

*FINAL Report*

# **95 Express Annual Report**

Covering July 1, 2011 through June 30, 2012

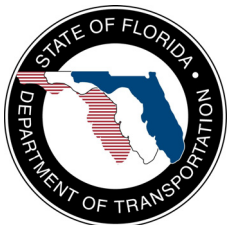
## ***Project Status for Urban Partnership Agreement (Phase 1 Complete)***

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## Acronyms

<b>AVO</b> .....Average Vehicle Occupancy	<b>HOT</b> .....High Occupancy Toll
<b>BCT</b> .....Broward County Transit	<b>HOV</b> .....High Occupancy Vehicle
<b>CCTV</b> .....Closed Circuit Television	<b>I-95</b> .....Interstate 95
<b>CUTR</b> .....Center for Urban Transportation Research	<b>ITS</b> .....Intelligent Transportation Systems
<b>DMS</b> .....Dynamic Message Sign	<b>MDT</b> .....Miami-Dade Transit
<b>EL</b> .....Express Lanes	<b>MPH</b> .....Miles Per Hour
<b>ELM</b> .....Express Lanes Manager	<b>MVDS</b> .....Microwave Vehicle Detection System
<b>FDOT</b> .....Florida Department of Transportation	<b>OTM</b> .....Operator Task Manager
<b>FHP</b> .....Florida Highway Patrol	<b>SFCS</b> .....South Florida Commuter Services
<b>FHWA</b> .....Federal Highway Administration	<b>SOV</b> .....Single Occupancy Vehicle
<b>FTE</b> .....Florida’s Turnpike Enterprise	<b>SR</b> .....State Road
<b>GGI</b> .....Golden Glades Interchange	<b>TMC</b> .....Transportation Management Center
<b>GPL</b> .....General Purpose Lanes	<b>UPA</b> .....Urban Partnership Agreement



## 1. General Summary

95 Express is the Florida Department of Transportation’s (FDOT) on-going congestion management improvement program (CMIP) for Interstate 95 (I-95) in southeast Florida, which combines express or High Occupancy Toll (HOT) lanes with carpool and transit incentives, ramp metering, rapid incident detection and enhanced operational management strategies.

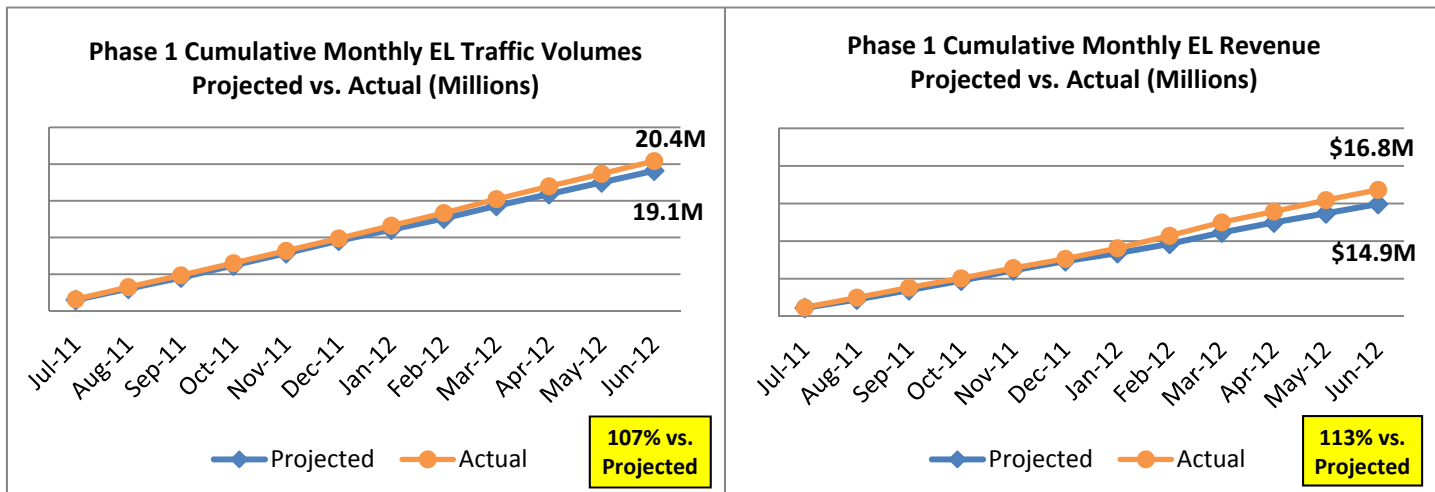
In addition to providing general information to the Urban Partnership Agreement (UPA) partners, other agencies and the public, this annual evaluation report covers assigned performance measures in the October 2008 UPA and Congestion Reduction Demonstration (CRD): National Evaluation Framework. As in previous years, the statistics shown in this report are bound by FDOT’s fiscal year (FY). FY 2012 (July 1, 2011 through June 30, 2012) was the second full year of bidirectional operations for 95 Express. Phase 2 of the project is currently under construction and will expand the limits of the project approximately 14 miles north into Broward County.

The program has considerably improved the overall operational performance of I-95. Customers, including transit riders, choosing to use the express lanes (EL) have significantly increased their travel speed during the AM peak (6am-9am, southbound) and PM peak (4pm-7pm, northbound) periods – from an average speed in the high occupancy vehicle (HOV) lane of approximately 20 MPH (prior to program implementation) to a monthly average of 63 MPH and 56 MPH in the southbound and northbound directions, respectively. Drivers travelling via the general purpose lanes (GPL) have also experienced a significant peak period increase in average travel speed since implementation of 95 Express – from an average of approximately 15 MPH (southbound) and 20 MPH (northbound) to a monthly average of 50 MPH and 42 MPH, respectively. All of these speeds had nominal fluctuations since the end of FY 2011, and, in fact, have stayed relatively constant since the opening of the lanes.

Probably more important than the improved speeds when it comes to operational performance are the improvements to the travel time reliability of the facility. Average volume along the express lanes in the AM and PM peak periods were over 9,000 vehicles (on average, 33% of the total I-95 traffic during peak periods); a 9.2% increase in volume over FY2011. These vehicles were traveling at speeds greater than 45 MPH during the AM peak period 99.7% of the time and 91.2% of the time in the northbound direction during the PM peak period. The federal requirement for HOV to HOT lane conversion is a minimum of 90% for 45 MPH speeds during the peak period.

During fiscal year 2012, the 95 Express Lanes has also:

- Remained open to motorists 94.5% of the time, with 2.1% closed due to incidents. The balance, 3.3%, was related to planned construction and maintenance activities.
- Serviced approximately 20.4 million vehicle trips (107% actual vs. projected forecast) of which over 30,000 per month, on average, were registered toll exempt trips by nearly 8,830 registered vehicles.
- Had total revenue of approximately \$16.8 million (113% actual vs. projected forecast. See charts on next page).
- Charged tolls that ranged from \$0.25 to the maximum, \$7.00, in both directions (southbound, three months; and, northbound, 5 months, charged the maximum). The average monthly maximum toll charged was \$5.50 (southbound) and \$6.50 (northbound). *Approximately 85% of customers were charged \$2.45 and \$2.25 or less (southbound and northbound, respectively).*
- Seen increased 95 Express Bus ridership (transit) by an average of 170% since pre-95 Express:
  - February 2008 average daily boardings (Pre-95 Express) – 1,746
  - February 2010 average daily boardings (Phase 1 operational) – 2,638
  - June 2011 average daily boardings (end of FY 2011) – 4,286
  - FY 2012 average daily boardings – 4,718



Operationally, a minimum of one operator is dedicated to monitoring the corridor utilizing the dynamic pricing software – Express Lanes Manager – and closed circuit television cameras 24 hours per day, seven days per week. Overall, operations and maintenance costs for the facility (i.e., TMC operations, incident management, service patrols, maintenance, etc.) were approximately \$8.6 million over the reporting period, including transit.

A survey completed during the 2012 fiscal year indicated that 31% of survey participants use 95 Express two to four times per week and 80.4% agree or strongly agree that the express lanes provide a more reliable trip than the I-95 general purpose lanes. Refer to Section 10.1 of this report for more information.

Public information continued to have a major role in FY 2012 as well. 95 Express had nearly 40 media stories published or aired during the year, as well as 9 media interview days; helping in providing the public valuable information on 95 Express goals and operations. Furthermore, approximately 30 tours and nearly 290 public inquiries were answered regarding the project by the FDOT TMC staff alone. The team also launched its public information campaign in support of the project’s expansion to Broward County.





## 2. Introduction

### Description

95 Express Phase 1 converted the single HOV lane into two express lanes while maintaining the same number of general purpose lanes. The project also enhanced and expanded Bus Rapid Transit service on I-95 from I-395 in downtown Miami to Broward Boulevard in Fort Lauderdale, reducing congestion on that heavily traveled north-south corridor.

Phase 1 was constructed in two phases under one contract. Phase 1A opened on December 5, 2008 and ran northbound on I-95 from SR-112 to the GGI area just north of NW 151st Street in Miami-Dade County. Phase 1B began tolling on January 15, 2010 and runs southbound on I-95 from the GGI area to I-395. Phase 1B also extended the northbound express lanes further to the south so that northbound lanes now run from north of I-395 to the GGI area. This construction was completed in March, 2010. Under a separate contract, Phase 2, which began construction in November 2011, will also create HOT lanes in both directions on I-95 between the GGI area in Miami-Dade County and Davie Road in Broward County.

The express lanes operate as HOT lanes that drivers can choose to use with tolls varying with the level of congestion. The goal is to keep traffic in the express lanes moving at a minimum speed of 45 MPH while maximizing person throughput of the entire facility.

Registered vanpools, 3+ carpools and hybrid vehicles, plus transit school and over-the-road buses may use the express lanes toll-free. Motorcycles may also use the facility toll-free without registering. Trucks of three or more axles are not allowed to use the express lanes.

### Purpose

95 Express is part of an overall long-term strategy of initiatives designed to help improve the safety, throughput and reliability of mobility along the roadways within southeast Florida. South of the GGI, I-95 carries over 260,000 vehicles per day. Prior to 95 Express, this included underutilized, poorly performing HOV lanes. Traditional widening or supply-only strategies are not only cost prohibitive, but result in significant social and environmental impacts. Therefore, 95 Express – a first in Florida, multimodal, congestion management program – was created to meet ever-growing demand including traffic volumes expected to exceed 360,000 vehicles per day by the year 2030.

For this purpose, FDOT has embraced the “Four T’s” as suggested by Federal Highway Administration (FHWA): Tolling, Transit, Technology and Telecommuting. 95 Express currently utilizes the “Four T’s” to reduce traffic congestion through the promotion of Bus Rapid Transit, HOV to HOT lane conversion utilizing a variable toll/congestion pricing strategy and the introduction of ramp metering.

### PROJECT MAP



95 Express is one of several FDOT operational improvements designed to reduce congestion and make I-95 a better experience for drivers, residents, and transit users alike by creating more travel options and encouraging the use of ridesharing and transit alternates. Roadway construction impacts were kept to a minimum, and the corridor itself was not widened. Instead, the entire facility was reconfigured and restriped to allow room for an additional lane to fit inside the existing right-of-way. In addition to roadway improvements, 95 Express includes Intelligent Transportation Systems (ITS) infrastructure, enhanced incident management resources and an electronic toll collection system.

### Express Lanes Operations

95 Express introduced the State of Florida to its first congestion pricing system with a mechanism for variable tolling using dynamic pricing. Aimed to maximize throughput and efficiency by adjusting tolls to meet traffic demand, the project necessitated the support of operational tools that would ensure intended goals. The District Six Transportation Management Center (TMC) responded to this need by developing a supplemental software application to implement dynamic pricing capabilities ahead of FDOT's original schedule and has been enhancing this software continuously since the initial opening to adjust to actual operational needs.



During the 2012 fiscal year, District 6's tolling software, Express Lanes Manager (ELM), was merged into a more comprehensive software suite, named "Operator Task Manager" (OTM). This enables the operators the ability to manage all D6 roadways from a single platform. ELM continues to be an excellent tool for congestion based tolling operations. Constant monitoring of the roadway operation through the software allows the District to make minor changes when necessary, including input parameters to the tolling algorithm. These changes allow the District to continue to optimize 95 Express conditions and manage increased demand within the facility.

*Express Lanes Operator monitors and manages both directions of 95 Express with the newly updated Express Lane Manager software.*

### Financing

The Phase 1 construction cost was approximately \$132 million. The project received \$62.9 million from a USDOT UPA grant, of which \$19.5 million was for transit. An additional \$35 million was allocated by the Florida Legislature. The balance of funding will come from future toll revenues and FDOT work program money. Consequently, the contract issued for construction was a Design, Build, Finance with some of the cost being carried by the contractor.

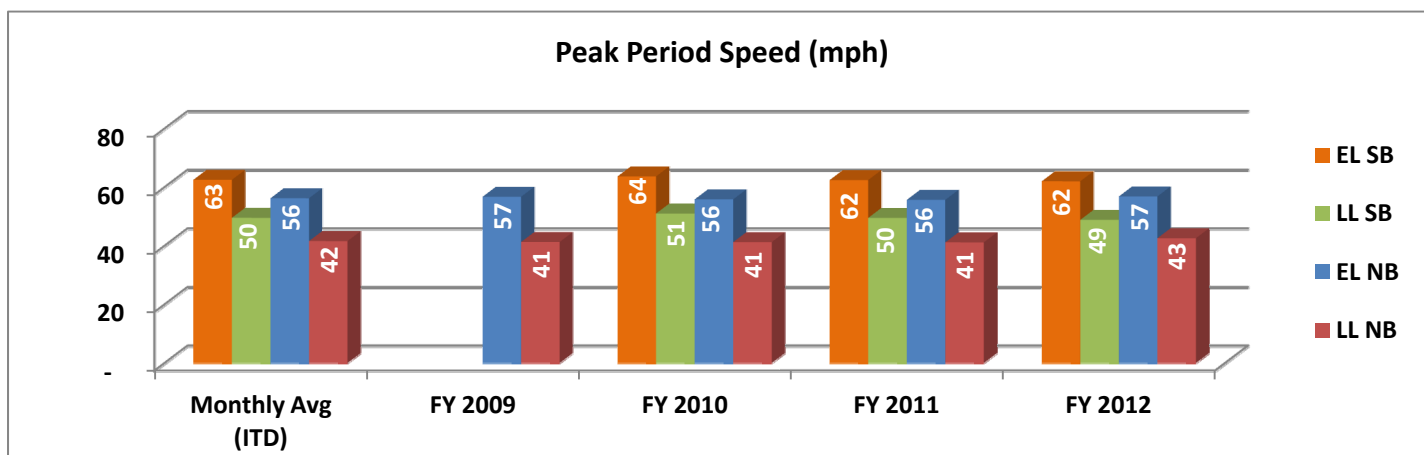


### 3. Operations / Traffic Statistics

All traffic statistics (i.e., speed and volume) shown in this report are comprised of data collected by either FDOT District Six or Florida’s Turnpike Enterprise (FTE) for 95 Express Phase 1. The speed data is collected by 69 vehicle detection sensors located throughout the corridor and generated by FDOT District Six’s OTM software. The volume data is collected at the toll gantry and generated by the FTE’s SunPass® software; representing the number of trips beneath that point. The graphs shown from this section forward are a compilation of monthly performance measures previously disseminated to the UPA partners, FDOT Management, media and other interested parties. Previous year’s report’s included performance graphs highlighted quarterly variations compared to overall monthly averages. Graphs show in this year’s annual report will focus on year-over-year trends in comparison to “inception to date” (ITD) averages. Since 95 Express is now in its fourth year, with over 55 million trips through the 2012 fiscal year, comparing annual data is intended to show the stability and the direction of the project.

#### 3.1. Speed / Travel Times Data

The Federal goal for express lanes is to maintain speeds of 45 MPH or greater 90% of the time. For FY 2012, northbound speeds increased and southbound speeds either stayed the same or decreased. In all cases, the speed differential is nominal and as shown in the graph below, fairly consistent through year over year since 95 Express became operational.



For FY 2012, 95 Express southbound operated on average 13 MPH above the general purpose lanes during the weekday AM peak period (6am to 9am), 6 MPH greater during the weekend and 7 MPH greater overall; the same speed differences as the previous year. 95 Express northbound operated on average 14 MPH above the general purpose lanes during the PM peak period (4pm to 7pm), 7 MPH greater during the weekend and nearly 8 MPH greater overall, which are increases over FY 2011.

#### Average Speed (MPH)

	2008 HOV Study <sup>1</sup>				FY 2011 <sup>3</sup>				FY 2012			
	SB		NB		SB		NB		SB		NB	
	HOV	GPL	HOV	GPL	EL	GPL	EL	GPL	EL	GPL	EL	GPL
AM Peak Period <sup>2</sup>	20.3	15.3	/	/	62.4	49.5	/	/	62.0	48.8	/	/
PM Peak Period <sup>2</sup>	/	/	18.1	18.8	/	/	55.7	41.2	/	/	56.8	42.6
Overall	--	--	--	--	64.1	57.1	62.8	56.3	64.5	57.4	65.6	57.8

<sup>1</sup>AM Peak Period for 2008 HOV Study was 7:00-9:00am; PM Peak Period was 4:00-6:00pm; HOV was one lane in each direction

<sup>2</sup>AM Peak Period for 95 Express Project is 6:00-9:00am; PM Peak Period is 4:00-7:00pm

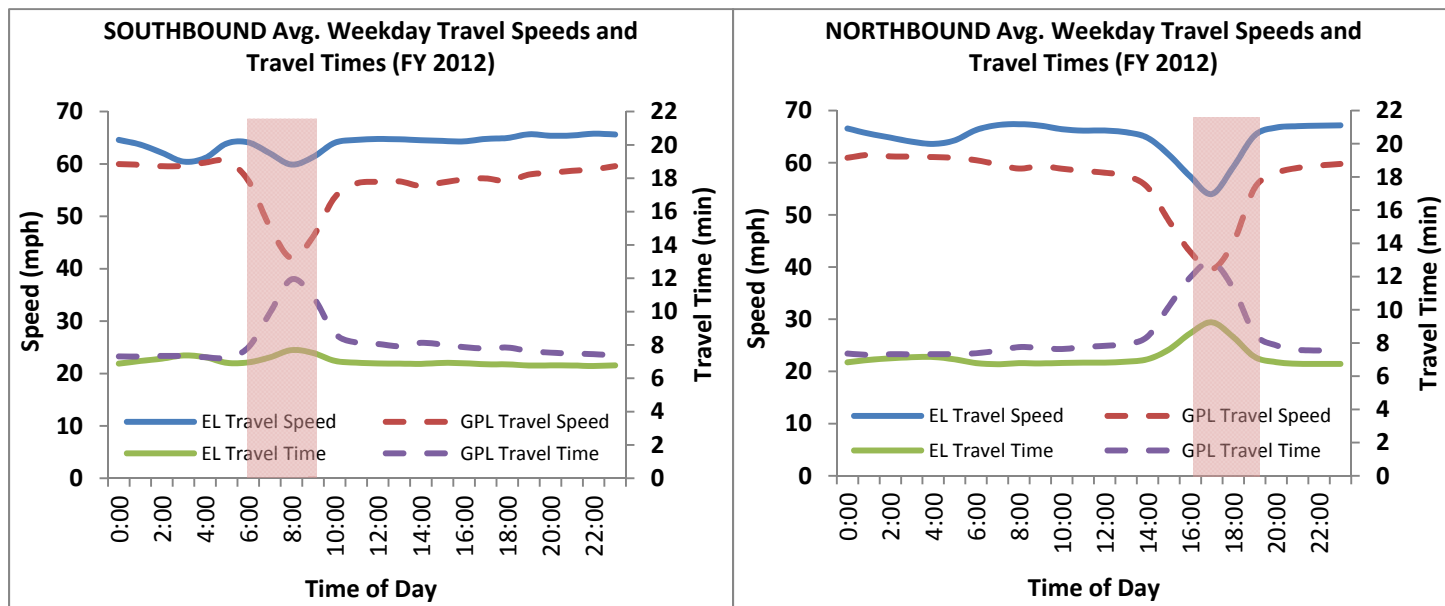
<sup>3</sup>First full year of Operations in both directions.



# FDOT District Six – 95 Express Phase 1 Fiscal Year 2012 Annual UPA Evaluation Report

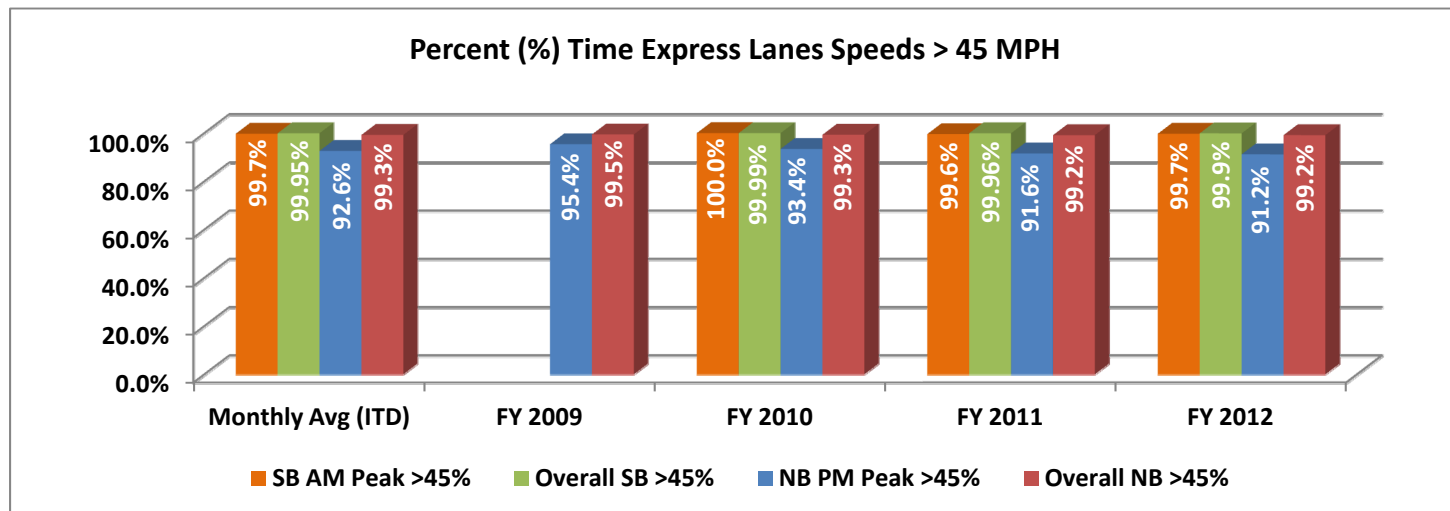


The two graphs below represent the average travel speeds and travel times for all open FY 2012 weekdays on 95 Express, by direction. Since travel times are a function of speed, it is easy to see why the hour-by-hour curves in the graphs “flip flop” – the higher the speed, the lower the travel time. The posted speed for the facility is 55 MPH, which equates to 8.0 minutes of travel time in each direction. The actual average peak period travel time through the 7.33-mile corridor is 7.3 minutes in the southbound EL and 8.7 minutes in the northbound EL. Both of these times are consistent with the previous fiscal year. The highlighted columns represent the AM peak period (6-9am) and PM peak period (4-7pm).



### 3.2. Reliability

Reliability is a major desired goal of the Federal Value Pricing Program. As noted above, speeds increased considerably through the corridor with the implementation of the express lanes and other ancillary systems including ramp metering and improved incident management. Based on a 45 MPH minimum threshold, the graph below shows that on average, the express lanes continue to operate at speeds in excess of the minimum requirement (90%). Though demand within the express lanes continues to grow, as indicated by the volume increases shown in this report, reliability remains fairly consistent year over year. FDOT District Six continuously monitors the tolling parameters, making adjustments to the tolling algorithm when necessary to optimize operations.







### 3.3. Volume Data

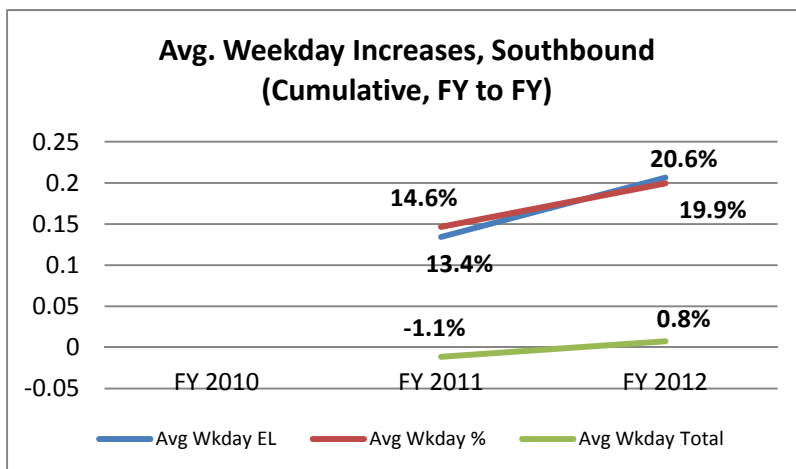
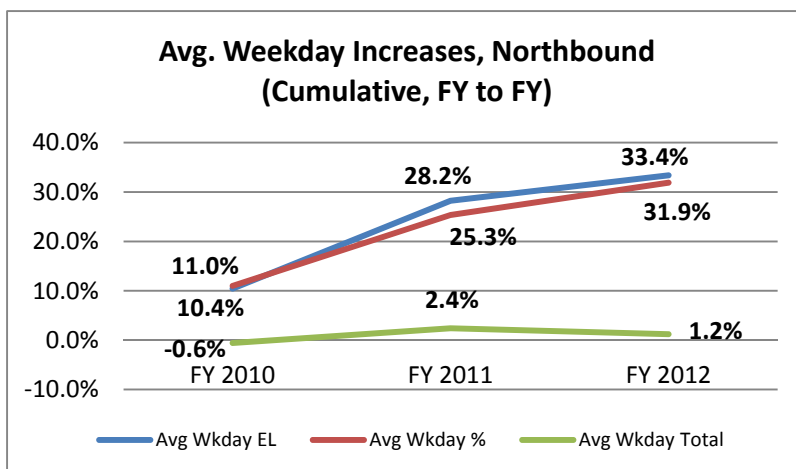
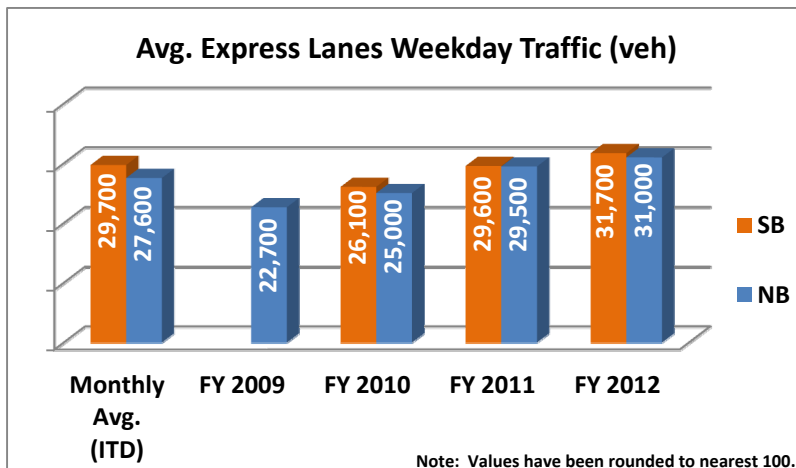
Year over year, average weekday volumes along 95 Express for Phase 1 increased from 59,100 to 62,700 vehicles (a 6% increase); with highest weekdays averaging over 70,600 vehicles for FY 2012. The overall I-95 corridor volume only increased 1% over FY 2011; reflecting a continued shift from GPL lanes to EL use.

Northbound, the average weekday volume for the express lanes increased by over 5% in FY 2012; as shown in the charts in this section. The average weekday express lanes traffic volume was over 31,000; over 24% of the total average weekday traffic through the corridor.

As shown in the middle graph on the right, annual volumes continue to increase within the express lanes – over 33% since opening year – while the overall volume within the corridor, northbound, has only increased 1.2% over the same time period. These are indicated by the blue and green lines, respectively. The red line in between represents the percentage of traffic in the EL compared to the overall corridor (by direction), and further shows the continuous shift of traffic from the GPL to the EL.

Southbound, the express lanes' daily average volume increased over 6% for FY 2012 to over 31,700 vehicles. The southbound express lanes account for over 22% of the weekday traffic along I-95. Similar to northbound, weekday volumes have increased nearly 21% since operations began in 2010, while overall volumes through the corridor southbound have only increased less than 1%. These cumulative increases are indicated by the blue and green lines on the bottom graph to the right.

As in the previous two years, March 2012 produced the highest volumes; nearly 1.9 Million total trips for the month and averaging over 67,000 vehicles weekdays.





# FDOT District Six – 95 Express Phase 1 Fiscal Year 2012 Annual UPA Evaluation Report



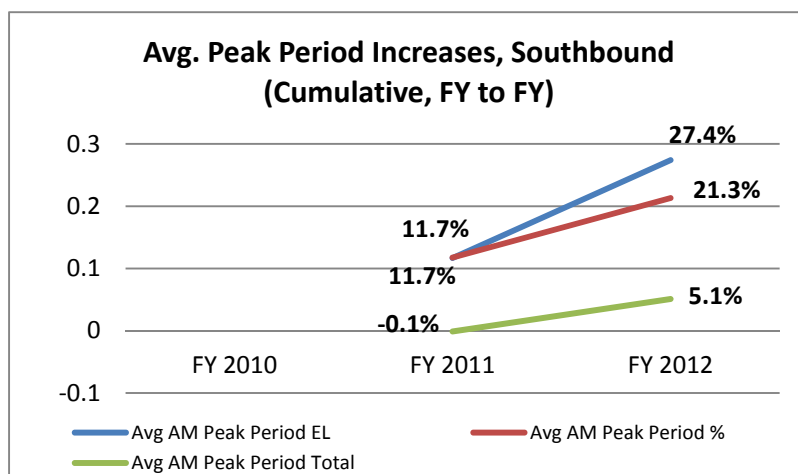
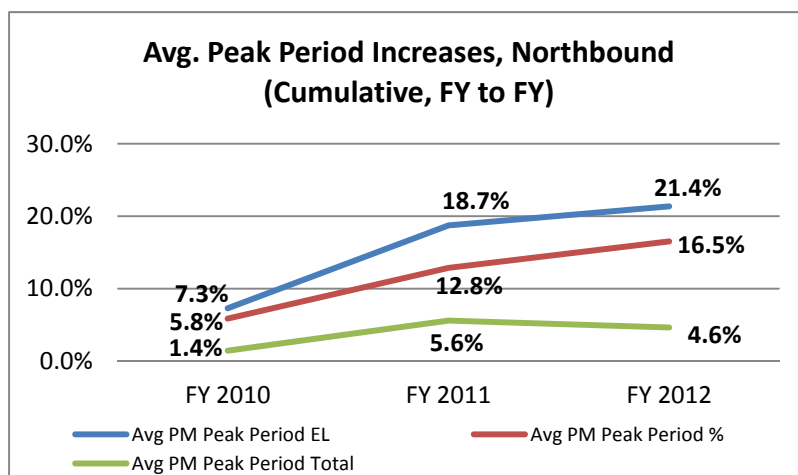
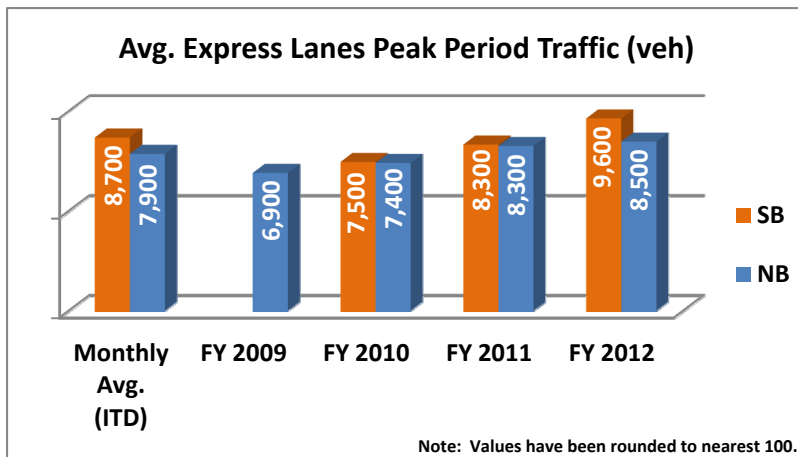
For FY 2012, combined average peak period (weekdays - 6am to 9am, southbound and 4pm to 7pm, northbound) volumes also increased on average year over year. On average, 18,100 vehicles used 95 Express during these times, a 9% increase over FY 2011. The overall I-95 corridor volume (during the peak periods) only increased 1% over FY 2011.

Northbound, the average peak period volume for the express lanes increased nearly 3% in FY 2012; as shown in the charts in this section. The average northbound peak period express lanes traffic volume was nearly 8,500 vehicles per day.

As shown in the middle graph on the right, annual volumes continue to increase within the express lanes – over 21% since opening in December 2008 – while the overall afternoon peak period volume within the corridor, northbound, has only increased approximately 5% over the same time period. These are indicated by the blue and green lines, respectively. For FY 2012, northbound peak period traffic represented 33% of the overall corridor traffic and has increased by nearly 17% since operations began; indicated by the red line in the middle graph to the right.

Southbound, the express lanes' average peak period volume increased nearly 16% in FY 2012 to over 9,600 vehicles daily. In its second full year of operations, southbound express lanes usage has increased over 27% during the morning peak period, while overall corridor volumes have only increased 5% since operations began in January 2010. These cumulative increases are indicated by the blue and green lines on the bottom graph to the right.

These large increases are also indicated by the percentage usage of the express lanes during the peak period. Similar to the northbound afternoon peak period, the morning southbound peak period represents 33% of the overall corridor traffic. This percentage has increased over 21% since southbound operations began, as indicated by the red line on the lower graph to the right.





**FDOT District Six – 95 Express Phase 1  
Fiscal Year 2012 Annual UPA Evaluation Report**



The table below is a year-by-year comparison of average volumes, per hour, per lane. The reduction in general purpose lane volumes during the peak period is consistent with additional volumes realized within the express lanes.

**Average Volume (vphpl)<sup>4</sup>**

	2008 HOV Study <sup>1</sup>				FY 2011 <sup>2,3</sup>				FY 2012 <sup>2</sup>			
	SB		NB		SB		NB		SB		NB	
	HOV	GPL	HOV	GPL	EL	GPL	EL	GPL	EL	GPL	EL	GPL
AM Peak Period	1,548	1,331			1,389	1,535			1,607	1,506		
PM Peak Period			1,455	1,597			1,377	1,394			1,413	1,345
Overall (Weekdays)	--	--	--	--	616	1,085	614	957	647	1,138	643	999

<sup>1</sup>AM Peak Period for 2008 HOV Study was 7:00-9:00am; PM Peak Period was 4:00-6:00pm; HOV was one lane in each direction

<sup>2</sup>AM Peak Period for 95 Express Project is 6:00-9:00am; PM Peak Period is 4:00-7:00pm

<sup>3</sup>First full year of EL operations in both directions.

<sup>4</sup>vphpl: volume per hour per lane

### 3.4. Person Throughput

As part of this effort, FDOT collected average vehicle occupancy (AVO), including Express Bus ridership and traffic volume data to calculate the person throughput of the 95 Express managed lanes and the GPL. The table below is a comparison of the last two I-95 High-Occupancy Vehicle Lane Monitoring Reports<sup>1</sup>, which also report on the express lanes during the peak periods.

**Peak Period<sup>1</sup> Person Throughput Comparison with Express Bus Ridership**

	SOUTHBOUND				NORTHBOUND			
	General Purpose Lanes		Express Lanes		Express Lanes		General Purpose Lanes	
	2010	2012	2010	2012	2010	2012	2010	2012
Volume	6,506	5,960	3,051	3,429	2,594	4,035	7,032	6,862
AVO	1.17	1.19	1.30	1.43	1.45	1.61	1.32	1.14
Person Throughput	7,610	7,092	4,132	4,906	3,829	6,512	9,280	7,795
Lane Group $\Delta/\Delta\%$ <sup>2</sup>	-518/-7%		+774/+19%		+2,683/+70%		-1,485/-16%	
By Direction $\Delta/\Delta\%$ <sup>2</sup>	+256/+2%				+1,198/+9%			
Overall $\Delta/\Delta\%$ <sup>2</sup>	+1,454/+6%							

Source: FDOT 2010 and 2012 HOV Monitoring Reports

<sup>1</sup>Southbound values represent AM Peak Period; northbound values represent PM Peak Period

<sup>2</sup> $\Delta/\Delta\%$  = Change/ Percent Change

The person throughput comparison is consistent with the annual trends for volumes during the peak periods. Traffic continues to shift from the general purpose lanes to the express lanes. Since 95 Express became operational, during the peak periods, person throughput comparisons have shown increases in the express lanes by nearly 6,500 persons daily while just over 600 persons daily in the general purpose lanes.

### 3.5. Safety

Incident (crash) data for 95 Express continues to be a popular request for the Department; specifically, pre-95 Express versus current conditions. The District is currently analyzing this data and hopes to have it available as part of the FY 2013 95 Express Annual Report.



## 4. Revenue / Tolls Statistics

Tolls charged on the express lanes are calculated based on maximizing vehicle throughput, not revenue, using the dynamic pricing algorithm found in the District’s OTM software. The toll amounts are shared with FTE so they know how much to charge each SunPass customer. After applying each toll accordingly, FTE calculates the monthly revenue and toll amount distribution. This report shows the FY 2012 revenue and toll data provided by FTE.

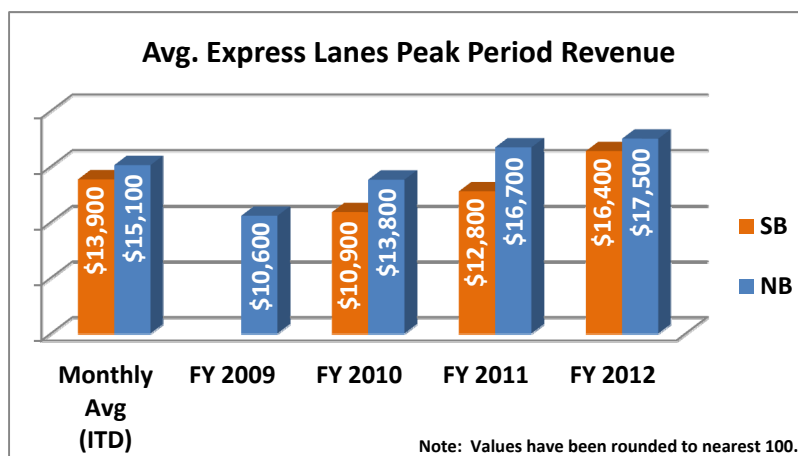
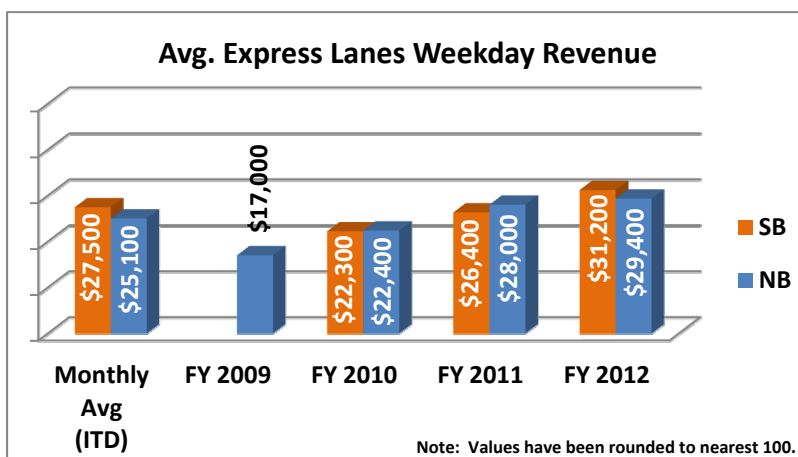
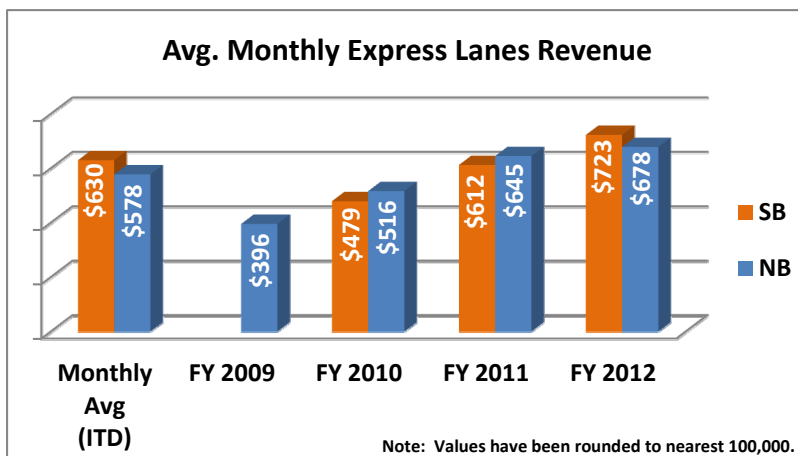
### 4.1. Revenue

During FY 2012, 95 Express Phase 1 was utilized, on average, by over 1.7 million vehicles monthly; averaging over \$1.4 million in revenue each month. As in FY 2011, average weekday revenue again increased over 18% in the southbound EL to \$31,200 daily and the northbound EL average daily revenue increased 5% to approximately \$29,400, on average, per day.

For FY 2012, the PM peak period revenue increased nearly 5% over FY 2011 to over \$17,500 daily; accounting for nearly 60% of the northbound daily weekday revenue. During the AM peak period, revenue increased over 28% to nearly \$16,400 per day, representing approximately 53% of the southbound weekday revenue.

The lower amounts southbound may be explained by the need for lower tolls to maintain desired operations. In addition, there are distinct geometrical configuration differences in each direction. More specifically, the northbound express lanes exit into an existing bottleneck and weaving condition created by the GGI area; whereas the southbound express lanes open up to a wider cross section.

The typical toll amount for weekend EL use was \$0.25. However, average daily revenues increased in each direction in FY 2012 to \$4,500 and \$5,100 per weekend day (southbound and northbound, respectively), reflecting greater weekend usage.





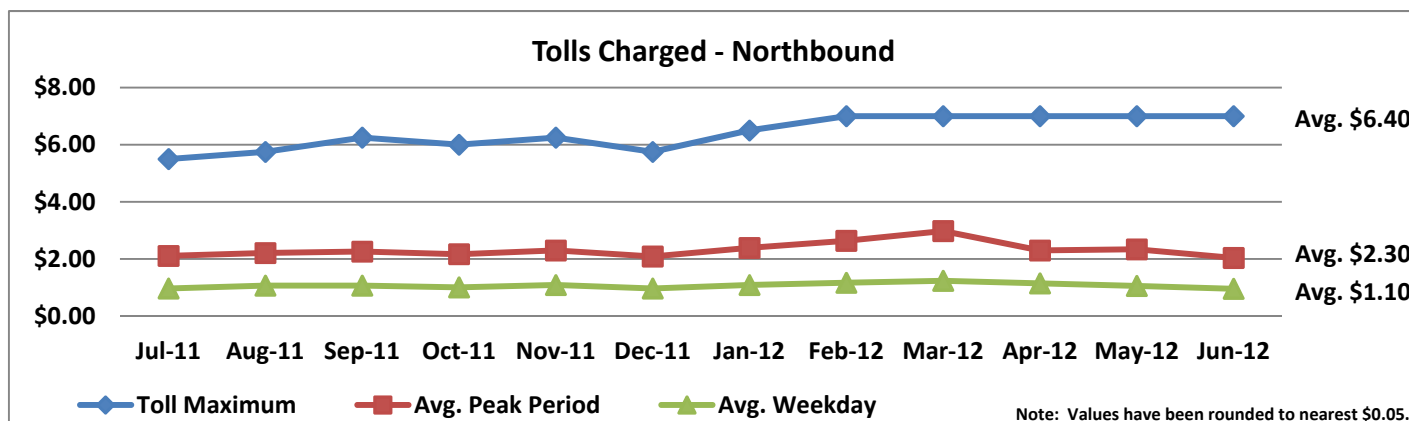
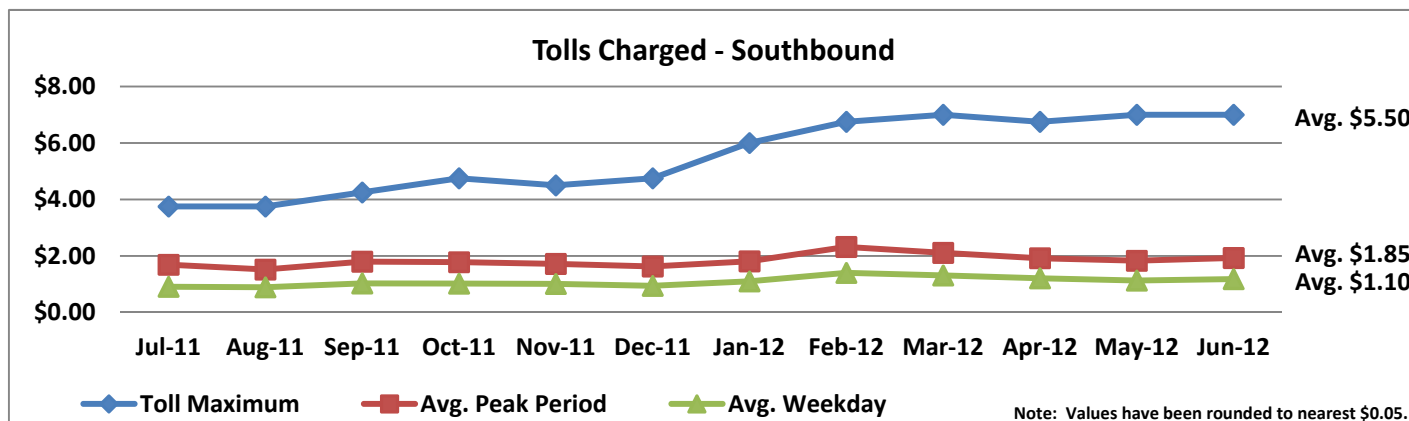


## 4.2. Tolls

In FY 2012, tolls charged ranged from \$0.25 to \$7.00, with 95% of tolls charged being \$3.50 or less. The express lanes are constantly monitored to determine increases or decreases in the number of vehicles accessing the express lane facility (demand) so that the tolls can be changed to maintain speeds of 45 MPH or better to the best extent possible. Change in demand and speeds in the express lanes dictate increasing or decreasing the toll charged. Toll rates are not based on the level of congestion in the general purpose lanes. If congestion in the express lanes is increasing, the toll charged also increases to prevent a level of congestion which will cause a breakdown in service and a reduction in vehicle throughput in the express lanes.

The average tolls for both southbound and northbound were relatively consistent compared to FY 2011, with the exception of the average maximum toll charged for the southbound express lanes, which increased from \$4.25 to \$5.50. From February 2012 on, the maximum toll charged, southbound, was either \$6.75 or \$7.00; the maximum toll charged for express lanes. This is directly attributed to the near 16% increase in southbound peak period volumes; from 8,300 to 9,600 vehicles, on average, daily.

This increase in tolls charged southbound can also be seen in the average toll per mile. Motorists were charged on average \$0.11 per mile (the same for both directions) for the entire day. During peak periods, however, southbound EL average per mile increased from \$0.21 per mile in FY 2011 to \$0.23 per mile in FY 2012. It is believed that the 6:00 am hour in the southbound direction having a typical toll of \$0.25 that is keeping the peak period average lower. The northbound average remained the same for the afternoon peak period at \$0.28, as previous years.





### 4.3. Registrations / Toll Exempt Trips

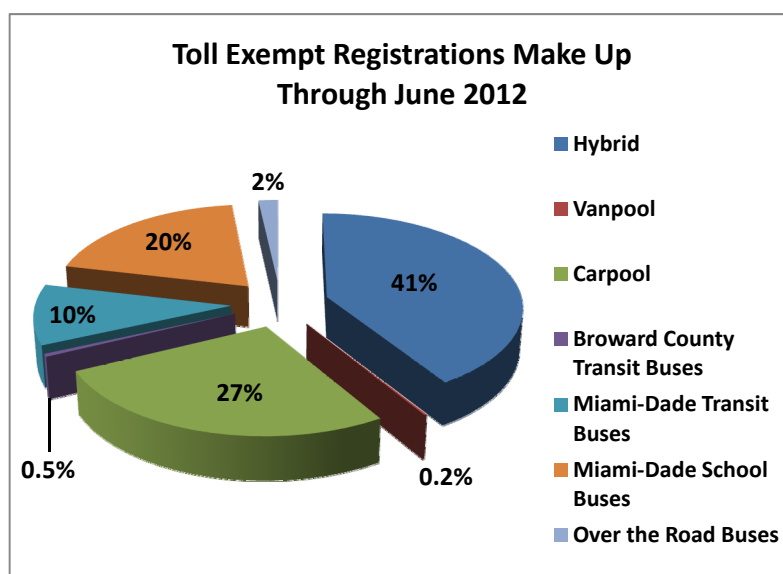
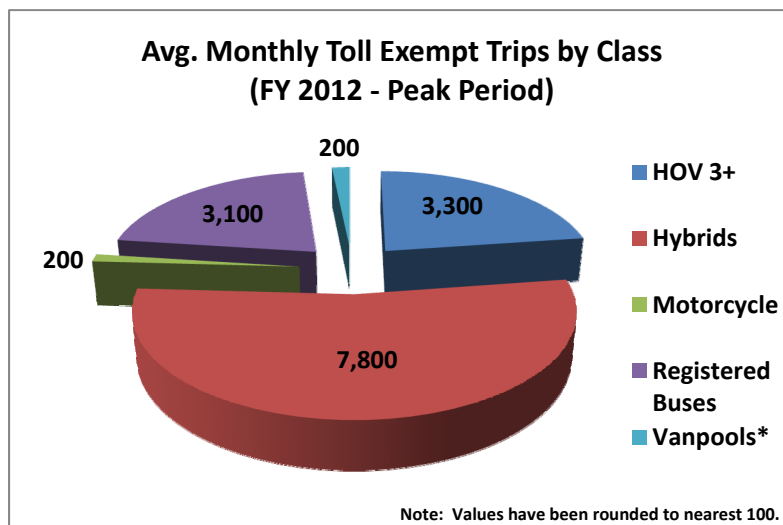
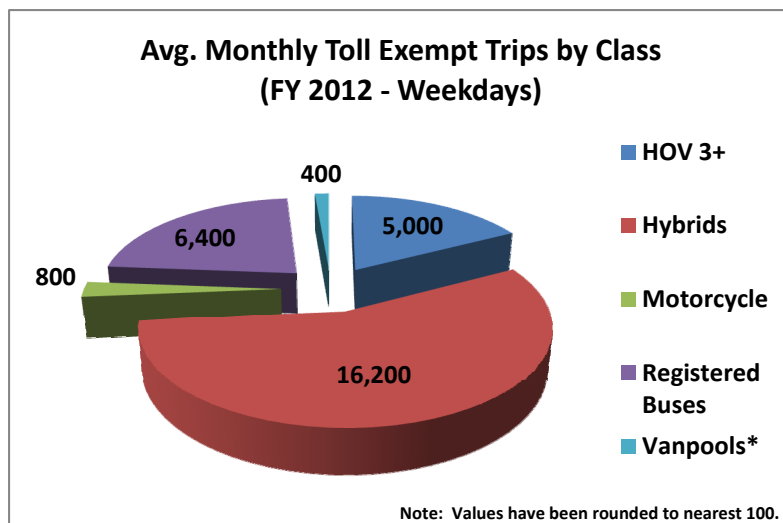
One of the main, if not most important, goals of 95 Express is the eventual travel mode shift from SOV to an increase in ridesharing (i.e., vanpools and carpools) and transit. As future traffic demands and corresponding congestion increases it will be expected that toll amounts will also increase to maintain speed and reliability goals. With increased congestion in the general purpose lanes and higher tolls for EL usage, a mode shift is expected to occur.

To the motorist/commuter making the mode shift, the most obvious benefit is the “toll exempt” or “zero toll” benefit. For the overall operations of the facility, the long term benefit is less vehicles, overall higher person throughput, and reduced emissions.

Toll exempt trips on 95 Express occurs when registered vehicles use the facility. Other than motorcycles and emergency vehicles, which do not have to register, vanpools, carpools of 3+ and qualified hybrid vehicles register their vehicle with South Florida Commuter Services (SFCS) and travel in the express lanes for zero toll. For FY 2012, there were approximately 365,000 exempt trips; 1.8% of the total express lanes trips.

New to 95 Express reporting, monthly exempt trips were further broken down into peak period statistics (middle pie chart on right). The peak period trips (six hours each day) accounted for 51% of the total weekday exempt trips. Hybrid vehicles accounted for 53% of the peak period trips (56% of the overall weekday exempt trips). Registered carpools (HOV 3+) and vanpools accounted for nearly 25% of the peak period exempt trips combined; however, individually, each of these class’s trips represented at least 60% of their overall weekday trips.

Consistent with the previous year, the total registrations increased 2% (over the previous year) through June 2012 to 8,830 exempt vehicle registrations. Ridesharing and transit continue to account for nearly 60% of the total registrations.

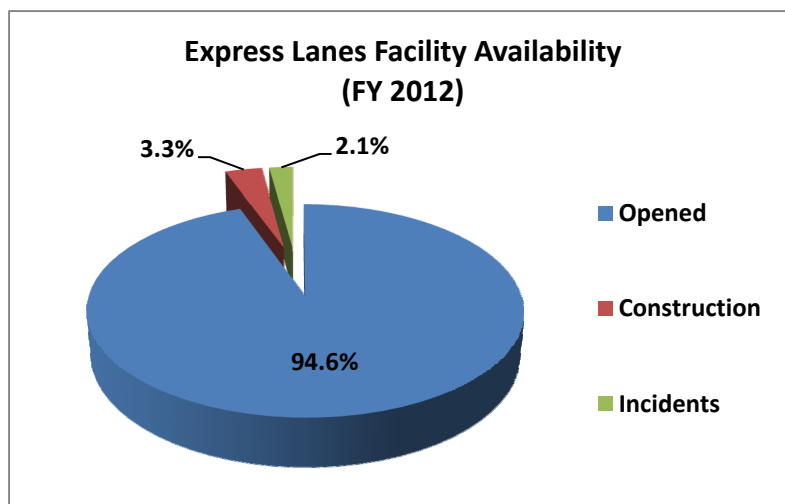




## 5. Facility Availability

Overall, during FY 2012, the 95 Express managed lanes were open to motorists a combined 94.6% of the time, while closed 3.3% due to planned maintenance/construction events and 2.1% due to non-recurring events.

The TMC led a multi-agency effort to develop and implement successful incident management strategies to facilitate the clearance of incidents in and adjacent to the express lanes. With 2,076 lane blockage events within the express lanes in FY 2012, 1,859 incidents caused the express lanes to be closed, on average, for 30 minutes per 24 hour period per direction.



### 5.1. Incident Management

Towards the end of FY 2011, the FDOT District Six ITS Unit modified its procedures for closing the express lanes to include more minor events as closures. This is a direct reflection on why the number of incidents shown below is nearly double for FY 2012. Unplanned incidents, crashes, debris and stalled vehicles in the express lanes - causing them to close - averaged 67 per month southbound and 74 per month northbound. Express lanes closure duration for the unforeseen events lasted approximately 13 minutes for southbound and 14 minutes for northbound, per event. These closure times are upwards of three minutes shorter per event when compared to FY 2011.

#### Planned and Non-recurring Event Totals and Durations (by Quarter)

##### **Planned Events**

Number of Maintenance Closures  
Avg. Event Duration (mins.)

Qtr.1	Qtr. 2	Qtr. 3	Qtr. 4
26	26	26	30
334	339	325	298

##### **Incidents**

Number of Full / Partial Closures  
Avg. Express Lanes Closure Duration (mins.)

Qtr.1	Qtr. 2	Qtr. 3	Qtr. 4
471	372	424	426
12.5	12.5	14.1	13.6

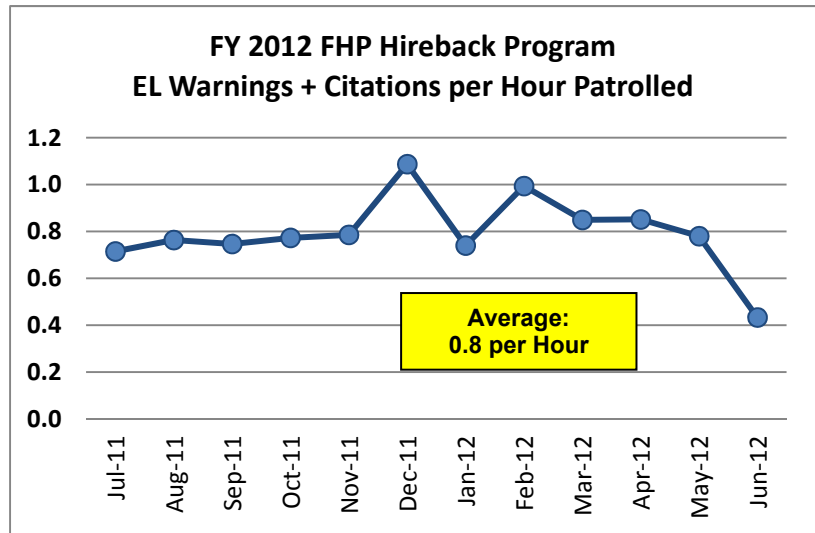
The FDOT District Six continues to bring together representatives from local police and fire rescue, Florida Highway Patrol (FHP), transit, and other traffic incident management team members to discuss and enhance incident management procedures that include guidelines for additional resources, specific multi-agency protocols and quick clearance policies.

In addition to incidents, planned events (i.e., maintenance and construction events) also cause the express lanes to close. On average, there were nine planned events per month combined for southbound and northbound express lanes. These events lasted approximately five and a half hours per event (and mostly occurring during weekend late-nights). These durations are approximately one hour longer, on average, per planned event comparing to FY 2011.



## 6. Enforcement

As part of 95 Express operations, off-duty FHP officers are contracted to provide additional visual enforcement within the express lanes. The graph shown here represents the frequency of violations within the express lanes during the enforcement period - approximately one warning/citation per hour. For FY 2012, approximately 680 hours, on average each month, is funded and paid by FDOT for this service. Toll/HOV violations are the most frequent of the violations issued within the EL, however, these violations decreased in FY 2012 from 35% of the citations to 29%. A Toll/HOV violation occurs when a registered 3+ vehicle is visually seen using the express lanes with less than the required minimum occupancy.



## 7. Equipment Availability

The ITS field devices supporting 95 Express total 161 for Phase 1: 67 closed circuit television (CCTV) cameras; 40 dynamic message signs (DMS) comprised of full matrix signs, lane status signs and toll amount signs; and, 54 microwave vehicle detection system (MVDS) sensors that measure spot speeds, volume, and occupancy of the express lanes, the general purpose lanes and the on-ramps that include ramp metering. Below are the monthly quantities of malfunctions of these devices and their corresponding “up time” or availability. Additional FDOT maintained 95 Express support equipment not reported here includes equipment hubs, communication networks and toll equipment.

The 95 Express ITS device malfunctions are categorized as a failure if the device itself or a communication failure within the network results in no response or an unexpected device response. Either type of failure results in the device being non-available; at which time the TMC operations staff reports the ITS device as malfunctioning to the IT staff. The IT staff reviews all failures and either corrects them or dispatches field maintenance staff for further resolution. For FY 2012, 95 Express Phase 1 ITS field devices performed, on average, as follows:

- CCTV – 19 malfunctions per month; 99.6% availability
- DMS – 13 malfunctions per month; 98.9% availability
- MVDS – 18 malfunctions per month; 97.7% availability

		Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
Device Malfunctions	<b>CCTV</b>	17	26	10	16	14	16	13	8	19	18	37	34
	<b>DMS</b>	19	18	12	14	5	10	18	3	9	10	14	21
	<b>MVDS</b>	10	17	25	24	8	22	24	7	9	15	20	31
	<b>Total</b>	46	61	47	54	27	48	55	18	37	43	71	86
Device Availability (% of time)	<b>CCTV</b>	99.8%	99.7%	99.8%	99.1%	99.6%	99.8%	99.9%	99.9%	99.5%	99.7%	98.9%	98.9%
	<b>DMS</b>	99.9%	99.7%	99.9%	90.6%	99.8%	99.7%	99.8%	100%	99.7%	99.6%	99.5%	98.9%
	<b>MVDS</b>	99.1%	98.3%	90.2%	97.1%	98.6%	98.6%	95.7%	99.8%	99.5%	99.7%	99.2%	97.1%

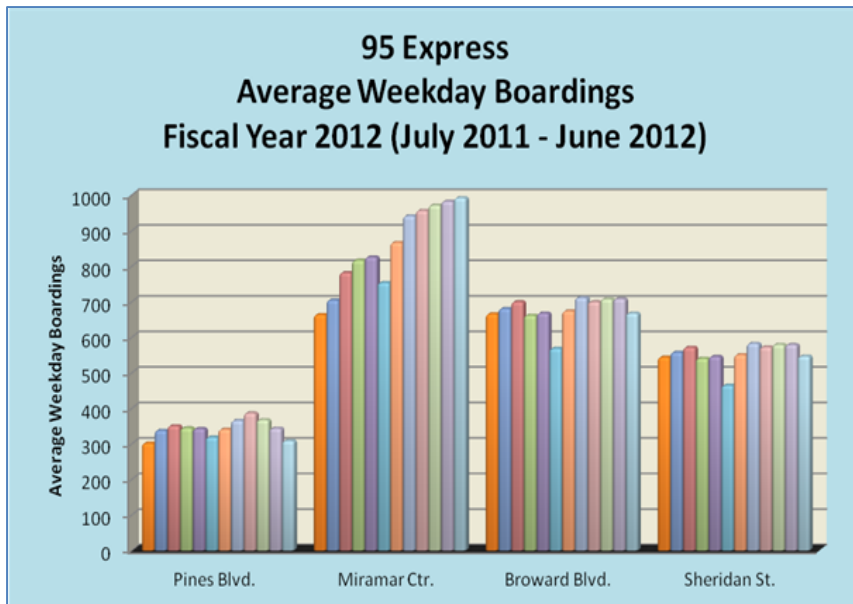
With all Phase 1 ITS field devices operating at nearly 99% combined (the same as FY 2011), this assures that 95 Express continues to collect and disseminate accurate information to its customers; incidental to providing the most accurate data possible for operational conditions and subsequent toll amount determination.



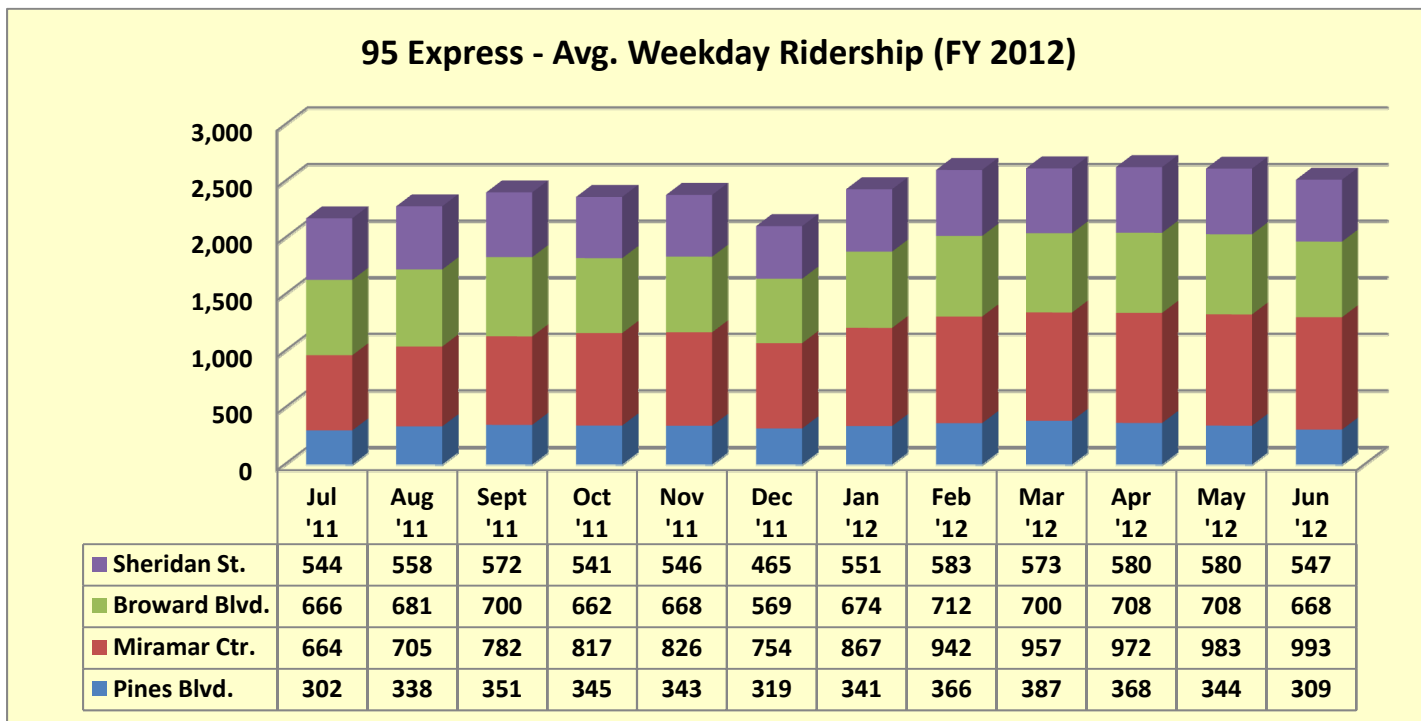


## 8. Transit

Starting in January 2010, new 95 Express Bus Rapid Transit routes were introduced which provides express bus service across the Broward and Miami-Dade County lines. Operated by both Broward County Transit and Miami-Dade Transit, routes began from C.B. Smith Park-n-Ride in Pembroke Pines, the Fort Lauderdale Tri-Rail Station at Broward Boulevard, and the Sheridan Street Tri-Rail Station in Hollywood. A fourth route was introduced in January 2011 from the Miramar Town Center that links Western Broward County to the Miami Civic Center and Downtown Miami. The graph on the right shows the average weekday boardings per route for FY 2012; of which, total ridership has increased 145% since Pre-95 Express.



Since the addition of the new Miramar Transit Center routes, which opened during the second half of FY 2011, average weekday ridership usage went from 1,860 boardings per weekday to 2,430; a 31% increase year over year. April 2012 had the largest average at almost 2,630 boardings per weekday.



Not shown on the chart are the average weekday boardings from the Golden Glades route operated by MDT; 2,290 average weekday boardings in FY 2012. Though this route is part of the 95 Express Bus system, it is not included as part of the Miami Urban Partnership Agreement.

## 9. Public Information

In Fiscal Year 2012, the team ramped up its public information efforts in support of the project’s expansion to Broward County. With construction beginning in November, the team launched a campaign to inform the community about its launch and all related activities. They worked with the media and briefed elected officials, stake holders and community groups to inform them about the scheduled expansion and activities that would impact commute. Additionally, the team continued to focus on supporting operations through customer service efforts. They worked with partner agencies such as South Florida Commuter Services, SunPass® and Miami-Dade and Broward County Transit to continually review customer response process and ensure interagency communication when handling inquiries.

Customer service and on-going public information support was especially critical this year since volumes continued to increase and the maximum rate in the express lanes was charged more frequently. To manage perception, the team continually worked to remind drivers and the general public about the relationship between increased demand and toll amounts. They used social media and called on the local agencies to assist with dissemination efforts. They also hosted public tours, gave various presentations and sent targeted e-mail blasts throughout the year to sustain the message in the public. To further support the project’s standing, the team participated in large-scale industry conferences in where they updated international audiences about its benefits and operations. As a result of the team’s longstanding efforts and focus on public information, the project was recognized at the World Congress on Intelligent Transportation Systems (ITS) with the industry’s most prestigious award. The team was honored with the “Best of ITS Award” under the “Best Innovative Practice” category for the 95 Express Marketing and Outreach Campaign by ITS America. This was the first time in five years a public information campaign was recognized with this honor and marked the second consecutive win for 95 Express as a “Best of ITS Award” recipient.

The following public outreach initiatives were completed in FY 2012:

- **Scheduled Media Interview Days: 9**
  - Local media assisted with public education efforts on topics such as high toll amounts and project expansion.
- **Media Stories Aired or Published: 37**
  - 95 Express was covered by local news agencies and industry publications.
- **Public Presentations and Tours: 29**
  - Team hosted various presentations to national and international audiences.
- **Public Inquiries Answered: 287**
  - Team members responded to a variety of project-related queries such as tolling, ramp metering, transit, access and operations. The FDOT receives most of its public inquiries from the project website; [www.95express.com](http://www.95express.com)



*Rory Santana, P.E., PTOE, receives Best of ITS Award for 95 the 95 Express Marketing and Outreach Campaign at the World Congress in ITS in Orlando, Florida.*

The combination of these activities helped assisted the project’s operations during fiscal year 2012 and paved the way for the team’s support of Phase 2 public information efforts.



## 10. Lessons Learned

Fiscal year 2012 introduced some new lessons learned to help in current and future deployments. For previous lessons learned, see previous 95 Express Annual Reports ([www.sunguide.info/sunguide/index.php/tmc\\_reports](http://www.sunguide.info/sunguide/index.php/tmc_reports)).

### Operations

- **Toll Gantry DMS Removal.** Since 95 Express operations began, much debate has transpired regarding the use and necessity of displaying the toll amount in effect at the toll gantry. Numerous complaints from customers over the years have stemmed from confusion of seeing one toll amount at the decision point to enter the facility (the Toll Amount Signs) and then seeing a different amount at the toll gantry and not knowing which amount they paid. To eliminate this confusion, the Department has decided to not only take out these signs from the Phase 2 design, but also remove the existing Phase 1 Toll Gantry DMS (leaving only the static SunPass® logo). The Department plans to add this conversion into its Public Information campaign for Phase 2.
- **Use of term “Congestion” in Coordination with Higher Tolls.** The Department has started placing “CONGESTION” on the Lane Status DMS prior to the entrance to facility. This has helped drivers who experience free flow conditions at the entrance to the facility even though they see higher tolls at the decision point prior to the entrance. This, in conjunction with the continued effort by the Department to educate the public that higher tolls (even the maximum of \$7.00), does not mean “get to the front of the line quicker.”
- **Demand Drives Higher Tolls.** FY 2012, 95 Express hit the maximum toll of \$7.00 28 times. It had only reached the maximum a total of eight times since inception prior to that. As more travelers choose to use 95 Express versus the adjacent general purpose lanes (as shown in this report), the \$7.00 maximum toll, will not result in providing a reliable trip, causing further breakdown of the facility. Thus, the Department is working to amend the tolling rule to raise or possibly eliminate the \$1.00 per mile ceiling on the toll rate and allow the toll amount to be “market driven.”

### Public Information

- **Centralized Data.** The public’s desire and need for real-life results is in great demand and a central Express Lanes data site that is accessible to all and simple for all to use is imperative. For future projects, including other managed lanes locations, partners should work together to assure a site like this is created, available, and up to date, such that the demand for data can be easily delegated to a central warehouse.

### **10.1. 95 Express Survey Results**

In December 2011, a public survey was distributed to gauge feedback on 95 Express. This was done purposely outside of the reporting period to avoid summer time and to support this report. Distribution included 180,000 SunPass account holders in Miami-Dade and Broward Counties along the I-95, I-75 and State Road 826 corridors. The results are part of an overall stated and revealed preference survey that reflect a sampling of SunPass account holders, research panel members, and employees of the contacted businesses in South Florida. Within the survey, 1,060 respondents reported a trip that used I-95 between the Golden Glades Interchange and State Road 112. The following is an overview of the survey results:

- Of the sampled participants using 95 Express:
  - 78.6% reported faster travel times as their main reason for usage
  - 80.4% believed the express lanes were more reliable than the general use lanes
  - 59.0% believed they were safe, and 57.9% reported 95 Express provided a good value
- Of the sampled participants using both 95 Express and general use lanes:
  - 63.8% support using tolls to fund congestion reduction projects
  - 54.9% “strongly favored” or “favored” 95 Express in the community



## 11. Conclusion

Fiscal year 2012 was the second full year of bi-directional operations of 95 Express. Along with the positive survey results shown within, continued volume increases also show that customers are seeing a value in using 95 Express, even during the most congested periods. And, even as the facility saw increased volumes over the previous reporting period, all major goals for the project were either met or exceeded. Revenue increased 11% over the previous year because the market (demand) continues to drive the price to use the facility. The Department's concern with this trend is that the current toll rules have a ceiling on how much can be charged, which is not allowing the lanes to be optimized (hence provide a reliable trip) during times of high congestion.

The project is improving southeast Florida mobility by making more transportation options more attractive for commuters to use, such as transit and ride-sharing. It implemented a first in Florida traffic management system, like ramp metering, and introduced innovative incident management resources to help provide free-flow conditions and safety for all travelers on I-95. The successful implementation of 95 Express Phase 1 in Miami-Dade County solidified the need to introduce innovative programs that provide cost-effective and multi-faceted approaches to congestion management for improved sustainability in urbanized areas. Recent feedback gathered supports this notion, with nearly 60% of sampled 95 Express users reporting the project provides good value and 80% believing that 95 Express is more reliable than the general use lanes.

The Project Team hopes that this pilot project continues to provide useful information for use by others and looks forward to working with any group who wishes to benefit from our experiences.

Lastly, the Florida Department of Transportation District Six would like to thank its UPA Partners for their continued efforts and contributions to the success of 95 Express:

- Broward County Metropolitan Planning Organization
- Broward County Transit
- Florida Department of Transportation District Four
- Florida's Turnpike Enterprise
- Greater Miami Chamber of Commerce
- Miami-Dade County Metropolitan Planning Organization
- Miami-Dade Expressway Authority
- Miami-Dade Transit
- South Florida Commuter Services
- South Florida Regional Transportation Authority, and
- U.S. Department of Transportation

*For more information about 95 Express, please contact the Program Manager, Mr. Rory J. Santana, P.E., PTOE, at [rory.santana@dot.state.fl.us](mailto:rory.santana@dot.state.fl.us).*