

Transit Data-Driven Scenario Analysis Applications

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December 8th, 2015





- Provides technical and data collection support for transit corridor studies
 - Program initiated in FY 2012
 - Focus on pre-planning: Moved data collection and model development outside of the corridor study
 - Six such corridors in Broward County covered under multi-modal modeling support contract so far



- Corridor-focused surveys provide focused understanding of travel patterns in individual corridors: travel flows, transfer movements, and demographic information
 - Data-Driven Tool #1: Route Scenario Planning Database [in Excel – **Discussed Today**]
 - Data-Driven Tool #2: Ridership Estimation Tool [in Cube Voyager]
- APC data for Palm Tran routes
 - Data-Driven Tool #3: APC data analysis tool [in Excel]

Surveys in the Database



Corridor*	Routes Surveyed	Weekday Boardings	Survey Timeframe
Oakland Park Blvd	Route 72	~9,000	Apr-May 2012
SR-7	Route 18, 441 Breeze	~16,300 ~2,700	Nov-Dec 2012
University Drive	Route 2, University Breeze	~7,100 ~1,000	Jan-Feb 2013
US-1	Route 1, US-1 Breeze	~7,150 ~1,050	Sep-Oct 2013
Hollywood Blvd	Route 7	~5,200	Oct-Nov 2013
Sunrise Blvd	Route 36	~6,100	May-Jun 2015
<i>Sample Blvd</i>	<i>Route 34</i>	<i>~4,000</i>	<i>To be determined</i>

*Corridors with high ridership



- Ons and offs counts provides
 - Number of boarding/alighting activities at each stop along the route for each bus run
- Boarding-to-Alighting survey provides
 - Boarding and alighting stop locations of the riders
 - Distance and time traveled by riders on the bus
- Origin-destination survey provides
 - Trip origin and destination locations of the riders
 - Purpose of the trip
 - Transfer information
- Platform survey provides
 - Understanding location-specific issues



- Consistently strong ridership
- O&M costs always rising
- Adjust routes to:
 - Minimize less productive segments
 - Better serve more productive segments
 - Easier driver shift changes / shift lengths
 - Maintain O&M costs at constant level YOY

An Improved Analysis Process



Receive driver input
and review corridor data

Determine potential scenarios

Compute impacts

Implement best solution

Computing Impacts: *using data-driven tools*

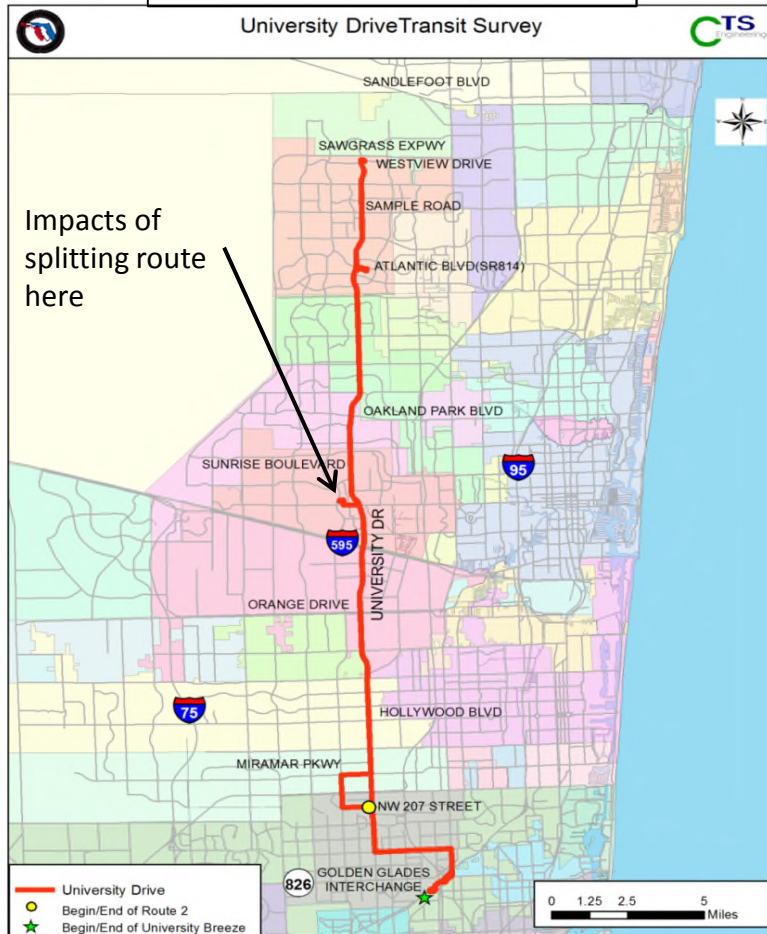


Data-Driven Tool	Types of Reports / Adjustment Scenarios	Turnaround Time
<u>Data-driven scenario planning database</u>	<ul style="list-style-type: none">• Rider and travel characteristic summary• Stop-level activity summary• Travel flow visualizer • Truncate route• Subdivide route• Frequency adjustments	< 1 min
<u>Data-driven Ridership model</u>	<ul style="list-style-type: none">• Cumulative ridership impacts:<ul style="list-style-type: none">• Buses along same roadway• Systemwide changes• Inter-lining or merging routes• New service or stop patterns	2 hours

“Real-Time” Analysis: using Data-Driven Scenario Planning Database



Route Planning



Interface

Transit Route Split Analysis

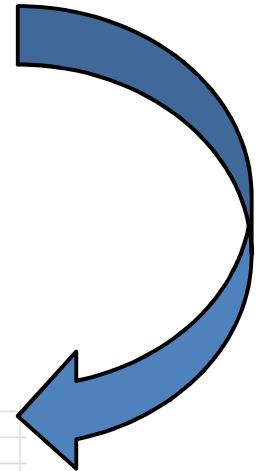
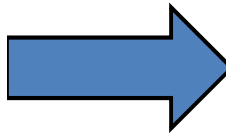
Select Route: 2

Select Intersection to Split the Route: West Terminal

Select Stops to Split the Route:

NB/EB: 3566-West Terminal SB/WB: 3566-West Terminal

Ridership Analysis



University Drive Boarding-to-Alighting Survey Data
Impacts of splitting Route #2 on the existing riders

				DRAFT
Split Location of the Route				
	South of West Terminal	North of West Terminal	Total	
South of West Terminal	2,468	699	3,167	
North of West Terminal	759	3,129	3,889	
Total	3,228	3,828	7,056	
Percent of current riders impacted		21%		

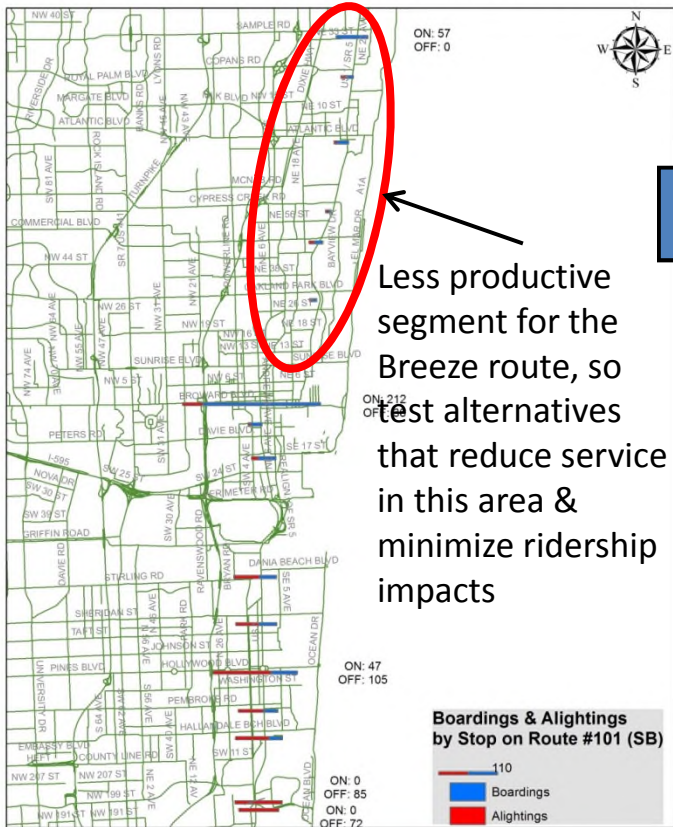
Analysis Output

Detailed Analysis: using Data-Driven Ridership Model



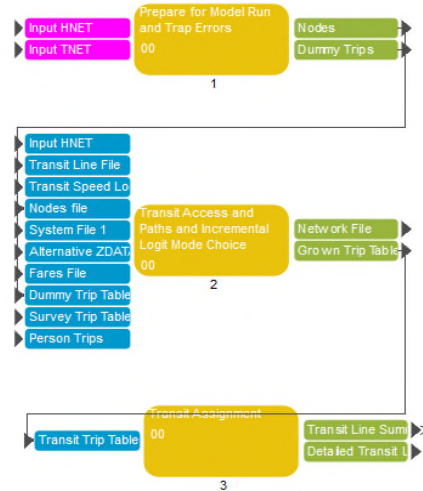
Route Planning, with some pre-planning done in real-time

2013 Daily Boarding and Alighting by Stop (Route #101 SB)



Data-Driven Ridership Model

US-1 SFSTM (Southeast Florida Simplified Transit Model) 6/16/2014



Quantify the impacts of various service levels

Alt Name	Year	Alternative	Weekday Boardings			% Change
			Local	Breeze	Total	
A	2013	Local - 17/17; Breeze - 36/0 (Existing Conditions)	6,930	1,264	8,194	
A2	2013	Local - 15/15; Breeze - 36/36	6,716	2,374	9,090	11%
A3	2013	Local - 15/15; Breeze - 15/15	5,503	5,245	10,748	31%
A4	2013	Local - 10/10; Breeze - 0/0	9,177	-	9,177	12%
A5	2013	Local - 20/20; Breeze - 20/20	5,080	4,652	9,732	19%
A6	2013	Local - 15/15; Breeze - 36/0 (terminate at Terminal)	7,277	814	8,091	-1%

Analysis Output

Reactions



- Positively received by BCT and Palm Tran

ROUTE 18

Golden Glades Park & Ride to Sandalfoot Cove Boulevard and Highway 441

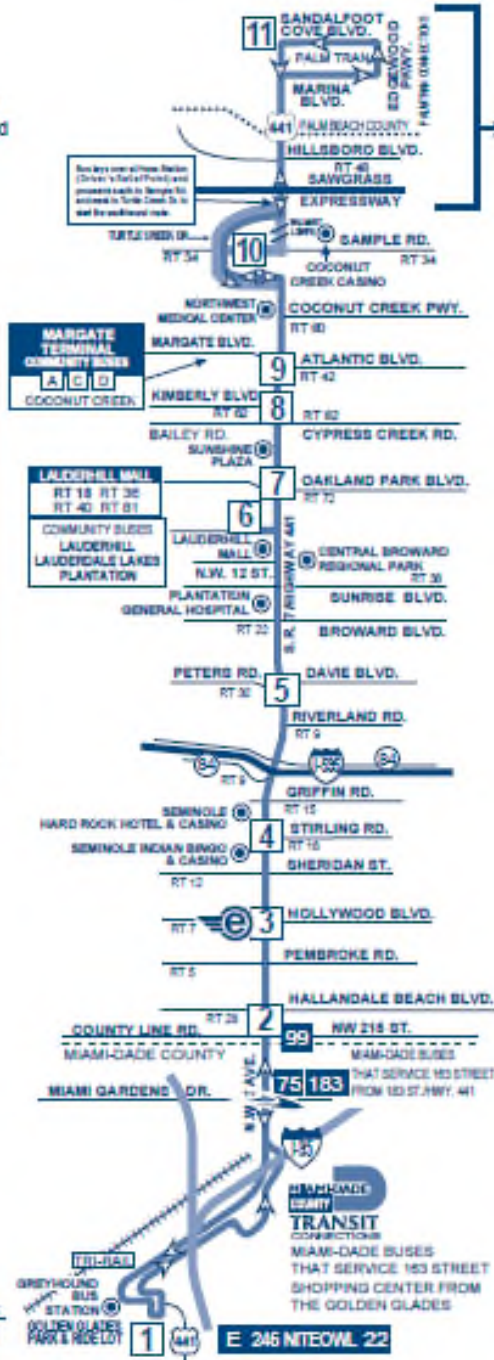
POINTS OF INTEREST

- ① Lauderhill Mall
- ② Sunshine Plaza
- ③ Northwest Medical Center
- ④ Plantation General Hospital
- ⑤ Central Broward Regional Park
- ⑥ Coconut Creek Casino
- ⑦ Seminole Hard Rock Hotel & Casino
- ⑧ Seminole Indian Bingo & Casino
- ⑨ Greyhound Bus Terminal

LEGEND



GOLDEN GLADES PARK AND RIDE / TRAIL RAIL STATION / GREYHOUND STATION
 CONNECTING ROUTES: 18 UNIVERSITY BREEZE 441
 MET CONNECTIONS: E 22 49 77 95 246 277



NO SUNDAY SERVICE

Route 441 Breeze WEEKDAY Limited Service Stops:

- SAMPLE RD.
 - COPANS RD.
 - COCONUT CREEK PKWY.
 - ATLANTIC BLVD.
 - KIMBERLY BLVD.
 - COMMERCIAL BLVD.
 - OAKLAND PARK BLVD.
 - LAUDERHILL MALL STOP ON U.S. 441 AT N.W. 12 ST.
 - BROWARD BLVD.
 - DAVE BLVD.
 - RIVERLAND RD.
 - GRIFFIN RD.
 - STERLING RD.
 - SHERIDAN ST.
 - HOLLYWOOD PINES BLVD.
 - PEMBRIDGE RD.
 - HALLANDALE BEACH BLVD. Eastbound MIAMI PKWY. Westbound
 - 215 ST / COUNTY LINE ROAD
 - 183 ST / MIAMI GARDENS DR.
 - GOLDEN GLADES PARK & RIDE / TRAIL RAIL
- Pick up a 441 Breeze Timetable for more information

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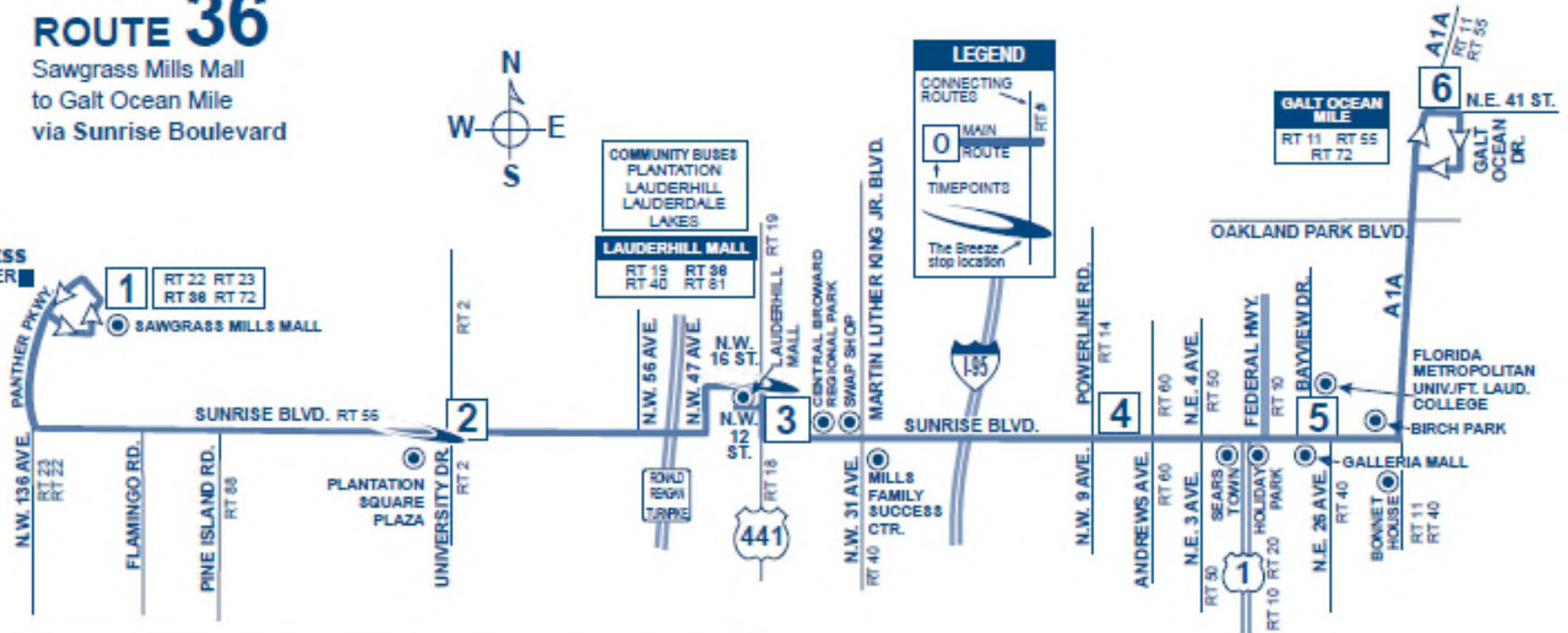




ROUTE 36

Sawgrass Mills Mall
to Galt Ocean Mile
via Sunrise Boulevard

595 EXPRESS
BB&T CENTER

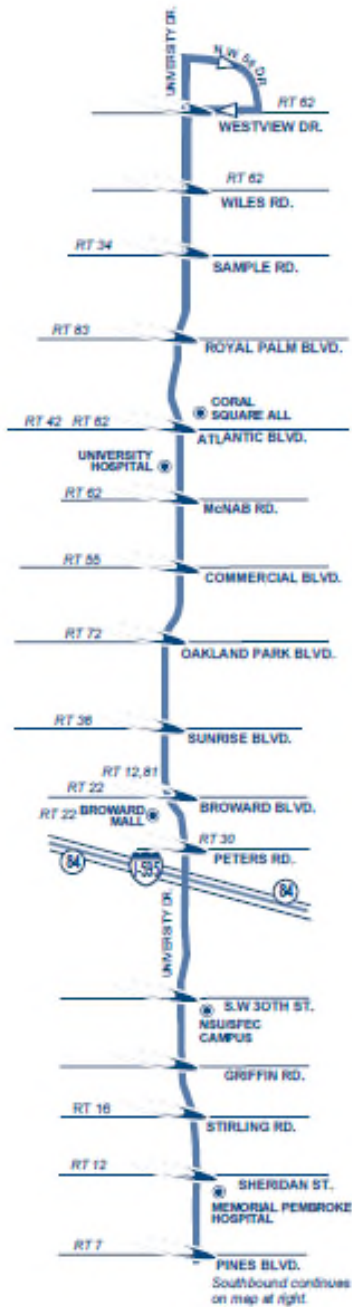


- POINTS OF INTEREST**
- Galleria Mall
 - Lauderhill Mall
 - Sawgrass Mills Mall
 - Searstown
 - Swap Shop
 - Mills Family Success Center
 - Plantation Square Plaza
 - Florida Metropolitan University/ Fort Lauderdale College
 - Central Broward Regional Park
 - Holiday Park
 - Hugh Taylor Birch State Park
 - Bonnet House

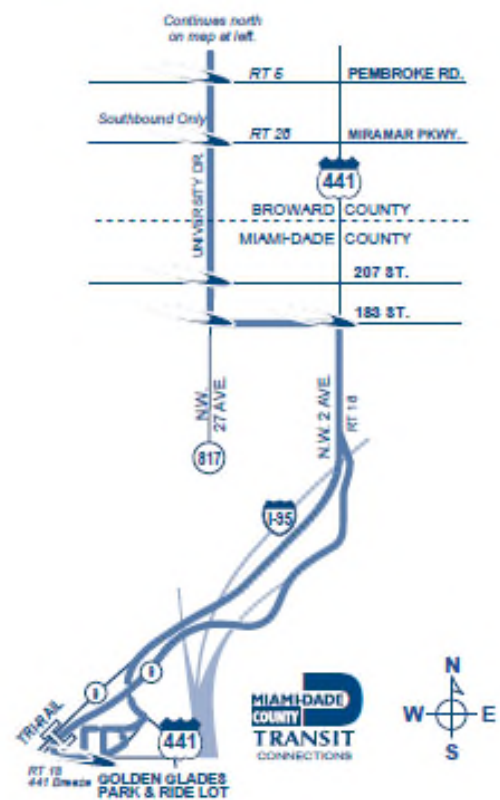
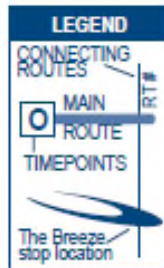


University Breeze

Monday - Friday Limited -Stop Service
 Golden Glades Tri-Rail Park & Ride to Westview Drive
 via University Drive



- POINTS OF INTEREST**
- Coral Square Mall
 - University Hospital
 - Broward Mall
 - NSU/SFEC Campus
 - Memorial Pembroke Hospital





Route 94 *FAU to Boca Raton Tri-Rail*

Barra / Rout

Revision Date: November 2011

