

# Florida Department of Transportation



## Fiscal Year 2009/2010

|                         |    |
|-------------------------|----|
| 511 Calls               | 2  |
| Road Rangers            | 4  |
| ITS Miles Managed       | 6  |
| Incident Duration       | 9  |
| Travel Time Reliability | 13 |

## Intelligent Transportation Systems Performance Measures Annual Report

**FY 2009/2010**



## INTELLIGENT TRANSPORTATION SYSTEMS

### *PERFORMANCE MEASURES ANNUAL REPORT*

The Florida Department of Transportation (FDOT) is committed to implementing statewide, fully integrated intelligent transportation systems (ITS) in a cost-efficient manner to better accommodate Florida's rapid growth in population, tourism, and commerce. ITS represents the use of real-time information systems and advanced technologies as transportation management tools to improve the movement of people, goods, and services. ITS uses advanced technologies to remedy mobility and safety problems to efficiently build new roads and expand existing roads.

As ITS evolves in Florida, the development and reporting of operations performance measures is a high priority for FDOT to demonstrate and document the benefits of ITS. When the ITS Program began addressing performance in 2004, the districts had no automated data collection systems and were initially limited to measures of basic production and usage (*output*). The initial output measures reported statewide were 511 calls, Road Rangers assists, and centerline miles of limited-access highways managed by ITS.

The proliferation of ITS deployments and integration will allow more accurately documented and reported measures of performance and the resulting benefits (*outcome*). FDOT identified three ITS *outcome* performance measures that were subsequently approved by the Florida Transportation Commission (FTC) in 2005. These measures were incident duration, travel-time reliability, and customer satisfaction. Available data for the incident duration and customer satisfaction measures were collected and reported beginning in 2006.

For the 2009/2010 fiscal year, all output and outcome measures will be reported. The customer satisfaction survey which was last conducted in 2008, will be performed in August of this year. The data for these reported measures was collected for the period beginning July 1, 2009, and ending June 30, 2010.

## TOTAL ANNUAL 511 CALLS

### *ACCURATE, REAL TIME INFORMATION FOR MOTORISTS*

Travelers on Florida’s highways have an invaluable resource known as “America’s Traveler Information Telephone Number” and in 2010 is accessible to all of Florida’s travelers.

**Background:** In July 2000, the Federal Communications Commission designated 511 as the national three-digit telephone number for traveler information. By June 2010, all states either have active 511 systems, or are planning to implement them in the near future. In Florida, most urban areas of the state currently offer this service to travelers.

In 2009, Florida’s statewide 511 services integrated all the Florida regional 511 services into one statewide system. Since inception of the aforementioned systems, 511 calls made in Florida exceed 43 million.

**Purpose:** To provide accurate, real-time information on traffic and road conditions, alternate route information (during incidents), construction information, weather-related problems, and public transportation information/options.

**Objective:** To reduce traveler delay and improve the overall quality of trip-making as evidenced by the growth in the number of 511 calls and different callers, and maintaining a high level of user satisfaction.

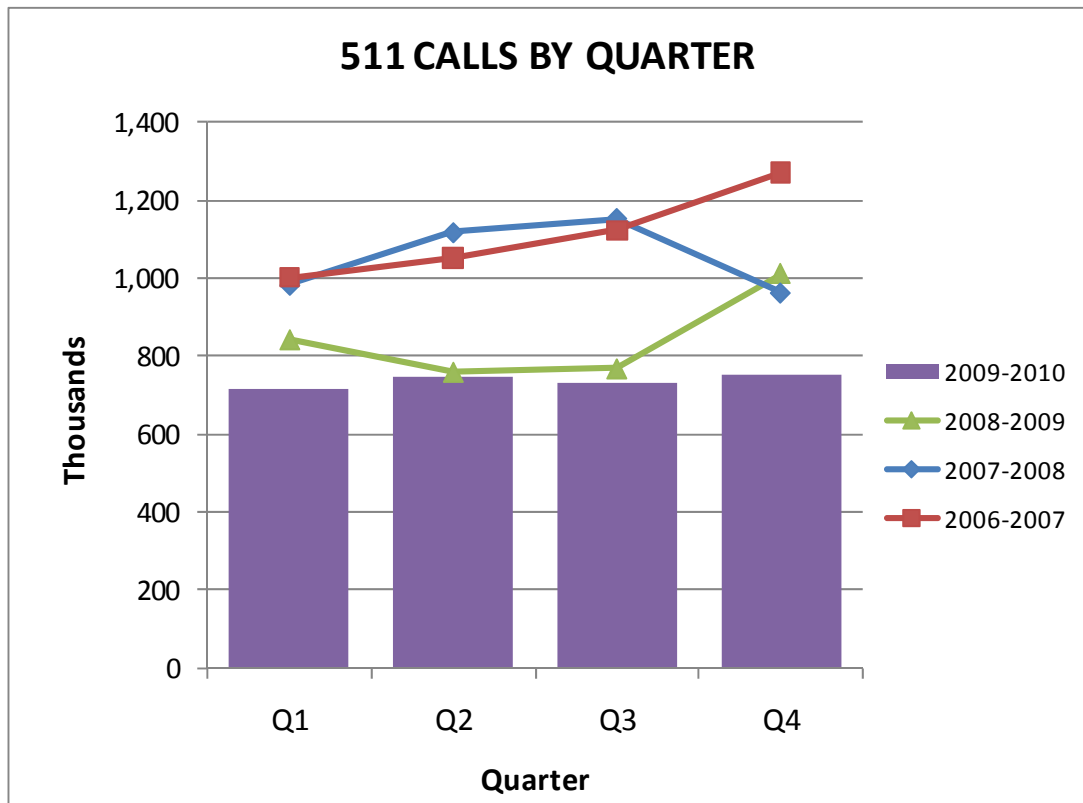
**Methodology:** Compilation of annual monthly (and ultimately, annual hourly) 511 calls.



## TOTAL ANNUAL 511 CALLS 2009/2010 RESULTS

Approximately 2.9 million 511 calls were made during the 12-month period from July 2009 through June 2010 in Florida. Due to the changeover in system operations, annual statewide calls decreased 13% overall from 2008/2009. The decrease is primarily due to the change in the 511 system that allows subscribers to select roadways that they are interested in and the automated 511 system that sends incident alerts and updates for those roadways. These alerts are not counted in the 511-call total.

The number of calls the system made to subscribers of the personalization system totaled 63,834. The 63,834 calls do not take into account the text messages or email alerts that the personalization system pushed out. Adding the personalized calls to the calls made into the system brings the total to over 3 million. This automation and customization feature allows a more personalized service for travelers.



## ROAD RANGERS

### *QUICK RESPONSE FOR CLEARANCE OF INCIDENTS AND TO MOTORISTS IN NEED*

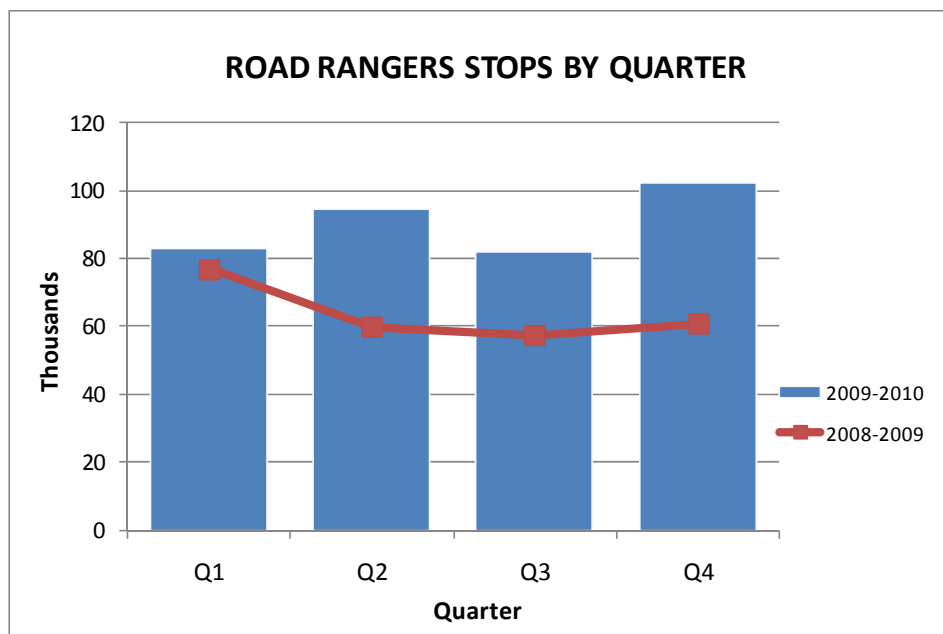
Road Rangers service patrols help motorists in need and thereby assist in clearing the roadway of incidents that may cause secondary incidents. The sooner an incident is removed, the sooner the highway returns to normal capacity.

**Background:** FDOT began funding the Road Rangers Program in December 1999. The Road Rangers service patrols are roving vehicles that patrol congested areas and high-incident locations of urban freeways, and provide highway assistance services during incidents to reduce delay and improve safety for the motoring public and responders. Districts 1, 2, 4, 5, 6, and 7, and Florida's Turnpike Enterprise currently operate Road Rangers Programs. However, the specific services provided, hours of operation, fleet size, and area coverage differs among these entities.

**Purpose:** The primary mission of the Road Rangers service patrol is to support emergency response personnel during incidents by establishing maintenance of traffic (MOT) for the incident and providing other assistance as needed for the incident. Providing quick response and clearance reduces the number of secondary incidents and returns the roadway to capacity sooner. Road Rangers assist in hurricane evacuations by providing support to evacuees and responders. Road Rangers also provide service to disabled vehicles.

**Objective:** To help reduce the overall travel delay associated with incidents by providing quick response to motorists in need and assistance to other emergency responders.

**Methodology:** Compilation and summary of Road Rangers Log Forms (mostly in electronic format). All of the districts are now providing Road Rangers data to the Central Office on a quarterly basis.

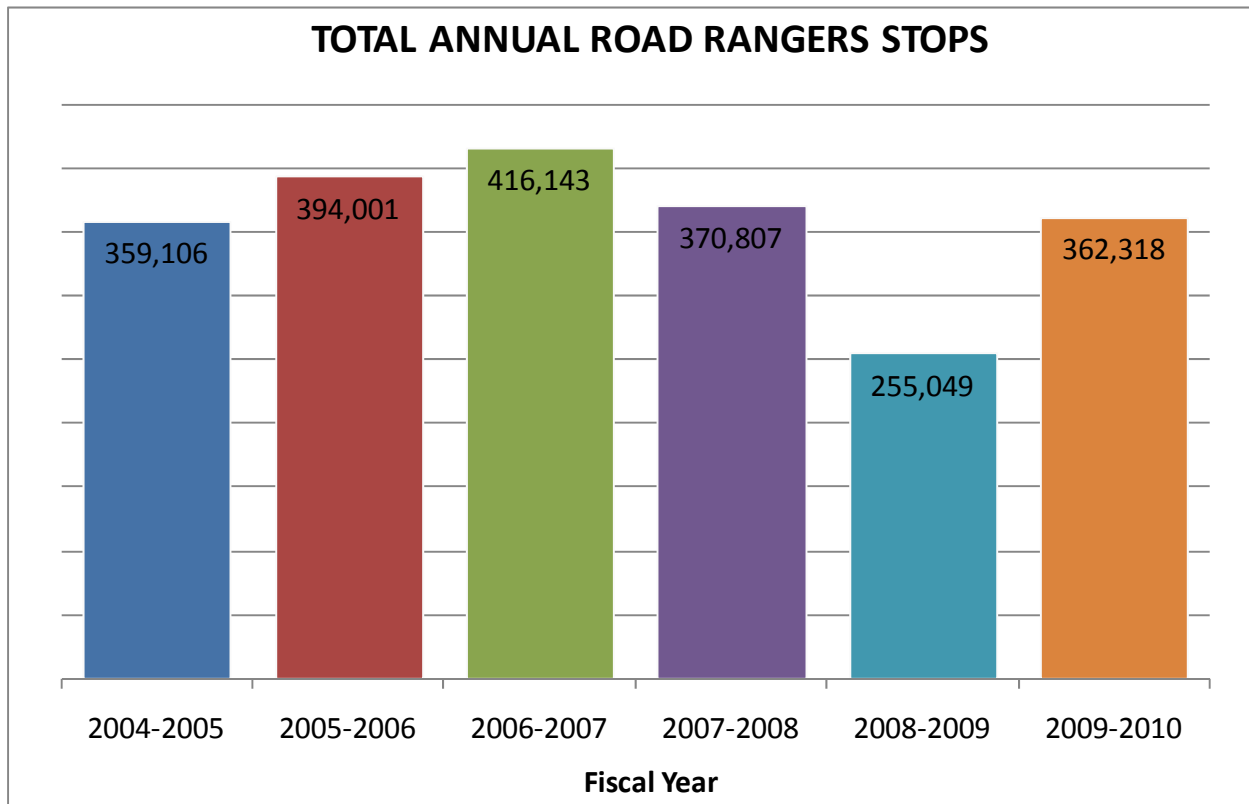


## ROAD RANGERS 2009/2010 RESULTS

For the period July 2009 to June 2010, there were 362,318 Road Rangers stops made statewide. Six districts and Florida's Turnpike Enterprise provided Road Rangers services in FY 2009/2010.

In 2008, the Florida Legislature instituted a 50 percent reduction of funding for the Road Rangers Program. By the end of the 2009 session, after reviewing the benefits of the Road Rangers Program, the legislature reversed the 50 percent cap from the prior funding year, made that the floor for 2010, and explicitly allowed other funding sources, such as sponsorships, which were not previously expressly permitted.

As illustrated in the following graph, restoration of this funding resulted in better coverage for Florida's travelers.



## MILES MANAGED

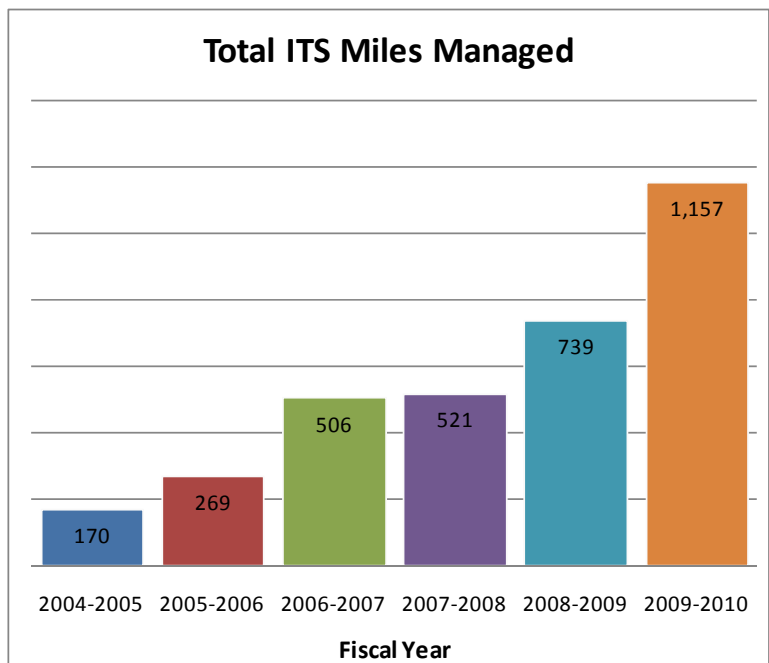
### SEAMLESS, OPERATIONAL, REAL-TIME DEPLOYMENT OF ITS ACROSS FLORIDA

FDOT is committed to implementing a statewide, fully integrated ITS in a cost-efficient manner, to better accommodate our rapid growth in population, tourism, and commerce. ITS represents the use of real-time information systems and advanced technologies as transportation management tools to improve the movement of people, goods, and services. ITS uses advanced technologies to remedy mobility and safety problems, to efficiently build new roads and expand existing ones.

**Background:** All districts and Florida’s Turnpike Enterprise are committed to the deployment of ITS; each has embarked with this deployment in varying stages and pace in accordance with the FDOT *Ten-Year ITS Cost Feasible Plan*. As a percent of the limited-access Florida State Highway System (SHS) mileage in each district, the definition of “miles managed by ITS” is centerline mileage that must include ALL of the following attributes:

1. Traffic probes and/or sensors,
2. Real-time traffic information reporting coverage,
3. Real-time incident response capabilities, and
4. Real-time traffic data availability to FDOT.

In order to meet the definition of miles managed by ITS, all of these attributes must be continuously operated and maintained, permitting contiguous coverage of the mileage noted.



**Purpose:** Report progress in completing deployment of the FDOT *Ten-Year ITS Cost Feasible Plan* and beyond, as appropriate.

**Objective:** To initially deploy ITS across the limited-access portion of the SHS, and to ultimately integrate all ITS and ITS-related user services across the entire state in a seamless, fully operational, real-time fashion. This deployment will help improve mobility and safety throughout the state.

**Methodology:** Deployment progress, on an annual basis, as reported by each district and the Florida’s Turnpike Enterprise. Corresponding geographic coverage should also be reported and mapped in terms of mile point limits.



## MILES MANAGED 2009/2010 RESULTS

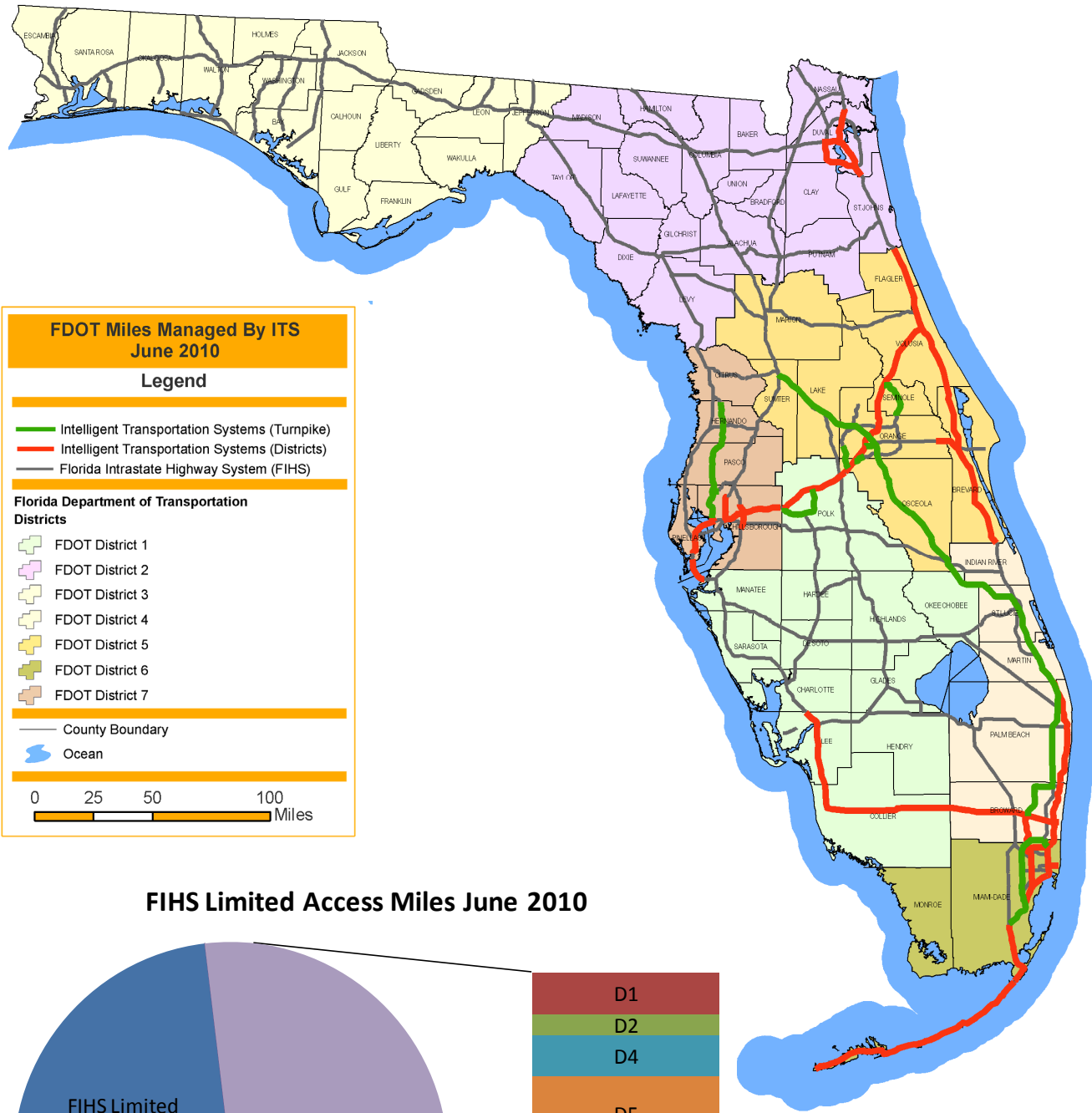
At the end of June 2010, 1,157 miles are managed by ITS. This represents 54% ITS coverage of the limited access Florida Intrastate Highway System (FIHS). District 1 deployed ITS in FY 2009-2010 by adding over 130 miles. District 6 added 29 miles, District 7 added 48 miles, and Florida's Turnpike Enterprise added over 200 miles.

**What's New**  
Miles increased from  
35% to 54% of the  
FIHS in FY 2009/2010.

| District                    | Limited Access<br>FIHS Miles per<br>District                           | Number of FIHS ITS<br>Miles Managed by |            | Facility, Extent, and Location  |
|-----------------------------|--|--|------------|---|
|                             |  | FDOT                                   |            |   |
| 1                           | 223.0  | 130.3                                  | 64.2       | I-75: From Broward-Collier County Line to Collier-Lee County Line           |
|                             |  |  | 34.1       | I-75: From Collier-Lee County Line to Lee-Charlotte County Line             |
|                             |  |  | 28.4       | I-4: From Hillsborough-Polk County Line to US 27                            |
|                             |  |  | 3.6        | I-4: From US 27 to Polk-Osceola County Line                                 |
| 2                           | 382.0  | 63.4                                   | 9.0        | I-10: From MM 354 to MM 363 in Duval County                                 |
|                             |  |  | 34.0       | I-95: From MM 332 to MM 366 in Duval County                                 |
|                             |  |  | 20.4       | I-295: From MM 0 to MM 20.6   |
| 3                           | 242.0  | -                                      |            |   |
| 4                           | 203.0  | 131.1                                  | 46.0       | I-95: From MP 0 to MP 46 in Palm Beach County                               |
|                             |  |  | 46.9       | I-75: From MM 0 to MM 45, and 1.9 miles along Sawgrass Exp north of I-75    |
|                             |  |  | 25.3       | I-95: From MM 0 to MM 25.3 in Broward County                                |
|                             |  |  | 12.9       | I-595: From MM 0 to MM 12.9 in Broward County                               |
| 5                           | 394.0  | 222.7                                  | 74.5       | I-4: From Sr 532 Osceola/Polk County Line to I-95                           |
|                             |  |  | 137.2      | I-95: From Flagler/St. Johns County Line to MM 160 in Brevard Co.           |
|                             |  |  | 11.0       | SR 528: From SR 520 East to I-95  |
| 6                           | 82.0   | 81.4                                   | 5.4        | SR 93/I-75: From SR 826/Palmetto Exp to Miami-Dade/Broward County Line      |
|                             |  |  | 17.3       | SR 9A/I-95: From SR 5/US 1 to Miami-Dade/Broward County Line                |
|                             |  |  | 4.9        | I-195: From NW 11 Avenue to SR 907/Alton Road                               |
|                             |  |  | 1.3        | I-395: From I-95 to MacArthur Causeway Bridge in Miami-Dade County          |
|                             |  |  | 24.6       | SR 826: From SR 5/US 1 to Golden Glades Interchange                         |
|                             |  |  | 13.0       | SR 5/US 1: From N of Atlantic Blvd. to Monroe/Dade County Line              |
|                             |  |  | 13.9       | SR 5/US 1: From Monroe/Dade County Line to Card Sound Road                  |
| 1.0                         | SR 5/US 1: From Card Sound Road to SR 821 HEFT                         |  |            |   |
| 7                           | 167.0  | 101.5                                  | 6.0        | Sunshine Skyway Bridge  |
|                             |  |  | 13.0       | I-275: From MM 25.5 to MM 38.5  |
|                             |  |  | 11.0       | I-275: From MM 43 to MM 54  |
|                             |  |  | 6.0        | I-275: From MM 19.5 to MM 25.5  |
|                             |  |  | 23.0       | I-4: From MM 0 to MM 23   |
|                             |  |  | 25.0       | I-4: From MM 25 to MM 50  |
|                             |  |  | 12.5       | I-75: From MM 253.2 to MM 265.7   |
|                             |  |  | 2.0        | SR 60: From I-275 to Courtney Campbell Causeway                             |
|                             |  |  | 1.0        | SR 589: From MM 0 to MM 1   |
| 2.0                         | SR 600: From MM 9 to MM 11   |  |            |   |
| TPE                         | 458.0  | 427.0                                  | 22.0       | Sawgrass Expressway: From I-595 to Atlantic Blvd in Broward county          |
|                             |  |  | 17.0       | Seminole Expressway/SR 417: From Orange/Seminole County Line to I-4         |
|                             |  |  | 5.0        | Southern Connector/SR 417: From I-4 to International Drive                  |
|                             |  |  | 10.0       | Western Beltway/SR 429: From I-4 to Seidel Road                             |
|                             |  |  | 24.0       | Polk Parkway/SR 570: From I-4 to I-4  |
|                             |  |  | 16.0       | Veterans Expressway/SR 589: From SR 60 to the Suncoast Parkway              |
|                             |  |  | 3.0        | Veterans Spur to Dale Mabry/SR 568: From Veterans Exp to Dale Mabry         |
|                             |  |  | 38.0       | Suncoast Parkway/SR 589: From Veterans Expressway to US 98                  |
|                             |  |  | 48.0       | Homestead Extension of Florida's TP (HEFT)/SR 821: From US 1 to TP Mainline |
|                             |  |  | 3.0        | Florida's TP Golden Glades Spur/SR 91: From SR 826/US 441 to TP Mainline    |
| 1.0                         | East West Expressway/SR 408: From Turnpike Mainline to SR 50           |  |            |   |
| 236.0                       | Florida's Turnpike/SR 91: From MP 72 to I-75/MP 309                    |  |            |   |
| 4.0                         | Beachline Expressway/SR 528: From I-4 to Florida's TP in Orange County |  |            |   |
| <b>Statewide<br/>Total:</b> | <b>2,151.0</b>   | <b>1,157.4</b>                         | <b>54%</b> | <b>of FIHS Miles are ITS Managed Miles</b>                                  |



# Florida's Intelligent Transportation Systems Program Coverage



**FDOT Miles Managed By ITS  
June 2010**

**Legend**

- Intelligent Transportation Systems (Turnpike)
- Intelligent Transportation Systems (Districts)
- Florida Intrastate Highway System (FIHS)

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**Florida Department of Transportation  
Districts**

- FDOT District 1
- FDOT District 2
- FDOT District 3
- FDOT District 4
- FDOT District 5
- FDOT District 6
- FDOT District 7

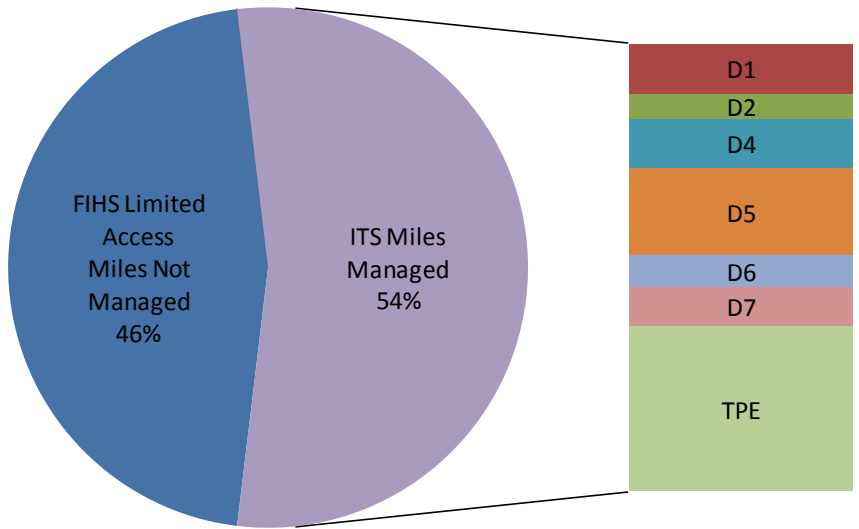
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- County Boundary
- Ocean

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0    25    50    100  
Miles

**FIHS Limited Access Miles June 2010**



## INCIDENT DURATION

### MINIMIZE TRAFFIC INCIDENT TIMELINE

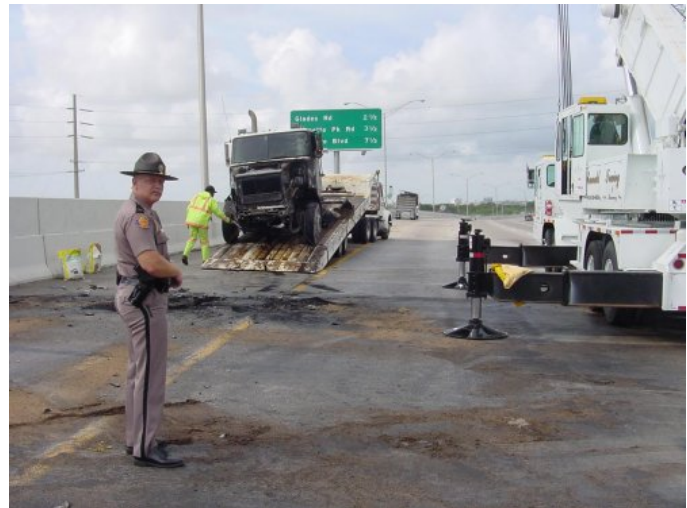
FDOT and its emergency response partners work to ensure that crashes and other incidents have minimal impact on Florida drivers by working to reduce the amount of time of each incident. Determining trends in incident clearance allows for analysis and improvement in the system. Quickly removing an incident allows the highway to return to normal capacity and traffic flow sooner.

**Background:** In 2005, the FDOT ITS Program incident duration was identified as an outcome measure to be reported to the Florida Transportation Commission. Initially, FDOT conducted an effort to collect incident timeline data from manual (paper) records. The pilot test results determined that manually collecting incident timeline data was too complex and time-consuming. In 2006, the SunGuide® Software was modified to include the data collection and reporting requirements for obtaining incident duration data.

In order to improve the incident duration timeline, Florida has developed a very active Statewide Traffic Incident Management Program. There are three major components to this program:

- *Open Roads Policy*
- Rapid Incident Scene Clearance (RISC) Program
- Traffic Incident Management (TIM) Teams

The Florida *Open Roads Policy* is an agreement between FDOT and the Florida Highway Patrol (FHP). Both agencies signed this agreement in November 2002. The agreement states that it is policy of FHP and FDOT to expedite the removal of vehicles, cargo, and debris from state highways and to restore, in an urgent manner, the safe and orderly flow of traffic on Florida's roadways. Both agencies agreed to work together to clear roadways as soon as possible. A goal was set to clear incidents from the roadway *within 90 minutes* of the arrival of the first responding officer.

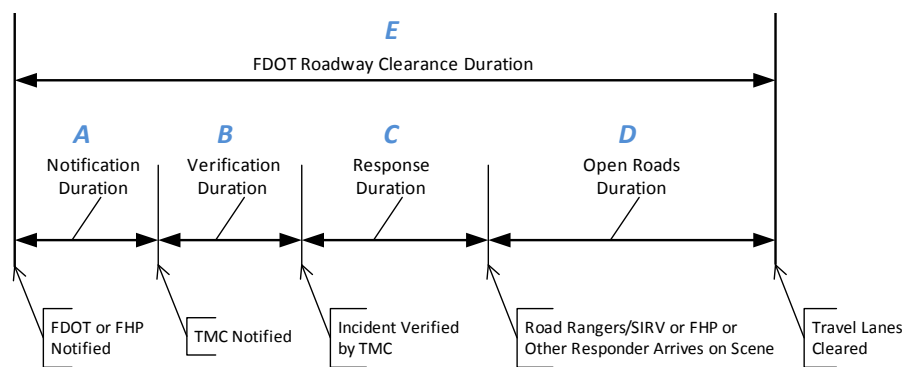


The Rapid Incident Scene Clearance (RISC) Program is a highly innovative, incentive-based program to meet the goal of safely clearing major highway incidents and truck crashes. This program pays bonuses of \$2,500 to wrecker operators with specialized heavy equipment for successful removal of all wreckage and roadway re-opening within 90 minutes of being given a notice-to-proceed. Additionally the wrecker company is paid \$1,000 if approval of additional specialty equipment for use during the incident cleanup is given. As a further incentive, if the travel portion of the roadway is not cleared in three hours, the wrecker company can be

assessed a penalty of \$10/minute (\$600/hour) until the roadway is reopened. Most of the seven FDOT Districts and the Florida's Turnpike Enterprise have adopted this program.

TIM Teams bring together all agencies involved in clearing an accident, including FHP and local law enforcement, fire departments, emergency medical personnel, towing companies, and spill response firms, along with FDOT transportation management center (TMC) operators, Road Rangers, and maintenance crews. The TIM Teams may be district-wide or they may be local to one county. These teams strive to reduce the time needed to reopen travel lanes and get traffic moving again by reviewing past response actions, exploring ways to improve incident management, and coordinating upcoming planned events or planning for unplanned events, such as hurricanes, wildfires, and floods. Most TIM Teams have four program areas: incident detection, verification, and response; incident clearance; communications; and training. TIM Teams are currently active in most of FDOT's districts and Florida's Turnpike Enterprise.

The incident duration timeline measure is an indicator of the effectiveness of these programs.



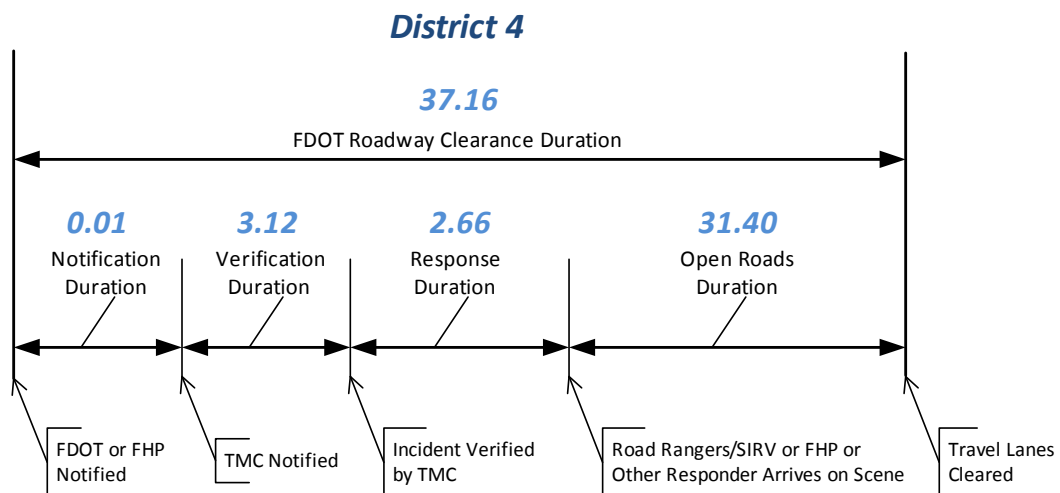
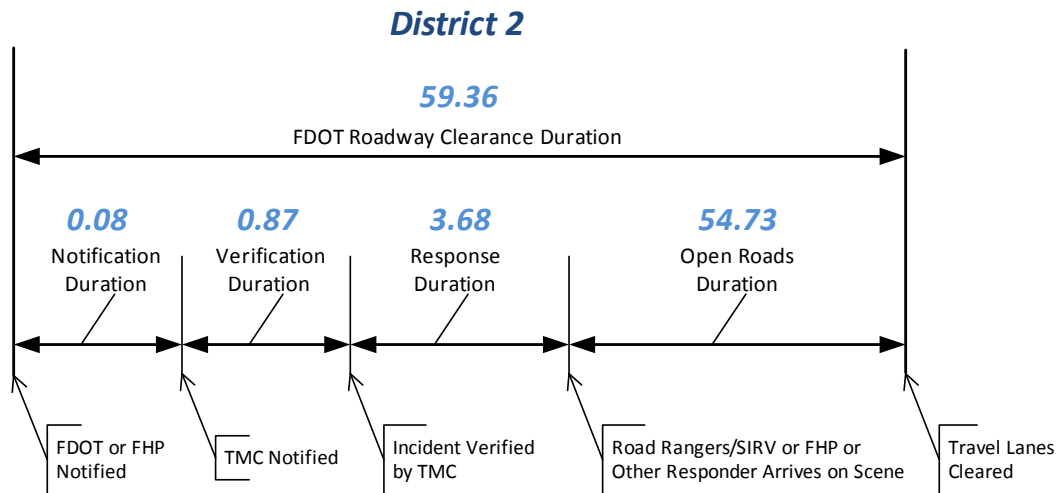
**Purpose:** Report the total time of impact on traffic for an incident.

**Objective:** To minimize the incident timeline from the time any FDOT or FHP staff is notified to the time that all travel lanes are cleared.

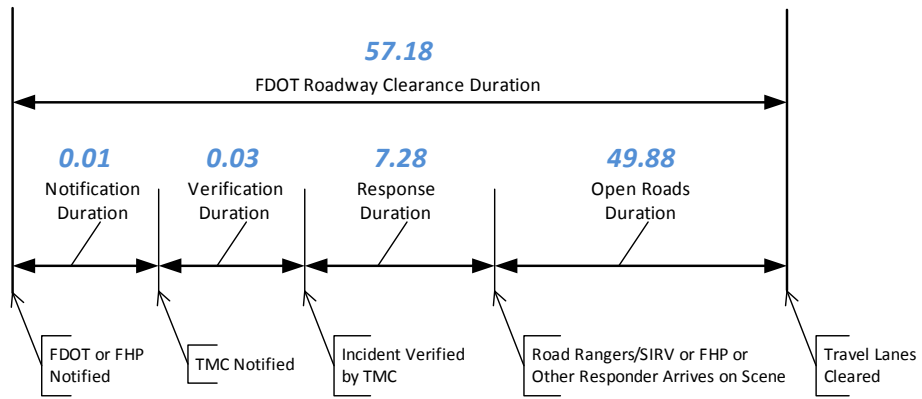
**Methodology:** In 2008, to more closely align with National Traffic Incident Management definitions, the terminology for reporting incident duration was modified. The FDOT incident duration timeline includes the following components: notification/verification time, response time, and Open Roads Clearance Time. The definition for Open Roads Clearance Time is the amount of time needed to clear all mainline travel lanes, starting with the arrival of the first responder, either FHP or FDOT. The Open Roads Clearance Time is directly comparable with Florida's *Open Roads Policy* for clearing all travel lanes in 90 minutes or less. FDOT Roadway Clearance Time is an overall component of incident duration, defined as the time between first awareness of the incident and the time all mainline travel lanes are cleared. This component includes notification, verification, and response times, as well as the open roads clearance time. Although the terminology changed in 2008, the individual components of the incident duration timeline are still the same as that used for previous reporting.

## INCIDENT DURATION 2009/2010 RESULTS

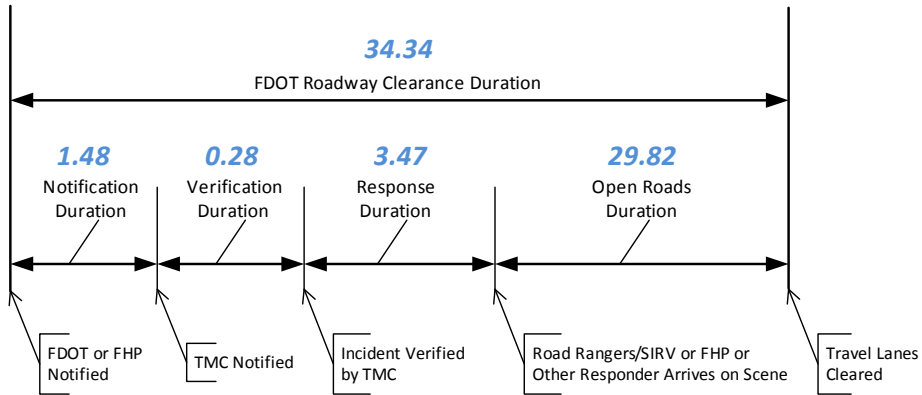
FDOT Roadway Clearance Duration varied from month to month, but the average time from the reporting districts is about 47 minutes, ranging from 34 to 59 minutes for monthly averages. The Open Roads Clearance Duration averages about 41 minutes for the reporting districts. This is well under the *Open Roads Policy* target of 90 minutes. The graphics below show the averages for the five reporting districts and Florida's Turnpike Enterprise. The Roadway Clearance duration will not necessarily correspond to the sum of the Verification, Response, and Open Road's averages, since they are averaged independently of one another.



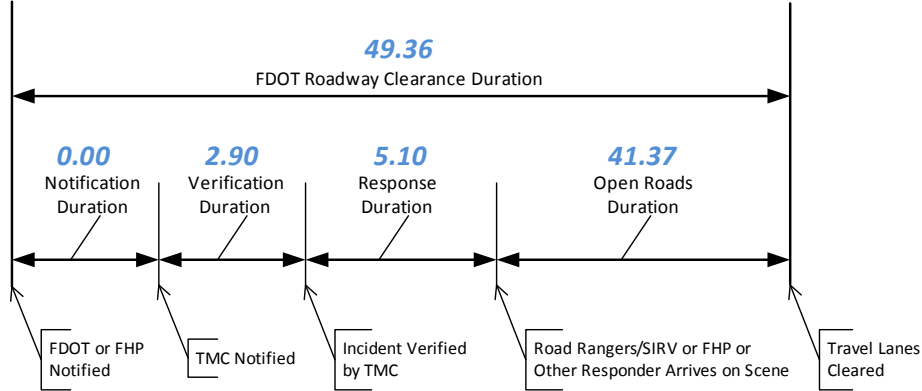
### District 5



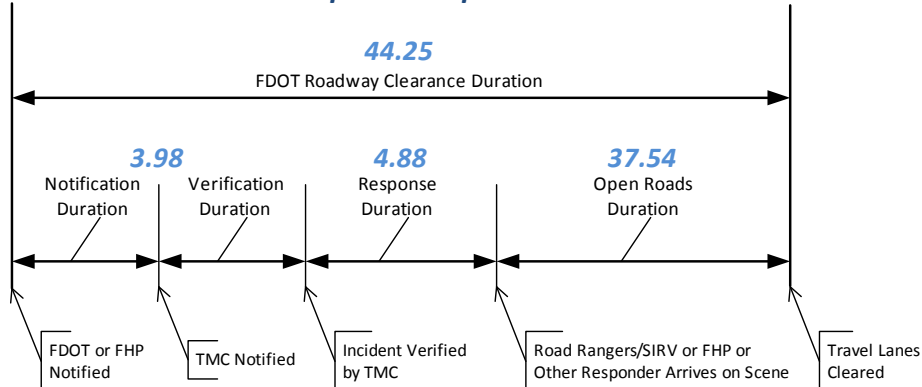
### District 6



### District 7



### Turnpike Enterprise



## TRAVEL TIME RELIABILITY

### ESTIMATE TRAVEL TIMES FOR TRIP PLANNING

**Background:** In 2005, FDOT adopted reliability as an outcome performance measure to report to the Florida Transportation Commission on a statewide basis. FDOT identified reliability reporting definitions and data needs in FY 2006. A limited amount of data were available for reporting reliability in FY 2007; however, speed detector data quality issues prohibited reporting of results. For FY 2008, travel time reliability and congestion results are available for Districts 2, 5, and 7. For FY 2009, travel time reliability and congestion results are available for Districts 2, 4, 5, 6, and 7. Districts 5 and 7 provided data, and Districts 2, 4, and 6 provided data collected from the STEWARD system at University of Florida.

**Purpose:** Report a qualitative measure of the variability or uncertainty in the performance of facilities over time.

**Objective:** To measure and track the variability of roadway congestion, measured using the Buffer Index as well as measure and track the congestion level, measured using the Travel Time Index.



**Methodology:** FDOT identified two metrics for measuring travel time reliability and congestion. The Buffer Index is a measure of the reliability of travel service. The Buffer Index is calculated as the ratio between the difference of the 95th percentile travel time and the average travel time divided by the average travel time, i.e.  $(95\text{th travel time} - \text{average travel time}) / \text{average travel time}$ . For example, a value of 0.4 means that a traveler should budget an additional 8-minute buffer for a 20-minute average peak trip time to ensure 95 percent on-time arrival. A secondary metric is the Travel Time Index (TTI), which is a measure of traffic congestion. TTI is calculated as the ratio of average peak travel time to an off-peak (free-flow) standard, in this case 60 mph for freeways. For example, a value of 1.20 means that average peak travel times are 20 percent longer than off-peak travel times. Travel time, travel speed, and volume data are the basis of these measures. Travel time and speed data are obtained from either speed data from roadside detectors that communicate in real time to TMCs or probe data from various sources that report travel time directly. Volume data are used to compute vehicle miles traveled, which are then used as weights to compute an area wide or corridor wide measure average. Only non-holiday weekdays select periods are used in index calculations. The periods are:

Morning peak: 6 a.m. to 9 a.m.

Evening peak: 4 p.m. to 7 p.m.

**Freeway Segments:** A typical freeway segment is about 5 to 15 miles between key major interchanges in urban areas, and can go up to 20 miles in suburban/rural areas with less congestion and fewer interchanges. When possible, congested freeways were separated from freeways that had less congestion.

## **TRAVEL TIME RELIABILITY**

### *2009/2010 RESULTS*

Travel time and buffer indices were calculated for selected ITS managed corridors in each district (see following table for segment limits). The following charts summarize congestion and reliability results for in Districts 2, 4, 5, 6, and 7 calculated over a rolling 12 month period for instrumented segments. The charts indicate the roadway, direction, limits, peak period, and travel time index/buffer time index.

District 2 experiences the most congestion during the evening (PM) peak on I-95 southbound from I-10 to St. Augustine Road, with a travel time index of 1.15. The most unreliable travel times occur during the PM peak on I-95 southbound from I-10 to St. Augustine Road with a buffer index of 0.32.

In District 4 the most congested section is I-595 westbound from Hiatus Road to I-95 during the PM peak, with a travel time index of 1.25. This is also the period and area experiencing the most unreliable travel times, with a buffer index of 0.92.

In District 5 the most congested section is I-4 eastbound from between SR 408 and SR 192 during the PM peak, with a travel time index of 1.32. The most unreliable section is on the same segment with a buffer index of 0.53. District 5 also has segments showing no congestion and the most reliable travel times on I-95 in Volusia County between SR 40 and SR 44. This is illustrated on the chart by what seems to be a straight line on 0.00 (BTI) and 1.0 (TTI), but in fact the lines are stacked on those numbers.

In District 6 the most congested section is I-195 westbound from I-95 to Alton Road during the PM peak, with a travel time index of 1.44. This is also the period and area experiencing the most unreliable travel times, with a buffer index of 0.77.

In District 7 the morning peak experiences the most congestion on I-275 southbound between Ashley Street and Livingston Avenue, with a travel time index of 1.35. This is also the period and area experiencing the most unreliable travel times, with a buffer index of 0.54.

It should be noted that in some cases when the buffer index or travel time index are 0.0 or 1.0 (indicating that there is good reliability and no congestion), respectively, the lines on the chart are printed on top of each other. This makes it seem as if data is missing, however the data is there and it is accurate.



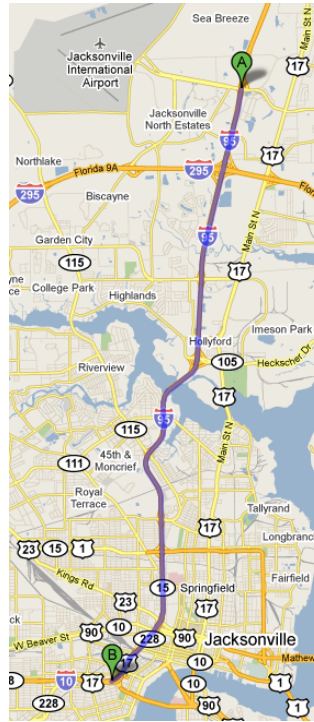
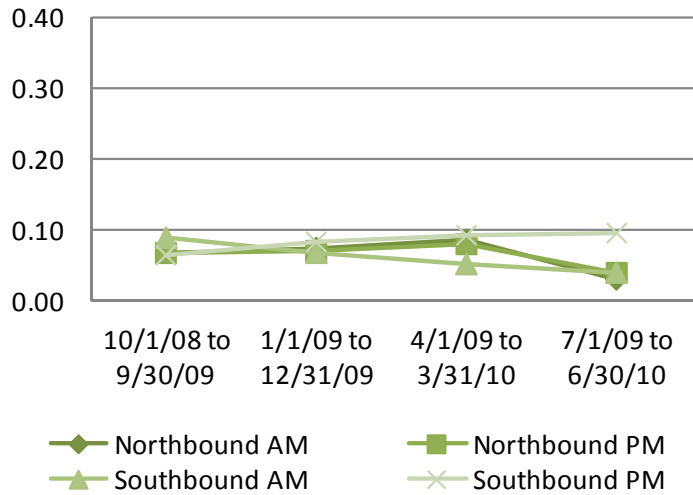
| District | Roadway                      | Start           | End                        | Approximate Miles |
|----------|------------------------------|-----------------|----------------------------|-------------------|
| 2        | I-95                         | Airport Road    | I-10                       | 12                |
| 2        | I-95                         | I-10            | St. Augustine Road         | 16                |
| 2        | I-295                        | I-10            | I-95 (south)               | 21                |
| 4        | I-95 in Broward County       | Hillsboro Blvd  | Commercial Blvd            | 10                |
| 4        | I-95 in Broward County       | Commercial Blvd | Hallendale Beach Blvd      | 15                |
| 4        | I-595                        | Hiatus Road     | I-95                       | 8                 |
| 5        | I-4                          | US17/92         | SR 408                     | 22                |
| 5        | I-4                          | SR 408          | SR 192                     | 18                |
| 5        | I-95 in Volusia County       | SR 40           | SR 44                      | 19                |
| 5        | I-95 in Brevard County       | SR 520          | SR 192                     | 19                |
| 6        | I-195                        | I-95            | Alton Road                 | 4                 |
| 6        | SR 826 (Palmetto Expressway) | I-95            | I-75                       | 8                 |
| 7        | I-275                        | SR 60           | 38th Avenue N in St. Pete  | 13                |
| 7        | I-275                        | Ashley Street   | Livingston Avenue          | 11                |
| 7        | I-4                          | I-275           | N. Park Road in Plant City | 22                |

The following table shows the buffer time index range for the instrumented freeways within each district. The most unreliable section calculated throughout the state is a section of I-595 westbound in district 4 in the afternoon peak period (BTI of .92).

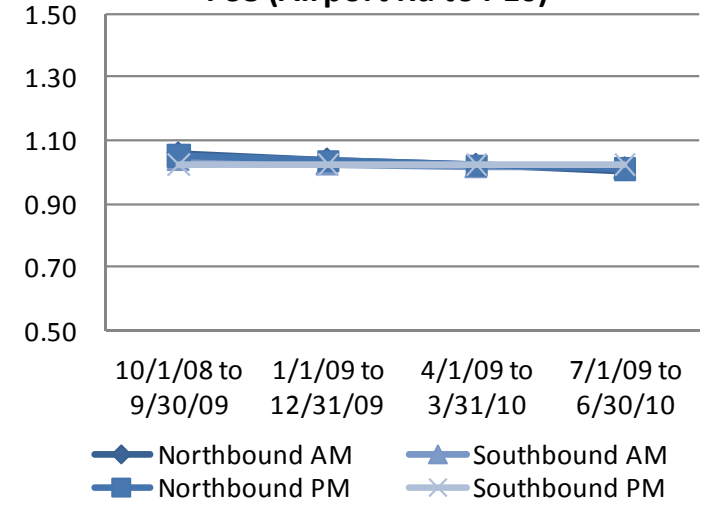
**Buffer Time Index Range by District and Roadway**

|    | I-95         | I-295        | I-595        | I-4          | SR 826       | I-75 | I-195        | I-275        |
|----|--------------|--------------|--------------|--------------|--------------|------|--------------|--------------|
| D2 | 0.03 to 0.32 | 0.00 to 0.10 |              |              |              |      |              |              |
| D4 | 0.11 to 0.44 |              | 0.00 to 0.92 |              |              |      |              |              |
| D5 | 0.00 to 0.04 |              |              | 0.00 to 0.51 |              |      |              |              |
| D6 |              |              |              |              | 0.16 to 0.46 |      | 0.02 to 0.53 |              |
| D7 |              |              |              | 0.00 to 0.19 |              |      |              | 0.00 to 0.49 |

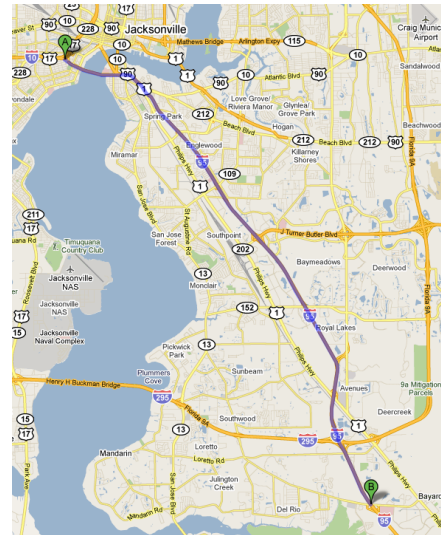
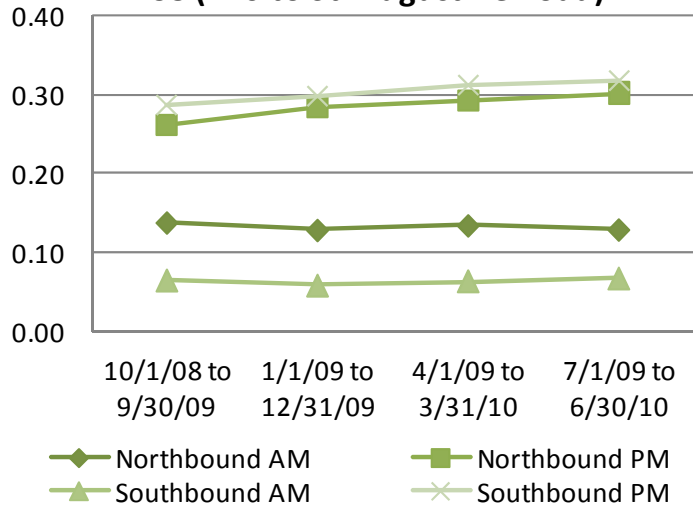
**Buffer Time Index**  
**District 2**  
**I-95 (Airport Rd to I-10)**



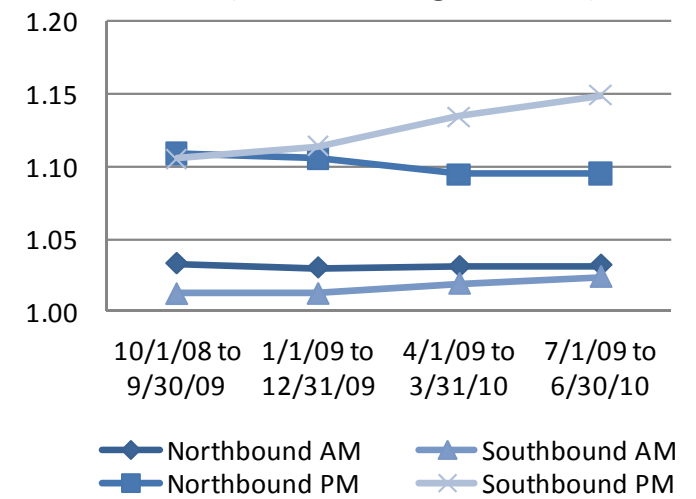
**Travel Time Index**  
**District 2**  
**I-95 (Airport Rd to I-10)**



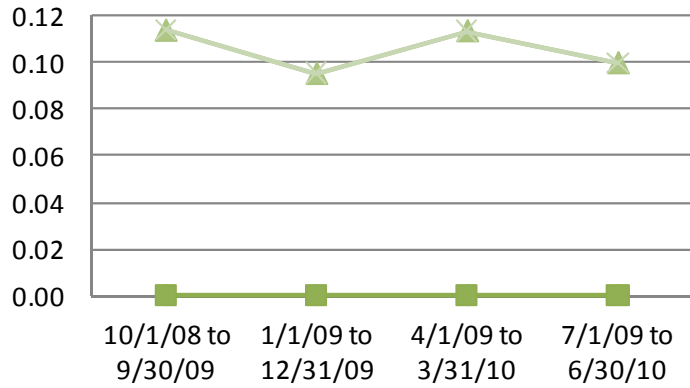
**Buffer Time Index**  
**District 2**  
**I-95 (I-10 to St. Augustine Road)**



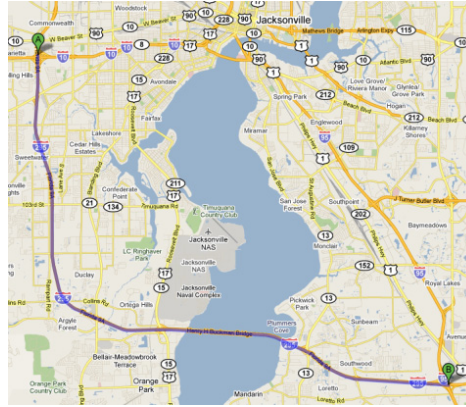
**Travel Time Index**  
**District 2**  
**I-95 (I-10 to St. Augustine Rd)**



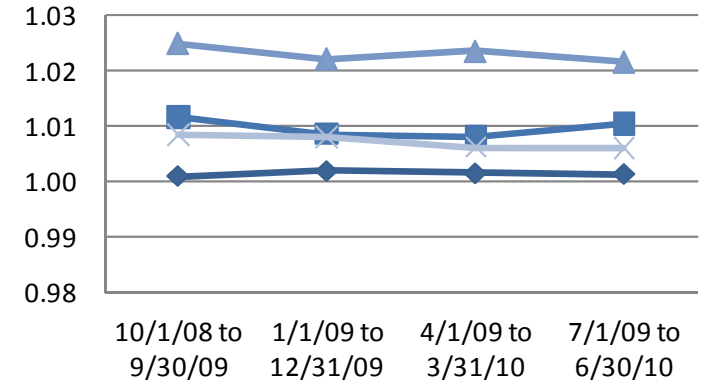
### Buffer Time Index District 2 I-295 (I-10 to I-95 South)



- ◆ Eastbound AM
- ◆ Eastbound PM
- ▲ Westbound AM
- × Westbound PM

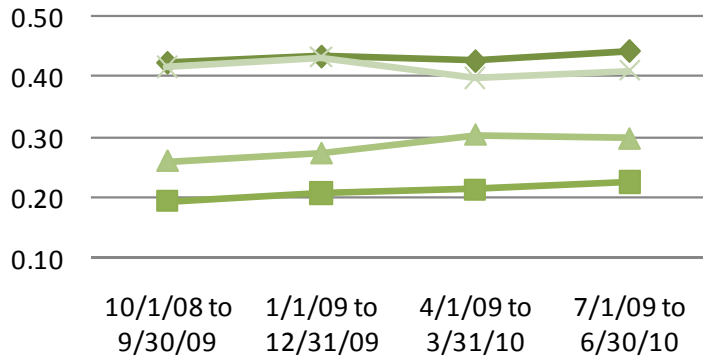


### Travel Time Index District 2 I-295 (I-10 to I-95 South)

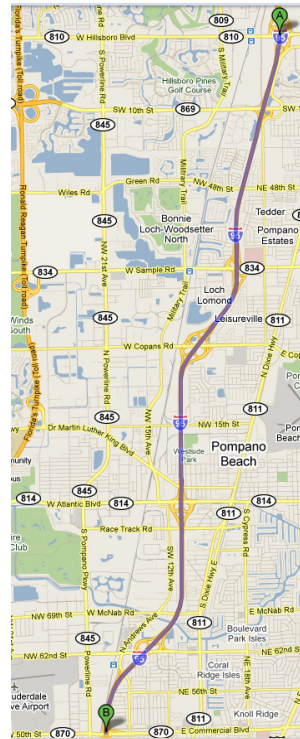


- ◆ Eastbound AM
- ◆ Eastbound PM
- ▲ Westbound AM
- × Westbound PM

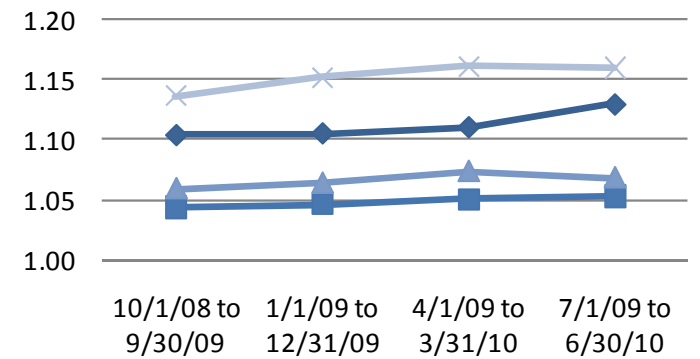
### Buffer Time Index District 4 I-95 (Hillsboro to Commercial Blvd)



- ◆ Northbound AM
- ◆ Northbound PM
- ◆ Southbound AM
- × Southbound PM



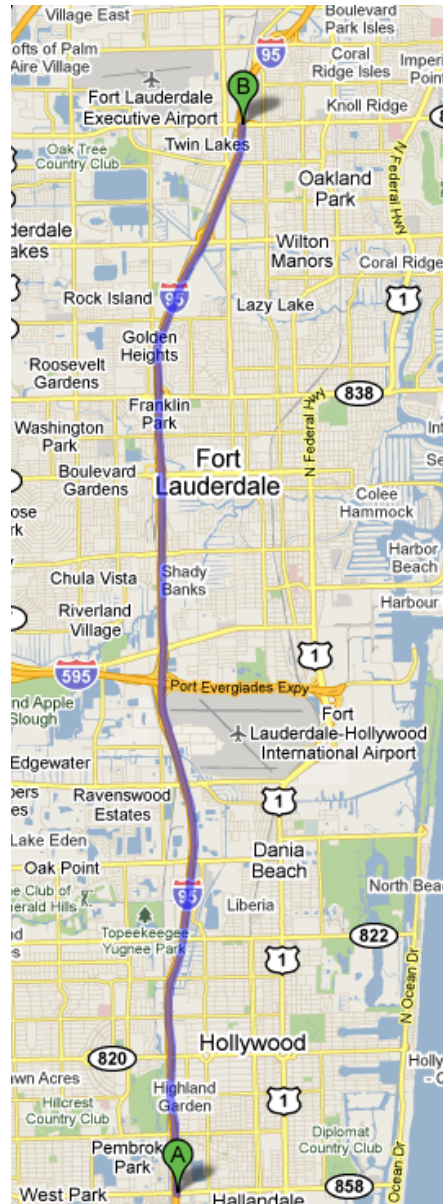
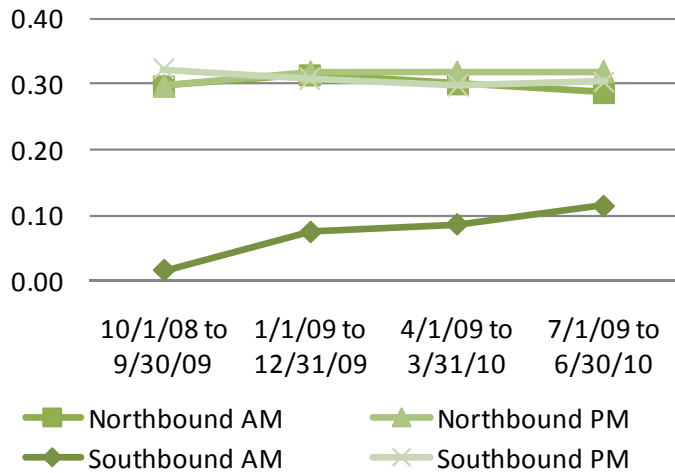
### Travel Time Index District 4 I-95 (Hillsboro to Commercial Blvd)



- ◆ Northbound AM
- ◆ Northbound PM
- ◆ Southbound AM
- × Southbound PM

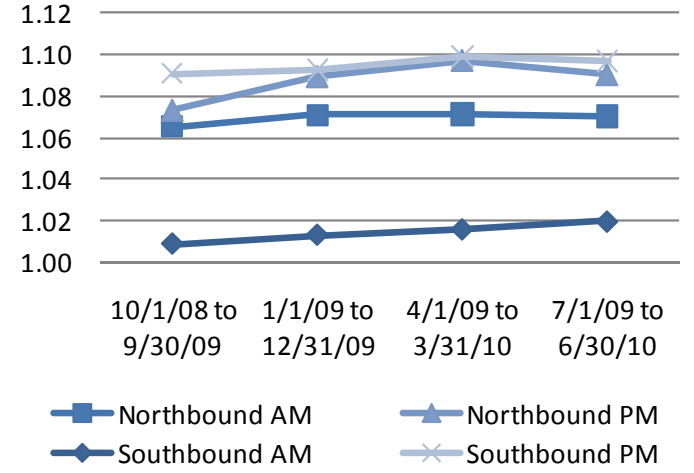
### Buffer Time Index District 4

#### I-95 (Commercial Blvd to Hallendale Bch Blvd)



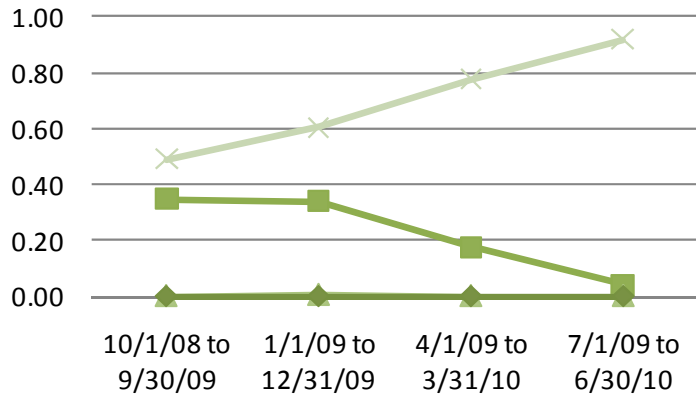
### Travel Time Index District 4

#### I-95 (Commercial Blvd to Hallendale Bch Blvd)





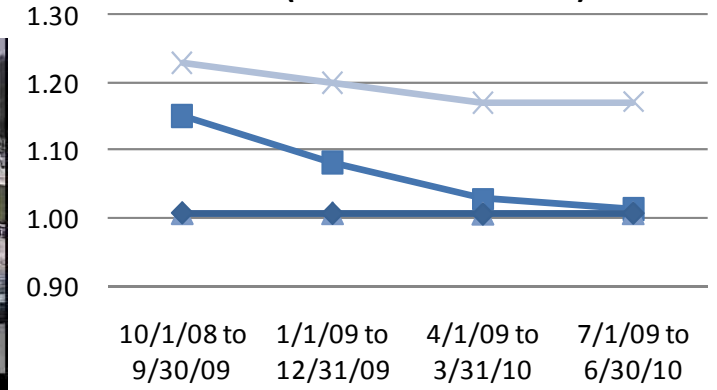
### Buffer Time Index District 4 I-595 (Hiatus Road to I-95)



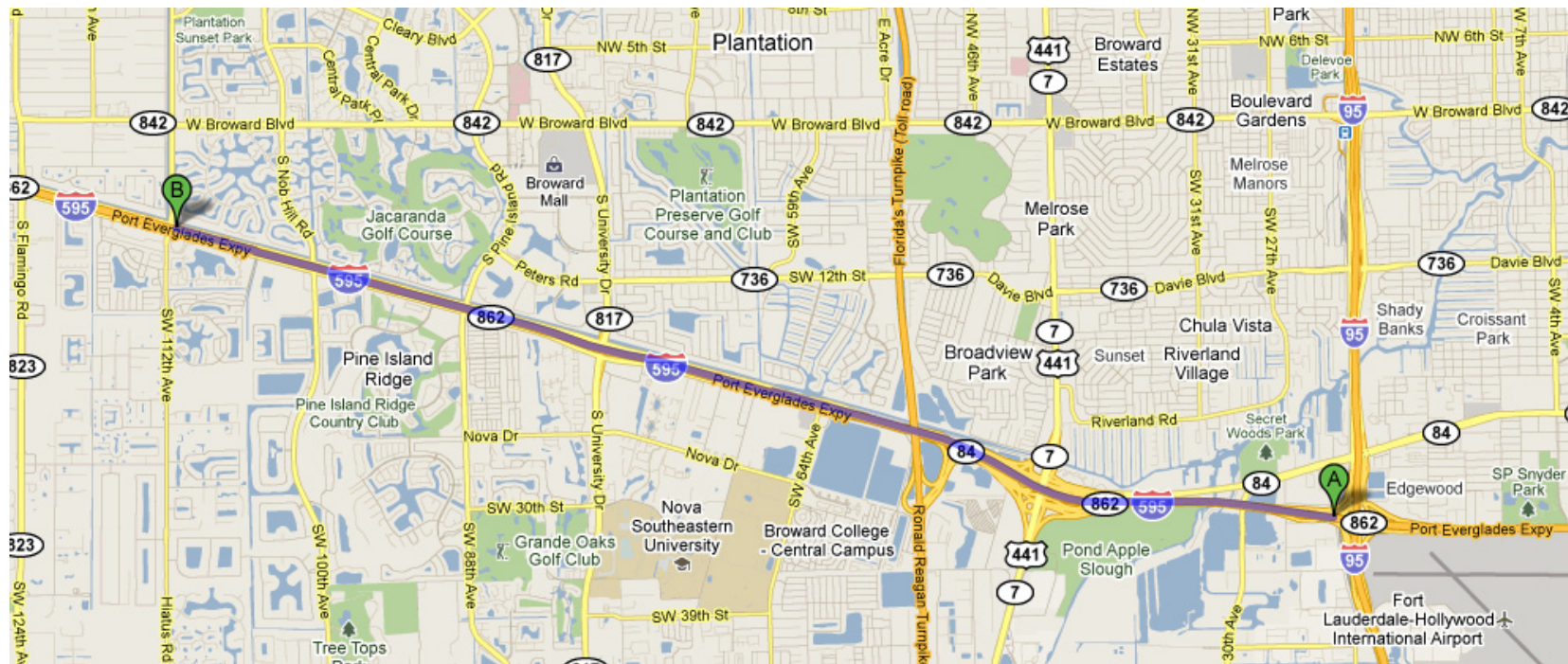
- Eastbound AM
- ▲ Eastbound PM
- ◆ Westbound AM
- × Westbound PM



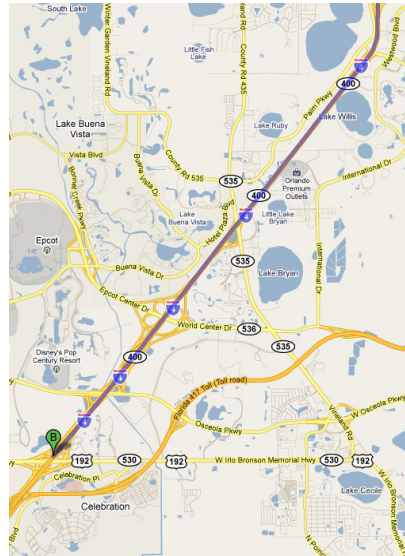
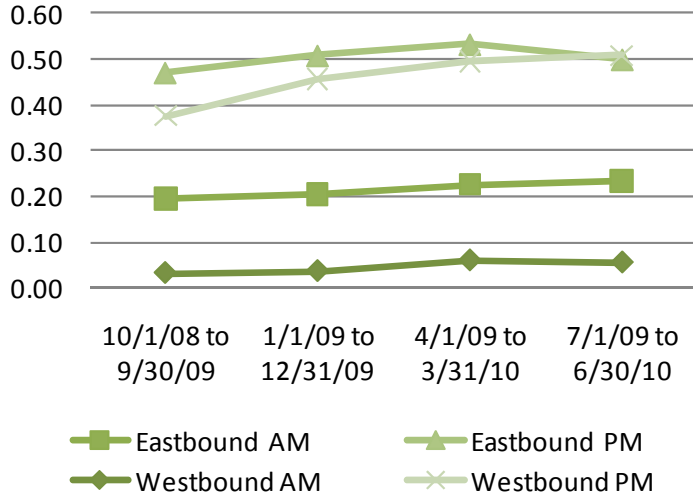
### Travel Time Index District 4 I-595 (Hiatus Road to I-95)



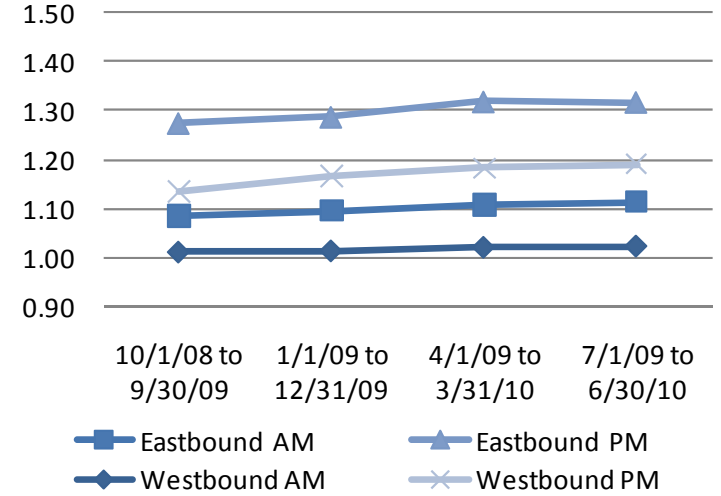
- Eastbound AM
- ▲ Eastbound PM
- ◆ Westbound AM
- × Westbound PM



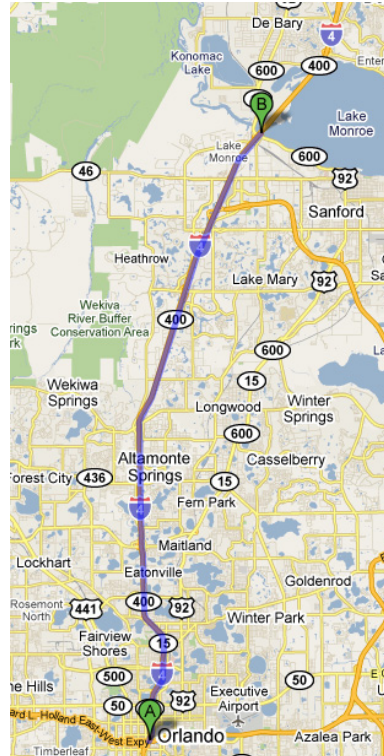
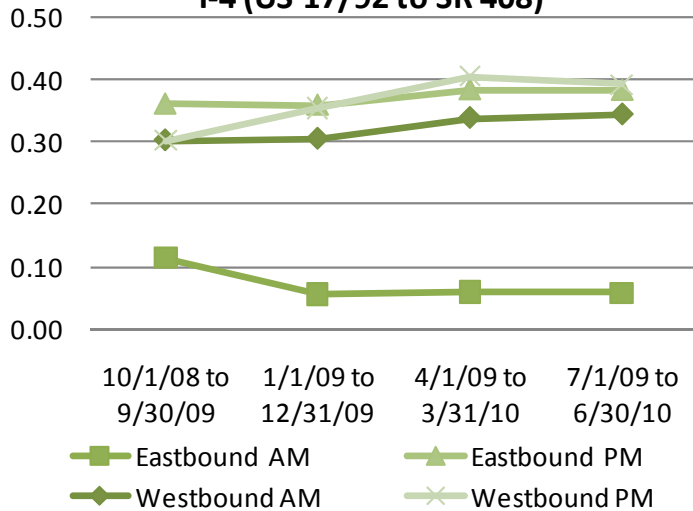
### Buffer Time Index District 5 I-4 (SR 408 to SR 192)



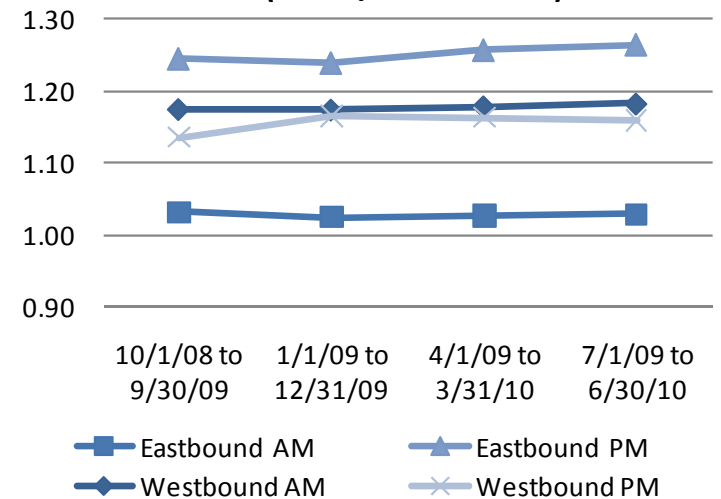
### Travel Time Index District 5 I-4 (SR 408 to SR 192)



### Buffer Time Index District 5 I-4 (US 17/92 to SR 408)

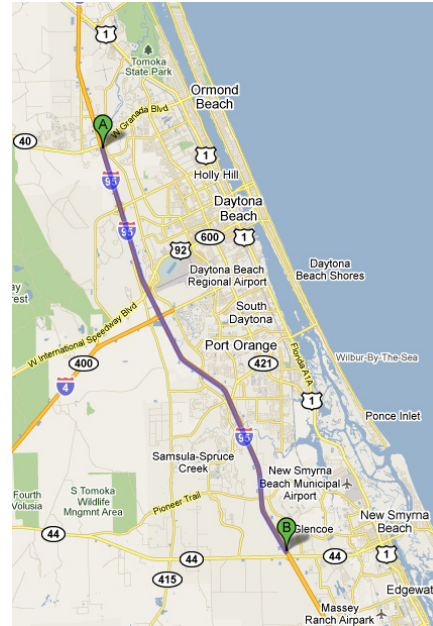
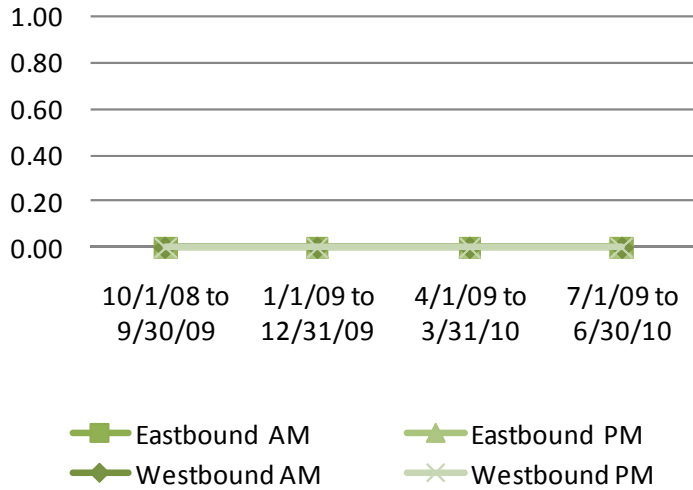


### Travel Time Index District 5 I-4 (US 17/92 to SR 408)

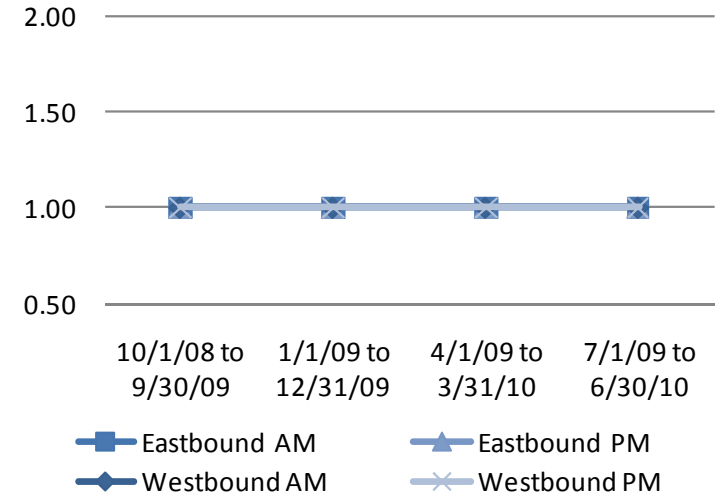




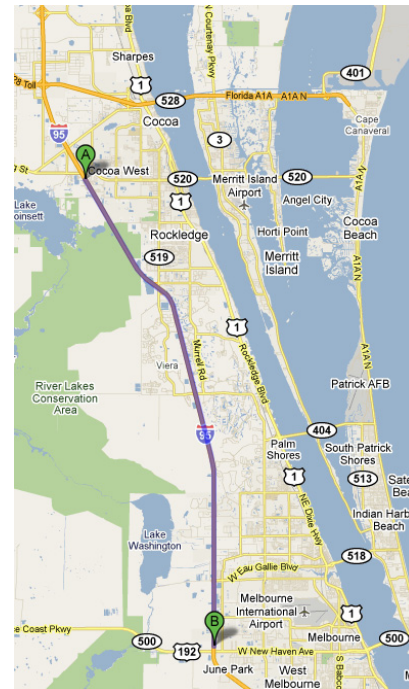
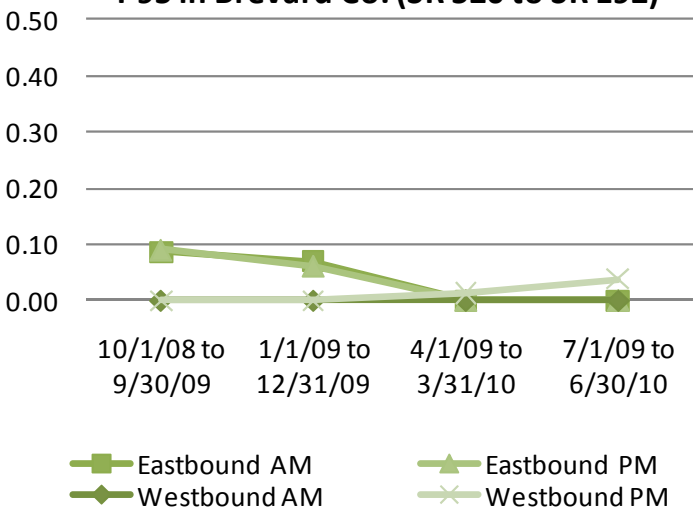
**Buffer Time Index  
District 5  
I-95 in Volusia Co. (SR 40 to SR 44)**



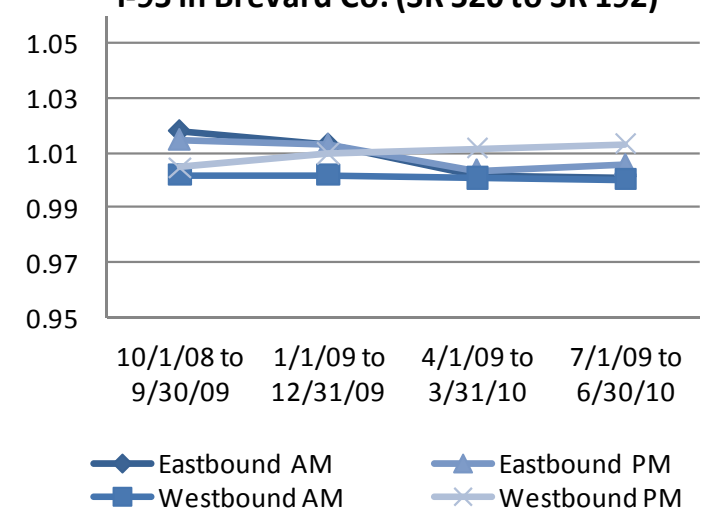
**Travel Time Index  
District 5  
I-95 in Volusia Co. (SR 40 to SR 44)**



**Buffer Time Index  
District 5  
I-95 in Brevard Co. (SR 520 to SR 192)**

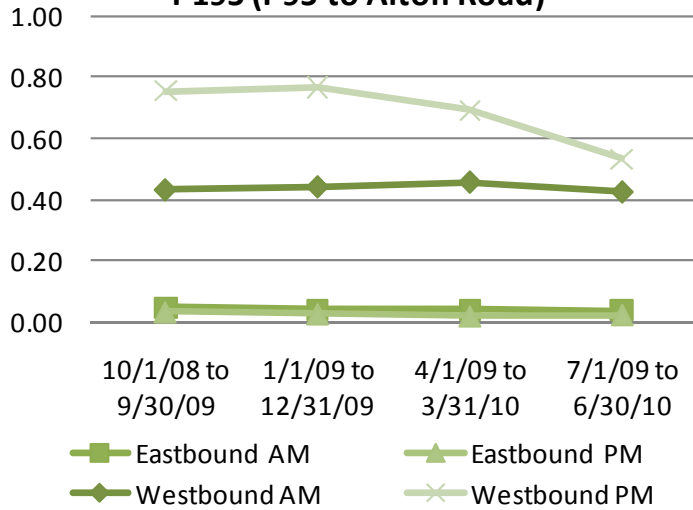


**Travel Time Index  
District 5  
I-95 in Brevard Co. (SR 520 to SR 192)**

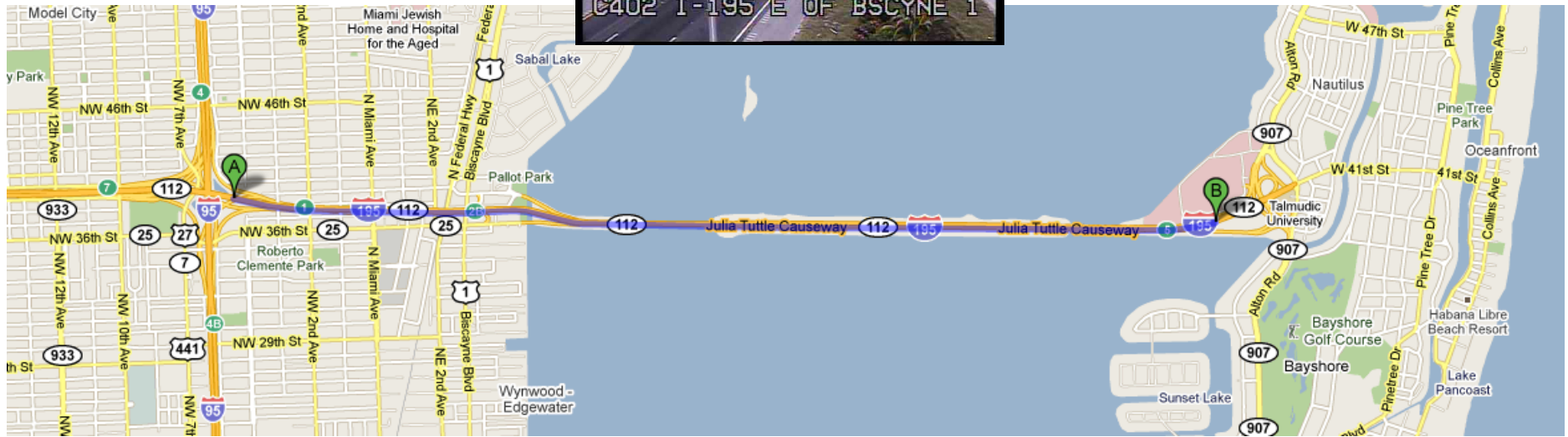
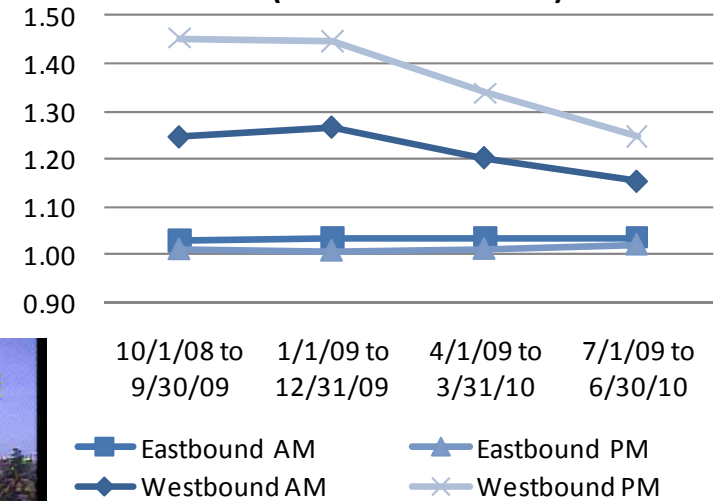




### Buffer Time Index District 6 I-195 (I-95 to Alton Road)

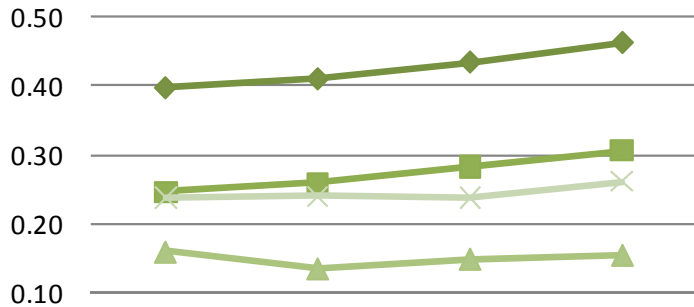


### Travel Time Index District 6 I-195 (I-95 to Alton Road)



### Buffer Time Index District 6

#### SR 826 - Palmetto Exp (I-95 to I-75)

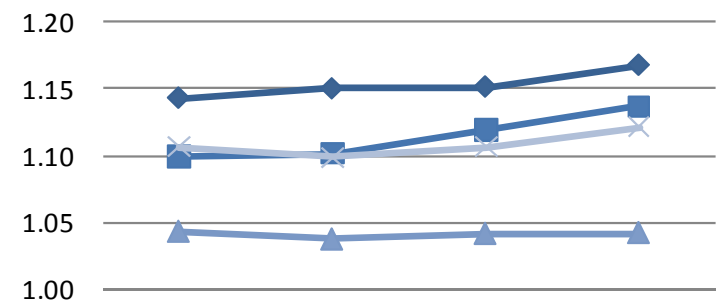


- Eastbound AM
- ▲ Eastbound PM
- ◆ Westbound AM
- × Westbound PM

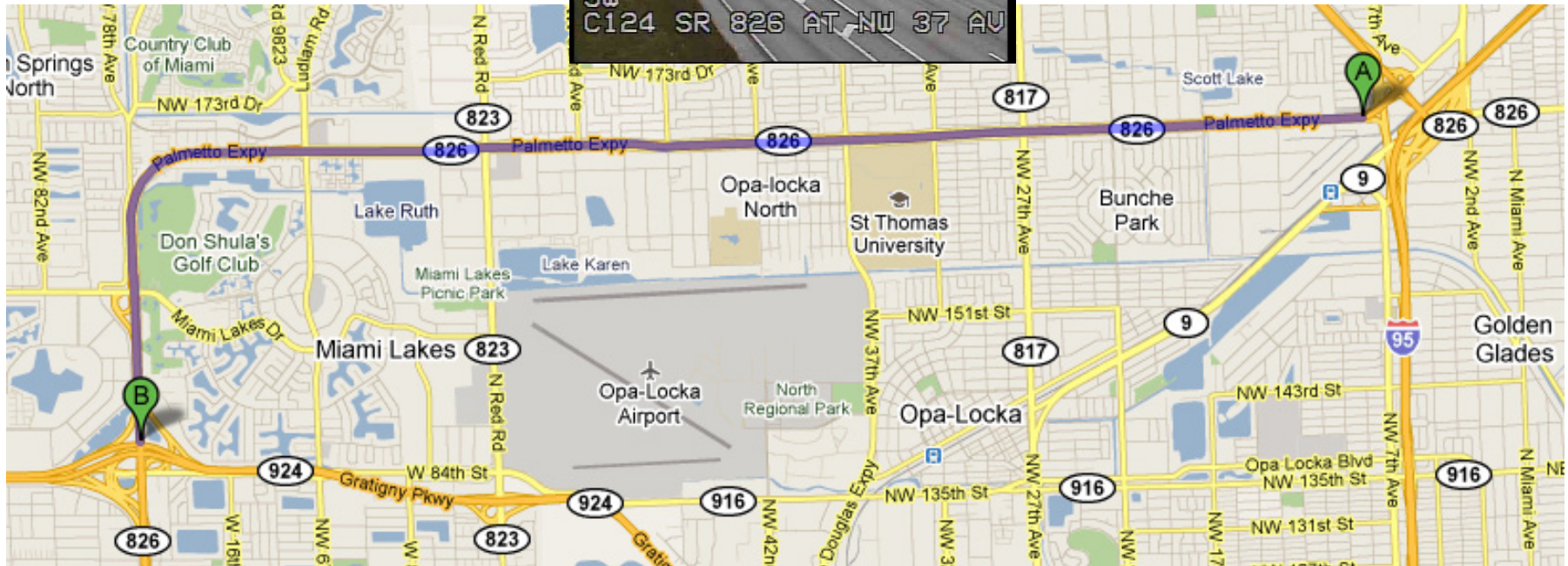


### Travel Time Index District 6

#### SR 826 - Palmetto Exp (I-95 to I-75)



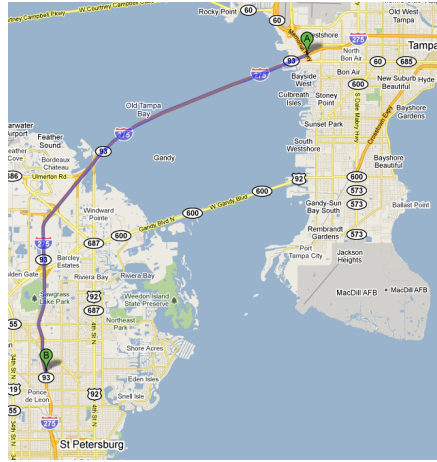
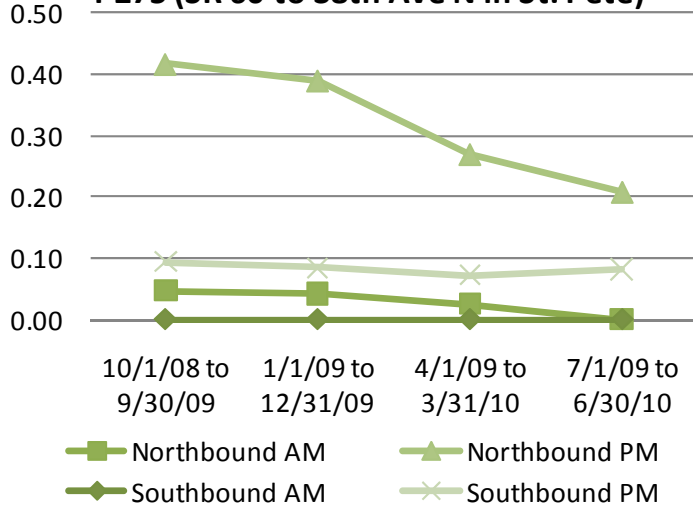
- Eastbound AM
- ▲ Eastbound PM
- ◆ Westbound AM
- × Westbound PM



### Buffer Time Index

#### District 7

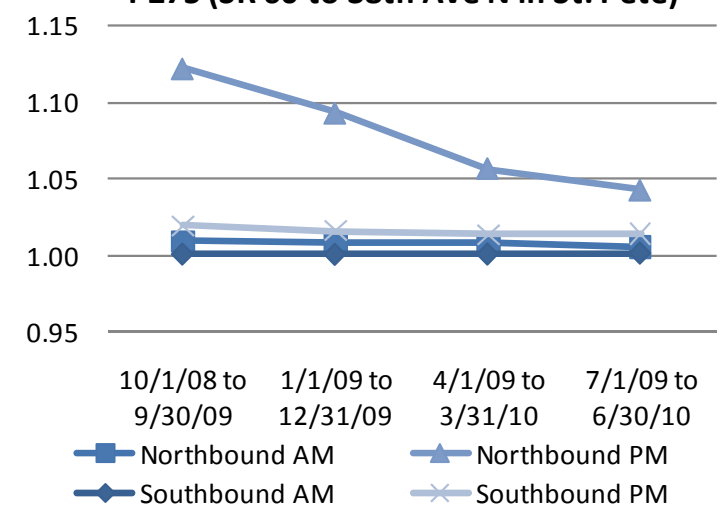
#### I-275 (SR 60 to 38th Ave N in St. Pete)



### Travel Time Index

#### District 7

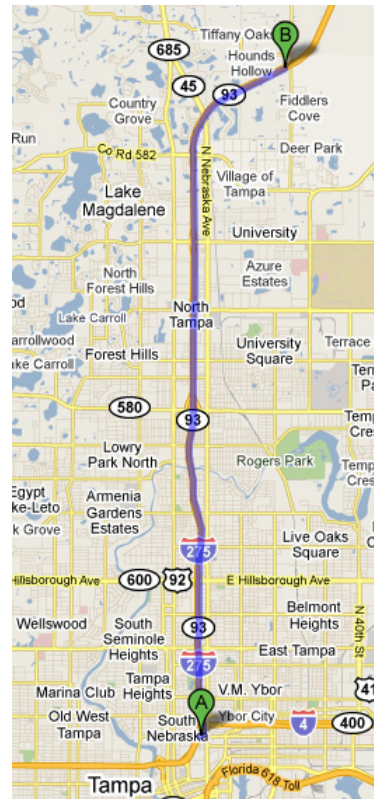
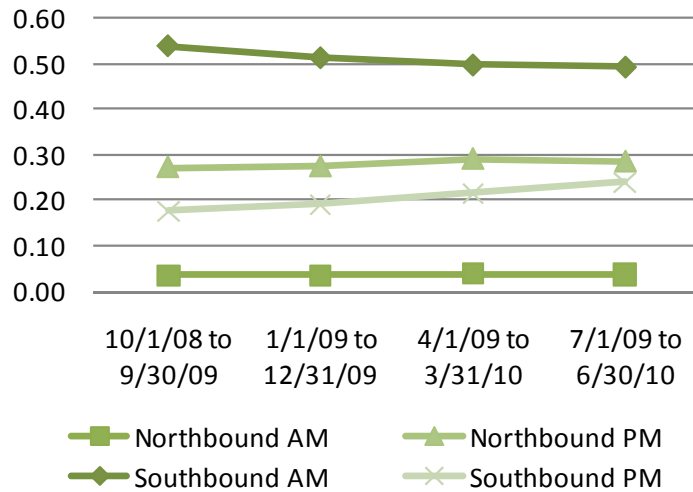
#### I-275 (SR 60 to 38th Ave N in St. Pete)



### Buffer Time Index

#### District 7

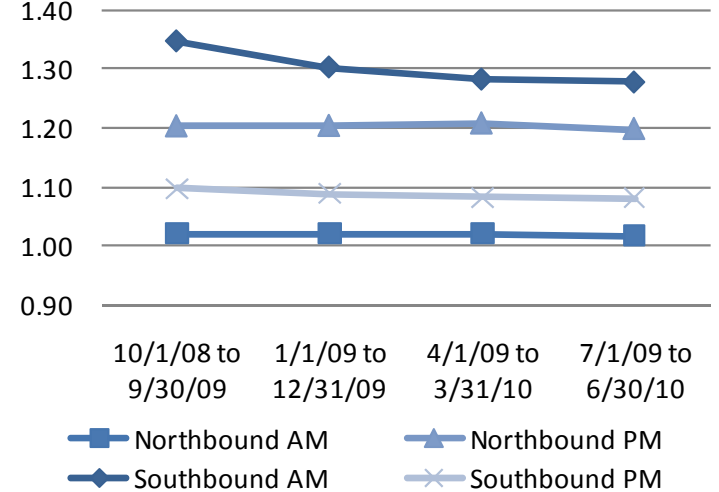
#### I-275 (Ashley St to Livingston Ave)



### Travel Time Index

#### District 7

#### I-275 (Ashley St to Livingston Ave)

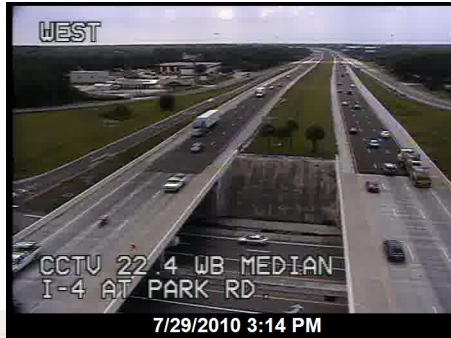
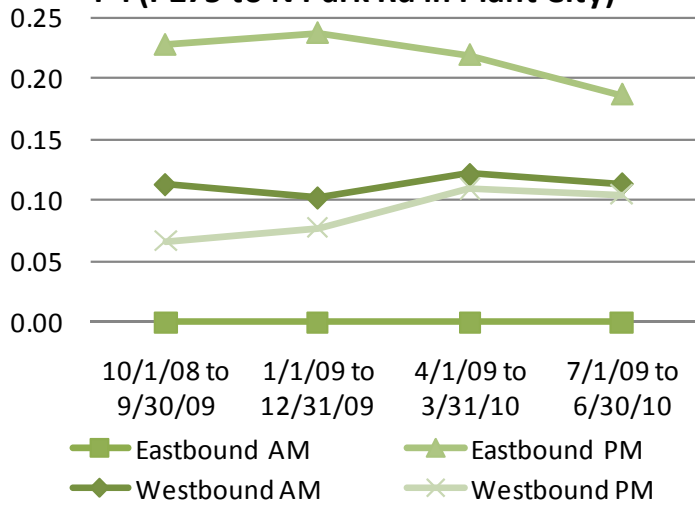




### Buffer Time Index

#### District 7

#### I-4 (I-275 to N Park Rd in Plant City)



### Travel Time Index

#### District 7

#### I-4 (I-275 to N Park Rd in Plant City)

