

SFRTA Shuttle Bus Service & Financial Assessment

Phase I: 2009/2010 Fiscal Year

South Florida Regional Transportation Authority

Final Report

September 2009



Florida Department of Transportation
District Four





SFRTA Shuttle Bus Service and Financial Assessment

Phase I: 2009/2010 Fiscal Year

Final Report

Prepared for:



FLORIDA DEPARTMENT OF TRANSPORTATION

DISTRICT 4

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and



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1. Introduction

The Tri-Rail commuter rail service is served by 27 shuttle routes. The South Florida Regional Transportation Authority (SFRTA), which operates Tri-Rail, currently contracts for the operation of 12 shuttle bus routes to provide feeder bus service to and from Tri-Rail stations. Of the total 27 shuttles routes that serve Tri-Rail, SFRTA and the Florida Department of Transportation (FDOT) currently fund 17 shuttle routes, including these 12 shuttle routes and an additional 5 shuttle routes operated by other transit service providers.

The FDOT District 4 staff, in consultation with SFRTA staff, determined that an assessment of these 17 shuttle bus routes is needed so that a prioritization scheme can be developed to deal with potential shuttle bus funding issues/shortfalls in the future. With this in mind, the SFRTA Shuttle Bus Service and Financial Assessment project was initiated to accomplish the following:

- Establish shuttle bus performance criteria and assessment process.
- Apply a shuttle bus assessment process to identify shuttle bus routes that do and do not meet the performance criteria.
- Integrate shuttle bus service recommendations from the 2008 SFRTA Transit Development Plan (TDP).
- Develop financial and action plans.



2. Overview of SFRTA Shuttle Bus Service

This section provides a summary of bus routes serving Tri-Rail stations that SFRTA has identified as shuttle bus routes. A brief description of each of the 27 shuttle routes and the counties they serve is presented below. Thereafter, a more detailed overview of the 17 SFRTA/FDOT-funded shuttle routes for which this service and financial assessment is conducted is presented. This is followed by a summary of findings from the field surveys/driver interviews that were conducted as part of the shuttle bus assessment process. Finally, a review of shuttle-bus-related service priorities from the adopted 2008 SFRTA Transit Development Plan (TDP) and the 2007 Tri-Rail Shuttle Bus and Feeder Service Analysis Study is presented.

EXISTING SHUTTLE BUS SERVICE

Currently, 27 bus routes connect with the Tri-Rail commuter rail system at its 19 train stations in Palm Beach, Broward, and Miami-Dade counties. In addition to SFRTA's 12 contracted shuttle routes, train-connecting services are provided by the three local transit operators – Palm Tran, Broward County Transit (BCT), and Miami-Dade Transit (MDT) – and a number of other providers.

SFRTA's 12 contracted shuttles are provided free of charge to passengers with a valid Tri-Rail ticket and first-time Tri-Rail riders. The transfer policies for SFRTA and all other shuttles serving the stations are as follows:

- Riders transferring from SFRTA's shuttles to Tri-Rail pay the regular Tri-Rail fare.
- Riders transferring from Palm Tran, BCT, or MDT are entitled to a discounted Tri-Rail fare.
- Tri-Rail passengers transfer free of charge when boarding Palm Tran or MDT connecting service with a valid Tri-Rail ticket. However, passengers with a valid Tri-Rail ticket pay a \$0.50 transfer fee when boarding BCT connecting service.

SFRTA provides shuttle bus services in Broward County through contractual agreements with a private transit bus operator and is reimbursed for this service by the County agreement. A summary of the 27 shuttle bus routes is presented below by the county in which the service is provided.

Palm Beach County

- **Palm Tran Route 50** – This route connects the West Palm Beach Tri-Rail Station to the Downtown West Palm Beach area. This route is operated by Palm Tran and provides service on weekdays from 6:00 a.m. to 5:30 p.m.

- **Boynton Beach Trolley** – The Yellow Trolley route connects to the Boynton Beach Tri-Rail station. This route is operated by the Boynton Beach Community Redevelopment Area (CRA) and provides service on weekdays from 7:15 a.m. to 6:33 p.m.
- **Delray Beach Downtown Roundabout Shuttle Route 1** – This route serves the downtown area of Delray Beach and provides beach service at the Delray Beach Marriott. The route operates Monday through Friday from 7:00 a.m. to 8:00 p.m., Saturdays from 10:00 a.m. to 8:00 p.m., and Sundays from 12:00 p.m. to 8:00 p.m.
- **Arvida Park of Commerce (APOC) East Shuttle** – The APOC East Route provides shuttle service from the Boca Raton Tri-Rail station to Arvida Park of the Commerce Office Park east of Congress Avenue. The route operates Monday through Friday between 6:30 a.m. and 7:30 p.m.
- **APOC West Shuttle** – The APOC West Route provides shuttle service from the Boca Raton Tri-Rail station to Arvida Park of the Commerce Office Park area west of Congress Avenue. The route operates Monday through Friday between 6:30 a.m. and 7:30 p.m.
- **Boca Center Shuttle (BR1)** – The Boca Center Shuttle provides service to the Boca Center shopping and office complex area with service in the AM peak from 6:00 a.m. to 10:00 a.m. and PM peak from 3:00 p.m. to 7:00 p.m., Monday through Friday.
- **Peninsula Corporate (Pen Corp) Route** – The Peninsula Corporate Center Route provides shuttle service from the Boca Raton Tri-Rail station to the Peninsula Corporate Center Office Park and Beacon Square Office Park. The route operates Monday through Friday between 6:30 a.m. and 7:30 p.m.
- **Palm Tran Route 94** – This route serves Florida Atlantic University's Boca Raton Campus and Palm Beach Community College. The route operates Monday through Friday from 7:00 a.m. to 9:00 p.m.

Broward County

- **Deerfield Beach Express I** – This route serves Sawgrass Square and the Deerfield Mall. The route operates Monday through Friday from 9:00 a.m. to 4:00 p.m.
- **Deerfield Beach Express II** – This route serves various apartment complexes and the Winn-Dixie/Target shopping centers. The route operates Monday through Friday from 8:00 a.m. to 3:50 p.m.

- **Deerfield Beach Express III** – This route serves Deerfield Beach City Hall, the North Broward Regional Courthouse, and Focal Point. The route operates Monday through Sunday from 9:00 a.m. to 5:55 p.m.
- **Deerfield Beach Shuttle 1 (DB1)** – This route serves the Fairway Loop Office Park and the Camino Real business district. The route operates Monday through Friday from 5:27 a.m. to 9:24 a.m. and 3:25 p.m. to 7:16 p.m.
- **Deerfield Beach Shuttle 2 (DB2)** – This route serves the Publix Warehouse and Distribution Center and the Newport Center Office Park. The route operates Monday through Friday from 5:27 a.m. to 9:15 a.m. and 3:34 p.m. to 7:20 p.m.
- **Pompano Beach Shuttle (PB1)** – This route serves Broward Community College, the Atlantic Technical Center, and various office parks. The route operates Monday through Friday from 5:15 a.m. to 10:25 a.m. and 3:05 p.m. to 8:15 p.m.
- **Cypress Creek Shuttle 1 (CC1)** – This route serves several hospitals including Holy Cross Hospital. The route operates Monday through Friday from 5:11 a.m. to 9:54 a.m. and 3:10 p.m. to 7:20 p.m.
- **Cypress Creek Shuttle 2 (CC2)** – This route serves several educational institutions including Kaplan University. The route operates Monday through Friday from 5:11 a.m. to 9:53 a.m. and 3:07 p.m. to 7:20pm.
- **Cypress Creek Shuttle 3 (CC3)** – This route serves multiple office parks and warehouse districts. The route operates Monday through Friday from 5:11 a.m. to 9:48 a.m. and 3:16 p.m. to 7:20 p.m.
- **Downtown Fort Lauderdale (FL1)** – This route serves the downtown Fort Lauderdale urbanized area and the BCT terminal. The route operates Monday through Friday from 5:10 a.m. to 10:15 p.m.
- **Fort Lauderdale Sun Trolley Shuttle** – This route serves the BCT terminal and the Museum of Art and extends to A1A along the beach. The route operates on Saturdays from 7:00 a.m. to 10:00 p.m. and Sundays from 9:00 a.m. to 10:00 p.m.
- **Fort Lauderdale International Airport Circulator** – The circulator serves airport terminals 1, 2, and 3 and is not tied to any departure or arrival of trains. The circulator makes continuous 20- to 30-minute loops during the weekday hours of operation between 10:00 a.m. and 6:00 p.m.

- **Fort Lauderdale International Airport Route (FLA1)** – This route serves the airport terminals and tower, and businesses along Perimeter Road. The route operates Monday through Friday from 4:42 a.m. to 10:22 p.m. and on weekends from 6:22 a.m. to 9:37 p.m.
- **Dania Beach Community Bus Service West Route** – This route serves Dania Beach City Hall, Publix, and K-Mart. The route operates Monday through Friday 9:00 a.m. to 5:10 p.m.
- **Port Everglades Shuttle (FLA2)** – This route serves Port Everglades, including the Broward County Convention Center. The route operates Monday through Friday from 5:57 a.m. to 9:41 a.m. and 3:11 p.m. to 6:51 p.m. and on the weekends from 7:07 a.m. to 6:11 p.m. (This shuttle route was discontinued in June 2009).
- **South Florida Education Center/Davie Campus Shuttle** – This route serves several educational institutions. The route operates Monday through Friday from 7:06 a.m. to 8:12 p.m.
- **Sheridan Street Shuttle (SS1)** – This route serves several office parks along Stirling Avenue. The route operates Monday through Friday from 6:00 a.m. to 9:17 a.m. and 3:47 p.m. to 7:10 p.m.

Miami-Dade County

- **Koger Shuttle** – This route serves the Hialeah Market Station to Koger. The route operates Monday through Friday from 7:00 a.m. to 9:20 a.m. and 2:54 p.m. to 5:45 p.m.
- **Miami Airport Shuttle** – This route provides service from the Miami International Airport Tri-Rail station to the Miami International Airport terminal. The route operates Monday through Friday from 5:00 a.m. to 9:40 p.m., and weekends from 7:40 a.m. to 9:20 p.m.

Figure 2-1 presents the Tri-Rail system map and locations of the 18 stations served by the 27 shuttle routes listed above.

Figure 2-1
Tri-Rail System and Train Stations



SFRTA- AND FDOT-FUNDED SHUTTLE BUS ROUTES

The remainder of this report presents an assessment of the 17 shuttle routes funded by FDOT or SFRTA. As indicated earlier, this service and financial assessment was initiated to assess the 17 FDOT- or SFRTA-funded shuttle routes. Table 2-1 shows these shuttle routes (highlighted in bold) together with the other 10 shuttle routes funded by other entities. Figure 2-2 shows the locations and coverage area of each route and the Tri-Rail stations served.

**Table 2-1
SFRTA- and FDOT-Funded Shuttle Routes***

Shuttle Route	Funded by	Operated by
Palm Tran Route 50	Palm Tran	Palm Tran
Boynton Beach Trolley	City of Boynton Beach	City of Boynton Beach
Delray Beach Downtown Shuttle	City of Delray Beach and CRA	City of Delray Beach and CRA
APOC West Shuttle	City of Boca Raton	City of Boca Raton
APOC East Shuttle	City of Boca Raton	City of Boca Raton
Boca Center Shuttle – BR 1	Private Developer (Teachers)	SFRTA
Peninsula Corporate Route	City of Boca Raton	City of Boca Raton
Palm Tran Route 94	FDOT and City of Boca Raton	Palm Tran
Deerfield Beach Express 1	City of Deerfield Beach and BCT	BCT
Deerfield Beach Express 2	City of Deerfield Beach and BCT	BCT
Deerfield Beach Express 3	City of Deerfield Beach and BCT	BCT
Deerfield Beach Shuttle 1	FDOT	SFRTA
Deerfield Beach Shuttle 2	FDOT	SFRTA
Pompano Beach Shuttle	FDOT	SFRTA
Cypress Creek Shuttle 1	FDOT	SFRTA
Cypress Creek Shuttle 2	FDOT	SFRTA
Cypress Creek Shuttle 3	FDOT	SFRTA
Fort Lauderdale Shuttle - FL 1	FDOT	SFRTA
Fort Lauderdale Downtown Sun Trolley	Fort Lauderdale TMA and SFRTA	Fort Lauderdale TMA
Fort Lauderdale Airport Circulator	FDOT	SFRTA
Fort Lauderdale Airport Shuttle - FLA 1	FDOT	SFRTA
Port Everglades Shuttle - FLA 2**	FDOT	SFRTA
Dania Beach Community Bus Service West	City of Dania Beach and BCT	BCT
SFEC - Davie Campus Shuttle	FDOT and SFEC TMA	SFEC TMA
Sheridan Street Shuttle - SS 1	FDOT	SFRTA
Koger Shuttle	FDOT	MDT
Miami Airport Shuttle	FDOT	MDT

*FDOT- and SFRTA-funded shuttle bus routes are highlighted in bold.

** The Port Everglades shuttle was discontinued in June 2009.

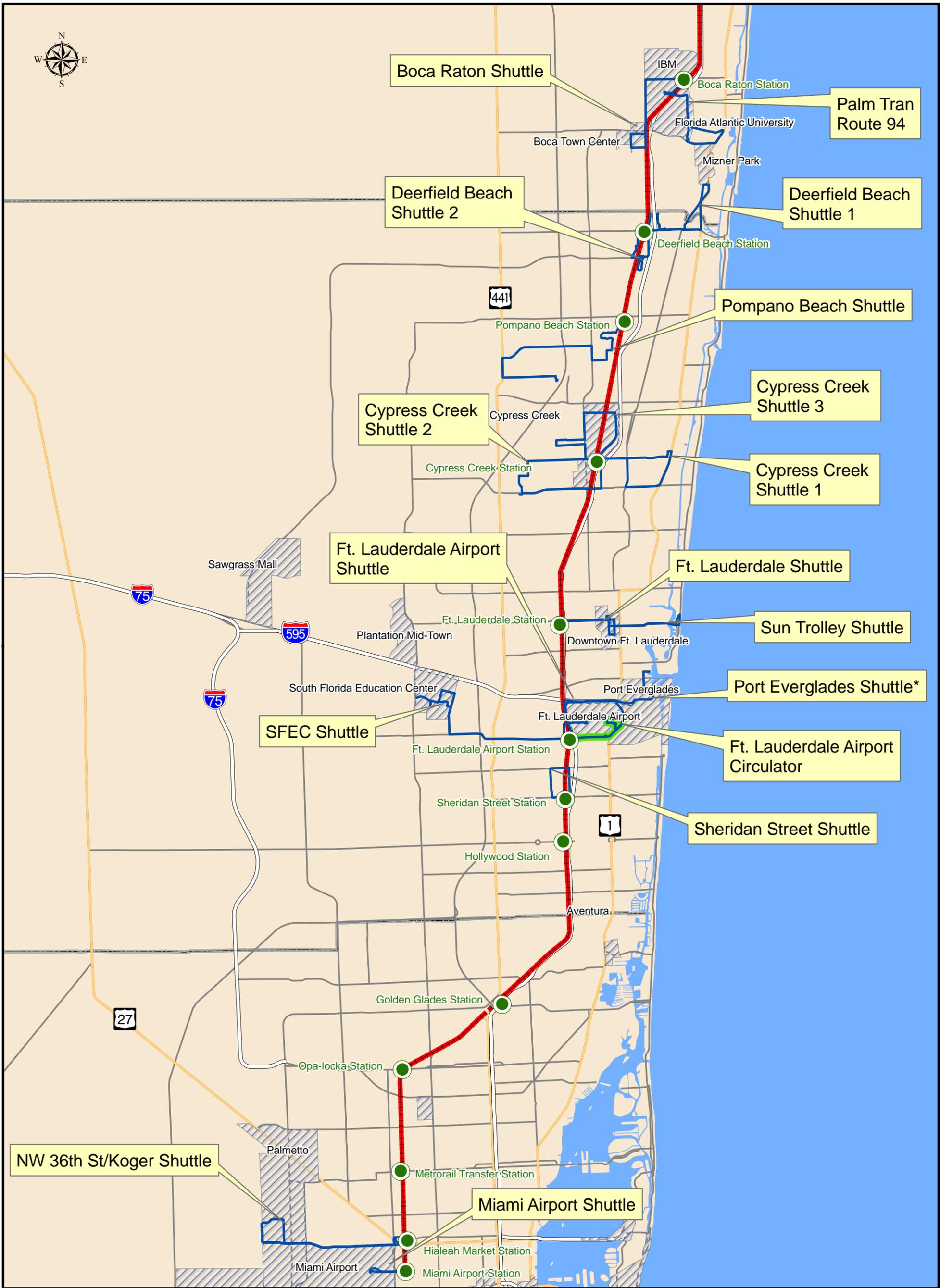


Figure 2-2
SFRTA/FDOT-Funded
Shuttle Bus Routes

Legend

- Tri-Rail Stations
- Tri-Rail Shuttles
- Tri-Rail
- Major Activity Centers**
- Interstate
- US Highway

* This route was discontinued in June 2009.

** As Identified by SFRTA



FIELD SURVEY ON SELECTED SHUTTLE ROUTES

Field data observations were conducted from Tuesday, May 19, through Thursday, May 21, 2009, for 11 of the 17 shuttle bus routes. It should be noted that all the shuttle routes were not surveyed, as the survey effort was not intended to be a comprehensive effort, but rather was intended to include three days of riding shuttle buses and talking to a sample of shuttle bus drivers. During this data collection effort, a windshield survey and informal bus operator interviews were conducted with the key objectives of:

- Obtaining driver feedback on issues impacting each route's effectiveness; and
- Observing and collecting anecdotal data on stop utilization, shuttle route ridership, and coverage of key activity centers.

The shuttle routes included in this survey are:

1. Boca Center Shuttle (BR1)
2. Cypress Creek Shuttle 1 (CC1)
3. Cypress Creek Shuttle 2 (CC2)
4. Cypress Creek Shuttle 3 (CC3)
5. Deerfield Beach Shuttle 1 (DB1)
6. Deerfield Beach Shuttle 2 (DB2)
7. Fort Lauderdale International Airport Shuttle (FLA1)
8. Fort Lauderdale Shuttle (FL1)
9. Pompano Beach Shuttle 1 (PB1)
10. Port Everglades Shuttle (FLA2)
11. Sheridan Street Shuttle (SS1)

Of the 11 routes surveyed, 9 are located in Broward County and 1, the Boca Center Shuttle, is located in Palm Beach County. A description of each of these routes was presented earlier in this section. All of the shuttle bus route surveys except the Port Everglades Shuttle were conducted during morning or evening peak periods, from 6:00 a.m. to 9:00 a.m. or 3:00 p.m. to 6:00 p.m.

The Cypress Creek station was chosen as a starting point for each of the survey days because of its central location to the routes surveyed. For example, CC1, CC2, and CC3 were surveyed in sequence; then the next northbound train was boarded and debarked at the Pompano Beach station and the PB1 shuttle was surveyed. This method was followed as allowed by train and shuttle bus times.

Windshield Survey

A windshield survey, a survey completed by making visual observations while riding in a vehicle, was conducted to identify the activity centers currently served by each shuttle. This was performed to verify the list of activity centers for each route as provided by SFRTA staff and also to add missing activity centers, as appropriate. In adding new activity centers to the list, the surveyor used professional judgment, which was supported by driver input, appearance of the location, and ridership activity during that trip. Other activities that were conducted during the windshield survey included observing activity by bus stop, identifying safety issues (if relevant) and reviewing the schedule adherence of the route with the train.

Bus Operator Interviews

As part of the survey conducted on each route, bus operators/drivers were informally interviewed on several topics, including the strengths and weaknesses of the shuttle route, improvement suggestions, and other miscellaneous comments about the shuttle route.

In addition, specific questions on issues impacting the route's effectiveness were asked. These questions addressed the following areas:

- Route alignment (underutilized/over-capacity routes and segments)
- Stop placement (suggestions on possible stop removals and/or potential locations for new stops)
- Stop utilization
- Coverage area/locations
- Rider complaints/suggestions
- Safety

Summary

The results of the windshield survey and bus operator interviews are summarized below. The summary includes a list of general survey findings and a more route-specific list of findings for each of the shuttle routes surveyed. The general findings of the survey include the following:

- Tri-Rail shuttle stops should be identified clearly on the routes. Currently, there is no signage depicting shuttle route stops.

- Riders have expressed difficulty differentiating between shuttle buses and BCT buses. Some riders mistakenly identify shuttle buses as BCT.
- Minor route alignment additions are needed to improve ridership.
- The vast majority of riders are daily riders who the drivers know by name.
- Ridership is down compared to 2008 when gasoline prices were greater than \$4 per gallon.
- Riders complain primarily about the train being late.
- Riders are generally satisfied with the shuttle bus service.

SFRTA SHUTTLE BUS SERVICE PRORITIES

2008 SFRTA TDP Major Update Recommendations

The 2008 SFRTA TDP Major Update identified a number of shuttle service-related improvements to further enhance service connections with Tri-Rail stations. These service improvements include expanding service spans and increasing frequencies. Furthermore, in Miami-Dade County, a new transit route is proposed to serve the Golden Glades station area, while the implementation of new express bus service on I-95 would connect Fort Lauderdale and the Sheridan Tri-Rail station area to downtown Miami.

The specific shuttle bus service improvement recommendations in the 2008 SFRTA TDP for FY 2009 - FY 2013 include:

- ***Additional Service to Meet Headways on Boca Center Shuttle:*** Add one bus for two hours during each peak period (morning and evening), at an estimated annual operating cost of \$61,000.
- ***Additional Shuttle Service to Meet New Headways:*** Recommended changes were developed for the following shuttle routes that are operated by Tri-Rail. The estimated total annual operating cost for these improvements is \$244,000.
 - ***Deerfield Beach Shuttles:*** Add two hours of service in each peak to achieve 20-minute headways, at an estimated annual operating cost of \$122,000 for both shuttles.
 - ***Pompano Beach Shuttles:*** Add two hours of service in each peak period to achieve 20-minute headways, at an estimated annual operating cost of \$61,000.

- *Fort. Lauderdale Airport Shuttle (FL1):* Add two hours of service in each peak to achieve 20-minute headways, at an estimated annual operating cost of \$61,000.
- ***Additional Service for West Palm Beach Routes to Meet New Headways:*** Add two hours of service in each peak period (morning and evening) to achieve 20-minute headways, at an estimated annual operating cost of \$61,000.
- ***Additional Shuttle Service to Meet New Headways on the South Florida Education Center Bus (from Ft. Lauderdale Airport Station):*** Add two hours of service in each peak period (morning and evening) to achieve 20-minute headways, at an estimated annual operating cost of \$61,000.
- ***Palm Beach International Airport Shuttle Service from West Palm Beach Station:*** Implement new shuttle service that provides a connection between Palm Beach International Airport and the West Palm Beach Station. Proposed service includes four hours of 20-minute headway service during peak periods and four hours of 30-minute off-peak service each day including weekend service. The estimated annual operating cost is \$581,000.

2007 Tri-Rail Shuttle Bus and Feeder Service Study Recommendations

The shuttle bus analysis prepared by SFRTA to support the FY 2007 - FY 2012 SFRTA TDP was reviewed. This 2007 report summarized bus service characteristics at each station, assessed Tri-Rail shuttle route performance, and listed potential service changes for further investigation by Tri-Rail. It also included a detailed inventory of the bus routes serving Tri-Rail stations and the characteristics of those services.

The analysis identified a number of issues with the bus routes serving Tri-Rail as well as the station-bus interface at each station. The service-related recommendations include the following:

- The Port Everglades shuttle route has the lowest ridership of all SFRTA-operated Tri-Rail shuttles. Further evaluation of this route should be conducted to determine whether service should be continued in its present form, cut back, or eliminated. (Note: This shuttle route was discontinued in June 2009).
- Extend Palm Tran Routes 61 and 62 to operate until around 8:30 p.m. to coincide with the end of Tri-Rail service.

- MDT's Route 132 (Koger Shuttle) also has low ridership based on MDT ridership reports. Verification of this route's ridership is first required. If ridership on this route is indeed low, then further evaluation of this route should be conducted to determine whether service should be continued in its present form, cut back, or eliminated.
- The potential for new shuttle service to the Palm Beach Industrial Park near the Mangonia Park Station should be evaluated.
- Consider starting new Tri-Rail shuttle service between the West Palm Beach station and Palm Beach International Airport, as is done with the Ft. Lauderdale and Miami airports.
- Many industrial parks are located near the Opa Locka station. The potential for new shuttle service to one or more of these industrial parks should be evaluated.
- Several industrial and commerce centers also are located west of Miami International Airport. The potential for new shuttle service to one or more of these industrial parks should also be considered.

3. Shuttle Bus Performance Review

This section includes a performance review of the 17 SFRTA shuttle bus routes based on various operating data currently collected and maintained by SFRTA, MDT, and Palm Tran. The review of indicators and measures is presented, followed by a comparative summary of performance for all of the assessed shuttle routes.

INDICATORS & PERFORMANCE MEASURES

An analysis of shuttle bus performance was conducted using industry standard indicators and performance measures including:

- Ridership
- Revenue hours
- Operating cost
- Riders per hour
- Operating cost per trip

Each of these indicators and measures are summarized below. It should be noted that the indicators and measures are presented using data from April 2008 through March 2009, the most current data available to support the assessment.

Annual Ridership

Table 3-1 shows annual ridership by shuttle bus route for April 2008 through March 2009. Based on these data, the Fort Lauderdale International Airport Shuttle has shown the highest annual ridership (22% of total ridership for the 17 routes combined), followed by the Miami Airport Shuttle (17% of total ridership), for the assessed SFRTA shuttle routes. The Sheridan Street Shuttle has exhibited the lowest ridership of this group for shuttles serving Tri-Rail stations during weekdays.

**Table 3-1
Total Annual Ridership (April 2008 - March 2009)**

Shuttle Bus Route	Annual Ridership			Total	% of Total
	Weekday	Saturday	Sunday		
Fort Lauderdale Airport Shuttle - FLA 1	155,606	15,709	14,650	185,965	22%
Miami Airport Shuttle	131,325	8,832	5,784	145,941	17%
Fort Lauderdale Shuttle - FL 1	89,431	n/a	n/a	89,431	10%
Palm Tran Route 94	85,200	n/a	n/a	85,200	10%
SFEC - Davie Campus Shuttle	60,000	n/a	n/a	60,000	7%
Fort Lauderdale Airport Circulator	47,115	n/a	n/a	47,115	6%
Koger Shuttle	39,015	n/a	n/a	39,015	5%
Cypress Creek Shuttle 2	36,368	n/a	n/a	36,368	4%
Pompano Beach Shuttle	28,225	n/a	n/a	28,225	3%
Cypress Creek Shuttle 3	25,566	n/a	n/a	25,566	3%
Deerfield Beach Shuttle 1	21,771	n/a	n/a	21,771	3%
Cypress Creek Shuttle 1	18,468	n/a	n/a	18,468	2%
Boca Center Shuttle – BR 1	18,085	n/a	n/a	18,085	2%
Deerfield Beach Shuttle 2	17,339	n/a	n/a	17,339	2%
Port Everglades Shuttle - FLA 2	11,120	724	1,453	13,297	2%
Sheridan Street Shuttle - SS 1	12,591	n/a	n/a	12,591	1%
Fort Lauderdale Downtown Sun Trolley	Not included	5,280	3,360	8,640	1%
Total	797,225	30,545	25,247	853,017	100%

Source: SFRTA, Palm Tran, BCT, MDT
n/a – Not applicable

Notes:

1. Annual ridership for Fort Lauderdale Airport Circulator from April 2008 to March 2009 was calculated based on average monthly ridership for the available months. The route was implemented in September 2008.
2. Data for Fort Lauderdale Sun Trolley for weekdays are not included as no weekday service is provided to Tri-Rail stations.
3. The Port Everglades shuttle was discontinued in June 2009.

Annual Revenue Hours

Table 3-2 shows the revenue hours by route for weekdays, Saturdays, and Sundays. Based on data from April 2008 through March 2009, the Fort Lauderdale Airport Shuttle route has operated the highest number of revenue hours, with 16 percent of total revenue hours for all SFRTA/FDOT-funded shuttle routes. The Koger Shuttle has operated the least number of weekday revenue hours, with only 2 percent of total revenue hours.

**Table 3-2
Annual Revenue Hours (April 2008 - March 2009)**

Shuttle Bus Route	Annual Revenue Hours			Total	% of Total
	Weekday	Saturday	Sunday		
Fort Lauderdale Airport Shuttle - FLA 1	8,415	720	720	9,855	16%
Palm Tran Route 94	7,098	n/a	n/a	7,098	11%
Fort Lauderdale Shuttle - FL 1	6,885	n/a	n/a	6,885	11%
Miami Airport Shuttle	4,293	708	708	5,709	9%
Pompano Beach Shuttle	4,781	n/a	n/a	4,781	8%
Deerfield Beach Shuttle 1	3,698	n/a	n/a	3,698	6%
Cypress Creek Shuttle 3	3,698	n/a	n/a	3,698	6%
SFEC – Davie Campus Shuttle	3,511	n/a	n/a	3,511	6%
Port Everglades Shuttle - FLA 2	1,652	480	480	2,612	4%
Cypress Creek Shuttle 2	2,372	n/a	n/a	2,372	4%
Cypress Creek Shuttle 1	2,346	n/a	n/a	2,346	4%
Boca Center Shuttle - BR 1	2,040	n/a	n/a	2,040	3%
Fort Lauderdale Airport Circulator	2,040	n/a	n/a	2,040	3%
Deerfield Beach Shuttle 2	1,849	n/a	n/a	1,849	3%
Sheridan Street Shuttle - SS 1	1,721	n/a	n/a	1,721	3%
Koger Shuttle	1,573	n/a	n/a	1,573	2%
Fort Lauderdale Downtown Sun Trolley	Not included	750	654	1,405	2%
Total	57,969	2,658	2,562	63,190	100%

Source: SFRTA, Palm Tran, BCT, MDT
n/a – Not applicable

Notes:

1. Annual Revenue hours for Fort Lauderdale Airport Circulator from April 2008 to March 2009 was calculated based on average monthly revenue hours for the available months. The route was implemented in September 2008.
2. Data for Fort Lauderdale Sun Trolley for weekdays are not included as no weekday service is provided to Tri-Rail stations.
3. The Port Everglades shuttle was discontinued in June 2009.

Annual Operating Cost

Table 3-3 shows the annual operating cost by route for weekdays, Saturdays, and Sundays. Based on data from April 2008 through March 2009, the Fort Lauderdale Airport Shuttle route has the highest operating cost, with 19 percent of the total cost to operate all SFRTA/FDOT-funded shuttle routes. The Fort Lauderdale Airport Circulator and Boca Center Shuttle have the lowest operating cost to operate service on weekdays.

**Table 3-3
Annual Operating Cost (April 2008 - March 2009)**

Shuttle Bus Route	Annual Operating Cost			Total	% of Total
	Weekday	Saturday	Sunday		
Fort Lauderdale Airport Shuttle - FLA 1	\$664,180	\$56,576	\$56,576	\$777,332	19%
Fort Lauderdale Shuttle - FL 1	\$452,140	n/a	n/a	\$452,140	11%
Miami Airport Shuttle	Not available	Not available	Not available	\$415,000	10%
Palm Tran Route 94	\$322,000	n/a	n/a	\$322,000	8%
Pompano Beach Shuttle	\$274,820	n/a	n/a	\$274,820	7%
Cypress Creek Shuttle 1	\$246,480	n/a	n/a	\$246,480	6%
Cypress Creek Shuttle 2	\$242,840	n/a	n/a	\$242,840	6%
Deerfield Beach Shuttle 1	\$232,440	n/a	n/a	\$232,440	6%
SFEC - Davie Campus Shuttle	\$190,000	n/a	n/a	\$190,000	5%
Cypress Creek Shuttle 3	\$182,000	n/a	n/a	\$182,000	4%
Port Everglades Shuttle - FLA 2	\$114,400	\$27,170	\$27,170	\$168,740	4%
Koger Shuttle	\$150,000	n/a	n/a	\$150,000	4%
Deerfield Beach Shuttle 2	\$114,400	n/a	n/a	\$114,400	3%
Sheridan Street Shuttle - SS 1	\$114,400	n/a	n/a	\$114,400	3%
Boca Center Shuttle - BR 1	\$112,200	n/a	n/a	\$112,200	3%
Fort Lauderdale Airport Circulator	\$112,200	n/a	n/a	\$112,200	3%
Fort Lauderdale Downtown Sun Trolley	Not included	Not available	Not available	\$66,684	2%
Total	\$3,524,500	\$83,746	\$83,746	\$4,173,676	100%

Source: SFRTA, Palm Tran, BCT, MDT
n/a – Not applicable

Notes:

1. Annual operating cost for Fort Lauderdale Airport Circulator is based on annual revenue hours and cost per revenue hour of \$55, based on SFRTA staff. The route was implemented in September 2008.
2. Data for Fort Lauderdale Sun Trolley for weekdays are not included as no weekday service is provided to Tri-Rail stations.
3. The Port Everglades shuttle was discontinued in June 2009.

Riders per Hour

Table 3-4 shows the number of riders per revenue hour of service by route for the 17 shuttle bus routes. The Miami Airport Shuttle, Koger Shuttle, and Fort Lauderdale Airport Circulator routes have shown the most riders per hour for the April 2008 to March 2009 period, with more than 23 riders per hour. The Deerfield Beach Shuttle 1 and Pompano Beach Shuttle have the lowest weekday riders per hour for the group, each with 5.9 for the 12-month period.

**Table 3-4
Riders per Hour (April 2008 - March 2009)**

Shuttle Bus Route	Riders per Hour			Overall
	Weekday	Saturday	Sunday	
Miami Airport Shuttle	30.6	12.5	8.2	25.6
Koger Shuttle	24.8	n/a	n/a	24.8
Fort Lauderdale Airport Circulator	23.1	n/a	n/a	23.1
Fort Lauderdale Airport Shuttle - FLA 1	18.5	21.8	20.3	18.9
SFEC - Davie Campus Shuttle	17.1	n/a	n/a	17.1
Cypress Creek Shuttle 2	15.3	n/a	n/a	15.3
Fort Lauderdale Shuttle - FL 1	13.0	n/a	n/a	13.0
Palm Tran Route 94	12.0	n/a	n/a	12.0
Deerfield Beach Shuttle 2	9.4	n/a	n/a	9.4
Boca Center Shuttle - BR 1	8.9	n/a	n/a	8.9
Cypress Creek Shuttle 1	7.9	n/a	n/a	7.9
Sheridan Street Shuttle - SS 1	7.3	n/a	n/a	7.3
Cypress Creek Shuttle 3	6.9	n/a	n/a	6.9
Fort Lauderdale Downtown Sun Trolley	Not included	7.0	5.1	6.2
Pompano Beach Shuttle	5.9	n/a	n/a	5.9
Deerfield Beach Shuttle 1	5.9	n/a	n/a	5.9
Port Everglades Shuttle - FLA 2	6.7	1.5	3.0	5.1
Average	13.3	10.7	9.2	12.5

Source: SFRTA, Palm Tran, BCT, MDT

n/a - Not applicable.

Notes:

1. Riders per revenue hour for Fort Lauderdale Airport Circulator from April 2008 to March 2009 were calculated based on data for annual ridership and revenue hours presented previously. The route was implemented in September 2008.
2. Data for Fort Lauderdale Sun Trolley for weekdays are not included as no weekday service is provided to Tri-Rail stations.
3. The Port Everglades shuttle was discontinued in June 2009.

Operating Cost per Trip

Based on the shuttle route cost and ridership data presented previously, Table 3-5 shows the cost per trip for each route. The Fort Lauderdale Airport Circulator shows the lowest cost per trip, at \$2.38. During the 12-month period, the Cypress Creek Shuttle 1 was the most costly to operate, at \$13.35 per trip.

**Table 3-5
Operating Cost per Trip (April 2008 - March 2009)**

Shuttle Bus Route	Cost Per Trip			Overall
	Weekday	Saturday	Sunday	
Fort Lauderdale Airport Circulator	\$2.38	n/a	n/a	\$2.38
Miami Airport Shuttle	Not available	Not available	Not available	\$2.84
SFEC - Davie Campus Shuttle	\$3.17	n/a	n/a	\$3.17
Palm Tran Route 94	\$3.78	n/a	n/a	\$3.78
Koger Shuttle	\$3.84	n/a	n/a	\$3.84
Fort Lauderdale Airport Shuttle - FLA 1	\$4.27	\$3.60	\$3.86	\$4.18
Fort Lauderdale Shuttle - FL 1	\$5.06	n/a	n/a	\$5.06
Boca Center Shuttle - BR 1	\$6.20	n/a	n/a	\$6.20
Deerfield Beach Shuttle 2	\$6.60	n/a	n/a	\$6.60
Cypress Creek Shuttle 2	\$6.68	n/a	n/a	\$6.68
Cypress Creek Shuttle 3	\$7.12	n/a	n/a	\$7.12
Fort Lauderdale Downtown Sun Trolley	Not included	Not available	Not available	\$7.72
Sheridan Street Shuttle - SS 1	\$9.09	n/a	n/a	\$9.09
Pompano Beach Shuttle	\$9.74	n/a	n/a	\$9.74
Deerfield Beach Shuttle 1	\$10.68	n/a	n/a	\$10.68
Port Everglades Shuttle - FLA 2	\$10.29	\$37.53	\$18.70	\$12.69
Cypress Creek Shuttle 1	\$13.35	n/a	n/a	\$13.35
Average	\$6.82	\$20.56	\$11.28	\$6.77

Source: SFRTA, Palm Tran, BCT, MDT
n/a - Not applicable

Notes:

1. Operating cost per trip for Fort Lauderdale Airport Circulator from April 2008 to March 2009 was calculated based on data for annual ridership and operating costs presented previously. The route was implemented in September 2008.
2. Data for Fort Lauderdale Sun Trolley for weekdays are not included as no weekday service is provided to Tri-Rail stations.
3. The Port Everglades shuttle was discontinued in June 2009.

Summary

Table 3-6 summarizes the performance review for the 17 shuttle bus routes, conducted using a number of standard indicators and performance measures typically used in the transit industry. Ranked based on one of the performance measures, riders per hour, Table 3-6 presents the route level ridership, revenue hours, operating cost, and operating cost per trip for the period from April 2008 through March 2009.

**Table 3-6
Summary of Shuttle Bus Performance (April 2008 - March 2009)**

Shuttle Bus Route	Total Annual Ridership	Annual Revenue Hours	Annual Operating Cost	Riders per Hour	Cost per Trip
Miami Airport Shuttle	145,941	5,709	\$415,000	25.6	\$2.84
Koger Shuttle	39,015	1,573	\$150,000	24.8	\$3.84
Fort Lauderdale Airport Circulator	47,115	2,040	\$112,200	23.1	\$2.38
Fort Lauderdale Airport Shuttle - FLA 1	185,965	9,855	\$777,332	18.9	\$4.18
SFEC - Davie Campus Shuttle	60,000	3,511	\$190,000	17.1	\$3.17
Cypress Creek Shuttle 2	36,368	2,372	\$242,840	15.3	\$6.68
Fort Lauderdale Shuttle - FL 1	89,431	6,885	\$452,140	13.0	\$5.06
Palm Tran Route 94	85,200	7,098	\$322,000	12.0	\$3.78
Deerfield Beach Shuttle 2	17,339	1,849	\$114,400	9.4	\$6.60
Boca Center Shuttle - BR 1	18,085	2,040	\$112,200	8.9	\$6.20
Cypress Creek Shuttle 1	18,468	2,346	\$246,480	7.9	\$13.35
Sheridan Street Shuttle - SS 1	12,591	1,721	\$114,400	7.3	\$9.09
Cypress Creek Shuttle 3	25,556	3,698	\$182,000	6.9	\$7.12
Fort Lauderdale Downtown Sun Trolley	8,640	1,405	\$66,684	6.2	\$7.72
Pompano Beach Shuttle	28,225	4,781	\$274,820	5.9	\$9.74
Deerfield Beach Shuttle 1	21,771	3,698	\$232,440	5.9	\$10.68
Port Everglades Shuttle - FLA 2	13,297	2,612	\$168,740	5.1	\$12.69
Total or Average	853,017	63,190	\$4,173,676	12.5	\$6.77

Source: SFRTA, Palm Tran, BCT, MDT

Note: The Port Everglades shuttle was discontinued in June 2009.

4. Service and Financial Assessment

A key goal of the shuttle study was to evaluate the existing shuttle routes that are partially or fully funded by SFRTA or FDOT. As the initial step to achieve this goal and provide guidance to SFRTA with service-related decisions on the 17 shuttle routes, a shuttle bus performance review was conducted, which was presented previously in this report. The performance data were then summarized and presented to SFRTA's Planning Technical Advisory Committee (PTAC) for further guidance on shuttle bus service assessment. Based on the guidance received, a refined shuttle bus assessment was conducted using various data received from SFRTA on shuttle bus performance and route coverage, as well as input from field data collections conducted recently as part of this study. The overview and guidance from the PTAC is summarized below and followed by the refined shuttle bus assessment.

PTAC WORKSHOP

On Wednesday, June 24, 2009, a workshop was held with the PTAC as part of their regular June meeting at SFRTA. The purpose of the workshop was to:

- provide an overview of the shuttle bus assessment project;
- summarize the project objectives;
- present shuttle bus route performance data; and
- facilitate discussion of performance measures and possible methodologies for the prioritization of shuttle bus routes.

A brief presentation was given to provide background on the project, which led to a discussion of performance measures and the prioritization of shuttle bus routes. Table 4-1, which provides performance data for shuttle bus routes, was distributed and reviewed with the committee. The table included the following information:

- Route name
- Average daily ridership (weekday, Saturday, Sunday)
- Total annual ridership
- Riders per revenue hour
- Annual operating cost
- Revenues and sources
- Local bus routes serving stations (potential duplication of service)

**Table 4-1
Shuttle Bus Service & Financial Summary - As Presented to PTAC**

Shuttle Bus Route	Average Daily Ridership			Total Annual Ridership	Riders per Revenue Hour	Annual Cost	Revenues	% of Cost	Funding Source	Local Routes (potential duplication in bold)
	Weekday	Saturday	Sunday							
Miami Airport Shuttle	515	184	121	145,941	25.6	\$415,000	\$415,000	100%	FDOT	MDT 37, 57, 238
Koger Shuttle	153	n/a	n/a	39,015	24.8	\$150,000	\$150,000	100%	FDOT	MDT J, 36 , 42
Fort Lauderdale Airport Circulator	186	n/a	n/a	47,115	23.1	\$112,200	\$112,200	100%	FDOT	BCT 4, 6, 15, 16
Fort Lauderdale Airport Shuttle - FLA 1	610	327	305	185,965	18.9	\$777,332	\$777,332	100%	FDOT	BCT 4, 6, 15, 16
SFEC – Davie Campus Shuttle	235	n/a	n/a	60,000	17.1	\$190,000	\$95,000	50%	FDOT	BCT 4, 6, 15, 16
							\$95,000	50%	SFEC TMA	
Cypress Creek Shuttle 2	143	n/a	n/a	36,368	15.3	\$242,840	\$242,840	100%	FDOT	BCT 60, 62
Fort Lauderdale Shuttle - FL 1	351	n/a	n/a	89,431	13.0	\$452,140	\$452,140	100%	FDOT	BCT 9, 22, 81
Palm Tran Route 94	334	n/a	n/a	85,200	12.0	\$322,000	\$161,000	50%	FDOT	Palm Tran 2, 94
							\$161,000	50%	City of Boca Raton	
Deerfield Beach Shuttle 2	68	n/a	n/a	17,339	9.4	\$114,400	\$114,400	100%	FDOT	BCT 48
Boca Raton Shuttle - BR 1	71	n/a	n/a	18,085	8.9	\$112,200	\$100,000	89%	Private Developer (Teachers)	Palm Tran 2 , 94
							\$12,200	11%	SFRTA General Funds	
Cypress Creek Shuttle 1	72	n/a	n/a	18,468	7.9	\$246,480	\$246,480	100%	FDOT	BCT 60, 62
Sheridan Street Shuttle - SS 1	49	n/a	n/a	12,591	7.3	\$114,400	\$114,400	100%	FDOT	BCT 3, 12 , 17
Cypress Creek Shuttle 3	100	n/a	n/a	25,566	6.9	\$182,000	\$182,000	100%	FDOT	BCT 60, 62
Fort Lauderdale Downtown Sun Trolley	No service to Tri-Rail station	110	70	8,640	6.2	\$66,684	\$34,000	50%	SFRTA General Funds	BCT 9, 22, 81
							\$34,000	50%	Downtown Ft. Lauderdale TMA	
Pompano Beach Shuttle	55	n/a	n/a	28,225	5.9	\$274,820	\$274,820	100%	FDOT	BCT 34
Deerfield Beach Shuttles 1	43	n/a	n/a	21,771	5.9	\$232,440	\$232,440	100%	FDOT	BCT 48
Port Everglades Shuttle - FLA 2	44	15	30	13,297	5.1	\$168,740	\$168,740	100%	FDOT	BCT 4, 6, 15, 16
Total	3,029	636	526	853,017	Average: 12.5	\$4,173,676	\$4,174,992	n/a	n/a	n/a

Source: SFRTA, Palm Tran, BCT, MDT
n/a – Not applicable

Notes:

1. Service performance data for the Fort Lauderdale Airport Circulator is for seven months only. The route was implemented in September 2008. However, annual ridership and operating cost data for the Fort Lauderdale Airport Circulator shows the projected annual cost. Revenues for the circulator also assume 100% funding from FDOT.
2. Data for Fort Lauderdale Sun Trolley for weekdays is not included as no weekday service is provided to Tri-Rail stations.
3. The red line represents a theoretical worst-case scenario.

The shuttle bus routes were sorted by riders per revenue hour (from high to low). The minimum available funding from FDOT (\$2.6 million) was then used to hypothetically determine which routes could be funded using this initial set of priorities; 10 of 17 routes could be funded in this scenario. This hypothetical scenario was used to facilitate discussion with the committee. Key results of the discussion are highlighted below:

- It was announced that, after additional assessment of the coming budget year, SFRTA has determined that it will be able to fund the operation of all existing shuttle bus routes for the coming fiscal year. This provides additional time in the coming months to continue the dialog as to how shuttle bus service should be prioritized in the future. However, it will be important that policy direction be determined in sufficient time to support the next budget cycle for SFRTA.
- The discussion centered largely on the importance of considering criteria beyond ridership productivity (i.e., riders per revenue hour measure).
- Consensus was reached that the following criteria should be considered as part of a review and discussion of shuttle bus service priorities:
 - Average weekday daily ridership
 - Total annual ridership
 - Riders per revenue hour
 - Operating cost per trip
 - Potential duplication of service (local routes vs. shuttle bus routes)
- Some discussion occurred regarding the adoption of a minimum threshold for shuttle bus route performance. While the consulting team discussed a potential threshold of 7 riders per revenue hour, there are no industry standards and no consensus was reached in discussions with the committee.
- For shuttle bus routes that operated for a partial year, the committee directed that the data (ridership and operating costs) should be annualized to ensure an “apples-to-apples” comparison. (Table 4-1 was revised to show annualized ridership and operating costs.)
- Based on the consensus direction from the committee, performance data were updated to address the previous comments and incorporated into this report.

- This report will be used by SFRTA as a reference to support shuttle bus route considerations in the annual update of SFRTA's TDP.

Overall, the workshop discussion was productive and provided solid guidance for the completion of the project for FDOT District 4 and SFRTA.

SHUTTLE BUS ASSESSMENT

Based on guidance received from the PTAC, the analysis of available data, the review of industry practices in evaluating transit route performances, and consideration of key areas applicable to current service and funding conditions for SFRTA, five main criteria were selected for assessing shuttle bus performance:

- Total annual ridership
- Average weekday daily ridership
- Riders per revenue hour
- Operating cost per trip
- Potential duplication of service (local routes vs. shuttle bus routes)

Each of these criteria is summarized below.

Total Annual Ridership

Ridership is a key indicator of service effectiveness in transit performance assessments. Absolute ridership for a route provides the number of unlinked transit trips served, giving a clear indication of the actual volume of travelers that would be impacted by service modifications for that route.

Average Weekday Daily Ridership

This average number of shuttle bus trips on a route on a weekday is also used as a criterion for assessing the shuttle bus routes. In addition to total annual ridership, ridership from Monday through Friday on shuttle buses also is a key indicator of route's effectiveness as most of the shuttle buses serve commuter needs and operate only on weekdays.

Riders per Hour

Riders per revenue hour refers to the number of passenger trips divided by the revenue hours of service being provided. The number of riders per revenue hour is considered a key measure of ridership productivity. As the single most-used productivity criterion in transit performance assessments, the measure provides a common basis when examining the relative performance of a set of bus routes. Riders per hour is another indicator of shuttle route effectiveness and a measure that represents the level of demand achieved in response to the amount of service provided.

Operating Cost per Trip

Broadly defined, operating cost per trip is the route's operating cost divided by its ridership. In the SFRTA shuttle route assessment, this criterion measures the cost efficiency of a shuttle route and is used as one of the key indicators of comparative performance, as it reflects both the efficiency with which service is delivered and the market demand for the transit service.

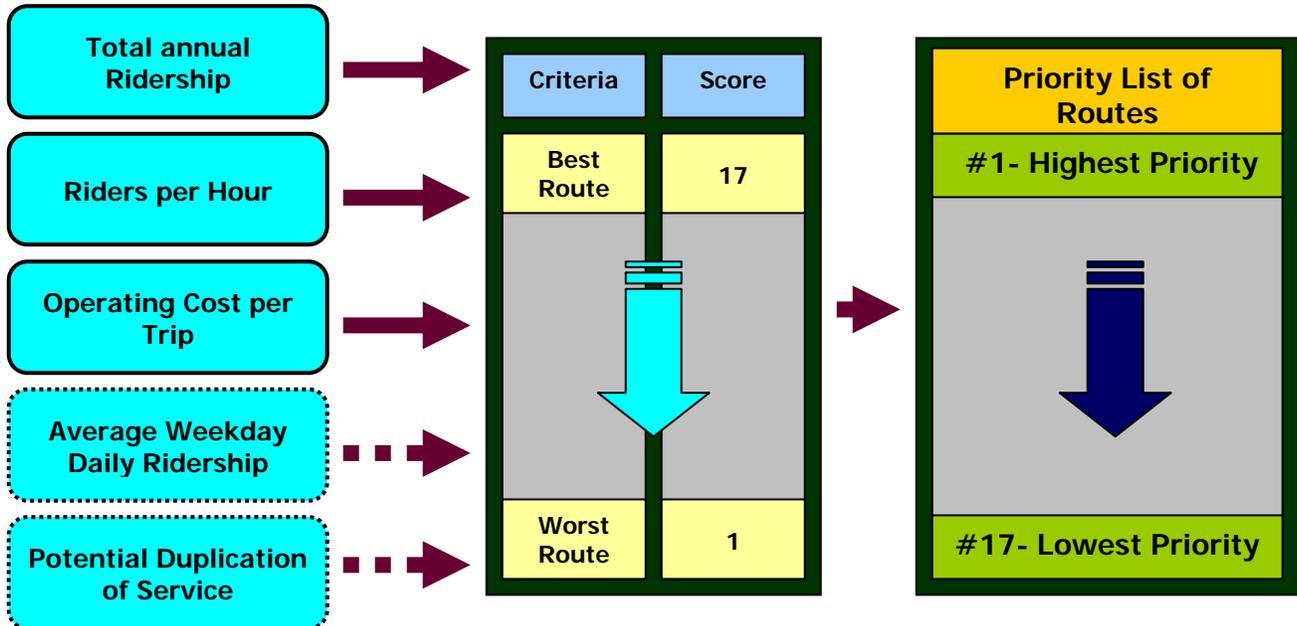
Potential Duplication of Service (local routes vs. shuttle bus routes)

Currently, a number of routes operated by Palm Tran in Palm Beach County, BCT in Broward County, and MDT in Miami-Dade County also provide access to Tri-Rail stations. To varying degrees, service areas of these routes overlap with the shuttle bus service areas. Therefore, potential duplication of service also is considered as a criterion in the assessment. However, it should be noted that the duplication is only "potential" as service provided by the overlapping route or routes may not be at a level (i.e., frequency, span of service, directness of service, convenience of connectivity to activity centers, etc.) that is sufficient to adequately replace the shuttle service.

Assessment Process

The five criteria are used in the shuttle bus assessment process to develop initial priorities for funding. However, out of the five criteria in the assessment process, only three are used to quantitatively measure the shuttle routes. These include total annual ridership, riders per revenue hour, and cost per trip. Once the routes are prioritized quantitatively, the other two criteria, average weekday daily ridership and potential duplication of service, are used qualitatively to assess the routes. The shuttle bus service and financial assessment process is illustrated in Figure 4-1.

Figure 4-1
Shuttle Bus Evaluation Process Flow Chart



As indicated earlier, SFRTA has determined that it will be able to fund the operation of all existing shuttle bus routes for the coming fiscal year. The results of this assessment process provide an initial set of priorities and necessary background information to continue the dialog as to how shuttle bus service should be prioritized in the future.

The remainder of this section summarizes the methodology used in the shuttle bus assessment process, including the scoring strategy. This is followed by a summary documenting the results of the assessment of the SFRTA shuttle routes.

The 17 shuttle routes were scored from 17 to 1 based on each route's respective rank within the group for each criterion. For example, the route with the highest riders-per-hour measure received a 17, while the route with the lowest one received a 1. This was completed for each of the three criteria and the ranking scores then were summed for each route. The total scores were ranked to determine an initial priority order for the shuttle routes.

Summary of Assessment Results

Table 4-2 presents the shuttle bus service and financial assessment matrix with scoring for each of the three quantitatively measured criteria and the final total score for each shuttle route.

**Table 4-2
Shuttle Bus Assessment Results Using Quantitative Criteria**

Rank	Shuttle Bus Route	Criteria ¹						Total Score
		1		2		3		
		Total Annual Ridership	Score	Riders per Hour	Score	Operating Cost per Trip	Score	
1	Miami Airport Shuttle	145,941	16	25.6	17	\$2.84	16	49
2	Fort Lauderdale International Airport Circulator	47,115	12	23.1	15	\$2.38	17	44
3	Fort Lauderdale International Airport Shuttle – FLA 1	185,965	17	18.9	14	\$4.18	12	43
4	SFEC – Davie Campus Shuttle	60,000	13	17.1	13	\$3.17	15	41
5	Koger Shuttle	39,015	11	24.8	16	\$3.84	13	40
6	Palm Tran Route 94	85,200	14	12.0	10	\$3.78	14	38
7	Fort Lauderdale Shuttle – FL 1	89,431	15	13.0	11	\$5.06	11	37
8	Cypress Creek Shuttle 2	36,368	10	15.3	12	\$6.68	8	30
9	Boca Raton Shuttle – BR 1	18,085	5	8.9	8	\$6.20	10	23
10	Deerfield Beach Shuttle 2	17,339	4	9.4	9	\$6.60	9	22
11	Cypress Creek Shuttle 3	25,566	8	6.9	5	\$7.12	7	20
12	Pompano Beach Shuttle	28,225	9	5.9	3	\$9.74	4	16
13	Cypress Creek Shuttle 1	18,468	6	7.9	7	\$13.35	1	14
14	Sheridan Street Shuttle – SS 1	12,591	2	7.3	6	\$9.09	5	13
15	Deerfield Beach Shuttles 1	21,771	7	5.9	2	\$10.68	3	12
16	Fort Lauderdale Downtown Shuttle - Sun Trolley	8,640	1	6.2	4	\$7.72	6	11
17	Port Everglades Shuttle – FLA 2	13,297	3	5.1	1	\$12.69	2	6

¹Criterion scores are assigned 1 through 17 based on performance ranking for total annual ridership, riders per hour, and cost per trip.
Note: The Port Everglades shuttle was discontinued in June 2009.

As funding will be available to operate the 17 shuttles in the coming fiscal year, a low-priority route may not necessarily indicate a route modification or discontinuation. However, if a basis for action is required, these results should be further refined with the route level qualitative assessment based on average weekday daily ridership and potential service duplications to provide decision-makers with good information on the effectiveness of existing service.

It is important to recognize that this analysis process should be updated annually with current data before using the assessment priorities for supporting future shuttle route decisions.

5: Revenue Assessment and Funding Priorities

The revenues for shuttle bus routes serving Tri-Rail have come primarily from FDOT transit funds. Currently, 17 of the 27 shuttles routes are either partially or fully funded by FDOT and SFRTA. To leverage FDOT assistance, Palm Beach, Broward, and Miami-Dade have provided matching funds, ensuring shuttle bus service provision by SFRTA, Palm Tran, BCT, MDT, and others. Many cities served by shuttle routes also have actively participated in the funding of shuttle routes and continue to play a key role. The combined funding contributions from FDOT, Palm Beach County, Broward County, Miami-Dade County, SFRTA, and participating cities currently ensures the provision of the Tri- Rail shuttle bus services in the coming year. The recent concerns about funding limitations have prompted an assessment of the current funding sources and impact of potential reductions.

The remainder of this section summarizes the current revenues available for operating shuttle buses, and is followed by an analysis of the impact of a potential reduction in revenues on existing shuttle services. The existing revenues are summarized by the source of funding and the amount of funding available annually.

EXISTING REVENUES

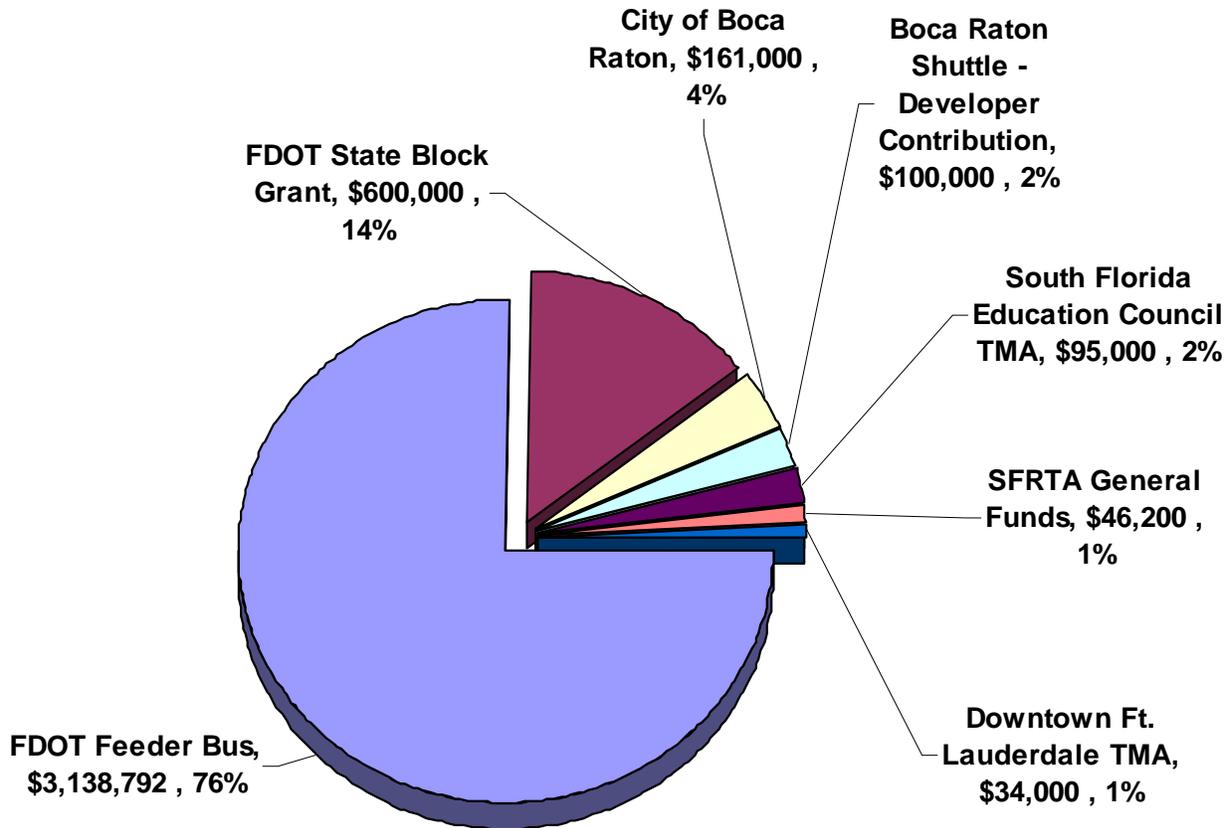
Table 5-1 and Figure 5-1 present the distribution of current funding available for the 17 shuttle buses analyzed in this study.

**Table 5-1
Existing Funding by Source**

Funding Source	Funding Type	Total Revenues
FDOT Feeder Bus	FDOT	\$3,138,792
FDOT State Block Grant	FDOT	\$600,000
City of Boca Raton	Local	\$161,000
Boca Center Shuttle - Developer Contribution	Private	\$100,000
South Florida Education Council TMA	Local	\$95,000
SFRTA General Funds	Regional	\$46,200
Downtown Ft. Lauderdale TMA	Local	\$34,000
Total		\$4,174,992

Source: SFRTA & FDOT

**Figure 5-1
Existing Funding by Source**



FUTURE MINIMUM REVENUES

The worst-case funding scenario was considered by only including FDOT funding. Based on input from FDOT and SFRTA staff on this scenario, the distribution of the minimum revenues that would be available to fund the 17 routes is presented in Table 5-2. This assumes that no local (city, county, and/or private contributions) or regional (SFRTA) funding is available.

**Table 5-2
Future Minimum Funding by Source**

Funding Source	Funding Type	Total Revenues
FDOT Feeder Bus	FDOT	\$2,000,000
FDOT State Block Grant	FDOT	\$600,000
Total		\$2,600,000

Source: SFRTA & FDOT

Note: Shows the worst-case funding scenario.

Table 5-3 shows the 17 shuttle bus routes sorted by the quantitative assessment score presented previously in Section 4 (from high to low). Repeating the same concept used for the PTAC workshop, the \$2.6 million in minimum funding is again used to determine which routes could be funded using the final set of priorities. Based on the priority ranking resulting from the quantitative assessment previously presented in this report, 10 of 17 routes could be funded in this scenario.

REVENUES AVAILABLE FOR OPERATING SHUTTLE BUS SERVICES (FY 2009/2010)

Using fund balance from previous years, SFRTA is able to continue funding all existing shuttle bus routes in FY 2009/10. This provides additional time to evaluate the shuttle bus program and determine the next steps for continuing to fund shuttle bus services to Tri-Rail stations in subsequent years. More than \$4.8 million is available for shuttle bus services, including \$4.45 million in SFRTA's operating budget for FY 2009/10 and a projected fund balance of over \$358,000 at the end of FY 2009/2010. The allocation of the \$4.8 million in shuttle bus funding is summarized in Table 5-4.

**Table 5-3
Shuttle Bus Service & Financial Summary - Existing FY 2009/10**

Priority Rank	Shuttle Bus Route	Average Weekday Daily Ridership	Total Annual Ridership	Riders per Revenue Hour	Annual Operating Cost per Trip	Annual Operating Cost	Revenues	% of Cost	Funding Source	Local Routes with Potential Duplication
1	Miami Airport Shuttle	515	145,941	25.6	\$2.84	\$415,000	\$415,000	100%	FDOT	MDT 37, 57, 238
2	Fort Lauderdale Airport Circulator	186	47,115	23.1	\$2.38	\$112,200	\$112,200	100%	FDOT	n/a
3	Fort Lauderdale Airport Shuttle - FLA 1	610	185,965	18.9	\$4.18	\$777,332	\$777,332	100%	FDOT	n/a
4	SFEC – Davie Campus Shuttle	235	60,000	17.1	\$3.17	\$190,000	\$95,000	50%	FDOT	n/a
							\$95,000	50%	SFEC TMA	
5	Koger Shuttle	153	39,015	24.8	\$3.84	\$150,000	\$150,000	100%	FDOT	MDT 36
6	Palm Tran Route 94	334	85,200	12.0	\$3.78	\$322,000	\$161,000	50%	FDOT	n/a
							\$161,000	50%	City of Boca Raton	
7	Fort Lauderdale Shuttle - FL 1	351	89,431	13.0	\$5.06	\$452,140	\$452,140	100%	FDOT	BCT 9, 22, 81
8	Cypress Creek Shuttle 2	143	36,368	15.3	\$6.68	\$242,840	\$242,840	100%	FDOT	n/a
9	Boca Raton Shuttle - BR 1	71	18,085	8.9	6.20	\$112,200	\$100,000	89%	Private Developer (Teachers)	Palm Tran 2
							\$12,200	11%	SFRTA General Funds	
10	Deerfield Beach Shuttle 2	68	17,339	9.4	\$6.60	\$114,400	\$114,400	100%	FDOT	n/a
11	Cypress Creek Shuttle 3	100	25,566	6.9	\$7.12	\$182,000	\$182,000	100%	FDOT	BCT 62
12	Pompano Beach Shuttle	55	28,225	5.9	\$9.74	\$274,820	\$274,820	100%	FDOT	n/a
13	Cypress Creek Shuttle 1	72	18,468	7.9	\$13.35	\$246,480	\$246,480	100%	FDOT	n/a
14	Sheridan Street Shuttle - SS 1	49	12,591	7.3	\$9.09	\$114,400	\$114,400	100%	FDOT	BCT 12
15	Deerfield Beach Shuttles 1	43	21,771	5.9	\$10.68	\$232,440	\$232,440	100%	FDOT	BCT 48
16	Fort Lauderdale Downtown Sun Trolley	No service to Tri-Rail station	8,640	6.2	\$7.72	\$66,684	\$34,000	50%	SFRTA General Funds	BCT 9, 22, 81
							\$34,000	50%	Downtown Ft. Lauderdale TMA	
17	Port Everglades Shuttle - FLA 2	44	13,297	5.1	\$12.69	\$168,740	\$168,740	100%	FDOT	n/a
Total		3,029	853,017	Average: 12.5	Average: \$6.77	\$4,173,676	\$4,174,992	n/a	n/a	n/a

Source: SFRTA, Palm Tran, BCT, MDT
n/a – Not applicable

Notes:

1. Service performance data for the Fort Lauderdale Airport Circulator is for seven months only. The route was implemented in September 2008. However, annual ridership and operating cost data for the Fort Lauderdale Airport Circulator shows the projected annual cost. Revenues for the circulator also assume 100% funding from FDOT.
2. Data for Fort Lauderdale Sun Trolley for weekdays is not included as no weekday service is provided to Tri-Rail stations.
3. The Port Everglades shuttle was discontinued in June 2009.
4. The red line represents a theoretical worst-case scenario.

**Table 5-4
Revenues Available for Operating Shuttle Bus Services (FY 2009/10)**

Shuttle Bus Route	Revenues
Miami Airport Shuttle	\$415,000
Fort Lauderdale Airport Circulator	\$112,200
Fort Lauderdale Airport Shuttle - FLA 1	\$777,332
SFEC – Davie Campus Shuttle	\$95,000
Koger Shuttle	\$150,000
Palm Tran Route 94	\$161,000
Fort Lauderdale Shuttle - FL 1	\$452,140
Cypress Creek Shuttle 2	\$242,840
Boca Center Shuttle - BR 1	\$12,200
Deerfield Beach Shuttle 2	\$114,400
Cypress Creek Shuttle 3	\$182,000
Pompano Beach Shuttle	\$274,820
Cypress Creek Shuttle 1	\$246,480
Sheridan Street Shuttle - SS 1	\$114,400
Deerfield Beach Shuttles 1	\$232,440
Fort Lauderdale Downtown Sun Trolley	\$34,000
Funds Associated with Discontinued Port Everglades Shuttle	\$168,740
Palm Tran	\$666,000
SFRTA Operating Budget (FY 2009/10)	\$4,450,992
Projected Fund Balance (end of FY 2009/10)	\$358,407
Available Shuttle Bus Funding as of 7/23/2009	\$4,809,399

Sources: SFRTA & FDOT