

Lessons Learned

Experience in implementing and operating the 95 Express Lanes has led Florida DOT to make the following observations and recommendations:

- **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 provided 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.
- **Provide project manager with direct authority** – 95 Express involved professionals from numerous disciplines and agencies. In order to fast-track the project, it was important that team members were able to take direction directly from the project manager regardless of the decision making protocol of a particular agency.
- **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.
- **Keep public officials and the public informed of project operations changes and challenges** – A commitment to proactive outreach to public officials and the community is critical. Fast-track schedule of this project made it a challenge to keep public officials up to date during implementation. Changes in design and operational plans occurred quickly in the process. Working with the media was vital in providing the public information on operational aspects of the facility.
- **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.
- **Enforcement needs to be visible** – Suitable observation and ticketing locations are needed to avoid delays that impact operations and public complaints. Non-visible (i.e., off-site) operations are perceived by the public as no enforcement, which also can result in complaints.
- **Fault tolerant design** – Vital for traffic operational efficiency and reduction of operation cost, both physical road design and backup and redundant systems are needed to ensure continuous operations during critical times.
- **24-hour support** – Since managed lanes are a 24-hour operations, the support (and budget) for software, IT and ITS field maintenance and repair must reflect those requirements. Managed lanes cannot run optimally when conditions occur that aren't promptly addressed.

Recommendations on 95 Express improvements from the public and partnering agencies include:

- Additional dynamic message signs to let motorists know the current travel times on the local lanes through the corridor. These have recently been deployed to help motorists make more informed decisions about choosing 95 Express versus local lanes.

- 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 are being considered.

For Further Information

95 Express website:

www.95express.com

Miami UPA contacts:

Rory Santana, P.E., PTOE
District Intelligent Transportation
Systems Manager
Florida Department of Transportation
305-470-6934
rory.santana@dot.state.fl.us

Angela F. Jacobs
U.S. Department of Transportation
202-366-0076
Angela.Jacobs@dot.gov



U.S. Department of Transportation

Research and Innovative Technology
Administration



UPA/CRD Annual Report

Miami, FL I-95 Express Lanes

LOCAL PARTNERS:

Florida Department of Transportation (FDOT), the Miami-Dade Metropolitan Planning Organization, the Broward Metropolitan Planning Organization, Miami-Dade Transit, Broward County Transit, the Miami-Dade Expressway Authority, and the Florida Turnpike Enterprise.

STRATEGIC OBJECTIVES:

The Miami-Ft. Lauderdale region is creating a 22-mile managed-lane facility, including HOT lanes on I-95, between I-395 and I-595, with a longer term goal of providing a network of managed lanes throughout the congested region. Free-flowing conditions on the managed-lane network will be maximized through the use of variable pricing based upon demand as well as other operational strategies. The network itself will be used as the backbone of a bus rapid transit (BRT) system which will be subsidized through the toll revenues

Miami, FL I-95 Express Lanes Project

TIMELINE

Phase 1A, the northbound segment of the HOT lane project was opened to traffic in early December 2008. Phase 1B, the southbound segment of the HOT lanes opened to toll paying customers January 15, 2010. Phase 2 construction began in 2011 and is scheduled for completion in late 2014.



ACCOMPLISHMENTS THROUGH 2012

Projects

- HOT lanes** – Approximately half of the ultimate 22 miles of dual-HOT lane facilities on I-95 from Fort Lauderdale to downtown Miami were operational in 2012. Key features include increasing the HOV occupancy from HOV-2+ to HOV-3+, requiring all carpools to preregister, and expanding the 10-lane highway with one HOV lane in each direction to a 12-lane highway, with two separated HOT lanes in each direction, by reducing the width of the existing lanes from 12 feet to 11 feet and using a portion of the shoulder.
- Transit Improvements** – Some additional peak hour transit service was added to existing I-95 corridor routes during Phase 1 implementation. Five hundred extra parking spaces were added to Golden Glades Interchange in late 2009. Three new transit routes began operating in late January 2010. Twenty-three new articulated buses were added.
- Transit Signal Priority (TSP)** – TSP was added to Hollywood/Pines Blvd. and Broward Blvd. in fall of 2010.
- Additional Operational Improvements** – Fourteen ramp signaling locations were added in April 2010, bringing the total to 22. Enhanced incident management was also added.
- Marketing** – Extensive outreach has been conducted, including project web sites, public meetings, media campaigns, and the production of videos, which have been made available both on the web and at public meetings.

Independent Evaluation

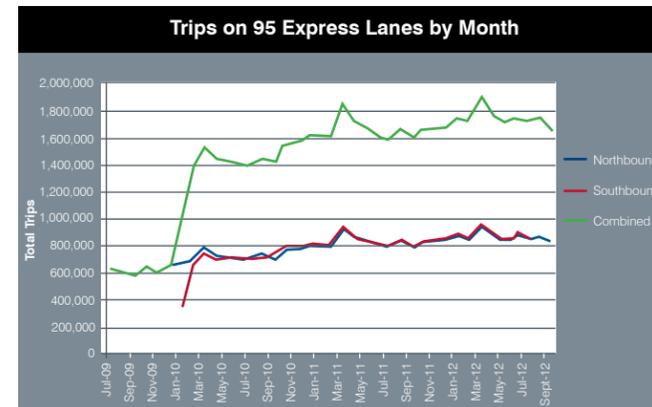
- An evaluation of Phase 1A and 1B covering July 2010 through June 2011 was completed and published in February 2012. An updated evaluation (through June 2012) is in development.
- Continuous performance monitoring of Phase 1A and 1B is conducted and monthly reports are available at www.95express.com.

RESULTS TO DATE

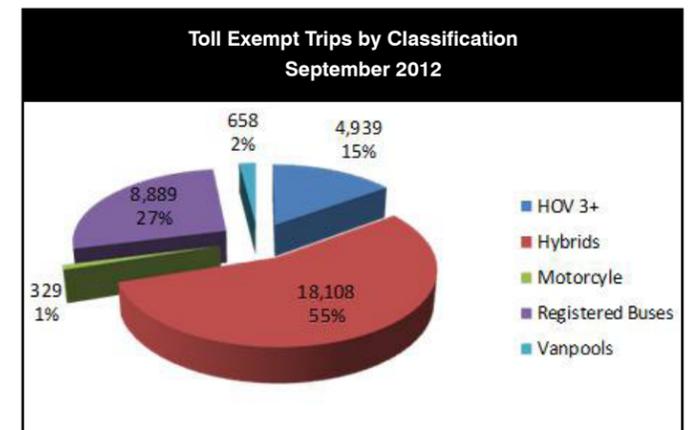
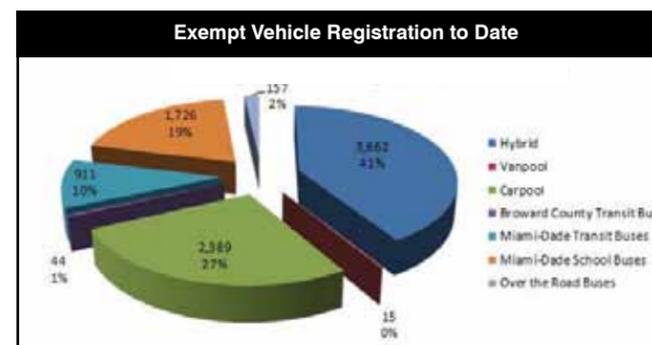
The program has considerably improved the overall operational performance of I-95. Customers, including transit riders who elect to use the express lanes, have significantly increased their travel speed during the a.m. peak (southbound) and p.m. peak (northbound) periods – from an average speed in the HOV lane of approximately 20 mph to a monthly average of 63 mph and 59 mph, respectively.

Drivers travelling via the general purpose lanes 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 52 mph and 46 mph, respectively.

Total monthly usage of the 95 Express Lanes in September 2012 was 1.66 thousand trips. Average monthly volume along the express lanes in the a.m. and p.m. peak periods was over 19,967 vehicles (approximately 35% of the total I-95 traffic).



Vehicles registered as exempt from the tolls and their usage of the Express Lanes in September 2012 indicate that hybrids comprise 41% of registered vehicles and 55% of trips; HOV3+ carpools 27% and 17% respectively; and buses 32% and 22%; vanpools and motorcycles account for the rest.



Since the initial opening of the I-95 Express Lanes:

- More than 60 million vehicle trips have traversed the facility.
- Estimated monthly toll revenue was \$1.20 million in September 2012, bringing the total revenue to date to approximately \$47.2 million.
- They have remained open to motorists over 94% of the time, and closed only 2.3% due to unplanned incidents.
- The average monthly maximum toll charged during fiscal year July 2011 – June 2012 was \$5.50 (southbound) and \$6.50 (northbound). Approximately 85% of the customers were charged \$2.50 or less in either direction.
- 95 Express Bus ridership increased by an average of 57% between 2008 and 2010, despite a 15% decrease in overall Miami-Dade Transit ridership. As of August 2011 daily ridership averaged almost 4,500 compared to 1,827 before tolling.
- 72% were new riders and 38% of new riders said they used to drive and 53% of new riders on the 95 Express Bus Service said the express lanes influenced their decision to use transit.
- 88% of bus riders reported travel time savings. Actual travel time savings for bus riders on the Express Lanes were 17 minutes.

A December 2010 survey of 1,060 users of I-95 (all modes) showed that:

Of respondents who used 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.
- 57.9% reported 95 Express provided a good value.

Of respondents who used 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.