Golden Glades interchange to the Broward County line.
Miami-Dade, Broward	95 Express Lanes Deployment: Concept of Operations	Dec-08	Created by the 95 EL Operations Team to be used as a guideline and resource for the continued development, implementation, and operation of an EL facility along I-95.
Miami-Dade, Broward	I-95 Managed Lanes (95 Express): Project Development Summary Report	Jul-07	Provides the necessary documentation to establish design requirements and define the conceptual design for the I-95 Managed Lanes (95 Express) project.
Miami-Dade, Broward	Proposed I-95 Managed Lanes: Comprehensive Traffic and Revenue Study	Jan-07	Performs a comprehensive traffic and revenue study of proposed managed lanes in the corridor. This report was conducted in phases primarily in 2005 and 2006.



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Table 2.1.1 Previous Transportation Studies I-95 Corridor

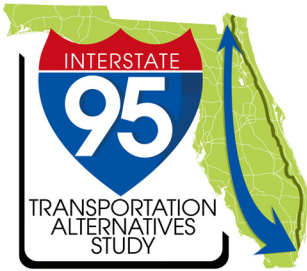
MPO/County	Plan/Study	Date	Overview
Miami-Dade, Broward	Managed Lane Operations - Adjusted Time of Day Pricing vs. Near-Real Time Dynamic Pricing	Oct-09	Helps to ensure the operational success and protection of the significant investment in the managed lanes projects and answers a variety of questions relevant to the operations and management of managed lanes.
Miami-Dade, Broward, Palm Beach	Intermodal Connectivity in the Atlantic Commerce Corridor: An assessment of Seaport, Rail, and Other Mobility Opportunities.	Nov-03	Context of study includes the establishment of greater connectivity between airports, seaports, and rail for both passenger and freight travel by involving more complex planning to address heightened federal security measures.
Miami-Dade, Broward, Palm Beach	South Florida East Coast Corridor Study	Active	Includes coordination of a regional Alternatives Analysis of the FEC Corridor extending 85 miles from downtown Miami to Jupiter. The regional study became the South Florida East Coast Corridor Transit Analysis (SFECCTA).
Miami-Dade, Broward, Palm Beach	South Florida Regional Freight Plan	Oct-09	Develops a formalized regional freight planning and implementation strategy that is inclusive of individual planning efforts that have been conducted within the area and prioritize critical freight transportation projects.
Miami-Dade, Broward, Palm Bch	HOV Lane Monitoring Report	96,98, 00,02, 04,06, 08	Reports the monitored operations of the I-95 High-Occupancy Vehicle (HOV) facility in South Florida.
Broward	I-595 Corridor Roadway	Jun-05	Outlines the improvements to the corridor, which consist of reconstruction, operation and maintenance of the I-595 mainline, express lanes and all associated improvements to adjacent cross-roads, frontage roads, and ramps from the I-75/Sawgrass Expressway interchange to the I-595/I-95 interchange.
Broward	North Broward County Grade Separation Study	Active	Reviews opportunities to grade separate the South Florida Rail Corridor and major east/west arterials which are immediately adjacent to I-95 interchanges and a major cause of congestion. These grade separations would eliminate significant congestion and provide significant relief to I-95 access.



Chapter 2 – Physical Environment

Table 2.1.1 Previous Transportation Studies I-95 Corridor

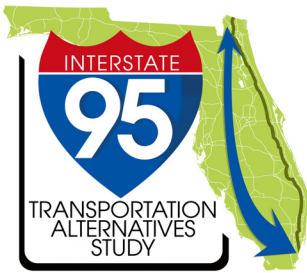
MPO/County	Plan/Study	Date	Overview
Broward County MPO	Broward MPO 2035 LRTP	Dec-09	Identifies roadway projects focused on missing links critical to local and regional connectivity, cost effective congestion mitigation strategies, improvements that support transit, bicycle and/or pedestrian enhancements, and safety improvements. Specific guidelines for roadways expanded beyond six lanes for major arterials were only considered for exclusive transit lanes.
Broward, Palm Beach	I-95/I-595 Master Plan Study	Sep-03	Focuses on the importance of master planning of major public facilities. This is essential for ensuring the availability of capacity within the transportation network to support and sustain the region's growth.
Palm Beach County MPO	Palm Beach 2035 LRTP	Nov-09	The Palm Beach LRTP is based on area wide needs identified through the process of forecast demand, evaluating system alternatives, and selecting those options which best meet the mobility needs of the county considering environmental, social, and financial constraints. I-95 projects identified included expanded managed/special use lanes through the length of the MPO, widening, expanding ITS, and interchange modifications/additions.
Martin County MPO, St. Lucie Urban Area TPO	Martin and St. Lucie MPOs and ST. Lucie TPO 2030 RL RTP	Sep-08	The 2030 LRTP for Martin and St. Lucie MPOs sets forth a priority list of transportation improvements that can be funded over the next 20 years. I-95 project needs consisted of widening.
St. Lucie	I-95 Project Development and Environmental (PD&E) Study	Nov-07	Focuses on the widening and rehabilitation of I-95 from south of SR 70 (Okeechobee Blvd) to south of Indrio Road.
Indian River County MPO	Indian River County 2035 LRTP Update	Active	Represents the long term vision for Indian River County's transportation network and covers at least a 20 year time horizon. I-95 has been determined to not meet LOS standards by the planning horizon and is included as a widening project from county line to county line.



Chapter 2 – Physical Environment

Table 2.1.1 Previous Transportation Studies I-95 Corridor

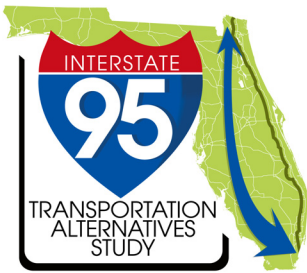
MPO/ County	Plan/Study	Date	Overview
Miami-Dade, Broward, Palm Beach	US 27 Rail Corridor Study: Phase 1	Oct-09	Evaluates the feasibility of a rail corridor along US-27 from western Miami-Dade County to South Bay. The development of a new rail corridor along US-27 has the potential to significantly affect freight and passenger transportation in South Florida.
Broward, Palm Beach, Martin, St. Lucie	Park-and-Ride Inventory	Nov-09	Tracks Park & Ride usage/functionality in District Four provides inventory results, and fosters comments/suggestions.
Brevard County MPO, Space Coast TPO	Brevard County MPO / Space Coast TPO - 2025 LRTP	Mar-06	Identifies the cost feasible transportation projects that could mitigate future traffic congestion throughout Brevard County and improve countywide mobility. The stated objectives of the 2025 LRTP include 1) optimizing the efficiency of the existing transportation system; 2) prioritizing multimodal and operational improvements; 3) encouraging coordination between transportation and land use planners; and 4) encouraging the implementation of the completed multimodal transportation study prior to the release of the 2025 LRTP.
Brevard County MPO, Space Coast TPO	Brevard County MPO / Space Coast TPO - FY 2009/2013 TIP	Sep-08	Lists the multimodal transportation projects that will be implemented from 2009 to 2013. The I-95 projects identified in the Brevard County MPO are listed in section 2.12 of this I-95 SIP, and include widening, resurfacing, and interchange modifications.
Brevard, Volusia, Flagler	Final Interchange Feasibility Studies	Feb-06	Evaluates the feasibility of adding new interchanges to I-95 throughout the project corridor. The primary objectives of these studies are to determine if adding a new interchange at various locations along I-95 would 1) degrade the mainline operations of I-95 and 2) improve the operations of parallel facilities, cross streets and adjacent interchanges (one to the north and one to the south).



Chapter 2 – Physical Environment

Table 2.1.1 Previous Transportation Studies I-95 Corridor

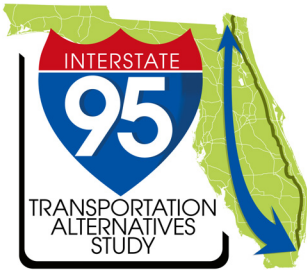
MPO/ County	Plan/Study	Date	Overview
Brevard, Volusia and Flagler	Brevard, Volusia, and Flagler Counties I-95 Systems Operational Analysis Reports (SOAR)	Feb-06	Systems Operational Analysis of every interchange along I-95 within the District 5 service area (Brevard, Volusia, and Flagler). The goals of these Systems Operational Analysis Reports are 1) to evaluate the future traffic operations of each I-95 interchange throughout FDOT District 5; 2) to document the planned developments; and 3) to recommend improvements to the existing interchange configurations to handle design year traffic.
Volusia County MPO	Volusia County MPO - 2025 LRTP	Aug-05	Identifies county transportation improvement projects that enhance mobility and reduce traffic congestion over a 20 year time frame for both Volusia and Flagler Counties. The I-95 projects identified in the Volusia County MPO LRTP are listed in section 2.12 of this I-95 SIP, and consist of widening and interchange modifications.
Volusia County MPO	Volusia County MPO - FY 2009/2013 TIP	Aug-08	Identifies all federal and state funded transportation projects that have been scheduled for implementation in the Volusia County MPO planning area for 2009 to 2013. The I-95 projects listed in the Volusia County MPO TIP are listed in section 2.12 of this I-95 SIP, and primarily consist of widening I-95 from four to six lanes from the Brevard County Line to I-4.
Duval, St. Johns	I-95 Master Plan	Jun-09	Identifies long-term (2035) improvements to I-95 from the Flagler/St. Johns County line to I-10. The Preferred Alternative includes 6 General Use Lanes (GUL) from the Flagler/St. Johns County line to SR 206; from SR 206 to International Golf Pkwy – 6 GUL plus 4 barrier separated Special Use Lanes (SUL); from International Golf Pkwy to the Downtown exit – 8 GUL plus 4 barrier separated SUL.
Duval, St. Johns	I-95 Interchange Short- Term Improvements Study	Jul-08	Evaluates possible short-term, low-cost, and low-impact improvements with emphasis given to ramps and terminal intersections improvements on I-95 interchanges (11 evaluated) within a 35-mile section.



Chapter 2 – Physical Environment

Table 2.1.1 Previous Transportation Studies I-95 Corridor

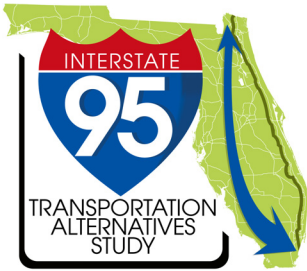
MPO/ County	Plan/Study	Date	Overview
Duval	I-95 Overland Bridge Replacement - VE Study	Dec-07	Value Engineering Study for the Maintenance of Traffic (MOT) scheme prepared by the Department for the replacement of the I-95 Overland Bridge (Bridge No. 720153) located in Jacksonville, just south of the St. Johns River. The Value Engineering Team (VET) evaluated 5 alternatives and made recommendations. These recommendations had cost savings ranging from \$814,304 to \$18,243,060. The VET also made a design suggestion to redirect truck traffic by incorporating ITS message boards.
North Florida TPO, Nassau County	Nassau County I-95 Parallel Corridor Study	Dec-08	Evaluates improvements to the existing north-south corridors in Nassau County, as well as the feasibility of new parallel corridors that could relieve traffic on I-95 and provide an alternate route to local and inter-county traffic. The recommended 'Build' alternative for this study was a combination of widening US 17 plus a new corridor west of I-95.
North Florida TPO	North Florida TPO - 2035 LRTP	Nov-09	The North Florida TPO 2035 LRTP Needs Plan is based on LOS deficiencies determined by modeling forecasted traffic estimates on the Existing plus Committed (E+C) network. I-95 projects identified in the 2035 LRTP are listed in section 2.12 of this I-95 SIP, and include widening, addition of special use lanes, interchange modifications, and ITS features.
North Florida TPO	North Florida TPO - FY 2009/2013 TIP	May-08	Identifies all regionally significant transportation projects requiring Federal, State or local government funding. I-95 projects identified in the TIP are listed in section 2.12 of this I-95 SIP, and include widening, ITS, bridge repair and rehabilitation, and resurfacing. The major projects for I-95 include I-95/I-295/SR 9A North - Major Interchange Operational Improvements (under construction) and I-95 @ Airport Road - Major Interchange Flyover (in right-of-way acquisition).



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Table 2.1.1 Previous Transportation Studies I-95 Corridor

MPO/ County	Plan/Study	Date	Overview
North Florida TPO	First Coast Regional Intelligent Transportation Systems Master Plan	Nov-07	Outlines the goals, objectives, and vision of the future of ITS infrastructure within the North Florida TPO boundaries. Develops a regional Intelligent Transportation Systems (ITS) Master Plan and included suggested improvements for the Five and Ten-Year Plans. Improvements include build out of regional ITS; the need for integrated traffic and emergency systems; integrated freeway management; WiFi on corridors and cell phone fare payment.
All in Study Area	I-95 Corridor ITS Implementation Plan for Florida's Principal FIHS Limited-Access Corridors	Jun-02	Outlines a series of priorities, conceptual project descriptions and an estimate of project costs to deploy ITS along the I-95 corridor throughout the State of Florida. Recommends deployment of Freeway Management Systems and emergency service patrols throughout the corridor. Recommends implementation of ITS infrastructure on I-95 based on system continuity and connectivity, congestion (highly populated areas), crash severity, and local needs and priorities.
Statewide	Florida High Speed Rail	Active	The Florida High Speed Rail Vision Plan anticipates the statewide system will be constructed in phases.
Statewide	I-95 Multi-Modal Re-Use Study Area	Dec-06	Identifies statewide transportation corridors that will be significantly improved or developed over the next 50 years.



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2.2 Transportation Network System Characteristics

The transportation network characteristics identify major qualities of the physical roadway system of I-95 and its connections. The following section provides details on the existing roadway conditions and includes descriptions of SIS highway connections, speed limit, number of through lanes, and right-of-way.

Existing SIS Highway Connections

I-95 is a key facility of the Strategic Intermodal System. The Strategic Intermodal System (SIS) encompasses transportation facilities of statewide and interregional significance, and is focused on the efficient movement of passengers and freight. SIS connectors are also important components of the system. The connectors are selected based on importance in linking major transportation corridors and hubs.

Figures 2.2.1A and **2.2.1B** display the Strategic Intermodal System (SIS) facilities and characteristics in the corridor. The maps are intended to illustrate major highway connections to the I-95 corridor including those existing and emerging SIS links and connectors. As reflected in the figures, I-95 intersects several major interstates including I-595, the Florida Turnpike, I-4, I-10. In each of the counties of the corridor, I-95 connects with other SIS corridors and numerous state roads. The high connectivity of I-95 to these other corridors delivers an essential avenue to alternative routes.

Existing Speed Limits

The existing speed limit ranges along the I-95 corridor are portrayed in **Figures 2.2.2A** and **2.2.2B**. The figures depict speed limits using color coded line segments for the actual posted speed limit.

In the southern portion of the I-95 corridor, speed limits gradually diminish as the surrounding environment becomes more urbanized. The urban/rural transition is found approximately at the Palm Beach/Martin County line and corresponds with a drop in speed limits due to higher demand and increased number of interchange access points. The lowest speed limit range occurs on the southern tip of I-95 where traffic merges to and from US-1. At this location, I-95's characteristics are more related to an on/off ramp rather than a high-speed limited access freeway.

In the northern portion of the I-95 corridor, the posted speeds vary from 55 mph to 70 mph. Only two segments of the corridor were identified as having posted speeds of less than 70 mph. The first runs through an urbanized area of Jacksonville to south of I-295. The second segment is just north of the convergence of I-95 and I-4 in Volusia County.

Figure 2.2.1A

I-95 Existing SIS Highway Connections

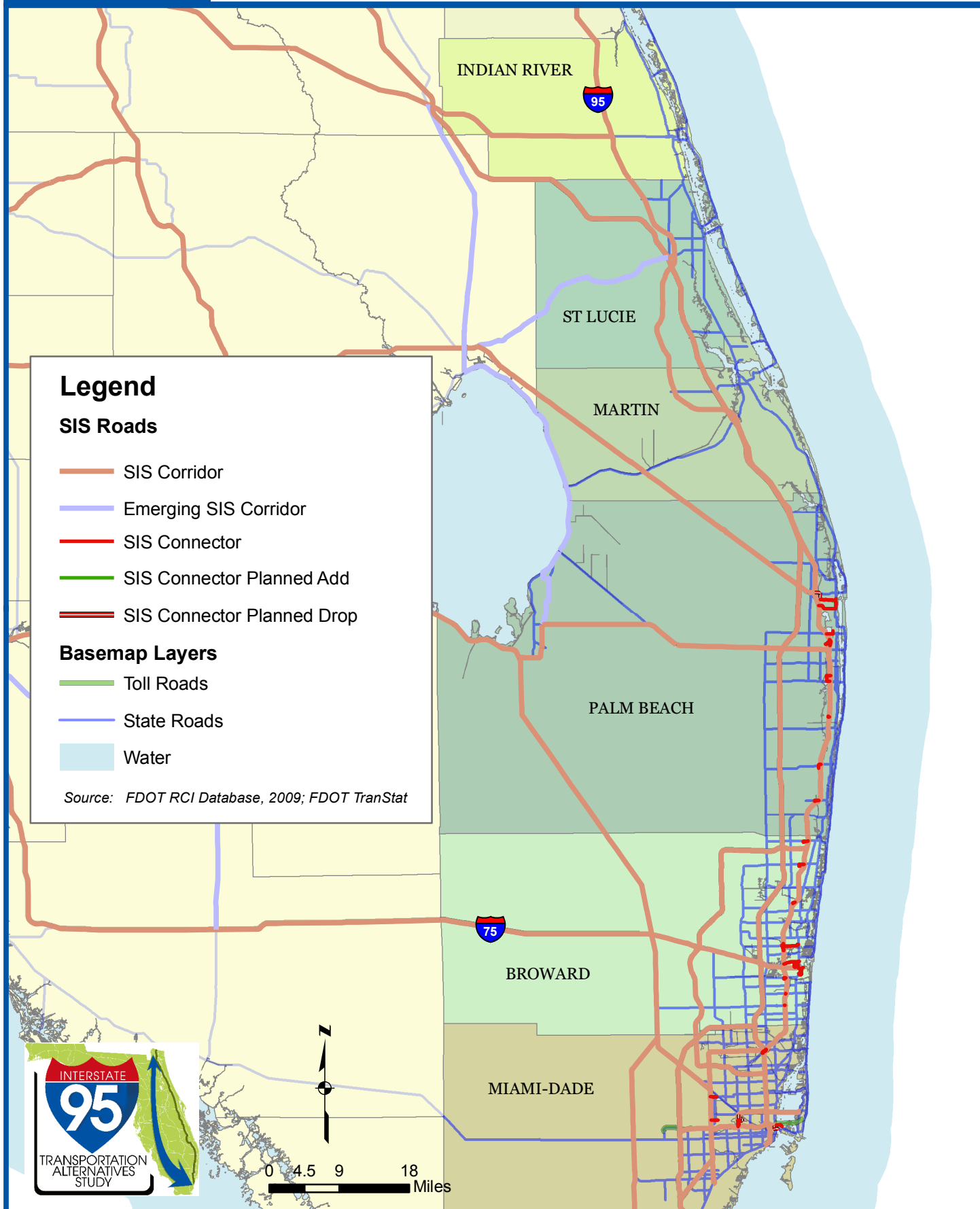


Figure 2.2.1B

I-95 Existing SIS Highway Connections

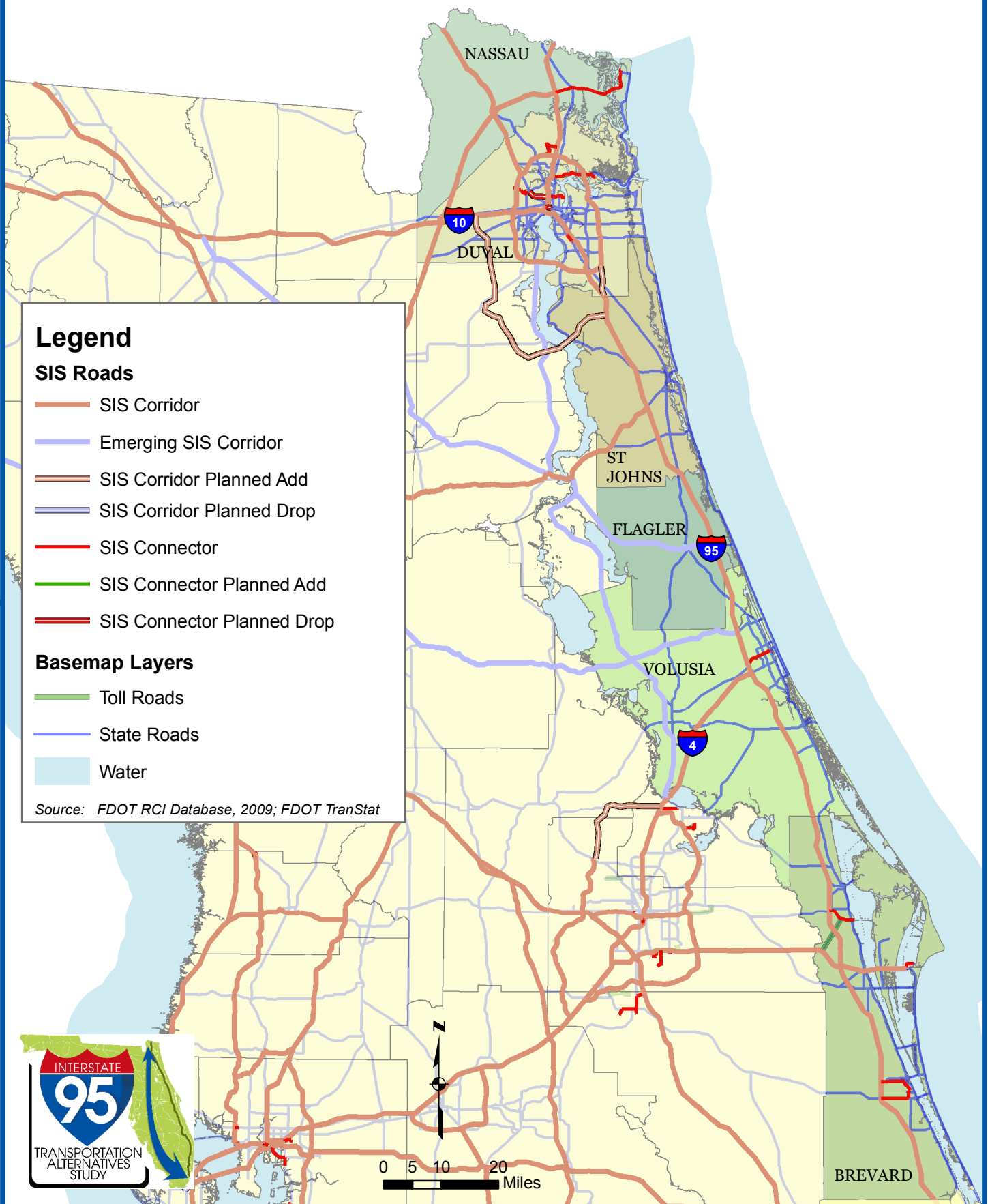


Figure 2.2.2A

I-95 Existing Speed Limit

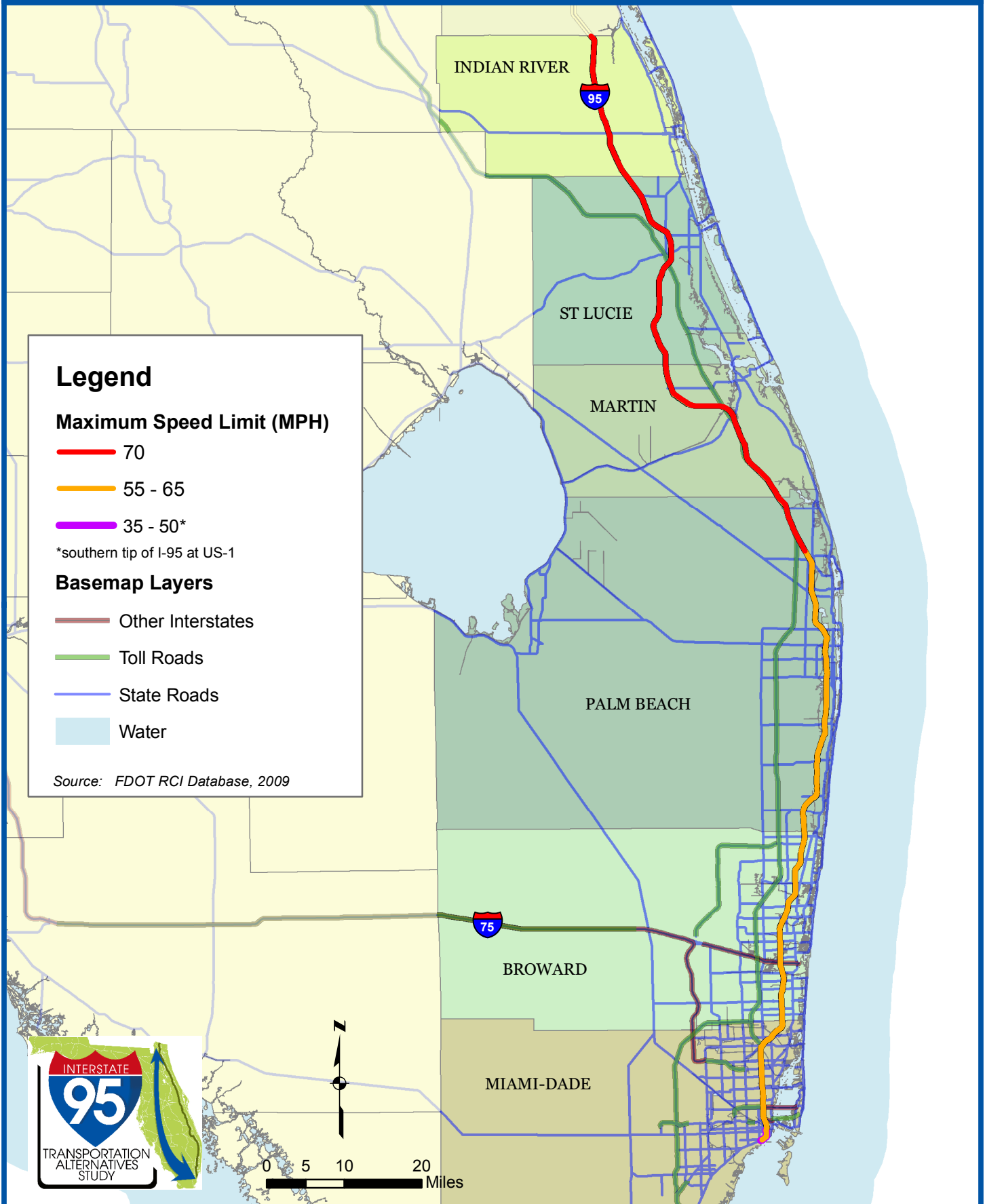
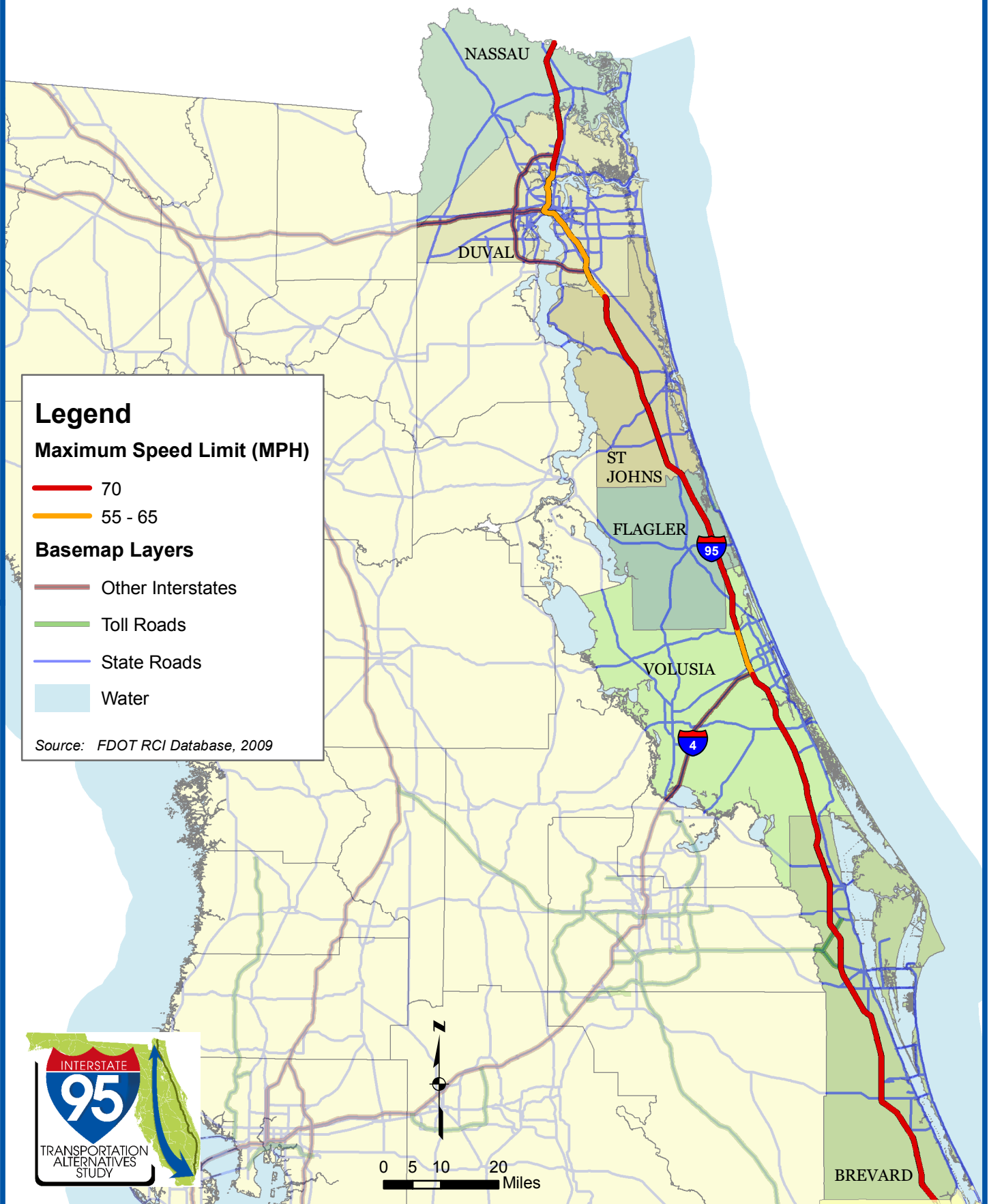
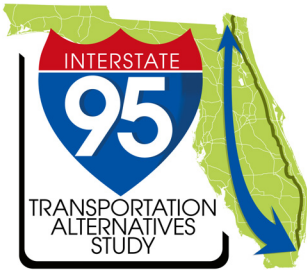


Figure 2.2.2B

I-95 Existing Speed Limit





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Existing Number of Through Lanes

Figure 2.2.3A and **Figure 2.2.3B** display I-95's lane configuration for the existing number of through lanes. Note that the figures do not include auxiliary lanes, only through lanes. As motorists travel northbound from US-1, I-95's lane configuration steadily increases from 4 lanes to 6 to 8 lanes before reaching SR 916. Approaching the Golden Glades interchange, the lanes increase to 12 lanes for a short distance. Between the Golden Glades Interchange and the Miami-Dade/Broward County line, I-95 carries on an 8 lane configuration. From the southern Broward County line to the I-595 interchange, there are between 10 and 12 lanes.¹ I-95 maintains this lane configuration for a short distance north of I-595 and decreases to between 8 and 10 lanes through much of Palm Beach County. The lane reduction occurring at north Palm Beach corresponds to the speed limit change occurring at the same location. As I-95 extends through less urbanized regions, the lane configuration gradually is reduced from 8 lanes to 4 lanes near the northern limits of I-95 South corridor in St. Lucie County and continues through Indian River County.

The existing number of lanes for the northern section of the I-95 corridor ranges from 4 to 10 lanes. Most of Brevard County has a typical lane configuration of 4 lanes with a brief increase to 6 lanes near the Beachline Expressway. The number of lanes also increases to 6 in Volusia County, just immediately north of the connection with I-4. I-95 generally maintains the 6 lane configuration for the extent of the corridor to Georgia. The exceptions to the 6 lane configuration are in the Jacksonville metro area where the lanes vary: at the convergence of southern I-95 and I-295, there are 8 to 10 lanes; in downtown Jacksonville, there are 6 general use lanes throughout with some segments having auxiliary lanes between interchanges. From the north end of the Fuller Warren Bridge (Park Street exit) to just south of the Union Street exit, there are Collector-Distributor roads with 2 to 4 lanes in each direction.

¹ At 12 lanes, I-95 is considered at "build out" where no additional general-purpose lanes may be built, although this does not preclude special use lanes, such as HOV, HOT, Truck or Express lanes.

Figure 2.2.3A

I-95 Existing Number of Through Lanes

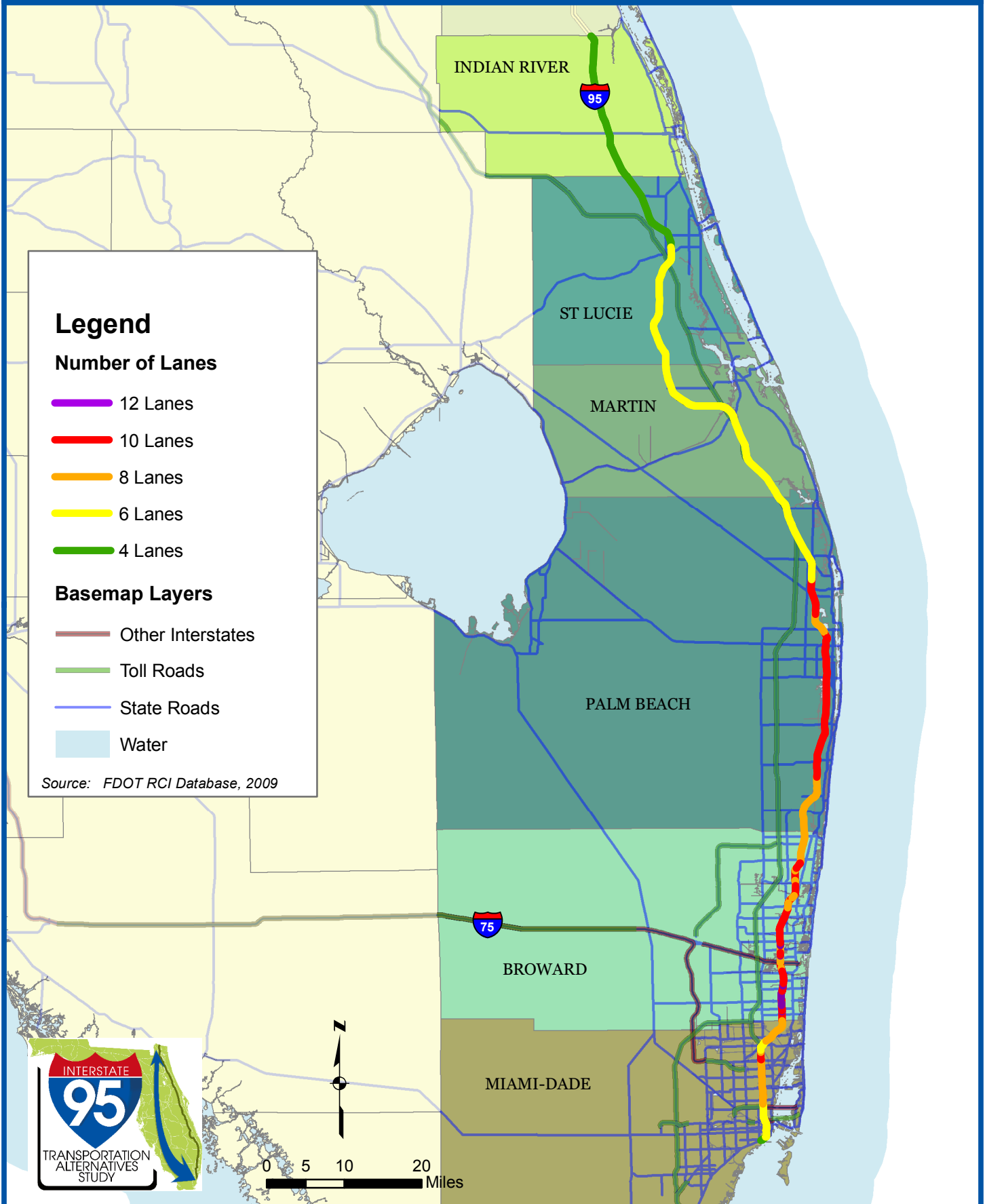
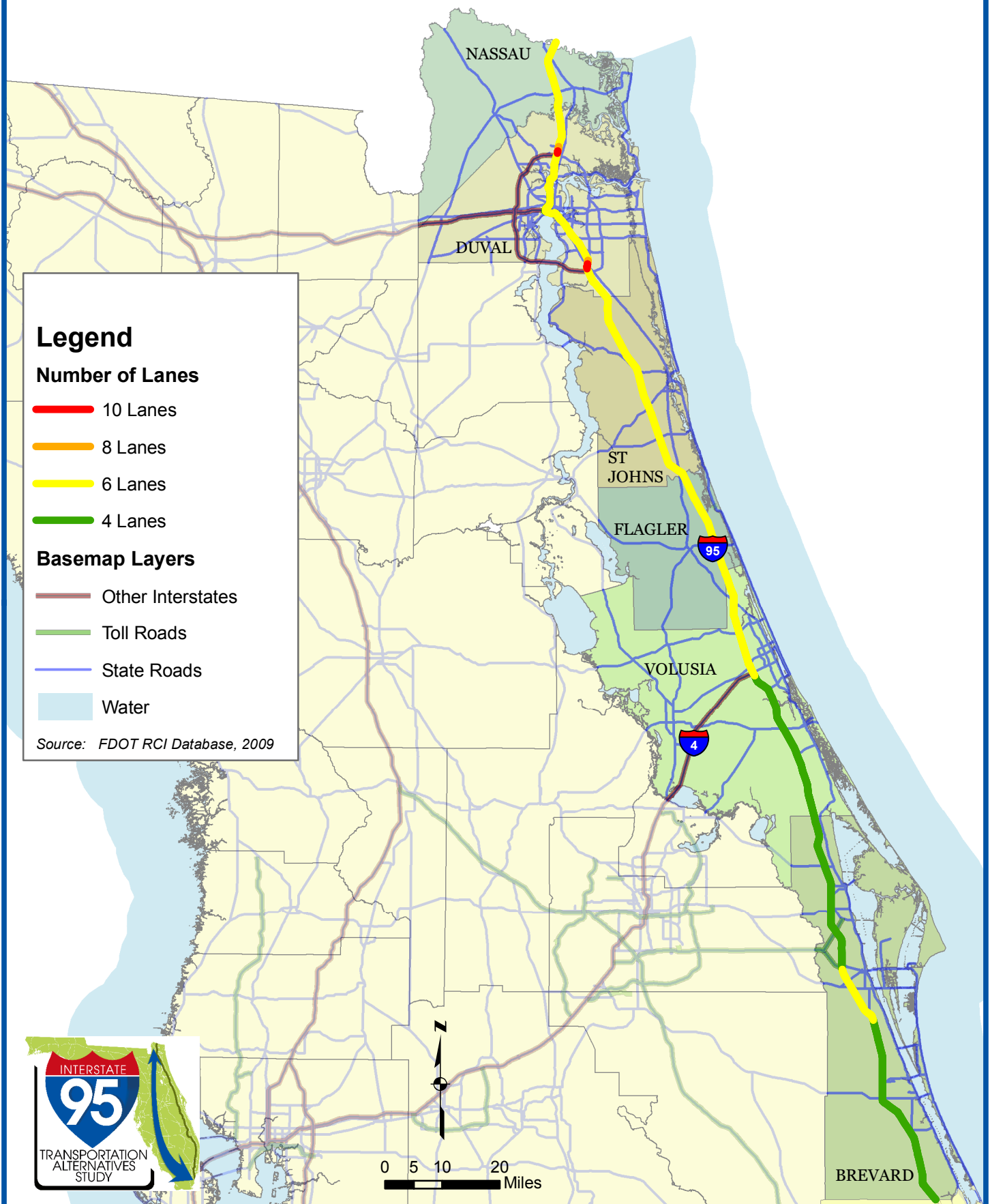


Figure 2.2.3B

I-95 Existing Number of Through Lanes





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Existing Right-of-Way

Increasing demand for both passenger and freight transportation poses an important challenge for the I-95 facility. In order to improve the functionality on this facility, it is important to understand the existing right-of-way characteristics. The interstate system was constructed under uniform guidelines; however, deviations from these standard guidelines do occur given various constraints from the surrounding environment. Constraints may include either natural or land use restrictions that limit right-of-way. **Table 2.2.1** provides an overview of the right-of-way characteristics for the I-95 corridor.

Table 2.2.1 Existing Average Right-of-Way (ROW)

I-95 Segment		ROW Variance (ft)		Exceptions	
From/County	To/County	From	To	Segment	ROW Width (ft)
US 1- Miami-Dade	SR 826/Turnpike/ US 441 Merge- Miami-Dade	200	250	None	
N of 826/Turnpike/ US 441 merge- Miami-Dade	SR 860/NE 183 rd - Miami-Dade	150	200	None	
SR 860/NE 183 rd - Miami-Dade	SR 842/W Broward Blvd-Broward	250	300	None	
SR 842/W Broward Blvd- Broward	SR 834/W Sample Rd-Broward	300	350	From N of Hammonville Rd Underpass to W Copans Rd Interchange	250 - 275
W Sample Rd- Broward	SR 804/Boynton Beach Blvd-Palm Bc	250	300	None	
SR 804/Boynton Beach Blvd-Palm Bc	SR 786/PGA Blvd- Palm Beach	300	350	None	
SR 786/PGA Blvd- Palm Beach	SR 70/ Okeechobee Rd- St. Lucie	350	400	Short flared median N of CR 76A Overpass	500
				Short flared median N of SW Martin Hwy	800
				Short flared median N of SW Martin Hwy	650
				Short flared median N of SW Martin Hwy	500
				Short flared median S of Okeechobee Rd	500



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Table 2.2.1 Existing Average Right-of-Way (ROW)

I-95 Segment		ROW Variance (ft)		Exceptions	
From/County	To/County	From	To	Segment	ROW Width (ft)
SR70/ Okeechobee Rd- St. Lucie	N Indian River County Line	300	350	Short flared median at Angle Rd Underpass	650
				Short flared median north of SR 60	950
				Short flared median S of Indian River Co Line	700
Indian River/Brevard County Line	Barton Blvd- Brevard	300	350	Short flared median section north of Lake Washington Road	390
Barton Blvd- Brevard	King St- Brevard	370	385	This segment includes Tucker Ln within the right-of-way that parallels I-95 on the west side.	
King St- Brevard	University Blvd- Duval	300	350	Three short flared median sections N of SR 44 to S of SR 421	430 - 530
				Short flared median section S of Belville Rd	470
				Short flared median section N of Airport Rd	450
				Short flared median sect N of Old Dixie Hwy	455
				Short flared median section N of US 1	400
				Short flared median section S of Racetrack	430
				Short flared median section S of JT Butler	370
University Blvd- Duval	S of Broward Rd- Duval	200	250	N/A	
S of Broward Rd- Duval	US 17- Nassau	300	350	Short flared median section S of US 17	390

Source: FDOT Surveying and Mapping Office



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Through Miami-Dade, Broward, and Palm Beach counties, the I-95 corridor is constrained due to highly urbanized development. At times, the right-of-way of I-95 extends only 150 feet. Generally, the right-of-way fluctuates between 250 and 350 feet through the three southern counties. North of Palm Beach County, I-95 passes into rural characteristics and right-of-way becomes both uniform and less constrained. Right-of-way in this area ranges from approximately 300 to 400 feet. At times, median flares may extend consumed right-of-way to nearly 1,000 feet.

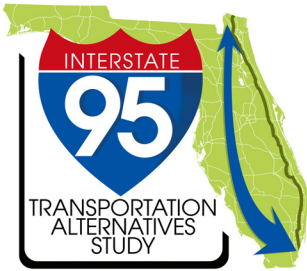
Constrained right-of-way environments due to land use patterns severely limit the expansion capabilities of I-95, specifically through Miami-Dade, Broward, and Palm Beach counties. Additional at grade parallel lanes become cost prohibitive due to the expense of right-of-way acquisition. The majority of I-95 extending through Miami-Dade and Broward County is currently considered at build-out. Alternative methods to handle increased demand may need to be reviewed in order to accommodate growth. These alternative methods include congestion managed lanes, special use lanes, and interregional transit supportive express service and associated improvements.

Continuing north, the I-95 project corridor, for the most part, lies within a 300-foot right-of-way with flares at interchanges. Several short sections have also been identified where the right-of-way flares out along the mainline. These sections are typically where the median width gets wider: areas with horizontal curves, rest areas, agricultural inspection stations, or weigh stations. The minimum right-of-way section identified is approximately 200-feet located between University Boulevard and south of Broward Road in Duval County.

Outside of urban areas, I-95 generally consists of a grassed median which allows for future widening to be done to the inside, therefore accommodating improvements within the existing right-of-way. However, much like other segments of I-95 farther south, certain segments of the I-95 corridor in the north portion of the corridor have constrained areas in which variances will likely be needed in order to keep improvements within the existing right-of-way.

2.3 Intermodal Characteristics

Figures 2.3.1A and 2.3.1B illustrate the Strategic Intermodal System (SIS) hubs along the I-95 corridor. The SIS hubs include: major airports, intermodal freight-rail terminals, passenger terminals, seaports, and a spaceport. The facilities include both SIS and Emerging SIS hubs. These hubs are places where different transportation modes converge and interact. For example in a passenger terminal, people enter the facility by one mode of access (e.g. on foot, riding a bicycle, by car, by bus or train, etc.) and leave by another. I-95 serves and connects key SIS



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hubs that are on or adjacent to the corridor. Any improvements to I-95 should consider potential impacts to these facilities.

In the southern part of I-95, illustrated in Figure 2.3.1A, passenger rail terminals become readily available in Palm Beach County. Between Palm Beach, Broward and Miami-Dade Counties, there are 3 deepwater ports and 3 international airports. Figure 2.3.1B shows a concentration of facilities in Duval County, which can be attributed to the heavy urban basis of that county. The northern portion of the I-95 corridor is host to Kennedy Space center in Brevard County as well as 3 major airports and 3 deepwater ports.

Figure 2.3.1A

Existing SIS Hubs

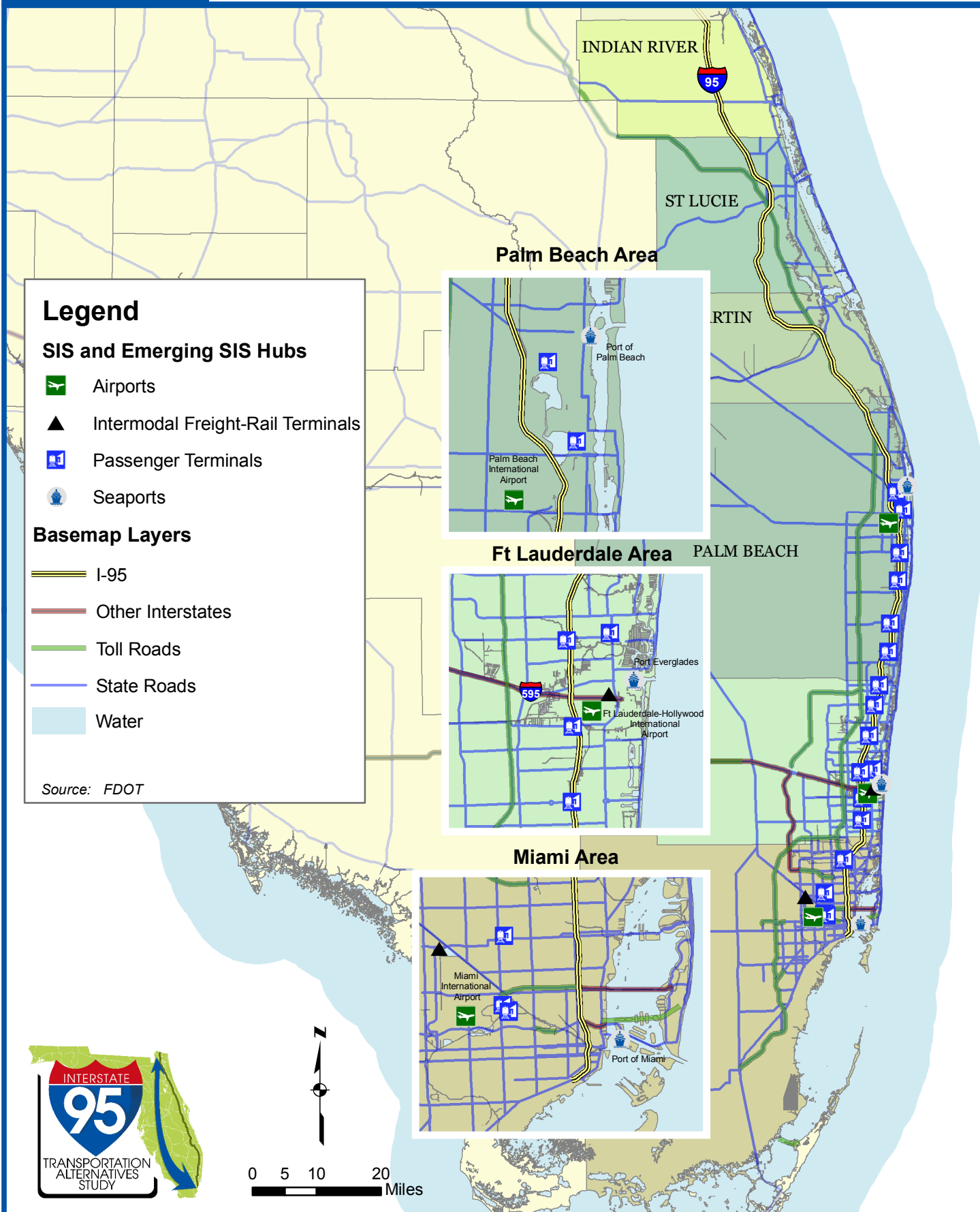
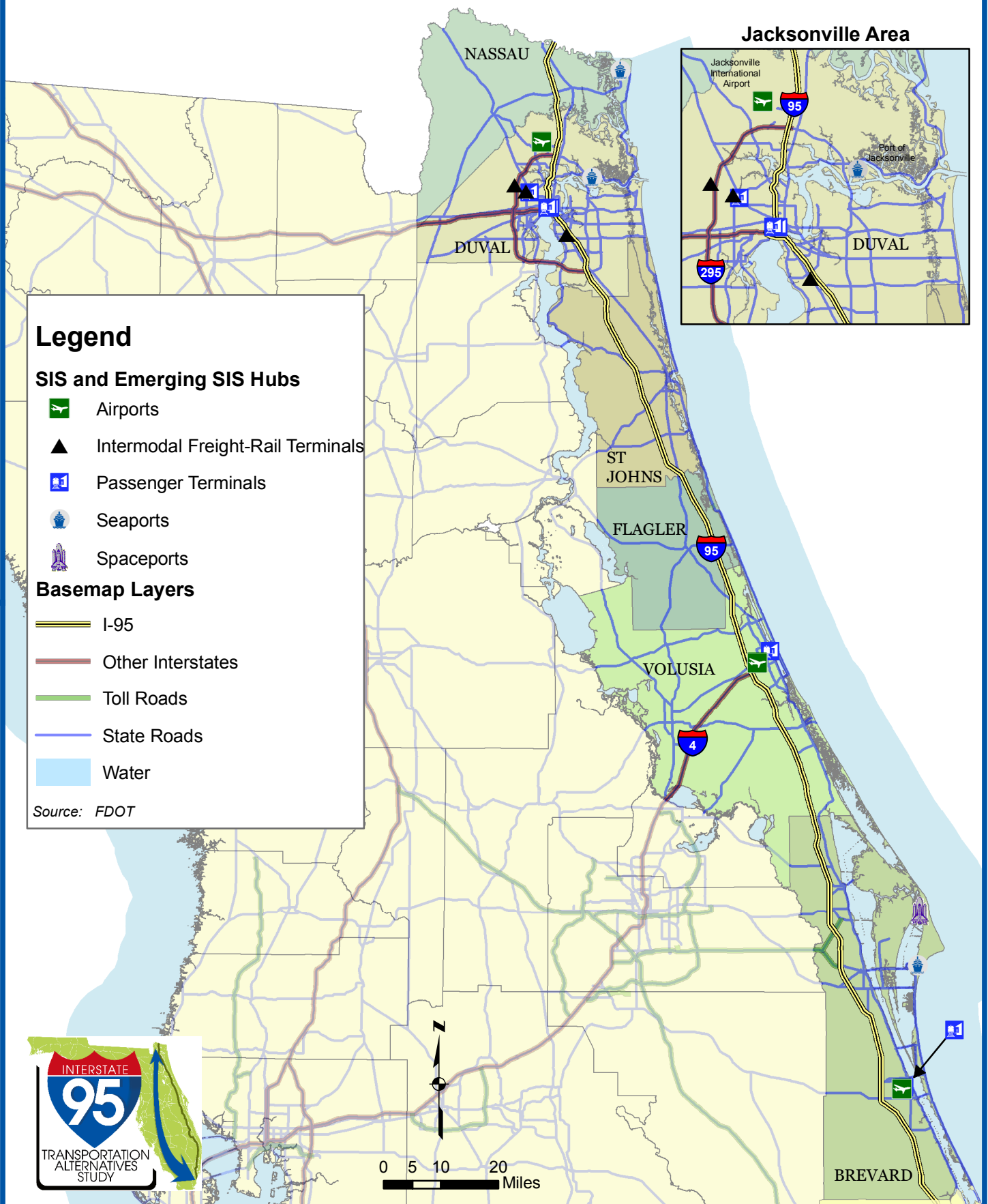
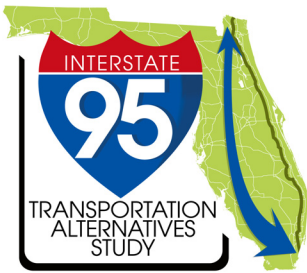


Figure 2.3.1B

Existing SIS Hubs





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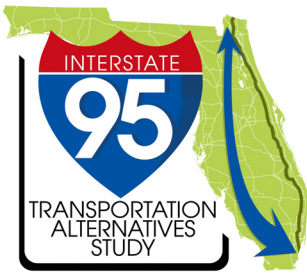
2.4 Major Traffic Generators

This section provides a summary of major employment traffic generators along the I-95 corridor that can be used to determine both economic influence on a region and a region's mobility needs. For the purposes of this technical memorandum, employment and business data from Hoover's, Inc. was reviewed to provide insight into major traffic generators. Hoover's is a private provider of comprehensive economic databases, which includes detailed consumer and business information. This data was then used to determine both trip characteristics and demand on transportation modes. For example, high employment in tourism industries may indicate not only high traffic demand for employees but also demand associated with tourists. High employment in freight-oriented industries would indicate high demand for trucks and rail associated with freight movement. Utilizing Hoover's, the top 20 employers by county were extracted for the 12 counties along the I-95 corridor. This selection will provide a general overview of each region's employment and mobility needs.

Table 2.4.1A identifies the top 20 employment sources for the six counties along southern portion of I-95. Schools retain the highest total number of employees for the region. It should be noted that *Royal Caribbean Cruises Ltd.* in Dade County employs the fourth highest number within the segment; however, many Royal Caribbean employees are not residents of the United States. Tourism industries generate not only high traffic demand in the form of number of employees, but also generate significant traffic demand from their services offered. Connectivity to and from tourism destinations must be taken into account when future planning occurs. I-95 plays an important role in connecting the Port of Miami to and from outside destinations.

Overall, the top 20 employment sources account for 16 percent of the total employment for the southern part of the I-95 corridor and 11 percent of total corridor county employment through Florida. The employment data from Hoovers can be summed up primarily as generally diversified with primary employment in schools followed by healthcare and county workers. Royal Caribbean Cruises Ltd. remains the outlier with impacts on demand far exceeding gross employment. Publix and Wal-Mart Stores, Inc. are the only retail based employment sources within the top 20.

Table 2.4.1B provides the top 20 employment sources for the northern six counties of the I-95 corridor. The six counties throughout this part of the I-95 corridor currently employ more than 542,000 persons. Large employers contribute to being major traffic generators within the I-95 corridor. The Hoover's data suggests that the top 20 employers identified contribute to 19 percent of the total employment of the northern section of the I-95 corridor and six (6) percent of the



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top employers for both the I-95 northern and southern section counties combined. The largest employer, Duval County Public Schools, employs more than 10,000 persons. The data further suggests that, in general, the counties along the I-95 north corridor maintain a fairly strong economic base. In the future, the I-95 corridor will continue to be a major transportation facility for producing origin and destination patterns for work trip purposes and for connectivity to other employers via parallel corridors, frontage roads, and other intersecting major roads.

Table 2.4.1A Major Employment Traffic Generators for I-95 South

County	Employment Source	Total Employees
Miami-Dade	Miami-Dade County Public Schools	33,439
Palm Beach	School Board Of Palm Beach County	25,983
Miami-Dade	University Of Miami	13,793
Miami-Dade	Royal Caribbean Cruises Ltd.	13,200
Broward	The School Board Of Broward County	11,637
Broward	North Broward Hospital District	11,162
Miami-Dade	County Of Miami-Dade	9,456
Broward	Publix Super Markets, Inc.	8,928
Miami-Dade	Baptist Health South Florida	7,169
Miami-Dade	Publix Super Markets, Inc.	7,144
Broward	South Broward Hospital District	6,434
Broward	County Of Broward	6,081
Palm Beach	Publix Super Markets, Inc.	5,925
Palm Beach	County Of Palm Beach	5,566
Miami-Dade	Miami-Dade College Foundation, Inc	5,400
Broward	Wal-Mart Stores, Inc	5,092
Miami-Dade	Miami-Dade County	4,932
Broward	United States Postal Service	4,866
Martin	Martin Memorial Health Systems, Inc.	4,200
St Lucie	County Of St Lucie	3,664
Sum of Top 20		194,071
I-95 South Total Employment		1,237,744
Top 20 – Percent of Total (South Corridor)		16%

I-95 Employment Statistics	
I-95 North Total Employment	542,698
I-95 South Total Employment	1,237,744
Total Corridor Employment	1,780,442
I-95 South Top 20 – Percent of Total Corridor Employment (North and South)	11%

Source: Hoover's, Inc.



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Table 2.4.1B Major Employment Traffic Generators for I-95 North

County	Employment Source	Total Employees
Duval	Duval County Public Schools	10,551
Duval	Baptist Health System, Inc.	8,535
Brevard	School Board Of Brevard County	7,631
Duval	Blue Cross And Blue Shield Of Florida, Inc.	7,500
Volusia	Volusia County School Board	6,258
Brevard	The Boeing Company	5,600
Duval	United States Department Of The Navy	9,555
Brevard	County Of Brevard	5,290
Duval	Mayo Clinic Jacksonville	5,214
Brevard	United Space Alliance, Llc	5,000
Volusia	Halifax Health Care Systems, Inc.	4,155
Duval	City Of Jacksonville	4,067
Duval	Wal-Mart Stores, Inc	4,008
Volusia	Atlantic Medical Center	4,000
Duval	Shands Jacksonville Medical Center, Inc.	3,913
Duval	Winn-Dixie Stores, Inc.	3,422
Duval	JEA	3,147
Brevard	Wal-Mart Stores, Inc	3,014
Duval	UNF/SBDC (combined)	3,000
Sum of Top 20 Employers		103,860
I-95 North Total Employment		542,698
Top 20 – Percent of Total (North Corridor)		19%

I-95 Employment Statistics	
I-95 North Total Employment	542,698
I-95 South Total Employment	1,237,744
Total Corridor Employment	1,780,442
I-95 North Top 20 – Percent of Total Corridor Employment (North and South)	6%

Source: Hoover's, Inc.



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2.5 Corridor Intelligent Transportation Systems (ITS)

The purpose of this section is to provide an overview of the corridor intelligent transportation systems (ITS) network coverage along I-95. **Figures 2.5.1A** and **2.5.1B** depict the existing Intelligent Transportation Systems (ITS) status along the I-95 corridor. The ITS status is designated as being full coverage, complete with Closed Circuit Television, Changeable Message Signs, and Detection Systems. Other areas include partial coverage of ITS design, where fiber optics infrastructure is more sporadic along the corridor.

As illustrated in Figure 2.5.1A, ITS coverage along the southern portion of the I-95 corridor consists of full coverage extending from Miami-Dade County north through Palm Beach County. This segment also falls within the urbanized sections of I-95 South. North of Palm Beach, partial coverage extends through Martin, St. Lucie, and Indian River counties. This segment is generally rural to transitional with a limited number of portable trailers, Dynamic Message Signs (DMS), Closed-Circuit TV (CCTV), and Microwave Vehicle Detection Systems (MVDS). The northern portion of the I-95 corridor benefits from full ITS coverage in all counties except St. Johns, Nassau and a very small segment in southern Brevard County. ITS coverage through the I-95 corridor includes the following:

Palm Beach County

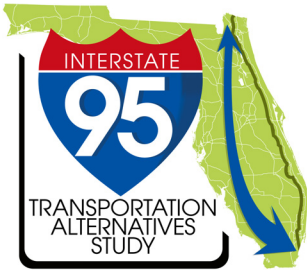
- I-95 Smart Zones: “Smart Zones” provide the motoring public with automated, real time traffic information.
- 27 portable trailers with combined DMS, MVDS, CCTV function (I-95 only)
- Incident Management – Road Rangers

Broward County

- DMS: 29 Dynamic Message Signs (fixed signs in the Broward I-95 and I-75 corridors)
- CCTV: 86 Closed-Circuit TV cameras along Broward I-95 and I-75 corridors
- MVDS: 226 (Microwave Vehicle Detection System) in the Broward I-95 and I-75 corridors for traffic counts, volumes etc.
- Incident Management – Road Rangers

Miami-Dade County

- DMS: 48 Dynamic Message Signs
- CCTV: 91 Closed-Circuit TV cameras
- MVDS: 133 (Microwave Vehicle Detection System) for traffic counts, volumes etc.



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- Incident Management – Road Rangers

Brevard County

- Hurricane Evacuation System

Brevard County/Volusia County

- Telecom Infrastructure
- Surveillance Motorist Information System / Daytona Area Smart Highways

Volusia County

- Surveillance Motorist Information System / Daytona Area Smart Highways
- Telecom Infrastructure
- ITS Freeway Management

Duval County

- Jacksonville Interstate Surveillance and Control System Phase 3, 4 and 6 with Fiber Optics – 37 miles from none mile north of CR 210 to one mile north of Pecan Rd
- Closed Circuit TV cameras – 48 cameras
- Dynamic Message Signs (DMS) – 20 DMS
- Incident Management – Road Rangers coverage for 32 miles
- Vehicle Detection Units (VDS) – 152 VDS units
- Telecom Infrastructure – 37 miles
- Traffic Counting Devices – one state counter just south of Emerson Rd

Figure 2.5.1A

I-95 Corridor ITS Coverage

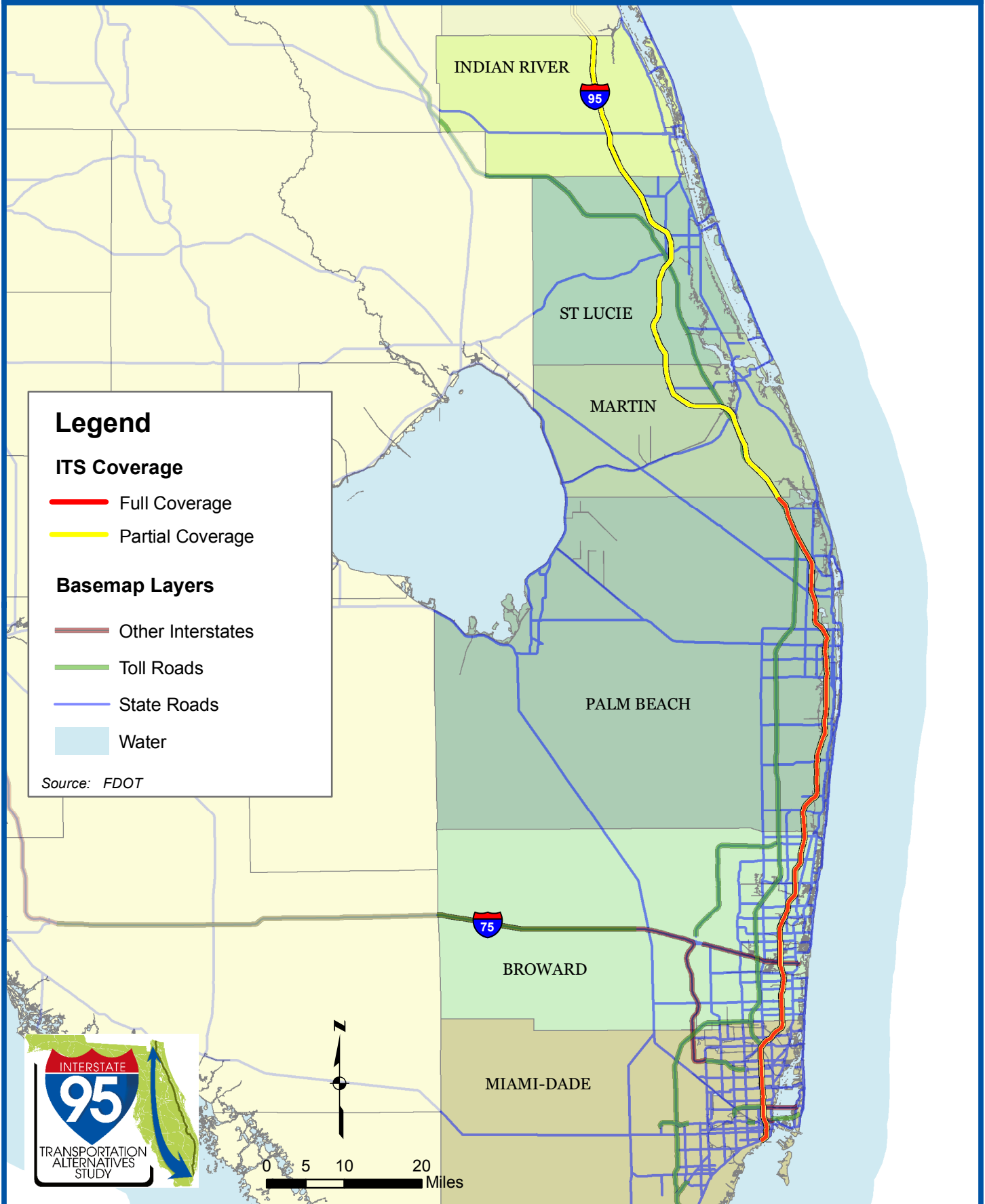
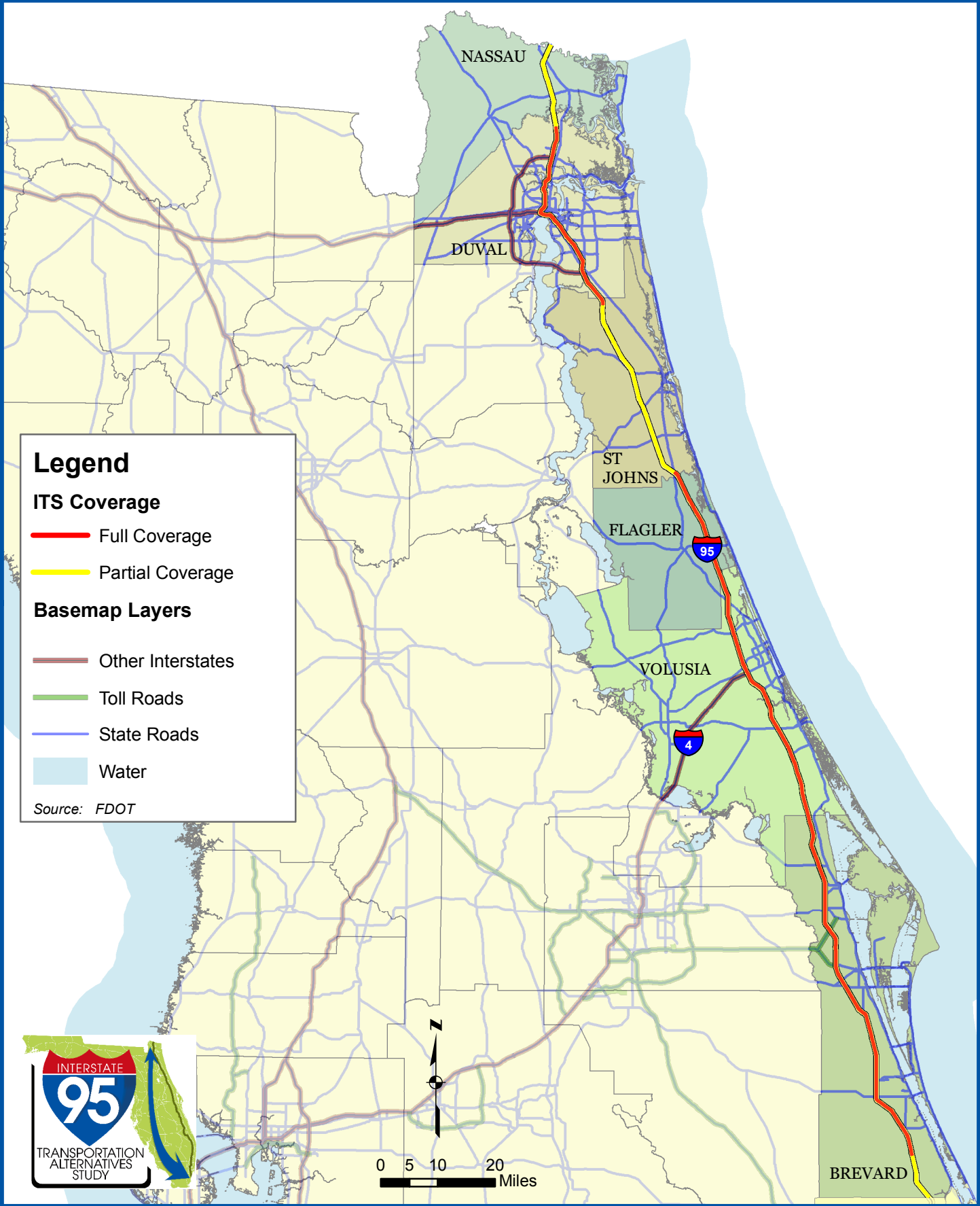
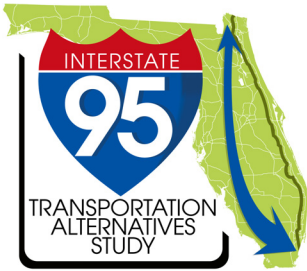


Figure 2.5.1B

I-95 Corridor ITS Coverage



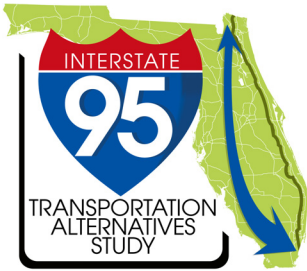


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2.6 Environmental Considerations

As the I-95 Transportation Alternatives Study moves forward to develop alternatives to relieve congestion, improve emergency and security response, and encourage economic development, numerous environmental issues will need to be investigated. Environmental issues are reviewed for transportation projects. The FDOT utilizes its Efficient Transportation Decision Making (ETDM) process to accomplish this as projects move forward from the conceptual stage to the planning, development, design, and construction phases. The ETDM process includes consideration of environmental issues with regards to the community, cultural and natural environment. The ETDM process includes coordination with the Environmental Technical Advisory Team (ETAT) whose members include Federal and State regulatory and resource agency representatives. The coordination assists the FDOT in planning and developing the project while considering the environmental issues associated with the action as follows:

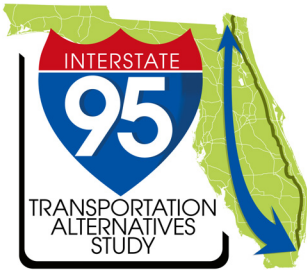
- Community
 - Aesthetics (including noise concerns)
 - Economic
 - Land Use
 - Mobility
 - Relocation
 - Social
- Cultural
 - Historic and Archaeological Sites
 - Recreation Areas
 - Section 4(f) potential (Federal projects)
- Natural
 - Air Quality
 - Coastal and Marine
 - Contaminated Sites
 - Farmlands
 - Floodplains
 - Infrastructure
 - Navigation
 - Special Designations
 - Water Quality and Quantity
 - Wetlands
 - Wildlife and Habitat
- Secondary and Cumulative Effects



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The Florida Department of Environmental Protection (FDEP) has the responsibility to protect Florida's natural resources and preserve them for generations to come. For this study the FDEP has identified the following environmental issues that are most important when considering new transportation alternatives:

- Wetlands
 - Comprehensive Everglades Restoration Plan Project Boundaries
 - St. Johns River Water Management District Wetlands (SJRWMD) 2004
 - South Florida Water Management District Wetlands (SFWMD) 2004
 - SFWMD Critical Restoration Projects
 - Mitigation Banks
- Water Quality and Quantity/Water Resources
 - Outstanding Florida Waters
 - SFWMD Save Our Rivers Lands
 - SJRWMD Save Our Rivers Lands
 - Surface Water Classification
 - Wild and Scenic Rivers
 - Digital Flood Insurance Rate Map (DFIRM) Flood Hazardous Zones
- Water Quality and Quantity/Conservation
 - Aquatic Preserves
 - National Estuarine research Reserves
 - Water Management District Owned Lands
- Floodplains/Coastal
 - Environmentally Sensitive Shoreline
- Recreation/Conservation
 - Florida Fish and Wildlife Conservation Commission (FWCC) Managed Areas
 - Florida Managed Areas – Florida Natural Areas Inventory (FNAI)
 - Florida Forever
 - Public Land
 - State Parks
 - National Parks and Seashores
 - National Park Projects
- Coastal and Marine/Coastal
 - Ports
 - Coastal Emergency Management Flood Areas
 - Coastal Barrier Resource Area



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- Coastal and Marine/Habitat
 - Florida Mangroves
 - Seagrass
- Contaminated Sites/waste
 - FDEP Hazardous Waste
 - United State Environmental Protection Agency (USEPA) Superfund Sites
 - Solid Waste Facilities
 - USEPA National Pollutant Discharge Elimination System
 - Brownfield Areas

Coordination and consultation regarding environmental issues with the various environmental resource and permitting agencies is needed to fulfill environmental regulations and requirements applicable to the successful advancement of transportation projects.



Chapter 3 - Demographic Elements

The idyllic image of Florida's beaches may help explain why for years millions have come to Florida to vacation and then to stay. Florida as a whole has been at the forefront of a decades-long shift in population from the nation's traditional economic centers in the North and Midwest to the Sunbelt. The recent economic downturn in the state and rest of the country has temporarily halted this rapid growth, but forecasts indicate the growth will return in future years.

Portions of the I-95 corridor have seen enormous growth to such an extent that alternative transportation options are becoming necessary. While the region's transportation infrastructure, principally its highways and its airports, have accommodated and even fueled much of the growth, there are rising concerns about congestion and level of service.

3.1 Existing Demographic Characteristics

The Florida Department of Transportation estimated Florida's population at over 18.75 million in April of 2009¹. A breakdown of Florida population data by county shows the distribution in relation to the I-95 corridor. Statewide, the ten counties with the highest population estimates in 2009 were Miami-Dade, Broward, Palm Beach, Hillsborough, Orange, Pinellas, Duval, Lee, Polk and Brevard¹. Miami-Dade had the highest population by far, at nearly 2.5 million. The I-95 corridor runs through the top three most populated counties in Florida, and five of the top ten, making the efficient movement of people and goods a priority for these areas. **Table 3.1.1** shows current population estimates by county and city in the study area.

From 1900 to 2000, Florida's ranking in population size increased more than any other state, from 33rd to 4th, and this impressive growth trend continued through 2008². While the current economic climate has halted this growth over the past year, the growth is expected to continue as the economy rebounds.

Of the 67 counties in Florida, all but Monroe experienced growth from 2000 to 2009, and 17 had a 25% change or greater³. These areas of rapid growth impact the I-95 corridor in a few counties, as the suburbs of Jacksonville grew substantially. In fact I-95 runs through Flagler County, which had the highest growth rate during that timeframe at 90%, nearly doubling the population in eight years³. **Figure 3.1.1** illustrates the population growth rate of study area counties from 2000-2009.

¹ FDOT Office of Policy Planning, 2009

² Demographic Trends of the 21st Century: Census 2000 Special Reports (2002)

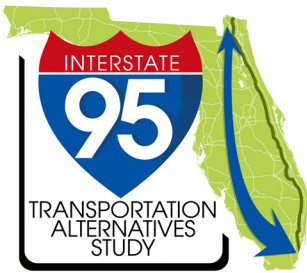
³ FDOT Office of Policy Planning, 2009



Chapter 3 - Demographic Elements

Table 3.1.1 Estimates of Population by County and City in Florida for the 12 County Study Area

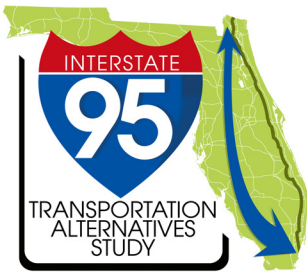
County, City and State	April 1, 2000	April 1, 2009	Raw Change	Percent Change
Brevard	476,230	555,700	79,470	16.7%
Cape Canaveral	8,829	10,500	1,671	18.9%
Cocoa	16,412	16,800	388	2.4%
Cocoa Beach	12,482	12,600	118	0.9%
Grant-Valkaria	0	4,000	4,000	-
Indialantic	2,944	3,000	56	1.9%
Indian Harbour Bch	8,152	8,800	648	7.9%
Malabar	2,622	2,900	278	10.6%
Melbourne	71,382	78,300	6,918	9.7%
Melbourne Beach	3,335	3,300	-35	-1.0%
Melbourne Village	706	700	-6	-0.8%
Palm Bay	79,413	102,400	22,987	28.9%
Palm Shores	794	1,000	206	25.9%
Rockledge	20,170	25,700	5,530	27.4%
Satellite Beach	9,577	10,900	1,323	13.8%
Titusville	40,670	45,500	4,830	11.9%
West Melbourne	9,824	16,600	6,776	69.0%
UNINCORPORATED	188,918	212,700	23,782	12.6%
Broward	1,623,018	1,744,900	121,882	7.5%
Coconut Creek	43,566	47,800	4,234	9.7%
Cooper City	27,914	29,800	1,886	6.8%
Coral Springs	117,549	127,200	9,651	8.2%
Dania Beach	20,061	28,400	8,339	41.6%
Davie	75,720	91,100	15,380	20.3%
Deerfield Beach	64,585	73,200	8,615	13.3%
Ft. Lauderdale	152,397	180,700	28,303	18.6%
Hallandale Beach	34,282	37,400	3,118	9.1%
Hillsboro Beach	2,163	2,200	37	1.7%
Hollywood	139,368	141,900	2,532	1.8%
Lauderdale-by-the-Sea	3,221	5,900	2,679	83.2%
Lauderdale Lakes	31,705	31,900	195	0.6%
Lauderhill	57,585	64,000	6,415	11.1%
Lazy Lake	38	0	-38	-100.0%
Lighthouse Point	10,767	11,000	233	2.2%
Margate	53,909	53,200	-709	-1.3%
Miramar	72,739	112,600	39,861	54.8%
North Lauderdale	32,264	41,300	9,036	28.0%
Oakland Park	30,966	41,800	10,834	35.0%
Parkland	13,835	23,600	9,765	70.6%
Pembroke Park	5,384	6,100	716	13.3%
Pembroke Pines	137,427	151,200	13,773	10.0%



Chapter 3 - Demographic Elements

Table 3.1.1 Estimates of Population by County and City in Florida for the 12 County Study Area

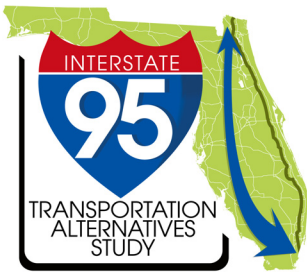
County, City and State	April 1, 2000	April 1, 2009	Raw Change	Percent Change
Plantation	82,934	84,700	1,766	2.1%
Pompano Beach	78,191	99,000	20,809	26.6%
Sea Ranch Lakes	734	700	-34	-4.6%
Southwest Ranches	0	8,600	8,600	-
Sunrise	85,787	89,200	3,413	4.0%
Tamarac	55,588	59,200	3,612	6.5%
Weston	49,286	61,700	12,414	25.2%
West Park	0	13,600	13,600	-
Wilton Manors	12,697	12,900	203	1.6%
UNINCORPORATED	130,356	13,000	-117,356	-90.0%
Duval	778,879	900,500	121,621	15.6%
Atlantic Beach	13,368	13,800	432	3.2%
Baldwin	1,634	1,600	-34	-2.1%
Jacksonville Beach	20,990	22,700	1,710	8.1%
Neptune Beach	7,270	7,400	130	1.8%
Jacksonville (Duval)	735,617	855,100	119,483	16.2%
Flagler	49,832	94,900	45,068	90.4%
Beverly Beach	547	600	53	9.7%
Bunnell	2,122	2,800	678	32.0%
Flagler Beach (part)	4,878	5,500	622	12.8%
Marineland (part)	6	9	-6	-100.0%
Palm Coast	32,732	73,900	41,168	125.8%
UNINCORPORATED	9,547	12,100	2,553	26.7%
Indian River	112,947	141,600	28,653	25.4%
Fellsmere	3,813	5,300	1,487	39.0%
Indian River Shores	3,448	3,800	352	10.2%
Orchid	140	300	160	114.3%
Sebastian	16,181	22,700	6,519	40.3%
Vero Beach	17,705	17,900	195	1.1%
UNINCORPORATED	71,660	91,600	19,940	27.8%
Martin	126,731	143,900	17,169	13.5%
Jupiter Island	620	700	80	12.9%
Ocean Breeze Park	463	400	-63	-13.6%
Sewall's Point	1,946	2,100	154	7.9%
Stuart	14,633	16,500	1,867	12.8%
UNINCORPORATED	109,069	124,200	15,131	13.9%
Miami-Dade	2,253,779	2,472,300	218,521	9.7%
Aventura	25,267	31,100	5,833	23.1%
Bal Harbour	3,305	3,300	-5	-0.2%
Bay Harbor Island	5,146	5,100	-46	-0.9%
Biscayne Park	3,269	3,200	-69	-2.1%



Chapter 3 - Demographic Elements

Table 3.1.1 Estimates of Population by County and City in Florida for the 12 County Study Area

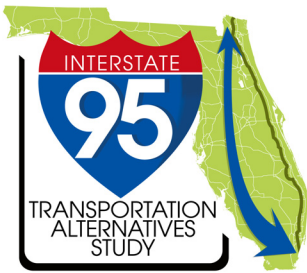
County, City and State	April 1, 2000	April 1, 2009	Raw Change	Percent Change
Coral Gables	42,249	45,500	3,251	7.7%
Cutler Bay	0	41,200	41,200	-
Doral	0	34,500	34,500	-
El Portal	2,505	2,500	-5	-0.2%
Florida City	7,843	10,200	2,357	30.1%
Golden Beach	919	900	-19	-2.1%
Hialeah	226,419	226,600	181	0.1%
Hialeah Gardens	19,297	21,000	1,703	8.8%
Homestead	31,909	57,600	25,691	80.5%
Indian Creek	33	100	67	203.0%
Islandia	6	0	-6	-100.0%
Key Biscayne	10,507	11,400	893	8.5%
Medley	1,098	1,100	2	0.2%
Miami	362,470	417,500	55,030	15.2%
Miami Beach	87,933	92,800	4,867	5.5%
Miami Gardens	0	109,700	109,700	-
Miami Lakes	0	26,700	26,700	-
Miami Shores	10,380	11,200	820	7.9%
Miami Springs	13,712	13,400	-312	-2.3%
North Bay Village	6,733	6,800	67	1.0%
North Miami	59,880	58,500	-1,380	-2.3%
North Miami Beach	40,786	40,100	-686	-1.7%
Opa-locka	14,951	15,300	349	2.3%
Palmetto Bay	0	25,100	25,100	-
Pinecrest	19,055	19,500	445	2.3%
South Miami	10,741	11,400	659	6.1%
Sunny Isles Beach	15,315	19,500	4,185	27.3%
Surfside	4,909	5,700	791	16.1%
Sweetwater	14,226	14,200	-26	-0.2%
Virginia Gardens	2,348	2,300	-48	-2.0%
West Miami	5,863	5,700	-163	-2.8%
UNINCORPORATED	1,204,705	1,081,400	-123,305	-10.2%
Nassau	57,663	72,600	14,937	25.9%
Callahan	962	1,200	238	24.7%
Fernandina Beach	10,549	12,100	1,551	14.7%
Hilliard	2,702	2,900	198	7.3%
UNINCORPORATED	43,450	56,400	12,950	29.8%
Palm Beach	1,131,191	1,287,300	156,109	13.8%
Atlantis	2,005	2,100	95	4.7%
Belle Glade	14,906	17,100	2,194	14.7%
Boca Raton	74,764	84,800	10,036	13.4%



Chapter 3 - Demographic Elements

Table 3.1.1 Estimates of Population by County and City in Florida for the 12 County Study Area

County, City and State	April 1, 2000	April 1, 2009	Raw Change	Percent Change
Boynton Beach	60,389	67,000	6,611	10.9%
Briny Breezes	411	400	-11	-2.7%
Cloud Lake	167	200	33	19.8%
Delray Beach	60,020	63,800	3,780	6.3%
Glen Ridge	276	300	24	8.7%
Golf	230	300	70	30.4%
Greenacres	27,569	32,400	4,831	17.5%
Gulf Stream	716	700	-16	-2.2%
Haverhill	1,454	1,600	146	10.0%
Highland Beach	3,775	4,200	425	11.3%
Hypoluxo	2,015	2,400	385	19.1%
Juno Beach	3,262	3,700	438	13.4%
Jupiter	39,328	50,300	10,972	27.9%
Jupiter Inlet Colony	368	400	32	8.7%
Lake Clarke Shores	3,451	3,400	-51	-1.5%
Lake Park	8,721	9,100	379	4.3%
Lake Worth	35,133	36,200	1,067	3.0%
Lantana	9,404	9,700	296	3.1%
Loxahatchee Groves	0	3,200	3,200	-
Manalapan	321	400	79	24.6%
Mangonia Park	1,283	2,200	917	71.5%
North Palm Beach	12,064	12,400	336	2.8%
Ocean Ridge	1,636	1,700	64	3.9%
Pahokee	5,985	6,200	215	3.6%
Palm Beach	9,676	9,700	24	0.2%
Palm Beach Gardens	35,058	49,900	14,842	42.3%
Palm Beach Shores	1,269	1,400	131	10.3%
Palm Springs	11,699	15,500	3,801	32.5%
Riviera Beach	29,884	34,400	4,516	15.1%
Royal Palm Beach	21,523	31,200	9,677	45.0%
South Bay	3,859	4,600	741	19.2%
South Palm Beach	1,531	1,500	-31	-2.0%
Tequesta	5,273	5,900	627	11.9%
Wellington	38,216	55,000	16,784	43.9%
West Palm Beach	82,103	103,200	21,097	25.7%
UNINCORPORATED	521,447	559,000	37,553	7.2%
St. Johns	123,135	183,600	60,465	49.1%
Hastings	521	600	79	15.2%
Marineland (part)	0			
St. Augustine	11,592	13,700	2,108	18.2%
St. Augustine Beach	4,683	6,300	1,617	34.5%

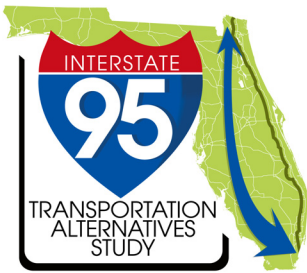


Chapter 3 - Demographic Elements

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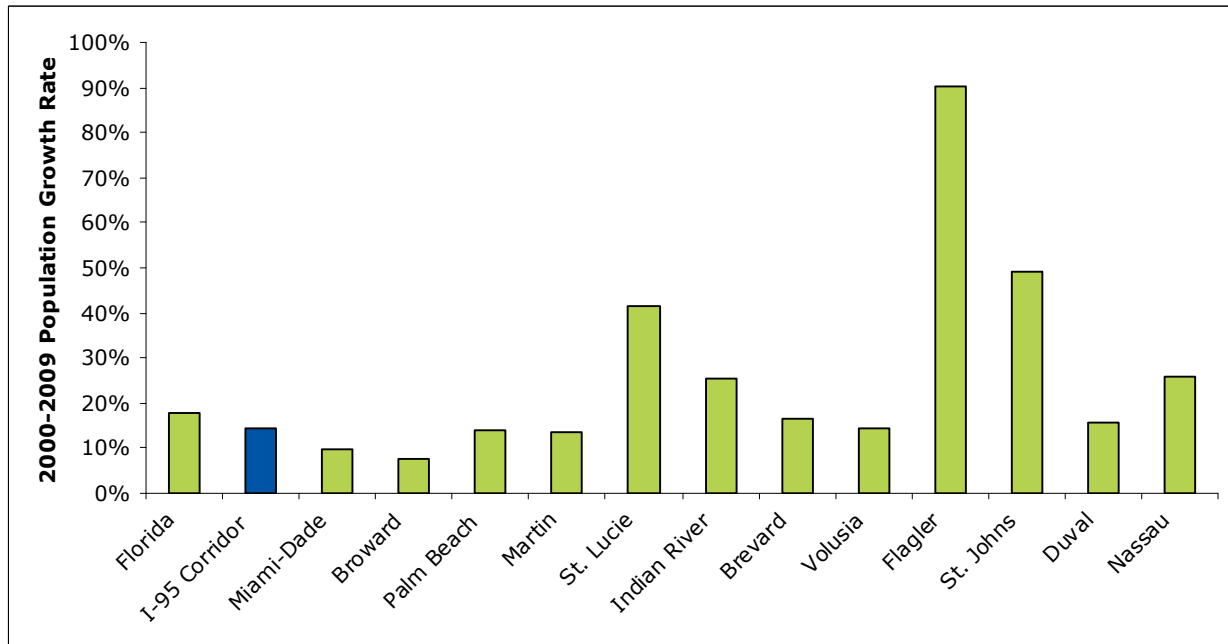
County, City and State	April 1, 2000	April 1, 2009	Raw Change	Percent Change
UNINCORPORATED	106,339	163,000	56,661	53.3%
St. Lucie	192,695	272,900	80,205	41.6%
Fort Pierce	37,516	44,300	6,784	18.1%
Port St. Lucie	88,769	155,300	66,531	74.9%
St. Lucie Village	604	600	-4	-0.7%
UNINCORPORATED	65,806	72,700	6,894	10.5%
Volusia	443,343	507,100	63,757	14.4%
Daytona Beach	64,112	65,200	1,088	1.7%
Daytona Beach Shores	4,299	5,500	1,201	27.9%
DeBary	15,559	18,700	3,141	20.2%
DeLand	20,904	27,100	6,196	29.6%
Deltona	69,543	84,300	14,757	21.2%
Edgewater	18,668	21,400	2,732	14.6%
Flagler Beach (part)	76	100	24	31.6%
Holly Hill	12,119	12,900	781	6.4%
Lake Helen	2,743	2,900	157	5.7%
New Smyrna Beach	20,048	23,400	3,352	16.7%
Oak Hill	1,378	2,000	622	45.1%
Orange City	6,604	10,200	3,596	54.5%
Ormond Beach	36,301	40,800	4,499	12.4%
Pierson	2,596	2,700	104	4.0%
Ponce Inlet	2,513	3,300	787	31.3%
Port Orange	45,823	56,700	10,877	23.7%
South Daytona	13,177	13,500	323	2.5%
UNINCORPORATED	106,880	116,400	9,520	8.9%
I-95 Study Area	7,369,443	8,377,300	1,007,857	13.7%
Florida	15,982,824	18,750,200	2,767,376	17.3%
INCORPORATED	7,904,403	9,526,800	1,622,397	20.5%
UNINCORPORATED	8,078,421	9,223,700	1,145,279	14.2%

Source: Bureau of Economic and Business Research, University of Florida, and Florida Department of Transportation, Office of Policy Planning, 2009.



Chapter 3 - Demographic Elements

Figure 3.1.1 I-95 Corridor Population Growth Rate Comparisons



Source: U.S. Census Bureau and FDOT Office of Policy Planning 2009

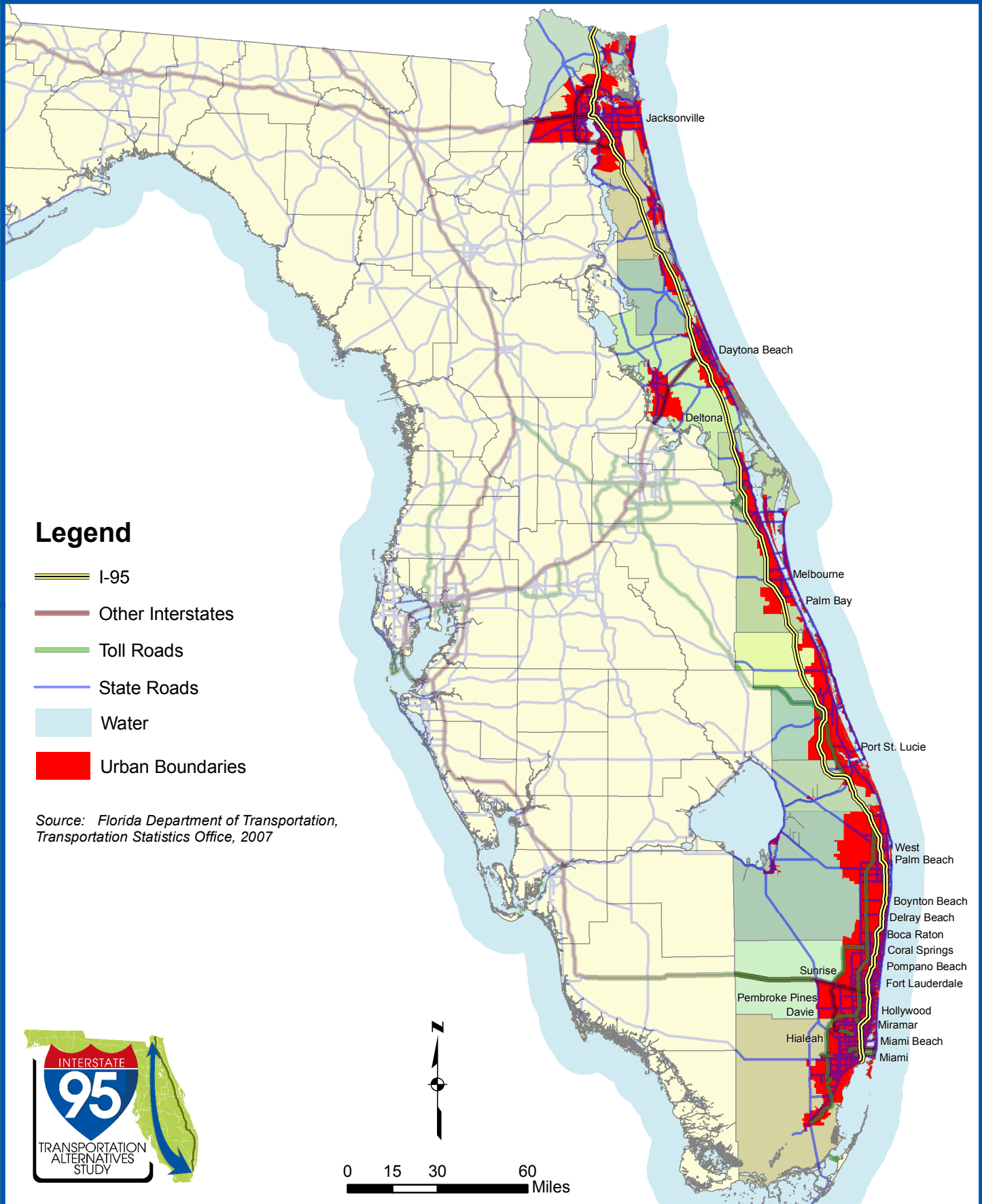
In addition to quick growth, the sheer number of new people added to already large population centers is important to note. Statewide, the top ten counties with the highest total change in population between 2000 and 2009 were Miami-Dade, Orange, Hillsborough, Lee, Palm Beach, Broward, Duval, Polk, Osceola and Pasco⁴. I-95 counties Palm Beach, Broward and Duval all added over 100,000 in population and Miami-Dade added over 200,000. In this short time period, the 12 county I-95 corridor added just over a million new people, all with transportation needs to be met.

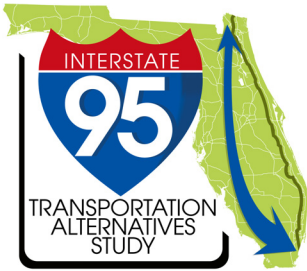
Figure 3.1.2 illustrates the designated urban areas within the study corridor. These population centers include both incorporated and unincorporated areas. The entire I-95 corridor is essentially clustered along the coast.

⁴ FDOT Office of Policy Planning 2009

Figure 3.1.2

Urban Areas within I-95 Corridor





Chapter 3 - Demographic Elements

3.2 Future Demographic Estimates

Florida's population is expected to grow from 18.75 million in 2009 to 25.1 million in 2035, likely displacing New York as the third largest state in the country⁵. During this 26-year period, four of the ten fastest growing counties in the state are expected to be I-95 corridor counties. Flagler is predicted to be the second fastest, with over 108% growth. St. Johns, St. Lucie and Nassau also are predicted to grow very quickly.

While quick growth plays an important role in shaping the transportation needs of an area, counties beginning from much larger base populations are expected to see large raw growth. Four I-95 corridor counties, Miami-Dade, Palm Beach, Duval and Broward, are forecast to be in the top ten raw growth counties statewide.

Together, the twelve I-95 Corridor counties could add over two million new residents within the span of a generation, growing at a rate of over 26%. The state of Florida is expected to grow at a rate of 34%, or almost 6.4 million by 2035. Over a third of that growth is projected to be along the I-95 corridor. Depending on the travel choices made, any new population may add significantly to the congestion already being experienced in Florida.

Population projections are incredibly useful tools, yet most methods rely on extrapolation of past trends. Therefore, the impacts of the current economic climate will not be incorporated into projections for several years until they are already felt. The 2009 FDOT Policy Planning Population Estimates actually show the first decrease in population in decades. **Table 3.2.1** illustrates population estimates through 2035 by county, and **Table 3.2.2** illustrates the actual population growth in the past year.

⁵ FDOT Policy Planning and BEBR 2009 estimates



Chapter 3 - Demographic Elements

Table 3.2.1 County Level Population Projections- BEBR Medium Series

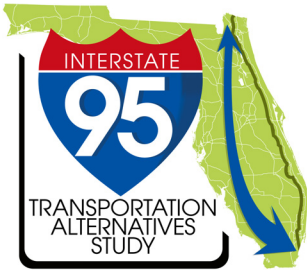
County and State	Estimate April 1 2009	Projection April 1 2035	Raw Change	Percent Change
Miami-Dade	2,472,300	2,903,500	431,200	17.4%
Broward	1,744,900	1,958,900	214,000	12.3%
Palm Beach	1,287,300	1,616,600	329,300	25.6%
Martin	143,900	176,200	32,300	22.5%
St. Lucie	272,900	470,600	197,700	72.4%
Indian River	141,600	209,900	68,300	48.2%
Brevard	555,700	724,800	169,100	30.4%
Volusia	507,100	645,300	138,200	27.3%
Flagler	94,900	198,000	103,100	108.6%
St. Johns	183,600	363,900	180,300	98.2%
Duval	900,500	1,222,400	321,900	35.8%
Nassau	72,600	122,000	49,400	68.0%
I-95 Corridor Total	8,377,300	10,612,100	2,234,800	26.7%
Florida Total	18,750,200	25,148,300	6,398,100	34.1%

Source: Bureau of Economic and Business Research (BEBR) and FDOT Office of Policy Planning 2009

Table 3.2.2 County Level 2008-2009 Population Trends

County and State	Estimate April 1 2008	Estimate April 1 2009	Percent Change
Miami-Dade	2,477,300	2,472,300	-0.2%
Broward	1,758,500	1,744,900	-0.8%
Palm Beach	1,294,700	1,287,300	-0.6%
Martin	143,900	143,900	0.0%
St. Lucie	276,600	272,900	-1.3%
Indian River	141,700	141,600	-0.1%
Brevard	556,200	555,700	-0.1%
Volusia	510,800	507,100	-0.7%
Flagler	95,500	94,900	-0.6%
St. Johns	181,200	183,600	1.3%
Duval	905,000	900,500	-0.5%
Nassau	71,900	72,600	1.0%
I-95 Corridor Total	8,413,300	8,377,300	-0.4%
Florida Total	18,807,600	18,750,200	-0.3%

Source: FDOT Office of Policy Planning 2009



Chapter 3 - Demographic Elements

3.3 Special Population Considerations

A special consideration in the 12 county I-95 Study area is that of urban and rural populations. Much of the demographic data available is based on a county level analysis, but this may be insufficient when considering transportation alternatives for this area. Due to a number of factors including the allure of the coastal areas and some environmental unsuitability for development, the population of many counties is clustered in urban areas along the I-95 corridor. In fact, 5 of the 12 counties are over 95 percent urban, with Palm Beach, Miami-Dade and Broward all over 98 percent. Overall, Florida is much less urban than these I-95 counties at 89 percent.⁶ This clustering of development may make alternative transportation options more cost feasible. **Figures 3.3.1A** and **3.3.1B** show population density of the I-95 corridor counties by census tract.

Language barriers are also an important consideration in the 12 county study area. The Hispanic or Latino population, which includes those born abroad as well as those born into Hispanic families in the United States, included 1,826,365 residents (25 percent of the total population in the 12 county study area) in 2000⁶. **Table 3.3.1** illustrates the estimated Hispanic population by county. While the percentage of Hispanics in many of these counties is average to low compared to Florida, Miami-Dade had 57 percent or over 1 million people. This relationship is also shown in the measure of linguistic isolation⁷. The percentage of linguistic isolation in Florida households is 6 percent, while Miami-Dade has a much larger proportion at 24 percent. In order to better serve such a quantity of people with potential language barriers, transportation alternatives in the Miami-Dade portion of I-95 especially should take these barriers into consideration.

As people age, three issues can severely limit mobility:

- an impaired ability to drive;
- the limited availability of alternative forms of transportation; and,
- an unwillingness to be dependent upon others.

In many areas being a non-driver often means living in isolation, as there are no other means of transportation to participate in social interaction or community involvement. Good transportation options are vital to the ability of people to age in place.

⁶ US Census 2000

⁷ A linguistically isolated household is one in which no member 14 years old and over (1) speaks only English or (2) speaks a non-English language and speaks English "very well." U.S. Census Bureau Census 2000

Figure 3.3.1A

Population Density by Census Tract

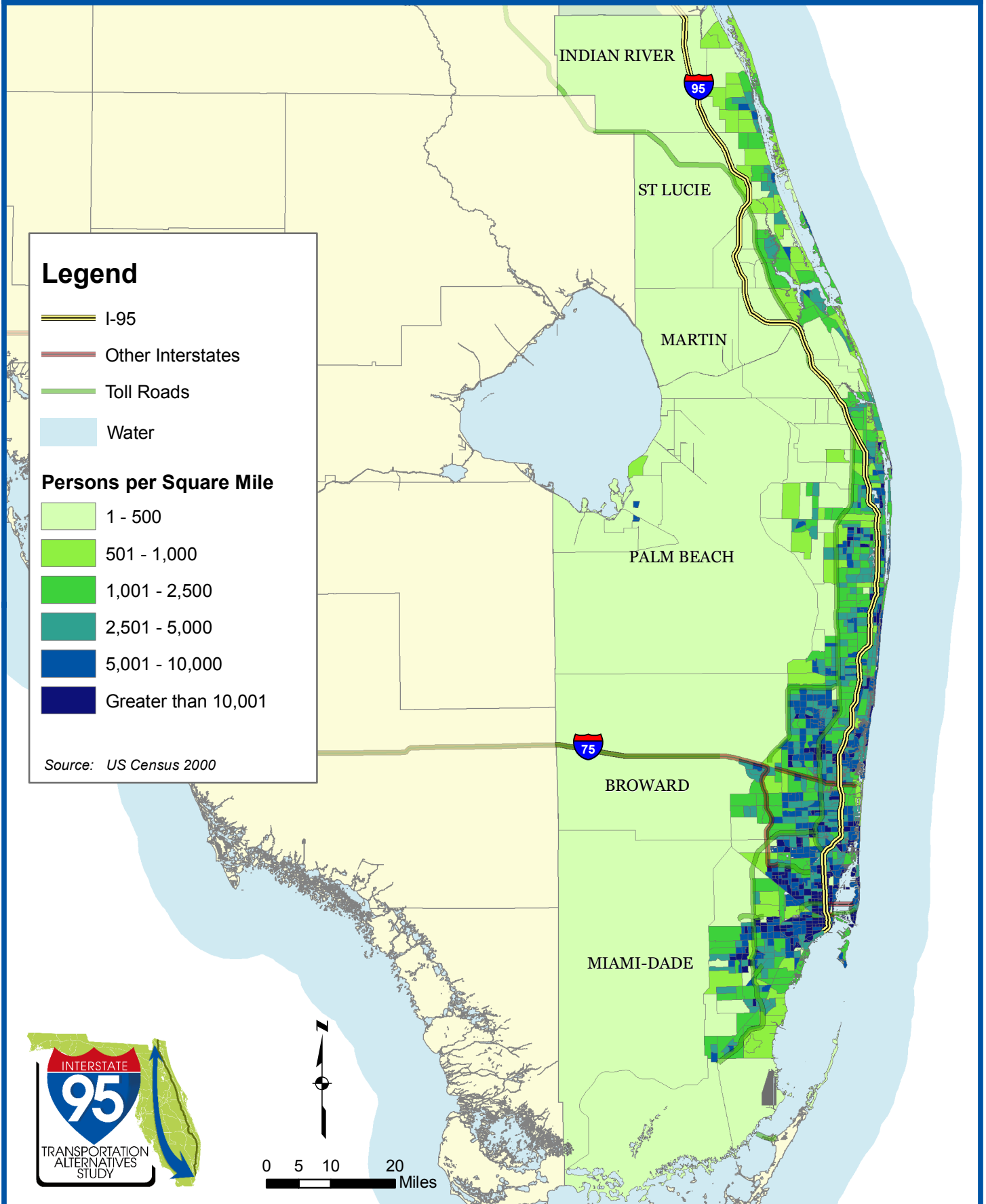
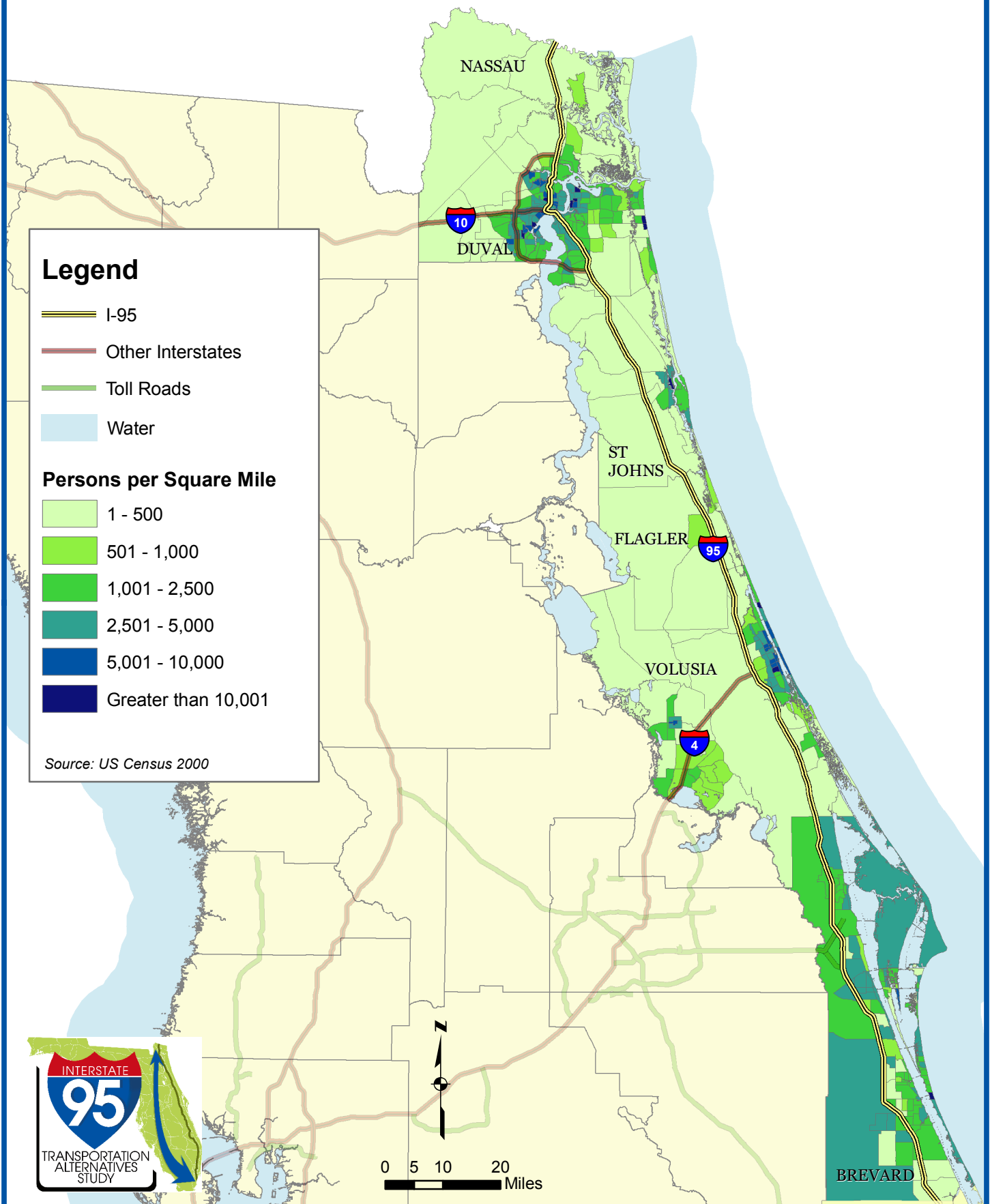
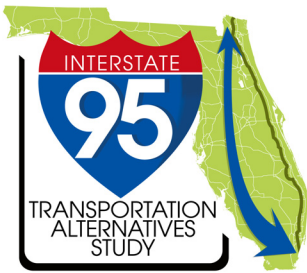


Figure 3.3.1B

Population Density by Census Tract





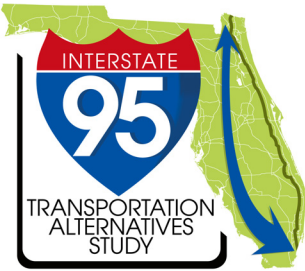
Chapter 3 - Demographic Elements

Table 3.3.1 Hispanic Population by County and Elderly Population by County

County and State	Hispanic or Latino	Percent of Population	Elderly (65+)	Percent of Population
Miami-Dade	1,291,737	57.3%	355,506	14.9%
Broward	271,652	16.7%	251,739	14.3%
Palm Beach	140,675	12.4%	274,828	21.8%
Martin	9,506	7.5%	36,419	26.3%
St. Lucie	15,733	8.2%	51,369	19.9%
Indian River	7,381	6.5%	33,467	25.5%
Brevard	21,970	4.6%	107,965	20.2%
Volusia	29,111	6.6%	102,351	20.6%
Flagler	2,537	5.1%	21,143	24.2%
St. Johns	3,244	2.6%	25,565	14.6%
Duval	31,946	4.1%	89,426	10.6%
Nassau	873	1.5%	10,315	15.1%
I-95 Corridor Total	1,826,365	24.8%	1,360,093	16.7%
Florida Total	2,682,715	16.8%	3,105,230	17.1%

Source: U.S. Census Bureau 2000 and 2006-2008

In 2008, the 12 county I-95 study area was estimated to include over 1.36 million people who were at least 65 years old, which represented 16.7 percent of the population (see **Table 3.3.1**). This is just under the 17.1 percent for the State of Florida as a whole, which is the highest percentage in the country. Moreover, 204,205 residents (2.5 percent of the total study area population) were at least 85 years old. Providing transportation options for an aging population is a concern in Florida as a whole, and should be even more crucial for some counties in the study area. In Martin and Indian River Counties, the percentage of people at least 65 years old was at least 25 percent. Flagler, Brevard, Palm Beach, and Volusia were all over 20 percent as well. There is a great need for transportation options in these areas to serve the aging population.



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The primary function of Interstate 95 is to serve interstate and regional commerce and long distance trips while providing high-speed and high-volume traffic movements. Increasing demand for both passenger and freight transportation poses an important challenge for I-95. In order to improve intermodal mobility on these facilities, it is important to first understand the current and future traffic characteristics along the I-95 corridor.

4.1 Existing Traffic Characteristics

Existing traffic volumes for the I-95 corridor were gathered from the 2008 Florida Traffic Information (FTI) CD. The existing Average Annual Daily Traffic (AADT) volumes are illustrated in **Figure 4.1.1A** and **Figure 4.1.1B**. Eighteen of the 22 sites evaluated are located in urban areas. Site 12, north of SR 60 in Indian River County, is the only rural location. The following sites are located in transitioning/urbanized areas under 500,000:

- Site 10 – north of the Martin County line in St. Lucie County;
- Site 11 – south of SR 68 in St. Lucie County; and
- Site 17 – north of International Golf Parkway in St. Johns County.

Existing AADT along the I-95 corridor ranges from a high of more than 300,000 vehicles per day (vpd) in Broward County to a low of less than 30,000 vpd in southern Volusia County and northern Brevard County. The southern portion of the I-95 corridor is generally the most heavily traveled portion of the corridor, with AADT exceeding 200,000 vehicles per day in most parts of Broward and Miami-Dade Counties. The middle section of the I-95 corridor is primarily rural in nature, with the least traveled portions of the corridor, with AADT generally less than 50,000 vpd in St. Lucie and Indian River Counties. Traffic volumes increase significantly along I-95 north of Interstate 4, with AADT increasing from 57,500 vpd just south of I-4 to 79,000 north of I-4. In the Jacksonville urban area, AADT increases to a high of 118,500 vpd just south of downtown.

Increasing truck volume throughout the I-95 corridor has created a need for FDOT to evaluate and begin planning to identify future truck traffic and its impact to the overall traffic situation. Truck AADT ranges from a high of 37,600 trucks per day (tpd) in Broward County to a low of 2,800 tpd in Brevard County. Truck percentages also vary throughout the corridor, with trucks accounting for only 2.66 percent of the traffic stream in far southern Miami-Dade County and more than 20 percent of the traffic stream in Indian River County. The truck percentages are indicated by the T-factor in Figures 4.1.1A and 4.1.1B.

There are several factors that contribute to continued truck demand throughout the I-95 corridor. Based upon the Florida Statewide Freight Model and the 2002 *Florida*

Figure 4.1.1A

I-95 Existing Traffic Characteristics

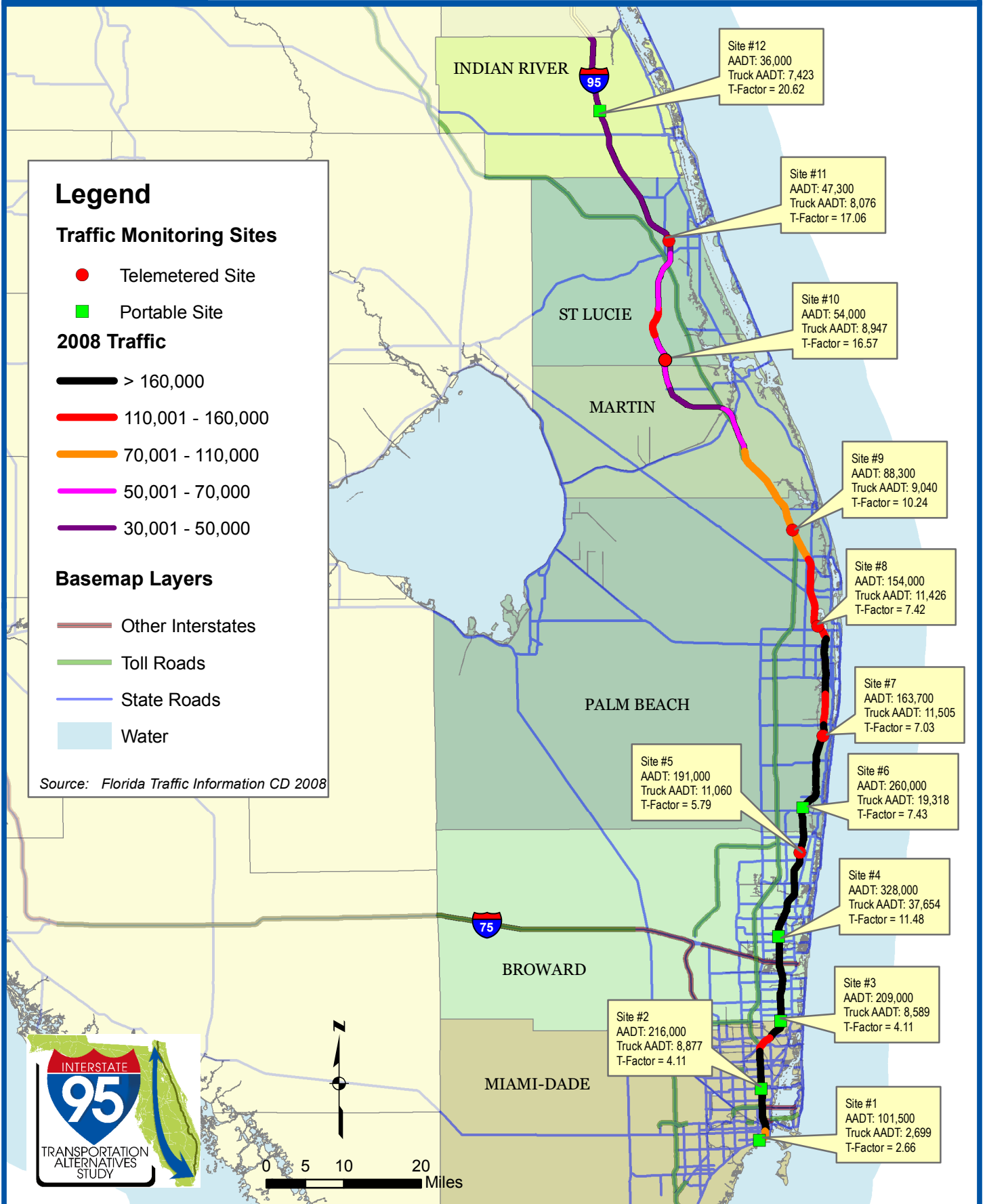
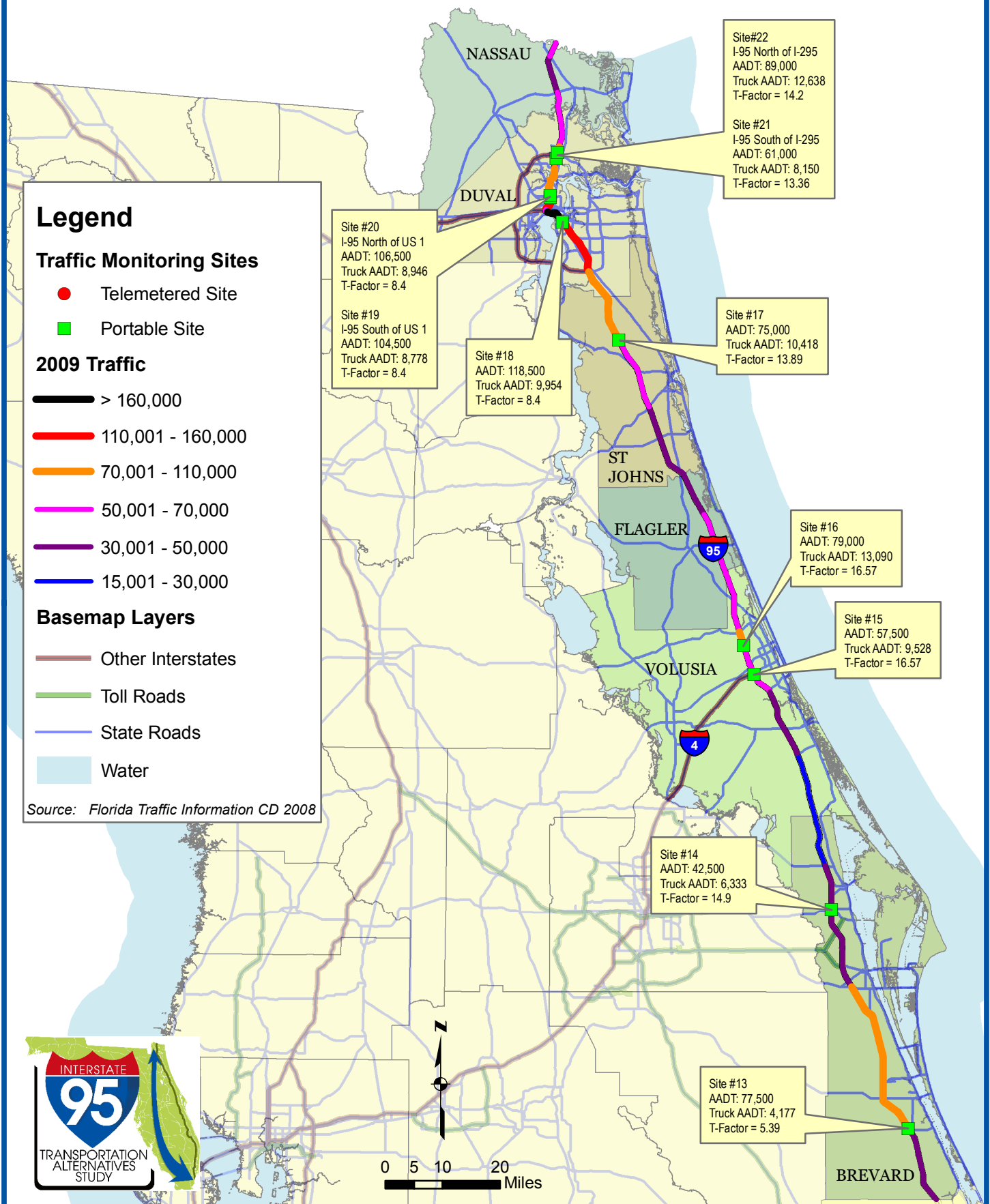
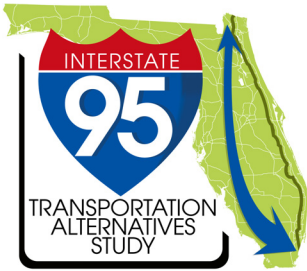


Figure 4.1.1B

I-95 Existing Traffic Characteristics





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Commodity Flow Survey, there has been a significant increase in through truck traffic for truckload pickup or delivery to regional big box retailers and intermodal facilities adjacent to or connected to the I-95 corridor. As the North Florida, Space Coast, Treasure Coast, and South Florida areas continue to grow, the I-95 corridor anticipates an increase in truckloads and overall trips associated with the emerging growth areas.

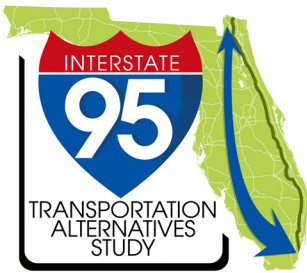
Regional Trip Patterns

Regional trip patterns vary along the I-95 corridor, depending upon the selected location, as illustrated in **Figure 4.1.2**. In Broward, Palm Beach, Brevard and Duval Counties, a large percentage of trips along I-95 are considered local trips, starting and ending within each respective county. This trend indicates that I-95 in urban areas, such as South Florida and Jacksonville, is predominantly used for local trips. Notably, in Palm Beach County, 80 percent of trips are local trips.

In Brevard County and Duval County, at least half of trips are local trips; however, 40 percent of trips in Brevard and 39 percent in Duval are inter-regional or longer trips. This split could be attributed to the geographic positions of those counties along the I-95 corridor; Brevard County lies in the middle of the corridor, and Duval County lies at the intersection of I-10 and I-95. These counties, therefore, experience a distinct amount of traffic traveling from the county to other regional destinations and vice versa.

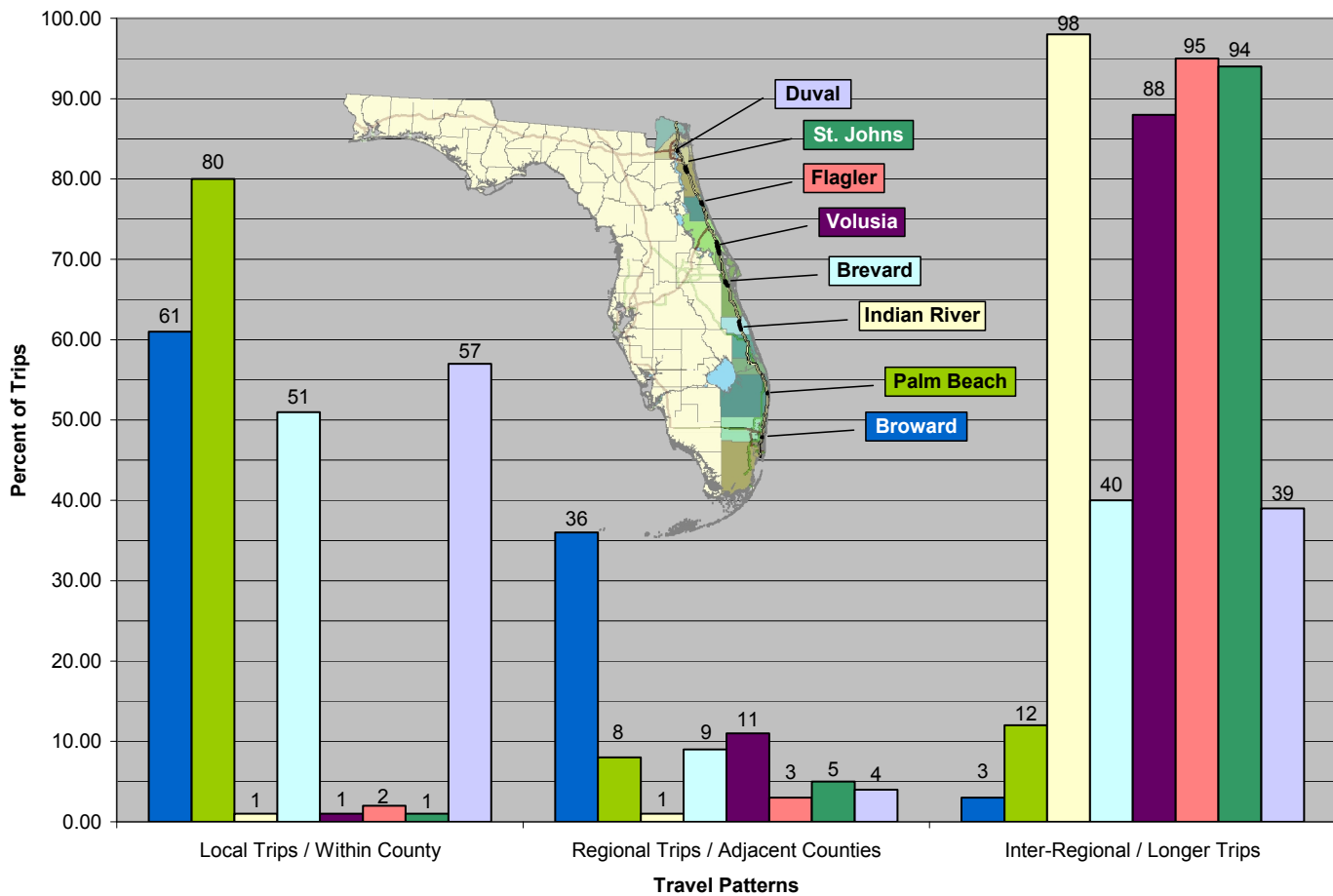
Regional trips represent a small percentage of trips for each of the counties in Figure 4.1.2 with the exception of Broward County. Approximately 35 percent of trips in Broward are regional trips in nature, starting and ending within the counties immediately surrounding Broward County. This is most likely due to the high volume of commuters between Broward County and Miami-Dade County.

In Indian River, Volusia, St. Johns and Flagler Counties, the large majority of trips (88 percent or more) are inter-regional in nature. This emphasizes the difference in trip characteristics in different areas of the state where I-95 is used more for long distance trips in some areas and used more for local trips in other areas. Trip characteristics of the corridor have large impact on the types of alternatives that should be considered for improving mobility along the I-95 corridor.



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Figure 4.1.2 Percent of Local vs. Regional and Inter-regional Trips along I-95



Note: For the purposes of this figure, local trips are defined as trips within the county. Regional trips are defined as trips between the county of origin and any surrounding county. Inter-Regional trips are defined as trips between the county and other areas of the state or out-of-state.

Source: FDOT Statewide Travel Demand Model



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4.2 Existing Traffic Operations

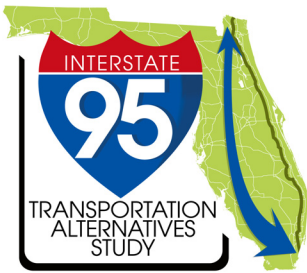
Existing traffic operations are most often described in terms of volume-to-capacity (v/c) ratio and Level of Service (LOS). A standard measure of travel demand, the v/c ratio describes whether a roadway is operating at a congested condition at a given point in time. A v/c ratio of less than 1.0 indicates that a roadway is operating at volume levels less than capacity, while a v/c ratio of 1.0 or greater indicates that a roadway has reached or exceeded its theoretical operating capacity, and any additional traffic volume will result in a breakdown in traffic flow.

LOS is an indication of roadway operating conditions and can be calculated using numerous measures such as delay (for signalized intersections), free flow travel speed (for arterial roadways), or v/c (for freeways/expressways). LOS is similar to the grading scale of a report card and identifies roadway operating conditions as follows:

- LOS A through C indicates operating conditions where traffic can move relatively freely. These operating conditions most frequently occur in rural areas;
- LOS D signifies that vehicle speed and freedom of movement is beginning to decline slightly due to increasing traffic volume and that the traffic volume is reaching or is at capacity;
- LOS E indicates conditions where traffic volumes are exceeding the capacity of the roadway, resulting in serious delays; and,
- LOS F is the point at which a significant breakdown in vehicular flow occurs. This condition exists when the demand for space on the roadway exceeds the capacity of the roadway.

For the purposes of this study, existing Level of Service (LOS) was determined at 22 different locations along I-95 using existing Average Annual Daily Traffic (AADT) volumes compared to statewide minimum Level of Service (LOS) standards. These LOS standards and capacities were obtained from the Generalized Level of Service (LOS) tables based on the 2009 FDOT Quality/Level of Service Handbook. Existing LOS along the I-95 Corridor is summarized in **Table 4.2.1**.

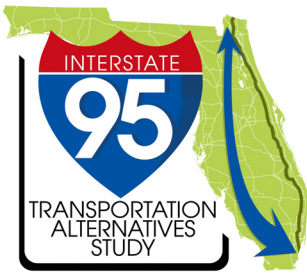
The intention of Table 4.2.1 is to provide an existing overview of the LOS operating conditions along I-95. The existing year is based upon the availability of traffic data. Because only 2008 traffic data is available, 2008 lane configuration must be used for capacity purposes. It should be noted that within Table 4.2.1, the existing lane configuration represents 2008 conditions. Traffic data was available on I-95 for year 2008 and lane configuration would need to be consistent



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Table 4.2.1 2008 Traffic Operations

Site #	Description	Area Type	Existing Conditions		LOS Standard	Capacity	Operating LOS
			AADT	Lanes			
1	North of US 1, Miami-Dade County	Urban	101,500	4	D	73,600	F
2	North of SR 934, Miami-Dade County	Urban	216,000	11*	D	204,000	E
3	South of Broward Co. Line, Miami-Dade County	Urban	209,000	10	D	184,000	E
4	South of SR 838, Broward County	Urban	328,000	11*	D	204,000	F
5	At NE 48 th Street, Broward Co.	Urban	191,000	8	D	146,500	F
6	North of SR 808, Palm Beach Co.	Urban	260,000	8	D	146,500	F
7	At SW 23 rd overpass, Palm Beach County	Urban	163,700	10	D	184,000	D
8	At Congress Avenue, Palm Beach Co.	Urban	154,000	6	D	110,300	F
9	North of Donald Ross, Palm Beach County	Urban	88,300	6	D	110,300	C
10	North of Martin County Line, St. Lucie County	Trans	54,000	6	C	86,600	B
11	South of SR 68, St. Lucie County	Trans	47,300	4	C	57,600	C
12	North of SR 60, Indian River County	Rural	36,000	4	B	37,100	B
13	North of Malabar Rd, Brevard Co.	Urban	77,500	4	D	73,600	E



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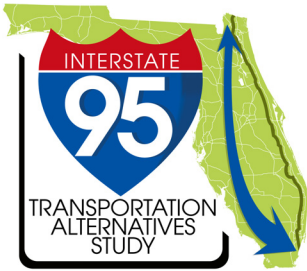
Table 4.2.1 2008 Traffic Operations

Site #	Description	Area Type	Existing Conditions		LOS Standard	Capacity	Operating LOS
			AADT	Lanes			
14	North of SR 50, Brevard County	Urban	42,500	4	D	73,600	B
15	South of I-4/ SR 400, Volusia Co.	Urban	57,500	6	D	110,300	B
16	North of LPGA Blvd, Volusia Co.	Urban	79,000	6	D	110,300	C
17	North of International Golf Pkwy, St. Johns Co.	Trans	75,000	6	C	86,600	C
18	North of Emerson St, Duval Co.	Urban	118,500	6	D	110,300	E
19	South of 20th St/MLK Pkwy/ US 1, Duval County	Urban	104,500	6	D	146,500	C
20	North of 20th St/MLK Pkwy/ US 1, Duval County	Urban	106,500	6	D	146,500	C
21	South of I-295, Duval Co.(North of Jacksonville)	Urban	61,000	6	D	110,300	B
22	North of I-295, Duval Co. (North of Jacksonville)	Urban	89,000	6	D	184,000	B

Sources: 2009 FDOT Quality/Level of Service Handbook; 2008 Florida Traffic Information CD

*Auxiliary lanes +20,000 Freeway Adjustment

**Although there is no site representing Flagler County in this table, it is important to mention that I-95 throughout Flagler County currently has a level of service (LOS) exception. Since Flagler County's area type designation is classified as "Transitioning", it carries with it a LOS C standard. At the time of the 2000 Census, I-95 throughout Flagler County was classified as a rural area type with an FDOT LOS B standard. However, since the 2000 Census, and as a result of the area type transition from rural to transitioning, the LOS exception has caused the I-95 LOS standard to be raised from LOS B to LOS C along the corridor.



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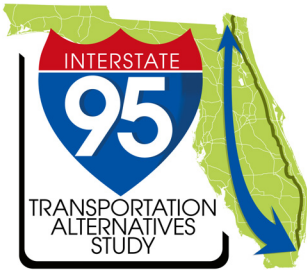
with the date the traffic data was obtained. Since 2008, I-95 has undergone many modifications including expanding capacity. For example, Site 2, north of SR 934 in Miami-Dade County, is listed as 11 lanes, 6 northbound lanes and 5 southbound lanes.¹ Since 2008, the *95 Express* project has modified I-95 along this segment. The first phase of this project was completed in 2009. I-95 as it exists today is 12 lanes, 4 general-purpose lanes and 2 express lanes per direction at this site. However, since the most recent year available for traffic is 2008, the 2008 lane configuration is listed. This may occur at other site locations depicted in Table 4.2.1.

The results illustrate that I-95 extending through Palm Beach County south through Miami-Dade County pose existing capacity challenges and concerns. Failing LOS results occur through the majority of these sites. Auxiliary lanes through Broward County and Miami-Dade County help increase capacity but only slightly. The only location south of Donald Ross Road in Palm Beach County where the interstate operates within the statewide minimum LOS standards is the SW 23rd overpass site. The existing traffic results suggest operational concerns on I-95 south of PGA Boulevard in Palm Beach County to US-1 in Miami-Dade. North of PGA Boulevard, I-95 operates within statewide minimum LOS standards under 2008 existing conditions, except for north of Malabar Road in Brevard County and north of Emerson Street in Duval County.

4.3 Planned Improvements

FDOT and its partner agencies continue to improve the I-95 corridor as funding permits. Numerous improvement projects are anticipated between 2010 and 2035, as identified in **Table 4.3.1**. Projects were identified from several sources including the FDOT Work Program, FDOT SIS First Five Year Plan, FDOT SIS Second Five Year Plan, and MPO/TPO Plans. They are listed by county and include a project location (description), project type, anticipated completion, phase, and the source of the information.

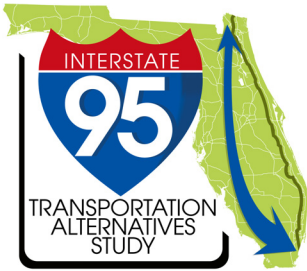
¹ The additional northbound lane is an auxiliary lane. The auxiliary lane is lengthy enough to be considered for capacity purposes so is included as a through lane.



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Table 4.3.1 Planned Improvements **

COUNTY	PROJECT LOCATION	PROJECT TYPE	ANTICIPATED COMPLETION	PHASE	SOURCE
MIAMI-DADE	I-95 FROM NB I-95 EXIT TO NB SR 91 (Connector)	WIDEN EXIST LANES W/AUX. LANE	2010	CONSTRUCTION	FDOT
MIAMI-DADE	I-95 EXPRESS FROM N OF I-395 TO GOLDEN GLADES	ADD SPECIAL USE LANE	2011	COMPLETED	FDOT
MIAMI-DADE	SR 826/PALMETTO EXPY-SR 826 EB RAMP TO SR9A/I-95 NB	INTERCHANGE RAMP (NEW)	2015	CONSTRUCTION	FDOT
MIAMI-DADE	I-95 EXPRESS OPERATIONS & MAINTENANCE	ADD SPECIAL USE LANE	2014	CONSTRUCTION	FDOT
MIAMI-DADE	I-95 FROM GOLDEN GLADES MULTIMODAL TERMINAL	INTERMODAL HUB CAPACITY	2014	CONSTRUCTION	FDOT
MIAMI-DADE	I-95/EXPRESS/HOT LNS N. OF GOLDEN GLADE TO DADE/BROWARD CO LINE	ADD SPECIAL USE LANES	2010	CONSTRUCTION	FDOT
BROWARD	I-95/EXPRESS/HOT LNS FROM DADE/BROWARD CO LINE TO P& R LOT	ADD SPECIAL USE LANE	2010	CONSTRUCTION	FDOT
BROWARD	I-95 FROM COMMERCIAL BLVD TO S. OF ATLANTIC BLVD	ADD LANES & RECONSTRUCT	2014	PE/DESIGN	FDOT
BROWARD	I-95 FROM S. OF ATLANTIC BLVD TO S. OF SAMPLE RD	ADD LANES & RECONSTRUCT	2014	PE/DESIGN	FDOT
BROWARD	I-95 FROM S. OF SAMPLE ROAD TO PALM BCH CO LINE	ADD LANES & RECONSTRUCT	2014	PE/DESIGN	FDOT
PALM BEACH	I-95 FROM BROWARD CO LINE TO S. OF GLADES RD	ADD 2 LANES & RECONSTRUCT	2014	PE/DESIGN	FDOT
PALM BEACH	I-95 FROM S. OF GLADES RD TO LINTON BLVD.	ADD 2 LANES & RECONSTRUCT	2010	PDE	FDOT
PALM BEACH	I-95/AUX LANES S. OF GLADES RD N. TO YAMATO	ADD 2 AUXILIARY LANES	2010	PE/DESIGN	FDOT
PALM BEACH	I-95/AUX LANES TO YAMATO ROAD LINTON BLVD	ADD 2 LANES & RECONSTRUCT	2010	PE/DESIGN	FDOT
PALM BEACH	I-95 @ PGA BOULEVARD /CENTRAL BOULEVARD	INTERCHANGE MODIFICATION	2014	PE/DESIGN	FDOT



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Table 4.3.1 Planned Improvements **

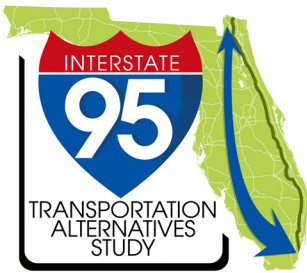
COUNTY	PROJECT LOCATION	PROJECT TYPE	ANTICIPATED COMPLETION	PHASE	SOURCE
PALM BEACH	I-95 TO PGA BOULEVARD/ CENTRAL BOULEVARD	MODIFY INTERCHANGE	2014	PDE	FDOT
PALM BEACH	I-95 FROM S OF DONALD ROSSRD TO SR-706	ADD LANES & RECONSTRUCT	2011		FDOT
PALM BEACH	I-95 FROM S OF DONALD ROSSRD TO SR-706	ADD SPECIAL USE LANE	2012		FDOT
PALM BEACH	I-95 FROM S OF DONALD ROSSRD TO SR-706	ADV TRAVELER INFORMATION	2011		FDOT
PALM BEACH	I-95 FROM INDIANTOWN RD TO PALM BCH/MARTIN C/L	ADD 2 LANES & RECONSTRUCT	2014	PDE	FDOT
MARTIN	I-95 FROM PALM BCH /MARTIN C/L TO CR-708	ADD 2 LANES & RECONSTRUCT	2014	PDE	FDOT
MARTIN	I-95 FROM CR-708/BRIDGE ROAD TO HIGH MEADOWS	ADD 2 LANES & RECONSTRUCT	2014	PDE	FDOT
ST. LUCIE	BECKER ROAD	INTERCHANGE (NEW)	2010	PE/DESIGN	FDOT
ST. LUCIE	I-95 TO SR-70 & SR-68 TWO INTERCHANGES	INTERCHANGE (NEW)	2018	CONSTRUCTION	FDOT
ST. LUCIE	SR-70/OKEECHOBEE R SR-614/INDRIO RD	ADD 2 LANES & RECONSTRUCT	2015	CONSTRUCTION	FDOT
ST. LUCIE	I-95 FROM SR-614/INDRIO TO IR/ST LUCIE CO/LINE	ADD 2 LANES & RECONSTRUCT	2016	CONSTRUCTION	FDOT
INDIAN RIVER	St. LUCIE/INDIAN RIVER COUNTY LINE	ADD 2 LANES & RECONSTRUCT	2025	CONSTRUCTION	FDOT
INDIAN RIVER	I-95 TO ST LUCIE CO/LIN TO OSCEOLA BLVD	ADD 2 LANES	2010	PE/DESIGN	FDOT
INDIAN RIVER	I-95 FROM SR-60/OSCEOLA BLVD TO N. OF CR-512	ADD 2 LANES & RECONSTRUCT	2025	CONSTRUCTION	FDOT
INDIAN RIVER	I-95 FROM N. OF CR-512 TO BREVARD CO/LINE	ADD 2 LANES & RECONSTRUCT	2025	CONSTRUCTION	FDOT
BREVARD	I-95 FROM BREVARD CO LINE TO S OF SR 514 (MALABAR)	ADD 2 LANES & RECONSTRUCT	2015	PE/DESIGN	FDOT
BREVARD	I-95 FROM SR 514 (MALABAR RD) TO SR 50	ADD 2 LANES & RECONSTRUCT	2014	PE/DESIGN	FDOT
BREVARD	I-95 FROM S OF SR514 (MALABAR) TO PALM BAY RD	ADD 2 LANES & RECONSTRUCT	2012	ROW	FDOT



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Table 4.3.1 Planned Improvements **

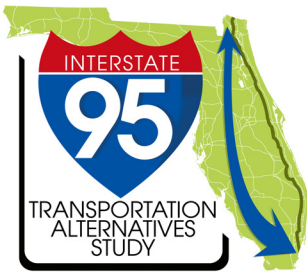
COUNTY	PROJECT LOCATION	PROJECT TYPE	ANTICIPATED COMPLETION	PHASE	SOURCE
BREVARD	I-95 @ PINEDA CAUSEWAY EXT INTERCHANGE	INTERCHANGE (NEW)	2010	CONSTRUCTION	FDOT
BREVARD	I-95 FROM PALM BAY RD TO SR 519	ADD 2 LANES & RECONSTRUCT	2010	CONSTRUCTION	FDOT
BREVARD	ELLIS ROAD INTERCHANGE (I-95)	INTERCHANGE (NEW)	2016	PE/DESIGN	SPACE COAST TPO
BREVARD	I-95 @ VIERA BLVD EXT INTERCHANGE	INTERCHANGE (NEW)	2015	PE/DESIGN	SPACE COAST TPO
BREVARD	I-95 FROM SR 518 TO SR 519	ADD 2 LANES & RECONSTRUCT	2012	ROW	FDOT
BREVARD	I-95 FROM S OF SR 519 TO N OF SR 528	ADD 2 LANES & RECONSTRUCT	2012	ROW	FDOT
BREVARD	I-95 FROM S OF SR 528 TO PORT ST JOHN	ADD 2 LANES & RECONSTRUCT	2011	ROW	FDOT
BREVARD	I-95 FROM 0.5 MILE N OF SR 46 TO VOLUSIA CO LINE	ADD 2 LANES & RECONSTRUCT	2015	PE/DESIGN	FDOT
BREVARD	I-95 FROM SR 50 TO 0.5 MILE N OF SR 46	ADD 2 LANES & RECONSTRUCT	2013	ROW	FDOT
BREVARD	I-95 FROM SR 50 TO VOLUSIA CO LINE	ADD 2 LANES & RECONSTRUCT	2018	PE/DESIGN	FDOT
BREVARD	ST. JOHNS HERITAGE PARKWAY INTRCHNG (I-95)	INTERCHANGE (NEW)	2020	PE/DESIGN	BREVARD COUNTY
VOLUSIA	I-95 FROM BREVARD CO LINE TO 0.5 MI N OF SR 44	ADD 2 LANES & RECONSTRUCT	2012	ROW	FDOT
VOLUSIA	I-95 INTERCHANGE @ PIONEER TRAIL	INTERCHANGE (NEW)	2025	PDE	VOLUSIA MPO
VOLUSIA	I-95 CAMERA EQUIPMENT FROM SR 44 TO SR 400	ITS FREEWAY MANAGEMENT	2010	CONSTRUCTION	FDOT
VOLUSIA	I-95 FROM 0.5 MILE N OF SR 44 SOUTH OF I-4	ADD 2 LANES & RECONSTRUCT	2012	ROW	FDOT
VOLUSIA	I-95 AND I-4 SYSTEMS INTERCHANGE MOD	INTERCHANGE (MODIFY)	2014	PE/DESIGN	FDOT
VOLUSIA	I-95 FROM 0.5MI S OF I-4 TO 0.2MI N OF SR 600 US92	ADD 2 LANES & RECONSTRUCT	2011	CONSTRUCTION	FDOT



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Table 4.3.1 Planned Improvements **

COUNTY	PROJECT LOCATION	PROJECT TYPE	ANTICIPATED COMPLETION	PHASE	SOURCE
VOLUSIA	I-95 FROM .2MI N OF SR600 US92 TO 1.2MI N OF SR 40	ADD 2 LANES & RECONSTRUCT	2011	CONSTRUCTION	FDOT
VOLUSIA	I-4 / I-95 FROM SR 472 TO SR 40	ITS FREEWAY MANAGEMENT	2010	CONSTRUCTION	FDOT
VOLUSIA	I-95 FROM SR 40 TO US 1	ITS FREEWAY MANAGEMENT	2010	CONSTRUCTION	FDOT
VOLUSIA	I-95 N ORMOND BUSINESS PARK NEW INTERCHANGE	INTERCHANGE (NEW)	2012	ROW	FDOT
VOLUSIA	I-95 FROM 1.2 MI. N OF SR 40 TO FLAGLER CO LINE	ADD 2 LANES & RECONSTRUCT	2012	ROW	FDOT
VOLUSIA	I-95 FROM US 1 TO US1 AT FLAGLER CO LINE	ITS FREEWAY MANAGEMENT	2010	CONSTRUCTION	FDOT
FLAGLER	I-95 FROM CO LN/OLD DIXIE HWY TO PALM COAST PKWY	ADD 2 LANES & RECONSTRUCT	2012	ROW	FDOT
FLAGLER	I-95 @ MATANZAS WOOD PKWY INTERCHANGE	INTERCHANGE (NEW)	2011	CONSTRUCTION	FDOT
FLAGLER	I-95 FROM PALM COAST PKWY TO ST JOHNS CO LINE	ADD 2 LANES & RECONSTRUCT	2013	ROW	FDOT
ST. JOHNS	I-95 @ SR 206 INTERCHANGE MOD	INTERCHANGE (MODIFY)	2020	PDE	NORTH FLORIDA TPO
ST. JOHNS	I-95 @ SR 207 INTERCHANGE MOD	INTERCHANGE (MODIFY)	2025	PDE	NORTH FLORIDA TPO
ST. JOHNS	I-95 @ CR 210	INTERCHANGE (MODIFY)	2011	CONSTRUCTION	FDOT
ST. JOHNS	I-95 @ CR 210 PHASE 2	INTERSECTION (MODIFY)	2012	ROW	FDOT
ST. JOHNS/ DUVAL	I-95 FROM INTER GOLF PKWY TO I-295	ADD 2 LANES & RECONSTRUCT	2018	PE/DESIGN	NORTH FLORIDA TPO
DUVAL	I-95 FROM ST. JOHNS C/L TO I-295	ITS FREEWAY MANAGEMENT	2011	CONSTRUCTION	FDOT
DUVAL	I-95 @ SR 9B	INTERCHANGE (NEW)	2017	PE/DESIGN	FDOT
DUVAL	SR 202 (JTB BLVD) @ I-95 OFF RAMP	INTERCHANGE (MINOR)	2010	CONSTRUCTION	FDOT



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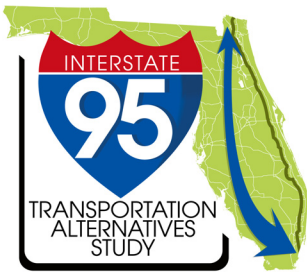
Table 4.3.1 Planned Improvements **

COUNTY	PROJECT LOCATION	PROJECT TYPE	ANTICIPATED COMPLETION	PHASE	SOURCE
DUVAL	I-95 INTERCHANGE MOD BTWN PHILIPS SOUTHSIDE	INTERCHANGE (MODIFY)	2025	PDE	NORTH FLORIDA TPO
DUVAL	I-95 FROM N OF SAN DIEGO RD TO N OF MARCO BLVD	BRIDGE REPLACEMENT	2016	CONSTRUCTION	FDOT
DUVAL	I-10/I-95 INTERCHANGE	INTERCHANGE (MODIFY)	2011	CONSTRUCTION	FDOT
DUVAL	I-95 INTRCHNG @ MLK JR. PARKWAY (JAXPORT TLYRND)	INTERCHANGE (MODIFY)	2012	ROW	FDOT
DUVAL	I-95 /DUNN AVENUE INTERCHANGE	INTERCHANGE (MODIFY)	2011	CONSTRUCTION	FDOT
DUVAL	I-295/I-95/SR9A NORTH OPERATIONAL IMPRVMENTS	INTERCHANGE RAMP (NEW)	2010	CONSTRUCTION	FDOT
DUVAL	SR 9A/I-295/I-95 NORTH INTERCHANGE	INTERCHANGE (MODIFY)	2011	CONSTRUCTION	FDOT
DUVAL	I-95 @ NO I-295 INTRCHNG PHASE I - NORTH	INTERCHANGE RAMP (NEW)	2013	ROW	FDOT
DUVAL	I-95 @ AIRPORT RD. FROM ACCESS TO JIA TO FLYOVER	INTERCHANGE (MODIFY)	2010	CONSTRUCTION	FDOT
NASSAU	SR 200/ A1A @ I-95 INTERCHANGE	INTERCHANGE (MINOR)	2009	CONSTRUCTION	FDOT
NASSAU	I-95 @ EAST NASSAU CONNECTOR INTERCHANGE	INTERCHANGE (NEW)	2025	PDE	NORTH FLORIDA TPO

Sources: FDOT Adopted Work Program, July 2009; FDOT SIS First Five Year Plan, July 2009; FDOT SIS Second Five Year Plan, September 2009.

*95 Express Project will determine if additional lanes are needed for capacity purposes. Existing lanes are only to be converted and modified.

** Important Note: Projects listed in Table 4.3.1 are current as of the publication dates for each individual report (July 2009 for the Adopted Work Program or September 2009 for the SIS Second Five Year Plan). It is important to note that the anticipated completion dates for any of these projects could change. As State revenues change, projects may move up or down in priority, or be removed from this list. Likewise, new projects could be added as additional revenue becomes available or as implementation priorities changes.



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4.4 Future Traffic Operations

The future traffic operations section provides a snapshot of the I-95 mainline mobility needs without the detailed operational analysis typically found in Master Plans and Project Development and Environmental (PD&E) studies. Results for sites along the mainline are provided as Average Annual Daily Traffic (AADT) along with corresponding capacity thresholds. The primary purpose of the I-95 traffic forecast is to summarize the demand along the mainline only. Ramp and cross street traffic demand is not taken into account for the purposes of this section.

Traffic forecast data is usually available from several sources. In urbanized areas with a Metropolitan Planning Organization (MPO) or Transportation Planning Organization (TPO), a regional travel demand model which complies with the Florida Statewide Urban Transportation Model Structure (FSUTMS) is a good resource for future traffic forecasts. In rural areas, historic growth trends from FDOT's Florida Traffic Information (FTI) DVD together with the Florida Statewide Model will provide future traffic information.

The future traffic information used for the I-95 Transportation Alternatives Study included numerous sources of traffic forecasts. The Greater Treasure Coast Regional Planning Model provided forecasts to year 2030, the Southeast Florida Regional Planning Model provided forecasts to year 2030, the North Florida TPO and Space Coast TPO models provided forecasts to year 2030, and the 2008 FTI was used to create a trend line from historical data to year 2035. The AADT volumes from various models were extrapolated to year 2035 to match the historic trend line year from the FTI CD. Future demand results are the product of a constrained demand analysis, where the travel demand was estimated by averaging the AADT forecast from multiple data sources. The data sources consisted of both travel demand models and historical trends. The resulting project year 2035 future traffic characteristics are presented in **Figure 4.4.1A** and **Figure 4.4.1B**.

Future year 2035 traffic volumes along I-95 are projected to increase significantly throughout the corridor, with the largest increase projected in St. Lucie County where AADT is projected to increase by more than 219 percent from 47,300 vehicles per day (vpd) in 2008 to 151,000 vpd in 2035. Increases in south Florida, where existing volumes already exceed capacity, are lower from a percentage standpoint, but are still significant, with volumes in Palm Beach County at the SW 23rd overpass increasing by 58 percent from 163,700 vpd in 2009 to 259,200 vpd in 2035. Significant increases are also projected in the northern portion of I-95, with traffic in Brevard, Volusia, St. Johns, and Duval Counties nearly doubling by 2035.

Figure 4.4.1A

Projected Year 2035 Traffic Characteristics

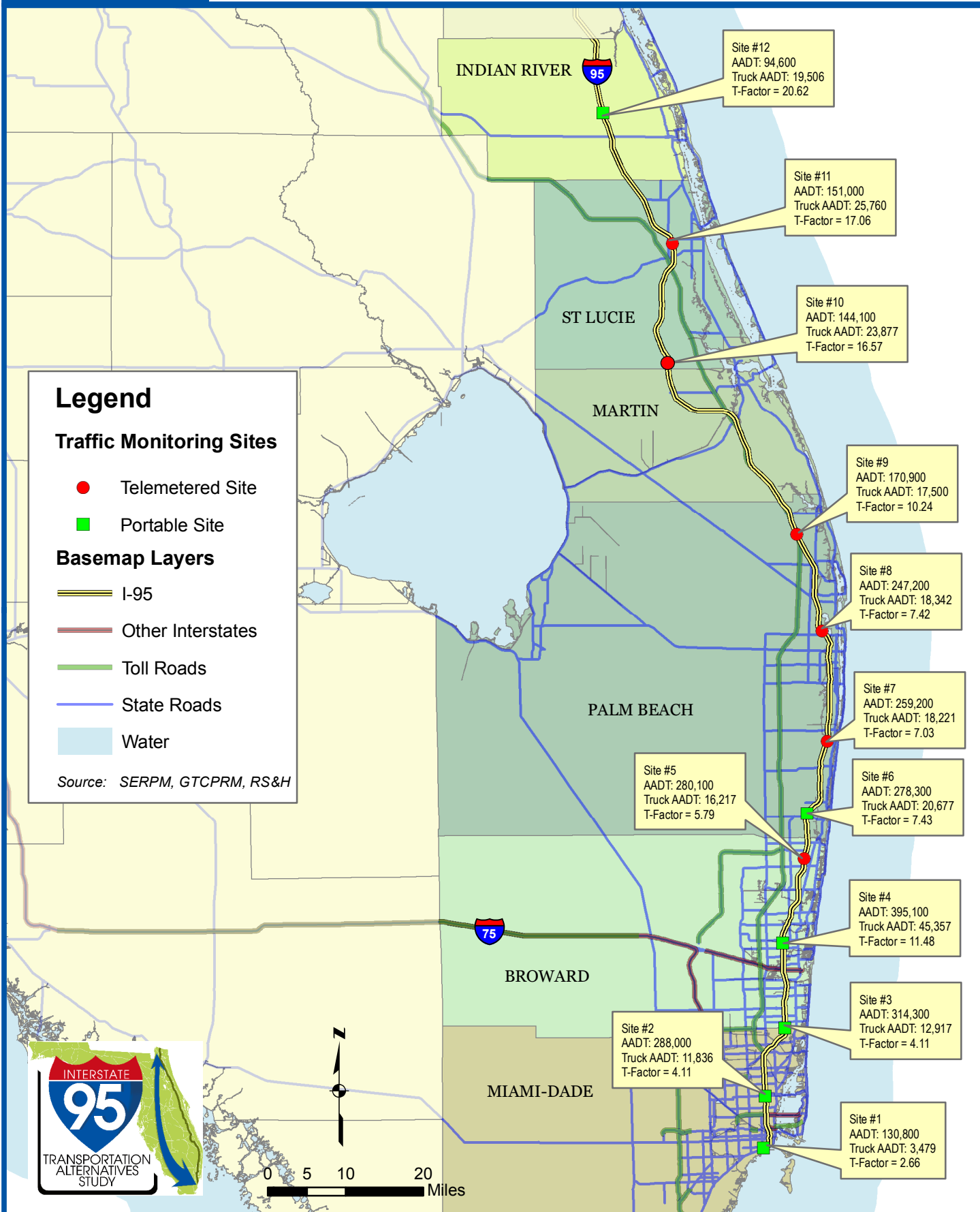
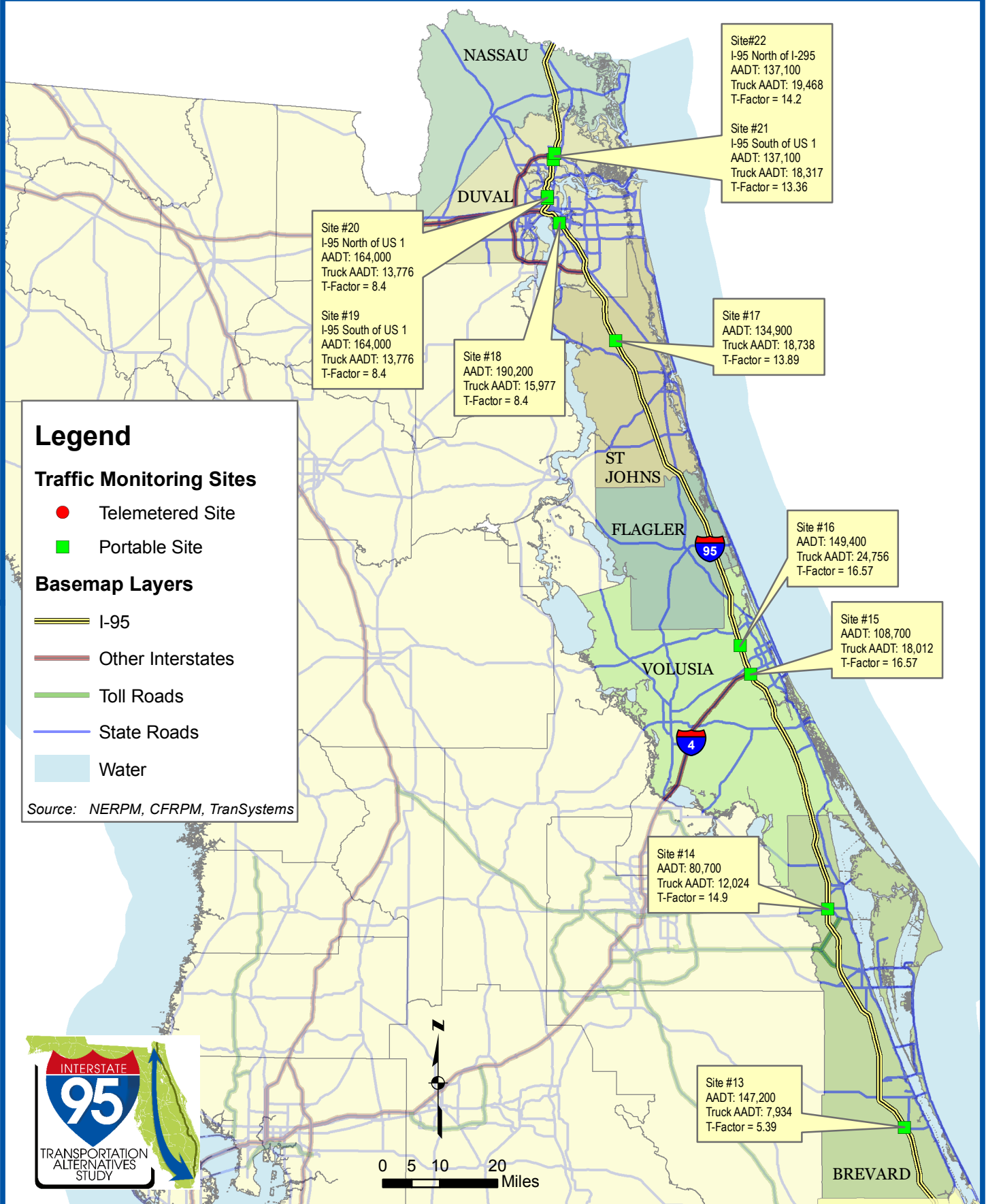
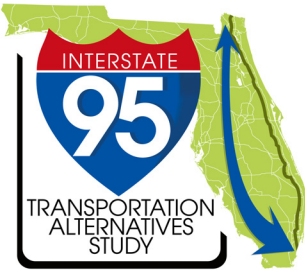


Figure 4.4.1B

Projected Year 2035 Traffic Characteristics





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Truck traffic is also projected to increase throughout the corridor, with truck AADT increasing in all counties. The largest increases in truck volume occurred in St. Lucie and Indian River Counties, where truck AADT increased from approximately 8,000 trucks per day to approximately 20,000 trucks per day in year 2035. The projected large increases in truck traffic throughout the corridor demonstrate the continued importance of the I-95 corridor to freight movement throughout Florida in the years to come.

The capacity thresholds for determining generalized planning level-of-service (LOS) were obtained from the FDOT's Generalized LOS tables based on the 2009 Quality/Level-of-Service Handbook. The future year 2035 forecasts for the 22 site locations along I-95 are shown in **Table 4.4.1**, along with projected future year level-of-service. Future year LOS was determined using the generalized LOS tables and assumed the planned projects identified in Section 4.3 were implemented.

The southern portion of I-95 extending from US-1 in Miami-Dade County north through Palm Beach County is forecast to be operating at failing LOS conditions after planned improvements have been implemented. North of this location extending through Indian River County, I-95 operates within capacity limits when planned improvements are included. I-95 through Miami-Dade and Broward counties are planned to be at maximum build-out given either land use constraints or number of through lanes.

The I-95 Express project is currently underway in South Florida. The current project limits are from I-395 in Miami-Dade County to Broward Boulevard in Broward County. The purpose of the project is to convert HOV and general-purpose lanes to toll lanes, increase available capacity, and reduce travel times. For the purposes of the I-95 Transportation Alternatives Study, the maximum number of lanes has been identified as 12. Much of I-95 in south Florida is currently configured or is planned to be widened to maximum build-out. However, studies are underway for the I-95 Express project to determine the feasibility of adding additional tolled lanes, not general-purpose lanes, within the confines of I-95 further north. This may increase the future planned number of lanes to 12 at I-95 south of the Broward County line and north of SR 808 in Palm Beach County.

Most sections in the northern six counties of I-95 are projected to operate at LOS D or better in future years, with the exception of the site north of Malabar Road in Brevard County which is projected to operate at LOS E in year 2035, even with the planned improvements to I-95.

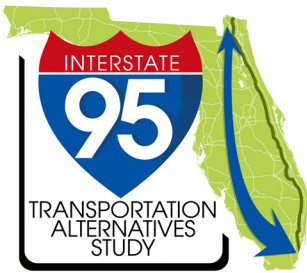
Model output data incorporates regional demand based upon a multitude of factors including growth projections, land use, alternative routes, etc. Extremely high model output volumes, which can be seen at multiple sites, suggest that even parallel facilities are at capacity or the traffic would have shifted to these alternative routes.



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Table 4.4.1 Future Year 2035 Projected Traffic Operations

Site #	Description	Area Type	2008 AADT	2008 No. of Lanes	2008 LOS	Projected 2035 AADT	Planned Lanes by 2035	Projected 2035 LOS w/Planned Lanes
1	North of US 1, Miami-Dade Co.	Urban	101,500	4	F	130,800	4	F
2	North of SR 934, Miami-Dade Co.	Urban	216,000	11*	E	288,800	12	F
3	South of Broward Co. Line, Miami-Dade County	Urban	209,000	10	E	314,300	10**	F
4	South of SR 838, Broward Co.	Urban	328,000	11*	F	395,100	12	F
5	At NE 48 th Street, Broward Co.	Urban	191,000	8	F	280,100	12	F
6	North of SR 808, Palm Beach Co.	Urban	260,000	8	F	278,300	10**	F
7	At SW 23 rd overpass, Palm Beach County	Urban	163,700	10	D	259,200	10	F
8	At Congress Avenue, Palm Beach County	Urban	154,000	6	F	247,200	8	F
9	North of Donald Ross, Palm Beach Co.	Urban	88,300	6	C	170,900	8	F
10	North of Martin Co. Line, St. Lucie Co.	Trans	54,000	6	B	144,100	8	C
11	I-95, south of SR 68, St. Lucie Co.	Trans	47,300	4	C	151,000	8	E
12	I-95, north of SR 60, Indian River Co.	Rural	36,000	4	B	94,600	6	C



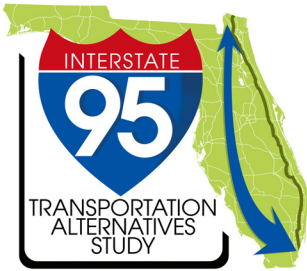
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Table 4.4.1 Future Year 2035 Projected Traffic Operations

Site #	Description	Area Type	2008 AADT	2008 No. of Lanes	2008 LOS	Projected 2035 AADT	Planned Lanes by 2035	Projected 2035 LOS w/Planned Lanes
13	North of Malabar Rd, Brevard Co.	Urban	77,500	4	E	147,200	8	E
14	North of SR 50, Brevard County	Urban	42,500	4	B	80,700	6	C
15	South of I-4/ SR 400, Volusia Co.	Urban	57,500	6	B	108,700	6	D
16	North of LPGA Blvd, Volusia Co.	Urban	79,000	6	C	149,400	12	C
17	North of Internt'l Golf Pkwy, St. Johns Co.	Trans	75,000	6	C	134,900	10	C
18	North of Emerson St, Duval Co.	Urban	118,500	6	E	190,200	12	D
19	South of 20th St/ MLK Pkwy/ US 1, Duval Co.	Urban	104,500	6	C	164,000	10	D
20	North of 20th St/ MLK Pkwy/ US 1, Duval Co.	Urban	106,500	6	C	164,000	10	D
21	South of I-295, Duval County	Urban	61,000	6	B	137,100	8	D
22	North of I-295, Duval County	Urban	89,000	6	B	137,100	8	D

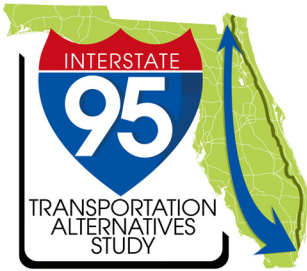
Sources: 2009 FDOT Quality/Level of Service Handbook; 2008 Florida Traffic Information DVD; Averages from multiple travel models; Reynolds, Smith & Hills; TranSystems Corporation.

*Auxiliary lanes + 20,000 Freeway Adjustment



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The results illustrate that alternative routes must be available by the 2035 planning horizon to capture the growing demand. I-95, even at build-out, will not be operating at sufficient levels and model results imply that parallel facilities may be facing a similar growth problem. Alternative transportation routes and modal choices must become readily available to ensure safe and efficient movement of passenger and freight travel.



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The I-95 Corridor serves as a key interstate facility for the movement of passengers and freight. The security of this vital route is of the utmost concern, as any disruption could impede the flow of travel and the flow of commerce. To prevent such disruption, whether natural or manmade, it is necessary to identify challenges and concerns for emergency response and security in the I-95 Corridor. This section of the I-95 Needs Plan discusses existing plans for evacuation and emergency management and also presents the role of security and law enforcement in the project corridor.

5.1 Statewide Regional Evacuation Study Program

Under Florida House Bill 7121, Disaster Preparedness Response and Recovery, the Florida Division of Emergency Management (DEM) received funding to update all 11 regional evacuation studies for Florida's Regional Planning Councils (RPCs)¹, including the four RPCs along the I-95 Corridor which are illustrated in **Figure 5.1.1**. The Statewide Regional Evacuation Study Program (SRESP) was created to identify and implement strategies for the facilitation of evacuations. The program has allowed regions to coordinate resources and tie together all regional evacuation studies into one coordinated statewide plan.

As part of the study process for the SRESP, new coastal Light Detection and Ranging (LIDAR) data was gathered and provided to update coastal surge/flood modeling tools including Sea, Lake and Overland Surges from Hurricanes (SLOSH).² The project also includes demographic and land use analysis, hazards and behavioral analysis, shelter analysis, and an evaluation of the transportation networks in each region. The major components of the SRESP include the following:

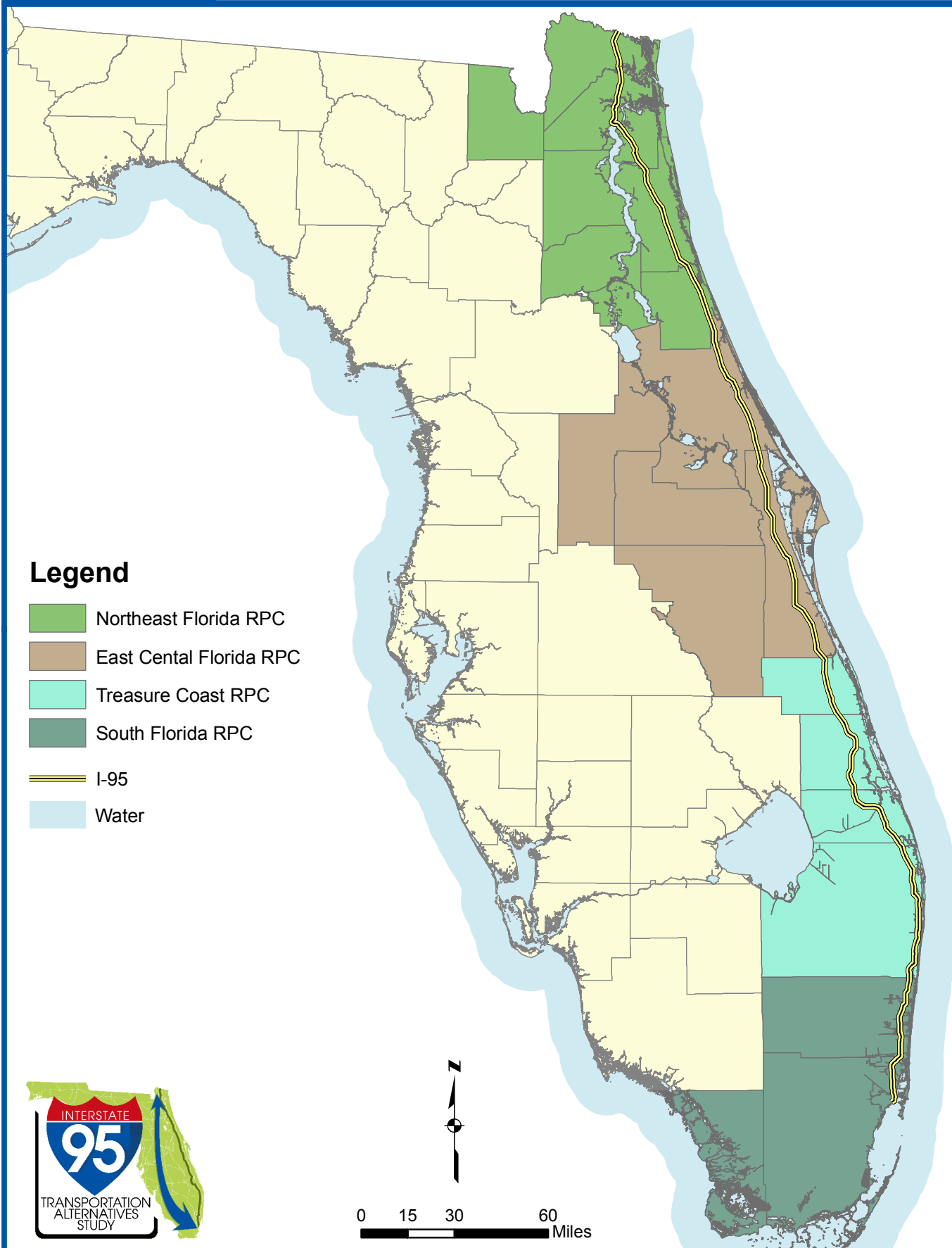
- **Demographic and Land Use Analysis** - The demographic and land use analysis describes general population characteristics and implications for evacuation dynamics, as well as future land use analysis;
- **Regional Hazards Analysis** - The regional hazards analysis addresses not only hurricanes but also other significant hazards which have the potential to

¹ Per Chapter 2006-71, Laws of Florida, HB 7121 provides legislative findings with respect to the need for improvements in the state's infrastructure in response to the hurricane seasons of 2004 and 2005; provides criteria for an appropriation to fund the construction or renovation of county emergency operations centers and designates alternate state emergency operations centers; provides criteria for an appropriation for retrofitting public hurricane evacuation shelters, etc.

² Light Detection and Ranging (LIDAR) is a remote sensing system used to collect topographic data. SLOSH (Sea, Lake and Overland Surges from Hurricanes) is a computerized model run by the National Hurricane Center (NHC) to estimate storm surge heights and winds resulting from historical, hypothetical, or predicted hurricanes.

Figure 5.1.1

Study Area RPC Boundaries





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bring about major evacuations, such as wildfires. The hazards analysis includes general information about each hazard, a history of activity in the region, and geo-spatial analysis of the potential effects of the hazard;

- **Vulnerability Analysis** - The vulnerability analysis provides an assessment of the human and social impacts of hazards and identifies the population-at-risk and the vulnerability of critical facilities. The vulnerability analysis also illustrates the threats of multiple hazard impacts following a hurricane;
- **Behavioral Analysis** - The behavioral analysis includes the development of necessary assumptions based on how people respond to the changing conditions leading up to and during an evacuation. The assumptions are founded on survey data and show the response of people with respect to five behaviors: how many people would evacuate; when they would leave; what type of refuge they would seek; where they would travel for refuge; and how many vehicles they would use;
- **Shelter Analysis** - The shelter analysis presents a picture of shelter preparedness. The analysis includes an inventory of shelters, as well as the special demands on those shelters. The criteria for shelter selection and the selection process are also discussed; and,
- **Transportation Analysis** - The transportation analysis is part of the backbone of the SRESP. The transportation portion serves to estimate evacuation clearance times for every county and region and ensures that all Regional Planning Councils (RPCs) and the members of their respective regions use the same consistent transportation methodology. The RPCs and local county emergency management staff also identified evacuation networks, which were used as input for the transportation analysis.

The transportation analysis portion of the SRESP includes the creation and development of a travel demand modeling system to calculate estimated evacuation clearance times and permit RPCs to evaluate multiple “what-if” scenarios of various storm conditions. The travel demand model structure uses the Cube Voyager platform, consistent with FDOT and MPO travel demand models, and includes behavioral data, demographic data, an evacuation network and evacuation zones. The outputs from the model include clearance times, the number of evacuees entering and leaving the county, and evacuation network traffic volumes. The results of this analysis are helpful in exposing where deficiencies exist in the evacuation network.



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While the SRESP is not scheduled for completion until summer 2010, work completed to date on the transportation analysis and evacuation networks provide important information in confirming the importance of I-95 as a north/south evacuation corridor. I-95 plays a key role in the evacuation network for the four regional planning councils and all 12 counties in the study area, as illustrated in **Figure 5.1.2A and 5.1.2B**.

Additionally, I-95 directly connects to more than 100 other RPC designated facilities that are part of the SRESP evacuation network. This connectivity provides important linkages to alternate routes in the case that any section of I-95 or other roads becomes impassable or unsafe. The counties within the study area with the highest number of evacuation network connections to I-95 are Duval, Broward, Palm Beach, and Miami-Dade. This is especially significant given the larger populations in each county that must be moved quickly in the event of a hurricane or other disastrous event.

The comprehensive behavioral studies completed as part of the SRESP included interviews with more than 18,000 Floridians and provided important information regarding evacuation trip characteristics. For the purposes of this study, evacuation trip distribution data was averaged for all evacuation categories and storm types, to yield an overall average evacuation trip distribution from the four RPC areas along the I-95 corridor, as illustrated in **Figure 5.1.3**. For the South Florida and Treasure Coast RPC regions, a large percentage of evacuation trips either stay within the RPC region or evacuate to Central Florida. Also, note the large percentage of trips from all four I-95 regions evacuating out of State. Many of these trips could possibly use the I-95 corridor as their primary evacuation route, which emphasizes the importance of the I-95 corridor as a major evacuation facility.

The geography of the state itself creates issues for citizens during an evacuation, given the predominately northbound single direction evacuation from South Florida. In a worst case storm scenario (Category 4 or 5 storm), the current structure of I-95 is not sufficient to accommodate evacuation trips, especially since the interstate still serves as a key commuter route during hurricane events.

While it is located outside of the study area for the I-95 Transportation Alternatives Study, Monroe County greatly impacts the evacuation of Miami-Dade and other parts of South Florida. Monroe County in itself is a unique evacuation event, as the evacuation of the Florida Keys is completed entirely with one evacuation facility (US 1), which brings the majority of Monroe County evacuation traffic directly to Florida City, where it is distributed to the Turnpike and other numerous roadways in South Florida. While this evacuation traffic doesn't directly affect I-95, it does have the potential to inhibit localized movement and traffic operations in the corridor area. FDOT has been working to identify effective methods of increasing roadway capacity and reducing evacuation clearance times in South Florida, such as the use of shoulders during an evacuation to increase roadway capacity.

Figure 5.1.2A

Statewide Regional Evacuation Study Program Designated Evacuation Network

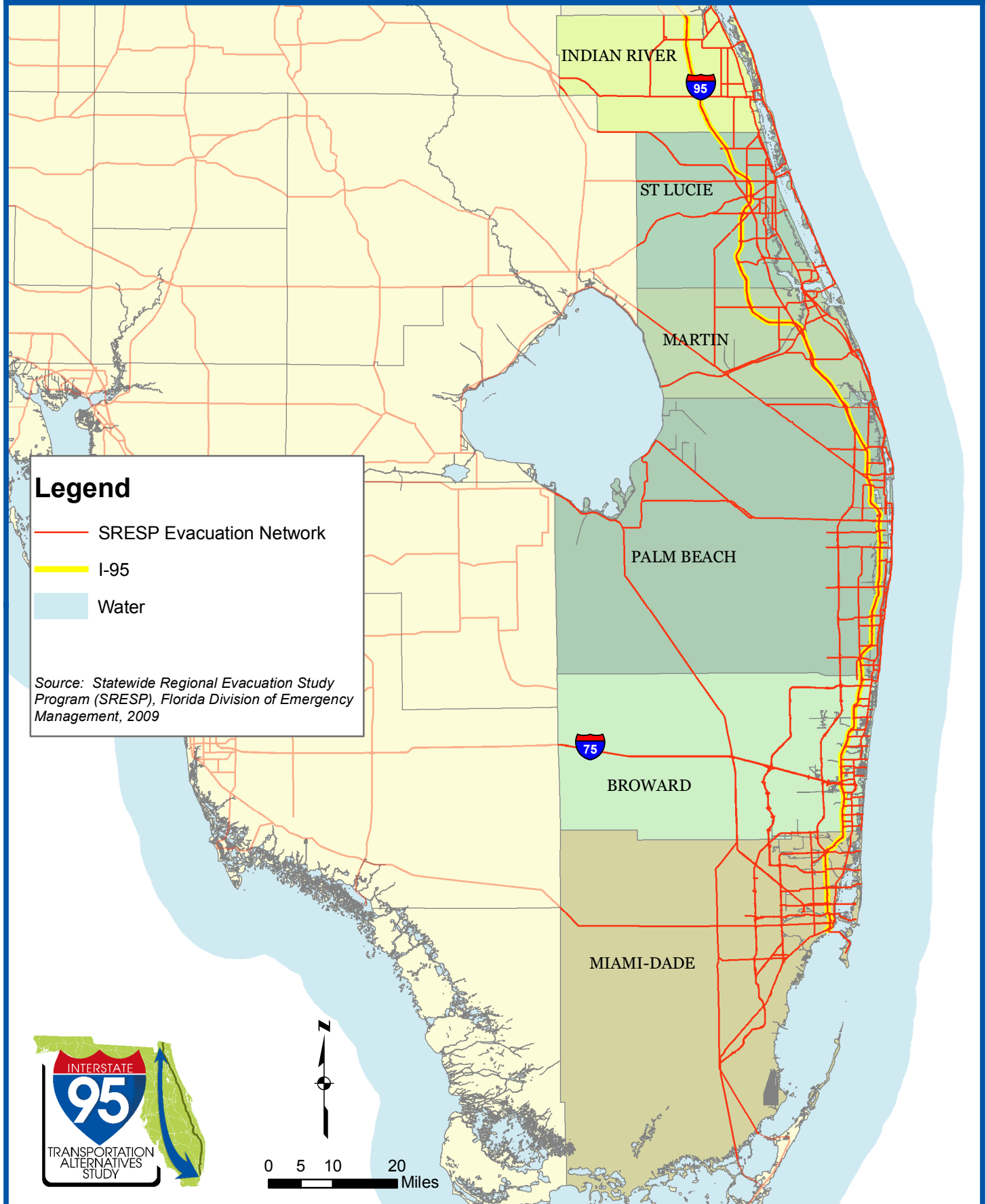
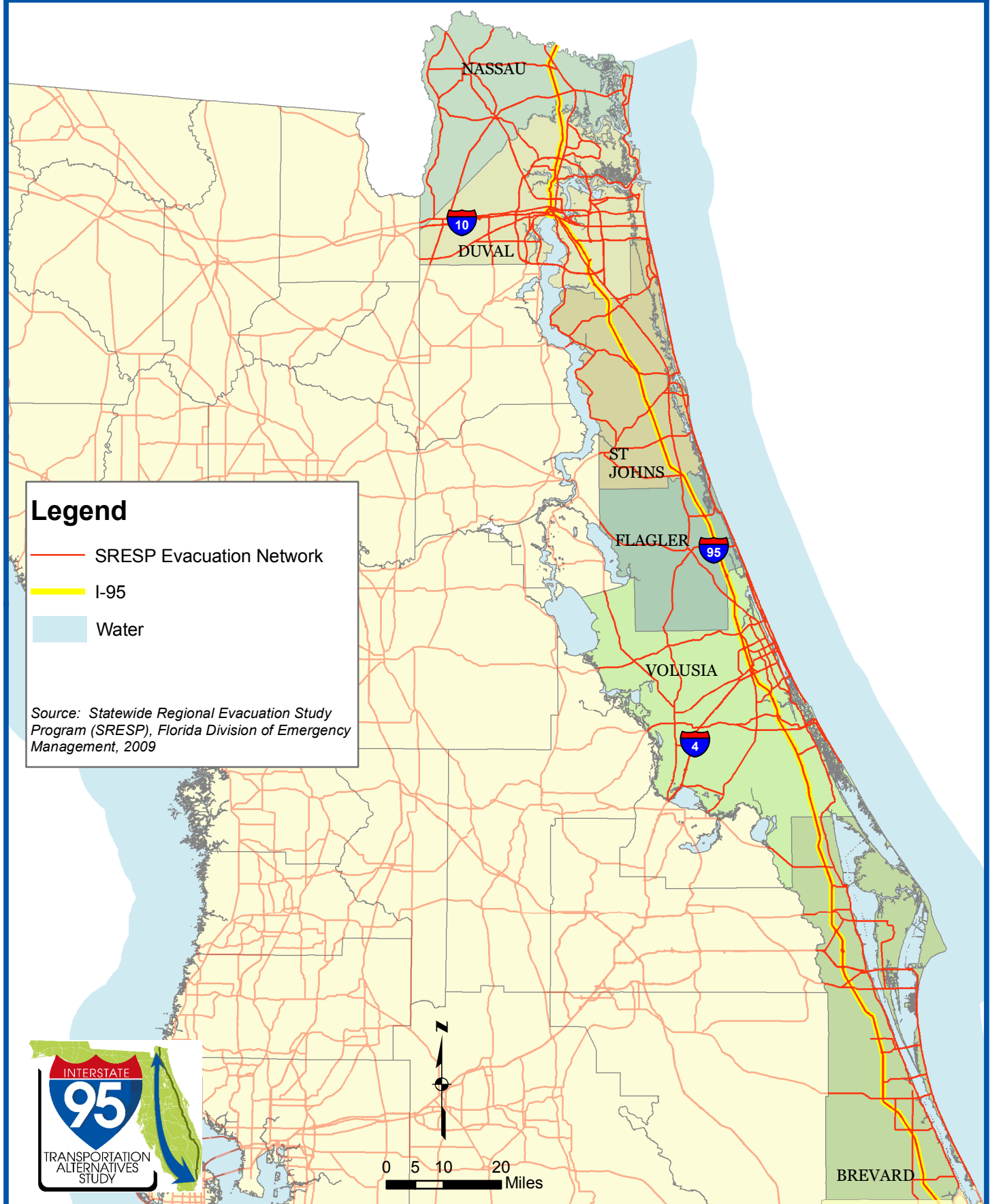


Figure 5.1.2B

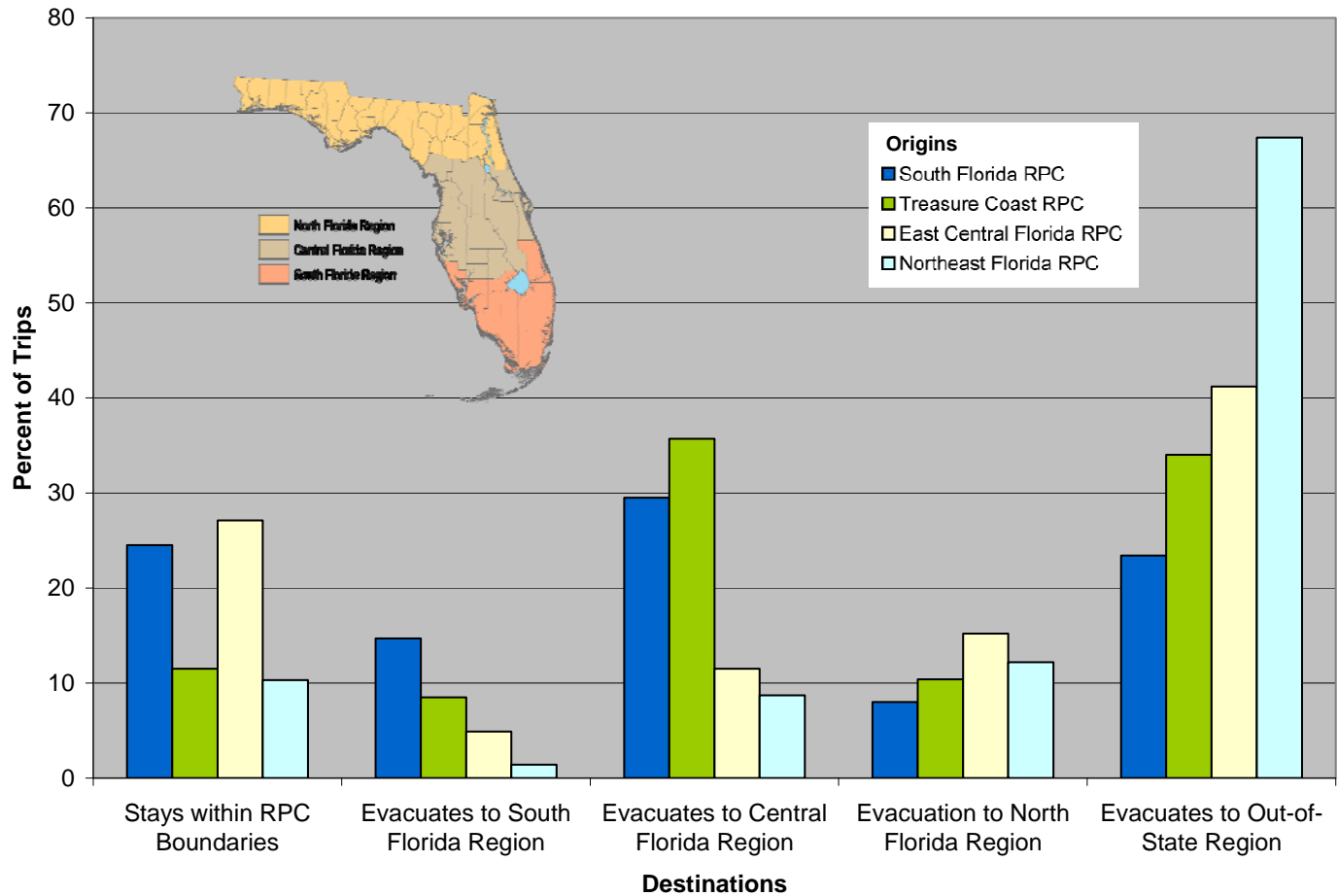
Statewide Regional Evacuation Study Program Designated Evacuation Network





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Figure 5.1.3 Average Evacuation Trip Distributions for Regional RPC Evacuations along the I-95 Corridor



**Note: If the RPC is located within the region, trip distribution percentage only includes the counties outside the RPC boundaries. For the purposes of this study, evacuation trip distribution data was averaged for all evacuation categories and storm types, to yield an overall average evacuation trip distribution from the four RPC areas along the I-95 corridor.*

Source: Statewide Regional Evacuation Study Program, Florida Division of Emergency Management, 2009



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5.2 County Comprehensive Emergency Management Plans

Chapter 9G-6, Florida Administrative Code, requires each County to develop a Comprehensive Emergency Management Plan, while Chapter 252, Florida Statutes, (State Emergency Management Act) dictates that the Division of Emergency Management is responsible for the adoption of standards and requirements for county emergency management plans. The county plans must be consistent and coordinated with Florida Comprehensive Emergency Management Plan (CEMP). The Comprehensive Emergency Management Plans (CEMP) of the 12 counties in the I-95 corridor, as well the rest of the counties in the State, are operations-oriented documents. The CEMPs establish the framework for an effective system to ensure that the counties and their municipalities will be adequately prepared to deal with the occurrence of emergencies and disasters.

The county plans outline the roles and responsibilities of local government, state and federal agencies and volunteer organizations. The CEMPs unite the efforts of these groups under the Emergency Support Function (ESF) format with a designated lead agency for a comprehensive approach to mitigation, planning, response and recovery from identified hazards.³ In Florida, there are 18 ESFs. A brief summary of each ESF is listed in **Table 5.2.1**. Each ESF has an important role in emergency operations and incident management, and the State Emergency Response Team (SERT) plays an intricate role in supporting all the ESFs along I-95.

These plans are structured to parallel state and federal activities set forth in the State of Florida Comprehensive Emergency Management Plan and the Federal Response Plan, and describe how state, federal and other outside resources will be coordinated to supplement county resources and response.

³ The ESF concept was developed by the Federal Emergency Management Agency (FEMA) in the late 1980s to address the potential management concerns that would be necessary to coordinate a federal response to a catastrophic earthquake in California. FEMA subsequently implemented the ESF concept in the development of its Federal Response Plan. *Source:* <http://www.floridadisaster.org/bpr/emtools/esf.htm>



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Table 5.2.1 Emergency Support Functions

ESF	Function Name	Description
1	Transportation	Provide or obtain transportation support.
2	Communications	Provide telecommunications, radio and satellite support.
3	Public Works	Provide in restoration of critical public services, roads, and utilities.
4	Firefighting	Support detection and suppression of wildland, rural, and urban fires.
5	Information & Planning	Collect, analyze, and disseminate critical disaster information to SERT members.
6	Mass Care	Manage temporary sheltering, mass feeding, and distribution of essential supplies for victims.
7	Resources	Provide logistical and resource support to other organizations through purchasing, contacting, renting, and leasing supplies.
8	Health & Medical	Provide health, medical care, and social service needs.
9	Search & Rescue	Locate lost persons and victims trapped in collapsed structures and provide immediate medical care.
10	Environmental Protection	Respond to actual or potential hazardous materials discharges and other situations threatening the environment.
11	Food & Water	Secure bulk food, water and ice to mass care sites.
12	Energy	Support response and recovery from shortages and disruptions in supply and delivery of energy resources.
13	Military Support	Provide military resources to support logistical, medical, transportation, and security services.
14	Public Information	Disseminate disaster-related information the public.
15	Volunteers & Donations	Coordinate utilization and distribution of donated goods and services.
16	Law Enforcement	Coordinate the mobilization of law enforcement and security resources.
17	Animal Service	Provide rescue, protective car, feeding and identification of animals separated from their owners.
18	Business, Industry & Economic Stabilization	Provide support to business and industry in their response to a disaster.

Sources: <http://www.floridadisaster.org/bpr/emtools/esf.htm>;
 Florida Comprehensive Emergency Management Plan, 2004.



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General County CEMP Considerations

Although the particular role of I-95 in the CEMPs is limited, I-95 is still important since it facilitates movement. The interstate is part of the critical transportation infrastructure and serves as part of the evacuation network in each county of the study area. In every case, I-95 serves as a geographic reference; the issues and considerations identified for the I-95 corridor would generally apply to most other roadways in the state as well. From each of the county CEMPS, the following general considerations emerged and apply to all 12 counties in the study area⁴:

- I-95 is a major north/south transportation facility for the entire I-95 corridor. This roadway could be expected to facilitate regional mass evacuations and the nature of these evacuations will inevitably cause congestion along the interstate. Evacuees wishing to leave the region utilizing that I-95 must leave well in advance of any evacuation order being issued since out of county evacuation may not be possible due to factors such as limited transportation capacity and dense population;
- Critical intersections of other evacuation roadways with I-95 need to be monitored during an evacuation event to ensure and expedite vehicle movement. The movement of vehicles will require extensive traffic control efforts;
- The entire I-95 study area is susceptible to hazardous materials incidents, whether by damage to fixed facilities or by accidents resulting from transportation of those materials by railway, through the air, by water or over major roadways such as I-95;
- The I-95 corridor experiences heavy use by passenger and commercial traffic. The interstate is undeniably vulnerable to transportation system accidents;
- Any incident that closes or significantly blocks I-95 will require notification of the respective county's emergency management division so that the agency may issue warning to other organizations and the public;

⁴ Sources: Broward County Emergency Management Comprehensive Emergency Management Plan, November 2009; Consolidated City of Jacksonville/Duval County, Florida Comprehensive Emergency Management Plan, June 2006; Flagler County Comprehensive Emergency Management Plan, November 2006; Indian River County Comprehensive Emergency Management Plan, 2007; Martin County Comprehensive Emergency Management Plan, December 2009; Miami-Dade County, Florida Comprehensive Emergency Management Plan, Volume 1, June 2008; Palm Beach County Comprehensive Emergency Management Plan, 2002; St. Johns County Comprehensive Emergency Management Plan, June 2008; St. Lucie Comprehensive Emergency Management Plan, September 2006; Volusia County Comprehensive Emergency Management Plan, 2009.



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- Staging areas are, in many cases, located near or along I-95. These sites are readily accessible to rail, roadway, and air carriers for the assembly of personnel, supplies, and equipment prior to deployment to the affected area(s);
- If I-95 is damaged or impassable, alternate routes to I-95 should be available and clear. The disruption of the I-95 infrastructure would be a major hindrance to recovery operations, such as distribution of food, water and ice;
- Emergency Support Function (ESF) 3, Public Works, is an important factor in each county's CEMP. Public works is vital for clearing roadways and access to stricken areas. Public works is integral to the removal of debris from transportation routes. The assessment of damage and clearance of I-95 would greatly depend on this function. The Florida Department of Transportation is responsible for clearing debris from state and federal roads in major arterial systems;
- Hazards categories that could cause roadway blockage on I-95 are: hurricanes/tropical storms, tornados, severe thunderstorms, urban/wildfires, lightning, hazardous materials, water system failure, oil spills, civil disorder, and, terrorism; and,
- During evacuations changeable highway message signs are used on the interstate. These signs communicate to the evacuating public as well as direct delivery vehicles for mutual aid resources that are designated for protective or recovery actions.⁵

5.3 Homeland Security and Emergency Response

On I-95, various law enforcement agencies are used to monitor and control passenger and commercial traffic, investigate accidents, and provide general security enforcement. From day to day, these agencies help regulate the safety of the I-95 corridor; however, these agencies have major responsibilities with regard

⁵ Mutual aid resources are provided per mutual aid agreements. Per Section 252.40, *Mutual Aid Agreements*, Florida Statutes:

The governing body of each political subdivision of the state is authorized to develop and enter into mutual aid agreements within the state for reciprocal emergency aid and assistance in case of emergencies too extensive to be dealt with unassisted. Copies of such agreements shall be sent to the division. Such agreements shall be consistent with the state comprehensive emergency management plan and program, and in time of emergency it shall be the duty of each local emergency management agency to render assistance in accordance with the provisions of such mutual aid agreements to the fullest possible extent.



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to homeland security as well as emergency response and recovery actions during a disaster.

The roles and responsibilities of various law enforcement agencies along the I-95 corridor include the following:

Florida Department of Law Enforcement (FDLE), Homeland Security – The Florida Department of Law Enforcement (FDLE) is a key player with regard to its commitment to domestic security in the Florida. FDLE is given its authority by Florida Statutes, Chapter 943, Department of Law Enforcement Act. Within this chapter, Section 943.03101, *Counter-terrorism Coordination*, places FDLE in control of the coordination of specialized efforts of emergency management that are unique to counter-terrorism activities. According to this Section:

These efforts intrinsically involve very close coordination of federal, state, and local law enforcement agencies with the efforts of all others involved in emergency-response efforts. In order to best provide this specialized effort with respect to counter-terrorism efforts and responses, the Legislature has determined that such efforts should be coordinated by and through the Department of Law Enforcement, working closely with the Division of Emergency Management and others involved in preparation against acts of terrorism in or affecting this state.⁶

FDLE provides an important aspect to the information sharing and intelligence element of I-95 during a domestic security event. FDLE operates the Florida Fusion Center (FFC), which has a significant role in passing intelligence to state and local partners. The FFC, located in Tallahassee, serves as Florida's primary fusion center for the gathering, processing, analysis, and dissemination of criminal intelligence, terrorism, and homeland security information. If a suspicious activity or potential public safety threat along I-95 is reported to the local law enforcement agency, this information can then be communicated through regional fusion centers or directly to the FFC. FFC would complete analysis of this information and determine appropriate dissemination of this information or intelligence. This dissemination would include federal and state agencies as well as the regional fusion centers across Florida. The FFC has a working partnership with 18 state and federal agencies as well as professional associations (fire and law enforcement). FFC partners maintain the ability to utilize indices checks from their respective agency databases in order to provide collaborative analysis and additional information regarding the activities and incidents potentially affecting public health and safety.

In addition, the FFC participates in the National SAR Initiative (NSI), wherein if a suspicious incident takes place on I-95 and is reported by a local or state agency as a tip, field interview report or suspicious activity report (SAR), the FFC will review the report for behaviors and indicators that may have a nexus to terrorism. If these

⁶ Florida Statutes 943.03101, *Counter-terrorism coordination*.



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indicators are present, the FFC will place the report into the national “shared space” in order to index the event and link other threat events/activities taking place both inside and outside Florida. This shared space environment is accessible by other fusion centers and federal entities, to include the Federal Bureau of Investigation and the Department of Homeland Security. Further information on domestic security efforts in Florida may be found in the *Florida Domestic Security Plan, 2009-2011*.⁷

FDLE, Emergency Response and Mutual Aid - According to Florida’s Comprehensive Emergency Management Plan (CEMP), FDLE is also the primary state agency for Emergency Support Function 16, Law Enforcement and Security (ESF 16). FDLE coordinates the mobilization of law enforcement and security resources. Appendix XVI of the Plan states:

*When an emergency situation is anticipated or occurs, the Florida Department of Law Enforcement will dispatch sworn personnel from the nearest Florida Department of Law Enforcement office to the affected agency(s) to establish State mutual aid liaisons and monitor the situation. Those personnel will coordinate any requests for additional State law enforcement resources from within the affected area of the State and make requested resources immediately available to the local law enforcement agency(s). Coordination of the use of State resources will be accomplished for the local law enforcement executive(s) by the Regional Director or a designee from the nearest Florida Department of Law Enforcement office. Should the situation escalate or require at the onset additional State law enforcement resources from outside the affected area, such resources will be dispatched in conjunction with other State law enforcement agency(s) listed in this appendix by the Florida Department of Law Enforcement Mutual Aid Director in Tallahassee.*⁸

An example of an emergency situation involving I-95 in which FDLE would be activated would be a hurricane evacuation. The movement of vehicles during an evacuation requires extensive traffic control efforts to make maximum use of roadway capacity and to expedite safe escape from hurricane hazards; this requires the coordinated efforts of municipal, county and state law enforcement agencies.⁹ FDLE would need to coordinate law enforcement resources to monitor critical intersections and expedite vehicular movements and confirm condition of evacuation routes with ESF 3 Public Works. Re-entry to evacuated areas would also need to be coordinated through ESF 16.

⁷ The Florida Domestic Security Plan is available on the internet in the following location: <http://www.fdle.state.fl.us/Content/getdoc/0aead9bc-20f4-4c4e-86fd-6bd15df62b38/FloridaDomesticSecurityStrategicPlan2009-2011.aspx>

⁸ Florida Comprehensive Emergency Management Plan, Appendix XVI: Emergency Support Function 16 – Law Enforcement and Security, 2004.

⁹ These actions fall under Section 252.40, *Mutual Aid Arrangements*, of Chapter 252 of the Florida Statutes.



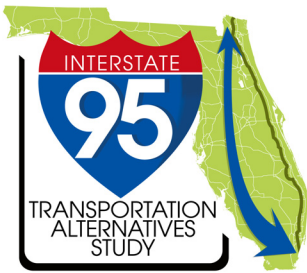
Chapter 5-Emergency & Security Response

Florida Department of Transportation (FDOT), Enforcement – The Florida Department of Transportation employs sworn law enforcement officers and regulatory weight inspectors in the Office of Motor Carrier Compliance (OMCC). The OMCC provides commercial vehicle safety and weight enforcement functions. OMCC law enforcement officers are in force along the entire I-95 corridor and perform traffic enforcement with an emphasis on violations by commercial motor vehicles (CMVs) and passenger vehicles interacting with large trucks. The primary purpose of the weight enforcement program is to protect Florida's highway system and bridges from damage from overweight vehicles. Currently, there are two operational weigh stations on I-95 and one additional station that is in the PD&E/final design stage. The two operational stations are located in Nassau and Flagler Counties; the station in the PD&E/final design stage is in Martin County.

Department of Highway Safety and Motor Vehicles (HSMV), Enforcement and Emergency Response – The Department of Highway Safety and Motor Vehicles is the parent agency for the Florida Highway Patrol (FHP). FHP promotes safety on I-95 and all Florida highways through enforcement as well as educational efforts. FHP publishes road closure information and also provides it to the Division of Emergency Management (DEM). One of the main goals of FHP is to attempt to reduce criminal activities occurring on Florida's highways through detection, prevention, and enforcement of criminal laws relating to highway violence, transportation of illegal drugs/contraband, auto theft, driver license fraud, and emissions fraud.

FHP is responsible for patrolling the entire length of I-95, and covers the territory with four troops. Troop E covers Miami-Dade County, Troop L covers Broward County to Indian River County, Troop D patrols Brevard and Volusia Counties, and Troop G patrols the area from Flagler County to Nassau County.

Local Law Enforcement Agencies - The sheriff's offices are the chief law enforcement entities in each county of the I-95 study area. Both the sheriff's offices and police departments in the corridor have the responsibility to take action in homeland security events within their communities and their jurisdictions. These agencies are the primary first responders when a disaster strikes. For example, local SWAT teams could be called in the case of a terrorist event on I-95. Local law enforcement agencies also have primary control over evacuation traffic control and reentry for their respective municipalities.



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I-95 is a key contributor to economic development in the 12 county study area. Major businesses rely on I-95 for the movement of goods and people. The interstate also has the capability to funnel trips to developments and businesses along parallel and intersecting corridors. This chapter presents information regarding economic development potential along the I-95 corridor, along with a summary of tourism impacts.

6.1 Economic Development Benefits and Opportunities

I-95 is a conduit between major economic centers in urban areas and designated enterprise zones along the east coast. The I-95 corridor also connects to state roads, which provide access to counties and communities designated as Rural Areas of Critical Economic Concern.

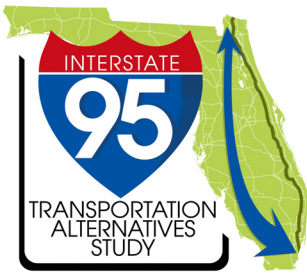
Rural Areas of Critical Economic Concern (RACEC)

Robust rural communities are essential to the overall success of the State's economy. While Florida's urban communities have grown rapidly over the past 50 years, its rural communities have not shared this growth and prosperity. Because most rural areas continue to experience severe and sustained economic distress, the State has designated 28 of its 32 rural counties and five communities as Rural Areas of Critical Economic Concern (RACEC). Per 288.0656(2)(d) Florida Statutes, the definition of a RACEC is as follows:

"Rural area of critical economic concern" means a rural community, or a region composed of rural communities, designated by the Governor, that has been adversely affected by an extraordinary economic event, severe or chronic distress, or a natural disaster or that presents a unique economic development opportunity of regional impact."

The Governor may designate up to three RACECs. This designation establishes the regions as priority assignments for Rural Economic Development Initiative (REDI) agencies and allows the Governor waive criteria of any economic development incentive including transportation projects under 288.063 Florida Statutes.¹

¹ The Office of Tourism, Trade, and Economic Development is authorized to make, and based on a recommendation from Enterprise Florida, Inc., to approve, expenditures and enter into contracts for direct costs of transportation projects with the appropriate governmental body. The Office of Tourism, Trade, and Economic Development shall provide the Department of Transportation, the Department of Environmental Protection, and the Department of Community Affairs with an opportunity to formally review and comment on recommended transportation projects, although the Office of Tourism, Trade, and Economic Development has final approval authority for any project under this section.



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As illustrated in **Figure 6.1.1**, the designated RACEC counties of Putnam and Okeechobee, as well as the communities of Belle Glade, Pahokee and South Bay, are connected to the I-95 corridor via the following roadways:

- SR 207 and SR100 connect I-95 to Putnam County;
- SR 70 and SR 710 connect I-95 to Okeechobee County; and,
- US 441 provides access from I-95 to Pahokee, Belle Glade and South Bay.

The proximity of I-95 to the Rural Areas of Critical Economic Concern (RACEC) serves as an important component in providing much needed exposure to those areas.

Enterprise Zones

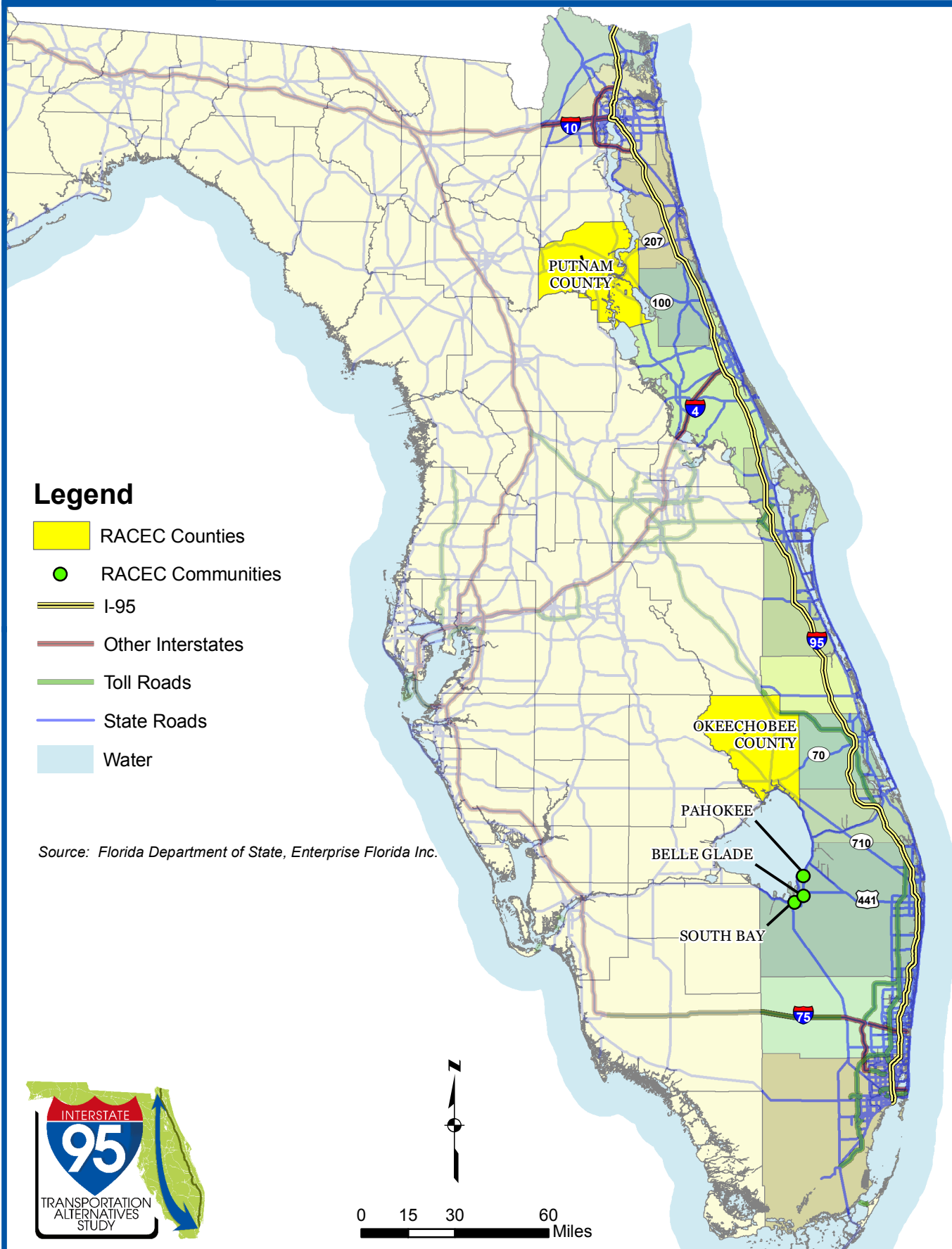
Along the I-95 Corridor, one of the key economic development strategies supporting economic development is Enterprise Zones. Florida's Enterprise Zone Program encourages economic growth and investment in distressed areas by offering tax advantages and incentives to businesses that are located in and/or invest in these areas. An Enterprise Zone is a specific geographic area targeted for economic revitalization. Potential benefits include sales tax refunds on building materials and equipment, sales tax exemptions on electricity, corporate tax credits and any local incentives. Currently, the state has designated 57 enterprise zones in Florida², and the federal government has designated five. Included within that total are:

- 3 Federal Enterprise Communities;
- 2 Federal Empowerment Zones;
- 28 Rural Enterprise Zones; and,
- 29 Urban Enterprise Zones.

Within the 12 county I-95 study area, there are a total of 10 Enterprise Zones, as identified in **Table 6.1.1**. The Enterprise Zone program operates at both the state and federal levels, and almost every state has some form of an Enterprise Zone program. The federal government has designated a total of 172 Enterprise Communities and Empowerment zones across the US. These designations are based on criteria including population, poverty rates, and economic distress. Because of the diversity in the population and economy throughout the state of Florida, the Enterprise Zone program is designed to accommodate both rural and urban areas. Because rural areas do not attract and retain the same types of businesses that urban areas do, rural Enterprise Zones are given different tax credits through the various incentives.

Figure 6.1.1

Rural Areas of Critical Economic Concern (RACEC) Adjacent to or Within I-95 Corridor





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**Table 6.1.1 Florida Enterprise Zones Located within
the I-95 Study Area**

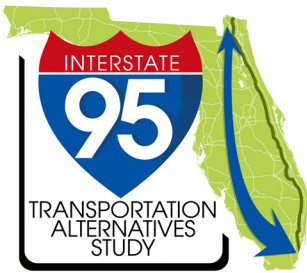
Enterprise Zone	Zone ID	Class
Broward County/Fort Lauderdale	EZ 601	Urban
Cocoa	EZ 501	Urban
Daytona Beach	EZ 6401	Urban
Fort Pierce	EZ 5601	Urban
Indian River County/Vero Beach	EZ 3101	Urban
Jacksonville	EZ 1601	Urban
Miami-Dade County	EZ 1301	Urban
Oak Hill	EZ 6402	Rural
Pahokee	EZ 5001	Urban
Palm Beach County	EZ 5002	Urban

Source: Enterprise Florida Inc.

Enterprise Zones all have the same basic goals of economic revitalization and community redevelopment; however these incentives are especially important in urban areas trying to change their development pattern. Many cities have had trouble with infill strategies due to the fact that redevelopment is often more expensive than new development. This program offers local governments more control to direct development into areas that need it most. As all but one Enterprise Zone along the I-95 Corridor is classified urban, this could be a powerful tool for directing development to maximize the success of I-95 alternatives.

Major Businesses

As reflected in Fortune magazine, many major businesses chose to locate in the 12 county I-95 corridor study area. Fortune magazine has been a trusted source for business news and analyses for decades, including the distribution of major businesses in Florida. Among the well-known researched and ranked lists is the Fortune 1000, an annual list compiled and published by Fortune magazine that ranks the top American public corporations as measured by their gross revenue.



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There are 32 Fortune 1000 companies headquartered in Florida, and half of those companies are located along the I-95 Corridor². Proximity to I-95 is an important aspect in location choice, which is linked to the ability to move goods and people. **Table 6.1.2** identifies the Fortune 1000 Companies headquartered along the I-95 Corridor.

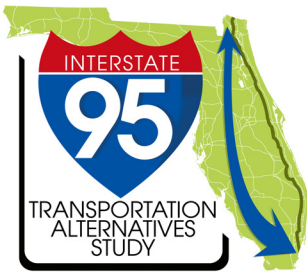
These companies are not only high in earnings, but they also represent a number of the industry clusters defined as strengths in Florida. Winn Dixie and PSS World Medical are linked to the Life Sciences cluster focusing on pharmaceuticals. Harris and Fidelity National Information Services are related to Information Technology, and BE Aerospace is clearly related to the Aviation/Aerospace industry cluster. These I-95 Corridor companies play a key role in the state's continued economic success and competitiveness.

Table 6.1.2 I-95 Corridor Fortune 1000 Companies Headquarters, 2009

National Rank	Company	City	Revenue (\$ millions)
137	World Fuel Services	Miami	18,509
154	International Assets Holding	Juno Beach	16,410
179	Office Depot	Boca Raton	14,496
182	Auto Nation	Fort Lauderdale	14,288
240	CSX	Jacksonville	11,255
340	Winn-Dixie Stores	Jacksonville	7,281
399	Ryder System	Miami	6,204
447	Harris	Melbourne	5,311
505	Lennar	Miami	4,575
523	Fidelity National Financial	Jacksonville	4,329
612	Fidelity National Information Services	Jacksonville	3,504
743	Landstar System	Jacksonville	2,824
790	Burger King Holdings	Miami	2,455
839	MPS Group	Jacksonville	2,222
848	Spherion	Fort Lauderdale	2,189
873	BE Aerospace	Wellington	2,110
943	Lender Processing Services	Jacksonville	1,862
946	PSS World Medical	Jacksonville	1,856

Source: Enterprise Florida

² Enterprise Florida Inc. and 2009 Florida Enterprise Zone Program Annual Report



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There are many other companies that have headquarters along the I-95 corridor, which are not listed in the Fortune 1000 listings, but also have high earnings and provide above average wage jobs to Floridians. Three such companies are identified in **Table 6.1.3**. Companies like these far outnumber the larger Fortune 1000 companies, and if taken as a whole, have substantial impacts on not only the local, but State economy as well.

Table 6.1.3 I-95 Corridor Company Headquarters, 2009

Company	County	City	Revenue (\$ millions)
International Speedway Corporation	Volusia	Daytona Beach	693.2
Pilot Corporation of America	Duval	Jacksonville	850
United Automobile Insurance Group	Miami-Dade	North Miami Beach	61.4

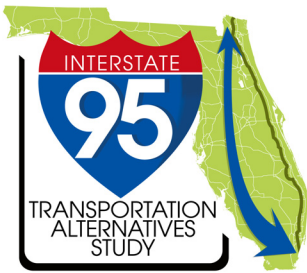
Source: Florida Governor's Office of Tourism, Trade and Economic Development

General Considerations for Economic Development

I-95 is a major selling point that can enhance Florida's economic competitiveness and diversification at local, regional and global levels. The I-95 corridor is home to multinational corporations and is part of a network that connects international markets to the United States and vice versa. I-95 offers unparalleled access to economic opportunities in the counties along the corridor where many corporate parks, light manufacturers, distribution centers, and research and development operations are either located or desire to locate.

Due to the convergence of multimodal hubs, the corridor plays an important role for distribution and freight, connecting seaports, airports and distribution centers; the I-95 corridor assists a seamless system where efficiency is good for the bottom line. Locations along I-95 are ideal for the establishment of integrated logistics centers, which attract warehousing, forwarding, and logistics businesses, as well as restaurants, hotels.

With the anticipated resurgence of the global economy, Florida stands to benefit from several external and internal freight related economic development opportunities, including the expansion of the Panama Canal. With these trade opportunities on the horizon for Florida and its seaports, comprehensive measures are proposed to enhance the state's competitive edge, better serve the state's



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population, and create jobs and revenues³. As cited in the seaports' White Paper entitled *2010 Economic Action Plan for Florida: A Blueprint to Leverage Florida's Strategic State-Seaport Partnership*⁴, if it is to attain and sustain global leadership, Florida must reject the status quo and develop a plan of action that positions the state to benefit from changing trade patterns, changing economic policies, and changing global markets. In partnership with FDOT, the Department of Community Affairs, and OTTED, Florida's seaports have been working for two decades to expand seaport capacity and efficiency so that international trade can flourish throughout the state. Florida's interconnected multimodal transportation system -- seaports, airports, and rail -- is one of the state's most dynamic and proven catalysts for economic growth³.

The I-95 corridor is also host to a number of new housing developments that automatically spur commercial growth as the population grows. Because access to I-95 is a desirable feature of these residential developments, many have taken the initiative to integrate mixed uses, especially transit oriented and transit adjacent developments. Proposed transit oriented developments, such as Cypress Creek and Riverbend in Broward County, show the contribution and economic benefit of I-95, and also have the potential synergy that may be able to help ease congestion on failing sections of I-95. This could lead to reduction in VMT growth and a degree of system preservation, which translates to economic preservation.

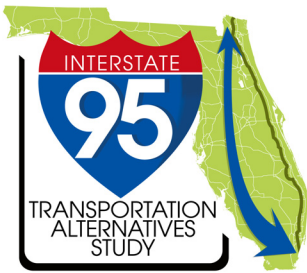
6.2 Tourism

Tourism plays a fundamental role in Florida's economy, with the sun, sand and a variety of other attractions bringing millions of visitors to Florida each year. Understanding visitor travel trends is an important part of using and predicting future travel demands, especially in a state with such a strong tourism industry. Visitor travel patterns are often different from resident or freight travel in both temporal and geographic distribution. For this reason visitor travel can also follow a different growth pattern. At one time Florida visitor travel grew faster than resident travel; now, visitor travel is growing at a slower rate than resident travel.

Understanding the significance of visitor travel is relevant to I-95 as it is a core part of the statewide transportation system, and Florida tourism is heavily dependent on a strong transportation system. Visitors to any new place want convenient, safe and efficient travel both into and out of their destination. Failure to meet the transportation needs of visitors could diminish Florida's attractiveness and

³ A Five-year Plan to Achieve the Mission of Florida's Seaports, 2009/2010 – 2013/2014, Florida Seaport Transportation and Economic Development Council.

⁴ Florida Ports Council, February 2010.



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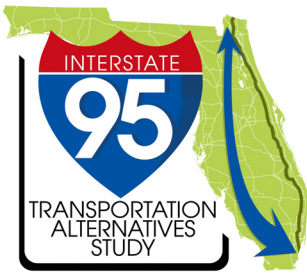
jeopardize the economic momentum currently enjoyed. The state's tourism marketing agency, VISIT FLORIDA, measures the economic impact of tourists through recreational taxable sales, travel-related employment, car rental surcharges and tourist taxes.

According to the most recent annual tourism estimates, Florida attracted 84.2 million visitors in 2008. Although this was a -0.4% drop from the previous year, the number is still much higher than earlier years⁵. A point to note is that the -0.4% change represents an average of the modal split changes, with a -1.8% drop in air visitors and a 1.3% increase in non-air visitors. This means the demand on highway facilities like the I-95 corridor likely increased in 2008. The resulting modal split was fairly even, as 51.5% of visitors traveled by air and the remaining 48.5% traveled by some other mode. **Table 6.2.1** illustrates the distribution of visitor origins to Florida by year.

The substantial historic economic impact of tourism on Florida can be shown in total spending, the amount of total sales tax revenues, and the number of persons directly employed by the tourism industry. In 2008, tourists spent over \$65 billion and the total sales tax revenues to the state were nearly \$4 billion⁶. **Table 6.2.2** shows the total tourism spending, total sales tax revenues, and number employed by tourism in Florida by year.

⁵ VISIT FLORIDA Research Study 2008

⁶ VISIT FLORIDA Research Study 2008



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Table 6.2.1 Florida Historic Visitor Numbers (in millions)

Year	Domestic	Overseas	Canadian	Total
1999**	51.4	5.8	1.7	58.9
2000	64.7	6.0	2.0	72.8
2001	62.3	5.3	1.9	69.5
2002	67.9	4.4	1.6	73.9
2003	68.7	4.2	1.7	74.6
2004	73.4	4.4	1.9	79.7
2005	77.2	4.4	2.0	83.6
2006	77.6	4.1	2.1	83.9
2007	77.3	4.7	2.5	84.5
2008	76.1	5.2	2.9	84.2

** In mid-1999, VISIT FLORIDA changed its domestic visitor estimation method to increase accuracy, so estimates made prior to that year are not directly comparable to more recent yearly estimates.

Source: VISIT FLORIDA Research Study 2008

Table 6.2.2 Historic Economic Impact of Tourism on Florida 1999-2008

Year	Total Tourism Spending: Tourism/Recreation Taxable Sales (in billions)*	Total State Sales Tax Revenues from Tourism (in billions)	Number of Persons Directly Employed by Tourism Industry
1999	47.2	2.8	826,200
2000	50.9	3.1	842,900
2001	50.8	2.9	864,500
2002	51.1	3.0	862,900
2003	51.5	3.1	874,700
2004	57.1	3.4	920,700
2005	62.0	3.7	948,700
2006	65.0	3.9	964,700
2007	65.5	3.9	991,300
2008	65.2	3.9	1,007,000

*Beginning in 2003, DOR revised this calculation to include 12 kind codes versus 14.

Source: VISIT FLORIDA Research Study 2008



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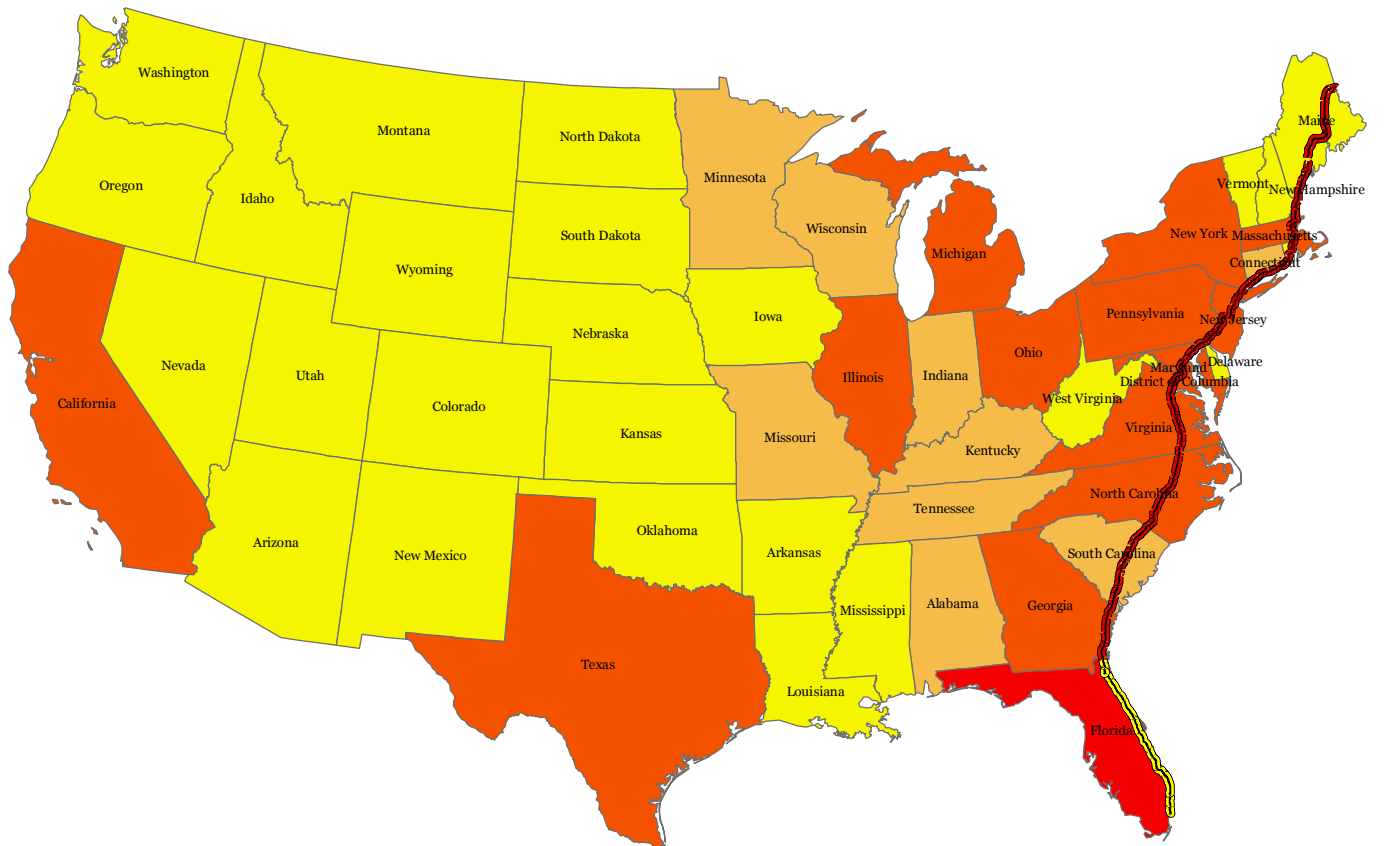
Visitors mainly come to Florida from the eastern portions of the United States, California and Texas. With just over half of Florida's visitors arriving by air in 2008, it can be assumed that a large number of visitors utilizing other modes of transportation used the I-95 corridor at some point in their travels. I-95 is a likely choice for visitors along the east coast traveling by auto. **Figure 6.2.1** illustrates domestic origins of visitors to Florida.

Popular destination counties within Florida include Orange, Miami-Dade, Hillsborough, Volusia, and Palm Beach. The Orlando area with its theme parks and other attractions had the vast majority of trips. Within the I-95 study area, the entire southeast, Daytona Beach area, Jacksonville and suburbs, and the Space Coast also attract significant levels of visitors. Special tourism considerations for Volusia County include the Daytona 500, with an estimated 250,000 race-day attendance in 2008,⁷ and Bike Week, with an estimated attendance of 500,000 in March. A point to note is that while the final destination of a majority of visitors to Florida was Orange County, the survey conducted by VISIT FLORIDA did not capture route or intermediate destinations. In addition to the trips within the study area, it is likely that many visitors utilized the I-95 corridor while traveling to Orange County via I-4 or other means. **Figure 6.2.2** identifies the percentage of visitor trips to Florida by county.

⁷ 50th Daytona 500: Special Edition Facts for Features CB07-FFSE.08

Figure 6.2.1





Florida Visitor Trip Origins by State from 2003 to 2005



Legend

- I-95 Eastern Seaboard
 I-95 Study Area

Percent of Trips by State

-  Less than 1%
 1% to 2%
 2% to 7%
 Greater Than 7%

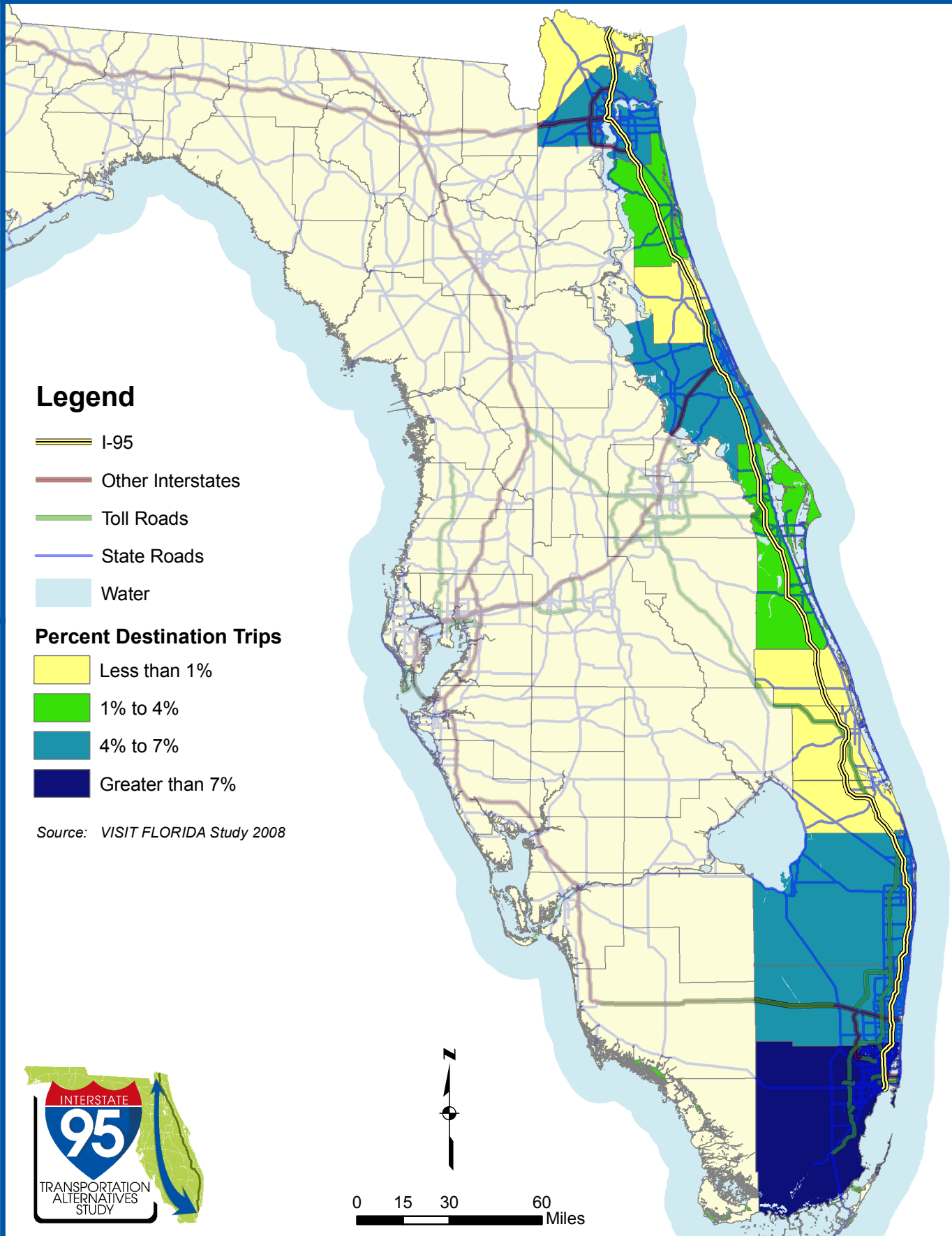
Source: VISIT FLORIDA Study 2008



A horizontal scale bar with tick marks at 0, 15, 30, and 60. The word "Miles" is written at the right end of the bar.

Figure 6.2.2

Florida Visitor Trip Destinations by County from 2003 to 2005



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WilburSmith
ASSOCIATES