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Florida Department of Transportation

Intelligent Transportation Systems Office

Fiscal Year 2001-2002

Annual Report

FDOT Intelligent Transportation Systems Annual Report

A Note from ITS Office Manager, Chester H. Chandler III, P.E.

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As we celebrate our second year, we invite you to take a look back at the past year's accomplishments. We look forward to many more years of success in ITS for Florida.

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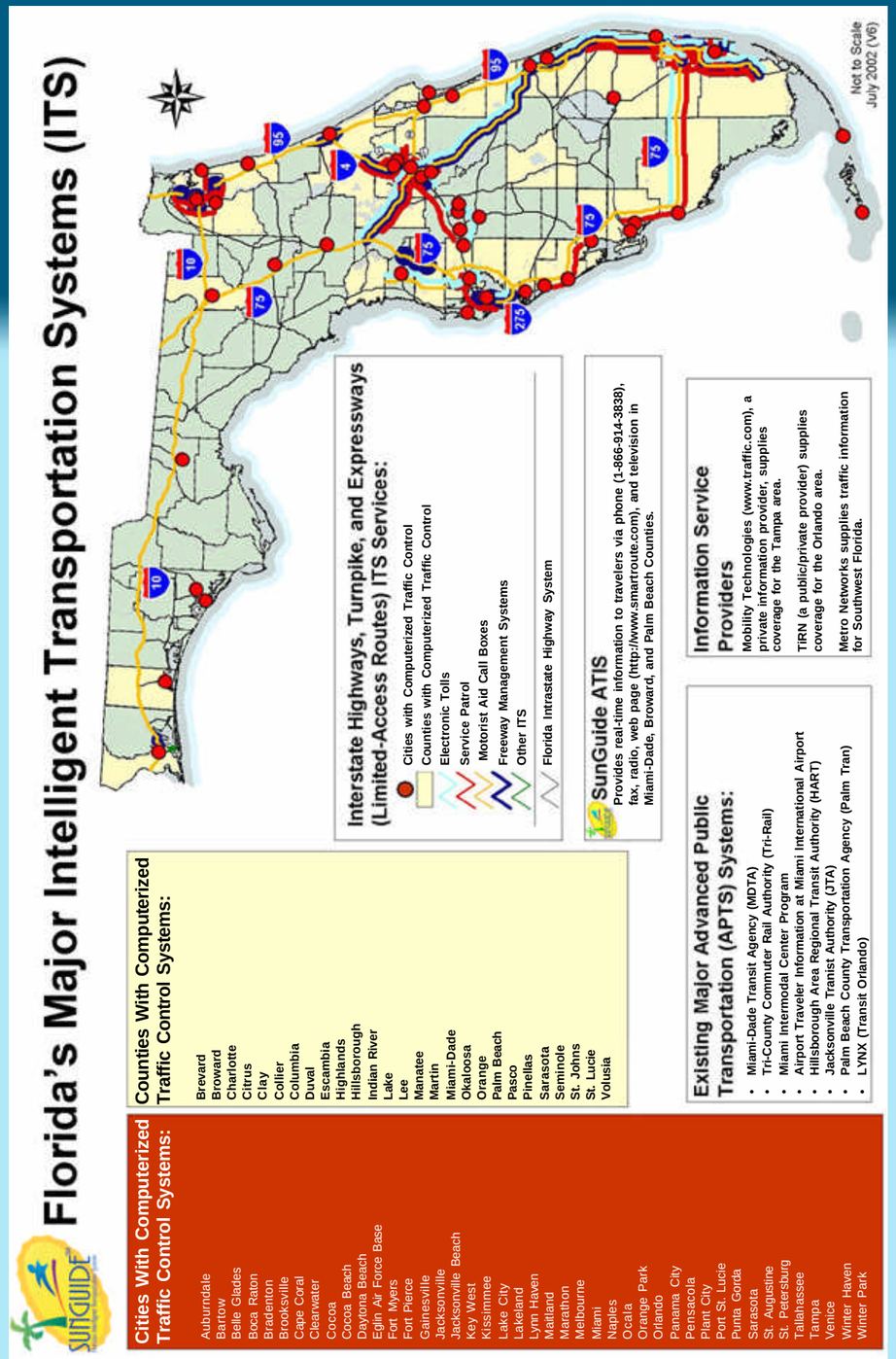

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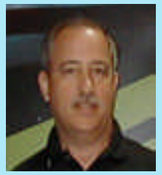

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Telecommunications Program Management is led by ITS Administrator, Nick Adams and is responsible for manage-ment, operations and upgrade of the Statewide Motorist Aid Microwave System, upgrade of the Statewide 47 MHz Land Mobile Radio System and guiding the deployment of a statewide communications backbone to serve ITS by negotiating with private firms to provide shared-resource fiber optic and wireless networks.

FDOT Intelligent Transportation Systems Annual Report

Accomplishments

Florida's accomplishments in ITS are numerous. The following is a list of major recent accomplishments for Fiscal Year 2001-2002.

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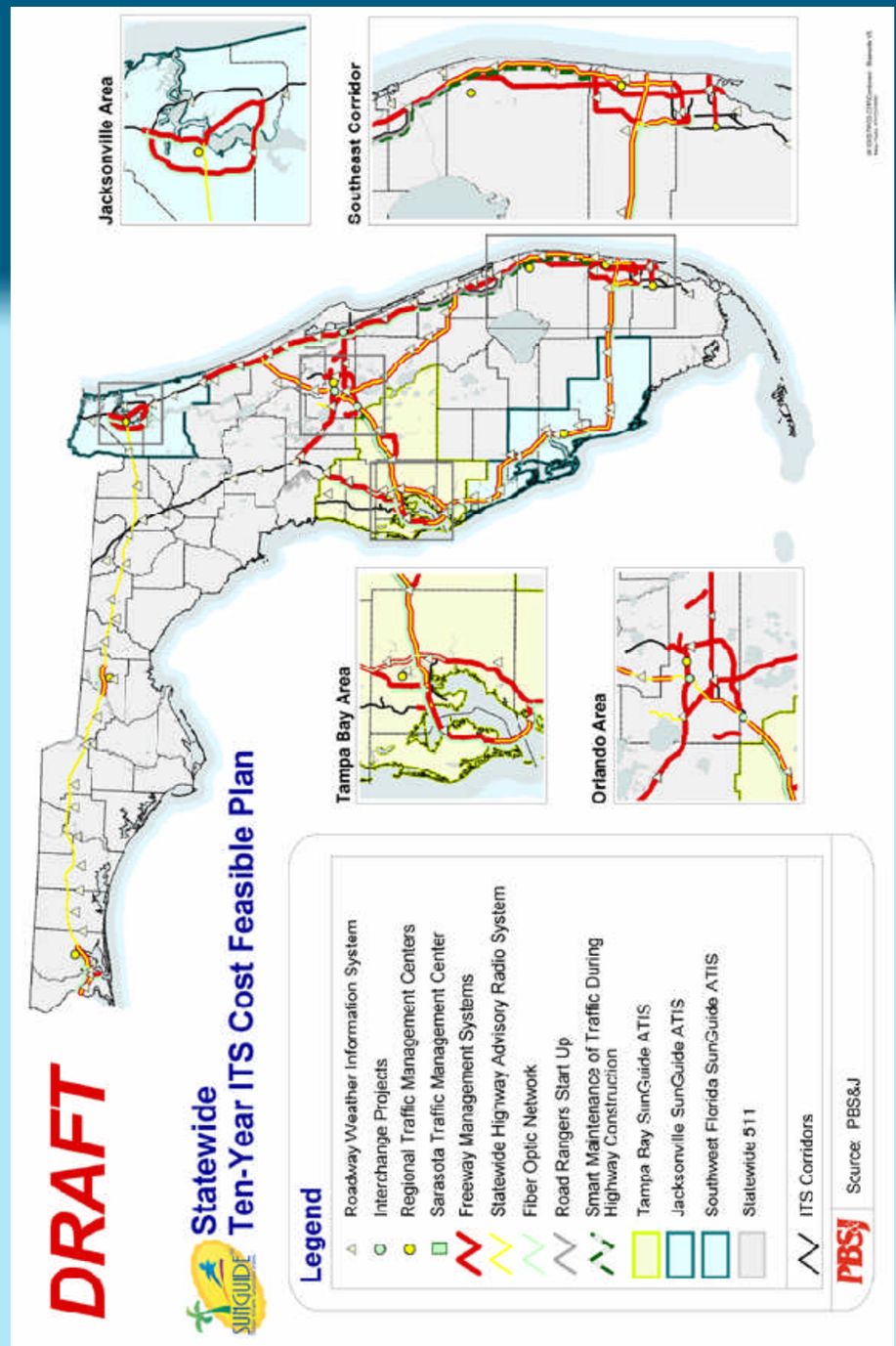
- The ITS Office completed the nation's first implementation plan for statewide 511 telephone-based traveler information services.

- After being awarded a Federal Highway Administration (FHWA) 511 deployment grant, a *Statewide 511 Implementation Plan* is in effect, beginning with the deployment of 511 in Southeast Florida and Orlando in Summer 2002. In the Orlando area, cellular and landline telephone users are able to access traveler information for the I-4 corridor via the 511 telephone code. In Southeast Florida, the SunGuide℠ ATIS, which has been in operation via a ten-digit telephone number since May 2001, has converted to the 511 access number.

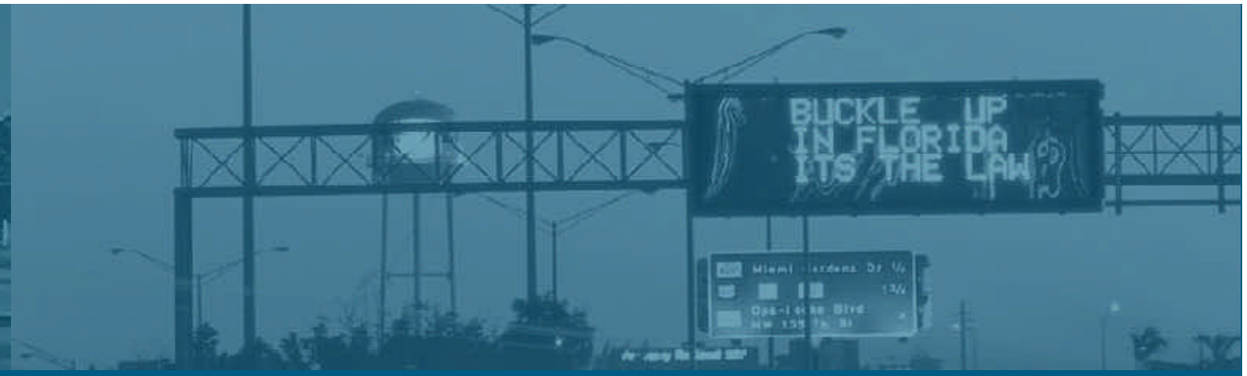
- Guidelines for adherence to the FHWA's Rule 940 have been developed, and concurrence on a statewide systems engineering approach has been reached.

- A Transportation Management Center (TMC) Software Study to assess alternatives for TMC software procurement has been completed. The integrated statewide TMC software system will provide a unifying platform to ensure that technologies work together smoothly and effectively. The selection of a common TMC software system will allow TMCs, toll collection, freeway incident management, traveler information, vehicle information, wireless microwave, and fiber optic communications to function seamlessly. An ITN will be advertised in August 2002 to select the best qualified software developer and integrator.



Benefits of ITS in Florida

The *Ten-Year ITS Cost-Feasible Plan* could save 120 lives, prevent 11,000 traffic-related injuries, prevent 14,000 accidents, and reduce lost time due to congestion by 20 million hours. This reduction will result in $3 billion in total benefits to Florida's travelers. The State of Florida is committed to deploying a seamless, statewide ITS system. In a recent statement, Florida Governor Jeb Bush said, "We've made a major commitment to deploy Intelligent Transportation Systems to enhance safety, mobility, economic growth, quality of life, and to manage our transportation assets. We invite you to take part in our expanding ITS Program and to find out why everyone's coming to Florida."



FDOT Intelligent Transportation Systems Annual Report

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ITS Architecture, ITS Standards, Training, and Research

- The ITS Office has completed corridor architectures for the Florida Intrastate Highway System (FIHS).

- The ITS Office participated in a review of national ITS standards through the standards development organizations and the FHWA.

- The ITS Office has conducted 18 professional capacity building training sessions over the last year, including courses on ITS Procurement and Software Acquisition, Systems Engineering and Configuration Management, Common Object Request Broker Architecture (CORBA), and ITS Standards.

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- FDOT issued a Management Information Database (MIB) for dynamic message signs (DMS).

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- To increase efficiency and reduce costs, the Florida ITS CVISN team combined the feasibility study for Electronic Credentialing and the Help Desk Feasibility Study into one. The

Scope of Work was completed in the fall of 2001; the project was put out to bid; and, vendor selection was completed in 2nd quarter 2002. The feasibility study project began in May 2002 and has an estimated completion date of September 2002.

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- Florida's Electronic Payment System (EPS) was integrated under the SunPass™ brand. Approximately 700,000 transponders are in use statewide. It is estimated that 1 million will be in use by 2005.

FDOT Intelligent Transportation Systems Annual Report

Telecommunications Program Management

- The ITS Office awarded $14 million in contracts to upgrade the Statewide Motorist Aid Microwave System facilities and networking.

- The ITS Office continued work on upgrades for the 47 MHz Statewide Land Mobile Radio System in the Florida Keys.

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Other Accomplishments

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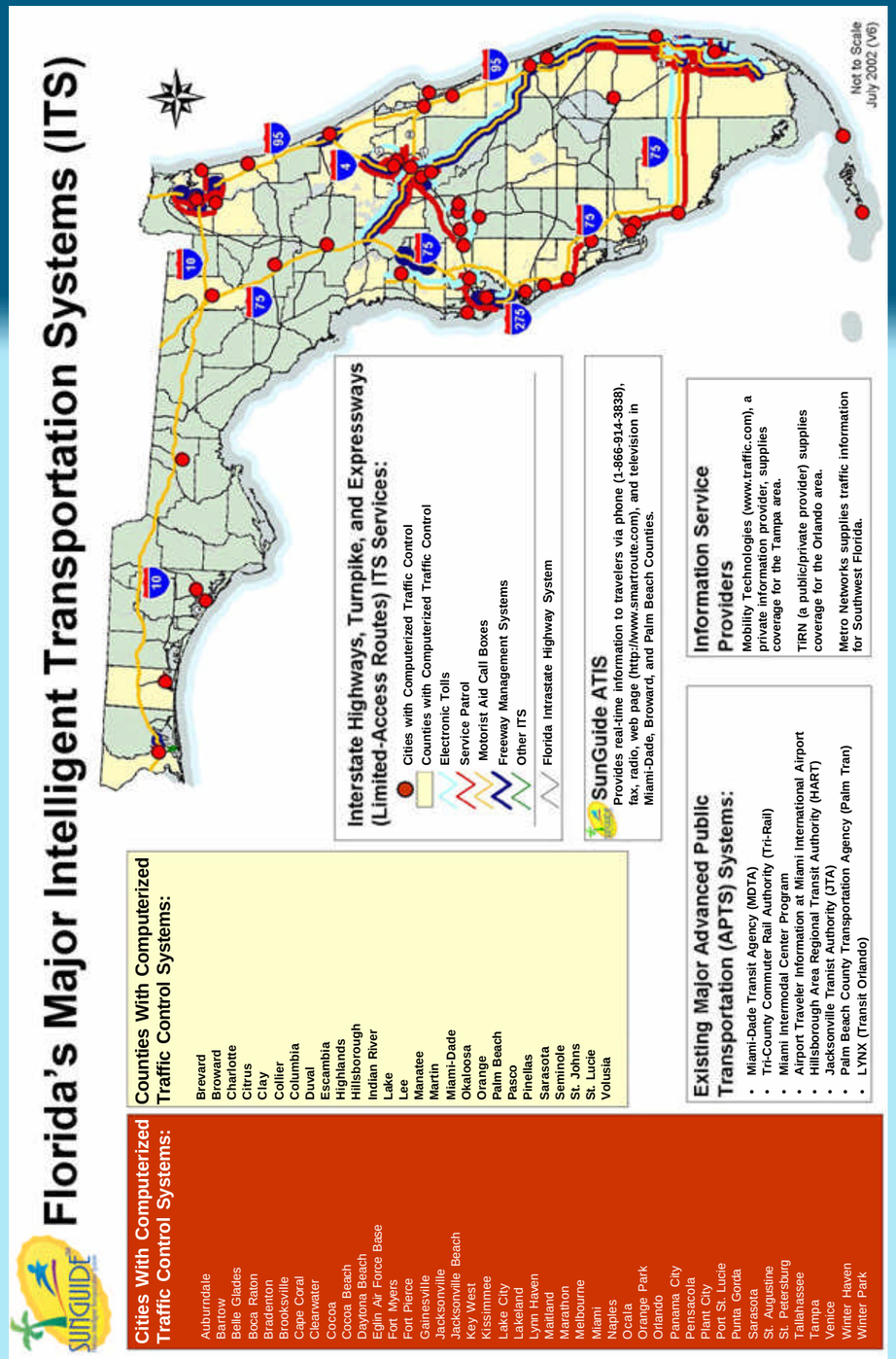

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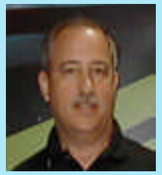

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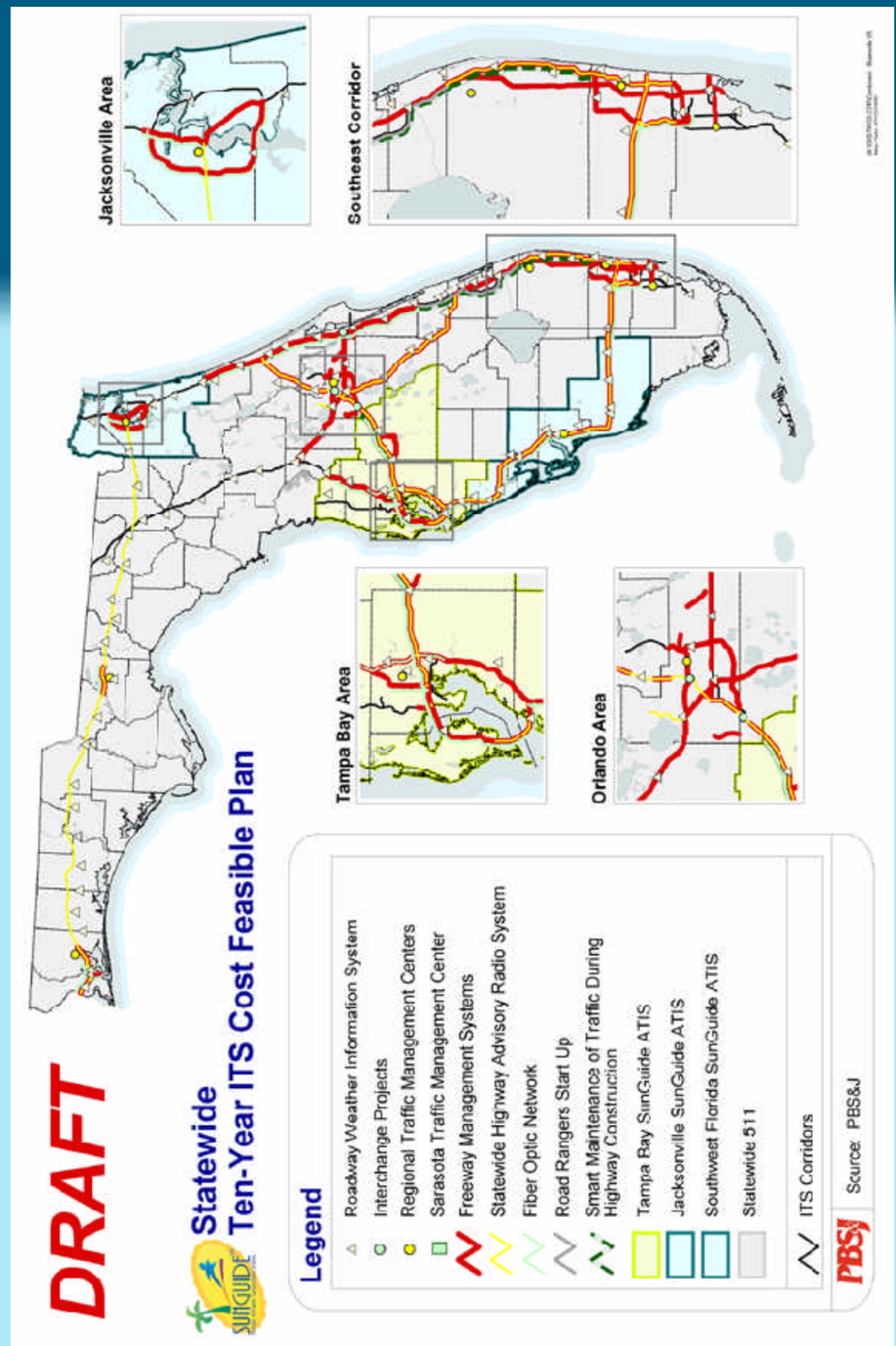

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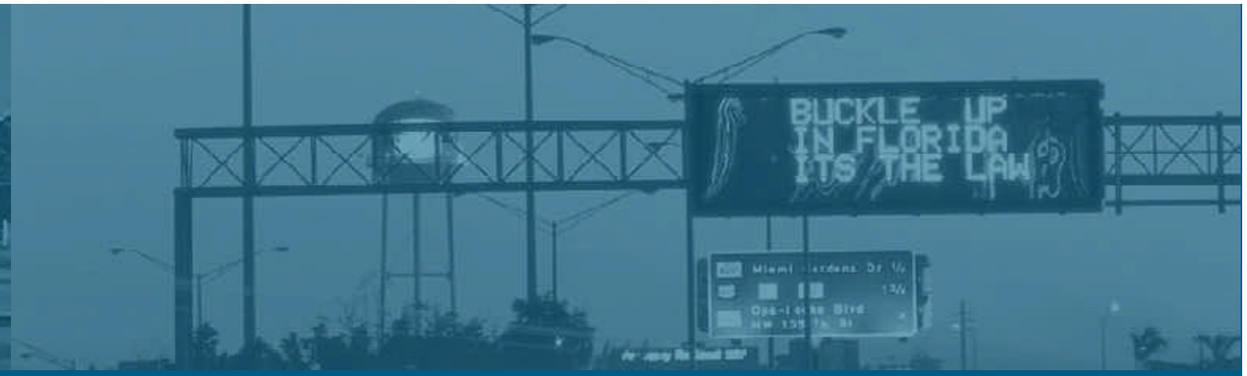

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Tallahassee, FL 32311

Mailing Address:
Burns Building
605 Suwannee Street
MS90
Tallahassee, FL 32399

On the Web
http://www11.myflorida.com/IntelligentTransportationSystems/default.htm

http://www.floridaits.com

Florida Department of Transportation

Intelligent Transportation Systems Office

Fiscal Year 2001-2002

Annual Report

FDOT Intelligent Transportation Systems Annual Report

A Note from ITS Office Manager, Chester H. Chandler III, P.E.

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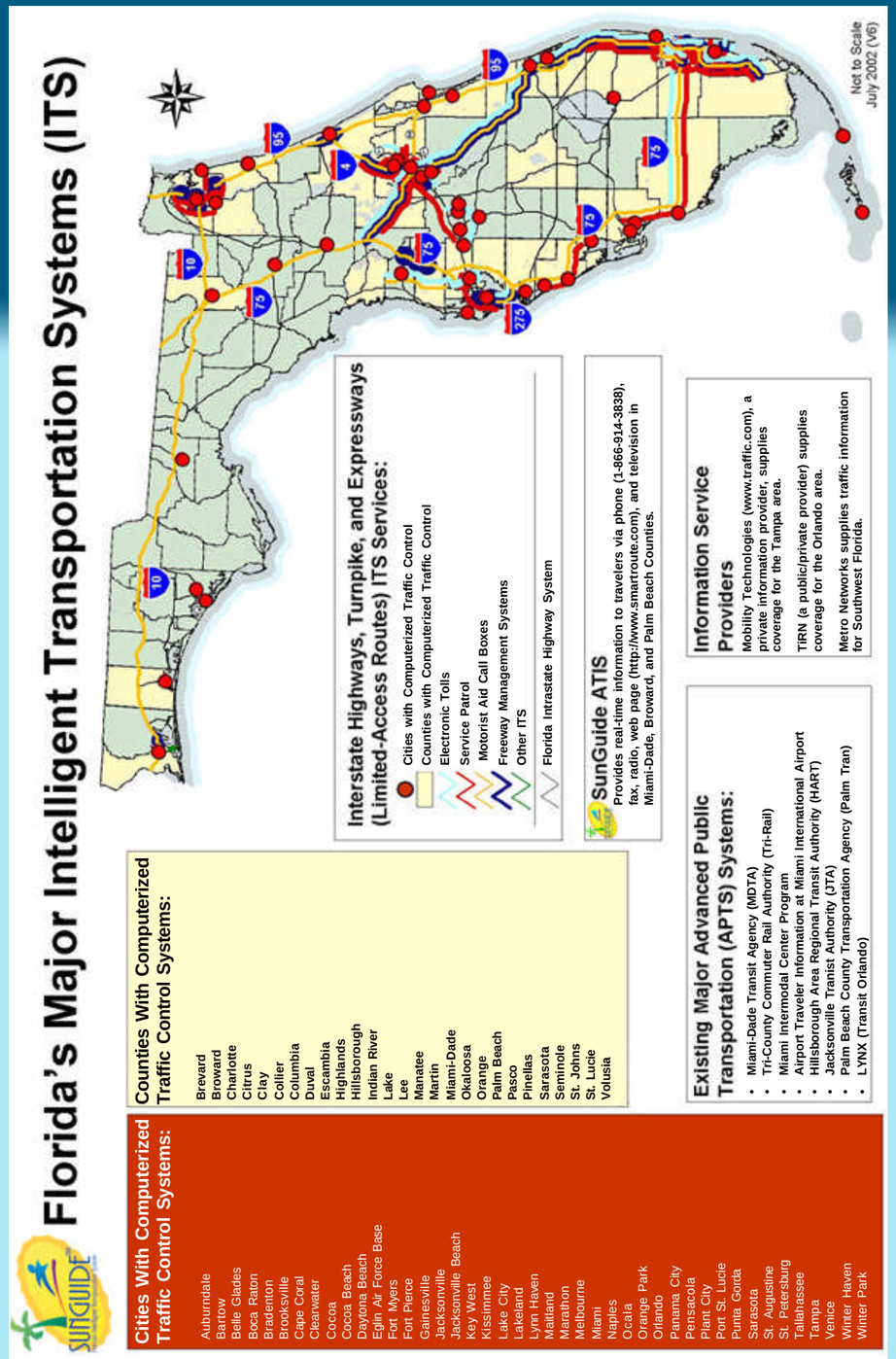

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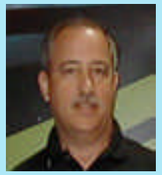

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FDOT Intelligent Transportation Systems Annual Report

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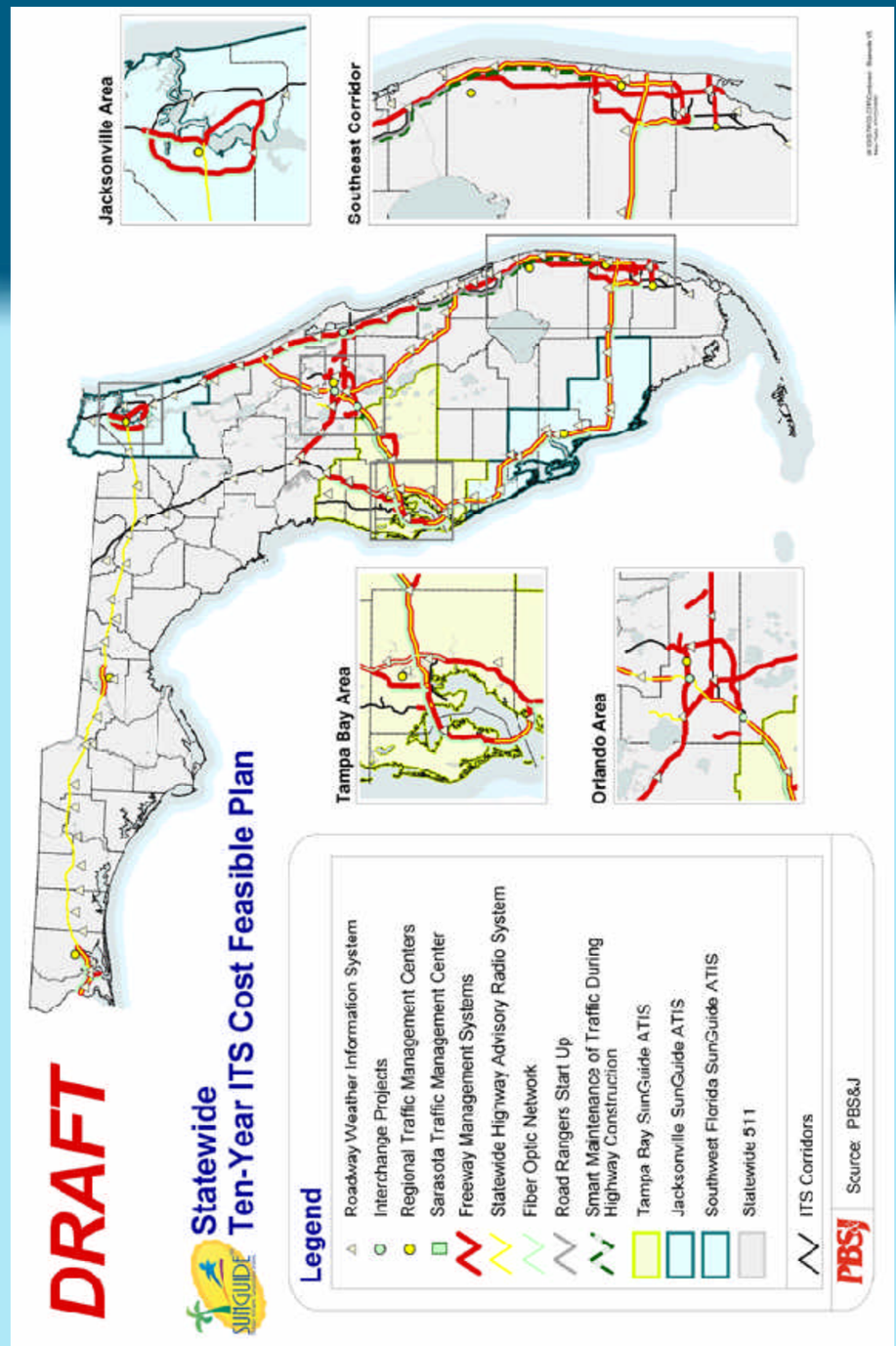

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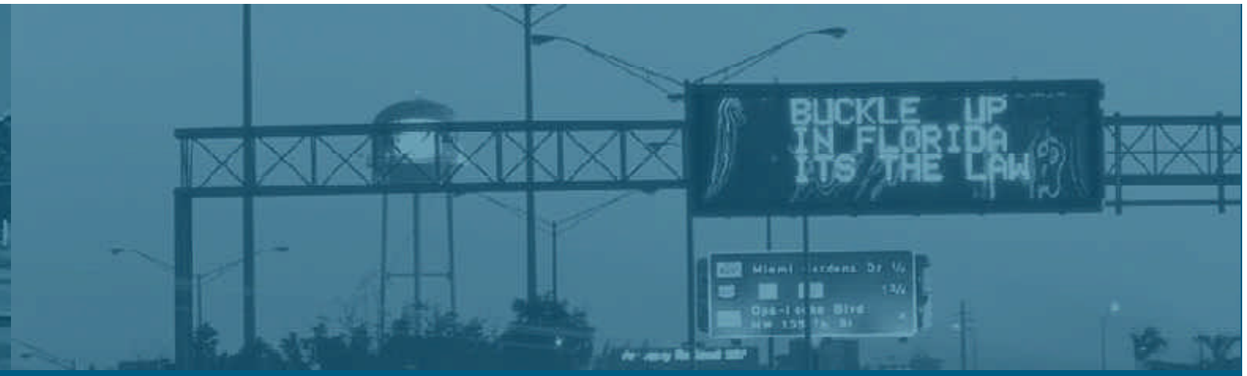

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Contact Information

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Chris Birosak
FDOT District 1 Traffic Operations
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(863) 519-2507

District 2
Peter Vega, P.E.
FDOT District 2 Traffic Operations
2250 Irene Street, MS 2815
Jacksonville, FL 32204-2619
(904) 360-5463

District 3
Elizabeth McCrary
FDOT District 3 Traffic Operations
1074 Highway 90 East
Chipley, FL 32428-0607
(850) 638-0250 ext. 210

District 4
Valerie Tofexis, P.E.
FDOT District 4 Traffic Operations
3400 W. Commercial Blvd.
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(954) 777-4351

District 5
Anne Brewer, P.E.
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719 S. Woodland Blvd., MS 3-562
Deland, FL 32720-6834
(386) 943-5319

District 6
Jesus Martinez, P.E.
FDOT District 6 Traffic Operations
1000 NW 111th Avenue, MS 6203
Miami, FL 33172
(305) 499-2446

District 7
Bill Wilshire, P.E.
FDOT District 7 Traffic Operations
11201 N. McKinley Dr.
Tampa, FL 33612
(813) 975-6612 ext. 7869

Florida's Turnpike Enterprise
Ingid Birenbaum, P.E.
PO Box 9828
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Central Office
Chester H. Chandler III, P.E.
ITS Office Manager
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(850) 410-5616

Liang Hsia, P.E.
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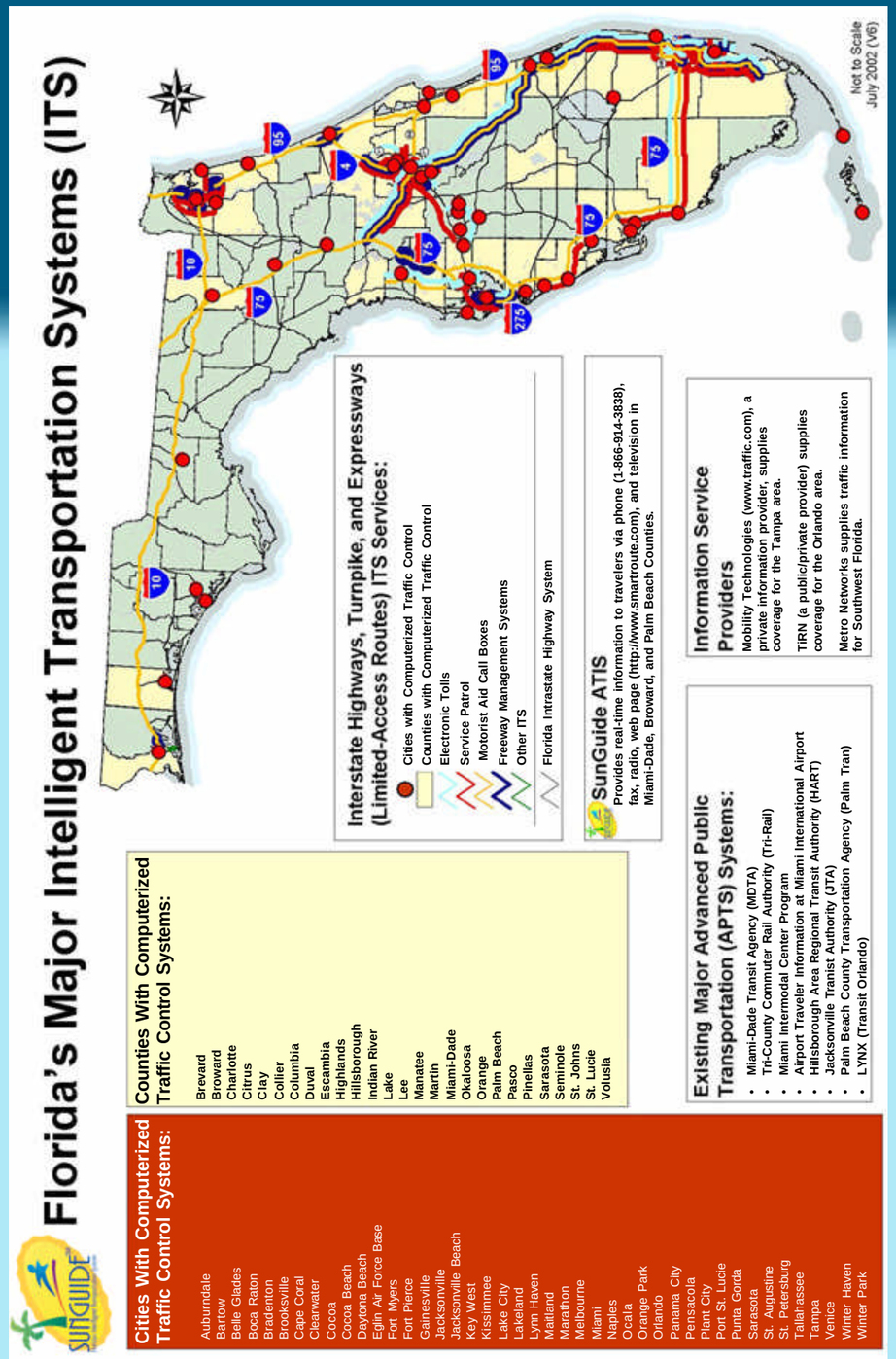

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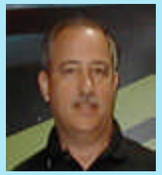

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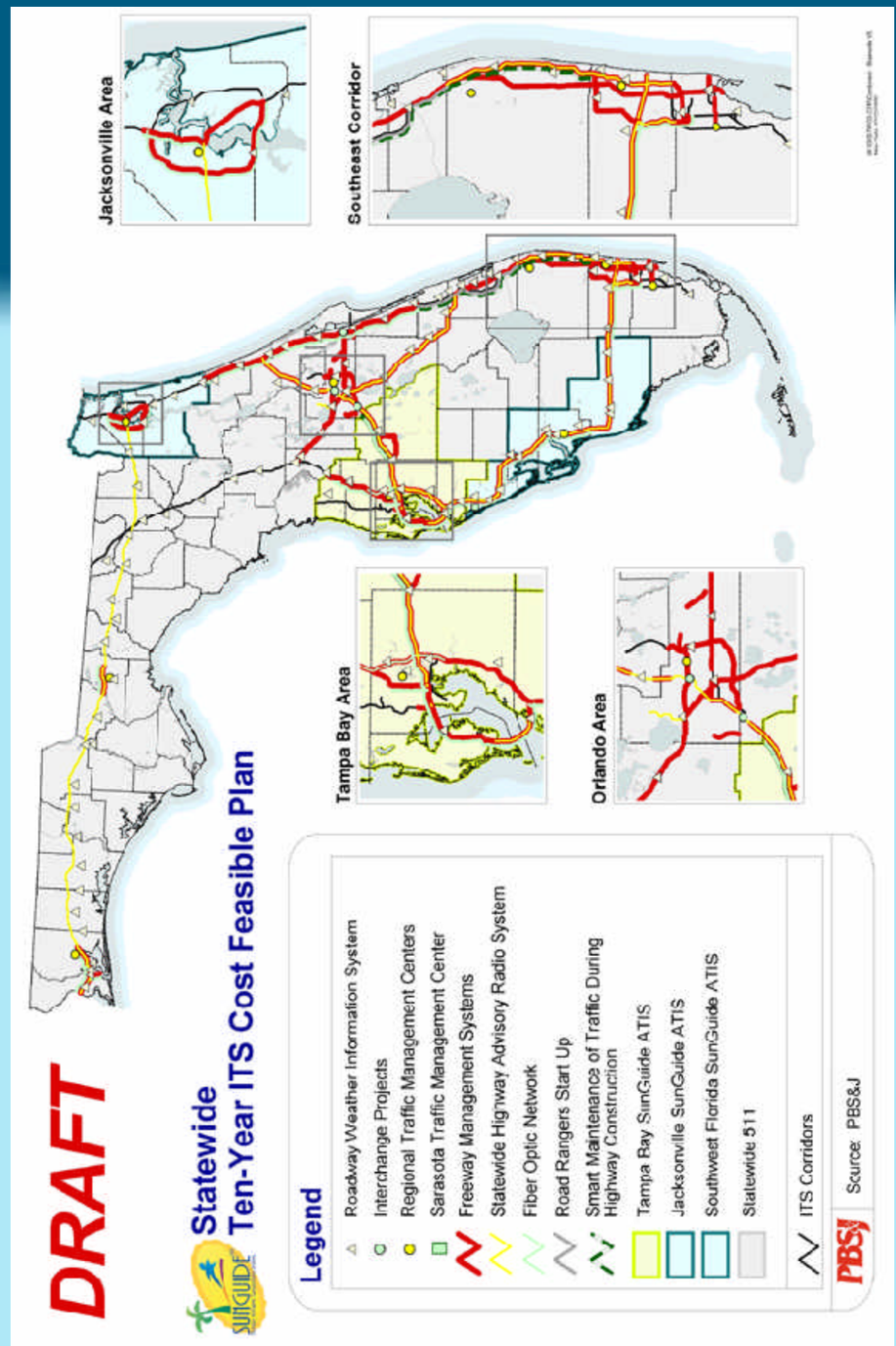

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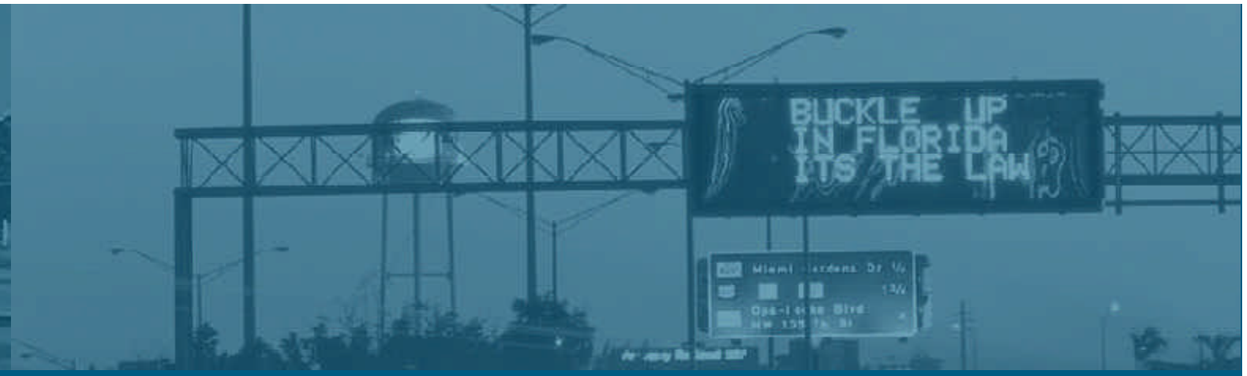

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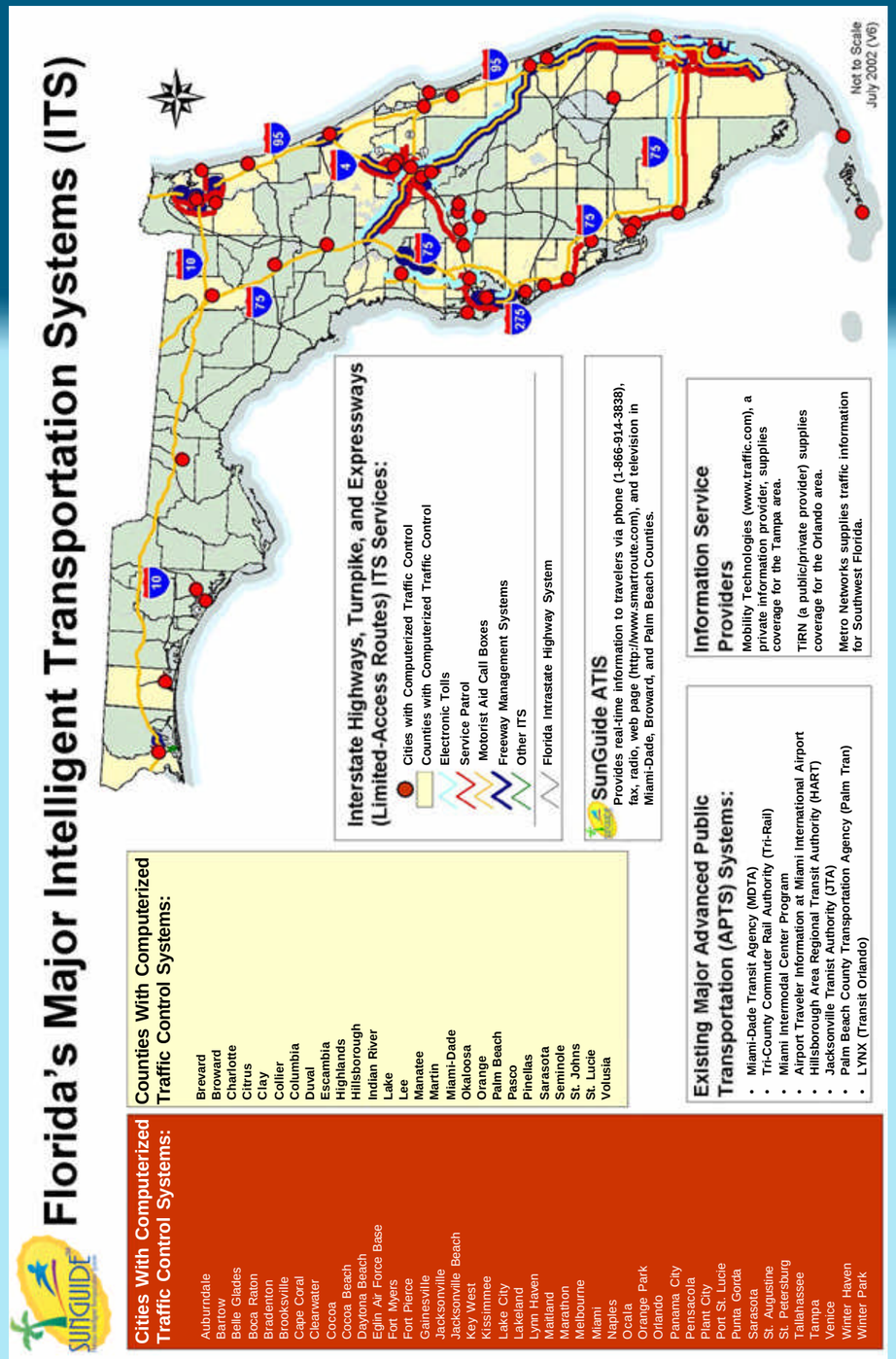
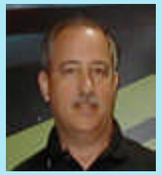
As we celebrate our second year, we invite you to take a look back at the past year's accomplishments. We look forward to many more years of success in ITS for Florida.

Sincerely,



FDOT Intelligent Transportation Systems Annual Report

The ITS Office is led by ITS Program Manager, Chester Chandler III, P.E. and is organized into four major program areas.



ITS Program Management is led by ITS Administrator, Gene Glotzbach, P.E. and is responsible for promoting a corridor approach to ITS deployment, developing systems engineering solutions, deploying advanced traveler information systems (ATIS) and 511, and providing technical support and assistance to FDOT's District offices and other partners.

ITS Architecture, ITS Standards, Training and Research is led by ITS Administrator, Liang Hsia, P.E. and is responsible for the continuing develop-ment of statewide ITS standards and specifications, supporting ITS professional capacity building, supporting the deployment of a statewide data warehouse, and developing statewide transportation management center software.

Commercial Vehicle Operations (CVO) and Electronic Toll Collection (ETC) is led by ITS Administrator, Michael Akridge and is responsible for supporting the deployment of information and communication technologies to support commercial vehicles and electronic payment and credentialing, guiding the deployment of Commercial Vehicle Information Systems and Networks (CVISN), continuing support of the Cooperative Vehicle-Highway Automation System (CVHAS) program, and continuing research for CVO and ETC.

Telecommunications Program Management is led by ITS Administrator, Nick Adams and is responsible for manage-ment, operations and upgrade of the Statewide Motorist Aid Microwave System, upgrade of the Statewide 47 MHz Land Mobile Radio System and guiding the deployment of a statewide communications backbone to serve ITS by negotiating with private firms to provide shared-resource fiber optic and wireless networks.

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Accomplishments

Florida's accomplishments in ITS are numerous. The following is a list of major recent accomplishments for Fiscal Year 2001-2002.

ITS Program Management

- The ITS Office has developed a *Ten-Year ITS Cost-Feasible Plan* (see map, page 9) for the expenditure of a $496.2 million statewide-managed funds program for ITS.

- The ITS Office published ITS Master Plans for ITS deployments along Florida's limited-access corridors (I-4, I-10, I-75, I-95, and Florida's Turnpike).

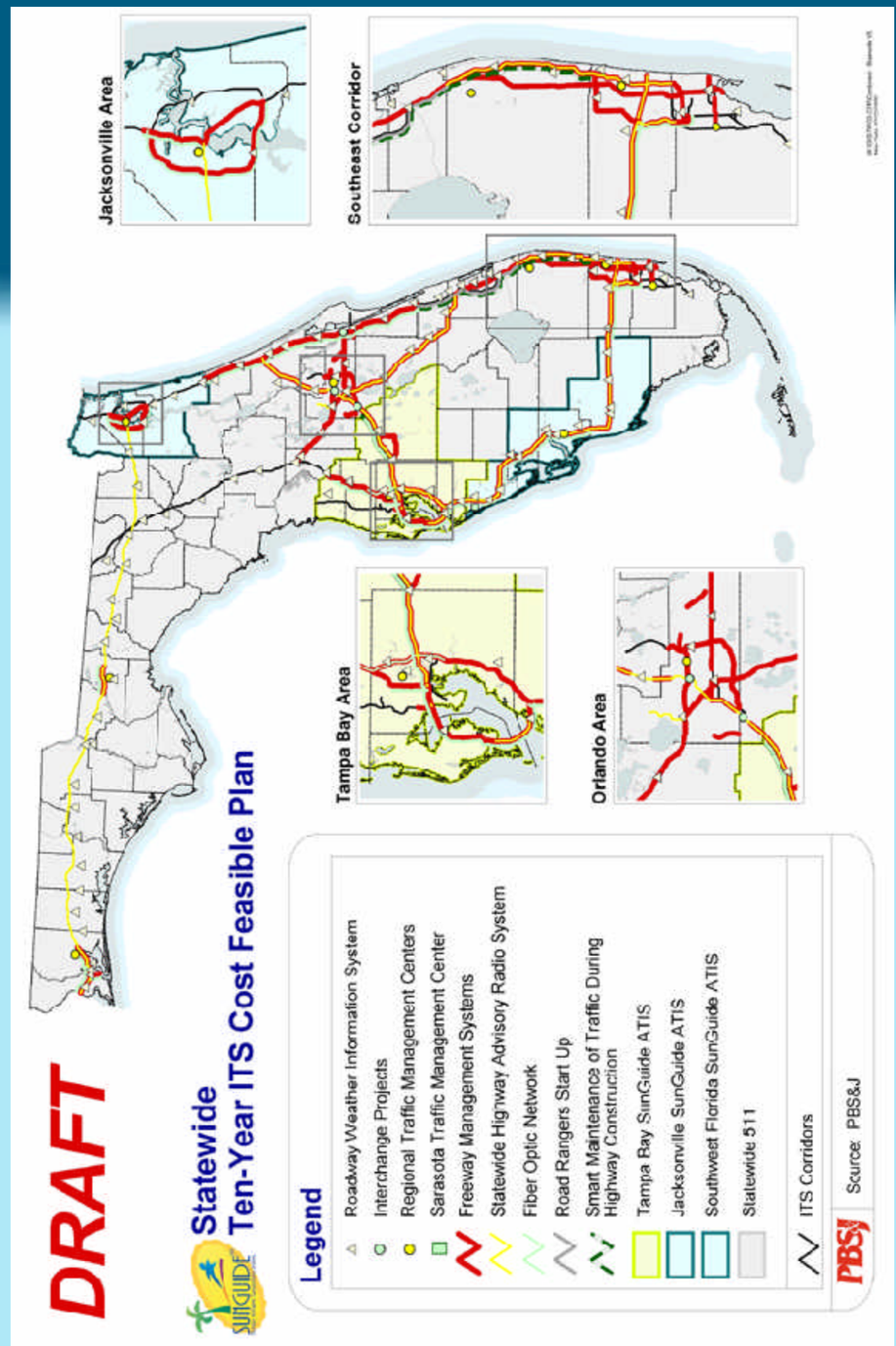
- The ITS Office has conducted ATIS feasibility studies for the I-4 corridor, Jacksonville, and Southwest Florida. FDOT developed an Invitation to Negotiate (ITN) for the ATIS on I-4 in the Tampa Bay area.

- The ITS Office completed the nation's first implementation plan for statewide 511 telephone-based traveler information services.

- After being awarded a Federal Highway Administration (FHWA) 511 deployment grant, a *Statewide 511 Implementation Plan* is in effect, beginning with the deployment of 511 in Southeast Florida and Orlando in Summer 2002. In the Orlando area, cellular and landline telephone users are able to access traveler information for the I-4 corridor via the 511 telephone code. In Southeast Florida, the SunGuide℠ ATIS, which has been in operation via a ten-digit telephone number since May 2001, has converted to the 511 access number.

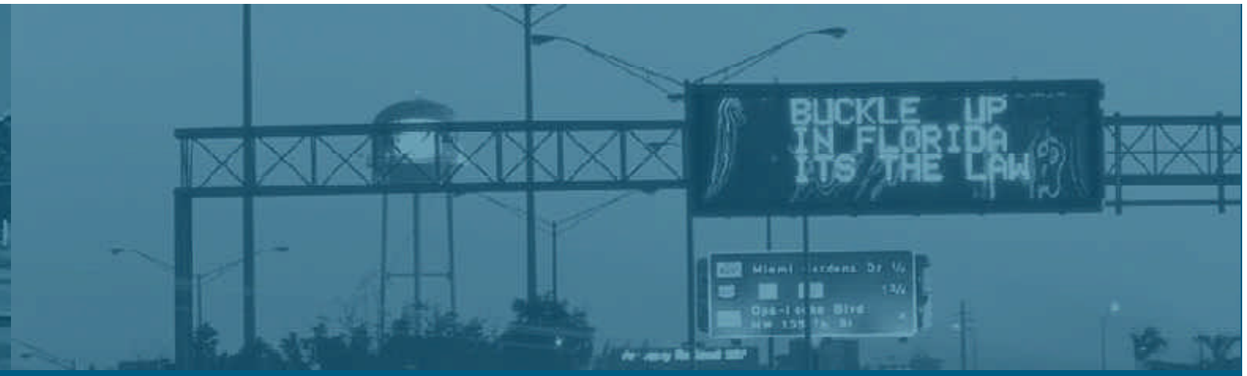
- Guidelines for adherence to the FHWA's Rule 940 have been developed, and concurrence on a statewide systems engineering approach has been reached.

- A Transportation Management Center (TMC) Software Study to assess alternatives for TMC software procurement has been completed. The integrated statewide TMC software system will provide a unifying platform to ensure that technologies work together smoothly and effectively. The selection of a common TMC software system will allow TMCs, toll collection, freeway incident management, traveler information, vehicle information, wireless microwave, and fiber optic communications to function seamlessly. An ITN will be advertised in August 2002 to select the best qualified software developer and integrator.



Benefits of ITS in Florida

The *Ten-Year ITS Cost-Feasible Plan* could save 120 lives, prevent 11,000 traffic-related injuries, prevent 14,000 accidents, and reduce lost time due to congestion by 20 million hours. This reduction will result in $3 billion in total benefits to Florida's travelers. The State of Florida is committed to deploying a seamless, statewide ITS system. In a recent statement, Florida Governor Jeb Bush said, "We've made a major commitment to deploy Intelligent Transportation Systems to enhance safety, mobility, economic growth, quality of life, and to manage our transportation assets. We invite you to take part in our expanding ITS Program and to find out why everyone's coming to Florida."



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- FDOT was awarded a FHWA Hurricane Evacuation Grant. With this grant, the Florida Division of Emergency Management, in conjunction with FDOT's Emergency Management Program (EMP) and the ITS Office, proposes to develop a prototype Graphical User Interface (GUI) for the Florida Emergency Transportation Information System/ Decision Support System (FLDSS) and the abbreviated hurricane evacuation transportation models. The GUI will allow the user to more easily and quickly input and interpret evacuation-related data from the FLDSS. Additionally, the FDOT and Department of Community Affairs will organize and conduct a workshop for the transportation and emergency management community to discuss opportunities for use of ITS to enhance evacuation coordination and recovery efforts.

ITS Architecture, ITS Standards, Training, and Research

- The ITS Office has completed corridor architectures for the Florida Intrastate Highway System (FIHS).

- The ITS Office participated in a review of national ITS standards through the standards development organizations and the FHWA.

- The ITS Office has conducted 18 professional capacity building training sessions over the last year, including courses on ITS Procurement and Software Acquisition, Systems Engineering and Configuration Management, Common Object Request Broker Architecture (CORBA), and ITS Standards.

- The ITS Office was awarded $1.5 million for ITS Program research through the FDOT's Research Program for topics such as: a proof of concept study for airborn traffic surveillance systems (ARSS), a central data warehouse, road weather information systems (RWIS), virtual commercial vehicle inspection stations, an integrated network of data sources, linking crash patterns to ITS archived data, and selecting the most effective ITS applications to improve pedestrian safety.

- FDOT issued a Management Information Database (MIB) for dynamic message signs (DMS).

CVO and ETC

- To increase efficiency and reduce costs, the Florida ITS CVISN team combined the feasibility study for Electronic Credentialing and the Help Desk Feasibility Study into one. The

Scope of Work was completed in the fall of 2001; the project was put out to bid; and, vendor selection was completed in 2nd quarter 2002. The feasibility study project began in May 2002 and has an estimated completion date of September 2002.

- In May 2002, the FDOT Permits office has implemented a system, which allows the submission of Oversize/ Overweight (OS/OW) permit applications over the Internet. This system allows commercial vehicle operators a method of submitting their permits 24-hours a day/ 7 days a week.

- In June 2002, the Florida Department of Agriculture and Consumer Services (DACS) completed PrePass® equipment installation and system training for officers at three weigh stations: I-10, I-75, and I-95. Within the first four weeks of advertising the program, DACS reported that it has received over 200 applications from carriers for admission into the PrePass® program and five carriers have already been approved for participation.

- The ITS Office has completed feasibility studies on the use of in-vehicle transponders as probes. Based on information collected during field testing, the following observations have been made: adequate transponder penetrations along I-4 (Orlando) and I-95 (Broward County) suggest that adequate penetrations also exist in Miami and Palm Beach (areas that are also close to networks of toll roads); placing transponder readers too far apart has a significant negative impact on data quality; and full system deployment would likely require 100% lane coverage to ensure that adequate data is available for evaluation. Additionally, in areas with inadequate transponder penetration, the possibility exists that alternative automatic vehicle identification may be required to collect probe data similar in nature to that available from transponder-based systems. Consequently, it is likely that multiple data collection technologies will be necessary to support deployment of a statewide travel-time data collection system.

- Florida's Electronic Payment System (EPS) was integrated under the SunPass™ brand. Approximately 700,000 transponders are in use statewide. It is estimated that 1 million will be in use by 2005.

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Telecommunications Program Management

- The ITS Office awarded $14 million in contracts to upgrade the Statewide Motorist Aid Microwave System facilities and networking.

- The ITS Office continued work on upgrades for the 47 MHz Statewide Land Mobile Radio System in the Florida Keys.

- The ITS Office procured repeaters to upgrade the Land Mobile Radio System in Districts 1, 4, and 6 to improve the range of vehicle-to-vehicle communications.

Other Accomplishments

- The ITS Office published online monthly newsletters detailing the goings on of the program. Special "mega-issues" are published in both online and paper format three times a year, spring, summer, and fall, coincident with the ITS Working Group meetings. The newsletter, formally known as the *SunGuide℠ Disseminator*, can be found online at http://www.floridaits.com. Paper copies of the "mega-issues" can be requested through the Florida ITS Office.

- External media exposure includes publishing highlights of Florida's ITS program in *Traffic Technology International* and *ITS World* magazines.
- FDOT's SunGuide℠ Exhibit was a hit at the ITS America 2002 Annual Meeting and Exhibition in late April, drawing heavy traffic throughout the three-day exhibition, as well as attracting attention from the show's media provider.

- The ITS Office convened and moderated three ITS Working Group meetings, in July, December, and February, each with an average of 80-100 attendees. At these meetings, topics of statewide interest were discussed. Attendees typically included the ITS Office, the FDOT Districts, FHWA, Metropolitan Planning Organizations (MPOs) and the Metropolitan Planning Organization Advisory Council (MPOAC), ITS Florida members, private sector partners, academia, and other public partners.