

final report

95 Express Midyear Report

Project Status for Urban Partnership Agreement

prepared by

**Florida Department of Transportation
District Six
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date

October 30, 2009

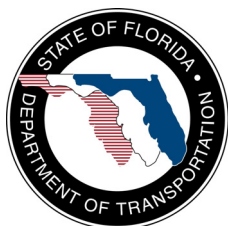




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Acronyms

AVOAverage Vehicle Occupancy	HOTHigh Occupancy Toll
CCTVClosed Circuit Television	HOVHigh Occupancy Vehicle
CUTRCenter for Urban Transportation Research	I-95Interstate 95
DMSDynamic Message Sign	ITSIntelligent Transportation Systems
ELExpress Lanes	MDTMiami-Dade Transit
ELWExpress Lanes Watcher	MPHMiles Per Hour
FDOTFlorida Department of Transportation	MVDSMicrowave Vehicle Detection System
FHPFlorida Highway Patrol	SFCSSouth Florida Commuter Services
FHWAFederal Highway Administration	SOVSingle Occupancy Vehicle
FTEFlorida’s Turnpike Enterprise	SRState Road
GGIGolden Glades Interchange	TMCTransportation Management Center
GPLGeneral Purpose Lanes	UPAUrban Partnership Agreement



1. General Summary

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

Of 95 Express’ three phases, Phase 1A is open and is a two-lane, delineator separated, 6.2 mile segment of northbound I-95 between State Road (SR) 112 / I-195 and the Golden Glades Interchange (GGI) in Miami-Dade County.

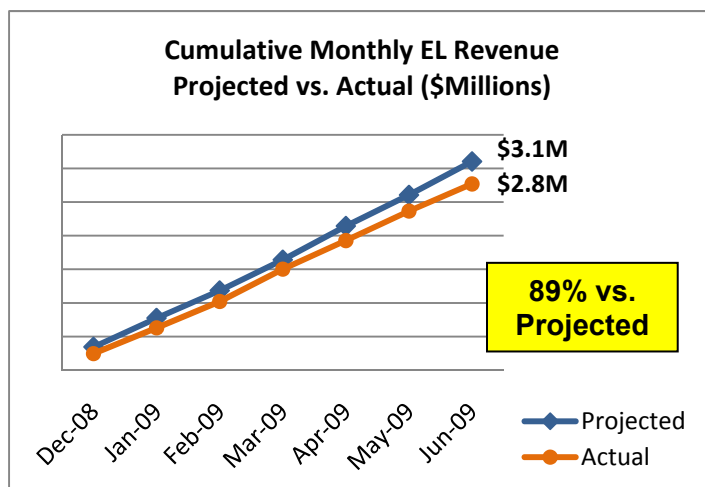
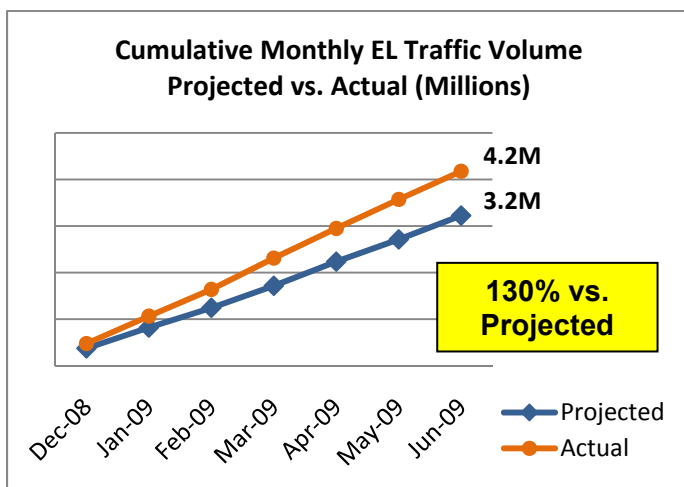
In addition to providing general information to the Urban Partnership Agreement (UPA) partners, other agencies and to the public, this midyear evaluation report covers assigned performance measures in the October 2008 UPA and Congestion Reduction Demonstration (CRD): National Evaluation Framework. The reporting period displayed in this document represents the first day of tolling, December 5, 2008 (unless otherwise noted), through the first six full months of operations - June 30, 2009.

The program has considerably improved the overall operational performance of I-95. Customers choosing to use the express lanes (EL) have significantly increased their travel speed during PM peak periods (4pm-7pm) – from an average speed in the HOV lane of approximately 20 MPH to a monthly average of 57 MPH to date. Drivers travelling via the general purpose lanes (GPL) have also experienced a significant PM peak period increase in average travel speed since implementation of 95 Express – from an average of approximately 20 MPH to a monthly average of 41 MPH.

Average volume along the express lanes in the PM peak period (4pm to 7pm) was nearly 7,000 vehicles (approximately 28% of the total I-95 northbound traffic). These vehicles traveled at speeds greater than 45 MPH over 95% of the time. The federal requirement for HOV to HOT lane conversion is 90% for 45 MPH speeds during the peak period.

From tolling inception to June 30, 2009, the 95 Express Lanes has also:

- Remained open to motorists 95.5% of the time.
- Serviced approximately 4.2 million vehicle trips (130% actual vs. projected) of which over 46,000 were registered toll exempt trips by over 7,000 registered vehicles.
- Had total revenue of approximately \$2.8 million (89% actual vs. projected).



- Charged tolls that ranged from \$0.25 to the highest toll for the month of \$5.00 (April 2009). The average monthly maximum toll charged was \$3.64. Approximately 85% of the customers were charged \$1.61 or less.

- Seen increased 95 Express Bus ridership (transit) by an average of 30% between the first three months of 2008 and the first three months of 2009. This is despite a decrease in excess of 5% in overall Miami-Dade Transit (MDT) ridership. According to the Center for Urban Transportation Research (CUTR), this significant increase coincided with express lanes implementation in December 2008.

Operationally, a minimum of one operator is dedicated to monitoring the corridor and the newly developed, dynamic pricing software – Express Lanes Watcher (ELW) – 24 hours per day, seven days per week. Overall, operations and maintenance costs for the facility were approximately \$3.25 million over the reporting period.

Through June 2009, FDOT has participated in numerous technical sharing activities showcasing 95 Express and the ELW software. Participants have included Federal Highway Administration (FHWA), regional transportation authorities and metropolitan planning organization committees from other states, as well as engineering consulting firms.

The public was also surveyed to gauge feedback by daily users of I-95 through the corridor. The results of a May 2009 survey that was distributed to commuters showed that:

- 76% of those who have used 95 Express believe it is a more reliable trip than the general purpose lanes; and,
- 58% of commuters familiar with the express lanes would like to see express lanes developed on other roadways in southeast Florida.

Additionally, the results of a media coverage evaluation indicated that public perception of the project improved once the project was fully operational.



95 Express northbound entrance from I-95 mainline (on the right) – the left lane brings express lanes traffic from SR 112.

2. Introduction

Description

95 Express converts the single High Occupancy Vehicle (HOV) lanes into two express lanes while maintaining the same number of general purpose lanes. The project also enhances and expands 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 artery.

The express lanes will operate as HOT lanes that drivers can choose to use. Tolls will vary with the level of congestion, the goal being to keep traffic in the express lanes moving at a minimum speed of 45 MPH.

Registered vanpools, registered carpools of 3+, registered hybrid vehicles and motorcycles can use the express lanes without paying a toll. Buses of several types can also use the express lanes toll-free — Miami-Dade County and Broward County express and regular transit, public school and over-the-road. Trucks of three or more axles will not be allowed to use the express lanes.

The project is being implemented under two construction contracts in three phases. Phase 1A is open and runs northbound on I-95 from SR-112 to the GGI area just north of NW 151st Street in Miami-Dade County. Phase 1B will open in early 2010 and will run southbound on I-95 from the GGI area to I-395. Phase 1B will also extend the northbound express lanes further to the south from SR 112 to I-395. Phase 2 will create HOT lanes in both directions on I-95 between the GGI area in Miami-Dade County and I-595 in Broward County.

Purpose

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. Ultimately, it will create more travel options and encourage the use of ridesharing and transit alternates.

The project provides a new transportation choice offering congestion-free and reliable travel on I-95. South of the GGI, the highway carries over 290,000 vehicles per day, with traffic volumes expected to exceed 360,000 vehicles per day by year 2030. Traditional widening or supply-only strategies are not only cost-prohibitive, but result in significant social and environmental impacts. 95 Express is a multimodal, congestion management strategy and is the first of its kind in Florida.

The first of its kind in the state, this managed lanes project 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. 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 ITS infrastructure and an electronic toll collection system.



Express Lanes Operations

In preparation for 95 Express operations, the Department's TMC in Miami updated its procedures, optimized its resources, and developed software applications to support daily operations. 95 Express introduced the State of Florida to its first congestion pricing system with a mechanism for variable tolling. 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 TMC responded to this need by developing a supplemental software application to implement dynamic pricing capabilities ahead of FDOT's original schedule.

The software, aptly titled "Express Lanes Watcher", has several functions. The application collects real-time traffic data from the express lanes, compares it to historical data and analyzes this information to dynamically generate tolls based on traffic density within the express lanes. The algorithm used in this logic is guided by project-specific rules which enable the software to recommend toll changes every 15 minutes in order to maintain free flow conditions along the express lanes. Express lanes operator actions are tracked by the ELW providing a means for ensuring quality control. Additionally, the ELW is capable of extracting data to perform specific analysis as needed for a variety of purposes, such as reporting of system performance, customer inquiries, and trends.



Express Lanes Operator monitors and manages 95 Express with CCTV cameras and the Express Lane Watcher software.

In addition to the new software, the Department and its partners also developed new operating procedures and training materials for TMC Staff and other agencies participating in the daily operations of the express lanes (i.e., Florida Highway Patrol).

Financing

Phases 1A & 1B are projected to cost \$121.5 million. The project received \$62.9 million from a USDOT UPA grant, of which \$19.5 was for transit. An additional \$35 million was allocated by the Florida Legislature. The balance of funding will come from future toll revenues. Consequently, the contract issued for construction was a Design, Build, Finance with some of the cost being carried by the contractor.

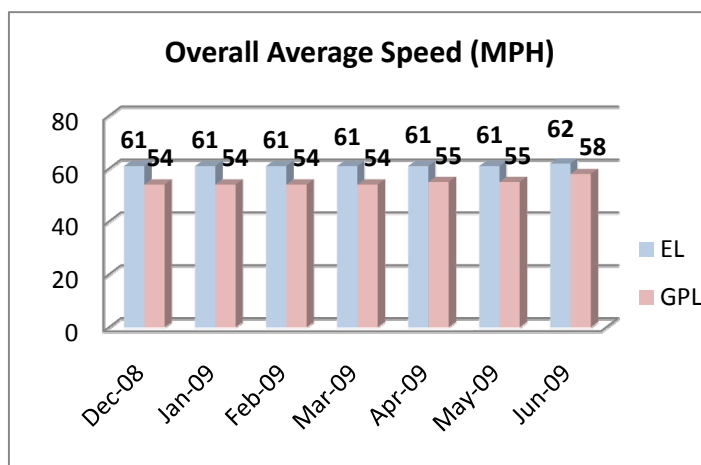
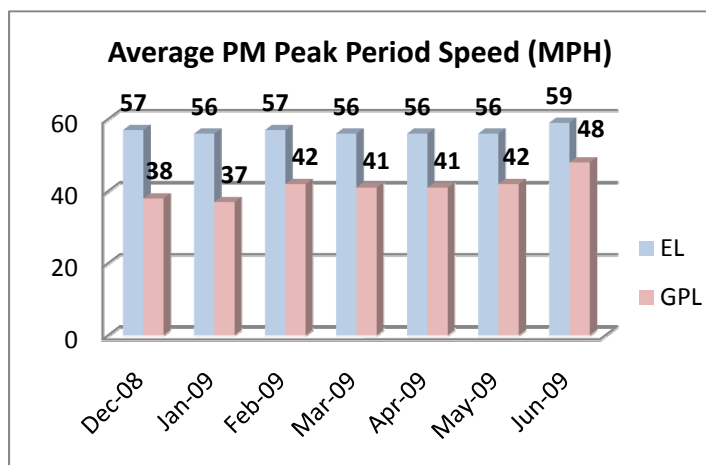


3. Operations / Traffic Statistics

All of the traffic statistics (i.e., speed and volume) shown in this report are comprised of data collected individually, but in cooperation, between District Six and Florida’s Turnpike Enterprise (FTE) for 95 Express Phase 1A. The speed data is collected by 29 vehicle detection sensors located throughout the corridor and generated by District Six’s ELW 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, the media and other interested parties.

3.1. *Speed / Travel Times Data*

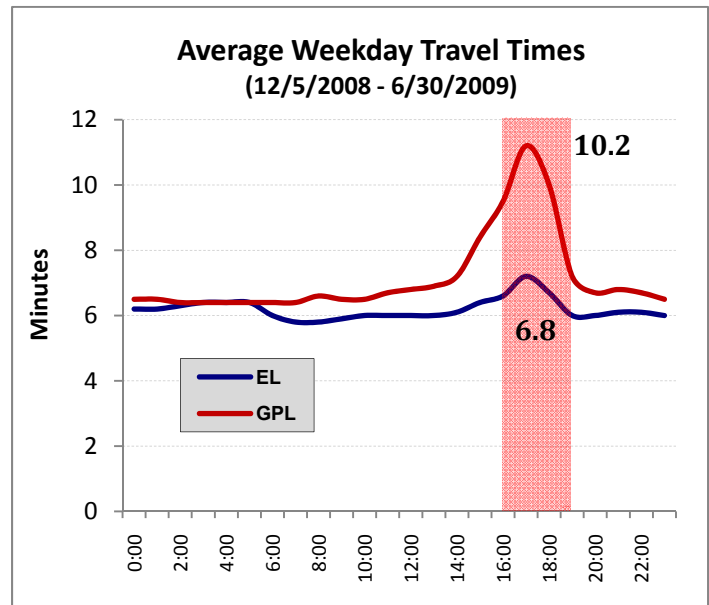
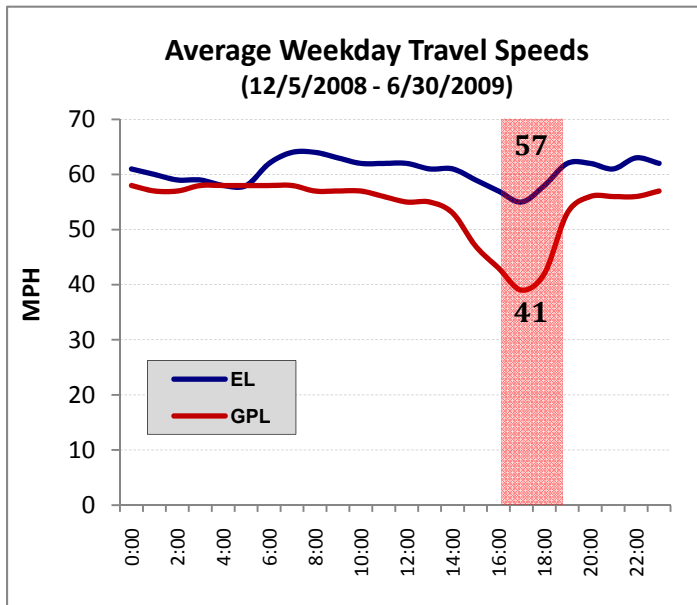
95 Express operated on average 16 MPH above the general purpose lanes during the PM peak period (4pm to 7pm), five MPH greater during the weekend and six MPH greater overall.



In 2009, travel speeds along both the express lanes and the general purpose lanes increased significantly through the corridor. The express lanes operated at PM peak period speeds approximately 39 MPH faster than the average HOV lane speeds in 2008. It is important to note that the two-lane managed lane facility functioned as a single lane HOV facility in 2008. The travel speeds increase in the 95 Express managed lanes helped move vehicles, on average, 14 minutes faster through the corridor during the PM peak period.

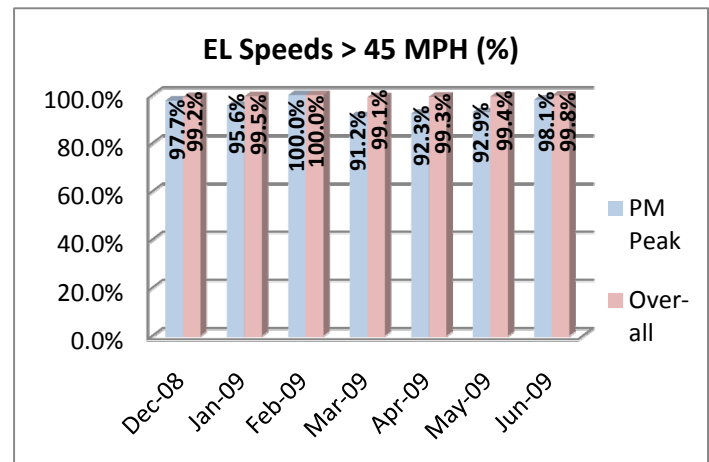
Speeds during the PM peak period in the general purpose lanes were nearly 23 MPH faster than in 2008 (with the same number of lanes) resulting in decreased PM peak period travel times by almost 11 minutes per trip. In February 2009, FDOT began operating ramp signaling along designated northbound onramps through the corridor. This project aided in the increased averaged general purpose lanes’ speeds, as shown in the graph on the left, above.

The top two graphs on the following page represent the average travel speeds and travel times for all weekdays since tolling began on 95 Express. 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 6.7 minutes of travel time. The actual average travel time through the 6.2-mile corridor is 6.2 minutes in the express lanes. The highlighted columns represent the PM peak period (4-7pm) and the figures shown represent the speeds and travel times within the PM peak period, respectively.



3.2. Reliability

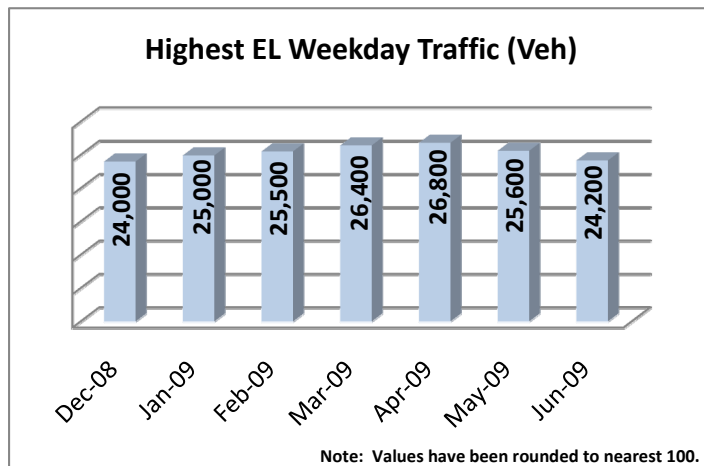
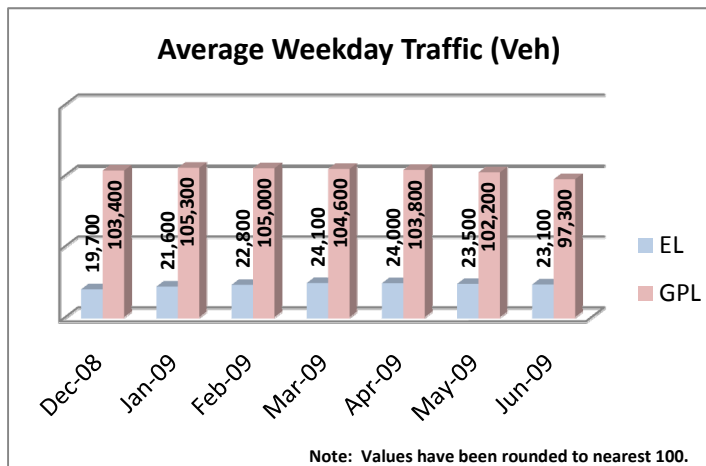
As noted above, speeds increased considerably through the corridor with the implementation of the express lanes. However, as set forth in the federal requirements, increased reliability is the desired goal. Based on a 45 MPH minimum threshold, the graph on the right shows that on average, the express lanes operated at speeds in excess of the minimum requirement 95.4% during the PM peak period and 99.5% all of the time.



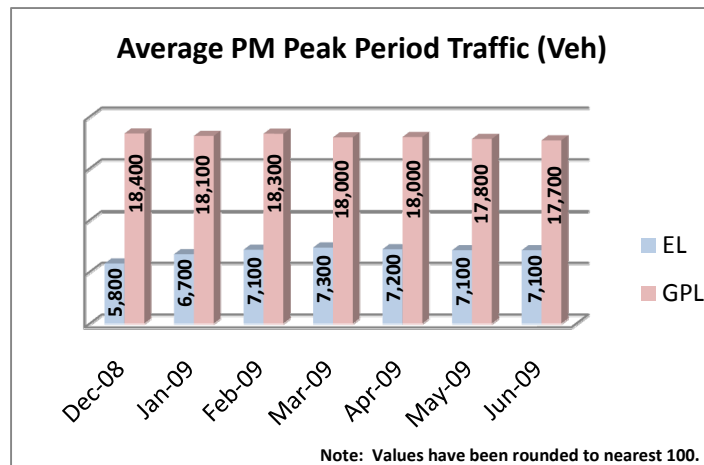


3.3. Volume Data

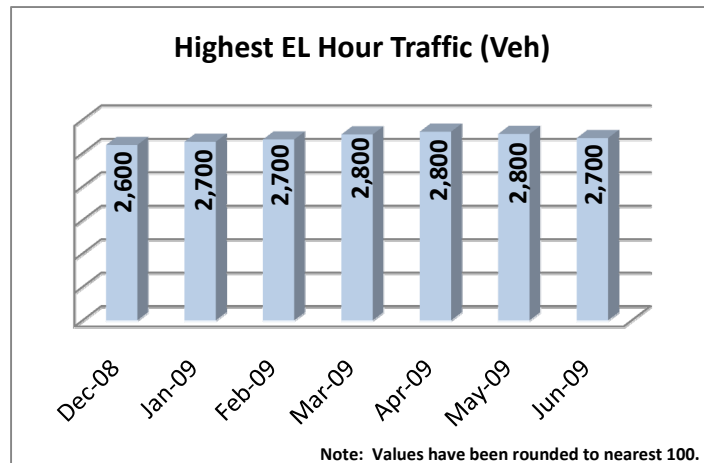
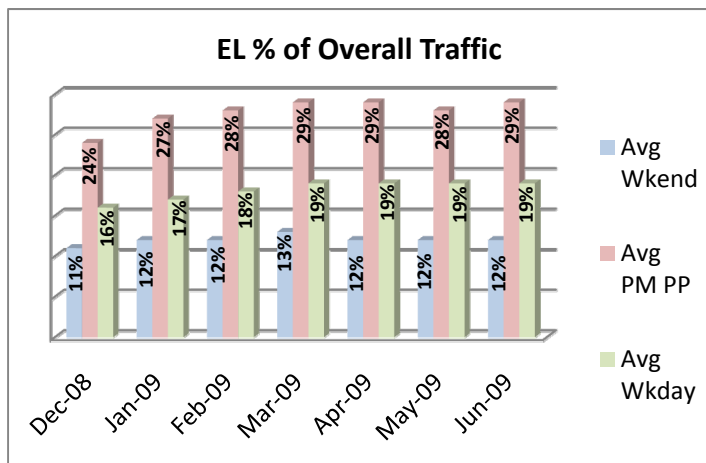
The volume data for the express lanes has been very consistent since tolling began; as shown in the charts in this section. The average weekday express lanes traffic volume was over 22,600 and nearly 103,100 in the GPL. The highest weekday traffic occurred in April 2009 and was over 26,800 vehicles. The average highest weekday for each month was just under 25,400 vehicles.



Average PM peak period (4pm to 7pm) traffic volume was 6,910 (EL) and 18,064 (GPL), making the express lanes traffic 27.7% of the total traffic during the PM peak period. The highest hourly volume each month was also very consistent at just over 7,300 vehicles.



The average weekend traffic was roughly 13,300 vehicles per day. This reflects feedback from the public that even when they normally would not expect a time savings, they still choose to use the express lanes as a better “driver experience.”





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 PM peak period data was then compared to the 2008 HOV Study in accordance with the UPA framework. The table below summarizes the findings.

PM Peak Period Person Throughput Comparison with Express Bus Ridership

	HOV/Managed Lanes		General Purpose Lanes	
	2008	2009	2008	2009
Volume (4-5 PM)	1,343	2,322	6,303	6,863
AVO (4-6 PM)	1.95	1.39	1.40	1.39
Person Throughput	2,618	3,228	8,824	9,540
Lane Group Δ / $\Delta\%$	+610/+23%		+715/+8%	
Overall Δ / $\Delta\%$	+1,325/+12%			

There was a significant decrease in the AVO from HOV (2008) to HOT (2009) as would be expected by allowing single occupancy vehicles (SOVs) to use the surplus capacity in the managed lanes. To quantify this, person throughput in the HOV/managed lanes increased 23% in spite of the reduction in AVO as the increase in volumes compensated for the lower AVO. The general purpose lanes also experienced higher volumes when compared to 2008, resulting in an 8% increase in person throughput. Overall, the person throughput increased by 1,325 or 12% with the introduction of the managed lane facility.

3.5. Safety

95 Express has not been in operation long enough to collect any significant crash data. However, day to day monitoring of the facility and evaluations of incidents to date has not indicated any safety concerns. Additionally, clearance time for crashes along the entire facility have decreased significantly and while this is certainly a direct result of improved incident management practices, it may also reflect a reduction in the severity of crashes since 95 Express opened.

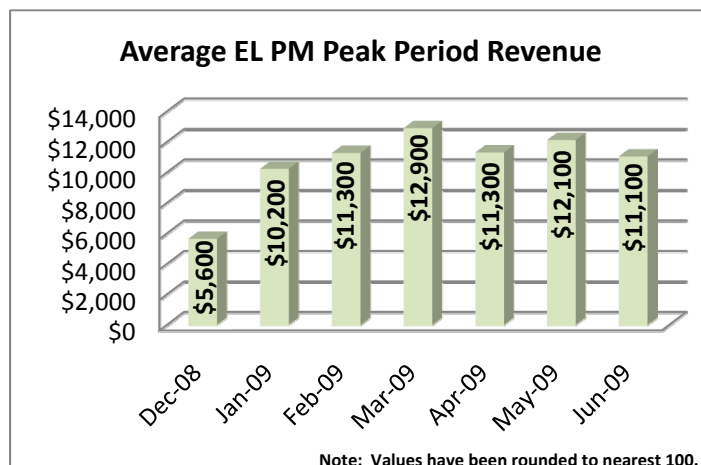
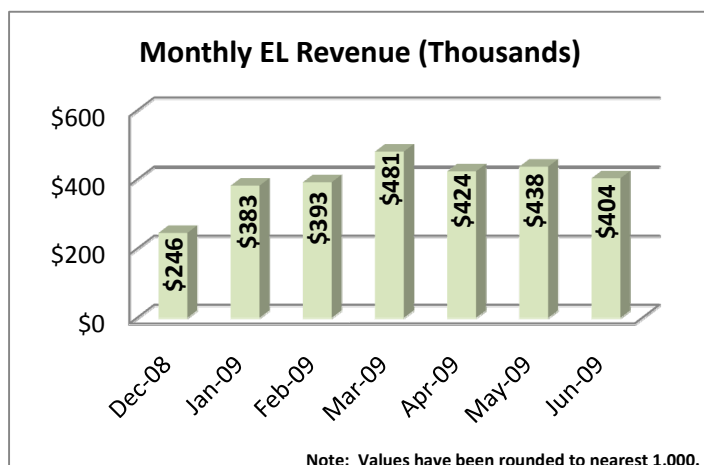


4. Revenue / Tolls Statistics

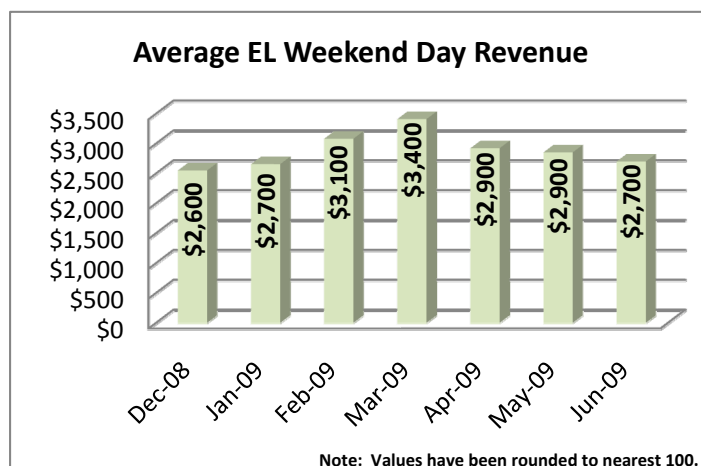
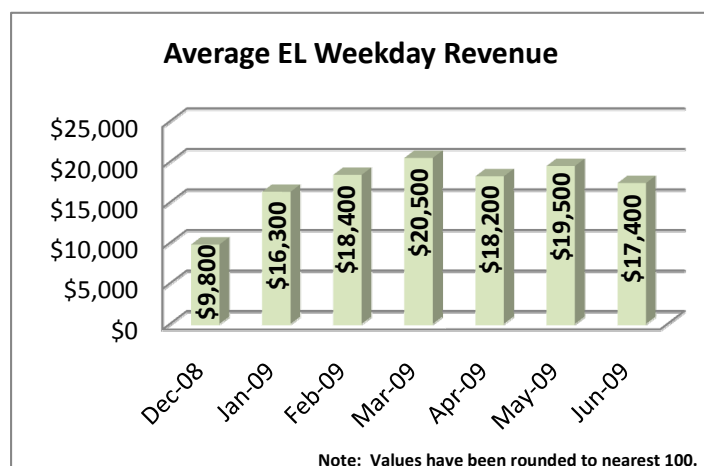
The revenue and tolls statistics shown in this report are also comprised of data collected individually, but in cooperation, between District Six and FTE. The tolls charged on the express lanes are calculated based on maximizing vehicle throughput using the dynamic pricing algorithm found in the District’s ELW software. The tolls are shared with the FTE through a “middleware” so that SunPass™ knows how much to charge as each vehicle passes beneath the toll gantry. FTE summarizes all of the applied tolls, tolled and toll-exempt trips, and gross revenue into monthly performance measure reports and delivers them to District Six.

4.1. Revenue

Approximately 55% of 95 Express’ average monthly revenue comes from the PM peak period. The average PM peak period revenue is nearly \$10,700 from just over 6,900 vehicles travelling 95 Express between 4pm and 7pm daily.



The three-hour, PM peak period revenue accounted for 62% of the average weekday revenue. This is not to say that the facility is not being used during off-peak and weekends when congestion is lighter. 95 Express traffic on the weekends still accounted for approximately 12% of the overall I-95 monthly volume; however the average toll charged was \$0.25.



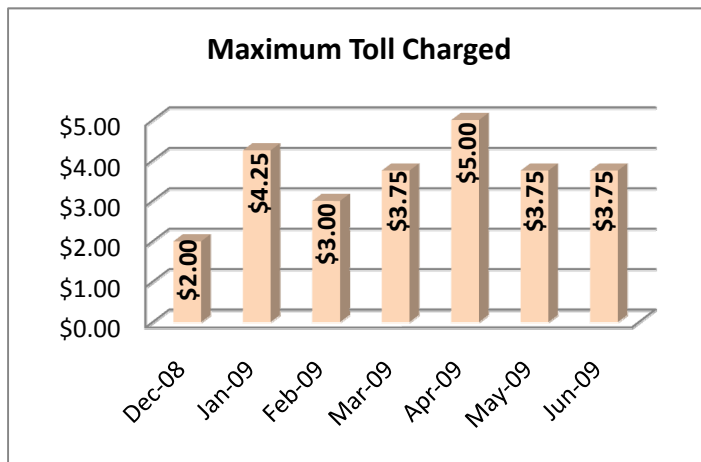
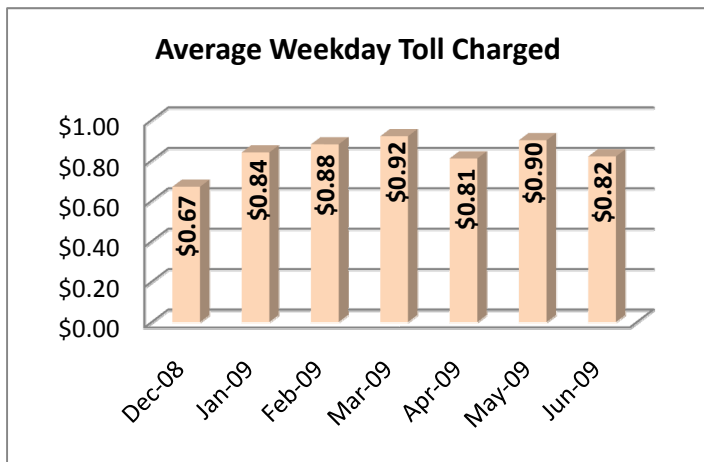


4.2. Tolls

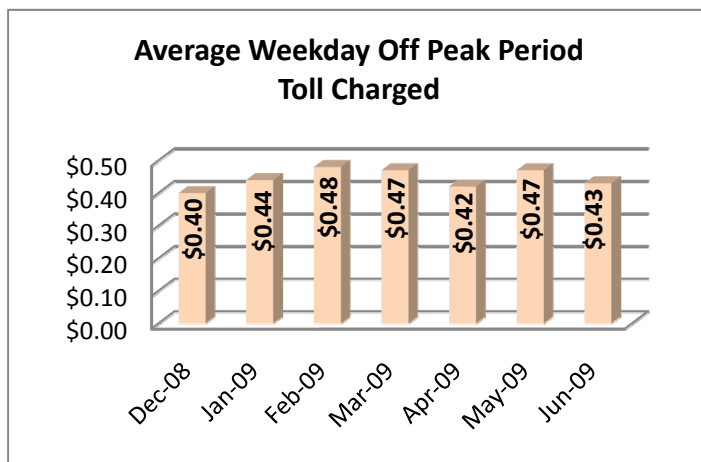
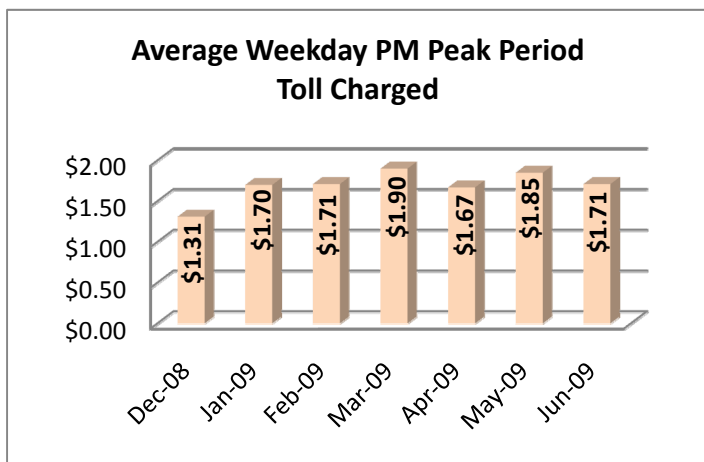
The express lanes are constantly monitored to determine increases or decreases in the number of vehicles accessing the express lane facility (demand) so that the tolls can be changed to maintain speeds of 45 MPH or better. Change in demand and speeds in the express lanes dictate increasing or decreasing the toll charged. Tolls 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.

Though the month of March had the largest average weekday toll charged at \$0.92 per vehicle, traffic density within the managed lanes on Thursday, April 16, 2009 produced the express lanes' highest toll charged to date, \$5.00, for a period of 22 minutes. Travel speeds on the express lanes and general purpose lanes during this time were 34 and 26 MPH, respectively, possibly due to an incident inside of the GGI area, which affected the toll charged in order to return to free flow conditions. The toll was already at \$3.00 by 5 PM that day (the actual peak hour of the facility) and it took until almost the end of the PM peak period (6:40 PM) for the toll to drop back down below \$2.00.

Aside from this extreme scenario, the average weekday toll charged to 95 Express users was \$0.83 and the average maximum monthly toll was \$3.64.



The average PM peak period and off peak period tolls charged to 95 Express users were \$1.69 and \$0.44, respectively. Even though PM peak period vehicles in the express lanes represented approximately 28% of the overall weekday PM traffic volume, 85% of all users were charged on average \$1.61 or less per trip; nearly the same as the average PM peak period toll. One graphic not shown, "Average Weekend Toll Charged" depicted that the average charge per vehicle equaled the minimum charge of \$0.25.





4.3. Registrations / Toll Exempt Trips

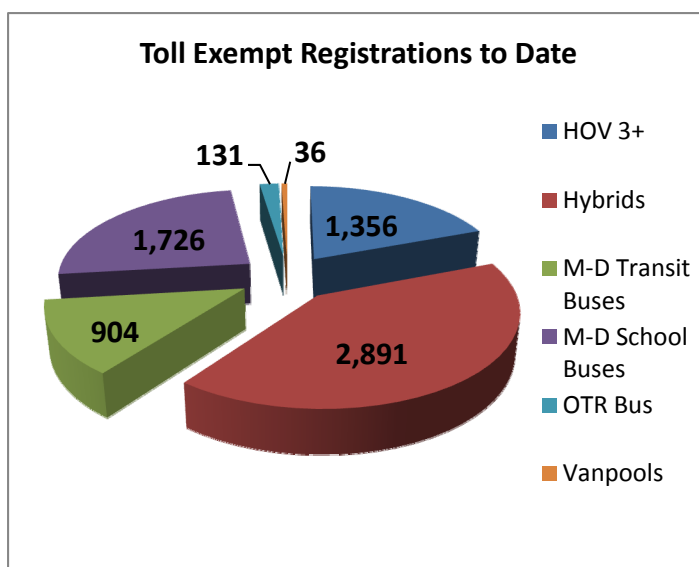
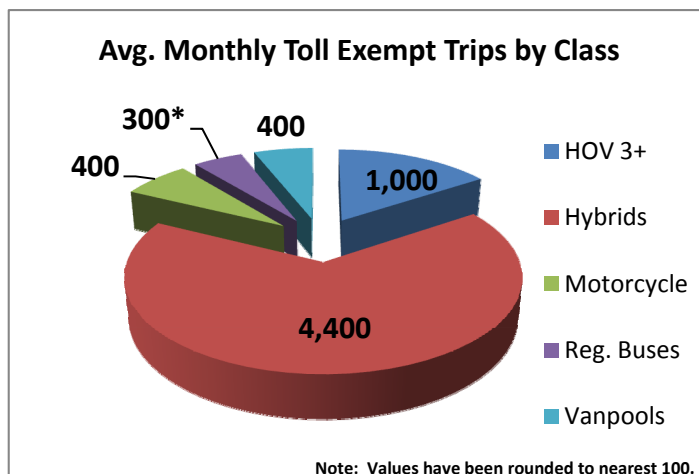
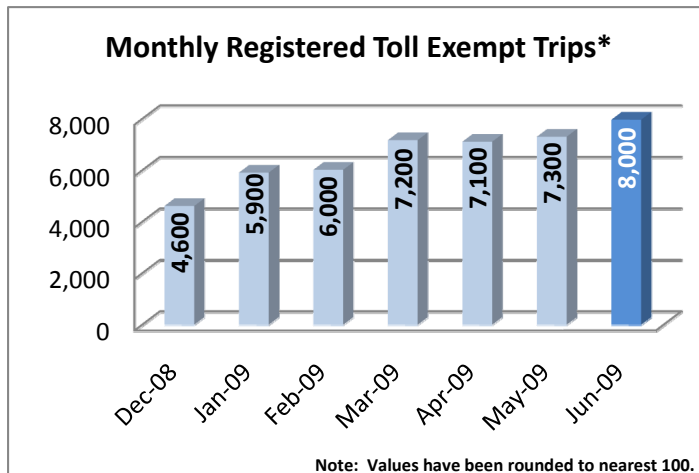
A toll exempt trip on 95 Express occurs when a registered vehicle uses the facility. Other than motorcycles and emergency vehicles which do not have to register, vanpools, carpools of 3+ and qualified hybrid vehicles register their SunPass™ transponder with South Florida Commuter Services (SFCS) and travel in the express lanes for zero toll.

As shown on the right, 95 Express, on average, has nearly 6,600 toll exempt trips per month, which only represent 1% of the total trips each month. However, as part of the goals of 95 Express, a travel mode shift from SOV to an increase in ridesharing (i.e., vanpools and carpools) and transit use is anticipated long term. The most obvious benefit being the “zero toll” benefit; the long term benefit is less vehicles, overall higher person throughput, and reduced emissions.

Ridesharing and transit use accounted for nearly 27% of the average monthly toll exempt trips. This percentage should continue to rise as the 95 Express Bus ridership continues to increase as shown in Section 8 of this report.

*Transit utilization was severely under-reported through nearly the entire reporting period due to an unrealized classification omission in the data collection. Real values for transit trips are closer to 1,100 trips per month since the correction was made (starting June 2009, as indicated by the dark blue bar in the top graph).

The total registrations through June 2009 was 7,044. High occupancy modes of travel (ridesharing and transit) account for nearly 60% of the total registrations. This may well be a product of increased FDOT and SFCS marketing for these modes promoting cost and times savings.

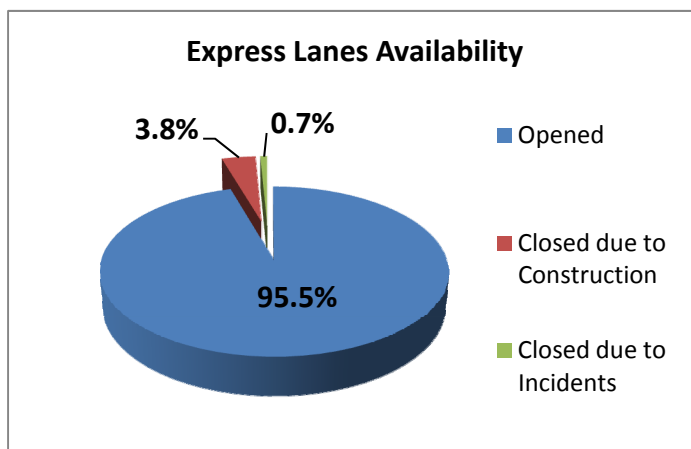




5. Facility Availability

Since tolling inception, the 95 Express managed lanes were open to motorists 95.5% of the time, while closed 3.8% due to planned construction and 0.7% 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 159 incidents occurring in the express lanes from opening to June 30, 2009, 130 of these incidents caused the express lanes to be closed on average for 10 minutes per 24 hour period.



5.1. Incident Management

On average, there were 15 construction events per month lasting approximately six hours per event (and mostly occurring during weekend late-nights). Incidents in the express lanes averaged 23 per month, lasting approximately 20 minutes per event. This short duration is largely attributed to the District’s incident management plan for 95 Express, as highlighted below.

Monthly Planned and Non-recurring Event Totals and Durations

Planned Events

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

	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
Number of Maintenance Closures	17	13	18	12	18	12	12
Avg. Event Duration (mins.)	312	294	398	351	446	367	367

Incidents

Number of Full / Partial Closures
Avg. Lane Blockage Duration (mins.)

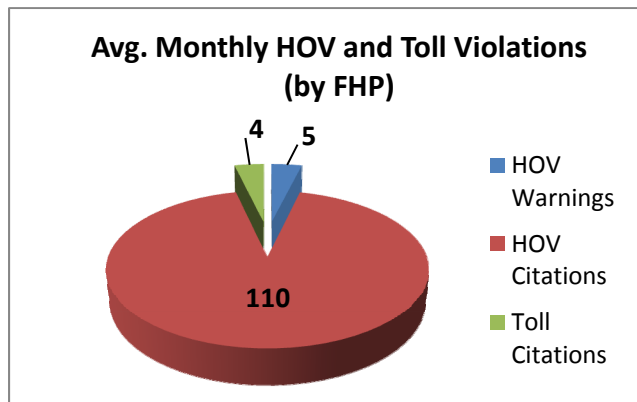
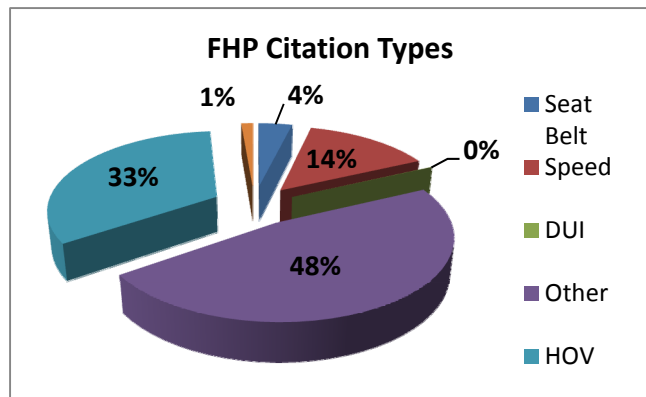
	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
Number of Full / Partial Closures	27	12	22	29	27	23	19
Avg. Lane Blockage Duration (mins.)	19.0	13.6	20.4	16.3	13.6	41.9	19.5

District Six led a multi-agency workshop that brought together representatives from local police and fire rescue, Florida Highway Patrol (FHP), transit, and other traffic incident management team members to develop an incident management plan that included guidelines for additional resources, specific multi-agency protocols and quick clearance policies. The additional resources included FHP troopers for 95 Express, a specially equipped incident response vehicle, and a flat-bed tow truck. The TMC also developed and conducted training for FHP troopers on quick clearance policies as well as specific maintenance of traffic strategies for events that impacted both the express lanes and general purpose lanes. These incident management strategies proved to be successful by reducing the travel lane blockage duration in the express lanes by over 45% and response times by 15%.



6. Enforcement

As part of 95 Express operations, off-duty FHP officers are contracted to provide additional visual enforcement within the express Lanes. The first graph represents the percentage breakdown of all citation categories for calendar year 2009. The second graph represents the average monthly HOV and toll violations.



A HOV citation warning or citation is given when a registered 3+ is visually seen using the Express Lanes facility with less than the required occupancy. A toll citation is given when a non-exempt vehicle is visually seen using the facility without a transponder.

7. Equipment Availability

There are 49 Intelligent Transportation Systems (ITS) field devices supporting 95 Express Phase 1A: 12 closed circuit television (CCTV) cameras; 18 dynamic message signs (DMS), which are comprised of full matrix signs, lane status signs and toll amount signs; and, 29 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.

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 them to field maintenance staff for further resolution. Since 95 Express Phase 1A tolling inception, the ITS field devices have performed, on average, as follows:

- CCTV – 8 malfunctions per month; 95.5% availability
- DMS – 5 malfunctions per month; 99.4% availability
- MVDS – 44 malfunctions per month; 92.8% availability

With all Phase 1A ITS field devices operating at above 95% combined, this assures that 95 Express is collecting and disseminating accurate information to its customers.

		Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
Device Malfunctions	CCTV	2	1	1	3	4	15	27
	DMS	1	0	0	4	1	15	16
	MVDS	94	39	30	53	17	16	61
	Total	97	40	31	60	22	46	104
Device Availability (based on time)	CCTV	91.2%	100%	100%	92.8%	91.4%	95.4%	97.5%
	DMS	100%	100%	100%	100%	100%	97.8%	97.7%
	MVDS	80.9%	91.2%	92.8%	94.7%	99.0%	98.6%	92.6%



8. Transit

Transit service on I-95 between downtown Miami and the GGI is operated by MDT. Branded as the '95 Express', this express bus service connects northern Miami-Dade County with downtown Miami. The I-95 managed lanes (express lanes northbound, HOV lane southbound) provide the central trunk section of all 95 Express routes, which then branch off onto surface streets to serve various locations at either end. An evaluation of the impacts of Miami UPA Phase 1A on transit services was conducted by CUTR producing a report titled "Miami Urban Partnership Agreement (UPA) Project Phase 1A - Transit Evaluation Report". The evaluation was based on the comparison of transit operations from January to March 2008 (Pre-Deployment) with January to March 2009 (Post-Deployment) using data provided by MDT. Two on-board surveys were conducted by FDOT in May 2008 and May 2009 to gauge the impact of the project on user perceptions. The transit evaluation report also draws upon information from FDOT's I-95 Lane Monitoring Reports in order to assess the impact on transit mode share. This section summarizes the transit evaluation report's main findings.

Transit Service Performance:

- Northbound transit travel times have decreased significantly between downtown Miami and GGI (from 25 minutes to 8 minutes on average) since the 95 Express Lanes implementation.
- Bi-directional transit service reliability levels (measured in terms of on-time performance) have remained unchanged.
- User perceptions of the already highly rated 95 Express service have been further improved, with statistically significant improvements in user perceptions of travel time, reliability, and seat availability.
- Parking capacity at GGI is fully utilized and may be limiting potential growth in corridor ridership.

Transit Service Usage:

- 95 Express ridership has increased by an average of 30% between the first three months of 2008 and the first three months of 2009, with a significant increase coinciding with 95 Express Lanes implementation in December 2008.
- Boardings per revenue mile on the 95 Express bus have increased by 40%, indicating a significant increase in productivity.
- Net corridor bus ridership decreased by 4.6% and system wide MDT ridership decreased by 5.2%. These declines reflect system wide service cuts and fare increases, likely coupled with economic recession and lower gasoline prices. Thus, net corridor boardings per revenue mile have remained constant.
- Transit mode share within the managed lanes decreased from 15% to 12.3% due to a significant increase in the number of SOVs in the managed lanes, though transit mode share for the whole I-95 facility remained relatively unchanged (3.6% in 2008 and 3.5% in 2009).

Overall, 95 Express has had a positive impact on the transit services that use I-95, significantly improving northbound travel times between downtown Miami and the GGI, as well as improving customer perceptions of an already highly rated service. While these improvements in performance appear to have induced a significant increase in ridership on the transit services using I-95, this has not translated into corridor level ridership gains. This is due to MDT's system wide service cuts and fare increases, likely coupled with low gasoline prices and economic recession. Within this context, the ridership gains observed on the 95 Express bus service are even more impressive, though transit mode share within the 95 Express Lanes has actually reduced slightly due to a significant increase in the number of SOVs using the managed lanes. Finally, it should be noted that most 95 Express users are commuters on daily round trips, and as such still have to endure high levels of traffic congestion in the southbound direction. Thus, the competitiveness of the 95 Express service as a round trip commute mode versus the private auto cannot be fully realized until the southbound direction is similarly improved under Phase 1B of the project.



9. Lessons Learned

FDOT performed interviews with over thirty project team members from various agencies within the Miami-Area Urban Partnership, project consultants, and construction personnel. Agencies included FHWA, FTE, Broward County Transit, and MDT. The majority of the interviews were conducted prior to the toll implementation of Phase 1A. The following aspects of the project were identified as best practices for future managed lane projects.

Overall Project

- **Define a strong project vision** - Expect the concept and design to be challenged and influenced throughout the project. Having a clear understanding of the project's purpose and goals will provide for consistent decision-making throughout. As part of the vision, identify your target market. The regional long distance commuter is the target market for the 95 Express lanes.
- **Establish a comprehensive schedule** - The UPA Application schedule and resultant project schedule has been very aggressive. In response, aspects of planning, design criteria development, and operations were performed simultaneously rather than in an iterative manner.

Institutional and Organizational Approach

- **Develop a concept of operations early** - A concept of operations for the corridor provided direction and guidance for the planning, design, and implementation of the managed lane system. Identifying operational challenges early and engineering solutions as early as possible provides for more seamless transition into implementation. Issues specific to this project included incident management, toll collection, and transit operations.
- **Involve design/operations professionals in planning process** - Given the project schedule and need for quick implementation, it was imperative that design/operations/construction professionals had opportunity for input in the planning process.

Project Management

- **Provide project manager with direct authority** – 95 Express involved professionals from numerous disciplines and agencies. In order to fast-track the project, it is important that team members are able to take direction directly from the project manager regardless of the decision making protocol of a particular agency.
- **Consider using current contract consultants** - The managed lane project took advantage of current FDOT general engineering/general planning contracts to perform a majority of the efforts for this project. The use of these contracts reduced/eliminated time for specific scope development, advertising, and consultant contract selection/execution.

Technical Data/Information Sharing

- **Anticipate transit technical challenges** - The incorporation of transit added significant value to the project from a local and national perspective. Technical issues included terminal facility access and circulation, on-site bus operations, and the procurement of new transit vehicles. FDOT partnered with the local agencies by establishing task teams and roles early in the process.

Outreach/Media

- **Keep public officials informed of project changes** -The fast-track schedule of this project made keeping public officials up to date difficult. Changes in design and operational plans occurred quickly in the process. Keeping officials informed is critical in maintaining political support for the project.
- **Be prepared for a shift in marketing approach to that of selling a product.** Transportation agencies developing a new facility of this type may need to make a paradigm shift from their typical approach of informing the public of a construction project – which often is defensive – to that of a corporation selling a product that the public will value highly and want to purchase.



Based on these interviews, the implementation of the 95 Express has been a success, made possible by the coordinated hard work of a large group of professionals. 95 Express has demonstrated successful implementation of a new and complex concept. It is the first example for Florida of a multidisciplinary fast-tracked project being developed in a physically constrained corridor by implementing a new congestion pricing management concept in a previously toll-free corridor. The project has successfully met the UPA goals of implementing the project rapidly to manage congestion. Key elements to this success appear to include a clear project vision, a strong project manager supported by a qualified and knowledgeable team with an innovative and flexible approach, and a commitment to proactive outreach to the community.

In addition to this study, FDOT conducted numerous meetings with partners (i.e., other districts and FHP) regarding operations of the facility. Coinciding with the end of the reporting period for this report, the Department received feedback and lessons learned from the FHP. Some of the recommendations included:

- Additional DMS for the sole purpose of letting motorists know the current travel times through the corridor.
- Additional speed limit signs along the inside shoulder reminding motorists that the posted speed limit for the express lanes is the same as the general purpose lanes.
- Providing a list of “repeat toll offenders” to FHP in order to assist them to maximize enforcement capabilities.

The recommendations listed above are currently under review by the Department for further discussion with the 95 Express partners to be implemented in future 95 Express phases.

9.1. 95 Express Survey Results

In May 2009, a survey was distributed to commuters in the South Florida Region to gauge feedback on the I-95 Express Lanes (Northbound). Distribution included 160,000 SunPass account holders in Broward and Miami-Dade Counties, 30,000 SFCS database participants, 28,000 Miami-Dade County government employees via their newsletter, and 126 employers along the I-95 corridor. 9,156 individuals participated, 8,986 of which have traveled on I-95 in Broward or Miami-Dade County in the last six months.

The following is an overview of the survey results:

- Of the participants that use I-95 to commute to work, 67% have used the express lanes. Of those, 33% use the express lanes 4 – 5 times per week.
- Of the participants that use I-95 for non-commuting purposes, 78% have used 95 Express.
- 92% of survey respondents are familiar with express lane access using SunPass.
- 76% of those who have used 95 Express believe it is a more reliable trip than the general purpose lanes.
- 58% of commuters familiar with the express lanes would like to see express lanes developed on other roadways in southeast Florida.



10. Conclusion

Through an Urban Partnership Agreement, U.S. DOT awarded southeast Florida funds that made it possible to accelerate the implementation of 95 Express. The Florida Department of Transportation and its regional partners brought forth Phase 1A of the project quickly by optimizing resources, including existing infrastructure. And, despite the already positive benefits described herein, the true value of 95 Express will be in the future as it continues to be the tool to adjust and meet the growing southeast Florida transportation demand.

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
- Miami-Dade County Metropolitan Planning Organization
- Miami-Dade Expressway Authority
- Miami-Dade Transit
- South Florida Commuter Services, and
- U.S. Department of Transportation