

Freight & Modal Data Program

MPOAC Freight Committee Quarterly Meeting

January 26, 2017

Sunrise, Florida



Overview

- Mission & Goals
- Freight Data Programs
- Recent and Upcoming Activities



Mission & Goals

FDOT's Mission

The Department will provide a safe transportation system that:

- ensures the mobility of people and goods
- enhances economic prosperity
- preserves the quality of our environment and communities



Transportation Data & Analytics Office

Mission Statement

Provide leadership for informed transportation decisions through data collection, analysis, integration and dissemination.

Transportation Data and Analytics Office (Previously Transportation Statistics)

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Transportation Data & Analytics Office



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Systems Traffic
Modeling

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Systems
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Transportation
Data Inventory

Joel Worrell



Freight Data
Coordinator

Jerry Scott

Performance
Measures, Analysis
& Reporting

Doug McLeod

Transportation
Monitoring
Program

Steven Bentz

Freight & Modal Data Program

Mission:

Identify, coordinate and establish efficiencies of Department's freight and modal data and technology for programs, studies, plans, models and databases.

Vision:

Promoting Florida's freight business intelligence and economic competitiveness through collaborative development of multimodal freight data resources, used to sustain Florida's strategic freight investments.

Under the Transportation Data Inventory Section

Program Goals

- Provide consistent and effective data access, collection, and reporting of freight & modal data.
- Integrate freight & modal data resources in FDOT Operations and Planning offices.
- Coordinate data investments and improvements.
- Provide training and awareness of data, datasets, tools and models.

Freight & Modal Data Program

FDOT Data Programs are enhanced new initiatives to support freight and passengers.



Identify



Distribution/
Reporting



Outreach/
Education/
Training



Analysis



Management



Quality
Control



Collection



Application
Development



Forecasting

customer service

Data Programs

Legacy TDA Office Data Programs

Roadway Characteristics Inventory (RCI)

- Office inventories and maintains features of roadways which are but not limited to traffic, pavement, trails, HPMS and signals
- Dataset is available in form of shape files as well as tabular datasets

Traffic Characteristics Inventory (TCI)

- Office collects traffic characteristics data for the Florida road network
 - Including Volume & Class
- Maintains 330 + permanent counters, 18,000+ temporary counters and 33 WIMs.

Freight Data Programs

Transportation Monitoring Program

- TTMS & WIM Stations

Mobility Performance Measures Program

- Freight Travel Time Reliability

System Traffic Modeling Program

- FreightSIM

Transportation Monitoring Program

Current Telemetered Traffic Monitoring Sites (TTMS) Locations

Number of sites per District

D1 – 116

D2 – 52

D3 – 67

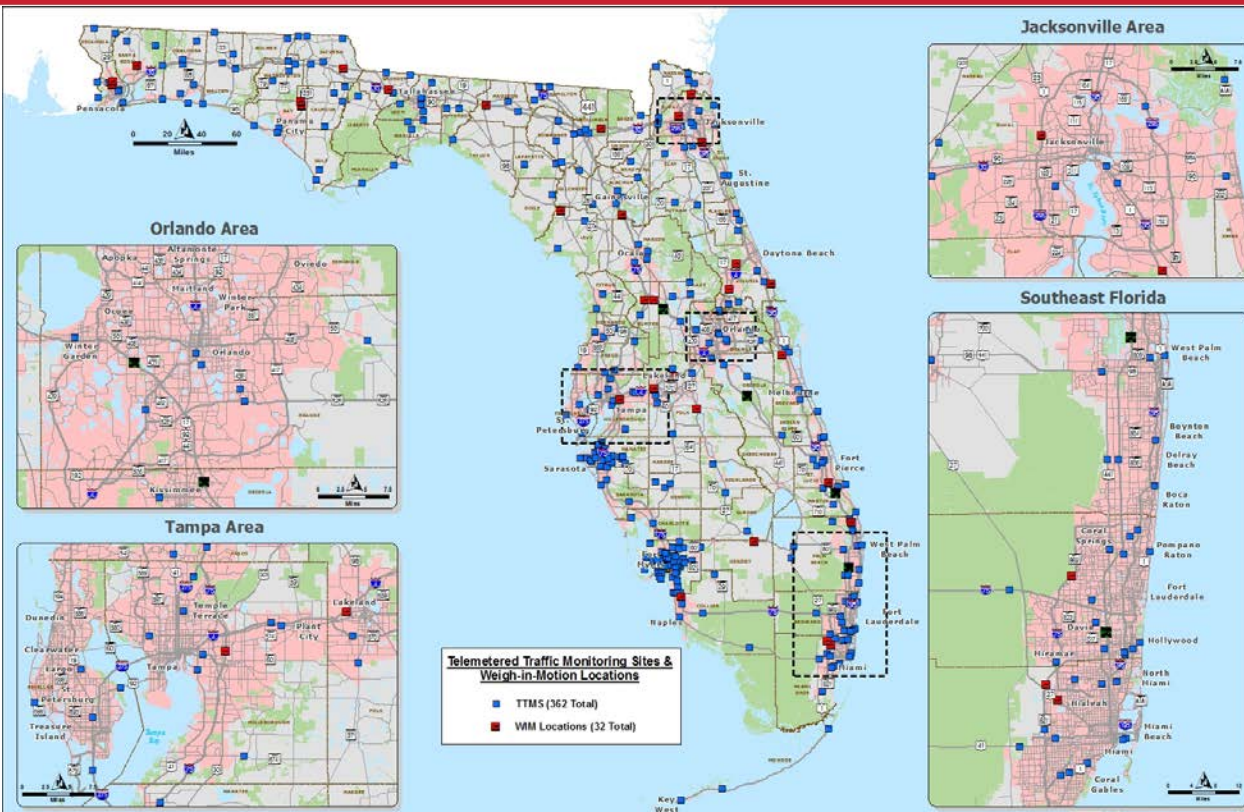
D4 – 43

D5 – 42

D6 – 18

D7 – 24

Total: 362



Weigh-in-Motion Data

1.17 Million

Average Number of Records per Day

33

WIM Locations

4-13

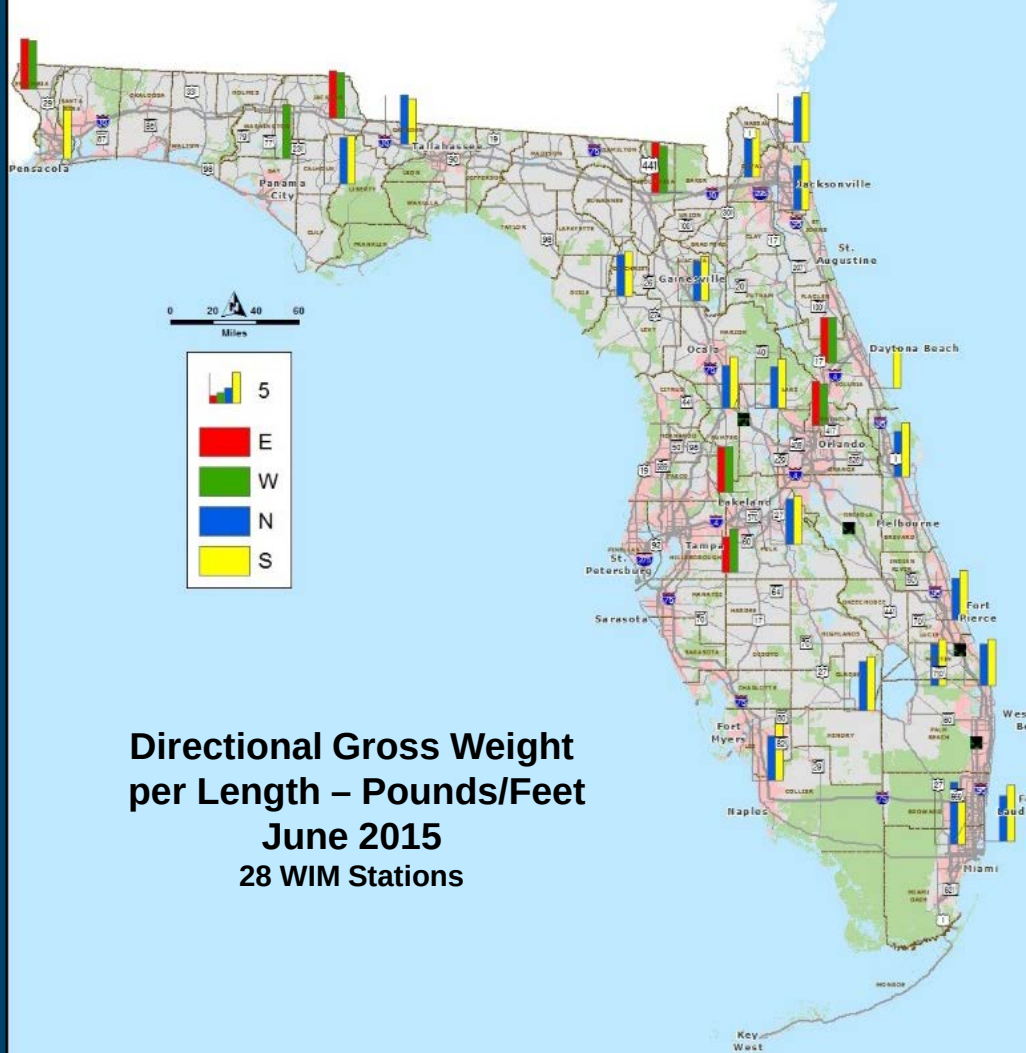
FHWA Vehicle Classification

62%

of Vehicles are Class 9

65 MPH

Average Vehicle Speed



Next Generation WIM Stations

Enhanced Freight Data Collection

- New technologies for improved truck/classification/commodity counts:
 - Advanced Signature Loops
 - Bluetooth Readers
 - Video Capture
- Strategically located along major truck routes, using existing WIM stations
- I-75 White Springs station to serve as proof-of-concept

Mobility Performance Measures Program

Florida's Multimodal Mobility Performance Measures Matrix

[illegible]

Freight Travel Time Reliability

Methodology

For the seven largest MPOs, freight travel time reliability is defined as the percentage of freeway trips by combination trucks traveling at least 45 mph.

For all others, travel time reliability is defined as the percentage of freeway trips by combination trucks traveling at greater than or equal to 5 mph below the posted speed limit.

This measure represents the additional time that a shipper should budget to ensure on-time arrival 95% of the time.

Calculation

$$7 \text{ largest MPOs} = \frac{\sum(\text{CTMT} | \text{Combo Truck Travel Speed} \geq 45 \text{ mph})}{\sum(\text{CTMT})} \times 100$$

$$\text{All others} = \frac{\sum(\text{CTMT} | \text{Combo Truck Travel Speed} \geq (\text{Speed Limit} - 5 \text{ mph}))}{\sum(\text{CTMT})} \times 100$$

Reporting Periods

7 Largest MPOs:

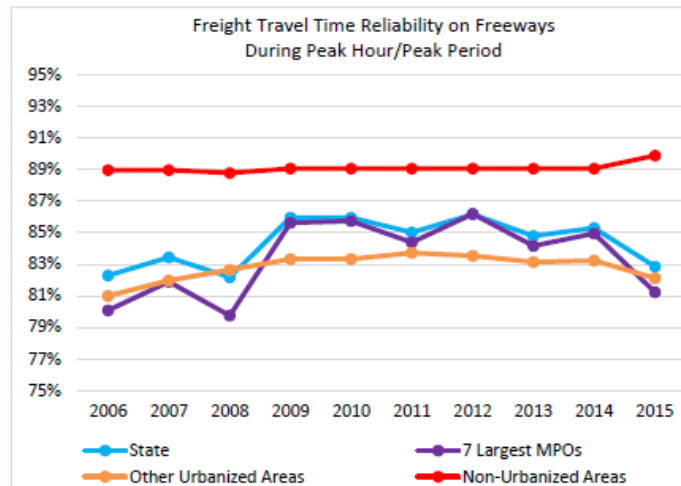
☐ Peak hour ☒ Peak period ☒ Daily ☐ Yearly

All Others:

☒ Peak hour ☐ Peak period ☒ Daily ☐ Yearly

Sources

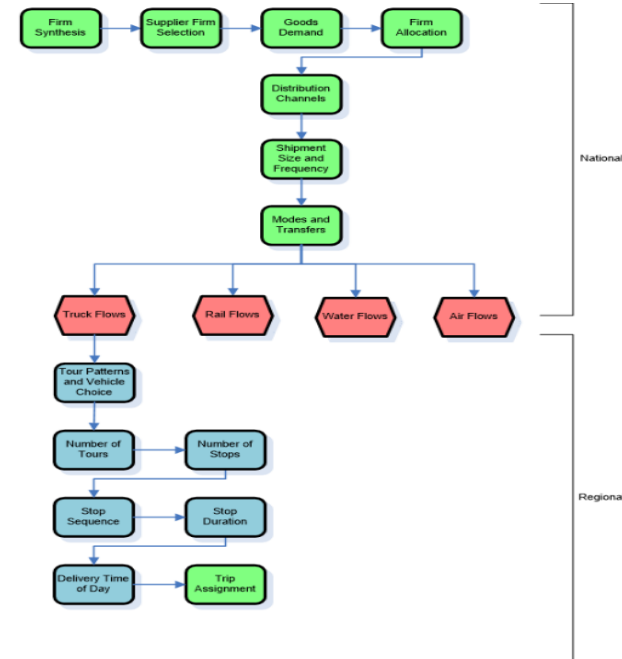
- FDOT Traffic Characteristics Inventory
- HERE Data



Systems Traffic Modeling Program

Florida Statewide Model

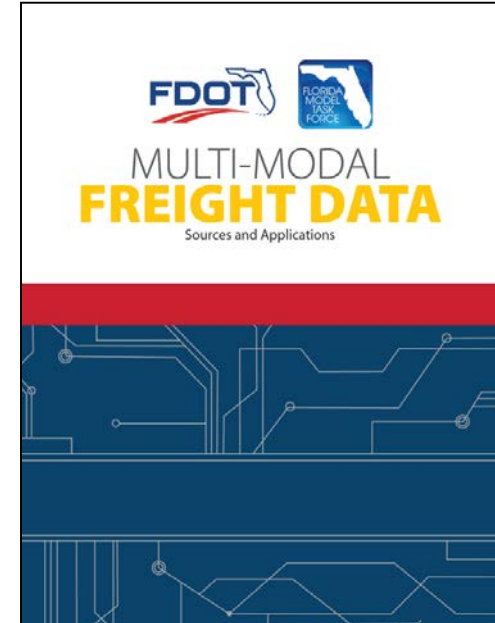
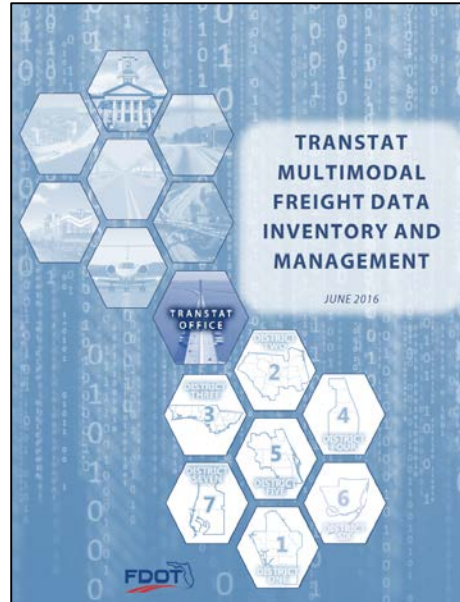
- One of the first statewide commodities based models in the U.S.
- The Florida Freight Supply-chain Intermodal Model (FreightSIM) is intended to:
 - Support freight plan development
 - Evaluate potential large scale infrastructure investments
 - Provide inputs to more detailed project level evaluations.
 - Provide inputs to regional transportation planning



Recent and Upcoming Activities

Freight & Modal Data Inventory

- » Comprehensive inventory and evaluation of freight data sources to better understand what sources are available
- » 89 data sources were reviewed and inventoried
- » Available on FDOT website
<http://www.fdot.gov/planning/statistics/>



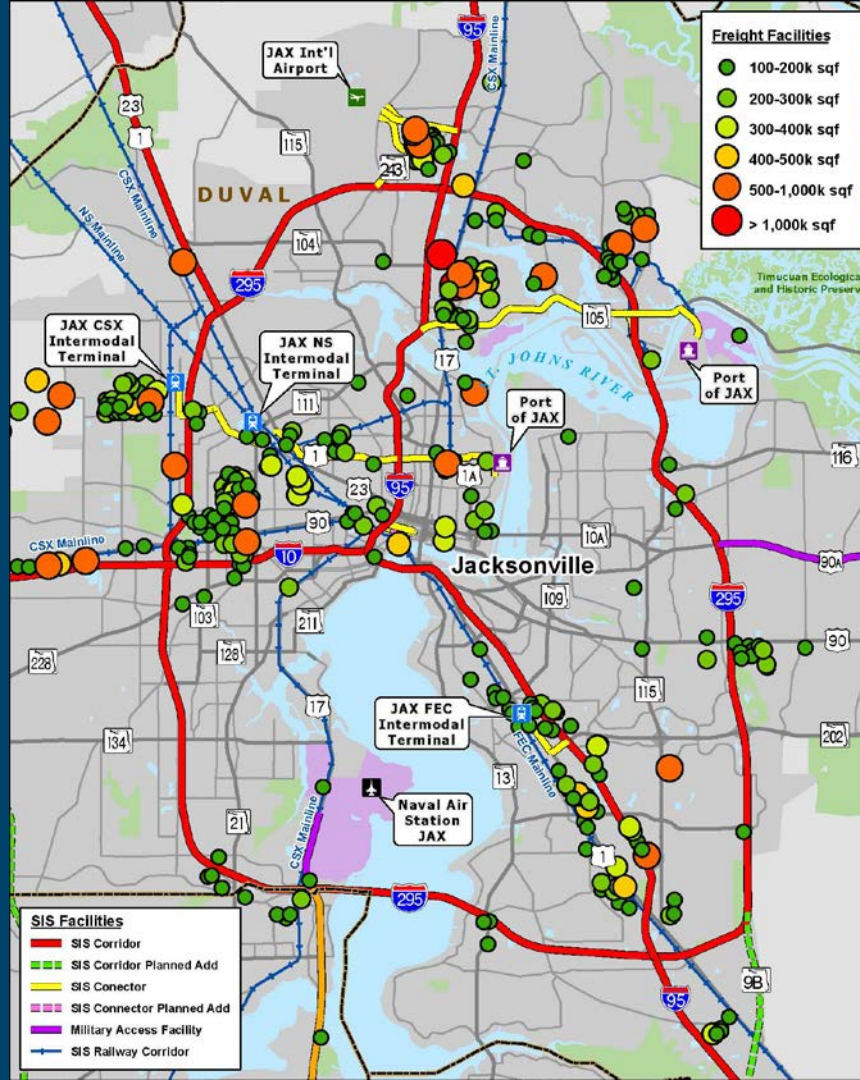
Freight Facilities Dataset Project

*Developed by FDOT
using existing
Dept. of Revenue Data*

Covers all 67 Counties

Updated Annually

www.fdot.gov/planning/statistics/freight



Over **2,000**
Freight Facilities
over 100,000 Sq.
Ft. Inventoried



Comprising of
over **531.4**
Million Sq.
Ft. throughout
the State



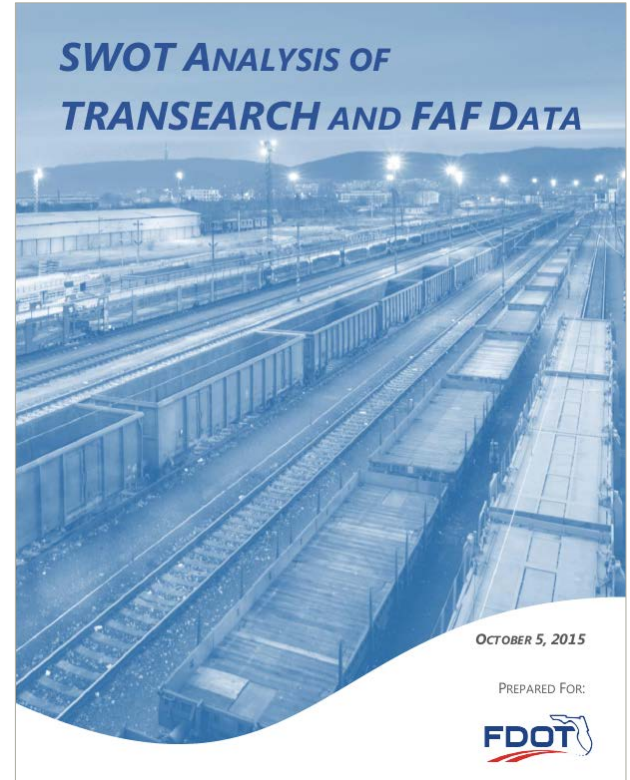
Florida is home
to the second
Largest Foreign
Trade Zone
network in the
Nation'

Commodity Flow Data Analysis

SWOT Analysis of 2011 TRANSEARCH & FAF 3.4 Data

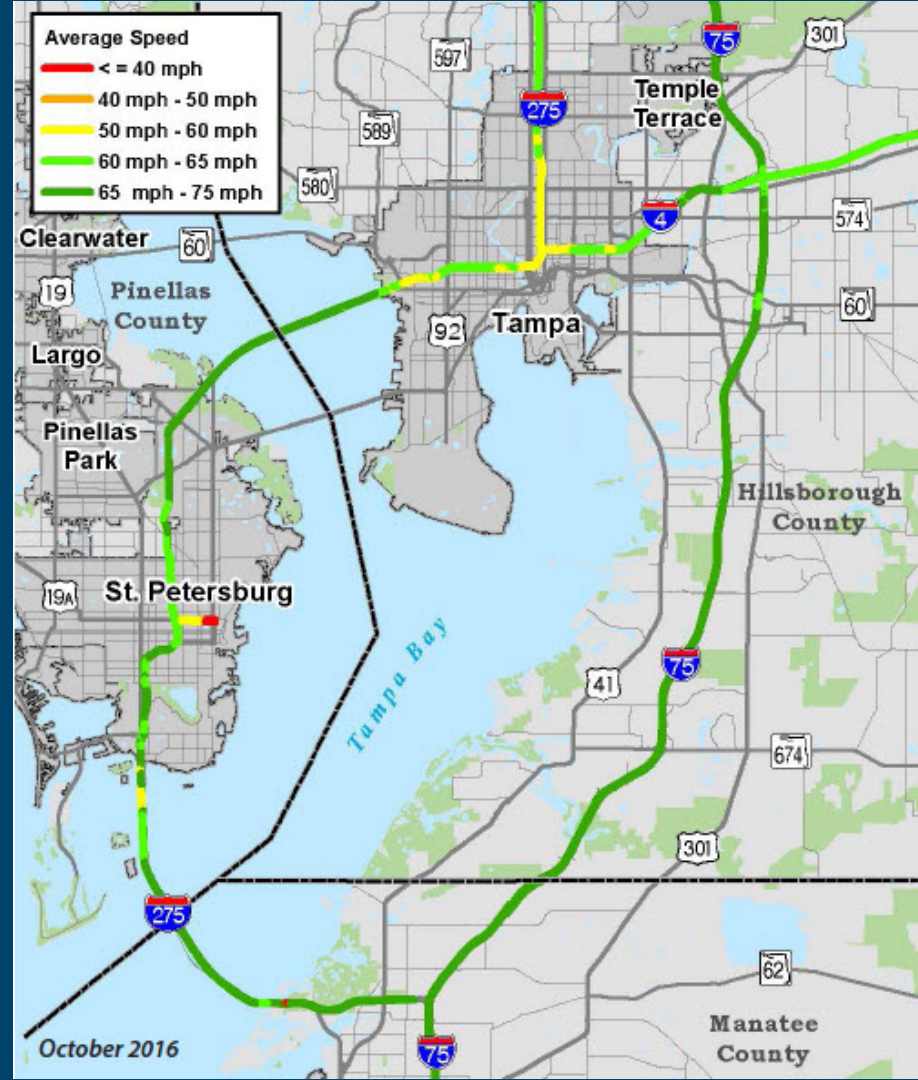
- Strengths, Weaknesses, Opportunities and Threat Analysis
- Identified data source components
- Identified Florida analysis applications

<http://www.fdot.gov/planning/statistics/freight/SWOT.pdf>



National Performance Management Research Data Set (NPMRDS)

- Developed by USDOT / FHWA
- Provided in 5 minute increments for the whole year
- It is collected using real time probe data from
 - mobile devices
 - portable navigation devices
 - commercial fleets
 - sensors
 - connected autos



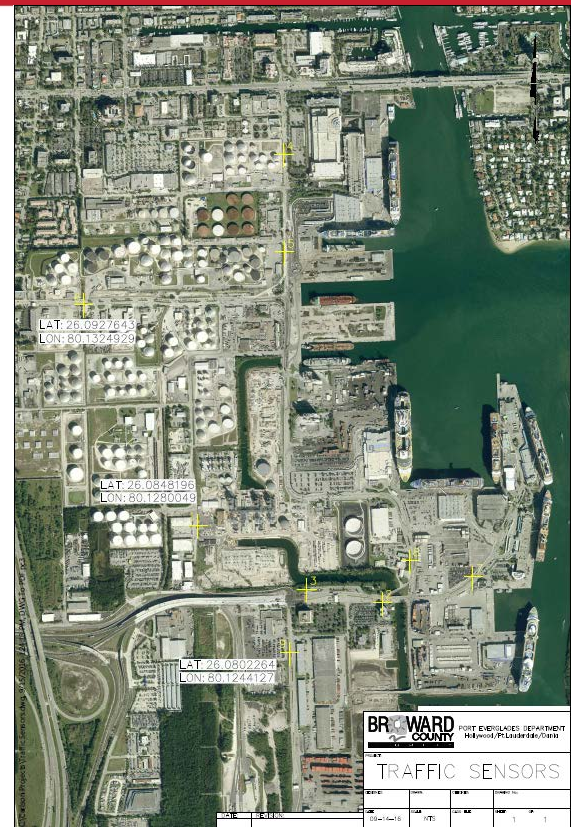
Port Everglades Data

FDOT and Broward County Interlocal Agreement

- Nine traffic sensors planned for Port Everglades
- Data will collect traffic flows and patterns
- Potential transportation improvements to be determined



Location	Street Location
1	SE 14 th Avenue
2	Eller Drive Security Gate
3	Eller Drive
4	Eisenhower Boulevard
5	Eisenhower Blvd. Security Gate
6	Spangler Blvd Security Gate
7	Eller Drive / East of SE 19 th Avenue Intersection
8	19 th Avenue / North of Eller Drive
9	McIntosh Road Security Gate

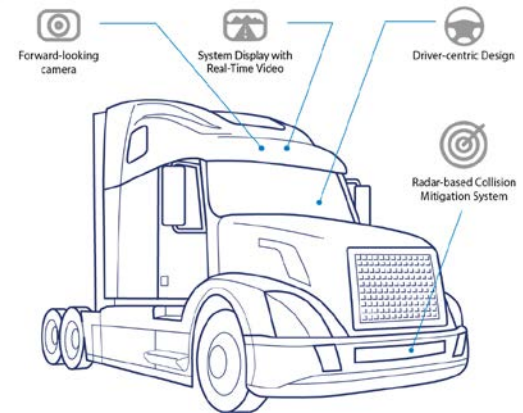
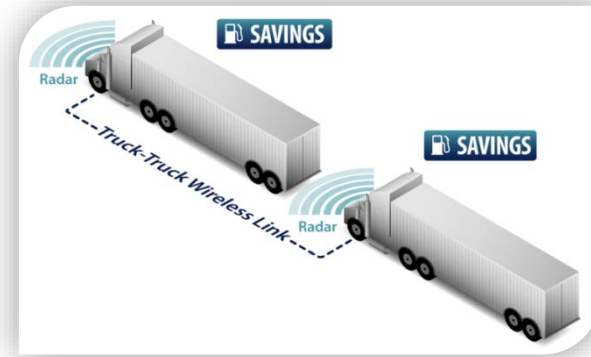


Driver Assistance Truck Platooning (DATP)

Florida Statute 316.0895

“The [DOT], in consultation with [DHSMV], shall ***study the use and safe operation*** of [DATP], as defined in F.S. 316.003, for the ***purpose of developing a pilot project to test vehicles that are equipped to operate*** using [DATP] technology.”

FDOT sanctioned University of Florida to conduct this study, set to begin Spring 2017



SunTrax – Partnership Between FDOT FTE & Florida Polytechnic University



Construction of the new, state-of-the-art transportation technology testing facility, SunTrax includes a 2.25 mile oval track on a 400-acre site in Polk County, centrally located between Tampa and Orlando.

Data-Driven Multimodal Freight Project Prioritization Framework

- Evaluation of Existing Tools/Processes
- Examination of the National Highway Freight Program
- Literature Review
- Survey of State DOTs and MPOs
- Development of Prioritization Framework

Goal:

Develop an objective and a data-driven multimodal freight project prioritization framework that leverages the Department's available datasets and processes.





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