



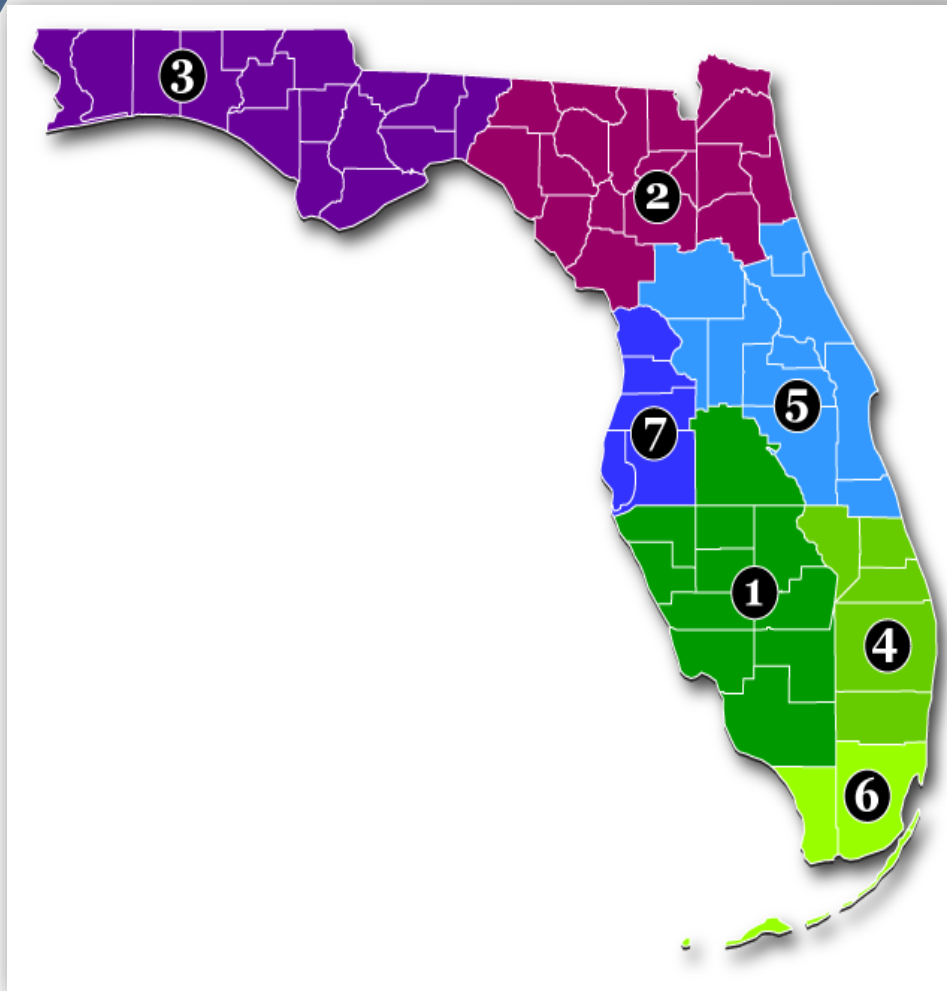
Transit Operations in the I-95 Express Lanes

*TRB 15th International Conference on Managed
Lanes – Miami , Florida*

*Presented by Diane Quigley
FDOT Transit Planning Administrator
May 5, 2016*



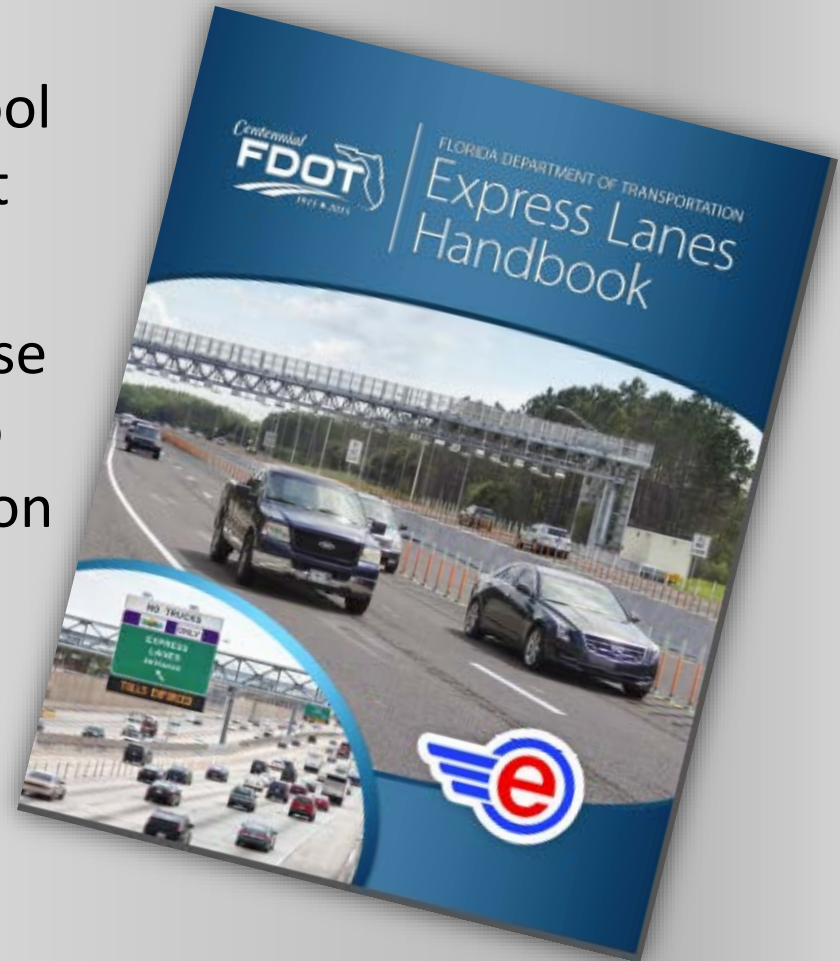
FDOT Governance



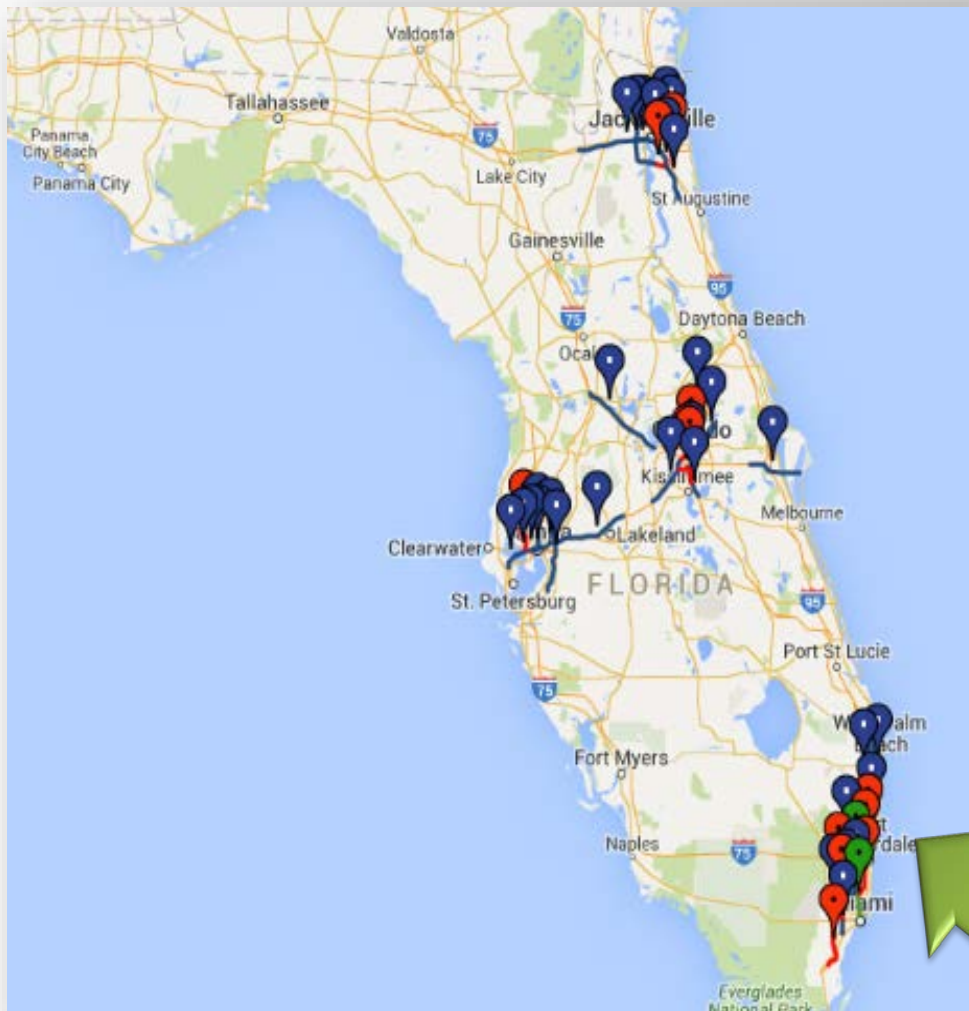
- Decentralized
 - 7 Districts
 - Turnpike Enterprise
- For Express Lanes, Districts form Regional Concept of Operations (RCTOs)
- D4 and D6 combined with Turnpike and transit agencies

State EL Policy - Transit

- Public transit buses and school buses do not pay tolls – must have transponder
- 338.166 (3) F.S. allows the use of remaining toll revenues to support express bus service on the facility where the toll revenues were collected
- After bond indebtedness, annual O&M and improvements to the EL system



Status of EL in Florida



- 5 of the 7 Districts in various stages
 - Jacksonville
 - Fort Lauderdale
 - Orlando
 - Miami
 - Tampa

South Florida EL Network

Operational (Green)

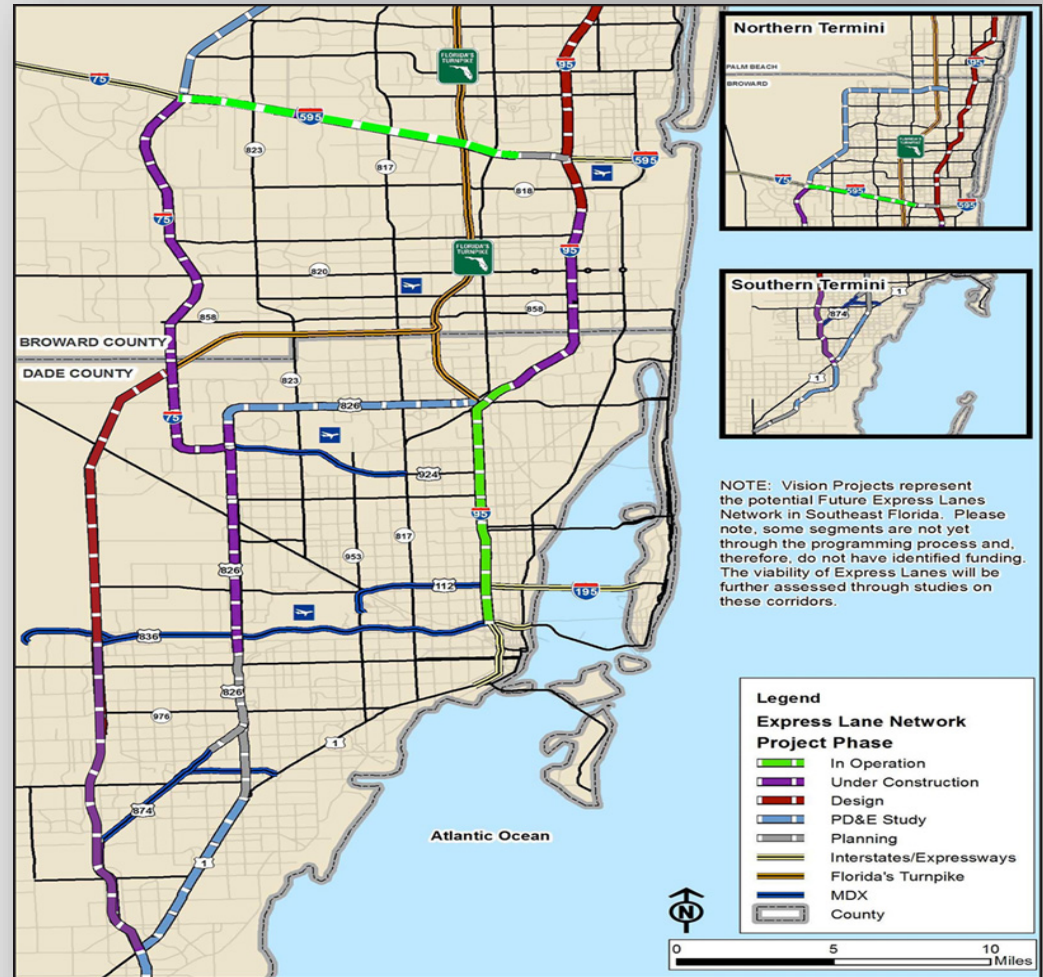
- I-95 Phase I
- I-595

Construction (Purple)

- I-95 Phase II
- I-75
- SR 826
- HEFT south of 836

Design/Build (Red)

- I-95 Phase III
- HEFT north of 836



Current Transit Operations



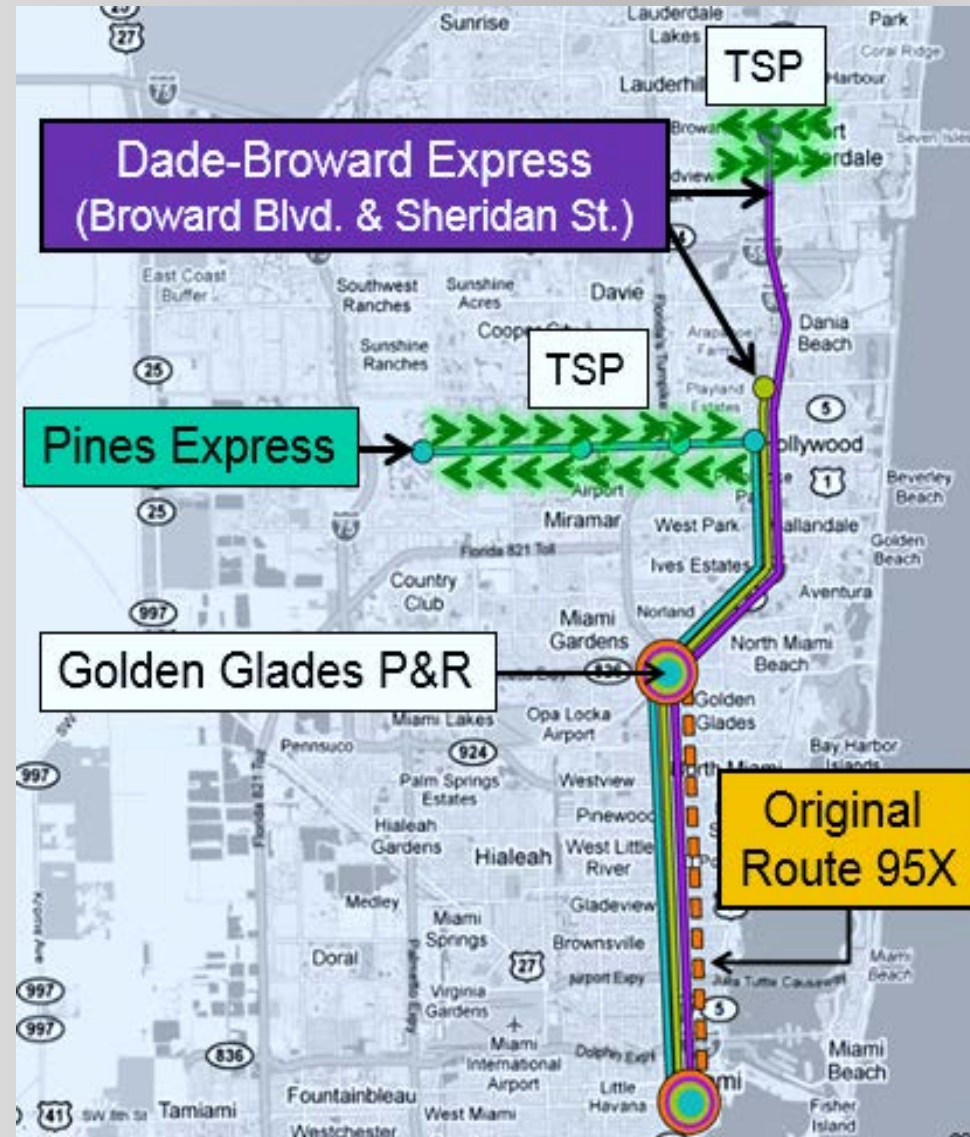
The logo features a stylized 'e' with wings inside a blue circle, followed by '95 EXPRESS' in blue text on a white background.

The logo features a stylized 'e' with wings inside a blue circle, followed by '595 EXPRESS' in red text on a white background.

- I-95 Express Lanes
 - Transit funded under the Urban Partnership Agreement
 - Implemented January 2010
 - Operated by Miami-Dade (MDT) and Broward County Transit (BCT)
- I-595 Express Lanes
 - Reversible
 - Operated by BCT
 - Implemented March 2014

UPA Transit Improvements

- Two New Routes
 - Pines Blvd Express
 - Dade-Broward Express
- Golden Glades PNR
 - 500 new spaces
- Transit Signal Priority
 - Pines Blvd
 - Broward Blvd



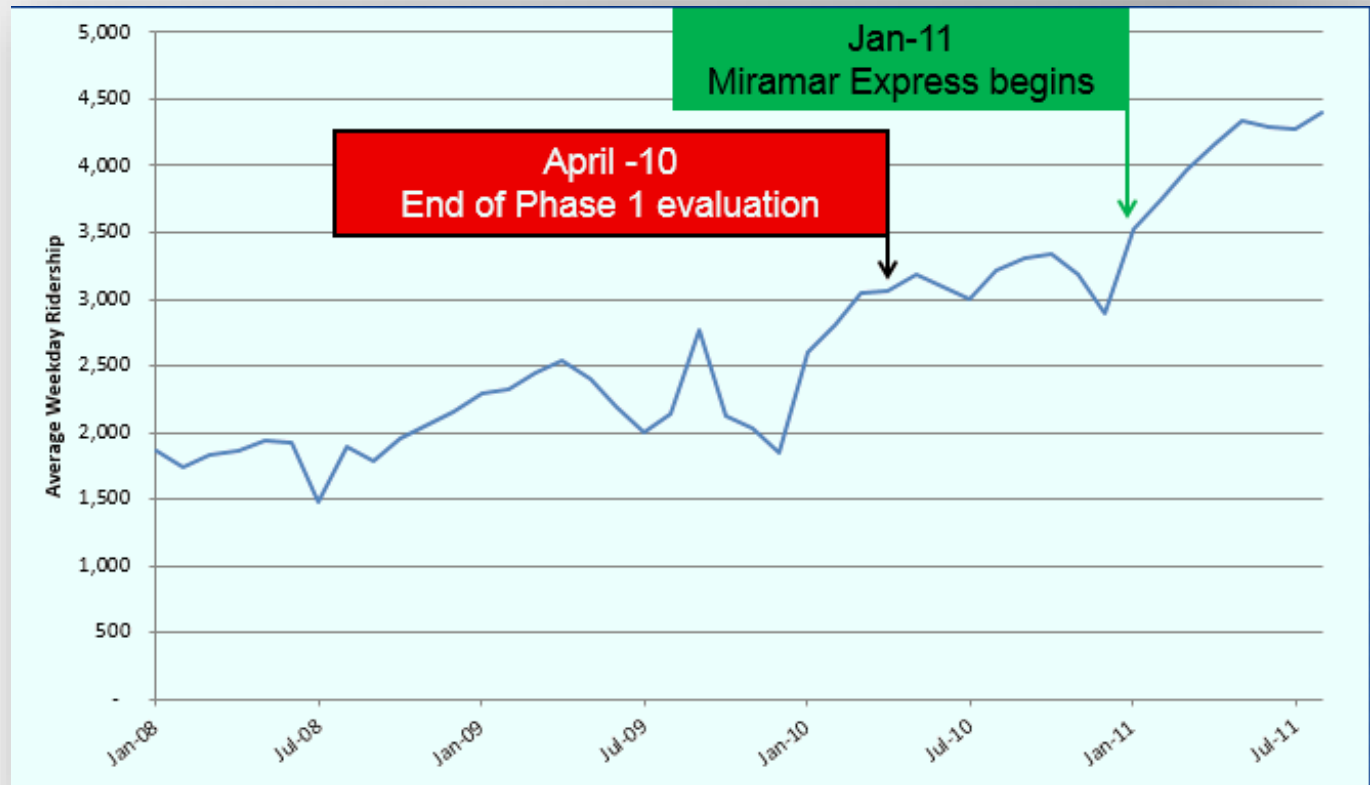
2008 – 2010 Transit Results

- ✓ Travel times in Express Lanes improved from 25 to 8 minutes
- ✓ Travel speeds increased from 18 to 57 mph
- ✓ Scheduled travel times reduced by 10 minutes (northbound) and 7 minutes (southbound)
- ✓ On-time performance improved from 76% to 81%
- ✓ A.M. bus travel times on Pines Blvd reduced by 12% because of TSP

Level of Service (LOS)		
	2008	2010
Express Lanes	F	C
Main Lanes	F	D

Increased Ridership

Average
weekday
ridership
increased
57%



Person Throughput

Express Lanes	
Vehicle Type	% Change 2008 – 2010
SOV	+742%
HOV 2	-53%
HOV 3	-83%
Transit	+23%
Total	+42%

- HOV2s and HOV3s dropped in the Express Lanes but increased in Main Lanes

- Total person throughput increased

Main Lanes	
Vehicle Type	% Change 2008 – 2010
SOV	+45%
HOV 2	+96%
HOV 3	-57%
Transit	-
Total	+52%

On-Board Rider Surveys



- 3 surveys – May 2008, 2009, 2010
- Statistically significant improvements in perceptions of travel time, reliability, and seat availability
- Perception of **travel time** saw the greatest improvement
- Over 80% of riders indicated time savings due to Express Lanes

Attracted New Riders

- 53% of NEW riders said Express Lanes influenced their decision to take transit
- 38% of NEW riders used to drive alone
- 34% of NEW riders switched from Tri-Rail and/or MetroRail
- 86% have access to vehicle always or most of the time



Initial Challenges

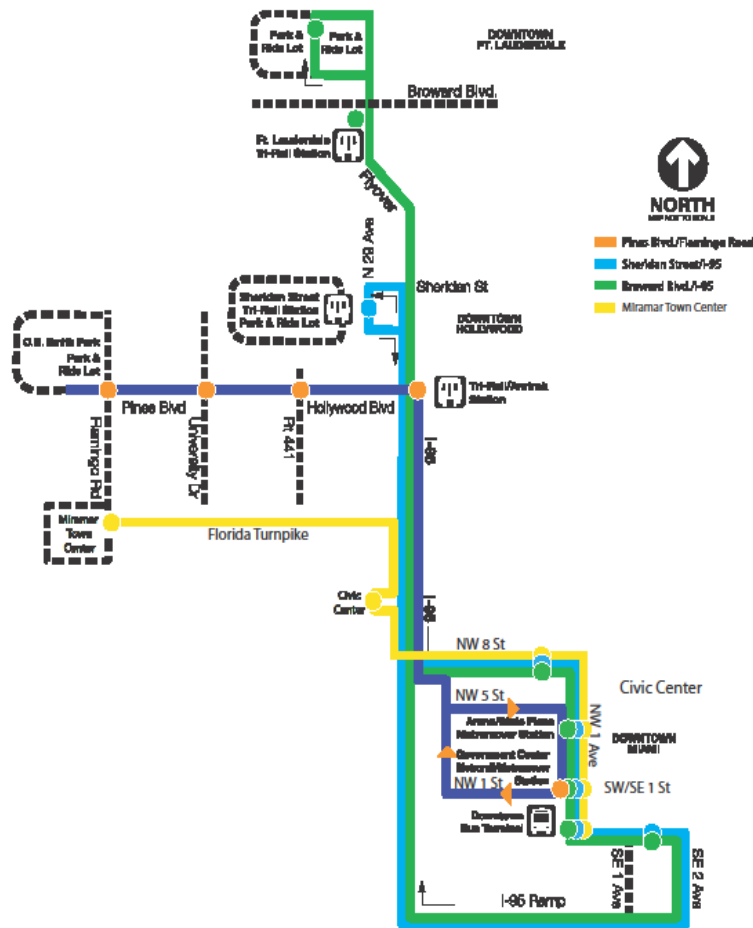
- Feeder Route and new services expanded rapidly
- Initial ridership drawing from Tri-Rail
- Bus capacity (SRO)
- Park and Ride Lot capacity



I-95 Routes and Ridership

95 Express Commuter Bus System Map

A fast and convenient service for commuters between Broward and Miami-Dade Counties. Three new bus routes will provide direct express service to downtown Miami, make use of the 95 Express Lanes.



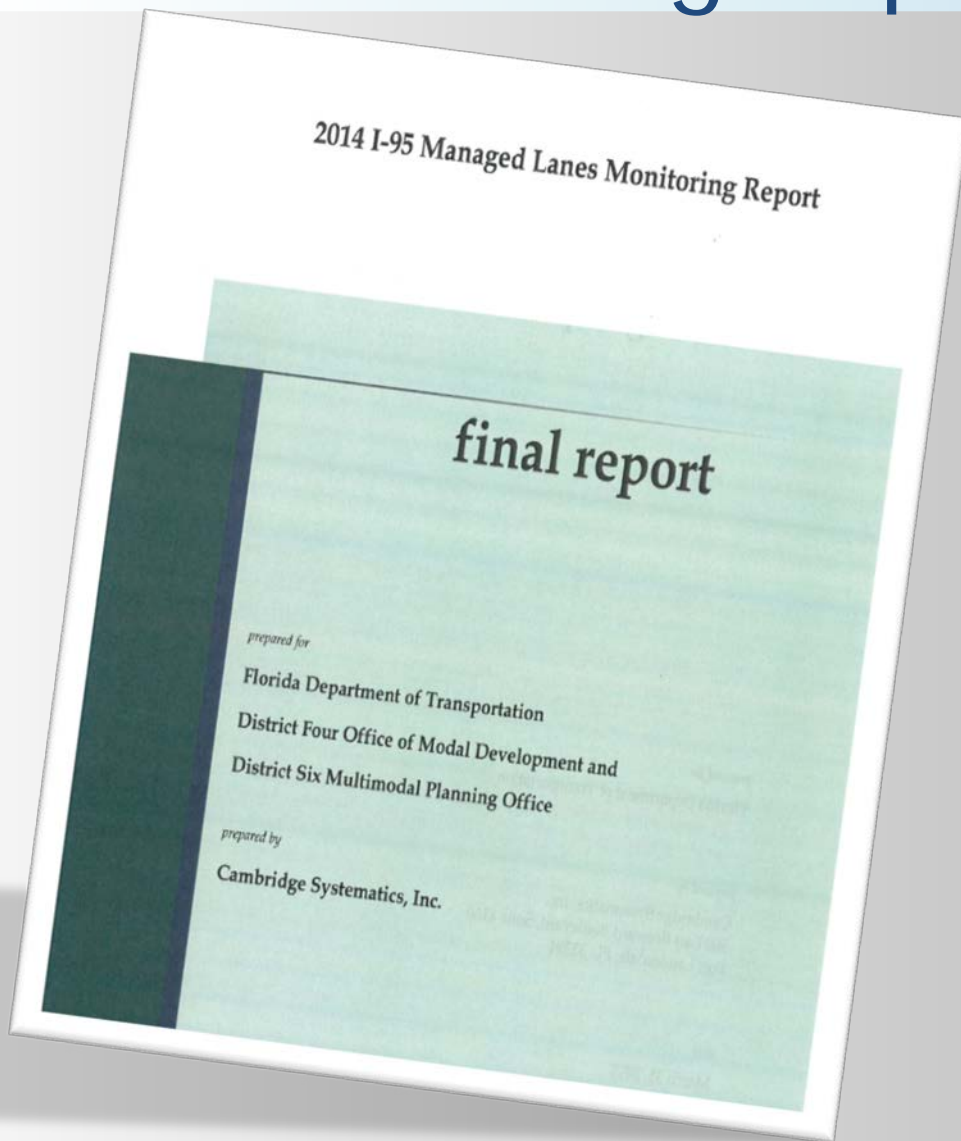
- 5 routes providing continuous service between Broward and Miami-Dade counties
- Average 3600 trips per day
- Primary travel from northwest to downtown (Z routes)
- MDT recently added 2 new routes

Modal Coordination

- Tri- Rail and Metro rail coordinate waiting times at the transfer stations to improve ridership and transit travel times in EL



2014 I-95 Managed Lanes Monitoring Report



- Conducted every 2 years
- 2016 in development
- Tri-Rail and MetroRail included this evaluation

2014 Report Results

- Express buses make up 1 to 2% of the EL volumes but account for 20-25% of total person throughput
- Average vehicle occupancy in the EL is 1.6 with Express Bus and 1.26 without
- Typically during peak periods, express bus in the EL is faster than driving alone in the GPLs (average 24 minutes slower)

HALF THE
COST!





Service Operating Standards

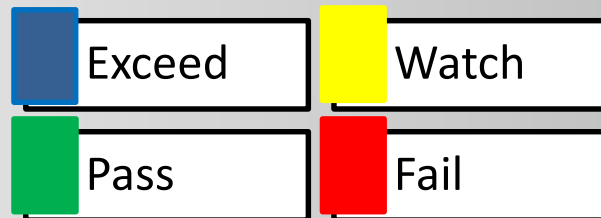
- FDOT approval on service area, days and hours of operations, fares, service frequency
- Transit agencies must:
 - Publish information regarding routes, schedules, maps
 - Provide a quarterly performance report
 - Establish a comment and complaint process
 - Develop express service policies and procedures
 - Establish vehicle/driver requirements
 - Brand vehicles

Performance Measures

- Performance measures include:
 - Peak load factor
 - Passengers per trip
 - Farebox recovery
 - Reportable incidents per 100,000 revenue mile
 - Revenue vehicle failures per 100,000 revenue mile
 - Operating cost per passenger trip
 - Service related complaints

- Composite score for each route

- Scores classified as:



- Recommend timelines and modifications to improve failing routes

Use of Excess Revenues



Overcrowding at the Golden Glades PNR


- Currently only available for Miami-Dade County
- Funded replacement buses for I-95 EL service for MDT and for BCT
- Seeking funding for additional park and rides (PNRs)
- PNRs also benefit I-95 EL emergency clearance
- Some as part of initial project some as market expands

Lessons Learned - Benefits

Express Lanes and Bus Service:

- ✓ Most effective mode for people throughput
- ✓ Improved highway LOS
- ✓ Increased ridership
- ✓ Increased choice riders
- ✓ Better perception of transit
- ✓ Improved travel times
- ✓ Bus travel times faster than driving in general lanes





Lessons Learned - Project Development

- Value added from transit in managed lanes:
 - Important in gaining local support for project
 - Negates the Lexus Lanes argument
- Include transit early on in RCTO
- Include PNR and TSP locations as part of project
- Consider gap funding to meet short-term operational expenses
- Allow revenue sharing for transit in the EL as an M&O expense
- Consider excess revenues for PNRs and other transit improvements as market expands



Lessons Learned – Transit Agencies

- Evaluate potential ridership demand and need for services along the corridor – find opportunities
- Determine operational costs
 - Consider need for service start up and operations revenues until excess revenues are available
- Identify associated parking demand, PNR lot locations, and maintenance responsibilities
- Ensure efficient access/egress to managed lanes and TSP potential
- Impacts to rest of system in developing circulator or feeder routes for first and last mile
- More research to better estimate demand

Questions/Comments

Thank You !

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Special Thanks to:
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