SOUTH FLORIDA REGIONAL TRANSPORTATION AUTHORITY

FY 2009 - 2018

TRANSIT DEVELOPMENT PLAN

MAJOR UPDATE

submitted to:

South Florida Regional Transportation Authority

submitted by:

PB Americas, Inc.

submittal date:

August 2008 (Revised December 2008)

SOUTH FLORIDA REGIONAL TRANSPORTATION AUTHORITY

TRANSIT DEVELOPMENT PLAN MAJOR UPDATE
FY 2009-2018

Prepared by:

PB
7300 Corporate Center Drive
Suite 600
Miami, FL 33126

August 2008
(Revised December 2008)

Table of Contents

S.0 EXECUTIVE SUMMARY S-1

S.1 Overview of South Florida Regional Transportation Authority S-1

S.2 FY 2007-2008 Overview of SFRTA Accomplishments S-13

S.2.1 Ridership Growth S-13

S.2.2 Improved On-Time Performance S-14

S.2.3 Moving Towards the Use of Biodiesel as Fuel for Locomotives S-14

S.2.4 Improvements to Palm Tran Route 94 ..... S-14

S.2.5 Approval of Transit Oriented Development in Deerfield Beach S-15

S.2.6 Completion of Strategic Regional Transit Plan S-15

S.3 SFRTA TDP Major Update Goals and Objectives S-15

S.4 Overview of Regional Operating environment S-16

S.5 Public Involvement Activities S-17

S.5.1 Tri-Rail On-Board Survey S-18

S.6 Programmed and Planned Projects FY 2009 – FY 2018 ..... S-20

S.7 SFRTA Programmed Projects FY 2009 - FY 2013 ..... S-21

S.8 Unfunded Needs FY 2009 – FY2013 ..... S-22

S.8.1 Dispatch and Maintenance of the South Florida Rail Corridor S-22

S.8.2 North Storage and Crew Facility S-22

S.8.3 Tri-Rail Station Shuttle Bus Service Improvements S-22

S.9 Improvement Recommendations FY 2014 – FY 2018 ..... S-22

S.9.1 Station and Parking Lot Improvements S-22

S.9.2 New Tri- Rail Station Locations S-23

S.9.3 Additional Planning and Technical Evaluation Study Recommendations S-23

S.9.4 Evaluate and Assess Additional Operating Revenue Options S-24

S.9.5 Evaluate the Development/Implementation of a Parking Fee program S-24

S.9.6 Rolling Stock Rehabilitation/Overhaul S-24

S.9.7 New Rolling Stock S-24

1.0 INTRODUCTION 1-1

1.1 Amended Transit Development Plan Requirements 1-1

1.2 FY 2007-2008 Overview of SFRTA Accomplishments 1-3

1.2.1 Ridership Growth 1-3
1.2.2 Improved On-Time Performance 1-4
1.2.3 Moving Towards the Use of Biodiesel as Fuel for Locomotives 1-5
1.2.4 Improvements to Palm Tran Route 94 1-5
1.2.5 Approval of Transit Oriented Development in Deerfield Beach 1-5
1.2.6 Completion of Strategic Regional Transit Plan 1-6

1.3 SFRTA TDP Major Update Goals and Objectives 1-6
1.3.1 Goal 1: Develop Cost Effective Transit System 1-7
1.3.2 Goal 2: Expand System Facilities and Operations 1-7
1.3.3 Goal 3: Improve Intergovernmental Coordination 1-8
1.3.4 Goal 4: Expand Funding Opportunities for the SFRTA System 1-9
1.3.5 Goal 5: Increase Customer Safety, Convenience and Comfort 1-9
1.3.6 Goal 6: Stimulate Transit-Oriented Development (TOD) at or near Tri-Rail Station Areas 1-10
1.3.7 Goal 7: Pursue opportunities to maximize on Transportation Demand Management (TDM) strategies being implemented throughout the region 1-10
1.3.8 Goal 8: Pursue Opportunities to Promote Sustainability and Environmental Goals for the South Florida Region. 1-10

1.4 Local and Regional Plans and Policies Review 1-12
1.4.1 Florida Department of Transportation 1-12
1.4.2 Metropolitan Planning Organizations 1-12
1.4.3 Regional Planning Councils 1-14
1.4.4 South Florida Regional Transportation Authority 1-15

2.0 REGIONAL OPERATING ENVIRONMENT 2-1

2.1 Land Use 2-1
2.1.1 Tri-Rail Corridor 2-1
2.1.2 Palm Beach County 2-1
2.1.3 Broward County 2-2
2.1.4 Miami Dade County 2-2

2.2 Demographic and Economic Analysis 2-2
2.2.1 United States Census 2-2
2.2.2 American Community Survey (ACS) 2-3

2.3 Population Characteristics 2-3
2.3.1 Race and Ethnicity 2-5
2.3.2 Household Characteristics 2-7

2.4 Transit Dependent Populations 2-9

2.4.1 Income 2-9
2.4.2 Mobility Limited and Zero Vehicle Populations 2-10
2.4.3 Age Distribution 2-15

2.5 South Florida Commuting Patterns 2-16
2.5.1 Travel time to work 2-16
2.5.2 County to County Workflows 2-17

2.6 Regional Highway and Roadway Conditions 2-20
2.6.1 I-95 (Palm Beach County to Miami-Dade County) 2-20
2.6.2 East-West Roadways 2-21

2.7 South Florida Railroad Network 2-26
2.7.1 Florida East Coast Railway 2-26
2.7.2 CSX Transportation 2-26
2.7.3 Florida Department of Transportation 2-28

2.8 Freight Patterns and Trends 2-28
2.8.1 Local Freight Volume 2-28
2.8.2 Local Freight Traffic 2-29

2.9 Trends in Local Transit Use 2-29
2.9.1 Local Transit Agency Comparison 2-29

2.10 Tri-Rail and Peer Comparison 2-30

2.11 Vanpooling 2-31

3.0 DESCRIPTION OF PLANNING AGENCIES 3-1

3.1 State and Local Levels 3-2
3.1.1 Metropolitan Planning Organization 3-2
3.1.2 Regional Planning Councils 3-4
3.1.3 Florida Department of Transportation (FDOT) 3-5

3.2 SFRTA Integration with Agencies 3-5
3.2.1 Regional Transit Supportive Goals 3-6

3.3 Overview of Regional Projects 3-7
3.3.1 South Florida Region 3-9
3.3.2 Palm Beach County 3-10
3.3.3 Broward County 3-11
3.3.4 Miami-Dade County 3-12

4.0 OVERVIEW OF LOCAL TRANSIT OPERATORS 4-1

4.1 Palm Tran 4-1

4.2 Broward County Transit 4-5

4.3 Miami-Dade Transit 4-10

5.0 OVERVIEW OF TRANSIT AGENCY TRANSIT DEVELOPMENT PLANS.... 5-1

5.1 Palm Beach County Transit Development Plan, 2006-2016 5-1

5.1.1 Proposed Service Improvements for Routes serving Tri-Rail Stations...5-1

5.1.2 Assessment 5-2

5.2 Broward MPO, Broward County TDP Annual Progress Report, FY 2008-2012. New Horizons 2007 (September 2007)....5-3

5.2.1 Proposed Service Improvements for Routes serving Tri-Rail Stations...5-4

5.2.2 Assessment 5-5

5.3 Miami-Dade Transit (MDT) 2007 Transit Development Program (TDP) Minor Update for FY 2008-2012....5-5

5.3.1 Metrobus....5-6

5.3.2 Metrorail....5-6

5.3.3 Metromover....5-6

5.3.4 Special Transportation Services (STS):....5-6

5.3.5 Proposed Service Improvements for Routes serving Tri-Rail Stations...5-7

5.3.6 Assessment: 5-8

6.0 OVERVIEW OF SFRTA 6-1

6.1 South Florida Regional Transportation Authority....6-1

6.2 Tri-Rail Commuter Rail System Operations....6-1

6.3 Rail Fleet 6-14

6.4 Tri-Rail Ridership 6-14

6.4.1 Recent Ridership Developments 6-15

6.4.2 Boarding vs Alightings 6-15

6.4.3 Ridership Factors....6-17

6.5 Fare Structure....6-18

6.6 Shuttle Bus Service....6-18

6.7 Passenger Stations 6-22

6.7.1 Mangonia Park....6-23

6.7.2 West Palm Beach 6-24

6.7.3 Lake Worth 6-25

6.7.4 Boynton Beach 6-26

6.7.5 Delray Beach 6-27

6.7.6 Boca Raton....6-28

6.7.7 Deerfield Beach 6-29

6.7.8 Pompano Beach 6-30

6.7.9 Cypress Creek 6-31
6.7.10 Fort Lauderdale 6-32
6.7.11 Fort Lauderdale/Hollywood International Airport at Dania Beach 6-33
6.7.12 Sheridan Street 6-34
6.7.13 Hollywood 6-35
6.8.1 Golden Glades 6-36
6.8.2 Opa Locka 6-37
6.8.3 Metrorail Transfer 6-38
6.8.4 Hialeah Market 6-39
6.8.5 Miami International Airport 6-40

6.9 Overview of Previous SFRTA Transit Development Plans (TDPs) 6-41
6.9.1 SFRTA Transit Development Plan – Major Update FY 2005 – 2010 6-41
6.9.2 SFRTA Transit Development Plan – Minor Update FY 2006 – 2011 6-43
6.9.3 SFRTA Transit Development Plan – Minor Update FY 2008 – 2012 6-44

7.0 SFRTA PERFORMANCE EVALUATION 7-1
7.1 Unlinked Passenger Trips 7-2
7.2 Operating Cost 7-4
7.3 Route Miles 7-5
7.4 Passenger Miles Traveled 7-6
7.5 Average Trip Length 7-7
7.6 Train Revenue Miles 7-8
7.7 Train Revenue Hours 7-9
7.8 Operating Cost per Revenue Hour 7-10
7.9 Operating Cost per Passenger Trip 7-11
7.10 Passenger Trips per Revenue Hour 7-12
7.11 Weekend Service 7-13
7.12 Fare Policy 7-13
7.13 Existing Condition Level of Service 7-14
7.13.1 Shuttle Bus Level of Service 7-16
7.13.2 Conclusion 7-18

8.0 PUBLIC INVOLVEMENT 8-1
8.1 Planning Technical Advisory Committee 8-1
8.2 Workforce Board Coordination 8-1
8.3 Platform Public Meetings 8-2

8.3.1 Methodology 8-3
8.3.2 Outreach Results 8-3
8.4 Tri-Rail On Board Survey 8-6
8.4.1 Methodology 8-6
8.4.2 On Board Survey Results 8-6
8.5 Public Workshop 8-10
9.0 ESTIMATION OF COMMUNITY'S DEMAND FOR TRANSIT 9-1
9.1 Segment 5 Double Track Corridor Improvement Project (2003) 9-1
9.2 Tri-Rail Parking and Circulation Study (2007) 9-3
9.3 Performance Measurement Evaluation (2007) 9-4
9.4 Strategic Regional Transit Plan (2008) 9-6
10.0 IDENTIFICATION OF UNMET NEEDS 10-1
10.1 Findings of Technical Analyses from 2008 TDP Minor Update 10-1
10.2 Service Sufficiency Analysis 10-1
10.2.1 Synopsis and Recommendations 10-1
10.2.2 Analysis 10-2
10.3 New Station Location Assessment 10-3
10.3.1 Synopsis and Recommendations 10-3
10.3.2 Analysis 10-5
10.4 Existing Station Performance Assessment 10-5
10.4.1 Synopsis and Recommendations 10-5
10.4.2 Analysis 10-6
10.5 Parking and Circulation Study 10-6
10.5.1 Synopsis and Recommendations 10-6
10.5.2 Analysis 10-8
10.6 Signage and Wayfinding Plan 10-13
10.6.1 Synopsis and Recommendations 10-13
10.6.2 Analysis 10-15
10.7 Tri-Rail Shuttle and Feeder Bus Service Analysis 10-16
10.7.1 Synopsis and Recommendations 10-16
10.7.2 Synopsis and Recommendations 10-19
10.8 Conclusion 10-19
11.0 FY 2009 – FY 2018 PROGRAMMED AND PLANNED CAPITAL PROJECTS 11-1
11.1 SFRTA Programmed and Planned Capital Project Improvements list 11-1

11.1.1 Preventative Maintenance 11-5
11.1.2 Smart Card Technology Research 11-5
11.1.3 Ticket Vending Machines....11-5
11.1.4 Rolling Stock....11-5
11.1.5 Station and Parking Lot Improvements....11-5
11.1.6 Planning Initiatives....11-6
11.1.7 Hialeah Yard Projects....11-6
11.1.8 Jupiter Extension 11-6

11.2 FY 2009 – FY 2013 Unfunded Needs....11-7
11.2.1 Dispatch of the South Florida Rail Corridor 11-7
11.2.2 North Storage and Crew Facility....11-7
11.2.3 Tri-Rail Station Shuttle Bus Service Improvements....11-7

11.3 FY 2014 – FY 2018 Recommendations 11-11
11.3.1 Station and Parking Lot Improvements....11-11
11.3.2 New Tri- Rail Station Locations 11-11
11.3.3 Rolling Stock Rehabilitation/Overhaul 11-12
11.3.4 New Rolling Stock....11-12
11.3.5 Additional Planning and Technical Evaluation Study Recommendations 11-12
11.3.6 Evaluate and Assess Additional Operating Revenue Options....11-14
11.3.7 Evaluate the Development/Implementation of a Parking Fee program ..11-14

12.0 FINANCIAL 12-1

12.1 Introduction 12-1

12.2 Operating Costs 12-1
12.2.1 Historic Operating Costs....12-2
12.2.2 Forecasted Operating Costs....12-3

12.3 Operating Revenues 12-5
12.3.1 Historic Revenues....12-6
12.3.2 Forecasted Operating Revenues....12-7

12.4 Operating Gap 12-8

12.5 Capital Costs 12-9

12.6 Capital Revenues 12-9
12.6.1 Section 5307 Urbanized Area Formula....12-9
12.6.2 Section 5309 Rail and Fixed Guideway Modernization 12-11

12.7 Capital Funding Gap 12-13

12.8 Potential Revenues 12-13
12.8.1 Fare Increase.....12-13
12.8.2 Regionally-Dedicated Revenue 12-16
12.8.3 Charging for Parking.....12-18
12.8.4 Advertising.....12-21
12.8.5 Concessions 12-22
12.8.6 New Transit Funding Opportunities at the Federal Level 12-22
12.8.7 HR 6052, the "Saving Energy through Public Transportation Act of 2008" 12-22
12.8.8 S. 3036, “Lieberman-Warner Climate Change Bill” 12-22
12.8.9 Other Revenue Sources to Consider.....12-23

Tables

Table S-1: South Florida Population Growth, 1990-2006 .....S-16
Table 2-1: South Florida Population Growth, 1990-2006..... 2-3
Table 2-2: Race and Ethnicity, 2006 2-5
Table 2-3: Household Characteristics, 2006..... 2-7
Table 2-4: Household Income Characteristics, 2006 2-10
Table 2-5: Mobility Limited Populations, 2006 2-11
Table 2-6: Vehicles Available per Household, 2006..... 2-12
Table 2-7: Age Distribution Characteristics, 2006 2-15
Table 2-8: South Florida Region Commute Time to Work, 2006..... 2-16
Table 2-9: South Florida Region Change in Commute Time to Work, 2000-2006 2-17
Table 2-10: County to County Workflows, 2000 2-18
Table 2-11: Tri-County Workflows, 2000 2-18
Table 2-12: Tri-County Workflows, 2006 2-18
Table 2-13: I-95 Level of Service..... 2-21
Table 2-14: Four Lane East-West Streets Level of Service 2-22
Table 2-15: Six Lane East-West Streets Level of Service..... 2-22
Table 2-16: Railroad Corridor Trains Per Day 2-28
Table 3-1: South Florida Plans and Projects with Direct or Indirect Linkage to Tri-Rail..... 3-7
Table 4-1: Summary of Palm Tran/Tri-Rail Station Connections 4-2
Table 4-2: Detailed Service Characteristics Palm Tran/Tri-Rail Station Connections..... 4-2
Table 4-3: Summary of Broward County Transit/Tri-Rail Station Connections 4-5
Table 4-4: Detailed Service Characteristics BCT/Tri-Rail Station Connections 4-6
Table 4-5: Summary of Miami-Dade Transit Tri-Rail Station Connections..... 4-11
Table 4-6: Detailed Service Characteristics MDT/Tri-Rail Station Connections..... 4-11

Table 6-1: Tri-Rail Weekday Train Schedule 6-13
Table 6-2: Tri-Rail Weekend Train Schedule 6-13
Table: 6-3 Tri-Rail Station Palm Beach County Boardings/Alightings 6-16
Table: 6-4 Tri-Rail Station Broward County Boardings/Alightings 6-16
Table 6-5: Tri-Rail Station Miami-Dade County Boardings/Alightings 6-17
Table 6-6: Tri-Rail Fares 6-18
Table 6-7: Tri-Rail Shuttle Bus Routes Palm Beach County 6-19
Table 6-8: Tri-Rail Shuttle Bus Routes Broward County 6-20
Table 6-9: Tri-Rail Shuttle Bus Routes Miami-Dade County 6-21
Table 7-1: Weekend Service 7-13
Table 7-2: Fare Policy 7-14
Table 7-3: Service Frequency LOS 7-15
Table 7-4: Hours of Service LOS 7-15
Table 7-5: Tri-Rail Service Frequency LOS 7-16
Table 7-6: Average Weekday Measures Tri-Rail 2008 7-16
Table 7-6: Tri-Rail Shuttle Bus LOS 7-17
Table 8-1: Comments Received from Platform Public Meetings, May 20-22, 2008 8-4
Table 9-1: Tri-Rail 2020 Weekday Projected Ridership 9-2
Table 9-2: Daily Station Activity 2020 Build Alternative 9-2
Table 9-3: Strategic Regional Transit Plan Trip Estimates 9-7
Table 10-1: Additional Spaces Needed at Tri-Stations 10-7
Table 10-2: Tri-Rail Station Parking and Circulation Improvements Program 10-9
Table 10-3: Wayfinding Recommendations and Estimated Costs 10-14
Table 10-4: Wayfinding Signage Maintenance and Replacement Schedule 10-15
Table 10-5: Station Bus Facility Observations 10-17
Table 10-6: Connecting Bus Observations 10-18
Table 11-1: SFRTA 10-Year Capital Improvement Plan 11-2
Table 12-1: FY 08-09 Operating Costs (Proposed Budget) 12-2
Table 12-2: Historic Operating Costs 12-3
Table 12-3: Bombardier and Veolia Contract Estimated Operating Costs FY 09-10 to 17-18 ($ 000s) 12-4
Table 12-4: SFRTA Peers' Average Annual Increase in Operating Costs (2002 to 2006) 12-5
Table 12-5: FY 08-09 Operating Revenues (Proposed Budget) 12-6
Table 12-6: Historic Operating Revenues 12-6
Table 12-7: SFRTA Planned Capital Expenses (FY 08-09 to FY 12-13) in Thousands of Dollars .. 12-10
Table 12-8: SFRTA Planned Capital Expenses (FY 13-14 to FY 17-18) 12-11
Table 12-9: SFRTA Forecasted Capital Revenues (FY 08-09 to FY 12-13) 12-11

Table 12-10: SFRTA Forecasted Capital Revenues (FY 13-14 to FY 17-18) 12-12
Table 12-11: SFRTA's Peers' Fare Policies 12-17
Table 12-12: SFRTA's Peers' Parking Charging Policies 12-20

Figures

Figure S-1: Existing Tri-Rail Service Connections S-3
Figure S-2: Existing Tri-Rail Service Connections S-4
Figure S-3: Existing Tri-Rail Service Connections S-6
Figure S-4: Existing Tri-Rail Service Connections S-8
Figure S-5: Existing Tri-Rail Service Connections S-10
Figure S-7: Tri-Rail Ridership for FY 2007-2008 ..... S-13
Figure S-8: Tri-Rail On Time Performance for FY 2007-2008 ..... S-14
Figure 1-1: Tri-Rail Ridership for FY 2007-2008 1-4
Figure 1-2: Tri-Rail On Time Performance for FY 2007-2008 1-5
Figure 2-1: Population Density 2-4
Figure 2-2: Race and Ethnicity Distribution 2-6
Figure 2-3: Household Characteristics 2-8
Figure 2-4: Zero Car Households 2-13
Figure 2-5: Availability of Vehicles 2-14
Figure 2-6: Tri-County Workflows, 2000 2-19
Figure 2-7: Palm Beach County Level of Service and CRALLS Map (2005) 2-23
Figure 2-8: Broward County Level of Service Map 2-24
Figure 2-9: Miami-Dade County Level of Service Map 2-25
Figure 2-10: South Florida Rail Network 2-27
Figure 2-11: Annual Unlinked Passenger Trips by Agency 2-30
Figure 2-12: Tri-Rail Unlinked Passenger Trips 2-31
Figure 2-13: South Florida Vanpools 2-31
Figure 4-1: Palm Tran System Map 4-4
Figure 4-2: Broward County Transit System Map 4-9
Figure 4-3: Miami-Dade Transit System Map 4-14
Figure 6-1: Existing Tri-Rail Service Connections 6-3
Figure 6-2: Existing Tri-Rail Service Connections 6-5
Figure 6-3: Existing Tri-Rail Service Connections 6-7
Figure 6-4: Existing Tri-Rail Service Connections 6-9
Figure 6-5: Existing Tri-Rail Service Connections 6-11
Figure 7-1: Unlinked Passenger Trips 7-3

Figure 7-2: Operating Cost 7-4
Figure 7-3: Route Miles 7-5
Figure 7-4: Passenger Miles Traveled 7-6
Figure 7-5: Average Trip Length 7-7
Figure 7-6: Train Revenue Miles 7-8
Figure 7-7: Train Revenue Hours 7-9
Figure 7-8: Operating Cost Per Train Revenue Hour 7-10
Figure 7-9: Operating Cost per Passenger Trip 7-11
Figure 7-10: Passenger Trips per Revenue Hour 7-12
Figure 9-1: Tri-Rail Estimated Parking Demand 9-3
Figure 9-2: Tri-Rail and Connecting Bus Service Coverage 9-5
Figure 11-1: Proposed PBIA Shuttle Alignment 11-10
Figure 12-1: Historic Operating Costs 12-3
Figure 12-2: Historic and Forecasted Operating Costs 12-4
Figure 12-3: Historic Operating Revenues 12-7
Figure 12-4: Historic and Forecasted Operating Revenues 12-8
Figure 12-5: Forecasted Operating Costs and Revenues 12-8
Figure 12-6: SFRTA Operating Gap 12-9
Figure 12-7: SFRTA's Forecasted Capital Revenues (FY 08-09 to 17-18) 12-13
Figure 12-8: SFRTA's Farebox Recovery Ratio and Unlinked Trips (2001-2006) 12-14
Figure 12-9: Maximum Fare Escalation to 2008 Dollars 12-15
Figure 12-10: SFRTA Projected Station Parking Utilization Rates 2008 12-19
Figure 12-11: SFRTA Future Parking Demand (High-Growth Scenario) 12-19

PAGE INTENTIONALLY LEFT BLANK

1.0 INTRODUCTION

The State of Florida Public Transit Block Grant Program was enacted by the Florida Legislature to provide a stable source of state funding for public transportation. The Block Grant Program requires public transit service providers to develop and adopt a Transit Development Plan (TDP). TDP updates must be submitted to the Florida Department of Transportation (FDOT) by September 1st of each year. A major update is required every five years and minor updates are required in interim years.

The current effort is for the development of a South Florida Regional Transportation Authority (SFRTA) TDP Major Update for fiscal years 2009 – 2018. This TDP includes an update of existing services, demographic and travel characteristics overview, a summary of local transit policies within the region, the development of proposed system enhancements, and the preparation of a ten-year implementation plan that provides guidance for future SFRTA planning. On August 22, 2008, the SFRTA Governing Board formally approved the adoption of the TDP Major Update for Fiscal Years 2009-2018.

The preparation of a TDP for all transit systems is mandated by the Florida Statutes for all systems that receive Block Grants from the State of Florida. Relevant public transportation sections in the Florida Statutes are highlighted below.

Section 341.052

(1) There is created a public transit block grant program which shall be administered by the department…Eligible providers must establish public transportation development plans consistent, to the maximum extent feasible, with approved local government comprehensive plans of the units of local government in which the provider is located.

Section 341.072

(1) Where there is an approved local government comprehensive plan in the political subdivision or political subdivisions in which the public transportation system is located, each public transit provider shall establish public transportation development plans consistent with approved local government comprehensive plans.

1.1 Amended Transit Development Plan Requirements

The TDP requirements were amended in February 2007 and this TDP meets the requirements for a major TDP update in accordance with Rule Chapter 14-73, Florida Administrative Code (FAC). A summary of major changes to the rule include the following items:

- Extends the planning horizon from five years to ten years
- Major updates are required every five years (previously was every three years)

- Requires a public involvement plan to be developed and approved by FDOT or consistent with the approved MPO public involvement plan.
- Requires that FDOT, the MPO, and the regional workforce board be advised of all public meetings where the TDP is presented and discussed and that these entities be given the opportunity to review and comment on the TDP during the development of the mission, goals, objectives, alternatives, and ten year implementation program.
- Requires the estimation of the community's demand for transit service (10-year annual projections) using the planning tools provided by FDOT or a demand for transit service (10-year annual projections) using the planning tools provided by FDOT or a demand estimation technique approved by FDOT.
- Annual updates shall be in the form of a progress report on the ten-year implementation program and shall include:
    - Past year's accomplishments compared to the original implementation program.
    - Analysis of discrepancies between the plan and its implementation for the past year.
    - Any revisions to the implementation program of the coming year.
    - Revised implementation program for the tenth year.
    - Revised financial plan
    - Added recommendations for the new tenth year of the updated plan.
    - Revised list of projects or services needed to meet the goals and objectives, including projects for which funding has not been identified.

1.2 FY 2007-2008 Overview of SFRTA Accomplishments

This section briefly describes the measures of accomplishment and indicators of progress associated with the Tri-Rail commuter rail and shuttle services during FY 2007 – 2008, which runs from July 1, 2007 through June 30, 2008. Just prior to the end of the last fiscal year (June 4, 2007), a new 50-train Tri-Rail service schedule was implemented. Weekday service was expanded from 40 to 50 trains, with service every 20 or 30 minutes during the peak periods. In addition, Sunday and holiday service was expanded to match the 16 train Saturday schedule. This increase in service frequency, coupled with the fruition of numerous construction management projects, has allowed Tri-Rail to grow and prosper in a high demand environment for low cost public transit.

These factors are directly related to SFRTA/Tri-Rail's most noteworthy accomplishments during fiscal year 2007-08 which include:

- Ridership Growth
- Improved On-Time Performance
- Use of Biodiesel as Fuel for Locomotives
- Improvements to Palm Tran Route 94 (Boca Raton Station Connection)
- Approval of Transit Oriented Development in Deerfield Beach
- Completion of Strategic Regional Transit Plan

The key area that did not produce the desired result was SFRTA's dedicated funding legislative efforts. As discussed elsewhere, without a dedicated regional funding source to support SFRTA and their Tri-Rail commuter rail operations, long-term capital, and in particular, operations funding is mostly and educated guess.

1.2.1 Ridership Growth

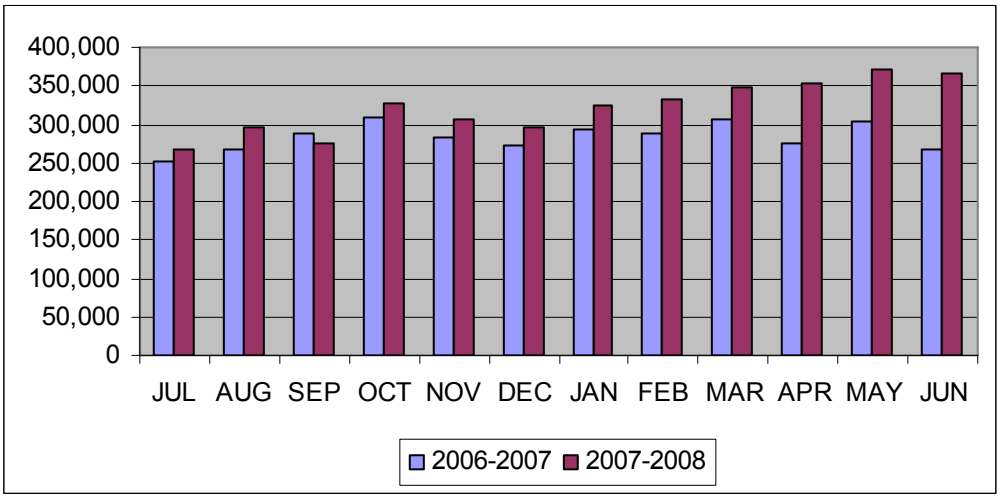
Tremendous ridership growth occurred during the recently completed fiscal year. Ridership increased approximately 21 percent through the first half of 2008 with a total of 2,099,350 passengers, which is 362,000 greater than the 1,737,260 recorded passengers during the first six months of 2007. Especially noteworthy is the ridership growth in June 2008, as the number of Tri-Rail passengers was 37 percent higher (41.2 percent on weekdays) than recorded in June 2007. This ridership increase has effectively solidified Tri-Rail's position as a viable transportation alternative for north-south travel in the region.

Due in part to soaring fuel prices, a new segment of transit riders have started to use commuter rail services nationwide. Although this has been a nationwide trend, ridership for Tri-Rail has surpassed the nationwide average within other transit peer groups, continuing a trend that began in 2006, when Tri-Rail led the nation in growth in the commuter rail sector by percentage.

Related to the immense gains in ridership, another strong indicator is the expansion of Tri-Rail's Employer Discount Program (EDP), which has grown by 351 companies and 3,393 employees. Tri-Rail monthly tickets are offered to members of the EDP

for $60, allowing them unlimited rides while saving 25 percent on the cost of a full-fare monthly ticket.

Figure 1-1: Tri-Rail Ridership for FY 2007-2008



Source: SFRTA Operations Report Data, June 2008

1.2.2 Improved On-Time Performance

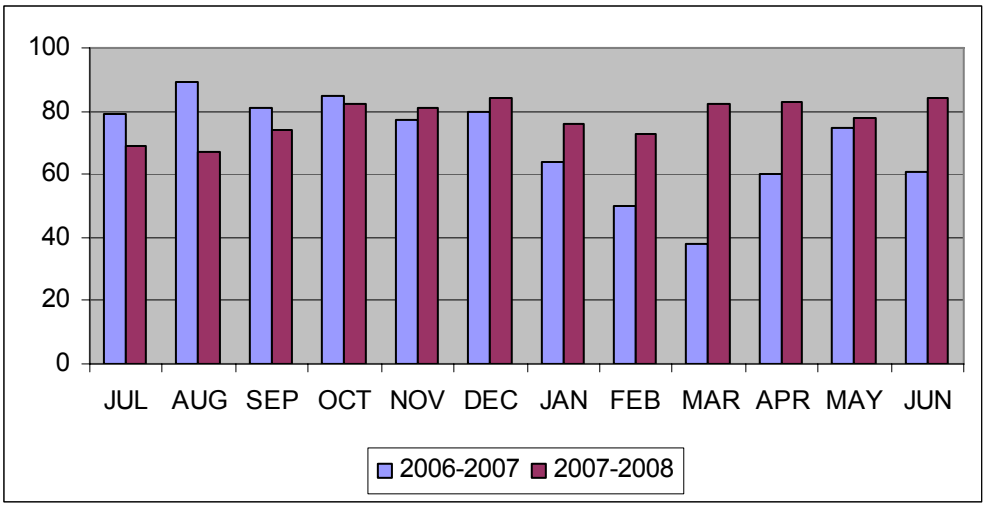
On time performance (OTP) has improved since the completion of construction on the rail corridor's double tracking project in early 2006 and the subsequent completion of the New River Bridge in spring 2007. On time performance measures for fiscal year 2006-07 reflected an increase in on time performance as a direct result of the completion of these major capital improvement projects, but then dropped in early 2007, largely due to CSXT performing rail tie replacement work along the entire corridor. Fiscal year 2007-2008 began with two months of disappointing OTP below 70 percent, and although then stabilizing, had a lower OTP than the previous year through October. However, from November through June, the OTP was regularly at or near 80 percent and showed significant improvement over the prior year.

Nonetheless, greater improvement is needed in order to reach a long desired goal of OTP at or above 90 percent. Just recently, the dispatching system for the short New River Bridge segment of the corridor was moved from the Hialeah Yard to SFRTA Headquarters in Pompano Beach. The relocation of the dispatching system to the authority's headquarters enhances train accessibility for dispatching staff, as well as enhanced project management and quality assurance initiatives. Although a step in the right direction, it is likely that the goal of 90 percent OTP can only be achieved by SFRTA gaining control of dispatch duties along the entire rail corridor.

During the station outreach effort (Section 8.3) for this TDP Major Update, one of the most frequent requests made by passengers was to acquire full dispatching capabilities (or any similar means) to ensure that the trains would run reliably each day. Many of the passengers commuting during peak periods also stated that they rely on the trains to make time-sensitive connections.

The ability to deliver reliable OTP and timed connections will be critical to retaining and continuing ridership growth, as all indications are that most of the new Tri-Rail passengers are "choice riders" who may return to other modes of travel if quality service is not provided.

Figure 1-2: Tri-Rail On Time Performance for FY 2007-2008



Source: SFRTA Operations Report Data, June 2008

1.2.3 Moving Towards the Use of Biodiesel as Fuel for Locomotives

In 2008, SFRTA has been taking steps to be able to fuel its locomotives with a blend of biodiesel. This effort was pursued with the dual aims of achieving environmental benefits and reducing fuel costs. Environmental benefits come from biodiesel being a renewable resource, resulting in more sustainable production methods than petroleum-based diesel. Biodiesel also produces lower emissions and has minimal toxic attributes. The ongoing costs of utilizing biodiesel are also expected to be less than those of regular petroleum based diesel. SFRTA's conversion to biodiesel would be consistent with Governor Charlie Crist's green initiatives.

1.2.4 Improvements to Palm Tran Route 94

A partnership between Palm Tran, SFRTA, and the City of Boca Raton resulted in substantial improvements to service on the Palm Tran Route 94 bus. Funding from all parties, and indirectly FDOT, has resulted in increased headways and modifications to this route to provide direct service between the Boca Raton Tri-Rail station and Florida Atlantic University and Palm Beach Community College. The improved route and a marketing campaign have been well received by students and employees at both campuses, resulting in strong ridership on the revamped service.

1.2.5 Approval of Transit Oriented Development in Deerfield Beach

In February 2008, the City of Deerfield Beach granted approval for the first completely private, market-driven transit oriented development (TOD) project along the Tri-Rail corridor. "Deerfield Station" will be a mixed-use development with transit friendly design principles, located immediately east of the Deerfield Beach Tri-Rail station. Although other TOD projects have been planned and approved along the

Tri-Rail corridor, those have involved the use of public land or subsidies. Early phases of the Deerfield Station development were slated for completion in 2010, but may be delayed due to current housing and economic circumstances beyond the developer's control.

1.2.6 Completion of Strategic Regional Transit Plan

In May 2008, the SFRTA Governing Board endorsed the Strategic Regional Transit Plan and directed its staff to conduct outreach and share the project's findings. The project has been an extensive technical effort to determine the viability, benefits, and costs of building a truly regional network of premium transit services. Key technical aspects completed as part of the Strategic Regional Transit Plan include developing trip flow patterns, testing corridor and network performance, evaluating land use scenarios, developing cost estimates and examining funding mechanisms. Key findings of the Strategic Regional Transit Plan include:

- Demand for a Regional Premium Transit Network is strong (~40 Million riders/year)
- The capital cost of a Regional Premium Transit Network ranges from $8 to $10 Billion
- Transit supportive land uses produce higher ridership and operating savings
- A Regional Premium Transit Network would save 25,000 gallons of fuel usage per weekday
- The annualized cost for capital and operations of a Regional Premium Transit Network is estimated at $300 million.

The Strategic Regional Transit Plan effort was coordinated with the region's transportation partner agencies through the SFRTA Planning Technical Advisory Committee (PTAC) and individual agency briefings. The PTAC endorsed the draft findings of the Strategic Regional Transit Plan in December 2007. Additionally, PTAC agreed to incorporate the data from this project into the 2035 Regional Long Range Transportation Plan (RLRTP) effort.

1.3 SFRTA TDP Major Update Goals and Objectives

The mission statement of the SFRTA is "***To coordinate, develop and implement a viable regional transportation system to meet the needs and requirements for the movement of people, goods and services."*** The vision of the SFRTA is "***To provide greater mobility in South Florida, thereby improving the economic viability and the quality of the community, region and state***."

The FY 2009 – 2018 TDP Major Update presents an opportunity for the SFRTA to refine Agency goals and objectives consistent with its Mission and Vision. The development of the goals and objectives for this TDP Major Update set forth the identification of specific opportunities and needs to further enhance transit services for SFRTA as well as Palm Beach, Broward, and Miami-Dade counties that comprise the South Florida Region.

The goals and objectives section developed for the TDP Major Update consider the evaluated needs of the communities in which SFRTA serves. They also reflect input received from the public, various stakeholders and SFRTA staff as captured through public outreach efforts including the administration of on-board surveys; "Meet and Greet" activities with patrons at Tri-Rail stations; a public meeting; and coordination and meetings with staff from the local workforce boards for each of the three respective counties.

The goals and objectives reflect and support the policies and plans of the local governmental agencies and identify opportunities for operating enhancements and improvements.

1.3.1 Goal 1: Develop Cost Effective Transit System

Objectives:

1.1 Maintain performance measurement system for Tri-Rail trains, feeder bus operations, and new line-haul bus operations to continuously monitor and assess service performance for the improvement of Tri-Rail and feeder bus operations.

1.2 Establish a preventive maintenance program for SFRTA facilities and vehicles to maximize operating efficiency.

1.3 Identify strategies to employ cost saving measures related to daily SFRTA operations.

1.4 Implement intelligent technologies associated with SFRTA operations and facilities, to include integration with local and regional ITS system developments.

1.5 Explore locomotive replacement, solar parking lots, alternative fuels and other strategies to potentially reduce energy costs and increase flexibility in the use of fuels and other energy sources.

1.6 Seek opportunities to employ high school and college students as cost-effective staff and to provide students with learning opportunities in rail and transit-related fields.

1.7 Identify strategies to reduce fare evasion, including examination of mobile ticket sales and other ticket sales and fare policy strategies.

1.8 Identify and pursue opportunities to increase revenues from system facilities and operations.

1.3.2 Goal 2: Expand System Facilities and Operations

Objectives:

2.1 Lengthen AM and PM peak travel periods for Tri-Rail trains and feeder bus peak headways on high demand routes.

2.2 Expand Tri-Rail feeder bus service coverage to improve the interconnections between Tri-Rail stations and major South Florida land uses, including the downtown areas, airports, employers, colleges and beaches.

2.3 Improve service and schedule coordination between SFRTA and the three local bus operators (Miami-Dade Transit, Broward County Transit, and Palm Tran) to improve timed connections between Tri-Rail stations and major activity centers and attractions.

2.4 Expand Tri-Rail feeder bus service hours to include weekday evenings and weekends as warranted by demand and within funding constraints

2.5 Seek opportunities to expand the Tri-Rail system to serve additional rail corridors, to include planning/engineering for the Jupiter extension.

2.6 Continue to participate in local and regional transit development efforts considering expansion of rail service, including the South Florida East Coast Corridor and SR-710 PD&E studies corridor being conducted by FDOT.

2.7 Develop a strategy for implementation of regional "premium" bus service, including express freeway based bus service and accompanying operating and passenger facilities serving corridors spanning County boundaries and not served by potential Tri-Rail rail transit services.

2.8 Establish new operation and maintenance facilities to enhance Tri-Rail's performance capabilities.

2.9 Identify and pursue opportunities to increase station parking lot capacity or reduce parking demand by providing shuttle bus service improvements.

2.10 Participate in the development of improved “east-west” connectivity with Tri-Rail commuter rail service.

2.11 Provide increased Tri-Rail capacity by adding railcars to existing trains in order to accommodate the existing and projected rapid growth in ridership.

2.12 Increase parking capacity at Tri-Rail stations consistent with demand and cost-effective opportunities.

1.3.3 Goal 3: Improve Intergovernmental Coordination

Objectives:

3.1 Continue to work with local governments and public and private transit providers to coordinate the development of local regional transit services with the ongoing development of Tri-Rail operations, to include feeder bus and paratransit services.

3.2 Work with local governments to improve multi-modal facilities, local land use and development plans and connections to Tri-Rail stations.

3.3 Coordinate with other rail users including CSX and Amtrak to make Tri-Rail operations more efficient.

3.4 Coordinate with local governments and work with SFRPC and TCRPC to develop and apply economic development and land use initiatives to attract transit-oriented development around Tri-Rail stations.

3.5 Coordinate with local governments to identify and endeavor to meet the transportation needs of disadvantaged populations.

3.6 Coordinate with the Workforce Development Boards of the three counties to ensure Tri-Rail service is supportive of their workforce development programs.

1.3.4 Goal 4: Expand Funding Opportunities for the SFRTA System

Objectives:

4.1 Pursue and secure a dedicated funding source to provide SFRTA with a stable and independent source of operating funds for existing transit services, future initiatives, and matching funds for state and federal funding programs.

4.2 Identify additional financial resources to permit further expansion of Tri-Rail commuter rail and feeder bus services, reduce headways on high demand routes, inter-county express bus services, and new operations and maintenance facilities.

4.3 Pursue participation in all future local, regional, and state transit or transportation funding initiatives.

4.4 Pursue participation in state and federal funding programs, including Federal Transit Administration (FTA) funding and the federal transportation reauthorization.

4.5 Seek public-private joint ventures to expand the Tri-Rail system, including employer participation in Tri-Rail feeder bus service and local government participation in station development.

4.6 Identify opportunities to create joint ventures with local community and economic development initiatives.

1.3.5 Goal 5: Increase Customer Safety, Convenience and Comfort

Objectives:

5.1 Provide safety and security on Tri-Rail at stations and on feeder buses.

5.2 Provide improved station amenities including restrooms, drinking fountains, comfort-controlled interior spaces and other amenities that encourage ridership, passenger safety and security, and comfort.

5.3 Identify new marketing opportunities highlighting key improvements to the service, such as improved headways and service reliability and key benefits to using Tri-Rail service such as; cost savings due to higher auto fuel costs, and environmental benefits

5.4 Expand and improve customer service programs to include Google Transit.

5.5 Provide additional and improved opportunities for public input and evaluation in the provision and expansion of SFRTA operations and facilities.

5.6 Provide consistent system-wide way finding signage to guide potential customers to Tri-Rail park-and-ride lots, and from Tri-Rail park-and-ride lots to adjacent Tri-Rail Stations.

5.7 Identify opportunities to improve non-vehicular access to stations from adjacent areas and transit stop connections.

1.3.6 Goal 6: Stimulate Transit-Oriented Development (TOD) at or near Tri-Rail Station Areas

Objectives:

6.1 Promote Tri-Rail facilities as a catalyst for regional smart growth initiatives.

6.2 Work with local governments in their efforts to amend their land use, rezoning, and overlay districts to permit TOD initiatives.

6.3 Identify and pursue joint development opportunities with the private sector at existing and future Tri-Rail stations.

6.4 Identify existing TOD opportunities in close proximity to the Tri-Rail corridor where enhanced park-and-ride lot facilities may be incorporated

1.3.7 Goal 7: Pursue opportunities to maximize on Transportation Demand Management (TDM) strategies being implemented throughout the region

Objectives:

7.1 Continue to coordinate with South Florida Commuter Services program to assure Tri-Rail participation in Employer Discount Programs (EDP) for qualified places of employment

7.2 Identify additional park-and-ride lot facilities, including private joint-use facilities, for Tri-Rail rail services and inter-county bus services as warranted by potential demand and availability of land.

7.3 Coordinate with local governments who have adopted ride-share ordinances and/or TDM ordinances to promote Tri-Rail opportunities as part of an integrated TDM strategy.

1.3.8 Goal 8: Pursue Opportunities to Promote Sustainability and Environmental Goals for the South Florida Region.

Objectives:

8.1 Promote Tri-Rail commuter rail and bus services to the public and the regional political and business leadership as an environmentally friendly alternative to driving and a key element of a regional strategy for reducing traffic congestion and air pollution.

8.2 Consider and begin to implement “green building” techniques and elements into new and existing SFRTA facilities, towards eventual LEED certification for all new facilities.

8.3 Consider Clean Diesel and alternative fuels vehicles as part of fleet expansion, and requiring all vendors to use Clean Diesel or alternative fuels vehicles to

reduce fuel consumption and pollution and to promote the use and development of alternative fuel technologies.

8.4 Evaluate ZTR Smartstart, Kim Hotstart or other engine preheating technologies to reduce idling on Tri-Rail trains to reduce fuel consumption and pollution.

8.5 Evaluate and implement a solar parking demonstration project at a Tri-Rail station.

1.4 Local and Regional Plans and Policies Review

In order to provide for coordination and consistency with individual planning boards and transit agencies within the Tri-Rail service area regional goals and policies of individual agencies were assessed. Transportation supportive plans, policies and programs set forth by local, regional and state-level agencies were reviewed in order to measure the level of concurrency with the forthcoming SFRTA TDP Major Update.

The TDP Major Update was determined to be consistent with the plans, policies and programs reviewed.

A brief overview of goals from local, regional and State planning agencies is presented. The coordination of individual agency plans and policies set to create a positive parallel vision for a region illustrates how interagency planning and goal setting can achieve regional goals and objectives.

1.4.1 Florida Department of Transportation

The 2025 Florida Transportation Plan (FTP), prepared by FDOT, was adopted on September 29, 2005, and provides the policy framework for allocating over $160 billion in funding to meet the transportation needs of residents, tourists and business people between now and 2025. The 2025 FTP has established four goals:

1. A safer and more secure transportation system for residents, businesses, and enriched quality of life and responsible environmental stewardship;
2. Adequate and cost-efficient maintenance and preservation of Florida's transportation assets;
3. Stronger economy through enhanced mobility for people and freight; and
4. Sustainable transportation investments for Florida's future.

1.4.2 Metropolitan Planning Organizations

Metropolitan Planning Organizations (MPOs) are required under federal mandate for the planning purposes of all urbanized areas with a population exceeding 50,000 residents. An overview of each of the MPO's regional supportive goals as set forth by their respective 2030 Long Range Transportation Plans (LRTP) is presented.

1.4.2.1 Palm Beach County Metropolitan Planning Organization

Palm Beach County has experienced the greatest percentage of population growth as compared to other counties in South Florida. Palm Beach County is also recognized as having a greater amount of developable land than Broward or Miami-Dade. The current population of Palm Beach County is around 1.2 million, with a greater percentage of the population located within three miles of Tri-Rail stations. Palm Beach County currently comprises the largest percentage of Tri-Rail Passengers.

Like Broward County, Palm Beach seeks to extend bus services to newly developed western portions of the county that are currently without service. Palm Beach also favors a Tri-Rail extension from Mangonia Park to the northern community of Jupiter. Palm Beach County Tri-Rail stations experience a higher amount of AM boardings than alightings, and a lower amount of PM boardings than alightings, highlighting the

propensity of workday commute from Palm Beach to work in Broward or Miami-Dade Counties.

Regional Transit Supportive Goals

1. To consistently provide effective and efficient transportation services to the residents and visitors of Palm Beach County.
2. To improve the quality of fixed route services.
3. To improve Palm Tran's image as a viable transportation alternative for the community.
4. To coordinate with state and local governments and transportation agencies to integrate transit needs into the land use planning and development process.
5. To maintain a high degree of intergovernmental coordination.
6. To pursue the most cost-effective means of providing a complementary paratransit services to eligible customers in the community
7. Pursue technological advancements to improve efficiency, effectiveness and safety of both the fixed route and paratransit services
8. Promote a market driven organization committed to customer satisfaction.

1.4.2.2 Broward County Metropolitan Planning Organization

Broward County has also faced rapid population increase, and like Miami-Dade, faces an estimated 40 percent growth in population from now until 2030. Nearly all of Broward's available land has been developed and become increasingly urbanized, prompting an even greater need for improved transit efficiency in the future.

The Broward County Commission envisions creating a new transit system for a new generation of transit users; a system that is practical, time-efficient and rider friendly. Broward has also expressed keen interest in multi-modal transportation, with plans for an east-west light rail line connecting downtown Fort Lauderdale to Sawgrass Mills area and a people mover that connects the Fort Lauderdale/Hollywood International Airport to Port Everglades.

There is a transition in western Broward communities (suburban residential) as they become a part of the urbanized landscape as a result of industrial and commercial build-up. An important issue for the Broward County MPO is providing transit service to rapidly growing communities such as Sunrise, Davie, Miramar and Pembroke Pines, which traditionally have relied upon personal vehicles.

Regional Transit Supportive Goals

1. A balanced, multi-modal transportation system that serves the local and regional movement of people, freight and services and provides choices in mobility.
2. A transportation system that is regionally coordinated and consistent with the future economic development plans of Broward County's constituent communities and neighbors.

3. A safe and secure transportation system.
4. Preservation of Broward County's investment in transportation in a cost-feasible manner.
5. An aesthetically pleasing transportation system which minimizes impact on the natural and built environment.

Broward County regional transit supportive goals coincide with certain policies and standards that are implicated in the overall implementation of the 2030 LRTP.

1.4.2.3 Miami-Dade County Metropolitan Planning Organization

Miami-Dade County is the most populous in Florida with a population of nearly 2.2 million people. It also has the highest propensity of transit users based on the amount of unlinked passenger trips. As Miami-Dade is anticipated to grow in population by 43 percent by the year 2030, it is also expected to run out of developable land, therefore leading to an increase in density.

The highest priority for the Miami-Dade MPO concerning transit is to improve and expand upon existing infrastructure while connecting and integrating multi-modal facilities to accommodate transit-dependent populations. Major projects include the Metrorail North Extension, the Metrorail East-West Extension, and the completion of the Miami Intermodal Center (MIC). All of these undertakings involve links with existing Tri-Rail and Metrorail facilities.

Regional Transit Supportive Goals

1. Improve Transportation Systems and Travel
2. Support Economic Vitality
3. Enhance Social Benefits
4. Mitigate Environmental and Energy Impacts
5. Integrate Transportation with Land Use, & Development Considerations
6. Optimize Sound Investment Strategies

1.4.3 Regional Planning Councils

Regional Planning Councils are created for the purpose of intermodal planning and inter-agency coordination among separate MPOs in a contiguous urbanized area. Each MPO district often shares similar transit, highway and rail facilities with neighboring MPO districts, thus creating a need for an umbrella organization to address Developments of Regional Impact (DRIs) in multiple jurisdictions.

The need for a Regional Planning Council is addressed in state legislation, as pursuant to Chapter 380, Florida Statutes, Regional Planning Councils are charged with the coordination of multi-jurisdictional agency review of large-scale development projects, which may impact more than one county. The Council is comprised of government officials, public agency officials, elected officials, and gubernatorial appointees. The ultimate product of a regional planning council is the Strategic

Regional Policy Plan (SRPP), which is designed to provide a holistic, comprehensive approach to achieving goals that reflect priority issues of the region.

1.4.3.1 Treasure Coast Regional Planning Council

The Treasure Coast Regional Planning Council's areas of interest include transit oriented development, environmental impact studies, and protection of regional rural lands. The lead regional goal is to develop a balanced and integrated transportation system. Specific goals within the SRPP include the mixing of land uses around commuter rail stations and along designated mass transit corridors, and creating alternative concurrency mechanisms to increase densities, infill development, and mobility within the eastern sections.

1.4.3.2 South Florida Regional Planning Council

The South Florida Regional Planning Council's (SFRPC) areas of interest for the SFRPC include local emergency planning, economic development, and brownfield redevelopment. The SRPP's transportation goal is to enhance the region's mobility, efficiency, safety, quality of life, and economic health through improvements to transportation infrastructure including mass transit. Other specific goals include corridor improvements such as the State Road 7 Collaborative, facility improvements such as Port Everglades and the Port of Miami, and a five percent reduction in the number of single occupancy vehicles by the year 2010.

1.4.4 South Florida Regional Transportation Authority

The goal of the SFRTA Strategic Regional Transit Plan is to "***Think creatively to define a bold vision and strategic plan for regional transit's role in the overall regional transportation system to ensure mobility, economic viability, and quality of life in the South Florida region for the next generation."***

The objectives of the Strategic Regional Transit Plan are to:

1. Identify key regional transit corridors and infrastructure needs
2. Define regional transit investment strategies
3. Positively impact future development patterns in the region
4. Assess the region's current and future trends
5. Identify a safe and cost-effective regional transit system
6. Define SFRTA's role in the development, funding and operations of regional transit services

PAGE INTENTIONALLY LEFT BLANK

2.0 REGIONAL OPERATING ENVIRONMENT

The South Florida Regional Transportation Authority (SFRTA) provides commuter rail service (Tri-Rail), and offers a shuttle bus system for residents and visitors of South Florida. The SFRTA operates service in Palm Beach County, Broward County, and Miami-Dade County. Tri-Rail operates north-south daily along a 72-mile corridor with 18 stations. Tri-Rail primarily runs parallel to Interstate 95 and runs west of the region's major downtowns (West Palm Beach, Fort Lauderdale, and Miami) starting from the Mangonia Park station in Palm Beach County traveling south towards Miami International Airport (MIA) in Miami-Dade County.

2.1 Land Use

Land use in South Florida is best recognized as diverse, dynamic and multifunctional, displaying a dense linear 90-mile urban growth. This shape is unique to the region, as growth is typically limited to a ten mile stretch between two physical boundaries: the Atlantic Ocean and the Everglades wetlands.

Shifts in land use policies throughout Miami-Dade, Broward and Palm Beach counties over the past two decades reflect a response to a general pattern of western migration, which in turn has resulted in urban sprawl. Development in the 1980's and 1990's led to a higher density of residential zoning within two miles of the coast and downtown areas but also an extension of residential and commercial zoning into previously undeveloped land to the west.. The pattern of sprawl has created issues such as a strain on infrastructure and government services to an increasing expanse of low-density out-lying suburban neighborhoods and areas of blight associated with older urban areas and suburban neighborhoods.

2.1.1 Tri-Rail Corridor

The Tri-Rail commuter rail line operates within the State of Florida's South Florida Rail Corridor (SFRC). Due to the complexity of urban land uses throughout the tri-county region, there is no instance of uniform land use throughout any portion of the 72 mile corridor. For example, there is not an overall pattern of density for any zoning type, although density increases east of the rail line and decreases to the west of the rail line.

Changes in land use policy in Miami-Dade, Broward and Palm Beach counties have led to a higher density of residential zoning within coastal and central business district areas. There is now over twice as much commercially zoned land to the east of the rail line than there is to the west. These changes have also increased the amount of industrially zoned land directly adjacent to the SFRC rail corridor. In all three counties there is almost an exclusive association of industrial land adjacent to this railroad corridor. However, additional opportunities do occur for the implementation of transit oriented development adjacent to and in close proximity to existing Tri-Rail station areas.

2.1.2 Palm Beach County

Palm Beach County has a more visible presence of low to medium residential zoning than the counties of Broward and Miami-Dade. This is especially true along the SFRC rail corridor in which Tri-Rail operates. Several stations, such as Boca Raton,

Delray Beach and Boynton Beach stations are compatible with potential transit village developments. The rail corridor runs closer to the Atlantic Ocean, providing greater proximity to destinations, as most city centers are within two miles of the shoreline. Rapid growth westward has offset the zoning designations, as an exurban tier west of 441 became more suburbanized. Industrial zones are fewer and further between than in Broward and Miami-Dade Counties, but generally follow the same patter of lying along highways and railway corridors. The majority of commercial zones are closer to the SFRC rail corridor than they are in the other counties.

2.1.3 Broward County

Throughout Broward County there are noticeable zoning placement land use patterns. There are linear commercial formations along University Drive, 441, US 1 and I-75 that extend the length of the county. The industrial zones, also linear in formation, generally follow the space between I-95 and Florida's Turnpike. There are additional industrial formations along the Sawgrass Expressway, with few isolated patches of industrial development anywhere else. The once transitional zone of low density residential and agricultural lands in the western portions of the county is now inconspicuously layered with zoning and developments similar to everything else west of I-95. Since Broward has nearly reached fill-in capacity, there is little room for rural or exurban transition, creating a zoning pattern west of the SFRC rail corridor that resembles corridor-oriented medium density sprawl.

2.1.4 Miami Dade County

Miami-Dade County has the largest amount in acreage of commercial and industrial land as compared to Broward and Palm Beach counties. Industrial zones occupy land adjacent to highways, rail lines and points of interest such as MIA and the Port of Miami. The propensity of industrial land along the SFRC rail corridor in Miami-Dade County could present an unattractive environment for ridership, as there are few opportunities for development of transit centered shops and living spaces. The passenger trips originating from stations in Palm Beach, where the corridor extends through a mostly residential zoning pattern, display higher ridership amounts than stations in Miami-Dade, with the notable exceptions being destination stations such as the Metrorail/Tri-Rail transfer station and the Miami International Airport station.

2.2 Demographic and Economic Analysis

This section reviews the study area in the context of the TDP major update process. Included in this review are a physical description of the study area, population profile and trends, demographic characteristics, and journey-to-work characteristics. A series of maps also are used to illustrate selected population, demographic, and journey-to-work characteristics. Statistical values are coded by color to indicate high (green), medium (blue) and low (red) values. For even numbered sets of data the lower median number was used to indicate "medium." The primary data sources used for this analysis include the 2000 Census and the 2006 American Community Survey Data, both of which represent the most current available information. A description of each data set is described below.

2.2.1 United States Census

The U.S. Census is conducted every ten years and is focused on gathering social and economic characteristics of the population. In addition, the census collects

physical and financial characteristics of housing. U.S. Census data is used in the report as a basis for longitudinal comparison from 1990 to 2006.

2.2.2 American Community Survey (ACS)

The ACS collects survey data each year to measure key social, economic, and housing characteristics of the U.S. population. The ACS is sent to a small percentage of the population on a rotating basis. The results of the survey are then used to help inform decisions on policies, programs, and services for communities. This data set was utilized to provide a more detailed glimpse into the demographic and economic characteristics of specific county subdivisions as presented in the Census. Census county subdivisions do not directly correspond to political city limits, but span the larger surrounding area of the named city. This results in coverage of adjacent municipalities not specifically identified within the data set. The geographies presented in this analysis covers the entire Tri-Rail service area.

Although the ACS produces population, housing unit, and demographic estimates, it is the Census Bureau's Population Estimates Program (PEP) that produces and disseminates the official estimates of the population and housing units for the nation. Specific population, demographic and housing unit characteristic PEP data for 2006 was not available below the County level and was therefore not used in this analysis. As a result, ACS estimates were used for this analysis since it is recognized as a second tier reliable source of economic and demographic data.

2.3 Population Characteristics

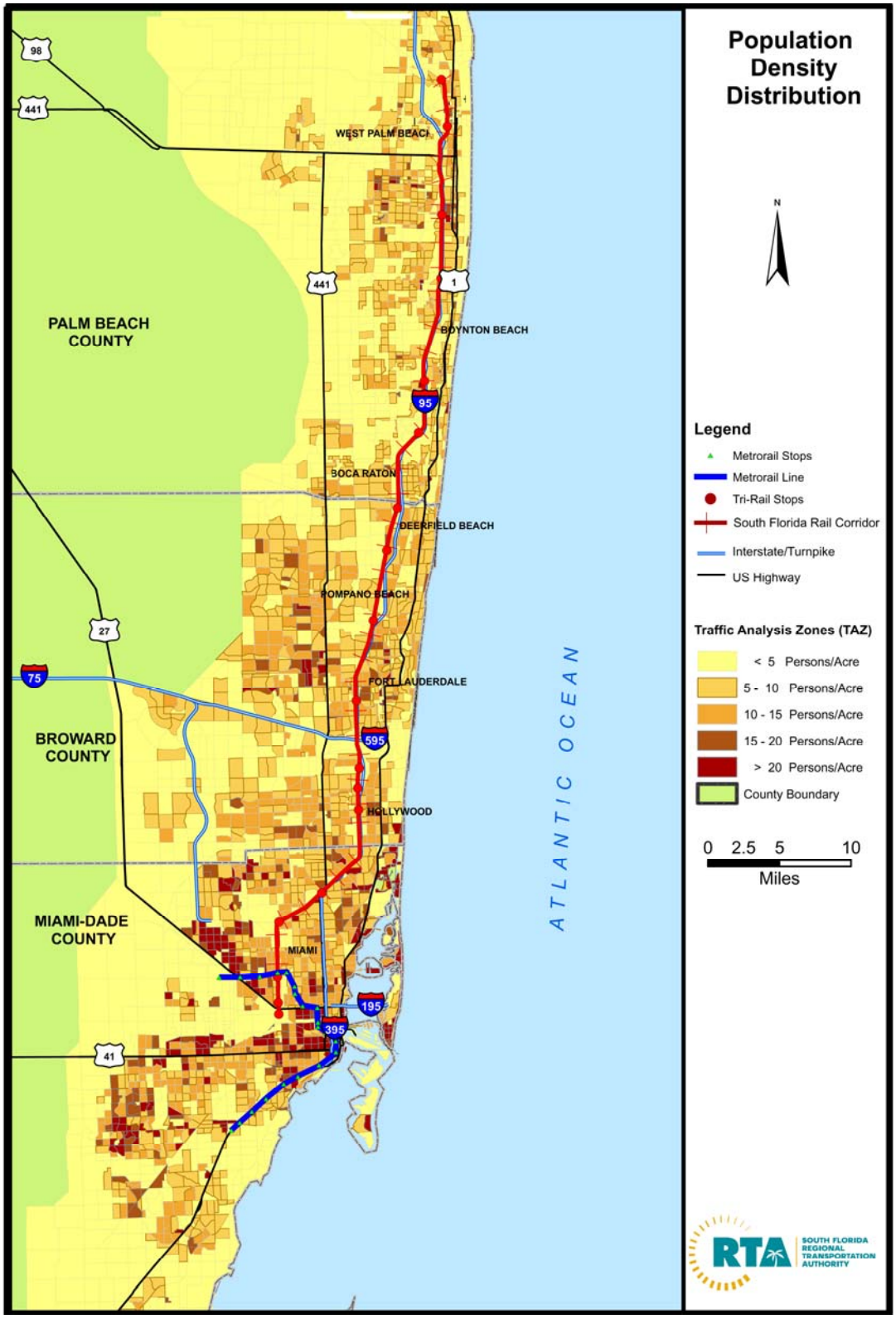
South Florida has consistently experienced tremendous population growth over time. The following table illustrates this growth was especially pronounced from 1990 to 2000. During that time, South Florida became the forerunner of population growth throughout the State. Palm Beach County led this surge with an unprecedented 49 percent growth. According to 2006 U.S. Census estimates, Palm Beach County had a population of 1,274,013, representing an 11 percent increase from 2000. The percentage of growth in Palm Beach County continues to supersede that of Broward County and Miami-Dade County. Today growth throughout the region continues to follow a consistent pattern, although at a slower pace than observed in the previous decade. Population density throughout South Florida is presented in Table 2-1

Table 2-1: South Florida Population Growth, 1990-2006

Geography	1990	2000	Percent Growth (1990-2000)	2006 Population Estimate	Percent Growth (2000-2006)
Broward County	1,018,200	1,623,018	37.3%	1,787,636	9.2%
Miami-Dade County	1,625,781	2,253,362	27.9%	2,402,208	6.2%
Palm Beach County	578,531	1,131,184	48.9%	1,274,013	11.2%

Source: 1990 Census, 2000 Census, 2006 American Community Survey

Figure 2-1: Population Density



2.3.1 Race and Ethnicity

Racial and ethnic diversity in the service area is presented in Table 2-2 and illustrated in Figure 2-2. Persons of Hispanic and Latino heritage are well established and form a strong presence throughout South Florida. In 2006, 61 percent of the Miami-Dade County population was reported as being of Hispanic heritage while in Broward and Palm Beach Counties this heritage accounted for 20 and 16 percent of the population, respectively. In the county subdivision of Miami, 69 percent of the population reported being Hispanic.

In Broward County, the percentages of non-white and Hispanic heritage populations were highest in Fort Lauderdale and Pompano Beach. Palm Beach County is the least diverse of the three counties, having the fewest percentages of Hispanics and non-whites. However, race and ethnic estimates revealed a high percentage of non-whites in cities such as Boynton Beach and West Palm Beach. Diversity in race and ethnicities are particularly high in these areas as compared to the overall region.

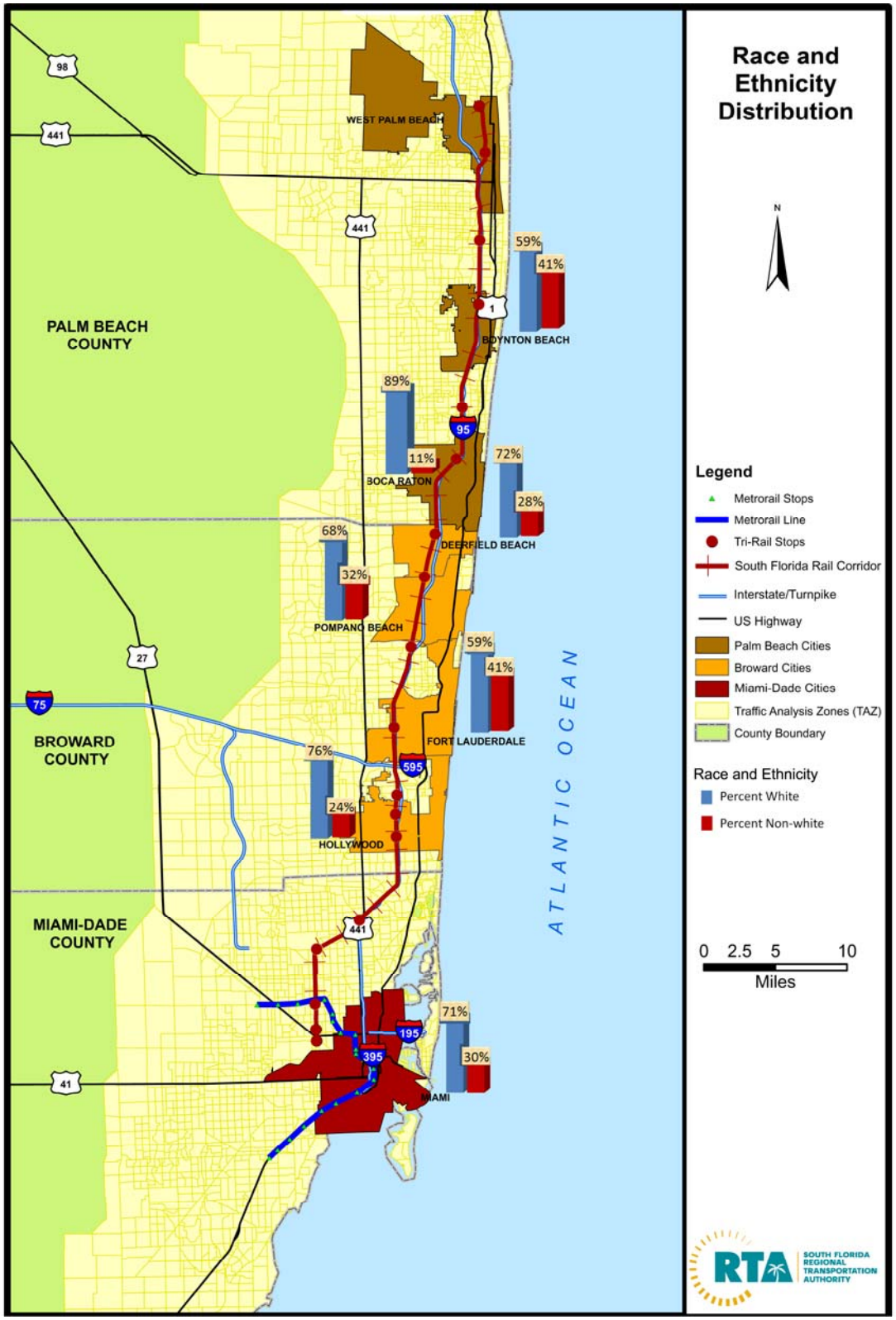
Table 2-2: Race and Ethnicity, 2006

Geography	2006 Population Estimate	Percent White	Percent Non-white	Percent Hispanic
County				
Broward County	1,787,636	65.3%	34.7%	22.8%
Miami-Dade County	2,402,208	71.4%	28.6%	61.3%
Palm Beach County	1,274,013	73.5%	26.5%	16.7%
County Subdivision				
Boca Raton	74,623	89.3%	10.7%	10.7%
Boynton Beach	63,267	58.8%	41.2%	-
Deerfield Beach	82,272	72.4%	27.6%	-
Fort Lauderdale	174,107	59.1%	40.9%	11.2%
Hollywood	144,092	75.6%	24.4%	28.8%
Miami	358,091	70.5%	29.5%	69.0%
Pompano Beach	105,941	67.9%	32.1%	19.1%
West Palm Beach	92,686	60.0%	40.0%	-

Source: US Census, American Community Survey 2006

Notes: Non-white persons include: Black/African American, American Indian/Alaskan Native, Asian, Native Hawaiian, other single race, and two or more races. Hispanic includes persons of any race with Hispanic or Latino family heritage. Not all cities reported Hispanic estimate counts.

Figure 2-2: Race and Ethnicity Distribution



2.3.2 Household Characteristics

Household characteristics for the region reflect that a majority of single family households in Broward and Miami-Dade Counties have children (Table 2-3, Figure 2-3). Miami-Dade County has the greatest amount of one person households, households with children, and households with elderly as compared to the other counties.

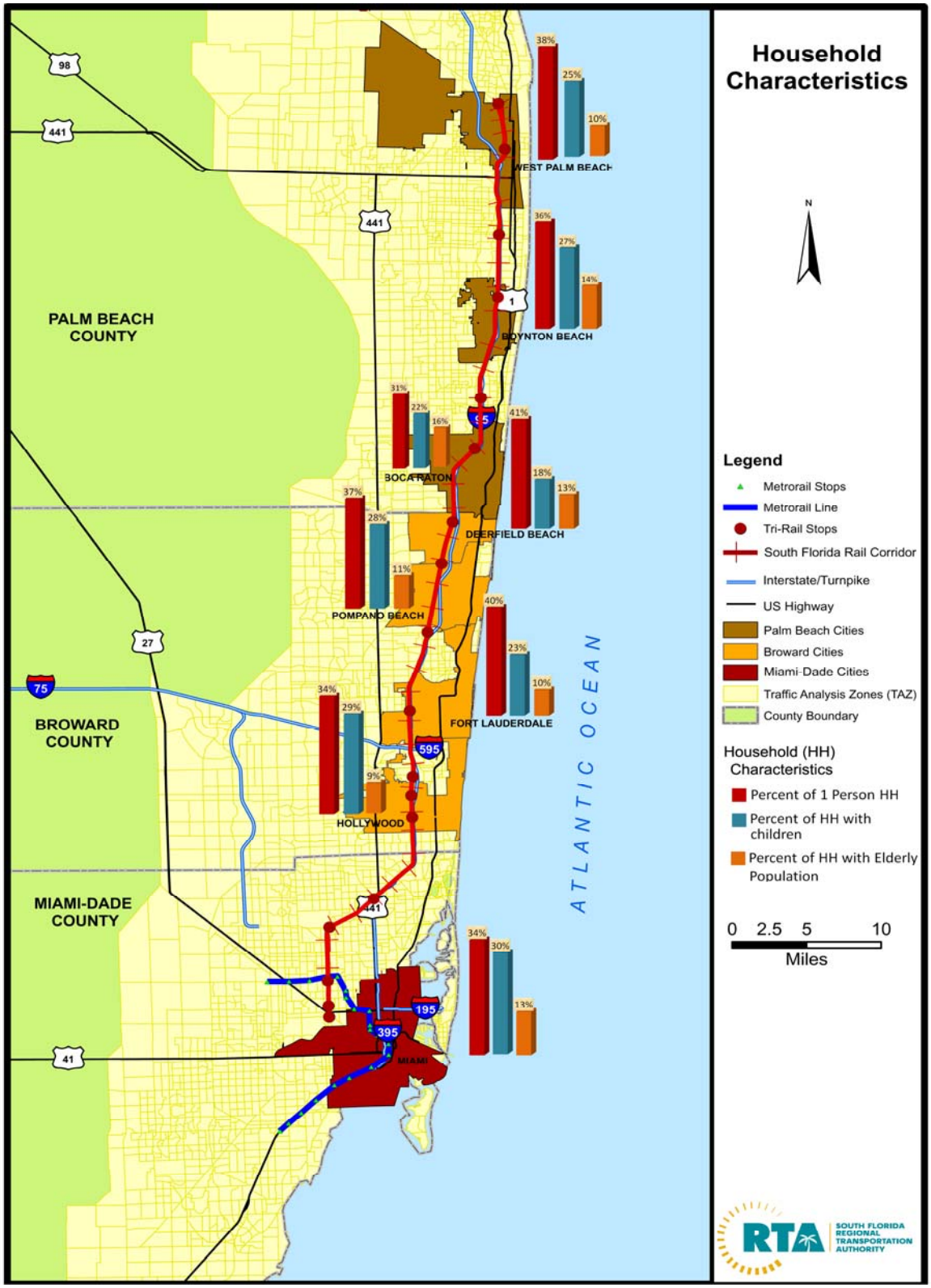
Miami-Dade County reported having a substantially higher number of households with elderly persons as compared to the other counties. The City of Miami had the largest amount of one person households. This amount was closely followed by Fort Lauderdale in Broward County. The concentration of this type of household may be attributed to the primarily urban environment of both cities with a lifestyle that tends to attract more one person households than single family households with children. Within Broward County, Deerfield Beach had the highest number of one person households and least number of households with children, which indicates a trend of a more urbanized population.

Table 2-3: Household Characteristics, 2006

Geography	Total HH 2006	1-Person HH	HH with children	HH with Elderly Householders
County				
Broward County	796,535	205,526	219,202	152,524
Miami-Dade County	953,031	215,423	291,498	182,207
Palm Beach County	631,146	154,287	135,338	165,983
County Subdivision				
Boca Raton	32,121	9,853	7,201	5,198
Boynton Beach	26,379	9,393	7,105	3,811
Deerfield Beach	34,474	14,092	6,354	4,419
Fort Lauderdale	74,440	30,136	17,001	7,168
Hollywood	59,862	20,561	17,463	5,330
Miami	135,153	45,312	39,934	17,057
Pompano Beach	41,584	15,221	11,649	4,536
West Palm Beach	36,754	13,791	9,215	3,665

Source: US Census 2006 American Community Survey. Notes: HH=household. HH with Elderly Householders include the population 65 years and over as a householder.

Figure 2-3: Household Characteristics



2.4 Transit Dependent Populations

The following tables illustrate a special population that would most benefit from improved and expanded transit services. This group is known as the transit dependent. Transit dependent persons are commonly defined as those individuals who possess characteristics that negatively impact or prevent them from driving. This population usually relies on public transit as the major motorized form of transportation. The Census provides four categories that describe transit dependent populations. These include the following:

- Persons below Poverty Level
- Mobility Limited [1]
- Zero vehicle Population[2]
- Elderly persons age 65 and older

2.4.1 Income

Table 2-4 presents household income characteristics for the South Florida region. Results from the 2006 ACS indicate that the median household income for cities within the Tri-Rail service area ranges from $27,088 to $66,052. Within this range of median household incomes there are still many households living below the poverty level or utilizing some form of public assistance. Among the individual counties, Palm Beach County has the highest median income. Broward County follows behind closely with a slightly lower median income while the income disparity is most evident in Miami-Dade County. Miami-Dade County has the lowest median income, highest percentage of families living below the poverty level, and households receiving public assistance.

[1] Introduced in Census 2000 and refers to limited individuals with a "Go Outside home disability for civilians not institutionalized over 16 years."

[2] Households reporting zero automobiles at home for personal use.

Table 2-4: Household Income Characteristics, 2006

Geography	Median HH Income	HH Total	HH Below Poverty	HH with Public Assistance
County				
Broward County	$50,499	796,535	8.1%*	7.7%
Miami-Dade County	$41,237	953,031	12.8%*	16.4%
Palm Beach County	$51,677	631,146	7.1%*	6.0%
County Subdivision				
Boca Raton	$66,052	32,121	9.8%	0.2%
Boynton Beach	$42,562	26,379	10.6%	1.8%
Deerfield Beach	$43,336	34,474	12.3%	1.3%
Fort Lauderdale	$48,759	74,440	15.1%	1.5%
Hollywood	$44,883	59,862	10.8%	1.7%
Miami	$27,088	135,153	27.9%	2.1%
Pompano Beach	$42,409	41,584	15.1%	1.0%
West Palm Beach	$45,250	36,754	16.1%	3.2%

Source: US Census, 2006 American Community Survey.
Notes: Notes: HH refers to households. Median Household (HH) income refers to income estimates in the past 12 months in 2006 inflation-adjusted dollars. Percent of the population below poverty refers to household (HH) income estimated in the past 12 months.
* Indicates "families" below poverty level. Household data was not available or applicable. Public assistance refers to households receiving public assistance income or food stamps in the past 12 months.

2.4.2 Mobility Limited and Zero Vehicle Populations

Two related categories of transit dependency are the mobility limited and populations who do not own a vehicle. For the mobility limited, the transit dependence stems from the inability to go outside of the home. This category does not include persons that are institutionalized and would otherwise not leave the home without assistance (For example, persons in a nursing home).

Table 2-5 presents data that suggests areas such as Deerfield Beach, Miami and Boynton Beach have high percentages of disabled individuals that could potentially rely on transit. Looking at countywide data, Miami-Dade County has the largest percentage of disabled individuals. Both Broward County and Palm Beach County have a slightly lower number of disabled residents.

Table 2-5: Mobility Limited Populations, 2006

Geography	Disabled Individuals	Percent of Total Population
County		
Broward County	73,828	4.1%
Miami-Dade County	123,485	5.1%
Palm Beach County	51,144	4.0%
County Subdivision		
Boca Raton	2,346	3.1%
Boynton Beach	3,491	5.5%
Deerfield Beach	5,309	6.5%
Fort Lauderdale	9,016	5.2%
Hollywood	6,443	4.5%
Miami	22,321	6.2%
Pompano Beach	3,777	3.6%
West Palm Beach	3,405	3.7%

Source: US Census, 2006 American Community Survey Notes: HH=household. Disabled individuals include persons 16 years or older who have difficulty going outside by themselves. These individuals have mobility disabilities.

The zero vehicle population households are presented in Table 2-6. This population represents households that do not have access to a personal vehicle. Households in this category may be the result of personal choice not to own a vehicle, physical ability to operate a vehicle, or the lack of economic means by which to own a vehicle. Cities with the greatest amount of households with no available vehicles are in Miami, West Palm Beach, and Deerfield Beach respectively. Miami-Dade County had the highest amount of zero vehicle households, followed by Broward County. These areas appear to have greater residents who may be more dependent on transit for their mobility. Figure 2-4 and Figure 2-5 illustrate both zero vehicle population households and the availability of vehicles per household throughout the region.

Table 2-6: Vehicles Available per Household, 2006

Geography	Number of Vehicles per household			
	0	1	2-3	4+
County				
Broward County	6.1%	34.5%	42.0%	2.9%
Miami-Dade County	9.9%	33.0%	40.6%	3.4%
Palm Beach County	5.1%	34.2%	38.2%	2.5%
County Subdivision				
Boca Raton	3.8%	38.0%	55.1%	3.1%
Boynton Beach	7.7%	48.3%	40.9%	3.1%
Deerfield Beach	11.2%	44.9%	41.0%	2.9%
Fort Lauderdale	7.9%	49.0%	40.2%	3.0%
Hollywood	11.0%	41.2%	45.3%	2.6%
Miami	21.6%	43.1%	33.7%	1.7%
Pompano Beach	8.4%	47.0%	41.7%	2.9%
West Palm Beach	11.6%	44.5%	42.1%	1.8%

Notes: Census, 2006 American Community Survey. Households (HH) with no personal vehicles available means the members of the household have no access to a vehicle for use.

Figure 2-4: Zero Car Households

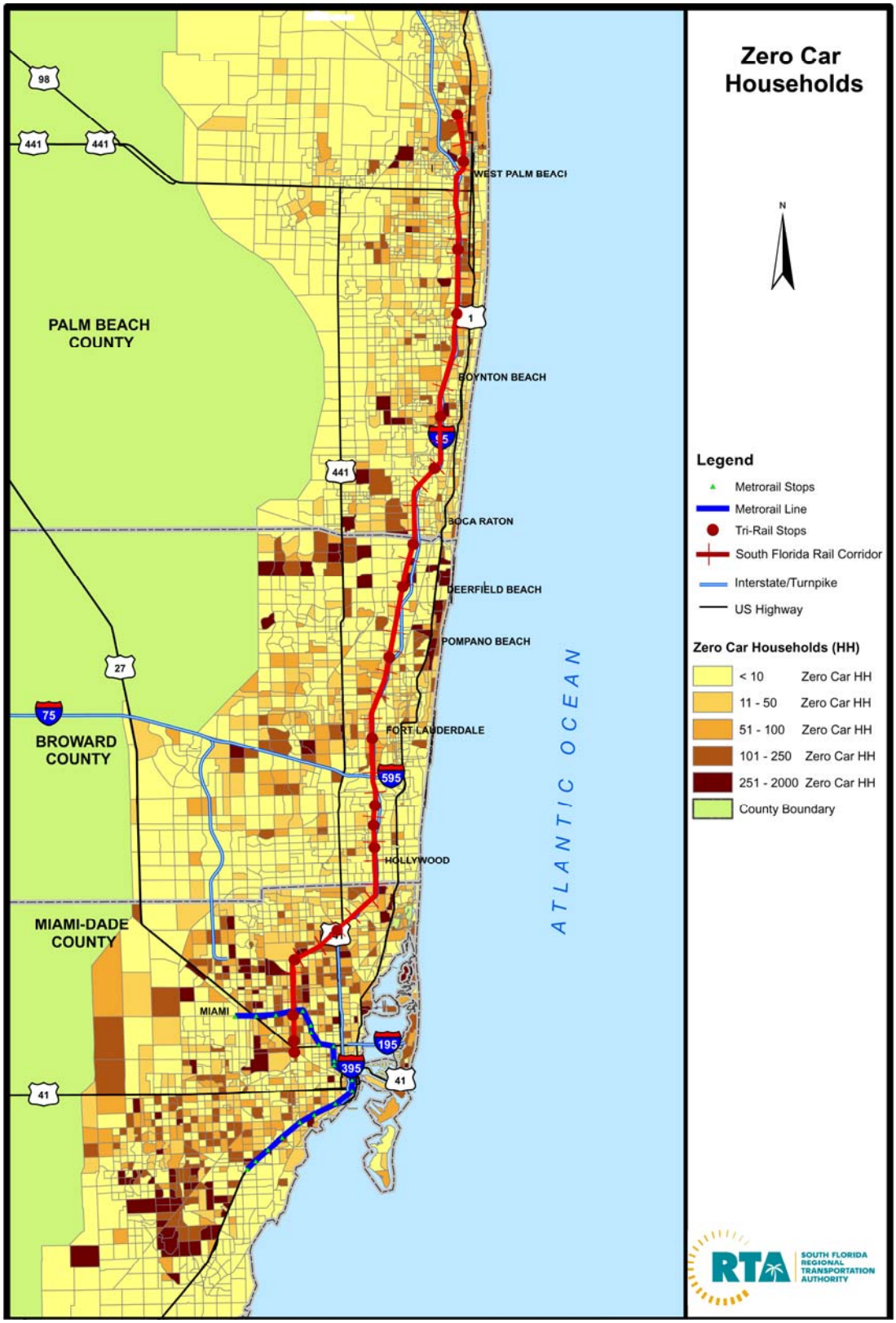
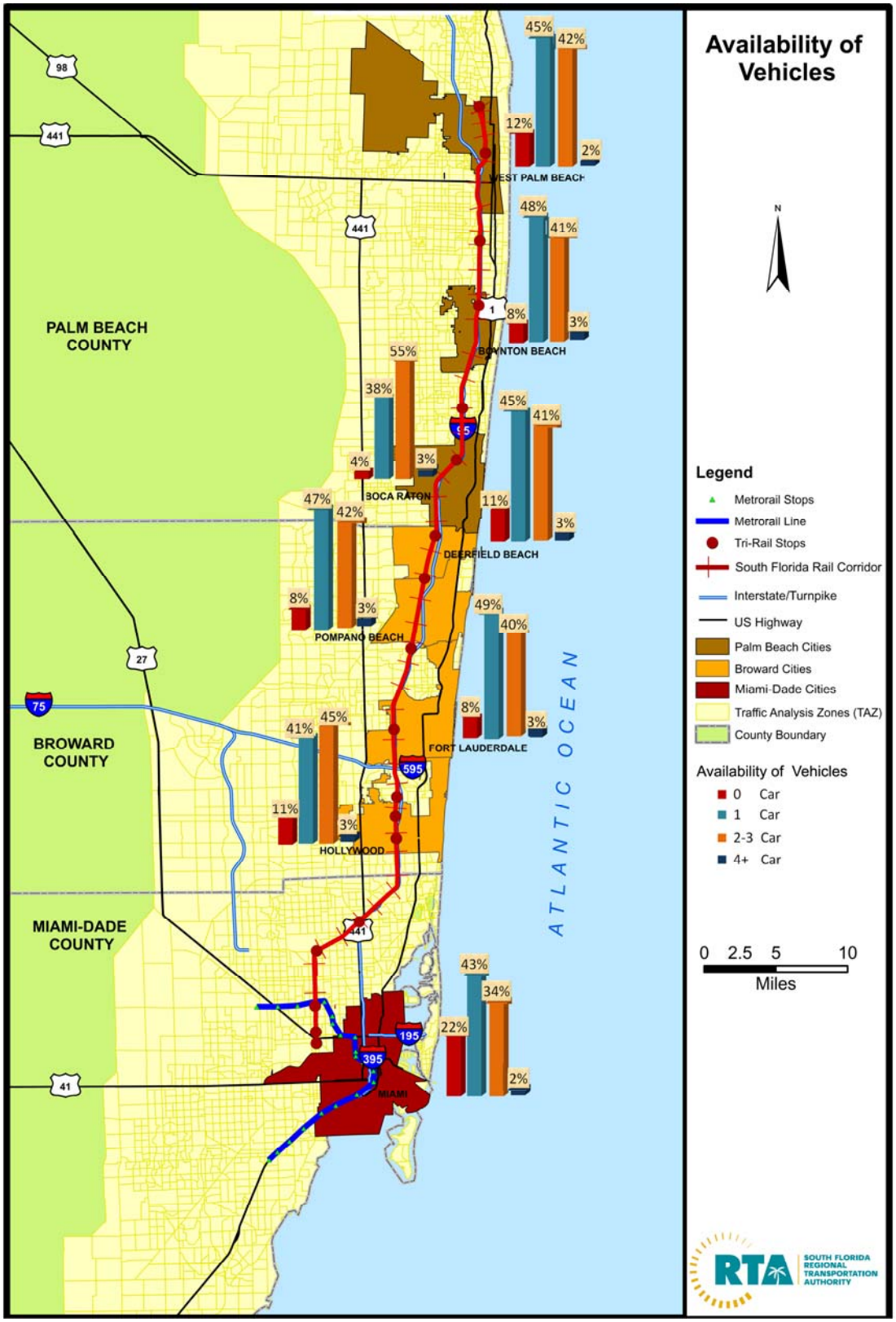


Figure 2-5: Availability of Vehicles



2.4.3 Age Distribution

The age distribution for the South Florida region is presented in Table 2-7. As shown, elderly persons have the strongest presence in Palm Beach County in cities such as Boca Raton and Boynton Beach. Palm Beach County has the highest percentage of elderly persons than any other county. Miami-Dade County and Broward County trail this amount by nearly eight percent. As the elderly population in these areas continues to age this group is least likely to drive as frequently and instead develop a higher reliance on public transportation for their mobility needs.

Table 2-7: Age Distribution Characteristics, 2006

Geography	2006 Population Estimate	Under 18 Years	18-64 Years	Over 64 Years
County				
Broward County	1,787,636	26.1%	59.8%	14.0%
Miami-Dade County	2,402,208	26.7%	59.0%	14.2%
Palm Beach County	1,274,013	23.3%	55.3%	21.3%
County Subdivision				
Boca Raton	74,623	16.8%	63.1%	20.1%
Boynton Beach	63,267	22.7%	56.4%	20.9%
Deerfield Beach	82,272	17.0%	61.2%	21.8%
Fort Lauderdale	174,107	20.4%	65.8%	13.8%
Hollywood	144,092	22.3%	62.9%	14.9%
Miami	358,091	21.6%	61.8%	16.5%
Pompano Beach	105,941	24.2%	58.6%	17.2%
West Palm Beach	92,686	21.5%	62.8%	15.7%

Source: US Census, American Community Survey 2006. The assumption is that individuals younger than 16 years at a minimum would have assistance from either a parent or a guardian.

2.5 South Florida Commuting Patterns

The commuting patterns within the South Florida region are presented in the tables to follow. Trends are evaluated considering patterns from 2000-2006 such as commute time to work, county to county workflow exchange patterns, and tri-county workflows.

2.5.1 Travel time to work

Trends in South Florida reveal that workers in the region experience increasingly longer commute times going to and from work daily. Residents now live further away from their workplaces and spend longer periods in traffic commuting through the counties. Throughout the region a majority of workers travel between 30 to 34 minutes to arrive at work. It is notable that trips taking between 60 and 89 minutes experienced the largest increase at 80 percent. When assessing relative travel times in the three counties, it is important to notice that a larger population leads to longer commutes to work. Miami-Dade, with the largest workforce population, experiences the longest commuting times, while Palm Beach, with the smallest workforce, experiences shorter travel times relative to Miami-Dade and Broward Counties (Table 2-8 and Table 2-9).

Table 2-8: South Florida Region Commute Time to Work, 2006

Travel Time to Work (Minutes)	Broward	Miami-Dade	Palm Beach
< 5	2%	1%	3%
5 to 9	6%	5%	8%
10 to 14	9%	8%	12%
15 to 19	12%	10%	14%
20 to 24	13%	14%	14%
25 to 29	5%	6%	6%
30 to 34	16%	18%	14%
35 to 39	3%	4%	3%
40 to 44	3%	6%	4%
45 to 59	6%	10%	8%
60 to 89	4%	10%	5%
90+	1%	3%	2%

Source: 2006 American Community Survey

Table 2-9: South Florida Region Change in Commute Time to Work, 2000-2006

Travel Time to Work (Minutes)	2000	2006	Percent Change
< 5	1%	2%	73%
5 to 9	2%	6%	67%
10 to 14	4%	9%	66%
15 to 19	5%	12%	67%
20 to 24	5%	14%	70%
25 to 29	2%	5%	68%
30 to 34	6%	16%	70%
35 to 39	1%	3%	73%
40 to 44	1%	4%	73%
45 to 59	3%	8%	69%
60 to 89	2%	7%	80%
90+	1%	2%	73%

Source: U.S. Census 2000 and 2006 American Community Survey

2.5.2 County to County Workflows

County to County workflows represents the flow of workers from where they live to the location of their jobs. For the most part, a strong majority of residents work within their own county, especially in Miami-Dade, where 92 percent of residents work locally. Commuters crossing county lines typically constitute between seven and eight percent of the counties workforce, with the exception of Broward, which sends 15 percent of its workforce to Miami-Dade. Furthermore, the cross-county commutes normally involve traversing to a neighboring county.

The figures comparing county of workplace to county of residence for the 2006 ACS indicates that certain aspects of tri-county commutes remain the same. Broward is still a net exporter of workers, with the percentage of residents working outside of the county remained unchanged from 2000. Figures from Miami-Dade County indicate that levels of workers who had jobs elsewhere compared to those that worked in the county remaining the same. Palm Beach County, however, had a four percent decrease in workers who traveled outside county lines to their jobs.

As the work commute in the region continues to increase it is important to understand where workers are traveling from and to. U.S. Census data for 2000 reveals that county to county workflows occur in each county but are most prevalent in Broward County (Table 2-10 and Table 2-11). Broward County is known as a “Donor County” in that it is a net exporter of labor. Miami-Dade County had the largest percentage of residents working within the county. Figure 2-6 illustrates tri-county workflow patterns for 2000. In 2006, Broward County had 23 percent (199,553) of the population working outside of the county, which is the highest percentage of all of the counties in the area.

Table 2-10: County to County Workflows, 2000

Place of Employment	County of Residence		
	Broward	Miami-Dade	Palm Beach
Broward	565,812 (76%)	60,096 (7%)	37,685 (8%)
Miami-Dade	115,044 (15%)	823,642 (92%)	5,560 (1%)
Palm Beach	52,712 (7%)	3,843 (0%)	421,811 (89%)
Total Workers	743,543	899,323	475,572
Total Population	1,623,018	2,253,362	1,131,184

Source: U.S. Census 2000

Table 2-11: Tri-County Workflows, 2000

Place of Employment	County of Residence		
	Broward	Miami-Dade	Palm Beach
Worked in County of Residence	565,812 (76%)	823,642 (92%)	421,811 (89%)
Worked outside County of Residence	167,756 (23%)	63,939 (7%)	43,245 (9%)
Total Workers	743,543	899,323	475,572
Total Population	1,623,018	2,253,362	1,131,184

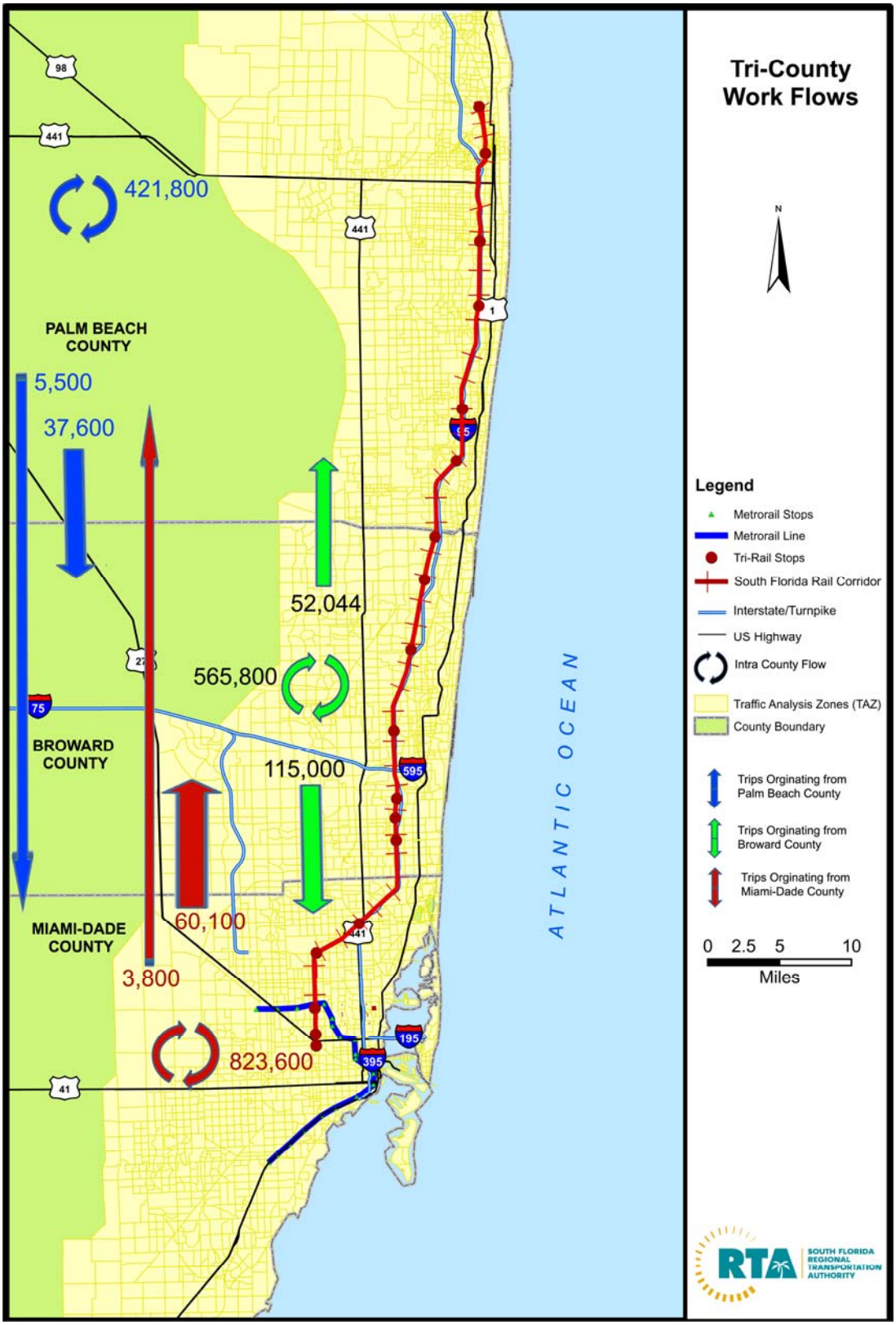
Source: U.S. Census 2000

Table 2-12: Tri-County Workflows, 2006

Place of Employment	County of Residence		
	Broward	Miami-Dade	Palm Beach
Worked in County of Residence	656,110 (77%)	986,303 (92%)	486,930 (87%)
Worked outside County of Residence	199,553 (23%)	87,348 (8%)	72,477 (13%)
Total Workers	855,663	1,073,651	559,407
Total Population	1,787,636	2,402,208	1,274,013

Source: U.S. Census 2006

Figure 2-6: Tri-County Workflows, 2000



2.6 Regional Highway and Roadway Conditions

The Florida Department of Transportation (FDOT) has established statewide minimum acceptable level of service (LOS) standards. Adopting LOS standards ensure professionally accepted measurement techniques which serve as priority tools for FDOT and act as criteria in preparing land-use plans for local governments and the Department of Community Affairs. These standards were later updated in rule chapter 14-94, Florida Administrative Code to reflect the changes in Section 163.180 Florida Statutes.

Definition: "Level of Service (LOS)" for highways means a quantitative stratification of the quality of service to a typical traveler on a facility into six letter grade levels with "A" describing the highest quality and "F" describing the lowest quality.

- LOS A describes primarily a free -flow traffic condition; vehicles are unimpeded in their ability to maneuver within traffic stream.
- LOS B describes reasonably unimpeded traffic operations; the ability to maneuver within traffic stream is slightly restricted.
- LOS C describes stable operations; the ability to maneuver and change lanes in mid-block of traffic stream may be more restricted than LOS B.
- LOS D borders on a range in which small increases in flow may cause substantial decreases in delay and speed.
- LOS E is characterized by significant delay, high volumes, high signal density, and extensive delays at intersections.
- LOS F is characterized by extensive delays, long queues and stop and go traffic.

LOS standards vary by type of facility and functional class. For example, LOS for arterial streets are computed as delay in seconds while LOS for highways are measured as density, however the letter grades from A to F convey the same perception.

Over last two decades, along with population and economic prosperity, traffic congestion has also increased in South Florida resulting in a LOS rating for most major streets to either E and F grades. Based on 2007 average annual daily traffic (AADT) data, existing roadway traffic conditions in the tri-county area were graded using general planning LOS tables on I-95 (north-south) and on all east-west streets connecting with Tri-Rail stations.

2.6.1 I-95 (Palm Beach County to Miami-Dade County)

As presented in Table 2-13, the LOS for Interstate 95 (I-95) operates at no better than grade D and most cases LOS E and F within the 72 mile Tri-Rail corridor extending from State Road 112 (SR 112) in Miami-Dade County and north to the Mangonia/West Palm Beach in Palm Beach County. Based on a review of traffic data that was obtained from FDOT for 2005 through 2007, I-95 traffic volumes on various sections of the expressway have increased, while other sections of the facility have experienced a slight decrease.

Table 2-13: I-95 Level of Service

Interstate - 95				
	2005 AADT	2006 AADT	2007 AADT	LOS
Palm Beach County	163,789	164,858	168,161	E
Broward County	244,353	243,008	245,306	F
Miami-Dade County	214,900	225,611	223,611	F

Source: FDOT Average Annual Daily Traffic Data, 2005 - 2007

Moreover, the AADT data remaining unchanged further suggests that the I-95 facility has likely reached and is exceeding capacity. Given the physical constraints and build out condition of I-95 specifically between Broward and Miami-Dade County no additional capacity is anticipated to be added to this facility in the near future.

However, FDOT is implementing a pilot project to provide managed lanes on the existing I-95 corridor from I-395 in Miami-Dade County to I-595 in Broward County. This project will convert existing High Occupancy Vehicle (HOV) lanes to managed lanes. The managed lanes would have variable congestion pricing to ensure that an operating speed of 50 MPH is maintained at all times. The project is anticipated to provide travel time savings of more than 35 minutes during peak travel periods.

In Palm Beach County additional traditional capacity improvements are underway and nearing completion. The LOS levels and AADT will most likely reach a maximum volume in the near future and exceed capacity to further degrade LOS.

This data further demonstrates the high demand of a north south travel pattern within and among the three counties which emphasizes the importance of the travel market that Tri-Rail serves.

2.6.2 East-West Roadways

The east-west arterial streets that connect with Tri-Rail stations and I-95 also provides access to shopping, commercial, residential, entertainment places throughout the South Florida region. The tables below presents the average AADT levels from 2005 to 2007 on major four lane and six lane east-west arterials within a three to five mile distance from I-95 corridor.

These numbers illustrate traffic volumes which are the average number of vehicles per day. Overall, Palm Beach County has better LOS on east-west roadways that connect to Tri-Rail stations compared to all of Miami-Dade and Broward Counties. The existing high densities and less available space are constraints to add additional capacity on east-west roadways in all three counties.

Table 2-14: Four Lane East-West Streets Level of Service

AADT- 4 lane -East-West Streets Connecting Tri-Rail Stations (Volume - Number of vehicles per day)				
	2005 AADT	2006 AADT	2007 AADT	LOS
Palm Beach County	32,250	32,875	29,375	E
Broward County	38,125	39,500	39,500	F
Miami-Dade County (North)	27,933	30,567	31,717	C-D

Source: FDOT Average Annual Daily Traffic Data, 2005 - 2007

Table 2-15: Six Lane East-West Streets Level of Service

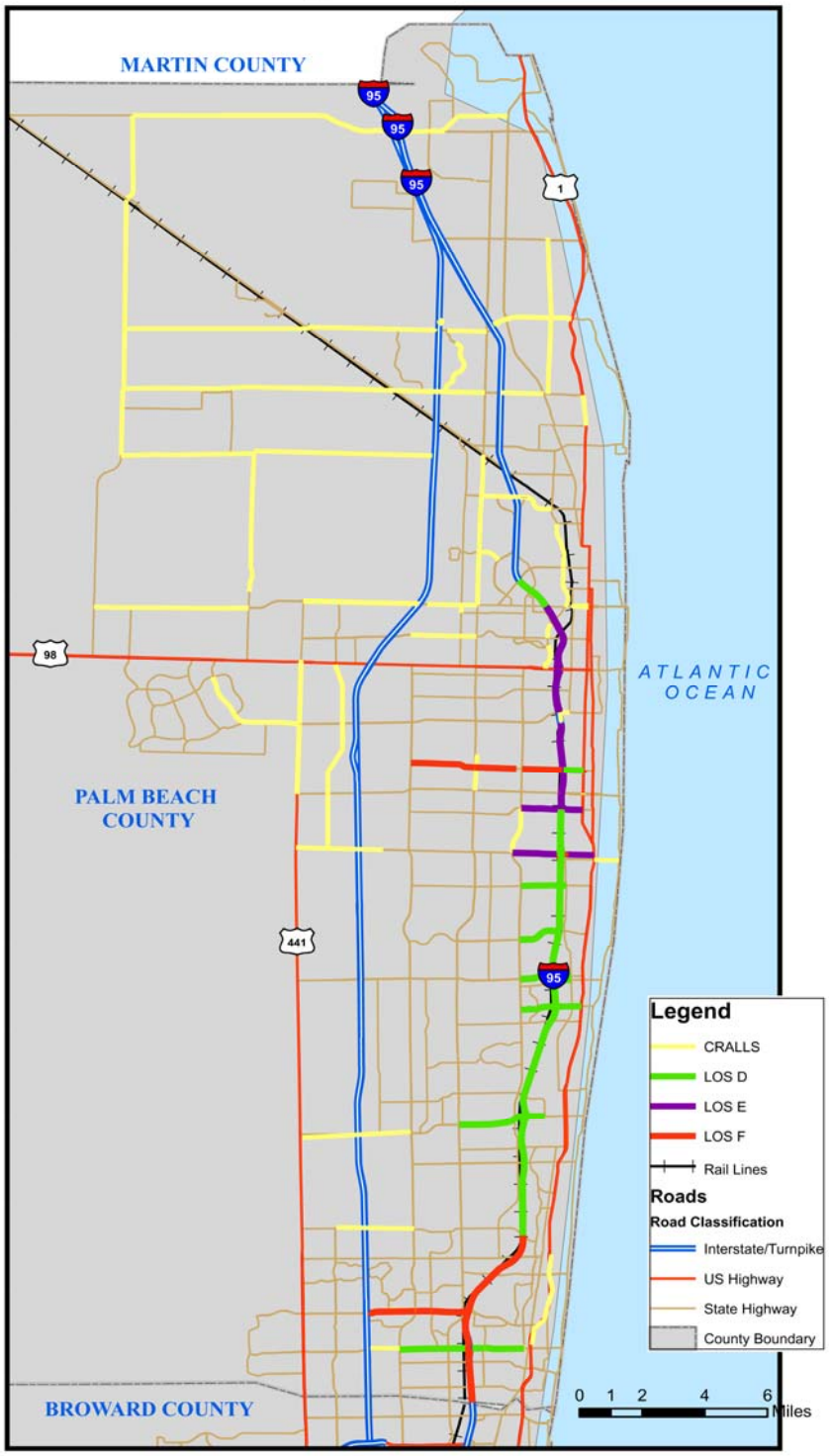
AADT- 6 lane -East-West Streets Connecting Tri-Rail Stations (Volume - Number of vehicles per day)				
	2005 AADT	2006 AADT	2007 AADT	LOS
Palm Beach County	46,625	46,313	35,263	D-E
Broward County	55,206	56,500	55,250	D-E
Miami-Dade County (North)	52,125	59,875	65,375	E-F

Source: FDOT Average Annual Daily Traffic Data, 2005 - 2007

The following figures illustrate LOS within each of the three counties of South Florida for 2005. These figures provide a regionwide perspective on the traffic conditions and growing demand on the roadway network for south Florida.

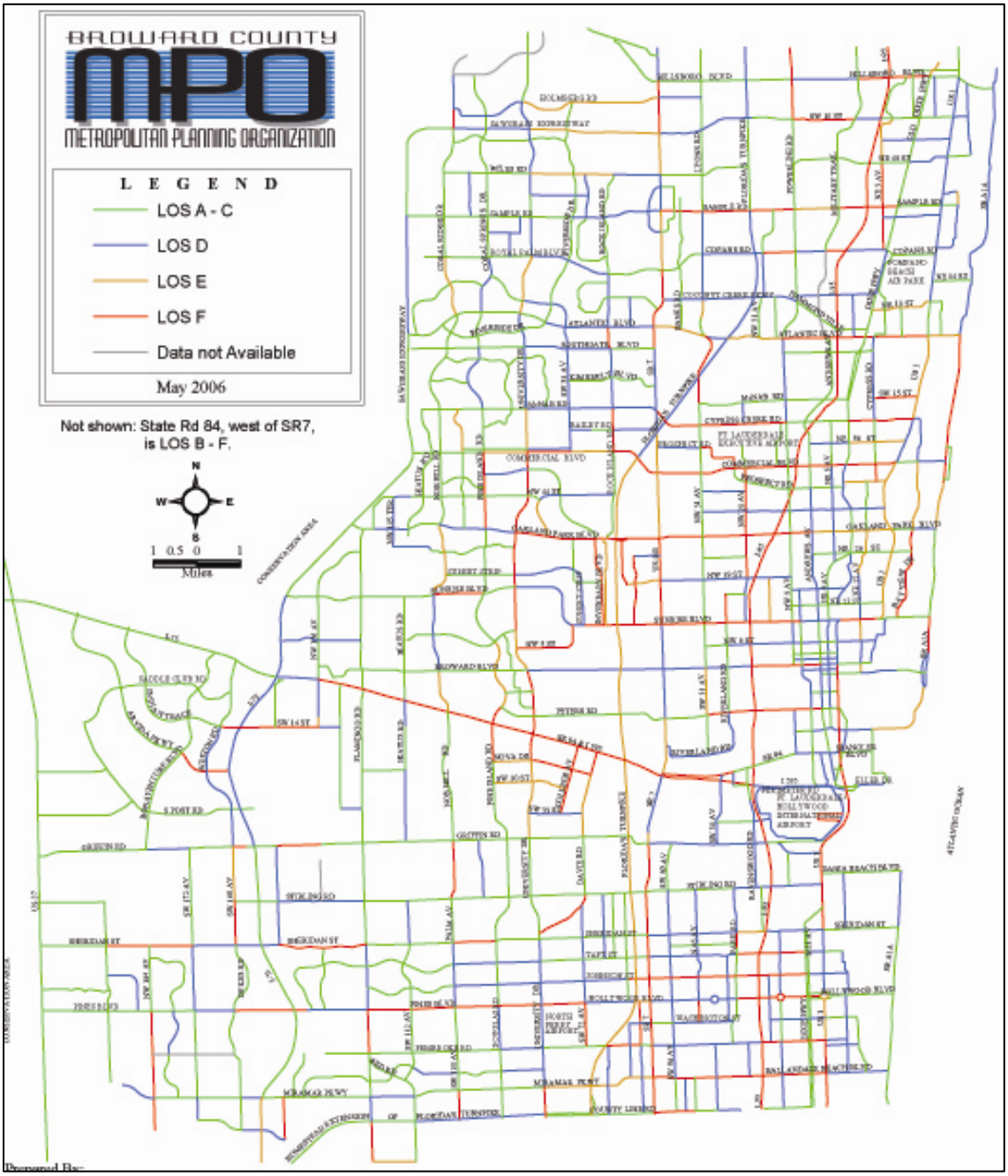
In Palm Beach County, the adopted Constrained Roadways at Lower Level of Service (CRALLS) allows the County to control land developments that affects existing roads and this is also depicted with corresponding LOS levels as quantified through AADT data.

Figure 2-7: Palm Beach County Level of Service and CRALLS Map (2005)



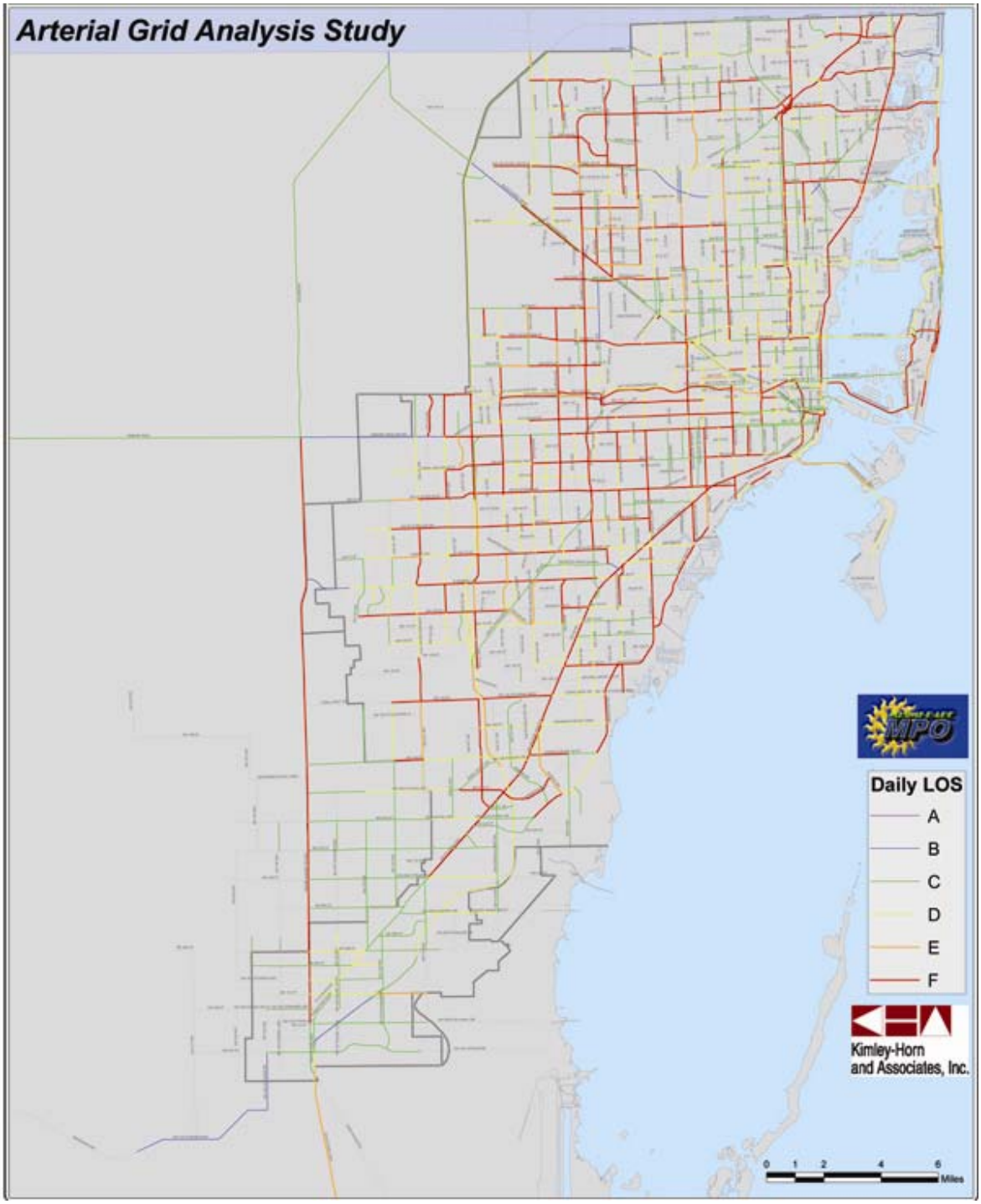
Source: Palm Beach County Department of Public Works

Figure 2-8: Broward County Level of Service Map



Source: Level of Service Analysis 2005 and 2030, Broward County MPO, 2006.

Figure 2-9: Miami-Dade County Level of Service Map



Source: Arterial Grid Analysis Study, Miami-Dade County MPO, March 2007

2.7 South Florida Railroad Network

There are three owners of rail networks within South Florida, namely the Florida East Coast Railway (FECR), CSX Transportation (CSXT), and the Florida Department of Transportation (FDOT). Figure 2-10 illustrates the existing rail networks within the region. Table 2-16 illustrates the number of trains traveling on each rail network by owner in a 24-hour period. A description of the specific rail networks follows.

2.7.1 Florida East Coast Railway

The entire FECR rail network is approximately 368 miles, of which about 93 miles are within the limits of the tri-county area. FECR is the second largest carrier in terms of Florida mileage accounting for 13 percent of the State rail system. This rail corridor is owned and operated by the FECR, based in Saint Augustine, Florida. Currently, the FECR is strictly used for freight service. The FECR has exclusive rail access to all three ports in the tri-county area, specifically, the Ports of Miami, Everglades, and Palm Beach. The FECR currently operates 23 freight trains per day over a typical 24-hour period. Major commodities handled by the FEC are nonmetallic minerals, vehicles and various commodities moved in containers and trailers (intermodal traffic).

2.7.2 CSX Transportation

CSXT owns and maintains a 22,000 mile rail network covering 23 states and the District of Columbia. In the Tri-County region, CSXT owns the trackage immediately north of the state-owned SFRC and also the trackage on the western end of the Homestead Subdivision and the entire Lehigh Subdivision, both of which are in Miami-Dade County. As part of the original purchase of the SFRC, several railroad spurs were also included. The two primary spurs include the Homestead Subdivision and the Miami Downtown District. The Homestead Subdivision diverges from the SFRC mainline near the southern terminus and terminates at the Oleander Junction on the south side of Miami International Airport. At this point, CSXT resumes ownership of the rail corridor to the west and south. The Miami Downtown District diverges to the east from the SFRC immediately north of the Miami River and proceeds east. Both of these branches carried freight service exclusively at the time of this writing.

CSXT currently operates six through freights and four local switchers within the tri-county area. Major Florida commodities handled by CSX are nonmetallic minerals, chemicals and allied products, and coal. Amtrak operates two daily round trips to New York on the line. CSXT operates freight rail services focusing on two principal markets in South Florida: 1.) The movement of rock and stone used for construction from quarries in Miami-Dade County to concrete plants and construction depots within the state; and, 2.) The provision of carload freight service to local warehousing facilities along the rail line.

Figure 2-10: South Florida Rail Network

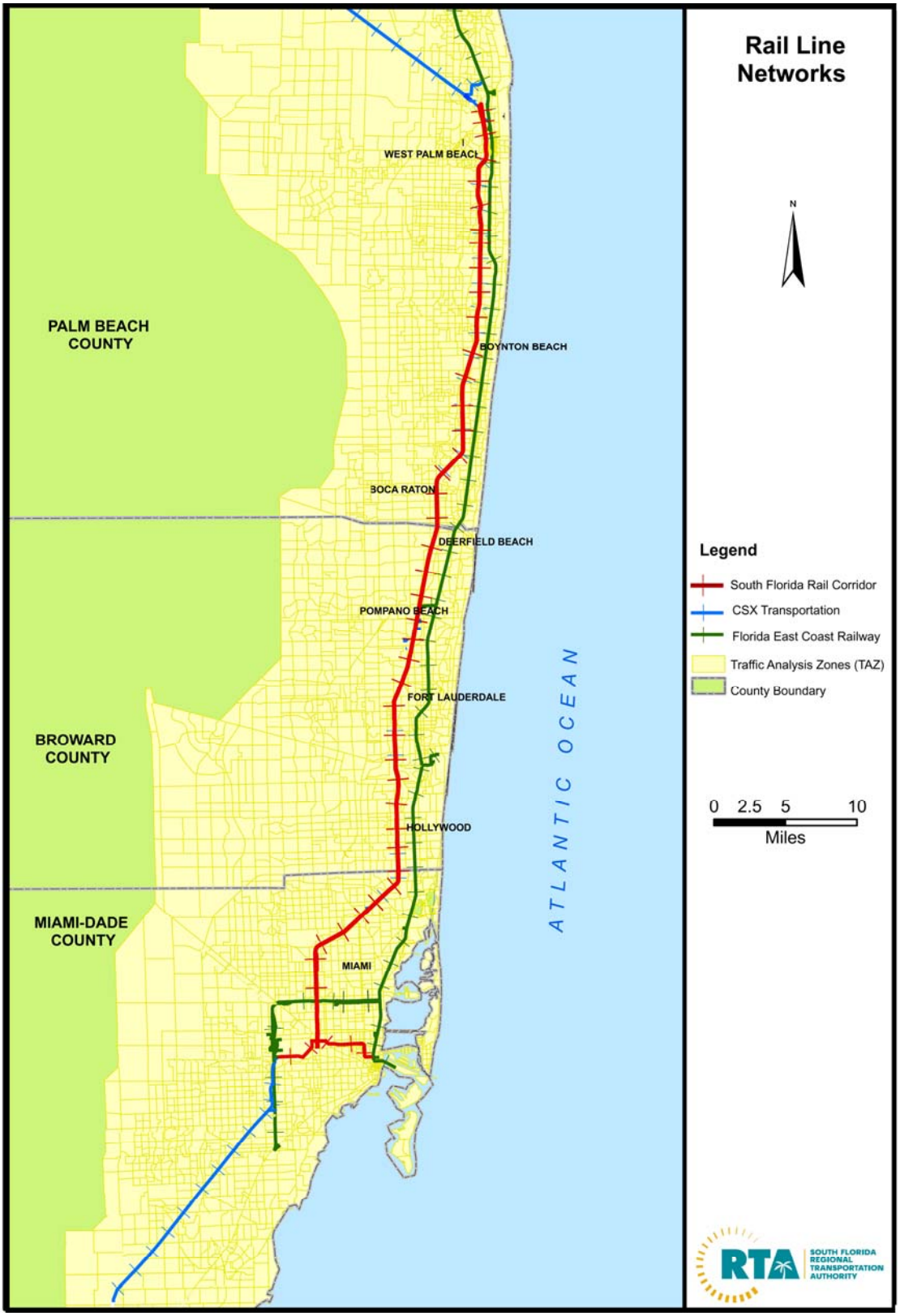


Table 2-16: Railroad Corridor Trains Per Day

Rail Network Owner	Daily Number of Trains			
	FEC	CSX	Amtrak	Tri-Rail
FEC	23	-	-	-
CSX	-	10	-	-
State of Florida (SFRC)	-	10	4	50

2.7.3 Florida Department of Transportation

FDOT purchased a portion of the CSXT freight network, initially for maintenance of traffic (MOT) plan for the I-95 widening project in 1989. Later, this corridor was renamed the South Florida Rail Corridor (SFRC). The SFRC runs between the Miami International Airport (MIA), in Miami-Dade County, to Mangonia Park, in Palm Beach County. The SFRTA currently operates Tri-Rail commuter rail service within the SFRC. At the time this writing, the SFRTA operates 50 trains per day. Amtrak also operates four trains per day within this corridor. Currently, CSXT performs all track and signal maintenance and most operations (dispatching) within the SFRC (with the exception of the New River Bridge).

2.8 Freight Patterns and Trends

In 2004, Florida's freight railroads moved more than 119 million tons of freight, up from 117 million in 2003. For the year 2005, Florida railroads hauled over 2 million carloads carrying 115 million tons of freight. This includes totals of inbound, outbound, through, and local freight tonnage. Recent preliminary figures suggest rail freight has been dropping due to the economic slowdown.

Common freight transported across Florida railways includes construction material for road and home building, coal for electric power plants, automobiles, food products, and consumer goods for retail. Phosphates and non-metallic minerals comprise the largest percentage of freight material at the local and state-wide levels. Intra-state tonnage accounts for nearly half the freight that moves through Florida. Approximately 40 percent of the freight activity is inbound, only 12 percent is outbound. These percentages have remained nearly unchanged since 2000.

2.8.1 Local Freight Volume

Miami-Dade and Monroe counties (FDOT District VI), account for 20 percent of originating tonnage for the state of Florida, mainly due to the location of lime-rock mines and the Port of Miami. U.S. demand for rail freight is expected to increase by 69 percent nationally by the year 2035, and Southeast Florida is expected to grow at twice the national average during this same time frame[3].

[3] 2006 Florida Freight & Passenger Rail Plan, FDOT

District IV originated 1,326,040 tons of freight in 2006 while District VI originated 17,888,987 tons. According to FDOT, these levels "present a relatively stable behavior" for the past ten years.

2.8.2 Local Freight Traffic

Recent traffic volumes along the SFRC indicate that there are 14 Northbound Rock Trains moving from Southern Dade County to points north of Palm Beach per week, with an equal amount of Southbound Rock Trains simultaneously traversing the same route in 2000. Between 5 and 7 Merchandise Trains travel from the Hialeah Yard to points north every week. Given these numbers the line typically sees five freight trains passing on any giving weekday, as compared to 50 passenger trains, with less activity for both on the weekends. Overall in 2004 CSXT carried 14.9 million gross tons of train equipment on the SFRC[4]. Over the past ten years, freight traffic in South Florida has increased by over 50 percent.

2.9 Trends in Local Transit Use

2.9.1 Local Transit Agency Comparison

Figure 2-11 compares ridership for the three local transit agencies within Tri-Rail's operating area: Miami-Dade Transit; Broward County Transit; and Palm Tran. There are actually four datasets because ridership for Miami-Dade is broken down into Metrobus and Metrorail ridership. Ridership for Broward County and Palm Tran are for fixed-route bus only. The data shows generally steady gains in ridership on the four systems, a natural outcome of the population and employment gains that the region has experienced in the past decade, and the steady rise in the price of motor fuels, particularly since 2005.

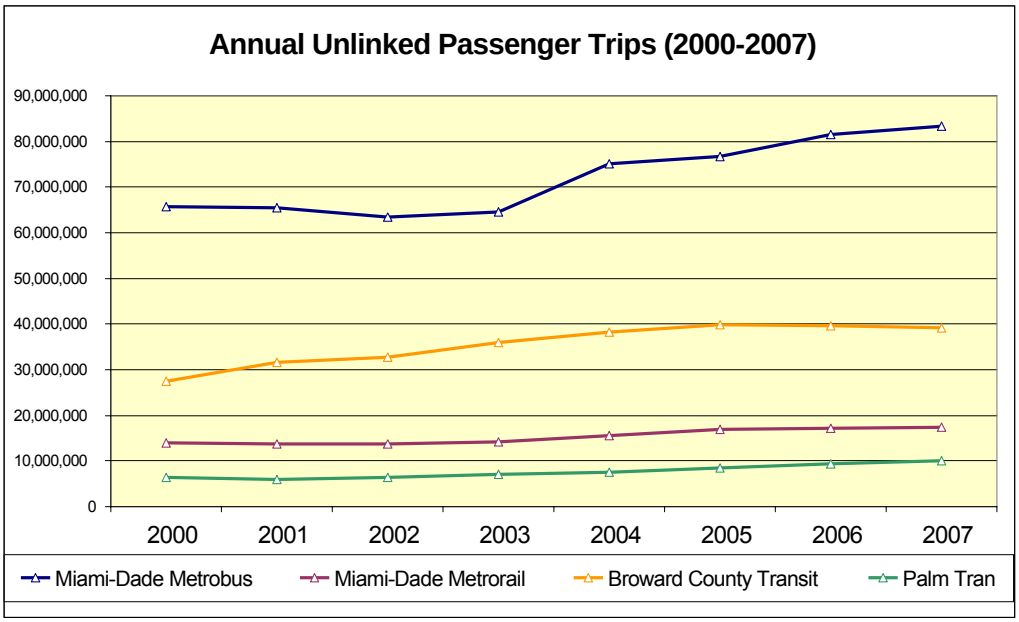
The data shows Miami-Dade Transit (MDT) with a slight decrease in bus unlinked passenger trips in the first part of the decade. A large jump in unlinked passenger trips occurred between 2003 and 2004. This is mostly attributed to the passage of the People's Transportation Plan (PTP) in 2003 and the corresponding increase in routes and service hours for Metrobus. During the same time period, Metrorail service shows relatively modest growth in unlinked passenger trips, and appears to have stayed the same between 2005 and 2006. Metrorail did not experience the same immediate jump in ridership from the PTP as Metrobus since additional rail service through system expansion take much longer to design and implement than bus routes.

The data for Broward County Transit shows a steady increase in unlinked passenger trips between 2000 and 2005. However, the data also shows that between 2005 and 2006 unlinked passenger trips were relatively unchanged.

Palm Tran also shows steady growth for most of the years between 2000 and 2006, with unlinked passenger trips reported at 9.3 million.

[4] 2006 CXST Annual Report

Figure 2-11: Annual Unlinked Passenger Trips by Agency



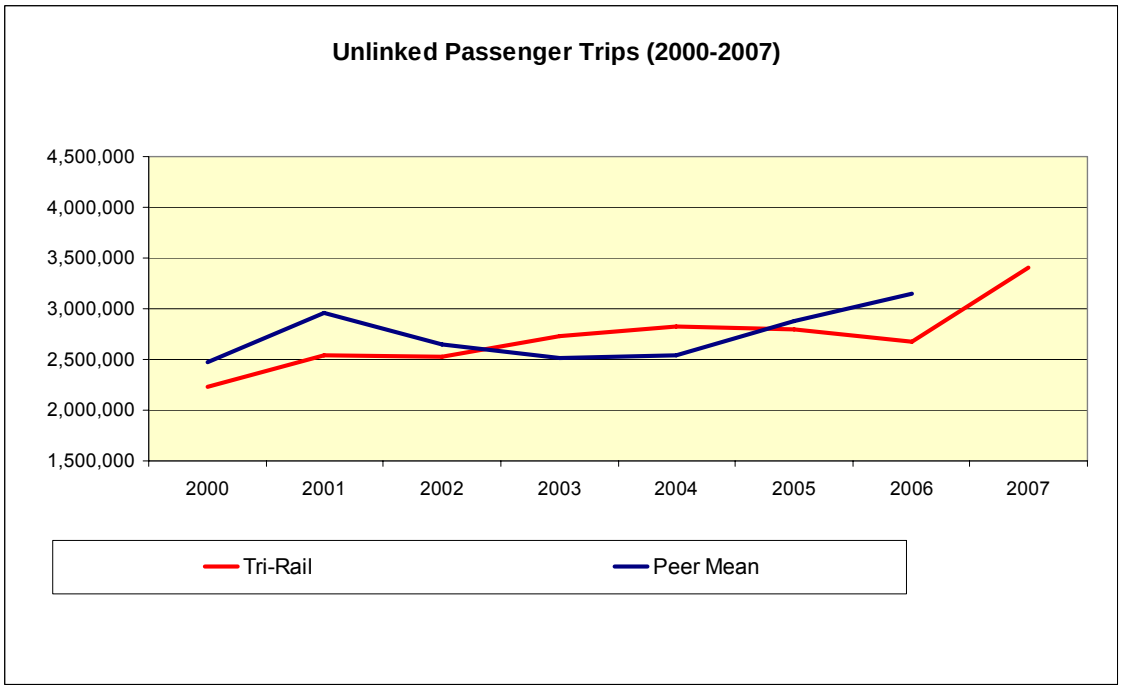
2.10 Tri-Rail and Peer Comparison

The comparison of unlinked passenger trips between Tri-Rail and the commuter rail peer mean shows that unlike the generally steady ridership gains of the local, mostly bus-based transit systems, Tri-Rail's ridership is very volatile, with year-to-year swings of hundreds of thousands of trips, both up and down. Between FY 2000 and FY 2004 Tri-Rail showed mostly gains in unlinked passenger trips. However, Tri-Rail has reported decreases in unlinked passenger trips in the last two years of reporting, FY 2005 and FY 2006. In FY 2007, Tri-Rail reported an increase in ridership to approximately 3.5 million which is attributed to completion of the double track construction and the implementation of a 50-car schedule.

In contrast, at the same time that Tri-Rail was reporting gains, the peer mean was showing decreases in ridership. Interestingly, at the same time that Tri-Rail saw ridership decreases in FY 2005 and 2006, the peer mean was showing an overall increase in unlinked passenger trips. This volatility can be attributed to changes in service level and service reliability related to the Segment 5 double tracking project, construction of the New River Bridge and other capital improvements on the Tri-Rail system over the course of the decade.

The analysis paints a picture of unpredictable unlinked passenger trips when it comes to commuter rail. Unlike the local agencies, where ridership gains were modest and steady, Tri-Rail unlinked passenger trips between FY 2000 and FY 2006 are marked by increases and slight decreases. The peer mean confirms that the ridership increases and decreases are not just confined to Tri-Rail, although the changes are mostly opposite the experience of Tri-Rail.

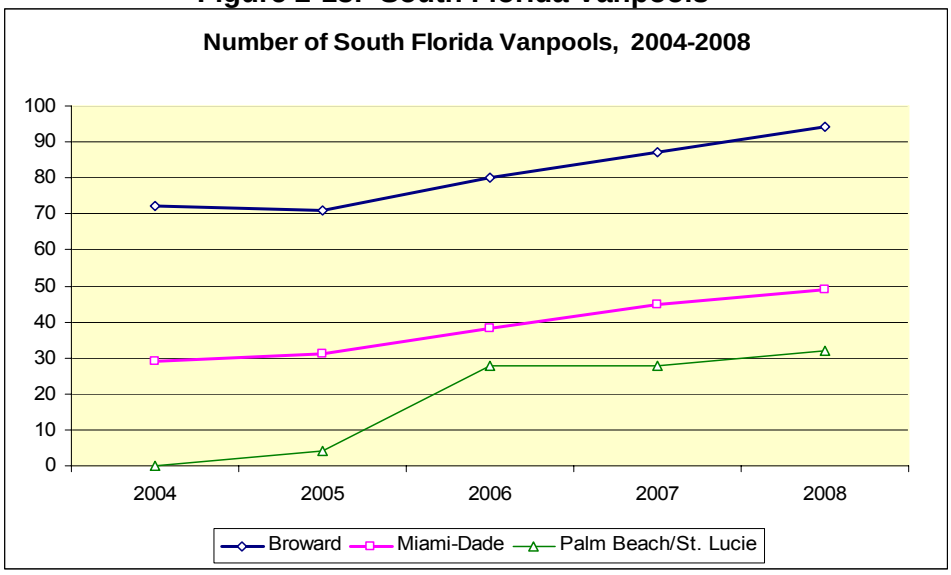
Figure 2-12: Tri-Rail Unlinked Passenger Trips



2.11 Vanpooling

The South Florida Vanpool Program (SFVP) operates the van pool network within Palm Beach, Broward and Miami-Dade counties. Each of the three Metropolitan Planning Organizations (MPO's) contributes towards each vanpool with a $400 per van subsidy based on origin. As of May 2008, there are 175 vanpools in South Florida. Since 2004, the total number of participating van pools has grown 73 percent from 101 to 175 van pools. The county with the highest number of vanpools is Broward County; this has a direct correlation with type of work flow travel patterns as discussed in an earlier section of the report.

Figure 2-13: South Florida Vanpools



PAGE INTENTIONALLY LEFT BLANK

3.0 DESCRIPTION OF PLANNING AGENCIES

Planning on the local and regional levels of any major metropolitan area involves an orchestrated collaboration of ideas and policies from a myriad of separate entities. While some organizations remain autonomous, most are interrelated to one another in their missions and objectives. Convergence of goals is an important theme when it comes to transportation planning, especially when focusing on the tri-county region of South Florida.

In order to secure federal funding for transit projects, transportation planning agencies must adhere to the guidelines set forth by the Federal Transit Administration. The FTA provides grants for public transportation projects that meet certain requirements and reporting practices first established under the Federal Aid Highway Act of 1962, and later revised under the Federal Transit Administration amendment of 1991.

The above mentioned legislation requires all urban areas with populations of at least 50,000 to have a transportation planning process to be eligible for federal funds. The act stated that the planning process was to be continuing, cooperative and comprehensive. In addition, the act required all plans and programs produced from the process to be consistent with the area's comprehensive plan.

More recently, three federal transportation re-authorization acts have significantly changed the way planning organizations conduct business. These include the Intermodal Surface Transportation Efficiency Act (ISTEA 1991), the Transportation Equity Act for the 21st Century (TEA-21 1998) and the Safe Accountable Flexible Efficient Transportation Equity Act, A Legacy for Users (SAFETEA-LU 2005). Together these three federal legislative acts have included provisions for the following:

- Local development of air quality conformity plans,
- Established unique differences between local long range transportation plans and shorter transportation improvement plans (TIPS),
- 20 year planning horizons become the norm
- Plans must be fiscally constrained – fully funded
- More emphasis on transit, intermodal connections and multimodal solutions
- Pedestrian and bike users get a stronger voice in planning
- More consultation with public and other stakeholders
- Congestion management plans required in urbanized areas greater than 200,000 population (also known as Transportation Management Areas).

3.1 State and Local Levels

Throughout the South Florida region there are numerous transportation capital improvement projects and transit enhancements currently underway that together can play a valuable role in serving the travel demand between Miami-Dade, Broward, and Palm Beach counties. Many of these project improvements will further enhance the viability of an alternative transportation network and complement Tri-Rail service through better connectivity and access to local and regional activity centers. Agencies of interest for the South Florida region include:

- Metropolitan Planning Organizations (MPO)
  1. Palm Beach County
  2. Broward County
  3. Miami-Dade County
- Regional Planning Councils
  1. South Florida Regional Planning Council
  2. Treasure Coast Regional Planning Council
- Florida Department of Transportation (FDOT)

3.1.1 Metropolitan Planning Organization

The MPO is responsible for transportation planning and programming within a distinguishable area of population above 50,000. Created by government mandate, MPO organizations make decisions concerning transit modes and transportation planning. These bodies were established by the Federal Highway Act of 1973 in order to provide a cooperative, comprehensive, and continuing transportation planning and decision-making process for areas of considerable population. Florida Statutes also have language addressing MPO establishment[5]. The two main products of the MPO are the Long Range Transportation Plan and the Transportation Improvement Program.

The three local MPO's are Miami-Dade MPO, Broward MPO and Palm Beach MPO. The MPO is typically comprised of an MPO Board, an advisory committee, a citizen's interest committee and a pedestrian and bike path advisory committee. Every MPO currently operates under the SAFETEA-LU 2005 Act, signed into law on August 10, 2005 by President Bush. Below is a list of the planning factors which guide the MPOs' efforts:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the accessibility and mobility options available to people and for freight;

[5] Chapter 163 Section .01 Florida Statute

4. Protect and enhance the environment, promote energy conservation, and improve quality of life;
5. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
6. Promote efficient system management and operation;
7. Emphasize the preservation of the existing transportation system

3.1.1.1 Palm Beach County MPO

The Palm Beach MPO is guided by a Board with elected and appointed officials from both the County government and the local municipalities within Palm Beach County. The Board meets monthly and acts upon agendas focused on improving transportation within Palm Beach County.

The MPO organization consists of the MPO Board, the Technical Advisory Committee (TAC), the Citizens Advisory Committee (CAC), and the Bicycle/Pedestrian/Greenways Advisory Committee. The MPO Board is composed of five County Commissioners, 13 elected officials from 11 cities and one official from the Port of Palm Beach.

3.1.1.2 Broward County MPO

The mission of the MPO of Broward County is to coordinate a regional transportation system that ensures the safe and efficient mobility of people and goods, optimizes transit opportunities, and enhances our community's environmental and economic well-being. MPO staff members develop the County's transportation plans and programs and serve as staff to the Broward County MPO Board. The MPO also consists of TCC (Technical Coordination Committee) and Citizens Involvement Roundtable.

Division activities include long-range and short-range planning and coordination of multimodal transportation services including transit, pedestrian, bicycle, greenways, roadway, seaport, airport, rail, and freight and goods movement.

3.1.1.3 Miami-Dade County MPO

The MPO for the Miami Urbanized Area was created March 23, 1977 under the authority of Chapter 163 of the Florida Statutes[6]. Section 163.01 of the Statute provides that governmental agencies may enter into Inter-local Agreements permitting the joint exercise of such powers or authority that the agencies share in common or that each might exercise separately.

Voting members are designated by the state governor and include the following: all thirteen county commissioners, five elected officials for each of the cities with populations over 50,000 in the county, a representative from the citizenry of the unincorporated portion of Miami-Dade County, a member of the MDX, and a member

[6] http://www.miamidade.gov/MPO/

of the Miami-Dade School Board. FDOT has two non-voting representatives on the MPO Board.

3.1.1.4 Southeast Florida Transportation Council

The Southeast Florida Transportation Council (SEFTC) is an inter-local association of transportation officials serving mutual transportation interests in Miami-Dade, Broward, and Palm Beach counties. The council was organized in lieu of combining all three county MPO's after the 2000 census illustrated the spread of the Miami Urbanized Area throughout the three counties. The SEFTC was created under Florida Statutes Chapter 334.175(5)(i)(2) to serve as a formal forum for policy coordination and communication required for the implementation of regional initiatives agreed upon by the MPO's from Broward, Miami-Dade, and Palm Beach.

The SEFTC is comprised of three board members who oversee the efforts of working-level advisory committees, such as the Regional Transportation Technical Advisory Committee. Committee members, represent various transportation planning and operating agencies at local, regional and state levels. SEFTC is responsible for the Regional 2030 Long Range Transportation Plan and priorities for Transportation Regional Incentive Program (TRIP) funding.

3.1.2 Regional Planning Councils

Along with the local county MPO's, there are larger planning bodies known as Regional Planning Councils that extend across county lines. On most matters they work in unison to provide for planning and decision making concerning interconnecting facilities such as I-95, Florida's Turnpike, I-75, Treasure Coast Connector, The Breeze, Tri-Rail and so forth. Every governmental planning organization is accountable to each other as well as local residents. An annual obligation listing is available to the public in compliance with federal mandates which require a listing of all projects that receive federal funds and are in the implementation phase of construction.

When census designated Metropolitan Statistical Areas (MSA) cover multiple counties, the need for a Regional Planning Council (RPC) arises to provide for coordination with interconnecting intermodal facilities. Each RPC is comprised of city commissioners, county commissioners from each county in the region, gubernatorial appointees, and an elected school board member to be nominated by the Florida School Board Association. Local governments and the governor may appoint either elected officials or lay citizens, provided that at least two-thirds of the voting members are locally elected officials.

RPC's are outlined in Florida Statute chapter 186.502 (4) as the only multipurpose regional entity designed for extra-local planning. The local RPC's are the Treasure Coast Regional Planning Council and the South Florida Regional Planning Council.

3.1.2.1 South Florida Regional Planning Council

The South Florida Regional Planning Council is the RPC for the counties of Broward, Miami Dade and Monroe. They coordinate policy and construe planning policy for the most heavily populated area in South Florida. Their missions and objectives

include identifying long term challenges, assisting regional leaders with creative solutions and promoting a vibrant, healthy economy for their counties.

SFRPC is composed of 19 voting members including county and municipal elected officials and Governor's appointees. Key areas of interest for the SFRPC include affordable housing, wastewater and stormwater conservation, sustainability issues and stable economic growth.

3.1.2.2 Treasure Coast Regional Planning Council

The Treasure Coast Regional Planning Council, which covers Palm Beach, Martin, St Lucie and Indian River Counties, works to encourage and enable local units of government and citizenry to assemble and cooperate with one another and with representatives of major economic interests toward common planning objectives.

TCRPC is made up of nineteen elected officials and nine gubernatorial appointees. Their current areas of interest include the Palm Beach County Urban Redevelopment Area, the US 1 Corridor Study through Martin and St Lucie Counties, and a study on sea level rise in the Treasure Coast region[7].

3.1.3 Florida Department of Transportation (FDOT)

FDOT is a large, decentralized state-wide agency consisting of seven districts and the Florida's Turnpike Enterprise. FDOT employs over 7,400 employees who help administer and maintain 41,000 miles of highway and 29 fixed route transit systems[8]. Charged with the establishment, maintenance and regulation of state public transportation, the agency was formed in 1969 from the former Florida State Road Department. Each of FDOT's seven districts is managed by a district secretary. Following the 2002 legislation, the Turnpike district secretary became known as an executive director. FDOT is led by a gubernatorial-appointed Secretary of Transportation (Stephanie Kopelousos, appointed by Governor Charlie Crist on January 2nd, 2007).

FDOT matches operating funds for several public transit operations throughout the state, including Tri-Rail. As shown in Table 2, the funds sourced for SFRTA are a match of the three counties' contributing funds through which Tri-Rail operates. FDOT also allocates funds for corridor maintenance and dispatch of the New River Bridge.

3.2 SFRTA Integration with Agencies

The SFRTA integrates plans and objectives with all five planning bodies within the South Florida region. Tri-Rail, which offers service to eighteen stations throughout the tri-county area, coordinates train scheduling and shuttle service with county-level transit modes in order to provide optimal intermodal connections.

---

[7] Treasure Coast Regional Planning Council Special Projects http://www.tcrpc.org/special_projects_.htm

[8] FDOT Fast Facts

According to passenger surveys collected in 2007, one of the greatest obstacles facing Tri-Rail ridership is coordination and frequency performance of shuttle services. As of 2007 the SFRTA operated a fleet of 16 shuttle busses providing 233,868 unlinked passenger trips; however, the commuter rail itself provided 2,674,552 unlinked trips.

The timing and coordination of the Tri-Rail system with other local transit systems is a critical part of improving the overall service performance. The SFRTA plans to continually coordinate Tri-Rail schedules with other local transit services to help prevent unneeded delays and improve the connectivity among the various transit options in South Florida. During the development of both the Broward County Transit (BCT) and the Palm Tran TDP service improvements were developed to assure that all of the Tri-Rail stations in Broward and Palm Beach Counties would be adequately served when double tracking is complete and the new service headways were initiated.

The mission statement of the SFRTA is "***To coordinate, develop and implement a viable regional transportation system to meet the needs and requirements for the movement of people, goods and services."***

The vision of the SFRTA is "***To provide greater mobility in South Florida, thereby improving the economic viability and the quality of the community, region and state***."

Among the goals listed in a previous section, goal 3 dictates coordination with local and county governments. One of the major objectives of this goal, as outlined in the SFRTA Mission Goals and Objectives Overview, is to collaborate with government agencies to develop land use policies consistent with an efficient regional transportation system. All of the three elected officials on the SFRTA Board also serve on MPO's. Some of the elected officials also serve on RPC's and SEFTC.

3.2.1 Regional Transit Supportive Goals

According to SFRTA's website, the goal of its Strategic Regional Transit Plan is to think creatively to define a bold vision and strategic plan for regional transit's role in the overall regional transportation system to ensure mobility, economic viability, and quality of life in the South Florida region for the next generation.

The Palm Beach County MPOs goals concerning transit ridership include improving fixed-route service, improving safety and efficiency through pursuit of technology, providing consistency and improving the overall image of public transit viability. Palm Beach MPO's goals concerning inter-level coordination include maintaining a high degree of cooperation with state and local governments and transportation agencies.

The Broward County MPO's goals concerning transit ridership include providing a balance, multimodal, aesthetically pleasing transportation system that is safe and effective. Broward County MPO's goals concerning inter-level coordination include providing a transportation system serving the local and regional movement of people that is coordinated and consistent with Broward County's constituent communities and neighbors.

The Miami-Dade MPO's goals concerning transit ridership include improving transportation systems and travel while enhancing the social benefits of such a system.

TCRPC and SFRPC are also active in defining regional transit supportive goals. Pursuant to Chapter 380, Florida Statutes, Regional Planning Councils are charged with the coordination of multi-jurisdictional agency review of large-scale development projects that may impact more than one county. These projects known as Developments of Regional Impact (DRI) are complex and require input from numerous review agencies and local governments.

3.3 Overview of Regional Projects

Throughout the South Florida region there are numerous transportation capital improvement projects and transit enhancements currently underway that together can play a valuable role in serving the travel demand between Miami-Dade, Broward, and Palm Beach counties. Many of these project improvements will further enhance the viability of a regional transit network and complement Tri-Rail service through better connectivity and access to local and regional activity centers.

Table 3-1 presents an overview of project improvements categorized by regional and county significance. A more detailed description of these projects is presented in the following section of this report:

Table 3-1: South Florida Plans and Projects with Direct or Indirect Linkage to Tri-Rail

Project	Limits	Lead Agency	Anticipated Opening Year	Relationship to Tri-Rail
South Florida Region				
US 441/SR7 Transit Bridge	From Golden Glades Interchange in Miami-Dade County to I-595 in Broward County	Broward County Metropolitan Planning Organization (MPO), Broward County Office of Transportation (BCOT), and Miami Dade Transit (MDT)	TBD	Connection to Tri-Rail Golden Glades station
South Florida East Coast Corridor Study	From Jupiter to Miami	FDOT District IV	TBD	Connects to various Tri-Rail stations; extends Tri-Rail service to Jupiter
South Florida Regional Commuter Services	Palm Beach, Broward, and Miami-Dade Counties	Miami-Dade County, Broward County, and the Palm Beach MPO's	Currently in service	Indirect linkage to Tri-Rail stations
Managed Lanes and Transit Concepts (I-95, I-595, I-75)	From Palm Beach County to Miami-Dade County	FDOT District IV	TBD	Indirect linkage to Tri-Rail stations
Palm Beach County				
Central Palm Beach County Transportation Corridor Study	From the Mall at Wellington Green to the Tri-Rail West Palm Beach station	SFRTA, MPO	TBD	Connects to Tri-Rail West Palm Beach station

Table 3-1: South Florida Projects with Direct or Indirect Linkage to Tri-Rail (continued)

Project	Limits	Lead Agency	Anticipated Opening Year	Relationship to Tri-Rail
Broward County				
Broward County Transit Breeze	From Northern Broward County to Northern Miami-Dade County	BCOT	Currently in service	Linkage to Tri-Rail Golden Glades station and indirect linkage to other Tri-Rail stations
Broward County Intermodal Center and People Mover Project	From the Fort Lauderdale-Hollywood International Airport to Port Everglades	BCOT	2016	Indirect link to Fort Lauderdale-Hollywood International Airport Tri-Rail station
Central Broward County East-West Transit Corridor	Sawgrass Expressway to East of I-95 into Downtown Fort Lauderdale	FDOT District IV	2022	Connection to Fort Lauderdale Tri-Rail Station
Fort Lauderdale Downtown Development Authority Downtown Transit Circulator	From NE 6th Street to SW 17th Street in downtown Fort Lauderdale	City of Fort Lauderdale, FDOT District IV, Fort Lauderdale Downtown Development Authority, and Broward County	2012	Indirect link to Fort Lauderdale Tri-Rail Station
Miami-Dade County				
City of Miami Downtown Streetcar	From Downtown Miami (Loop) towards NE 2nd Avenue, through Midtown to the Miami Design District	FDOT District VI, City of Miami,	2012	Linkage to Tri-Rail via Metrorail and Miami Intermodal Center
Miami Intermodal Center/Earlington Heights Metrorail Connector	Earlington Heights Metrorail station to Miami Intermodal Center	MDT	2011	Linkage to Tri-Rail via Metrorail
North Corridor Metrorail Extension	From Dr. Martin Luther King Jr. Metrorail Station to Broward/Miami-Dade County line	MDT	2014	Linkage to Tri-Rail via Metrorail
East-West Metrorail Supplemental Draft Environmental Impact Statement	From Florida International University (FIU) and SR 821/Homestead Extension of the Florida's Turnpike to Miami Intermodal Center	MDT	2016	Linkage to Tri-Rail stations via Metrorail and Miami Intermodal Center
Kendall Corridor Transportation Alternatives Analysis	From along Kendall Drive (SW 88th Street) and the Dadeland region to SW 157th Avenue	Miami-Dade County MPO	TBD	Possible linkages to Tri-Rail via Metrorail

3.3.1 South Florida Region

3.3.1.1 US 441/SR7 Transit Bridge

The US 441/SR 7 Transit Bridge study was initiated within the US 441/SR 7 corridor to extend from the Golden Glades Interchange in Miami-Dade County, to I-595 in Broward County. This corridor was identified in the 2030 Broward County Transportation Plan. The transit bridge concept was intended to implement premium bus rapid transit service to connect Miami-Dade and Broward counties and supplement local transit services in the area.

This effort is lead by the Broward County Office of Transportation, Broward County MPO and Miami Dade Transit. The study has been funded for the Preliminary Engineering stage and to date no federal funding has been pursued. The opening year has yet to be determined.

3.3.1.2 South Florida East Coast Corridor Study

The South Florida East Coast Corridor (SFECC) study as sponsored by the FDOT District IV is evaluating transportation alternatives to potentially integrate passenger service with existing rail freight in the Florida East Coast (FEC) railroad corridor. This study is currently analyzing various transit technologies and alignment alternatives throughout the railroad corridor from Palm Beach County extending south into Miami-Dade County. The technologies being considered include bus, light-rail, commuter-rail, and heavy-rail. Phase 1 of this study is being conducted as an early scoping/alternative analysis that will result in one or more locally preferred alternative in the 85-mile long study corridor. Phase 2 will prepare a draft environmental impact for one or two projects in the corridor depending on regional priorities and funding commitments.

The proposed transit service along the corridor would connect to Tri-Rail as well as existing local transit (Tri-Rail, Miami-Dade Transit, Broward County Transit, and Palm Tran). This project would improve connectivity between the three major airports; Miami International, Fort Lauderdale-Hollywood International and Palm Beach International and the four regional airports within the tri-county area; as well as connectivity between the three seaports, Port of Miami, Port Everglades and Port of Palm Beach. The anticipated opening year is to be determined and to date no federal funding has been pursued.

3.3.1.3 South Florida Vanpool Program

The South Florida Vanpool Program (SFVP) is sponsored by FDOT (Districts 6 and 4), South Florida Commuter Services, and the MPOs in Miami-Dade, Broward, and the Palm Beach counties. Each provides a $400 monthly operating subsidy towards the cost of each vanpool that originates in their county. The SFVP works closely with employers to identify commuting needs and provide commuting alternatives for workers. Each vanpool is comprised of five to fifteen people who commute together in a passenger van.

3.3.1.4 Managed Lanes and Transit Concepts (I-95, I-595, I-75)

The managed land and transit concept is an FDOT initiative designed to reduce congestion on major roadways through operational improvements that create additional travel options and encourage the use of public transportation, carpooling and vanpooling. This concept is now being implemented on I-95 (95 Express) through the creation of separate high occupancy vehicle (HOV) lanes with the goal to maintain traffic at an approximate minimum speed of 50 miles per hour, while offering transit riders a seamless connection between Miami-Dade and Broward Counties on 95 Express buses. Re-striping and limited construction on the shoulders of I-95 to create an additional lane in each direction is underway. The existing HOV lane and the new lane will be used as limited access express lanes separated from the general purpose lanes by plastic poles, called tubular delineators.

A major component of 95 Express will be the implementation of expanded and new Express/Bus Rapid Transit (BRT) services that will provide a direct connection without transfers for commuters riding the bus between Miami-Dade and Broward counties. Five additional bus routes and up to 23 new, low emission buses are included in the 95 Express operational strategy and will originate from a number of locations in Broward and southern Palm Beach counties. Three of these routes will provide direct express service to downtown Miami, making use of the existing HOV lanes at first and ultimately on the express lanes. Two routes will provide express bus service on existing east-west arterial roadways of Broward and Palm Beach counties.

FDOT is also working on a series of improvements to be implemented on Interstate 595 (I-595) in Central Broward County. The project, known as I-595 Express, includes a short range plan to provide for Bus Rapid Transit (BRT) service along the corridor. Key points of service along the I-595 corridor include Fort Lauderdale Hollywood International Airport, Port Everglades, South Florida Education Center in Davie, Sawgrass Mills Mall and Bank Atlantic Center. The project received FHWA approval of a PD&E study in June 2006 as well as approval for design change reevaluation in November, 2007. The Project is currently in the process of finding a firm to act as concessionaire.

A similar concept is being considered for implementation on I-75, however at this time very limited information is available on the development and implementation of these operational improvements. FDOT has committed to providing a portion of these revenues to SFRTA.

3.3.2 Palm Beach County

3.3.2.1 Central Palm Beach County Transportation Corridor Study

The South Florida Regional Transportation Authority (SFRTA) and Palm Beach County MPO initiated the Central Palm Beach County Transportation Corridor Study in 2006. The purpose of this study was to develop a transit service implementation plan within the transportation corridor that extends west from downtown West Palm Beach (including the Tri-Rail Station), between Okeechobee and Southern Boulevards, along US 441 and continuing on to the Mall at Wellington Green.

This study identified "fast bus" service improvement options with estimated costs and ridership potential on the basis of structural and service variables such as schedule frequency, technology, vehicles type, fare collection, and station locations. Descriptions of three levels of "fast bus" service improvements were developed to determine a specific implementation option. The study was completed in September 2007. Limited funding has kept the study's recommended improvements from being implemented.

3.3.3 Broward County

3.3.3.1 Broward County Transit Breeze

In 2007, Broward County Office of Transportation initiated a new limited stop transit service called the Breeze. Breeze service currently operates three routes (US 441/SR 7, University Breeze, and US 1) to provide service from northern Broward County into Miami-Dade County. New articulated buses transport riders on the US 441/SR 7 route while new 40 foot buses operate on US 1. This limited stop service operates on a 30-minute weekday headway and is branded by buses that are white or silver with a small light blue arc on the vehicle. Free Wi-Fi access is also available to Breeze riders.

3.3.3.2 Broward County Intermodal Center and People Mover Project

The SunPort Project Development & Environment (PD&E) Study is underway and being led by Broward County. The proposed project has two distinct elements to include the People Mover and the Intermodal Center.

The People Mover alternative is an approximately five (5) mile proposed premium transit route with station stops at the Fort Lauderdale-Hollywood International Airport terminals, Broward County Intermodal Center, and the Midport and Northport of Port Everglades cruise terminals. The People Mover alternative options will provide a direct connection and additional capacity between the regional transportation network, the airport and the seaport.

The proposed Intermodal Center will serve as a transit transfer station for the People Mover, local transit connections and the elements of the regional transportation network such as the South Florida East Coast Corridor Transit Analysis (SFECC) project. The PD&E study is anticipated to be finalized in late 2008 with the projected opening year occurring after 2015.

3.3.3.3 Central Broward County East-West Transit Corridor

The Florida Department of Transportation is working to implement Light Rail Transit in Central Broward County that would connect the western communities of the county adjacent to the I-75/Sawgrass Expressway interchange with Downtown Fort Lauderdale by way of the I-595 corridor. A Draft Environmental Impact Statement (DEIS) is currently underway which will evaluate the alternative alignment adopted by the MPO in 2006 as well as identify specific station locations, define land use plans in station areas, estimate construction and right-of-way costs. The DEIS is anticipated to be finished in 2010. This project will pursue 5309 funds from the

Federal Transit Administration as a New Starts Project with an anticipated opening year for the project in 2022.

3.3.3.4 Fort Lauderdale Downtown Development Authority Downtown Transit Circulator Study

The Fort Lauderdale Downtown Development Authority (DDA) in partnership with FDOT, City of Fort Lauderdale, and Broward County are working on the completion of an Environmental Assessment for the implementation of the Downtown Transit Circulator project. The Downtown Transit Circulator is a fixed rail streetcar system that would serve downtown from NE 6th Street in the north travel through the downtown core and continue past the court complex until reaching the Broward Medical Center at SW 17th Street. The streetcar would operate on the existing roadway network. Currently four alternatives are under evaluation and the Environmental Assessment is anticipated to be complete by early 2009. This project will pursue 5309 funds from the Federal Transit Administration as a Small Starts project and is projected to be operational in 2012.

3.3.4 Miami-Dade County

3.3.4.1 City of Miami Downtown Streetcar

The City of Miami plans to construct a 10.6-mile Miami Streetcar that will originate in Downtown Miami to connect with the Miami Design District and Civic Center/Health District as well as other major activity centers and neighboring residential communities. The Streetcar will operate on a fixed-rail guideway within the existing roadway network. In 2006, the City of Miami completed a State Environmental Impact Report (SEIR) that evaluated three alternative alignments. Preliminary engineering was completed in 2007 and the City of Miami issued a Request for Qualifications to obtain a program management consultant.

This is a locally and state funded project that will be constructed from City of Miami and FDOT funding sources. The anticipated opening year for operations is 2012.

3.3.4.2 Miami Intermodal Center/Earlington Heights Metrorail Connector

The Miami Intermodal Center (MIC)/Earlington Heights (EH) Corridor is a 2.4-mile extension of the Metrorail system from the existing Earlington Heights Station at NW 22nd Avenue and NW 41st Street, along State Road 112, to the MIC near MIA. The project includes one station at the MIC, with connections to Tri-Rail, Metrobus, tour buses, taxi cab service, a future Amtrak station, an automated People Mover to MIA, and the airport rental car center which is currently under construction.

Miami Dade-Transit (MDT) completed an Environmental Assessment in April 2006 and received a Finding of No Significant Impact. The project has completed preliminary engineering and is nearing the completion of the final design phase. This is a locally and state funded project that will be constructed from MDT and FDOT funding sources. The anticipated opening year for operation is 2011.

3.3.4.3 North Corridor Metrorail Extension

The North Corridor Metrorail Extension is an elevated 9.5-mile double-track, heavy-rail extension of the 22-mile Metrorail system in Miami-Dade County. The extension

runs from the existing elevated guideway just north of the Martin Luther King Jr. Metrorail station at NW 62nd Street, serving the communities along the NW 27th Avenue corridor, Miami-Dade College and the sports venues at Dolphins Stadium and Calder Race Course, terminating at NW 215th Street just south of Florida's Turnpike. The termination at NW 215th Street accommodates a future interface into Broward County.

Seven station locations are planned to serve NW 82nd Street/Northside, NW 119th Street/Miami-Dade College, Ali-Baba Avenue/Opa-Locka, NW 163rd Street/Bunche Park, NW 183rd Street/Miami Gardens, NW 199th Street/Dolphin Stadium, and NW 215th Street/Calder Race Course. Provisions will also be made to accommodate a future station at NW 103rd Street. On September 26, 2003 a Locally Preferred Alternative (LPA) was adopted by the Miami-Dade MPO. The Supplemental Final Environmental Impact Statement (FEIS) was completed in 2006 and a Record of Decision was issued April 2007. The project is currently in the preliminary engineering phase and preparing to enter final design. This project is seeking 5309 New Starts funds from the Federal Transit Administration with an anticipated opening year of 2014.

3.3.4.4 East-West Metrorail Supplemental Draft Environmental Impact Statement

Miami-Dade Transit is currently undertaking a Supplemental DEIS for the evaluation of alternative alignments that would extend the Metrorail system approximately 10 – 13 miles west of the MIC at MIA and run along SR 836 to connect to Florida International University (FIU) and points west to SW 137th Avenue. Up to ten stations are proposed for this transit extension.

This project will be seeking 5309 New Starts funds from the Federal Transit Administration and the anticipated opening year is in 2016.

3.3.4.5 Kendall Corridor Transportation Alternatives Analysis

The Miami-Dade County MPO has completed the Kendall Corridor Alternatives Analysis Study (Kendall-Link) to develop short, medium, and long range rapid transit recommendations into the Kendall area. The study area is bounded by SR 836 to the north, SW 152nd Street in the south, U.S. 1 to the east and SW 157th Avenue to the west. Bus Rapid Transit, Light Rail Transit, Diesel Multiple Unit and Heavy Rail technologies were evaluated as well as various alternative alignment options. This analysis will result in recommendations that identify cost-effective, productive and affordable means to use transit capital investments and service improvements to strengthen mobility connections between the Kendall area and other key regional activity centers throughout Miami-Dade County. The project has completed both the Tier 1 and Tier 2 analysis of technology and alternative alignment options.

Furthermore, the MPO is also under taking a CSX Corridor Evaluation Study that will evaluate the feasibility of re-directing rail freight traffic outside the urbanized Kendall area. Various rapid transit service concepts will also be evaluated along the CSX rail corridor south of the Oleander Junction. This study is anticipated to be completed in 2009.

PAGE INTENTIONALLY LEFT BLANK

4.0 OVERVIEW OF LOCAL TRANSIT OPERATORS

This section provides a brief overview of the public and private transportation service providers in Miami-Dade, Broward and Palm Beach Counties.

4.1 Palm Tran

Palm Tran, a department of Palm Beach County, currently operates 37 fixed bus routes. Palm Tran service is provided Monday through Sunday with route schedules spanning from 5:00 a.m. to 11:00 p.m. The standard cash fare to board Palm Tran is $1.50 (reduced to $0.75 for seniors, students, eligible Medicare recipients, and disabled citizens). A daily unlimited pass may be purchased for $3.50 ($2.25 discounted).

Service covers the entire north-south length of the county, with most routes concentrated in the eastern portion since this is where most of the population of the county resides. Palm Tran service connects with both Broward County Transit and Tri-Rail at points within the county. Palm Tran also coordinates with community-based bus services and circulator routes serving the communities of Jupiter, Boynton Beach and Lake Worth.

According to the 2006 submittal to the National Transit Database (NTD), Palm Tran bus service accounted for more than 53 million annual passenger miles and recorded more than 6.8 million annual revenue vehicle miles. Palm Tran also reported 421,683 revenue vehicle hours, and reported total operating costs for fixed route bus service of about $41 million. For fiscal year 2007, Palm Tran recorded 10.1 million riders.

In 2006 Palm Tran maintained 159 buses in its fleet, of which 117 were used in peak service. The rolling stock was exclusively diesel buses of varying lengths, with 68 40-foot buses, 57 35-foot buses, and 30 30-foot buses. All Palm Tran buses are equipped with wheelchair ramps, bike racks, surveillance cameras, and automatic stop announcement systems.

In addition to direct route bus service, Palm Tran also provides Palm Tran Connection demand response service. A fleet of 256 small buses and vans provide the service. Standard fares are $3.00 per one-way trip, and trip reservations are taken daily from 7:00 a.m. to 5:00 p.m. On average, 3,716 scheduled passenger trips take place with Palm Tran Connection each weekday.

There are six Tri-Rail station stops in Palm Beach County, and all are served by at least one Palm Tran route. The following tables present summary (Table 4-1) and detailed service characteristics (Table 4-2) of the Palm Tran routes that connect to Tri-Rail service within Palm Beach County.

Table 4-1: Summary of Palm Tran/Tri-Rail Station Connections

Tri-Rail Station	Palm Tran Routes
Mangonia Park	20,31,33
West Palm Beach	40,44,45,50
Lake Worth	61
Boynton Beach	70,71
Delray Beach	2,70,81
Boca Raton	2,94

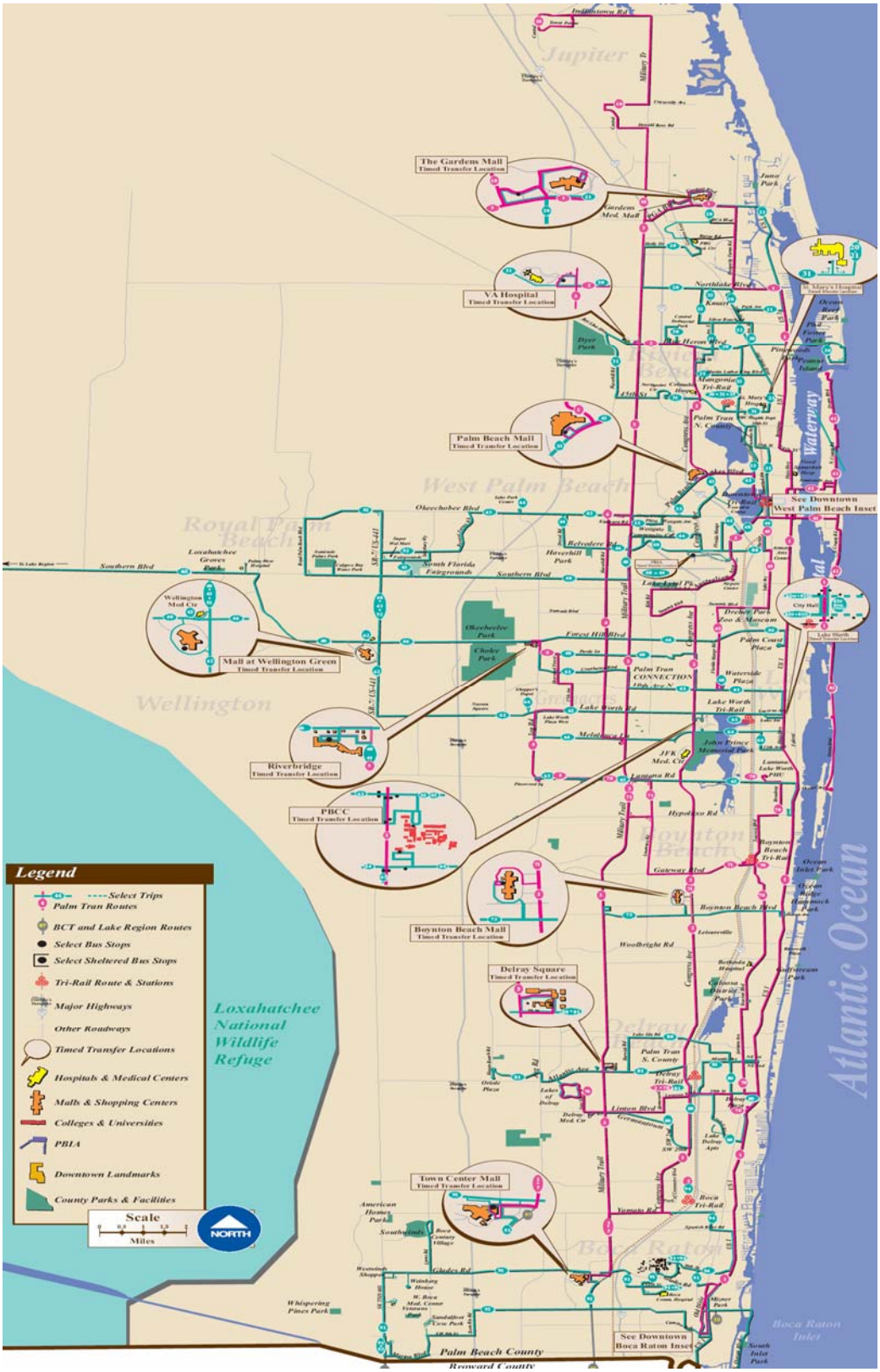
Table 4-2: Detailed Service Characteristics Palm Tran/Tri-Rail Station Connections

Tri-Rail Station	Route Number	Carrier	Time of Day	Headway (minutes) Pk/Off-Pk	Span of Service	Annual Ridership FY 2007	Major Destinations
Palm Beach County							
Mangonia Park	20	Palm Tran	Weekday Peak	60	6:05 a.m. - 6:05 p.m.	111,958	Gardens Medical Plaza, North County Courthouse, North County Regional Hospital, Barry University
			Weekday Off-peak	60	6:05 a.m. - 6:05 p.m.		
			Saturday	60	7:05 a.m. - 5:05 p.m.		
			Sunday	120	11:05 a.m. - 3:05 p.m.		
	31	Palm Tran	Weekday Peak	30	6:40 a.m. - 6:30 p.m.	436,556	Northpoint, Columbia Hospital, West Palm Beach (WPB), Tri-Rail
			Weekday Off-peak	60	6:40 a.m. - 6:30 p.m.		
			Saturday	60	7:55 a.m. - 5:50 p.m.		
			Sunday	60	9:55 a.m. - 4:50 p.m.		
	33	Palm Tran	Weekday Peak	60	5:54 a.m. - 7:19 p.m.	218,978	Cross County Plaza, Greenacres, Palm Beach Mall, Northlake, Tri-Rail
			Weekday Off-peak	60	5:54 a.m. - 7:19 p.m.		
			Saturday	60	8:24 a.m. - 6:24 p.m.		
			Sunday	60	10:24 a.m. - 5:24 p.m.		
West Palm Beach	2	Palm Tran	Weekday Peak	30	5:55 a.m. - 8:55 p.m.	1,146,983	Palm Beach Mall, WPB Airport, Palm Beach Community College (PBCC), Town Center Mall, Tri-Rail
			Weekday Off-peak	30	5:55 a.m. - 8:55 p.m.		
			Saturday	60	7:35 a.m. - 9:30 p.m.		
			Sunday	60	9:30 a.m. - 4:30 p.m.		
	31	Palm Tran	Weekday Peak	30	6:40 a.m. - 6:30 p.m.	436,556	Northpoint, Columbia Hospital, West Palm Beach, Tri-Rail
			Weekday Off-peak	60	6:40 a.m. - 6:30 p.m.		
			Saturday	60	7:55 a.m. - 5:50 p.m.		
			Sunday	60	9:55 a.m. - 4:50 p.m.		
	40	Palm Tran	Weekday Peak	30	NA	275,455	Wellington Medical Center, Western Plaza, Pahokee Airport
			Weekday Off-peak	60	NA		
			Saturday	60	NA		
			Sunday	60	NA		
	43	Palm Tran	Weekday Peak	30	NA	634,176	Downtown WPB, PB Mall, Fairgrounds, Tri-Rail
			Weekday Off-peak	60	NA		
			Saturday	60	NA		
			Sunday	60	NA		
	44	Palm Tran	Weekday Peak	60	5:45 a.m. - 6:15 p.m.	124,361	Centre Park, Palm Beach International (PBI) Airport, Drexel Park, Tri-Rail
			Weekday Off-peak	60	5:45 a.m. - 6:15 p.m.		
			Saturday	60	6:45 a.m. - 6:35 p.m.		
			Sunday	60	9:45 a.m. - 4:35 p.m.		
	45	Palm Tran	Weekday Peak	60	5:55 a.m. - 6:45 p.m.	56,189	Kravis Center, Palm Beach Government Center, Palm Beach County Convention Center, Science Museum
			Weekday Off-peak	60	5:55 a.m. - 6:45 p.m.		
			Saturday	60	7:15 a.m. - 6:05 p.m.		
			Sunday	60	10:00 a.m. - 3:10 p.m.		
	50 Shuttle	Palm Tran	Weekday Peak	20	6:00 a.m. - 5:10 p.m.	26,045	Palm Beach Government Center, Library, Tri-Rail
			Weekday Off-peak	20	6:00 a.m. - 5:10 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		

Table 4-2: (Continued)

Tri-Rail Station	Route Number	Carrier	Time of Day	Headway (minutes) Pk/Off-Pk	Span of Service	Annual Ridership FY 2007	Major Destinations
Lake Worth	61	Palm Tran	Weekday Peak	60	7:20 a.m. - 6:20 p.m.	158,357	PBCC, River Bridge Center, Palm Tran Connection
			Weekday Off-peak	60	7:20 a.m. - 6:20 p.m.		
			Saturday	60	7:20 a.m. - 6:20 p.m.		
			Sunday	60	9:20 a.m. - 3:20 p.m.		
	62	Palm Tran	Weekday Peak	30	6:05 a.m. - 7:05 p.m.	496,510	Mall at Wellington Green, PBCC, Nassau Square, Lake Worth, Tri-Rail
			Weekday Off-peak	60	6:05 a.m. - 7:05 p.m.		
			Saturday	60	7:05 a.m. - 5:05 p.m.		
			Sunday	60	10:11 a.m. - 4:11 p.m.		
Boynton Beach	70	Palm Tran	Weekday Peak	30	6:29 a.m. - 6:29 p.m.	280,651	Lantana City Hall, Boynton Beach City Hall, Atlantic High School, Delray Medical Center
			Weekday Off-peak	60	6:29 a.m. - 6:29 p.m.		
			Saturday	60	8:19 a.m. - 5:19 p.m.		
			Sunday	60	10:00 a.m. - 5:05 p.m.		
	71	Palm Tran	Weekday Peak	60	7:10 a.m. - 7:10 p.m.	71,371	Riverwalk, Tri-Rail, Pinewood Square
			Weekday Off-peak	60	7:10 a.m. - 7:10 p.m.		
			Saturday	60	8:10 a.m. - 6:10 p.m.		
			Sunday	60	11:10 a.m. - 5:10 p.m.		
	Boynton Beach Trolley	Boynton Beach	Weekday Peak	45	7:31 a.m. - 6:46 p.m.	18,877	Boynton Beach Mall, Boynton Beach Tri-Rail Station
			Weekday Off-peak	45	7:31 a.m. - 6:46 p.m.		
			Saturday	45	9:46 a.m. - 5:16 p.m.		
			Sunday	45	9:46 a.m. - 5:16 p.m.		
Delray Beach	Down-town** Shuttle Route 1	Delray Beach	Weekday Peak	30	7:00 a.m. - 8:00 p.m.	39,000	Atlantic Avenue, Congress Avenue, Ocean Boulevard
			Weekday Off-peak	30	7:00 a.m. - 8:00 p.m.		
			Saturday	30	10:00 a.m. - 8:00 p.m.		
			Sunday	30	12:00 p.m. - 8:00 p.m.		
	2	Palm Tran	Weekday Peak	30	5:55 a.m. - 8:55 p.m.	1,146,983	Palm Beach Mall, WPB Airport, PBCC, Town Center Mall, Tri-Rail
			Weekday Off-peak	30	5:55 a.m. - 8:55 p.m.		
			Saturday	60	7:35 a.m. - 9:30 p.m.		
			Sunday	60	9:30 a.m. - 4:30 p.m.		
	70	Palm Tran	Weekday Peak	30	6:29 a.m. - 6:29 p.m.	280,651	Lantana City Hall, Boynton Beach City Hall, Atlantic High School, Delray Medical Center
			Weekday Off-peak	60	6:29 a.m. - 6:29 p.m.		
			Saturday	60	8:19 a.m. - 5:19 p.m.		
			Sunday	60	10:00 a.m. - 5:05 p.m.		
	81	Palm Tran	Weekday Peak	60	7:20 a.m. - 7:10 p.m.	129,511	Tri-Rail, Downtown Delray
			Weekday Off-peak	60	7:20 a.m. - 7:10 p.m.		
			Saturday	60	7:20 a.m. - 6:10 p.m.		
			Sunday	120	10:20 a.m. - 4:10 p.m.		
Boca Raton	Boca Center Shuttle	Palm Tran	Weekday Peak	30	6:35 a.m. - 7:05 p.m.	16,333	Boca Center (north and south), NW 19th Street
			Weekday Off-peak	30	6:35 a.m. - 7:05 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	2	Palm Tran	Weekday Peak	30	5:55 a.m. - 8:55 p.m.	1,146,983	Palm Beach Mall, WPB International Airport, PBCC, Town Center Mall, Tri-Rail
			Weekday Off-peak	30	5:55 a.m. - 8:55 p.m.		
			Saturday	60	7:35 a.m. - 9:30 p.m.		
			Sunday	60	9:30 a.m. - 4:30 p.m.		
	94	Palm Tran	Weekday Peak	20	6:45 a.m. - 10:25 p.m.	18,877	Park of Commerce, Tri-Rail, Florida Atlantic University (FAU)
			Weekday Off-peak	20	6:45 a.m. - 10:25 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		

Figure 4-1: Palm Tran System Map



4.2 Broward County Transit

Broward County is served by Broward County Transit (BCT), which is a operated by the Broward County Office of Transportation. BCT operates 43 routes during weekdays, 41 routes on Saturday and 37 routes during Sundays, with varying service schedules spanning from before 4:00 AM to after midnight on weekdays. BCT operates service throughout the county, with routes mostly on evenly spaced arterials and eighteen routes converging at the Broward Central Terminal adjacent to downtown Fort Lauderdale. Several routes connect to either Palm Tran routes or Miami-Dade Transit routes. BCT Route 18 is the only route in the system that makes a connection with both Palm Tran and Miami-Dade Transit. In 2007, BCT initiated the Breeze generation of service that provides limited stop bus service on U.S 1 and S.R. 7/ Hwy 441 which includes free Wi-Fi access for these routes.

Regular one-way fare $1.25 but is scheduled to increase to $1.50 in October 2008. A reduced one-way fare is $0.60, and an all day pass costs $3.00.

According to BCT's NTD submittal, in 2006 BCT reported 168 million annual passenger miles and 16 million annual revenue vehicle miles. For the same year, BCT also operated nearly 1.2 million revenue vehicle hours and had an operating cost of more than $89 million for fixed route bus service. For fiscal year 2007, BCT reported annual bus ridership at 39.2 million.

BCT reported a fleet of 376 buses, of which 307 were used in peak service. All buses in the BCT fleet are diesel fueled and all are 40 feet in length. With the introduction of the Breeze service, BCT now also operates six 60 foot articulated buses. In 2008, BCT will add new bio-diesel hybrid buses to the vehicle fleet.

BCT also offers a paratransit service known as TOPS – Transportation Options – that provides service to disabled citizens within Broward County. The TOPS service has a fleet of approximately 200 vans and small buses available for transport, and a one-way fare costs $2.00. Reservations are made over the phone, and service spans the normal hours of BCT bus service. TOPS allows riders to request a "standing order" where the same trip made at regular intervals does not need to be requested each time. TOPS makes an average of 4,350 one-way trips each day.

There are seven Tri-Rail stops within Broward County, and all are served by at least one BCT route. The following table details the BCT routes that serve Tri-Rail stops.

Table 4-3: Summary of Broward County Transit/Tri-Rail Station Connections

Tri-Rail Station	Broward County Transit Routes
Deerfield Beach	92, 93
Pompano Beach	34
Cypress Creek	60, 62
Fort Lauderdale	22
Fort Lauderdale/Hollywood International Airport	4, 6, 15, 16
Sheridan Street	3, 12, 17
Hollywood	7

Table 4-4: Detailed Service Characteristics BCT/Tri-Rail Station Connections

Tri-Rail Station	Route Number	Carrier	Time of Day	Headway (minutes) Pk/Off-Pk	Span of Service	Annual Ridership FY 2007	Major Destinations
Broward County							
Deerfield Beach	DB 1Shuttle (M-F)	BCT	Weekday Peak	60	8:00 a.m. - 3:50 p.m.	16,295	Newport Center, Federal Highway
			Weekday Off-peak	60	8:00 a.m. - 3:50 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	DB 2 Shuttle (M-F)	BCT	Weekday Peak	60	8:00 a.m. - 3:50 p.m.	27,054	Newport Center, Military Trail
			Weekday Off-peak	60	8:00 a.m. - 3:50 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	DB 3 Express Beach Shuttle	BCT	Weekday Peak	60	9:00 a.m. - 5:55 p.m.	19,656	North Broward Regional Medical Center, Newport Center, Hillsboro Square, Deerfield Mall
			Weekday Off-peak	60	9:00 a.m. - 5:55 p.m.		
			Saturday	60	9:00 a.m. - 5:55 p.m.		
			Sunday	60	9:00 a.m. - 5:55 p.m.		
	92	BCT	Weekday Peak	45	7:50 a.m. - 3:55 p.m.	115,809	Century Village, Tri-Rail, Focal Point, Howard Johnson Hotel
			Weekday Off-peak	45	7:50 a.m. - 3:55 p.m.		
			Saturday	45	9:10 a.m. - 3:55 p.m.		
			Sunday	60	12:40 p.m. - 6:40 p.m.		
Pompano Beach	PB 1 Shuttle (Blue Route)	BCT	Weekday Peak	30	8:45 a.m. - 5:00 p.m.	17,966	Broward Community College (BCC) Library, BCT Terminal, Pompano Beach City Hall
			Weekday Off-peak	60	8:45 a.m. - 5:00 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	PB 1 Shuttle (Green Route)	BCT	Weekday Peak	45	9:00 a.m. - 5:00 p.m.	16,363	Broward Community College (BCC) Library, BCT Terminal, Pompano Beach City Hall
			Weekday Off-peak	60	9:00 a.m. - 5:00 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	34	BCT	Weekday Peak	30	5:40 a.m. - 9:40 p.m.	831,667	Coral Springs Corporate Park, Tradewinds Park, Festival Flea Market Mall, Tri-Rail
			Weekday Off-peak	30	5:40 a.m. - 9:40 p.m.		
			Saturday	40	5:30 a.m. - 8:11 p.m.		
			Sunday	60	9:11 a.m. - 6:11 p.m.		
	93 (M-W-F)	BCT	Weekday Peak	90	9:55 a.m. - 9:15 p.m.	44,682	Century Village, North Broward Medical Center, Pompano Square
			Weekday Off-peak	90	9:55 a.m. - 9:15 p.m.		
			Saturday	NA	9:55 a.m. - 9:15 p.m.		
			Sunday	NA	11:35 a.m. - 5:35 p.m.		
	95 (M-Sat)	BCT	Weekday Peak	90	8:35 a.m. - 5:30 p.m.	44,219	Century Village, Trail Plaza, Towne Center Mall
			Weekday Off-peak	90	8:35 a.m. - 5:30 p.m.		
			Saturday	90-120	8:35 a.m. - 5:30 p.m.		
			Sunday	NA	NA		
Cypress Creek	Coconut Creek S Shuttle	BCT	Weekday Peak	20	7:21 a.m. - 4:21 p.m.	43,643	Festival Marketplace, Lakewood Plaza, Atlantic Technical Center, Tri-Rail
			Weekday Off-peak	20	7:21 a.m. - 4:21 p.m.		
			Saturday	20	7:21 a.m. - 4:21 p.m.		
			Sunday	NA	NA		
	14	BCT	Weekday Peak	20	5:30 a.m. - 11:23 p.m.	1,401,153	Broward Central Terminal, Oakland Park Boulevard, Hillsboro Boulevard, Sample Road, U.S. 441, Johnson Road
			Weekday Off-peak	20	5:30 a.m. - 11:23 p.m.		
			Saturday	45	5:55 a.m. - 11:10 p.m.		
			Sunday	45	9:40 a.m. - 7:25 p.m.		
	60	BCT	Weekday Peak	20	5:48 a.m. - 11:23 p.m.	1,507,144	Atlantic Boulevard and Dixie Highway, Pompano Beach Medical Center, Tri-Rail, Broward Central Terminal
			Weekday Off-peak	30	5:48 a.m. - 11:23 p.m.		
			Saturday	30-45	5:54 a.m. - 10:54 p.m.		
			Sunday	45	9:54 a.m. - 7:39 p.m.		
	62	BCT	Weekday Peak	45	6:05 a.m. - 8:05 p.m.	646,393	Coral Square Mall, Tamarac, Tri-Rail, Lauderdale-By-The-Sea, Galt Ocean Mile
			Weekday Off-peak	45	6:05 a.m. - 8:05 p.m.		
			Saturday	50	8:00 a.m. - 6:50 p.m.		
			Sunday	50	9:40 a.m. - 6:50 p.m.		

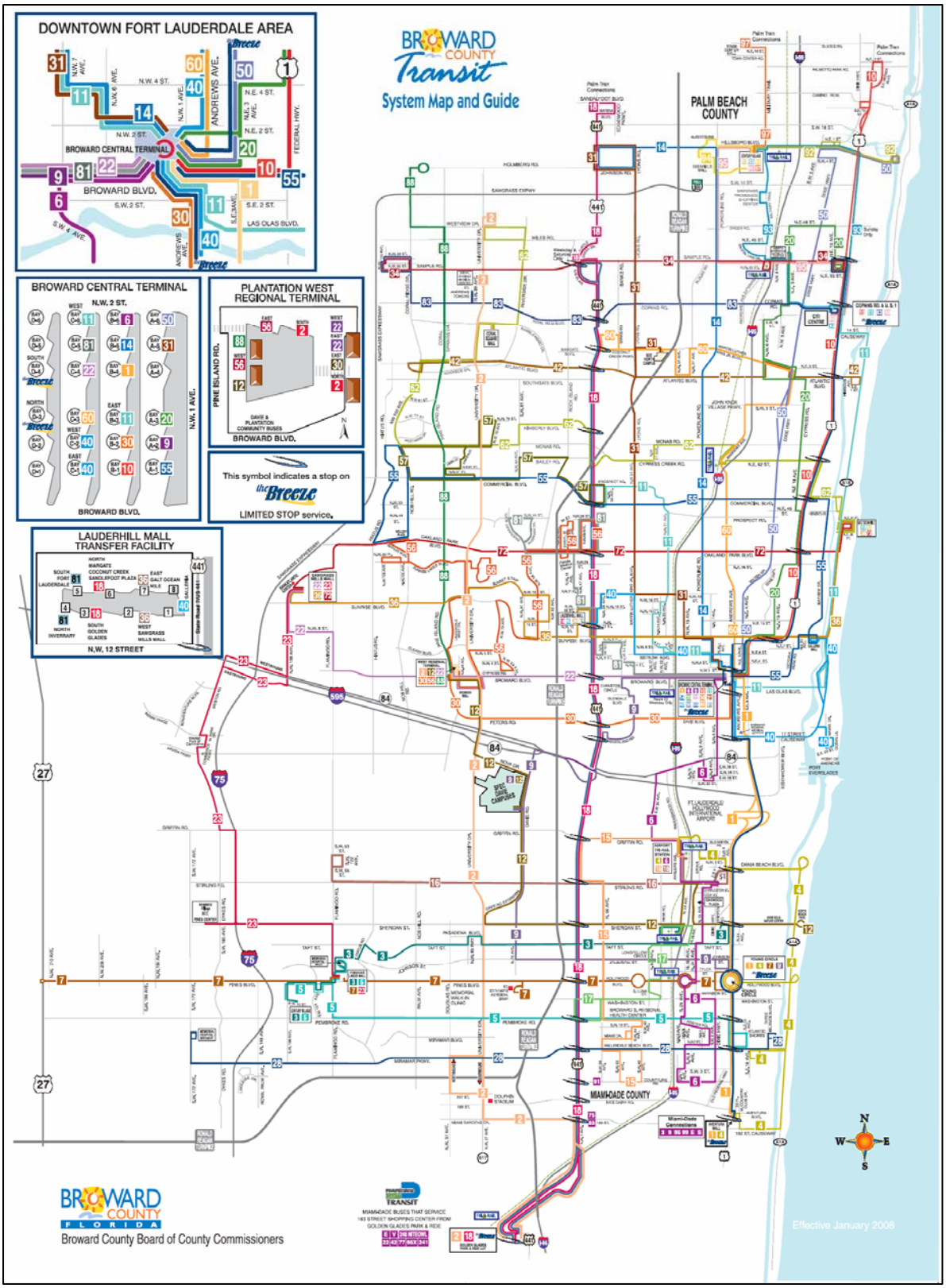
Table 4-4: (Continued)

Tri-Rail Station	Route Number	Carrier	Time of Day	Headway (minutes) Pk/Off-Pk	Span of Service	Annual Ridership FY 2007	Major Destinations
Broward County							
Fort Lauderdale	North-South Downtown Circulator	BCT	Weekday Peak	16	NA	37,697	Broward Central Terminal, Broward Boulevard, SE 3rd Avenue, Andrews Avenue
			Weekday Off-peak	16	NA		
			Saturday	NA	NA		
			Sunday	NA	NA		
	Tri-Rail Weekend Connector	South Florida Sun Trolley Shuttle/ BCT	Weekday Peak	NA	NA	10,635	Beach Place, Central Terminal, Sunrise Boulevard
			Weekday Off-peak	NA	NA		
			Saturday	120	9:00 a.m. - 9:30 p.m.		
			Sunday	120	9:00 a.m. - 9:30 p.m.		
	9	BCT	Weekday Peak	40	5:30 a.m. - 10:00 p.m.	651,782	Broward Community College (BCC), Young Circle, Hallandale Beach Boulevard, Aventura Mall
			Weekday Off-peak	40	5:30 a.m. - 10:00 p.m.		
			Saturday	60	6:18 a.m. - 9:17 p.m.		
			Sunday	60	9:12 a.m. - 7:12 p.m.		
	22	BCT	Weekday Peak	30	5:30 a.m. - 9:50 p.m.	1,471,285	Sawgrass Mills Mall, West Regional Terminal, Broward Mall, Broward Central Terminal
			Weekday Off-peak	30	5:30 a.m. - 9:50 p.m.		
			Saturday	30	NA		
			Sunday	30	NA		
	81	BCT	Weekday Peak	30	6:12 a.m. - 11:12 p.m.	816,623	Broward Central Terminal, Lauderhill Mall
			Weekday Off-peak	30	6:12 a.m. - 11:12 p.m.		
			Saturday	30	6:12 a.m. - 11:12 p.m.		
			Sunday	60	8:40 a.m. - 5:40 p.m.		
Hollywood/ Fort Lauderdale International Airport	Convention Connection Th-Sun	BCT	Weekday Peak	15	NA	43,241	FLL Airport Terminals, Griffin Road, Broward County Convention Center, Port Everglades, Midport Garage
			Weekday Off-peak	15	NA		
			Saturday	NA	NA		
			Sunday	15	NA		
	South Florida Education Center (SFEC)/ Davie Campus	BCT	Weekday Peak	30	7:06 a.m. - 7:50 p.m.	60,862	BCC, Florida Atlantic University (FAU), Nova Southeastern University (NSU), McFatter Technical Center
			Weekday Off-peak	60	7:06 a.m. - 7:50 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	3	BCT	Weekday Peak	60	5:45 a.m. - 7:35 p.m.	310,407	Tri-Rail, Flamingo Plaza, Century Village, Dania Beach City Hall, Taft Street and U.S. 441.
			Weekday Off-peak	60	5:45 a.m. - 7:35 p.m.		
			Saturday	60	5:45 a.m. - 7:35 p.m.		
			Sunday	NA	NA		
	6	BCT	Weekday Peak	30	5:50 a.m. - 8:30 p.m.	710,963	Young Circle, County Line Road, Dania Beach City Hall, Tri-Rail
			Weekday Off-peak	30	5:50 a.m. - 8:30 p.m.		
			Saturday	40	5:55 a.m. - 8:30 p.m.		
			Sunday	60	9:05 a.m. - 8:45 p.m.		
	15	BCT	Weekday Peak	45	5:45 a.m. - 8:45 p.m.	201,008	SW 56 Avenue and Hollywood Boulevard, Pembroke Road and SW 40 Avenue, Hallandale Beach Boulevard and SW 52
			Weekday Off-peak	45	5:45 a.m. - 8:45 p.m.		
			Saturday	45	5:45 a.m. - 8:45 p.m.		
			Sunday	90	10:15 a.m. - 5:45 p.m.		
	18	BCT	Weekday Peak	30	5:25 a.m. - 11:50 p.m.	4,597,692	Broward Central Terminal, Public Health Center, Tri-Rail
			Weekday Off-peak	30	5:25 a.m. - 11:50 p.m.		
			Saturday	20-40	5:30 a.m. - 10:50 p.m.		
			Sunday	30	7:45 a.m. - 9:15 p.m.		

Table 4-4: (Continued)

Tri-Rail Station	Route Number	Carrier	Time of Day	Headway (minutes) Pk/Off-Pk	Span of Service	Annual Ridership FY 2007	Major Destinations
Broward County							
Sheridan Street	Dania Beach East (Blue)	BCT	Weekday Peak Weekday Off-peak Saturday Sunday	60 60 NA NA	9:00 am - 5:00 p.m. 9:00 am - 5:00 p.m. NA NA	19,437	Dania Beach City Hall, Dania Beach, Stirling Road, Oakwood Square
	3	BCT	Weekday Peak Weekday Off-peak Saturday Sunday	60 60 60 NA	5:45 a.m. - 7:35 p.m. 5:45 a.m. - 7:35 p.m. 5:45 a.m. - 7:35 p.m. NA	310,407	Tri-Rail, Flamingo Plaza, Century Village, Dania Beach City Hall, Taft Street and Highway 441.
	12	BCT	Weekday Peak Weekday Off-peak Saturday Sunday	40 40 60 60	6:10 a.m. - 7:35 p.m. 6:10 a.m. - 7:35 p.m. 6:50 a.m. - 7:50 p.m. 10:50 a.m. - 6:50 p.m.	549,748	West Regional Terminal, BCC, Sheridan Street Park and Ride, Sheridan Street/Anne Kolb Nature Center
	17	BCT	Weekday Peak Weekday Off-peak Saturday Sunday	40 40 60 60	6:00 a.m. - 8:00 p.m. 6:00 a.m. - 8:00 p.m. 6:00 a.m. - 8:00 p.m. 10:00 a.m. - 6:00 p.m.	121,384	Washington Street and Highway 441, Federal Highway (U.S.1) and Taft Street
Hollywood	7	BCT	Weekday Peak Weekday Off-peak Saturday Sunday	30 30 30-40 40	5:00 a.m. - 10:45 p.m. 5:00 a.m. - 10:45 p.m. 5:00 a.m. - 11:00 p.m. 10:00 a.m. - 6:00 p.m.	1,351,283	Young Circle, BCC, Pembroke Lakes Mall, SW 210 Avenue, Dania Beach, US 27 and Pines Boulevard

Figure 4-2: Broward County Transit System Map



4.3 Miami-Dade Transit

Miami-Dade Transit (MDT) is operated by Miami-Dade County, and is the 14th largest public transit system in the U.S. MDT is comprised of an integrated system, including Metrobus, Metrorail (heavy rail), and Metromover (elevated people mover). MDT service operates 24 hours a day, seven days a week on numerous service routes. Standard one-way fares for Metrobus are $1.50 ($1.85 for express service), $1.50 for Metrorail, and $2.00 for the STS Paratransit service. Metromover is free to all patrons.

Service for Miami-Dade Transit covers most of the county. Many of the Metrobus routes, as well as the Metrorail system, are primarily oriented to provide service into and out of downtown Miami. Other activity centers such as Miami Beach, Miami International Airport, and North Miami Beach also have extensive service. In less dense portions of the metro area Metrobus routes are set up to serve main arterials.

According to 2006 NTD submittals for revenue vehicle miles, MDT operated nearly 37 million miles for Metrobus, nearly 9.7 million miles for Metrorail, and 941,678 miles for Metromover. In 2006 MDT reported passenger miles of more than 348 million for Metrobus, about 131.5 million for Metrorail, and 8.2 million for Metromover. In terms of revenue vehicle hours, MDT reported almost 3.0 million hours for Metrobus, 405,539 hours for Metrorail, and 92,321 hours for Metromover. In 2006 operating costs for Metrobus were over $309 million, costs Metrorail were $75 million, and for Metromover they were $19.1 million. For fiscal year 2007, MDT recorded ridership in excess of 83 million for Metrobus, 17.3 million for Metrorail, and 1.6 million for Metromover.

MDT reported a fleet of 1,108 buses and 136 rail cars available for maximum service. For Metrobus service, all buses are diesel fueled. MDT reported 64 60-foot buses, 856 40-foot buses, and 188 30-foot buses. All 136 Metrorail vehicles are 76 feet in length and are electrically powered. All Metromover vehicles are 40 feet in length and are also electrically powered.

In addition to regular bus and rail service, MDT also offers Special Transportation Service (STS), which is designed to meet the needs of disabled persons unable to use the regular transit services. STS has a one-way fare of $2.50, and operates 24 hours a day, seven days a week, including most holidays. STS daily boardings average more than 4,000 riders. Rides can be requested either by phone or by internet access.

Transit connections to and from Tri-Rail stations form an important component of the MDT system. Every Tri-Rail station within Miami-Dade County is served by at least two fixed-route bus routes. A connection between Tri-Rail and the Metrorail system occurs at the Metrorail Transfer station, and this station has the highest number of boardings on the northern section of the Metrorail system.

Table 4-5: Summary of Miami-Dade Transit Tri-Rail Station Connections

Tri-Rail Station	Miami-Dade Transit Routes
Golden Glades	22, 42, 77, 95 Express, E, V, 246, 241, 277
Opa-Locka	32, 42, E
Metrorail Transfer	42, 500, L, Metrorail
Hialeah Market	42, Tri-Rail Shuttle
Miami Airport	37, 236, 238

Table 4-6: Detailed Service Characteristics MDT/Tri-Rail Station Connections

Tri-Rail Station	Route Number	Carrier	Time of Day	Headway (minutes) Pk/Off-Pk	Span of Service	Annual Ridership FY 2007	Major Destinations
Miami-Dade County							
Golden Glades	Route E	MDT	Weekday Peak	30	5:36 a.m. - 7:38 p.m.	574,040	City of Miami Lakes Corporate Center, Opa Locka City Hall, Golden Glades Park and Ride
			Weekday Off-peak	60	5:36 a.m. - 7:38 p.m.		
			Saturday	45	9:01 a.m. - 5:15 p.m.		
			Sunday	45	9:01 a.m. - 5:15 p.m.		
	Route V	MDT	Weekday Peak	60	9:05 a.m. - 4:05 p.m.	110,881	Golden Glades Park and Ride, North Miami Beach, Skylake Mall, Collins Avenue
			Weekday Off-peak	60	9:05 a.m. - 4:05 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	18	BCT	Weekday Peak	30	5:25 a.m. - 11:50 p.m.	4,597,692	Margate Boulevard and Highway 441, 163 Street Shopping Center, Coconut Creek Parkway and Highway 441
			Weekday Off-peak	30	5:25 a.m. - 11:50 p.m.		
			Saturday	20-40	5:30 a.m. - 10:50 p.m.		
			Sunday	30	7:45 a.m. - 9:15 p.m.		
	22	MDT	Weekday Peak	15	6:06 a.m. - 12:25 a.m.	1,380,818	The Mall at 163rd Street, North Miami Beach, University of Miami/Jackson Memorial Hospital and Clinics
			Weekday Off-peak	30	6:06 a.m. - 12:25 a.m.		
			Saturday	30	5:18 a.m. - 10:38 p.m.		
			Sunday	20-60	5:15 a.m. - 9:34 p.m.		
	42	MDT	Weekday Peak	30	4:38 a.m. - 7:28 p.m.	483,554	Golden Glades Park and Ride, Opa Locka City Hall, City of Hialeah, Douglas Road Metrorail Station, Coral Gables Metrorail
			Weekday Off-peak	60	4:38 a.m. - 7:28 p.m.		
			Saturday	40	5:55 a.m. - 7:33 p.m.		
			Sunday	40	5:55 a.m. - 7:33 p.m.		
	77	MDT	Weekday Peak	10	6:09 a.m. - 5:52 p.m.	3,292,639	Culmer Metrorail Station, Government Center Metrorail Station, Golden Glades Park and Ride, Main Library
			Weekday Off-peak	15	6:09 a.m. - 5:52 p.m.		
			Saturday	15-60	6:41 a.m. - 5:45 p.m.		
			Sunday	30-60	6:41 a.m. - 5:50 p.m.		
	95 Express	MDT	Weekday Peak	5	5:27 a.m. - 6:17 p.m.	454,972	Golden Glades Park and Ride Station, Downtown Civic Center, Earlington Heights Metrorail Station, Downtown Miami
			Weekday Off-peak	15	5:27 a.m. - 6:17 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	241	MDT	Weekday Peak	30	6:09 a.m. - 6:14 p.m.	65,013	Miami Dade Technical Education Center, Sunshine Industrial Park, Golden Glades Park and Ride
			Weekday Off-peak	60	6:09 a.m. - 6:14 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	246	MDT	Weekday Peak	60	NA	149,460	Government Center Metrorail Station, Civic Center Metrorail Station, Allapattah Metrorail Station, Lincoln Road
			Weekday Off-peak	60	NA		
			Saturday	60	NA		
			Sunday	60	NA		

Table 4-6: Continued

Tri-Rail Station	Route Number	Carrier	Time of Day	Headway (minutes) Pk/Off-Pk	Span of Service	Annual Ridership FY 2007	Major Destinations
Miami-Dade County							
Opa-Locka	Route E	MDT	Weekday Peak	30	5:36 a.m. - 7:38 p.m.	574,040	City of Miami Lakes Corporate Center, Opa Locka City Hall, Golden Glades Park and Ride
			Weekday Off-peak	60	5:36 a.m. - 7:38 p.m.		
			Saturday	45	9:01 a.m. - 5:15 p.m.		
			Sunday	45	9:01 a.m. - 5:15 p.m.		
	32	MDT	Weekday Peak	20	5:23 a.m. - 11:58 p.m.	1,321,029	Florida Memorial University, St. Thomas University, City of Opa Locka, Northside Metrorail Station, Santa Clara Metrorail Station
			Weekday Off-peak	20	5:23 a.m. - 11:58 p.m.		
			Saturday	30	6:05 a.m. - 10:50 p.m.		
			Sunday	30	6:05 a.m. - 10:50 p.m.		
	42	MDT	Weekday Peak	30	4:38 a.m. - 7:28 p.m.	483,554	Golden Glades Park and Ride, Opa Locka City Hall, City of Hialeah, Douglas Road Metrorail Station, Coral Gables Metrorail
			Weekday Off-peak	60	4:38 a.m. - 7:28 p.m.		
			Saturday	40	5:55 a.m. - 7:33 p.m.		
			Sunday	40	5:55 a.m. - 7:33 p.m.		
Metrorail	Route L	MDT	Weekday Peak	10	5:32 a.m. - 11:51 p.m.	3,474,298	Lincoln Road, Miami Beach Convention Center, Amtrak Terminal, Miami Beach High School
			Weekday Off-peak	12	5:32 a.m. - 11:51 p.m.		
			Saturday	20-30	5:19 a.m. - 12:03 a.m.		
			Sunday	40	5:42 a.m. - 11:32 p.m.		
	42	MDT	Weekday Peak	30	4:38 a.m. - 7:28 p.m.	483,554	Golden Glades Park and Ride, Opa Locka City Hall, City of Hialeah, Douglas Road Metrorail Station, Coral Gables Metrorail
			Weekday Off-peak	60	4:38 a.m. - 7:28 p.m.		
			Saturday	40	5:55 a.m. - 7:33 p.m.		
			Sunday	40	5:55 a.m. - 7:33 p.m.		
	500	MDT	Weekday Peak	60	NA	131,563	Near or at all Metrorail Stations, Coral Way, Downtown Miami Terminal
			Weekday Off-peak	60	NA		
			Saturday	NA	NA		
			Sunday	NA	NA		
Hialeah Market	NW 36 Street Koger Shuttle 132	MDT	Weekday Peak	60	6:50 a.m. - 6:43 p.m.	9,329	Koger Executive Center, Doral Country Club, Hialeah Market
			Weekday Off-peak	80	6:50 a.m. - 6:43 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		
	Route J	MDT	Weekday Peak	15	NA	1,578,881	Douglas Road Metrorail Station, Miami International Airport, Allapattah Metrorail Station
			Weekday Off-peak	20	NA		
			Saturday	30	NA		
			Sunday	30	NA		
	1	MDT		24/40	NA	600,268	Dadeland North and Dadeland South Metrorail Stations, The Falls, Perrine Shopping Center
	36	MDT	Weekday Peak	20	NA	960,063	Allapattah Metrorail Station, Doral Center, Biscayne Boulevard
			Weekday Off-peak	30	NA		
			Saturday	30-40	NA		
			Sunday	30-40	NA		
	42	MDT	Weekday Peak	30	4:38 a.m. - 7:28 p.m.	483,554	Golden Glades Park and Ride, Opa Locka City Hall, City of Hialeah, Douglas Road Metrorail Station, Coral Gables Metrorail
			Weekday Off-peak	60	4:38 a.m. - 7:28 p.m.		
			Saturday	40	5:55 a.m. - 7:33 p.m.		
			Sunday	40	5:55 a.m. - 7:33 p.m.		
	46	MDT	Weekday Peak	30	6:00 a.m. -7:00 p.m.	103,949	Caleb Center, Brownsville Metrorail Station, Miami Northwestern High School, NW 54th Street
			Weekday Off-peak	30	6:00 a.m. -7:00 p.m.		
			Saturday	NA	NA		
			Sunday	NA	NA		

Table 4-6: Continued

Tri-Rail Station	Route Number	Carrier	Time of Day	Headway (minutes) Pk/Off-Pk	Span of Service	Annual Ridership FY 2007	Major Destinations
Miami-Dade County							
Miami International Airport	133 Airport Shuttle	MDT	Weekday Peak	10	5:35 a.m. - 9:27 p.m.	77,954	Windham Airport Hotel, Miami International Airport, Hertz Car Rental
			Weekday Off-peak	40	5:35 a.m. - 9:27 p.m.		
			Saturday	12-60	7:47 a.m. - 10:17 p.m.		
			Sunday	12-60	7:47 a.m. - 10:17 p.m.		
	East/West (238)	MDT	Weekday Peak	30	5:40am - 8:57pm	172,378	Dolphin Mall, Miami International Mall, Earlington Heights Metrorail Station, Miami International Airport
			Weekday Off-peak	60	5:40am - 8:57pm		
			Saturday	NA	NA		
			Sunday	NA	NA		
	37	MDT	Weekday Peak	30	5:20 a.m. - 11:50 p.m.	1,184,864	Hialeah Metrorail Station, Douglas Road Metrorail Station, South Miami Metrorail Station, Miami International Airport
			Weekday Off-peak	30	5:20 a.m. - 11:50 p.m.		
			Saturday	30	6:24 a.m. - 11:28 p.m.		
			Sunday	30	6:29 a.m. - 10:00p.m.		

* On time performance measures do not distinguish between peak and off peak periods

**4-3-08 Delray Beach has received a grant from FDOT to begin service with 3 shuttles on route 1 that would duplicate service and create a 30/30 headway on route to TriRail/Beaches

ŧ Span of Service indicates time of first departure *from first Tri Rail station on route* to last departure from same station on same route

NA indicates No Available Tri Rail connection for a particular day or route

Figure 4-3: Miami-Dade Transit System Map

5.0 OVERVIEW OF TRANSIT AGENCY TRANSIT DEVELOPMENT PLANS

5.1 Palm Beach County Transit Development Plan, 2006-2016

The most recent transit development plan for Palm Beach County and local transit provider Palm Tran was a major plan update completed in 2007 for the ten-year period from 2006 through 2016.

As the major plan update notes, Palm Beach County has experienced major population growth on the order of 47 percent between 1990 and 2005, and Palm Tran has also experienced growth in number of passenger trips. Between 2000 and 2004, passenger trips on Palm Tran grew 18 percent. To this end, focus in the major plan update was on increasing fixed route service improvements on existing routes. Recommendations for service improvements to Palm Tran routes include increasing weekday frequencies, and weekday and weekend span increases.

Criteria used in the major update in order to form the ten-year service plan include:

- Routes that have experienced high growth rates in passengers per revenue hour between 2001 and 2006
- Load factors for routes including those with greater than 30 passengers per revenue hour and 20 to 29.9 passengers per revenue hour in 2006
- Span improvements to match routes that serve Tri-Rail stations with Tri-Rail's service span in Palm Beach County

As a result of the above criteria, improving existing service on fixed bus routes is of high importance for Palm Tran in their major plan update. Very little in the way of new service is mentioned, with a vague mention of bus rapid transit corridor planning sometime after FY 2012.

5.1.1 Proposed Service Improvements for Routes serving Tri-Rail Stations

In addition to service improvements, an emphasis was placed on Palm Tran connections to Tri-Rail stations. The following is a list of proposed improvements for Palm Tran routes intersecting Tri-Rail stations.

5.1.1.1 Routes serving Mangonia Park Station

- Route 20: Increase in weekday span. Improvement scheduled for FY 2012
- Route 31: Increase in weekday frequency and weekday span of service. Improvement scheduled for FY 2008.
- Route 33: Increase in weekday frequency, improvement scheduled for FY 2007. Increase in weekday span of service, improvement scheduled for FY 2008.

5.1.1.2 Routes serving West Palm Beach Station

- Route 2: Increase in weekday frequency. Improvement scheduled for FY 2012.
- Route 31: see above

- Route 40: Increase in weekday frequency. Improvement scheduled for FY 2009.
- Route 43: Increase in weekday frequency and weekday span of service. Improvement scheduled for FY 2009.
- Route 44: Increase in weekday frequency, improvement scheduled for FY 2007. Increase in weekday span of service, improvement scheduled for FY 2008.
- Route 45: no improvements planned.
- Route 50: Increase in weekday span of service. Improvement scheduled for FY 2012.
- Route 55: no improvements planned.

5.1.1.3 Routes serving Lake Worth Station

- Route 61: Increase in weekday frequency and weekday span of service. Improvements scheduled for FY 2010.
- Route 62: Increase in weekday frequency and weekday span of service. Improvements scheduled for FY 2009.

5.1.1.4 Routes serving Boynton Beach Station

- Route 70: Increase in weekday span of service. Improvement scheduled for FY 2013.
- Route 71: Increase in weekday frequency and weekday span of service. Improvements scheduled for FY 2010.
- Routes serving Delray Beach Station
- Route 2: see above
- Route 70: see above
- Route 81: Increase in weekday span of service. Improvement scheduled for FY 2013.

5.1.1.5 Routes serving Boca Raton Station

- Route 2: see above
- Route 94: Increase in weekday span of service and weekday frequency. Improvements scheduled for FY 2010.

According to Palm Tran's Capital and Operating Plan, operating expenses are projected to increase $37.3 million between FY 2007 and 2016. It is unclear how much of that increase is due to inflation of existing service costs and how much is due to the frequency and span improvements noted above.

5.1.2 Assessment

Unlike service providers in Broward and Miami-Dade counties, the majority of service improvement recommendations in the Palm Beach County Major Plan Update focus on improvements to existing fixed-route bus service. This makes sense, as a lot of the transit service provided in Palm Beach County is skeletal, along major arterials,

with low frequencies and short service spans. The plan identifies increasing the service on existing routes to meet growing population and transit trip demand before new service can be implemented.

Coordination between Palm Tran and Tri-Rail service is noted as a vital component of the plan update, since Tri-Rail provides regional connections to Broward and Miami-Dade counties. Thus, many of the service improvements are for routes that will affect Tri-Rail stations. Increasing the service span on Palm Tran routes will directly impact transfers between regional Tri-Rail service and local Palm Tran service, while frequencies will make transfers between the modes more efficient.

Because the Palm Beach County Major Plan Update makes only ambiguous references to bus rapid transit service in FY 2012-2016, and no recommendations on fixed-guideway rail service, it does not appear that high quality regional service will impact Tri-Rail operations in Palm Beach County. Positively for SFRTA, it can be assumed that Tri-Rail will be the best option in Palm Beach County for regional travel. At the same time, a lack of high quality transit options within the county may hamper transfers between Tri-Rail and Palm Tran if congestion increases to the point where mobility within the county decreases.

5.2 Broward MPO, Broward County TDP Annual Progress Report, FY 2008-2012. New Horizons 2007 (September 2007)

The Broward County Transit Development Plan Progress Report focuses on continuing to improve transit service in Broward County through the promotion and implementation of improvements in the BCT fixed route transit system, including headways, extended operating hours, the Community Bus Program, the development of Limited Stop routes, and regional transportation initiatives.

The plan notes that a number of proposed improvements for 2007 were not implemented due to lack of dedicated sources of revenue being available for BCT service expansion. However, the plan notes that improvements to the transit system remain a goal of the MPO and Broward County Commission. The Progress report lists a number of recommendations, including:

- Expansion of service to areas not served by public transit
- Modification of bus routes to provide more direct service.
- Expansion of limited stop routes
- Continued headway improvements
- Development of New Services
- Implement route extensions
- Expand community bus program
- Define and make route modifications
- Continue span of service improvements.

Associated costs for these new services are listed within the document. According to the plan, approximately $29.7 million is needed for the 2008-2012 period for service development, while $27.4 million is needed in the same period for planned fixed route expansion. However, the plan also notes a budget shortfall beyond the 2008 fiscal year.

5.2.1 Proposed Service Improvements for Routes serving Tri-Rail Stations

A number of the service changes to existing fixed bus routes that will directly affect Tri-Rail stops located within Broward County are recommended in the plan.

5.2.1.1 Routes Serving Deerfield Beach Station

- Route 92: Route extension; Weekday, Saturday, and Sunday service span increase. Improvements planned for FY 2009.
- Route 93: Weekday headway improvement to 45 minutes; Saturday headway improvement to 30 minutes; Weekday, Saturday, and Sunday service span increase. Improvements planned for FY 2009.

5.2.1.2 Routes serving Pompano Beach Station

- Route 34: Weekday headway improvement to 20 minutes; Saturday headway improvements to 30 minutes; Weekday, Saturday, and Sunday service span increase. Improvements planned for FY 2010.
- Route 93: see above
- Route 95: no improvements planned

5.2.1.3 Routes serving Cypress Creek Station

- Route 60: Sunday service span increase in FY 2012
- Route 62: Route extension; Weekday and Saturday service span increase. Improvements planned for FY 2009.

5.2.1.4 Routes serving Fort Lauderdale Station

- Route 9: Weekday peak headway improvement to 30 minutes; Saturday service span improvement. Improvements planned for FY 2008.
- Route 22: Sunday service span increase. Improvement planned for FY 2012.
- Route 81: Weekday peak headway improvement to 20 minutes; Weekday and Sunday service span increase. Improvements planned for FY 2011.

5.2.1.5 Routes serving Fort Lauderdale/Hollywood International Airport Station

- Route 4: Saturday headway improvement to 30 minutes; Saturday and Sunday service span improvement. Improvements planned for FY 2012.
- Route 6: Weekday, Saturday, and Sunday service span increase. Improvements planned for FY 2012.
- Route 15: Sunday headway improvement to 60 minutes. Improvement planned for FY 2012.

- Route 16: no improvements planned.

5.2.1.6 Routes serving Sheridan Street Station

- Route 3: New Sunday Service; Weekday and Saturday service span increase. Improvements planned for FY 2012.
- Route 12: Weekday peak headway improvement to 30 minutes; Route extension; Weekday, Saturday, and Sunday service span increase. Improvements planned for FY 2008.
- Route 17: no improvements planned.

5.2.1.7 Routes serving Hollywood Station

- Route 7: Weekday peak headway improvement to 20 minutes; Sunday headway improvement to 30 minutes; Weekday and Sunday service span improvements. Improvements planned for FY 2010.

Beyond proposed improvements to fixed-route bus service, the New Horizons document also makes recommendations on several limited-stop regional bus service routes, including Sample Road, University Drive, Dixie Highway, US1/Federal Highway, Oakland Park Boulevard, Cypress Creek Road, Broward Boulevard, I-595, Sunrise Boulevard, and Hollywood Boulevard/Pines Boulevard. The first of these routes, the Breeze, began operation in 2007 as a limited-stop service on the US 1 corridor running north-south through Broward County. The other limited-stop routes are planned for the FY 2008-2012 period. Of the seven routes planned for FY 2008-2012, three of them will intersect Tri-Rail stations; the routings on Sample Road, Broward Boulevard, and Hollywood Boulevard.

5.2.2 Assessment

Several times throughout the Broward MPO FY 2008-2012 plan the document states the need for coordination and connections between Broward County Transit and Tri-Rail service. BCT appears to intend to follow-through on this goal, as the planned fixed-route service improvements will affect every station and will improve the connections of BCT routes to and from Tri-Rail station stops. Especially important in these recommendations are the increase in service span, which will better match the Tri-Rail service span, and the increase in headways, which will reduce waiting times in transfers between BCT and Tri-Rail service.

In addition to local fixed-route service improvements, BCT's desire to provide limited-stop regional service will also provide benefit to Tri-Rail. The Pompano Beach, Fort Lauderdale, and Hollywood stations will benefit directly from increased and higher quality service from BCT. The introduction of limited stop service will also benefit Tri-Rail since overall regional mobility will increase, making transit travel on any mode throughout Broward County a more efficient experience.

5.3 Miami-Dade Transit (MDT) 2007 Transit Development Program (TDP) Minor Update for FY 2008-2012

The most recent minor update of the TDP was prepared by MDT to fulfill the State of Florida's statutory requirements, covering the fiscal years 2008 to 2012. The last

Major Update was prepared in 2005. The next major update is being prepared in 2008 and will reflect a 10 year time frame, as is now required under the State's regulations. The update presents the operating environment of MDT services, identifies committed improvements that have a high likelihood of implementation within the five year time frame, and provides an amended five year Recommended Service Plan (RSP) and a financial analysis of proposed service improvements. The improvements included in the 2012 RSP are summarized below by transit mode:

5.3.1 Metrobus

- Schedule 159 service improvements to the existing 105 Metrobus Routes (some routes get multiple improvements) at an estimated cumulative operating cost of $183.1 million for the next five years; operating cost by the fifth year of the TDP will be $38.8 million.
- Add a total of 27 new routes to the Metrobus system, at an estimated cumulative operating cost of $140.8 million over the next five years; operating cost in the fifth year of the TDP is $32.8 million.
- Expand the Metrobus fleet with 474 new buses, which includes 252 full sized buses and 221 minibuses. This includes a peak vehicle requirement of 394 vehicles and a 20 percent spare ratio.
- Implement a plan to develop various transit terminals or hubs throughout the service area at a cost of $36.5 million.

5.3.2 Metrorail

- Capital improvement cost for the rail rehabilitation program is estimated at $237.7 million for the five year RSP period.

5.3.3 Metromover

- Rail Rehabilitation (purchase of new cars) is estimated at 9.6 million for the five year RSP period.

5.3.4 Special Transportation Services (STS):

- No significant service changes are programmed. MDT implemented the Special Transportation System Software Upgrade & Maintenance, which distributes STS trips and centralizes the STS computer Software System, in 2006.

The TDP takes as given the projects included in the Transportation Improvement Plan (TIP), including the North Corridor, MIC-Earlinton Heights and East-West Corridor extensions of the MDT Metrorail system, South Miami-Dade Busway extension, and South Florida East Coast Corridor studies. Transit capital improvements identified in the TIP include ADA improvements, bus acquisition, bus facilities and rehabilitation, information technology and AVL/AVM radio system, fare collection equipment, new rail and bus maintenance facilities.

The TDP identifies a number of on-going projects including development of park-and-ride lots at various locations throughout the county, generally adjacent to existing or proposed Metrorail or Busway stations. The TDP identifies a number of routes started under the state Transit Corridor Development/Service Development grant program that were eliminated when grant funding for the routes ran out. The plan also identifies other bicycle and passenger amenities to be completed soon.

The TDP lists a wide variety of ITS improvements, both in development now and planned for the future.

The plan lists a number of bus improvements to be implemented during the duration of the plan, including several to be implemented in 2007. Several of these proposed service improvements have potential inter-county service implications, including the 7th Avenue MAX service to operate from Golden Glades park-and-ride lot to downtown Miami via the 7th Avenue Corridor; and the Red Road MAX/Beach MAX operating a limited stop service connecting Miramar (in Broward County) to the Okeechobee Metrorail Station, and a limited stop service along Collins Avenue in Miami Beach. The 95X route serving Golden Glades would also be extended to the Overtown Village office building and would have some running times adjusted. Route 176 Max will be combined with Route 267 Ludlum Max operating from Pembroke Lakes Mall, CB Smith Park-and-Ride and Miami Gardens drive as the 267 MAX.

Metrorail service improvements, aside from the major expansions listed above, are limited to extension of night owl services and changes in pass and fare policies, as well as a plan to replace the vehicle fleet by 2011.

5.3.5 Proposed Service Improvements for Routes serving Tri-Rail Stations

The RSP calls for the following improvements that impact Tri-Rail stations or potentially impact inter-county services:

5.3.5.1 Routes Serving Miami Airport

- Route 37: Improve peak headway from 30 to 15 minutes; all night service, every 60 minutes, seven days a week. Extend weekday service to Miami Lakes Technical Education Center. All 2008
- Route 57: Improve peak headway from 30 to 15 minutes (2008). Improve midday headway from 30 to 15 minutes and introduce weekday service (no date given)
- Route 238: Improve peak headway from 30 to 15 minutes; improve midday headway from 60 to 30 minutes (2008)

5.3.5.2 Routes Serving Hialeah Market

- Route J All night service, every 60 minutes, seven days a week. 2008.
- Route 36: Extend route south to serve Dolphin Mall. 2008.
- Route 42: Improve peak headway from 30 to 15 minutes. 2008.

5.3.5.3 Routes Serving Metrorail Transfer

- Route L: Improve peak headway from 10 to 7 1/3 minutes. 2008.
- Route 42: Improve peak headway from 30 to 15 minutes. 2008.

5.3.5.4 Routes Serving Opa Locka

- Route E: Improve headway from 30 to 15 minutes. 2008.
- Route 42: Improve peak headway from 30 to 15 minutes. 2008.

5.3.5.5 Routes Serving Golden Glades

- Route E: Improve headway from 30 to 15 minutes. 2008.
- Route V: Improve peak headway from 60 to 15 minutes. 2008.
- Route 2: Realign northern terminus to serve Golden Glades. No date provided. Route will improve from 60 to 15 minutes and run all night service at 60 minute headway beginning in 2008..
- Route 17: Extend route to Golden Glades. Planned for 2009
- Route 21: Extend route from Bunche Park to Golden Glades. Planned for 2009
- Route 22: All night service every 60 minutes, seven days a week. 2008.
- Route 42: Improve peak headway from 30 to 15 minutes. 2008.
- Route 95: Introduce midday service to Civic Center; introduce weekend service (2011)

5.3.5.6 Proposed new routes serving Tri-Rail stations or inter-county routes include:

- 163rd Street Shuttle: Operating from Golden Glades to Collins Avenue along 163rd Street. 2008.
- MIA Connection: New express route connecting Douglas Road Metrorail Station and the Airport. 2010.
- SW Broward-Civic Center Express: operating daily on Pines Boulevard to Civic Center.
- Broward Boulevard to Miami CBD: I-95 Managed Lanes Route.
- Sheridan Street to Miami CBD: I-95 Managed Lanes Route.

MDT routes are operated out of one of nine proposed regional transit hubs. Miami Intermodal Center and Golden Glades are the only ones to be proximate to an existing Tri-Rail Station.

The proposed plan shows operating costs for the proposed improvements rising from about $61 million in 2008 to $115 million in 2012. The changes, including both the bus-based improvements and the extensions and other improvements of Metrorail and other services, would increase MDT's total annual operating budget from an estimated $461 million in 2007 to $576 million by 2012. The improvements would also require $405 million in capital costs over the five year period.

5.3.6 Assessment:

Items in the TIP that would directly affect SFRTA operations include the service changes listed above as well as Automated Fare Collection system that MDT is

pursuing together with BCT, PalmTran and SFRTA. The service increases, if implemented as indicated by the plan, would greatly improve transit access to Tri-Rail stations in Miami-Dade County. The Metrorail North Corridor Extension, which will reach to the Broward County line and connect with BCT services there, is effectively an inter-county facility and could present opportunities for development of future SFRTA services. The FDOT I-95 managed lanes services represent further cooperation between agencies and dramatically increase the level of inter-county transit service operating in the region. The proposed expansion of the park-and-ride network addresses a key need of Tri-Rail and could provide potential relief for Tri-Rail station parking areas in Miami-Dade County that are currently being used for non-Tri-Rail related (and in some cases, non-transportation related) uses.

PAGE INTENTIONALLY LEFT BLANK

6.0 OVERVIEW OF SFRTA

6.1 South Florida Regional Transportation Authority

In January 1989, Tri-County Commuter Rail Authority (Tri-Rail) was established to provide interim commuter rail service along a 67 mile corridor between the West Palm Beach Station in Palm Beach County and the Hialeah Market Station in Miami-Dade County after the 1988 FDOT purchase of the South Florida Rail Corridor (SFRC) from CSX Transportation Inc. In 1997 and 1998, Tri-Rail service was extended to the Mangonia Park Station in Palm Beach County (the northern terminus) and to the Miami International Airport Station in Miami-Dade County (the southern terminus), respectively. Figure 6-1 – Figure 6-5 present an illustration of the existing Tri-Rail system and connecting transit service routes for each station for the region.

In 2003, the South Florida Regional Transportation Authority (SFRTA), a tri-county federal public transit authority, was created by the Florida Legislature under s. 343.58, F.S, replacing the existing Tri-County Commuter Rail Authority. The legislation provides for the following: *Extension of authority to any transit system in the three affected counties with approval by the county commission, equal share funding from all three affected counties to be collected from local gas taxes, and provisions for adjacent county expansion of the commuter rail system.*

6.2 Tri-Rail Commuter Rail System Operations

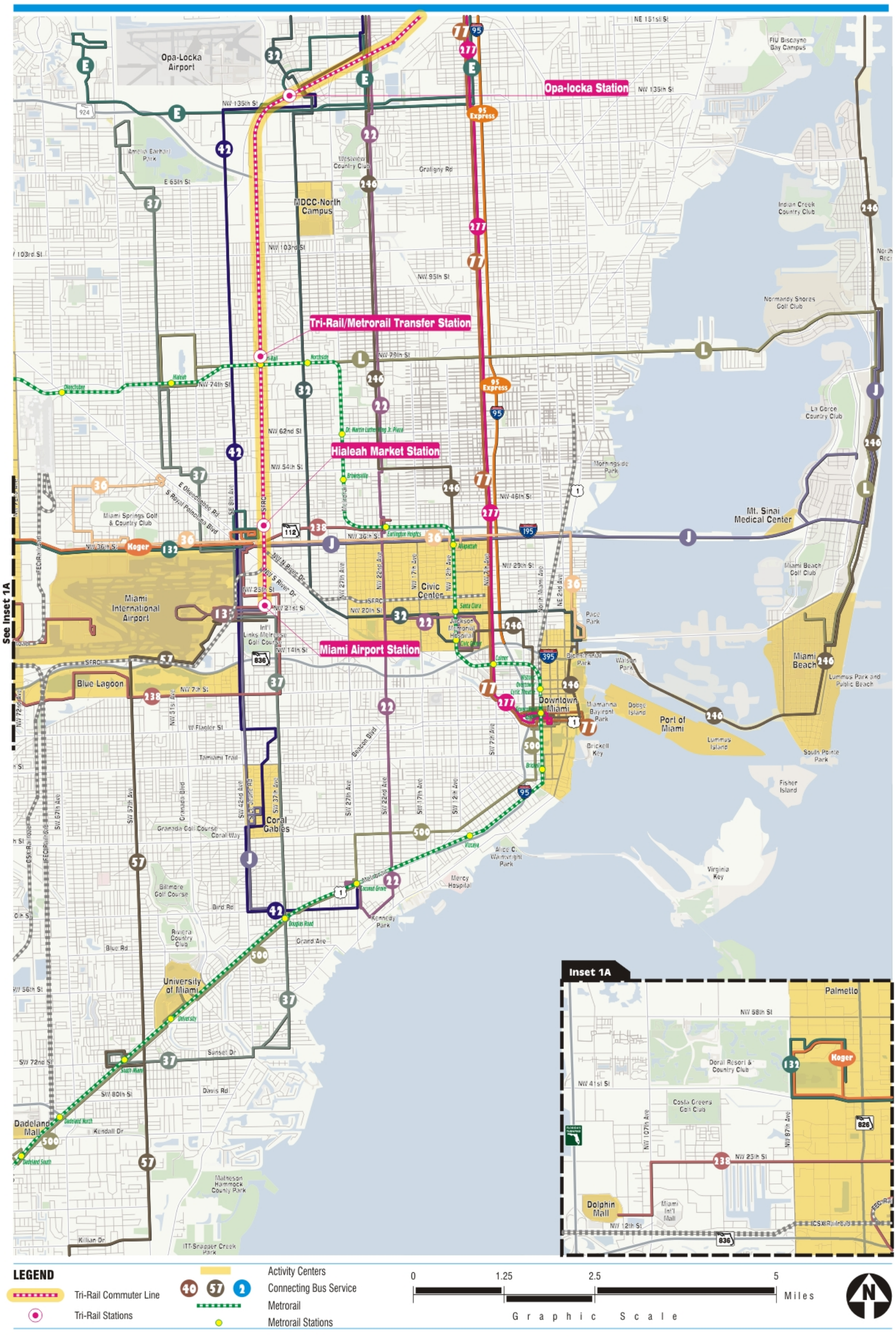
SFRTA provides Tri-Rail commuter rail service that predominantly operates diesel-electric locomotives, bi-level coaches and bi-level cab cars in a push-pull mode over a 72-mile commuter rail route between the Miami International Airport Station in Miami-Dade County and the Mangonia Park Station in Palm Beach County. Two sets of diesel multiple units (DMU's), part of a demonstration project through the Federal Railroad Administration (FRA) and FDOT are also used in service. There are 18 Tri-Rail stations in operation at an average spacing of approximately four miles. A detailed overview of each of these 18 stations is provided in a separate section of this report.

The weekday schedule begins at 4:00 AM and ends at 11:05 PM, operating 20 minute headways in each direction during both the morning and evening peaks, including 30 minute headway transitions between the 20 minute peak headway service and the hourly off-peak service. A total of ten train sets are used to operate this service with some operating only one coach and one cab car. Service includes 50 one-way trips each weekday and 16 one-way trips on Saturday and Sunday.

A full one-way trip is scheduled for 105 minutes in either direction. Scheduled train set round trips take approximately three (3) hours and 30 minutes, varying slightly due to scheduled layover time. SFRTA typically operates three-car trains, but does operate some two-car sets during various parts of the service day. The resulting average running speed is approximately 41 MPH along the corridor due to station stops and dwell times. The existing Tri-Rail schedule as of June 2008 is presented in Table 6-1.

PAGE INTENTIONALLY LEFT BLANK

Figure 6-1: Existing Tri-Rail Service Connections



PAGE INTENTIONALLY LEFT BLANK

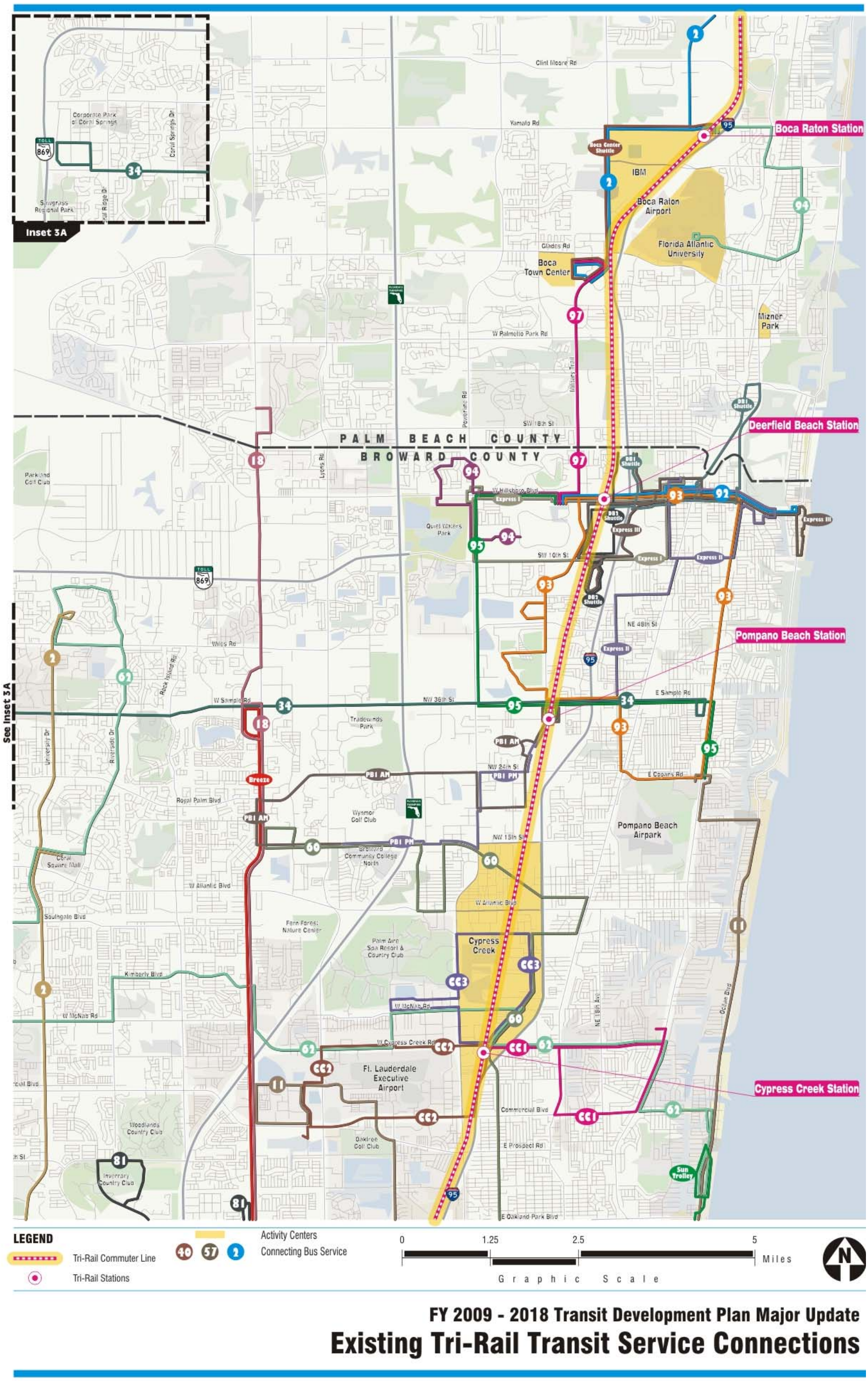
Figure 6-2: Existing Tri-Rail Service Connections

FY 2009 - 2018 Transit Development Plan Major Update

Existing Tri-Rail Transit Service Connections

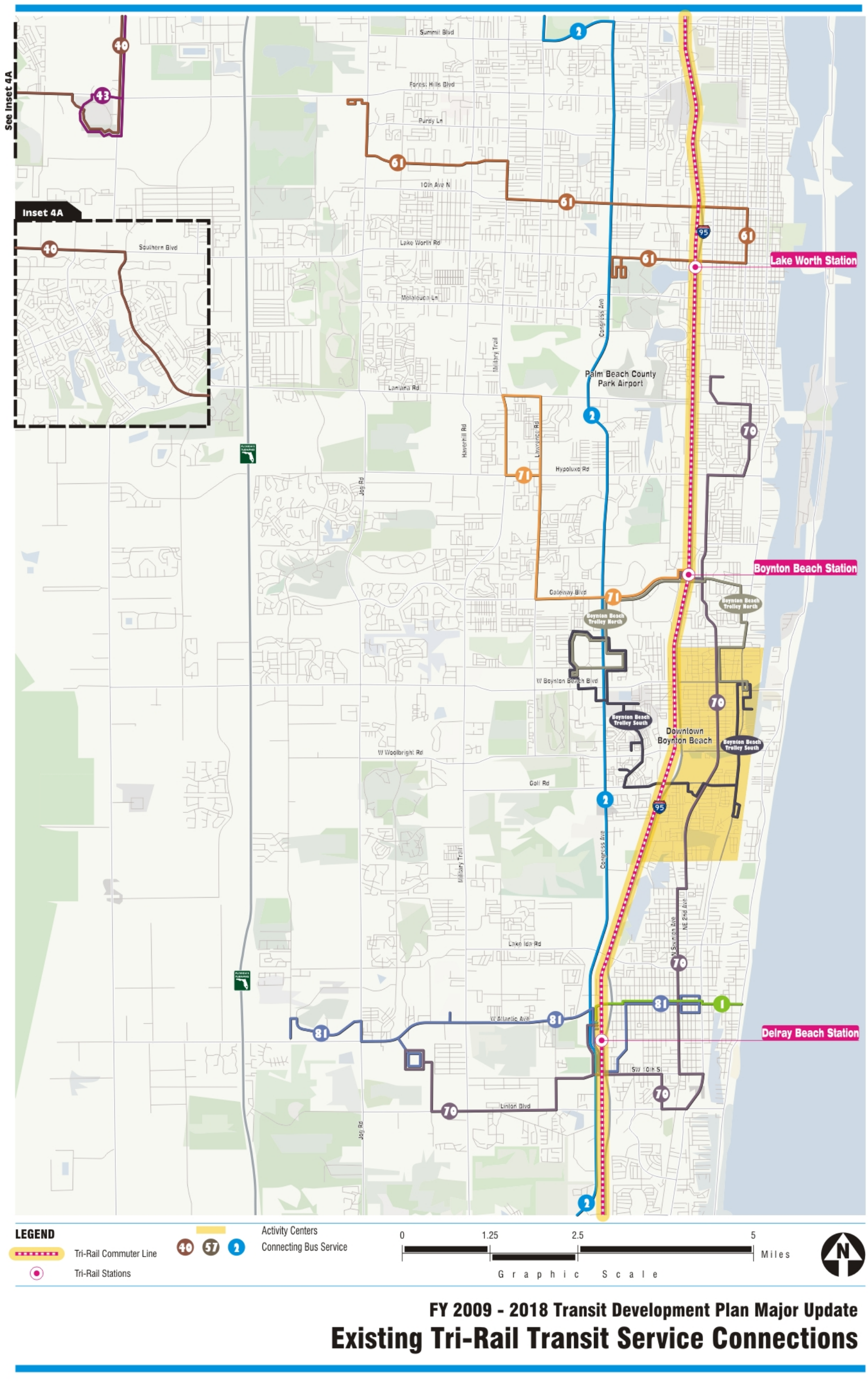
PAGE INTENTIONALLY LEFT BLANK

Figure 6-3: Existing Tri-Rail Service Connections



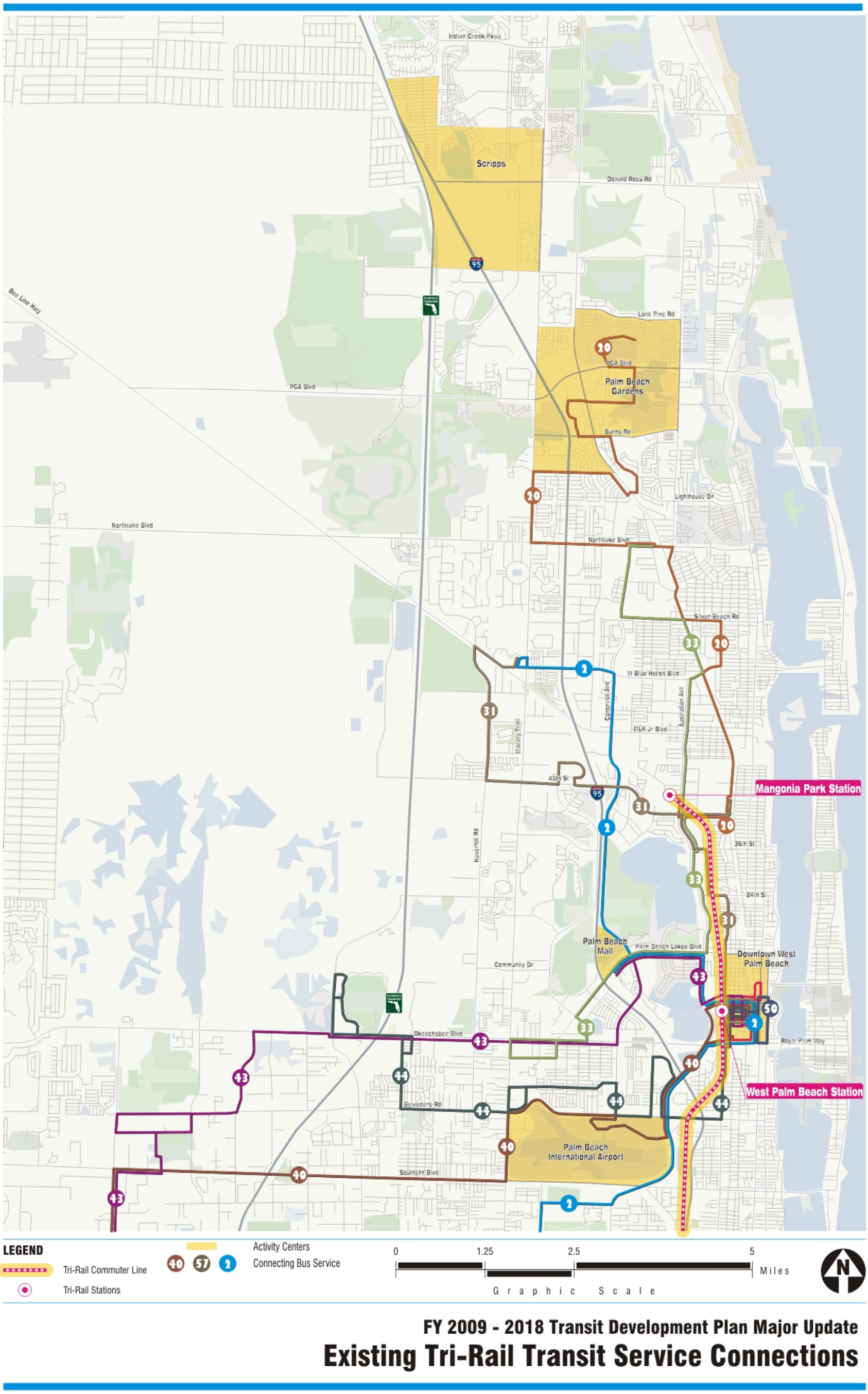
PAGE INTENTIONALLY LEFT BLANK

Figure 6-4: Existing Tri-Rail Service Connections



PAGE INTENTIONALLY LEFT BLANK

Figure 6-5: Existing Tri-Rail Service Connections



PAGE INTENTIONALLY LEFT BLANK

Table 6-1: Tri-Rail Weekday Train Schedule

Weekdays Southbound Trains			Weekdays Northbound Trains		
Train	Mangonia Park	MIA	Train	MIA	Mangonia Park
P601	4:00 AM	5:45 AM	P600	4:20 AM	6:05 AM
P603	4:40 AM	6:25 AM	P602	4:50 AM	6:35 AM
P605	5:30 AM	7:15 AM	P604	5:20 AM	7:05 AM
P607	6:00 AM	7:45 AM	P606	5:50 AM	7:35 AM
P609	6:20 AM	8:05 AM	P608	6:10 AM	7:55 AM
P611	6:40 AM	8:25 AM	P610	6:30 AM	8:15 AM
P613	7:00 AM	8:45 AM	P612	7:00 AM	8:45 AM
P615	7:30 AM	9:15 AM	P614	7:30 AM	9:15 AM
P617	8:00 AM	9:45 AM	P616	8:10 AM	9:55 AM
P619	9:00 AM	10:45 AM	P618	9:00 AM	10:45 AM
P621	10:00 AM	11:45 AM	P620	10:00 AM	11:45 AM
P623	11:00 AM	12:45 PM	P622	11:00 AM	12:45 PM
P625	12:00 PM	1:45 PM	P624	12:00 PM	1:45 PM
P627	1:00 PM	2:45 PM	P626	1:00 PM	2:45 PM
P629	2:00 PM	3:45 PM	P628	2:00 PM	3:45 PM
P631	3:00 PM	4:45 PM	P630	3:00 PM	4:45 PM
P633	3:30 PM	5:15 PM	P632	3:30 PM	5:15 PM
P635	4:00 PM	5:45 PM	P634	4:00 PM	5:45 PM
P637	4:30 PM	6:15 PM	P636	4:30 PM	6:15 PM
P639	5:00 PM	6:45 PM	P638	5:00 PM	6:45 PM
P641	5:30 PM	7:15 PM	P640	5:50 PM	7:35 PM
P643	6:00 PM	7:45 PM	P642	6:20 PM	8:05 PM
P645	6:40 PM	8:25 PM	P644	6:50 PM	8:35 PM
P647	7:40 PM	9:25 PM	P646	7:50 PM	9:35 PM
P649	8:40 PM	10:25 PM	P648	9:20 PM	11:05 PM

Source: South Florida Regional Transportation Authority, April 2008

Table 6-2: Tri-Rail Weekend Train Schedule

Saturday/Sunday/Holiday Service					
Southbound Trains			Northbound Trains		
Train	Mangonia Park	MIA	Train	Mangonia Park	MIA
P661	6:00 AM	7:45 AM	P660	6:00 AM	7:45 AM
P663	8:00 AM	9:45 AM	P662	8:00 AM	9:45 AM
P665	10:00 AM	11:45 AM	P664	10:00 AM	11:45 AM
P667	12:00 PM	1:45 PM	P666	12:00 PM	1:45 PM
P669	2:00 PM	3:45 PM	P668	2:00 PM	3:45 PM
P671	4:00 PM	5:45 PM	P670	4:00 PM	5:45 PM
P673	6:00 PM	7:45 PM	P672	6:00 PM	7:45 PM
P675	8:30 PM	10:15 PM	P674	8:30 PM	10:15 PM

Source: South Florida Regional Transportation Authority, April 2008

Tri-Rail commuter rail service operates in the State of Florida's SFRC rail line along with CSXT and Amtrak. The state owns the SFRC and pays CSXT for dispatch and maintenance services. Through a service agreement with the FDOT and CSXT, Tri-Rail has established operating windows along the SFRC corridor. Passenger train service, including Tri-Rail and Amtrak, has priority rights of operation between 5:20 AM and 9:30 AM and between 3:00 PM and 8:00 PM. Tri-Rail, Amtrak and CSXT share the rail line between the hours of 4:19 AM and 5:20 AM, 9:30 AM and 3:00 PM and 8:00 PM and 10:39 PM. CSXT has exclusive operating rights between 10:39 PM and 4:19 AM. Amtrak's long haul passenger service shares the route with Tri-Rail and CSXT, operating two northbound and two southbound trains in a common operating time period with Tri-Rail.

Due to continuing delays (dispatch is the largest single cause) SFRTA desires to obtain the operation and dispatch control of the SFRC. If this is accomplished, SFRTA will control the dispatch of Tri-Rail commuter trains which should minimize service disruptions and delays to commuter rail services.

FDOT has negotiated a deal with CSXT that would allow SFRTA to take over dispatch of the SFRC, but also requires SFRTA to assume responsibility for maintenance. Funds for a SFRTA takeover are not currently available and the contract with FDOT and CSXT must be signed by the end of the year, leaving the future of SFRTA dispatch uncertain.

6.3 Rail Fleet

Tri-Rail's existing vehicle fleet includes 16 locomotives, 11 cab cars and 15 coaches as well as two Diesel Multiple Unit (DMU) train sets from Colorado Rail Car Manufacturing for demonstration purposes. The DMU's are owned by the Federal Railroad Administration (FRA) and FDOT. Ten Tri-Rail trains are in operation during weekday peak periods. The passenger capacity varies slightly between the cab cars which seat 157 passengers each and the bi-level coaches which seat 162 passengers per car. Each of the DMU's train sets are double decked to provide a seating capacity range of 163 to 182 passengers per car.

6.4 Tri-Rail Ridership

Tri-Rail ridership has steadily increased since beginning revenue service in 1989. Ridership grew steadily each year from 723,111 trips in 1989 to 2,909,845 trips in 1994. After 1994 ridership declined for a period of five years, mainly due to construction improvement projects and outward migration of jobs to booming westward suburban developments. From 1999 to 2004 ridership levels rose back to mirror those of the early 1990's with 2.8 million passengers in 2004.

In 2005, Tri-Rail ridership experienced another decline due to service disruptions induced by additional major construction activities of the Segment V double track construction project. Once construction was completed in 2006, service was increased from 30 to 40 trains per day and then again in July 2007 to 50 trains per day. During the next two years Tri-Rail ridership would reach new heights, breaking the 3 annual million passenger mark in 2006, only to shatter that record with over 3.5 million passengers in 2007. Between January 2005 and April 2008, Tri-Rail ridership

increased from 233,079 trips to 352,304 monthly trips, marking a 51 percent increase. The average yearly ridership grew every year from 2005 to 2007, with an overall increase of 34 percent. Furthermore, the standard deviation for monthly ridership figures between 2005 and 2007 decreased, which signifies a year-round ridership consistency further establishing Tri-Rail as an effective alternative transportation option.

6.4.1 Recent Ridership Developments

Tri-Rail ridership continues to reach record highs throughout the first half of 2008, with ridership averaging a monthly increase of over twenty percent as compared with the same time last year. On May 20, 2008 Tri-Rail recorded 16,024 passengers using the system – only the second time in history with a 16,000 plus day. The record was set on June 12, 2006, when 18,452 passengers used the commuter rail service to attend the Miami Heat NBA Victory Parade. During the month of June ridership increased yet again with a 30 percent increase from June 2007 to an average weekday ridership of 15,409.

In 2006, the commuter rail system led the nation in increased riders with a 21 percent boost in passengers according to the American Public Transportation Association. Last year, it was one of the few commuter rails in the nation that had a double-digit growth in passengers, with more than a 10 percent increase.

Although some of this growth can be attributed to a ridership rebound from 2005 (when the double-tracking improvement project was causing system-wide service interruptions) increases in ridership can also be attributed to rising fuel costs and Tri-Rail's improved peak hour frequency. Since August 2000, the number of trains operating on weekdays has more than doubled from 24 trains per day to 50 trains per day, and gas prices have risen by 180 percent. Fares for Tri-Rail, however, have remained unchanged.

6.4.2 Boarding vs Alightings

Boardings represent when a passenger initiates an unlinked trip by boarding a transit vehicle. Alightings represent when a passenger ends the trip by exiting a transit vehicle. Both boardings and alightings are presented in the following tables by station and ranked to identify where the highest station boardings and alightings are occurring along the Tri-Rail system. Certain stations, such as Boynton Beach and Hollywood Stations, exhibit a higher boarding level than alighting, indicating that these are locations where commuters originate their trips. Certain other stations, such as West Palm Beach and Miami Airport stations, exhibit a higher level of alightings than boardings, indicating a higher propensity of terminating passengers.

Table: 6-3
Tri-Rail Station Palm Beach County Boardings/Alightings

Station	April 2008 AM peak	Rank
Palm Beach County		
Mangonia Park		
Boardings	227	15
Alightings	494	3
West Palm Beach		
Boardings	278	14
Alightings	598	2
Lake Worth		
Boardings	382	5
Alightings	218	11
Boynton Beach		
Boardings	536	1
Alightings	139	16
Delray Beach		
Boardings	336	8
Alightings	180	13
Boca Raton		
Boardings	364	6
Alightings	453	4

Note: AM Peak is defined as any train scheduled to reach its end terminal between 5:00 am – 10:00 AM.

Table: 6-4
Tri-Rail Station Broward County Boardings/Alightings

Station	April 2008 AM PEAK	Rank
Broward County		
Deerfield Beach		
Boardings	329	10
Alightings	250	10
Pompano Beach		
Boardings	298	13
Alightings	256	9
Cypress Creek		
Boardings	392	4
Alightings	407	5
Fort Lauderdale		
Boardings	448	2
Alightings	321	7
Ft. Lauderdale Airport		
Boardings	302	12
Alightings	282	8
Sheridan Street		
Boardings	317	11
Alightings	140	15
Hollywood		
Boardings	337	7
Alightings	194	12

Table 6-5: Tri-Rail Station Miami-Dade County Boardings/Alightings

Station	April 2008 AM PEAK	Rank
Miami-Dade County		
Golden Glades		
Boardings	330	9
Alightings	156	14
Opa Locka		
Boardings	112	17
Alightings	62	18
Metrorail Transfer		
Boardings	401	3
Alightings	1063	1
Hialeah Market		
Boardings	57	18
Alightings	78	17
Miami Airport		
Boardings	195	16
Alightings	349	6

Source: South Florida Regional Transportation Authority, April 2008

6.4.3 Ridership Factors

There are several overlapping factors behind recent Tri-Rail ridership increases. The main factors include an improved train schedule, completion of the double tracking and New River Bridge projects, and increased fuel costs. However, how much each factor contributes is difficult to say but it seems likely that these compliment each other to lead to the overall increase in passengers.

There is also the increase in the number of trains that run on weekdays affecting the ridership figures. In June 2007, Tri-Rail began running 50 trains per weekday, which was an improvement from the 40 trains per weekday operating schedule in place since March 2006. Prior to March 2006, Tri-Rail operated a weekday schedule of 30 trains per day.

The 50 trains per weekday schedule was able to be implemented due to the completion of the new high-level fixed New River Bridge. The Double Tracking project and New River Bridge have led to better levels of service frequency and on-time performance, in turn increasing ridership levels.

Tri-Rail Ridership has a direct positive correlation with the cost of gasoline. The average cost of gasoline in the state of Florida has risen from $1.91 per gallon in January of 2005 to $3.21 in January of 2008. During the first five months of 2008, the cost of a gallon of gasoline in the state of Florida has risen from $3.20 to $3.91

6.5 Fare Structure

The fare structure for the Tri-Rail system is based upon a zonal fare rate. The Tri-Rail system is comprised of six zones with weekday passenger fares that are determined by the number of zones through which a passenger travels. Ticket prices range from $2 for a one way fare (within one zone) to an $80 monthly pass that allows unlimited use.

On weekends and holidays a flat fee of $4 is charged for all passengers using the system. Senior citizens (65 years and older), persons with disabilities, Medicare Card holders, and students can all receive discounted fares. Children under the age of five ride free and children ages 5 -12 can also receive fare discounts. Reduced fares are also available for employees of businesses enrolled in the Employer Discount Program, with Monthly and 12-Trip tickets discounted by 25 percent.

Table 6-6: Tri-Rail Fares

Zoned Fares							
Number of Zones Traveled	One Way	Discount One Way	Round Trip	Discount Round Trip	12 Trip	Monthly	Discount Monthly
1	$2.00	$1.00	$3.50	$2.00	$17.00	$80.00	$40.00
2	$3.00	$1.50	$5.00	$3.00	$25.00	$80.00	$40.00
3	$4.00	$2.00	$6.75	$4.00	$33.50	$80.00	$40.00
4	$4.50	$2.25	$7.75	$4.50	$38.00	$80.00	$40.00
5	$5.00	$2.50	$8.50	$5.00	$42.00	$80.00	$40.00
6	$5.50	$2.75	$9.25	$5.50	$46.00	$80.00	$40.00

Source: South Florida Regional Transportation Authority, April 2008

In 2007, the amount of passenger fare revenue collected was approximately $6.7 million which resulted in a farebox recovery ratio of 17.4 percent. Fares for Tri-Rail have not increased since 1995.

6.6 Shuttle Bus Service

Tri-Rail commuter rail service is often used in tandem with fixed route bus services from each of the three local transit operators – Palm Beach (Palm Tran), Broward County Transit (BCT) and Miami-Dade Transit (MDT) counties. The majority of the connecting bus services transport passengers either along major thoroughfares adjacent to a Tri-Rail station or activity centers.

Through inter-local agreements with each of the three counties, shuttle bus services are also provided at Tri-Rail stations to connect with local activity centers and major destinations. As part of this agreement, passengers transferring from Palm Tran, BCT or MDT receive a discounted Tri-Rail fare while Tri-Rail passengers are entitled to no transfer fares when boarding Palm Tran, BCT, or MDT connecting service with a valid Tri-Rail ticket.

In Palm Beach and Miami-Dade counties, SFRTA reimburses these counties for providing feeder services to connect with Tri-Rail stations as well as connections with fixed route service. However, in Broward County, SFRTA provides shuttle bus services through contractual agreements with private operators and is reimbursed for this service by the county agreement. Annually, FDOT also provides operating funding assistance to SFRTA for Broward County feeder service costs through a Joint Participation Agreement.

Recent on-board passenger surveys indicate that 11 percent of passengers arrive at the Tri-Rail station on a locally operated bus, while an even greater 13 percent connect with a local bus to reach their destination, making connecting bus service an important mode of access and egress to Tri-Rail stations.

The following tables list service characteristics for Tri-Rail shuttles that provide feeder bus services at various stations on the commuter rail system.

Table 6-7: Tri-Rail Shuttle Bus Routes
Palm Beach County

Tri-Rail Station	Route Number	Peak/Off Peak Headway (minutes)	Service Span	Annual Ridership FY 2007	Major Destinations
Palm Beach County					
West Palm Beach	50 Shuttle	20/20	M-F: 6:10 AM-5:36 PM	26,045	Palm Beach Government Center, Library, Tri-Rail
Boynton Beach	Boynton Beach Trolley	45/45	M-F: 7:00 AM to 7:30 PM Sat-Sun: 9:15 AM to 5:45 PM	18,877	Boynton Beach Mall, Boynton Beach Tri-Rail Station, Bethesda Memorial Hospital
Delray Beach	Downtown Roundabout Shuttle Route 1	30/60	M-F: 6:30 AM to 9:00 PM Sat: 10:00 AM to 8:00 PM Sun: 12:00 PM to 8:00 PM	39,000	Atlantic Avenue, Congress Avenue, Ocean Boulevard
Boca Raton	Boca Center Shuttle	30/30	M-F: 6:35 AM to 7:05 PM	11,258	Boca Center (north and south), NW 19th Street

Table 6-8: Tri-Rail Shuttle Bus Routes
Broward County

Tri-Rail Station	Route Number	Peak/Off Peak Headway (minutes)	Service Span	Annual Ridership FY 2007	Major Destinations
Broward County					
Deerfield Beach	DBI Shuttle (M-F)	60/60	M-F: 8:00 AM to 3:50 PM	17,068	Newport Center, Federal Highway
	DBII Shuttle (M-F)	60/60	M-F: 8:00 AM to 3:50 PM	13,098	Newport Center, Military Trail
Pompano Beach	PB 1 Shuttle (Blue Route)	30/60	M-F: 8:00 AM to 5:00 PM	16,406	Broward Community College (BCC) Library, BCT Terminal, Pompano Beach City Hall
	PB 1 Shuttle (Green Route)	45/60	M-F: 8:00 AM to 5:00 PM	16,363	Broward Community College (BCC) Library, BCT Terminal, Pompano Beach City Hall
Cypress Creek	Coconut Creek S Shuttle	20/20	M-Sat: 6:00 AM to 6:00 PM	43,643	Festival Marketplace, Lakewood Plaza, Atlantic Technical Center, Tri-Rail
	CC1	20/20	M-F: 5:15 AM to 7:19 PM	10,489	Cypress Creek Road, North Ridge Hospital, Commercial Boulevard
	CC2	20/20	M-F: 5:16 AM to 7:19 PM	18,041	Cypress Creek Road, Prospect Road, NW 33 Avenue, Commerical Boulevard
	CC3	15/15	M-F: 5:16 AM to 7:19 PM	16,686	Racetrack Road, Gateway Drive, McNab Road, Powerline Road

Table 6-8: Tri-Rail Shuttle Bus Routes
Broward County (continued)

Tri-Rail Station	Route Number	Peak/Off Peak Headway (minutes)	Service Span	Annual Ridership FY 2007	Major Destinations
Broward County					
Fort Lauderdale	FL1	30/35	M-F 5:10 AM to 10:17 PM	65,818	Broward Boulevard, Broward Central Terminal, Las Olas Boulevard
	City Cruiser	120/120	M-F: 6:40 AM to 6:30 PM	10,635	Beach Place, Central Terminal, Sunrise Boulevard
Hollywood/ Fort Lauderdale International Airport	FLA 1	20/20	M-F: 5:08 AM to 10:12 PM	121,820	FLL Airport Terminals, Griffin Road, SW 12th Avenue
	FLA 2	20/20	M-F: 5:57AM to 6:38 PM Sat-Sun: 7:07 AM to 6:11 PM	26,985	Eller Drive, Eisenhower Boulevard, Port Everglades, Midport Garage
	Convention Connection	15/15	Thurs-Sun: 10:00 AM to 10:00 PM	43,241	FLL Airport Terminals, Port Everglades, Broward County Convention Center
	South Florida Education Center (SFEC)/ Davie Campus Express Shuttle	30/60	M-F: 7:06 AM to 7:34 PM	60,862	BCC, Florida Atlantic University (FAU), Nova Southeastern University (NSU), McFatter Technical Center
Sheridan Street	Dania Beach East (Blue)	60/60	M-Sat: 9:00 AM to 5:44 PM	19,437	Dania Beach City Hall, Dania Beach, Stirling Road, Oakwood Square
	SS 1	20/20	M-F: 5:54 AM to 7:02 PM	9,307	Sheridan Street, Stirling Road, NW 29th Avenue, Park Road

Table 6-9: Tri-Rail Shuttle Bus Routes
Miami-Dade County

Tri-Rail Station	Route Number	Peak/Off Peak Headway (minutes)	Service Span	Annual Ridership FY 2007	Major Destinations
Miami-Dade County					
Hialeah Market	NW 36 Street/Koger Shuttle 132	60/60	M-F: 6:22 AM to 6:32 PM	9,329	Koger Executive Center, Doral Country Club, Hialeah Market
Miami International Airport	133 Airport Shuttle	10/40	M-F: 3:32 AM to 10:44 PM Sat -Sun: 5:32 AM to 10:17 PM	77,954	Windham Airport Hotel, Miami International Airport, Hertz Car Rental
	East/West (238)	30/60	M-F: 5:40 AM to 9:06 PM	172,378	Dolphin Mall, Miami International Mall, Earlington Heights Metrorail Station, Miami International Airport

6.7 Passenger Stations

A brief summary and description of existing Tri-Rail stations and adjacent land uses has been documented as part of the SFRTA FY 2009-2018 Transit Development Plan Major Update. Any available documentation and information from the SFRTA for each of the eighteen Tri-Rail station areas was utilized in the development of these summary descriptions. Furthermore, aerial images obtained from county tax assessors files are included to illustrate the station and adjacent land use area.

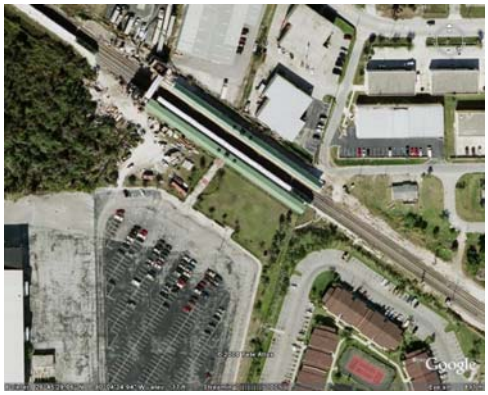
Station level population and employment densities were also prepared and are presented herein. This data was provided by the South Florida Regional Planning Council (SFRPC) for Palm Beach County, Broward County and Miami-Dade County to include area, population, and employment attributes.

The overall land use throughout the SFRC is mostly industrial, especially towards the southern terminus. The corridor has more commercial and medium density residential towards the northern terminus, yet maintains adjacency to industrial land, as it is a traditional rail freight corridor. The overall population density along the corridor is 9,434 people per square mile.

The following presents an overview of each Tri-Rail station area beginning with the Northern terminus or Mangonia Park and ending with the Miami International Airport station. The station area includes a general description followed by a summary of station characteristics. In addition, a status of Transit Oriented Development (TOD) activity is also listed which is defined according to the following:

- Active: A TOD plan is in place, zoning and land use approvals have been received, and a building has been permitted, is under construction and/or has been constructed.
- Moderate: A TOD plan is in place, zoning and land use approvals have been received for a project.
- Low: A TOD Plan or Charette Plan is under development or has been finalized. Draft plans for a specific project may have been circulated. Land use and/or zoning approvals are in process.
- None: Isolated, individual buildings may have been developed. Parking/intermodal center improvements may be planned, underway or completed. No TOD or Charette plans are in place.

6.7.1 Mangonia Park



The Mangonia Park station is located on the north side of 45th Street, approximately one mile east of Interstate 95 (I-95) and ¼ mile west of Australian Avenue. The Mangonia Park station contains 274 parking spaces, three bus bays and five dedicated taxi spaces.

The Mangonia Park station is immediately adjacent to existing industrial and residential land uses. Industrial uses tend to be north of the station, while multi-family residential is to the southeast and single-family residential to the west. A vacant former jai-alai fronton lies immediately south and southwest of the station. Mangonia Park ranks 15th in population density and 10th in employment density. The station area's population per square mile is below both the average and the median for population density among station areas in this corridor (9,434 and 9,551, respectively). As for the employment density, Mangonia Park's is also below the average (4,592) or median (4,065) in the corridor.

The greatest opportunity for transit oriented development (TOD) at Mangonia Park is the large parcel occupied by the now defunct Jai-Alai Fronton.

Mangonia Park Station Area Summary	
Existing Land Use	Commercial, Recreational, Industrial, Residential
Population Density within a ½ mile	5,143 persons per square mile (15th)
Employment Density within a ½ mile	3,815 persons per square mile (10th)
Daily Ridership	806 boardings per weekday (7th)
Parking Capacity	272 park-and-ride parking spaces and drop-off lane spaces.
Bus/Shuttle Connectivity	Palm Tran Routes 20, 31 and 33.
Transit Oriented Development Activity	Moderate, Redevelopment of former Jai-Alai Fronton.

6.7.2 West Palm Beach

The West Palm Beach station is on the edge of the city's downtown, located between Tamarind Avenue and Clearwater Drive, just south of Banyan Boulevard. The station, situated in a historic building built in the 1920s, is shared by Tri-Rail, Amtrak, and Greyhound. There are 139 parking spaces currently available for Tri-Rail use, all on the east side of the station.

The station is in the middle of a special Urban Central Business District land use district. Within two blocks (to the east) is the City Place mixed-use development, which includes residential, retail, and office space. High-rise office and residential towers are to the west of the station, along Clearwater Drive and Australian Avenue. Also located nearby are the Dreyfus School of the Arts, the Kravis Center for Performing Arts, and various government facilities.

The West Palm Beach station area has the third highest employment density in the Tri-Rail corridor. Population density, which ranks 11th out of 18, is below the average among stations along the corridor.

In recent years, extensive planning has taken place to develop a TOD district and intermodal hub around the West Palm Beach station. One aspect of this plan is now coming to fruition, as construction of a new headquarters for the Palm Beach County Health Department (immediately east of the station) is currently taking place. Construction will also begin later this year on Palm Tran's bus transfer and intermodal facility, to be located immediately west of the station. SFRTA is designing a new parking lot to be constructed by PBC and set to open in 2009 as part of the Intermodal site development

West Palm Beach Station Area Summary	
Existing Land Use	Urban Central Business District
Population Density within a ½ mile	8,688 persons per square mile (11th)
Employment Density within a ½ mile	7,784 persons per square mile (3rd)
Daily Ridership	1,100 boardings per weekday (11th)
Parking Capacity	114 park-and-ride parking spaces. Curbside auto drop-off lane.
Bus/Shuttle Connectivity	Palm Tran routes 2,31,40,43,44,46, and 50
Transit Oriented Development Activity	Active. It is hoped that other components of the TOD plan will follow the projects currently under construction.

6.7.3 Lake Worth

On the south side of Lake Worth Road between Holiday Drive and I-95 lies the Lake Worth station. A noise barrier separates the station from a mobile home park to the west, but the neighborhood can still access the station via a portal. In the immediate vicinity of the station, existing land uses are residential (single and multi-family housing) and public (high school). In addition, industrial uses are located northwest of the station.

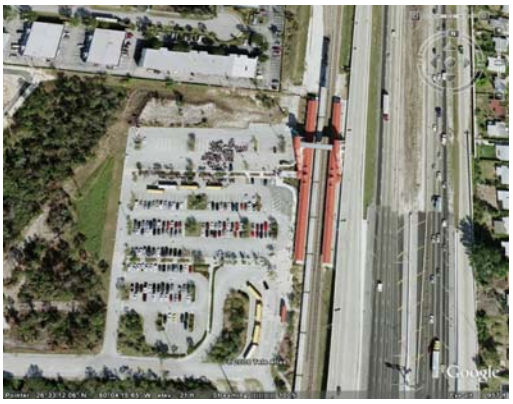
To the east of the station, 157 parking spaces for Tri-Rail users are located underneath an elevated section of I-95. Lake Worth High School is located on the opposite side of I-95—just beyond the parking area. The high school also has a number of parking spaces allocated for its use at the south end of the parking area. Tri-Rail users also have access to an overflow parking lot which contains 68 parking spaces and is located one block west of the station on the south side of Lake Worth Road.

In terms of population density, the Lake Worth station area ranks 3rd in the corridor with around 13,173 persons per square mile. The station ranks 17th in employment density with 1,767 persons per square mile.

There is currently no TOD activity at the Lake Worth station. The adjacent mobile park is viewed as a long-term redevelopment possibility. There is also a desire for better connections to Palm Beach Community College, located approximately one mile to the west.

Lake Worth Station Area Summary	
Existing Land Use	Residential, Public, and Industrial
Population Density within a ½ mile	13,173 persons per square mile (3rd)
Employment Density within a ½ mile	1,767 persons per square mile (17th
Daily Ridership	750 boardings per weekday (11th)
Parking Capacity	157 adjacent park-and-ride parking spaces, with additional 68 in overflow lot.
Bus/Shuttle Connectivity	Palm Tran routes 61 and 62
Transit Oriented Development Activity	Low

6.7.4 Boynton Beach



The Boynton Beach station is located at the northwest quadrant of the interchange of I-95 and Gateway Boulevard. Industrial land use is prevalent north of the station, and there is a mix of new land uses west and south of the station, as this area is part of the Quantum development of regional impact (DRI). These uses to the west and south include commercial, residential, and some retail. Low and medium-density housing units are located to the east of the station across I-95, but there is no direct access available across the Interstate. The station is home to 330 parking spaces, five "kiss and ride" area, two bus drop-off areas and bike access. The station is served by taxi but there is no dedicated area for taxi vehicles.

The Boynton Beach station area ranks 4th in population which is slightly above the mean at 12,994 persons per square mile. Employment density is around 1,510 persons per square mile, which is the lowest density along the Tri-Rail corridor.

Immediately south of the station, an office building containing the Children's Services Center of Palm Beach County was recently completed. The area immediately west of the station, including the parking lot and vacant land leading to High Ridge Road, is seen as a strong possibility for future TOD.

Boynton Beach Station Area Summary	
Existing Land Use	Industrial, Residential, Commercial
Population Density within a ½ mile	12,994 persons per square mile (4th)
Employment Density within a ½ mile	1,510 persons per square mile (18th)
Daily Ridership	810 boardings per weekday (6th)
Parking Capacity	324 park-and-ride spaces, 5 "kiss and ride" spaces
Bus/Shuttle Connectivity	Boynton Beach Trolley; Palm Tran routes 70 and 71
Transit Oriented Development Activity	None

6.7.5 Delray Beach

The Delray Beach station is located along the east side of Congress Avenue, approximately halfway between its intersections with Atlantic Avenue and Southwest 10th Street/Lowson Boulevard. Existing land uses surrounding the station include industrial, community, transitional, open space, and some residential land uses.. Low density residential uses exist to the east of the station across I-95, however there is no direct access available across the highway.. The Palm Beach County South County Government Center is adjacent to the 130-space station parking lot. There are also five kiss-and-ride spaces, two bus drop-off areas, two bicycle racks and a pedestrian walkway to connect the northbound and southbound platforms.

At around 7,172 persons per square mile, the station area is below the average density, ranking 14th among stations. As for employment density, the station area ranks 11th with 3,400 persons per square mile.

Plans are currently being drafted to redevelop the area west of the station, including land occupied by the South County Government Center, the existing station park-and-ride lot, and the vacant parcel to the south. Concepts under consideration would redevelop the government facilities, provide Tri-Rail parking in structured garages, and add multi-family housing.

Delray Beach Station Area Summary	
Existing Land Use	Community, Open Spaces, Industrial, and Residential
Population Density within a ½ mile	7,172 persons per square mile (14th)
Employment Density within a ½ mile	3,400 persons per square mile (11th)
Daily Ridership	639 boardings per weekday (15th)
Parking Capacity	129 park-and-ride spaces, 5 “kiss and ride” spaces, 2 bicycle racks, and 2 bus drop-off bays.
Bus/Shuttle Connectivity	Delray Beach Downtown Roundabout Trolley; Palm Tran routes 2, 70 and 81. The station is also served by Amtrak.
Transit Oriented Development Activity	Low. Government Center Redevelopment being pursued.

6.7.6 Boca Raton

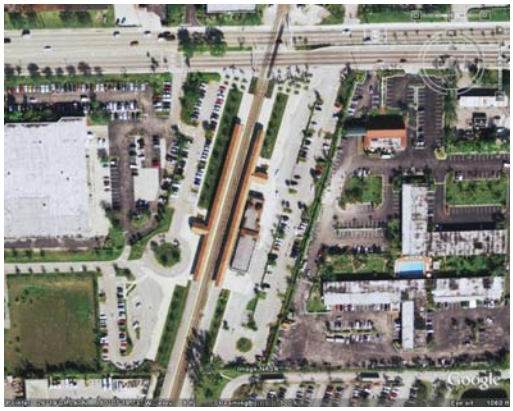
The Boca Raton station is located south of Yamato Road, adjacent to the southwest quadrant of its interchange with I-95. The station area has commercial, retail, and light industrial land uses to the north, south, and west. Many of these uses are new, coinciding with the opening of the station at this location in late 2005. There are also institutional and residential land uses on the east side of the station across I-95 that are not directly connected, except for a bicycle and pedestrian path that is currently under construction.

The station contains 163 parking spaces, bus loading bays, two dedicated spaces for taxicabs, and a pedestrian crossover bridge. The Boca Raton station area has 4,820 persons per square mile, ranking 16th, and an employment density of 5,880 persons per square mile, and ranking 5th among other Tri-Rail stations.

Not a great deal of office space is in close proximity to the Boca Raton station, and additional office buildings are currently under construction. Multiple TOD concepts have been proposed for the vacant SFRTA-owned parcel immediately northwest of the station. SFRTA is actively engaged with a private developer at this location.

Boca Raton Station Area Summary	
Existing Land Use	Commercial, Retail, Light Industrial, Institutional, and Residential
Population Density within a ½ mile	4,820 persons per square mile (16th)
Employment Density within a ½ mile	5,876 persons per square mile (5th)
Daily Ridership	1001 boardings per weekday (4th)
Parking Capacity	159 park-and-ride spaces and 2 taxicab spaces
Bus/Shuttle Connectivity	Tri-Rail Boca Center Shuttle; Palm Tran routes 2 and 94.
Transit Oriented Development Activity	Low. Planning activity.

6.7.7 Deerfield Beach



The Deerfield Beach station is located on the south side of West Hillsboro Boulevard, approximately ¼ mile west of its interchange with I-95. Commercial, Government, Industrial, Retail, and Residential land uses surround the station area. This includes the North Regional Courthouse for the 17th Judicial Circuit of Florida, located immediately west of the station. The station itself is a historic building dating to the 1920's, now utilized by Tri-Rail, Amtrak, and the South Florida Railway Museum.

With a population density of around 13,850 persons per square mile, and an employment density of almost 10,630 persons per square mile, the Deerfield Beach station area is the second highest population density and highest employment density of any station area on the Tri-Rail corridor. This facility has 229 park-and-ride spaces, five kiss-and-ride spaces, eight auto drop-off lanes, four taxi spaces and six bus bays.

In 2008, the City of Deerfield Beach approved a new mixed-use TOD immediately east of the station, on the site of an existing motel.

Deerfield Beach Station Area Summary	
Existing Land Use	Commercial, Government, Industrial, Retail, and Residential
Population Density within a ½ mile	13,850 persons per square mile (2nd)
Employment Density within a ½ mile	10,629 persons per square mile (1st)
Daily Ridership	753 boardings per weekday (9th)
Parking Capacity	229 park-and-ride spaces, 4 taxicab spaces, 5 kiss-and-ride spaces, 8 auto curbside drop off lanes, and 6 bus bays
Bus/Shuttle Connectivity	Tri-Rail Shuttle Routes DB1 and DB2; Amtrak; Broward County Transit route 92 and 93
Transit Oriented Development Activity	Moderate. Deerfield Station Mixed-Use project approved.

6.7.8 Pompano Beach

The Pompano Beach station is located just east of North Andrews Avenue, between its intersections with Northwest 33rd Street and West Sample Road. Existing land uses in the area surrounding the station are office, light industrial, retail, and medium to high-density residential. Much of area surrounding the station has light industrial buildings that have been converted to office, resulting in a sub par sidewalk network that does not ideally connect to the train station.

The Pompano Beach station area has the highest population density along the corridor, with just over 16,075 persons per square mile. The employment density is ranked ninth among all stations with over 4,060 persons per square mile. The facility has 272 park-and-ride spaces and three dedicated taxi cab spaces. In addition, there is a manned information/ticket booth on the northbound platform.

No TOD activity is currently taking place at the Pompano Beach station. However, construction is imminent for additional parking and improved bus circulation on the vacant parcel immediately west of the station. There are also plans to rebuild the station itself to include platforms and canopies consistent with those stations rebuilt as part of the Segment 5 Double Tracking project. The existing (east) and additional (west) parking lots are both viewed as long-term TOD possibilities.

Pompano Beach Station Area Summary	
Existing Land Use	Office, Light Industrial, Retail, Residential
Population Density within a ½ mile	16,075 persons per square mile (1st)
Employment Density within a ½ mile	4,065 persons per square mile (9th)
Daily Ridership	732 boardings per weekday (12th)
Parking Capacity	259 park-and-ride spaces and 3 taxicab spaces
Bus/Shuttle Connectivity	Tri-Rail Shuttle Routes PB1; Broward County Transit route 34, 93, and 95.
Transit Oriented Development Activity	Inactive

6.7.9 Cypress Creek

The Cypress Creek station is located alongside North Andrews Avenue, just north of Cypress Creek Road. The station is tucked amongst several mid-rise office buildings and parking lots, and has limited visibility to passersby. Land uses around the station (and west of Interstate 95) are office, industrial, retail, and residential. Office tends to be the predominant use, but other noteworthy facilities include multiple hotels and a university's small satellite campus.

The Cypress Creek station area has the eighth densest population along the Tri-Rail corridor with 10,483 persons per square mile. Employment density is just over 8,800 persons per square mile, which is the second highest among most station areas along the corridor.

Tri-Rail parking is currently provided at a large park-and-ride lot on the east side of North Andrews Avenue containing 556 spaces. Parking in this lot requires a walk of over ¼ mile to/from the station platform and an at-grade crossing North Andrews Avenue.

A new mixed-use development is planned for the site of the current park-and-ride area, which is owned by the Florida Department of Transportation (FDOT). This TOD is slated to have approximately 700,000 square feet of office, a hotel with up to 400 rooms, and a small amount of retail. SFRTA also has plans to add 268 parking spaces in a new lot immediately west of the station.

Cypress Creek Station Area Summary	
Existing Land Use	Office, Industrial, Retail and Residential
Population Density within a ½ mile	10,483 persons per square mile (8th)
Employment Density within a ½ mile	8,849 persons per square mile (2nd)
Daily Ridership	1,000 boardings per weekday (5th)
Parking Capacity	560 park-and-ride spaces and 3 taxicab spaces.
Bus/Shuttle Connectivity	Tri-Rail Shuttle Routes CC1, CC2, CC3; Broward County Transit route 14, 60, 62; and the Coconut Creek Shuttle
Transit Oriented Development Activity	Low. Planning activity.

6.7.10 Fort Lauderdale

The Fort Lauderdale station is located just south of Broward Boulevard and immediately west of I-95. The station is a shared facility used by Tri-Rail and Amtrak that contains vast park-and-ride facilities and can be accessed directly from I-95 via convenient high-occupancy vehicle ramps. Three separate parking areas make up the facility: a lot immediately west of the station, a second lot northwest of the station, and a third distant lot located on the north side of Broward Boulevard. Tri-Rail passengers utilize the two closer lots, although the closest has 33 spaces designated for Amtrak use. The Fort Lauderdale station area has residential, office, industrial and retail land uses. Residential and industrial uses are closest to the station platform.

The population density is relatively high at just over 12,940 persons per square mile, ranking 5th out of 18. The employment density is relatively low at 1,978 persons per square mile, ranking 16th. The employment density becomes very high just to the east of the station, as the station is just outside the fringe of the Fort Lauderdale CBD. A large mixed-use project is proposed adjacent to the Fort Lauderdale station. Riverbend is a proposed development of regional impact (DRI) that would utilize the park-and-ride lot north of Broward Boulevard and other assembled parcels farther west along Broward Boulevard. Current plans call for office, retail, hotel, and residential uses.

Fort Lauderdale Station Area Summary	
Existing Land Use	Residential, Office, Industrial and Retail
Population Density within a ½ mile	12,948 persons per square mile (5th)
Daily Ridership	1,023 boardings per weekday (3rd)
Employment Density within a ½ mile	1,978 persons per square mile (16th)
Parking Capacity	296 spaces
Bus/Shuttle Connectivity	Tri-Rail Shuttle Routes FL-1 and City Cruiser; Broward County Transit route 9, 22, 81, and North-South Downtown Circulator; Amtrak
Transit Oriented Development Activity	Low.

6.7.11 Fort Lauderdale/Hollywood International Airport at Dania Beach

The Fort Lauderdale/Hollywood International Airport at Dania Beach station is located on the south side of Griffin Road, at the southwest quadrant of its interchange with I-95. Vehicular access to the station is actually from Ravenswood Road, which runs parallel to the railroad corridor. The station sits amongst the Tiger Tail Lake Park, a Courtyard by Marriott hotel, the Bass Pro Shop and the IGFA Fishing Hall of Fame. All of these venues are within areas slated for industrial land uses. Other land uses in the station area include commercial (mostly along SW 48th Street, SW 21st Avenue and on the eastern side of Interstate 95) and residential.

Population density for the station area is 3,832 persons per square mile—the second least dense along the corridor. Employment density is around 1,900 persons per square mile, which ranks it 14th among other stations. The station has 180 park-and-ride spaces, three bus bays, and two taxicab spaces.

There are currently no TOD projects under consideration at this station. However, parking demand is extremely high, which has prompted multiple parking expansion projects to be programmed for the years ahead.

Fort Lauderdale/Hollywood International Airport Station Area Summary	
Existing Land Use	Office, Retail, Industrial, and Residential
Population Density within a ½ mile	3,832 persons per square mile (17th)
Daily Ridership	800 boardings per weekday (8th)
Employment Density within a ½ mile	1,900 persons per square mile (14th)
Parking Capacity	183 spaces.
Bus/Shuttle Connectivity	Tri-Rail Shuttle Routes FLA-1, FLA-2, and City Cruiser; Broward County Transit route 3, 6, 15, 18, and the Convention Connection shuttle, and North-South Downtown Circulator
Transit Oriented Development Activity	Inactive

6.7.12 Sheridan Street

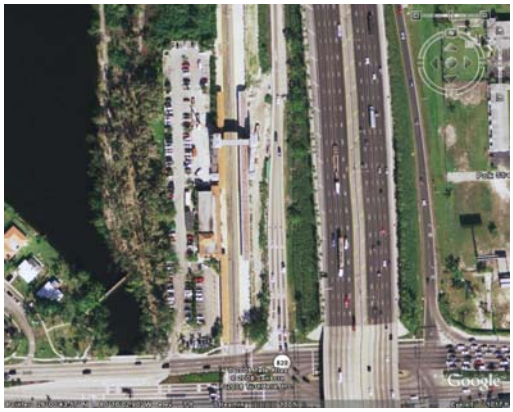
The Sheridan Street station is located at the southwest quadrant of the interchange of Sheridan Street and Interstate 95. This station has a pedestrian cross-over bridge, three park-and-ride lots with a total of 475 spaces, six bus bays and two dedicated taxi spaces.

Industrial land uses are located to the west and north of the station, while residential uses are immediately to the south, on the east (across I-95), and approximately 1/5 mile to the west. A hotel and gas station are located across from the station on the north side of Sheridan Street. Institutional, office and retail uses are also found in the station area and Topeekeegee Yugnee (T.Y.) Park is located to the northwest of the station. Sheridan ranks 12th in population with just over 8,080 persons per square mile, while employment density ranks 8th with 4,140 persons per square mile.

A major mixed-use development named Sheridan Stationside Village is planned for the station's existing park-and-ride area and parcels to the south currently occupied by modular homes.

Sheridan Street Station Area Summary	
Existing Land Use	Institutional, Industrial, Residential, Retail, and Office
Population Density within a ½ mile	8,084 persons per square mile (12th)
Employment Density within a ½ mile	4,140 persons per square mile (8th)
Daily Ridership	549 boardings per weekday (16th)
Parking Capacity	592 park-and-ride spaces and 2 taxicab parking spaces
Bus/Shuttle Connectivity	Tri-Rail Shuttle Route SS1; City of Dania Beach Shuttle (Blue); Broward County Transit routes 3, 12, and 17.
Transit Oriented Development Activity	Moderate. Sheridan Stationside Village (Phase 1) is a planned, mixed-use TOD.

6.7.13 Hollywood



The Hollywood station is located at the northwest quadrant of the Hollywood Boulevard interchange with I-95. The station has only one access point, an entrance off of Hollywood Boulevard adjacent to the southbound Interstate 95 off ramp. There are 141 parking spaces for Tri-Rail use. The station is also used for Amtrak service.

To the west of the station, land uses immediately adjacent are residential and office. To the east of the station, across Interstate 95, there are commercial land uses two blocks north and south of Hollywood Boulevard and residential beyond those blocks. There are also some industrial uses north of the station and a golf course is located southwest of the station. Hollywood Station ranks 6th in population density and 12th in employment density. The population density is 12,135 persons per square mile while the employment density is around 3,621 persons per square mile in the station area.

There is currently no TOD activity at the Hollywood station. Numerous physical constraints limit TOD opportunities at this station, including its location on a narrow strip of land bordered by I-95 on the east and a freshwater pond on the west. Other challenges at the Hollywood station include limited parking capacity and poor pedestrian connections to the south side of Hollywood Boulevard.

Hollywood Station Area Summary	
Existing Land Use	Residential, Commercial, Industrial, Recreation.
Population Density within a ½ mile	12,135 persons per square mile (6th)
Employment Density within a ½ mile	3,621 persons per square mile (12th)
Daily Ridership	753 boardings per weekday (10th)
Parking Capacity	150 park-and-ride spaces.
Bus/Shuttle Connectivity	Broward County Transit route 7, Amtrak
Transit Oriented Development Activity	Inactive

6.8.1 Golden Glades

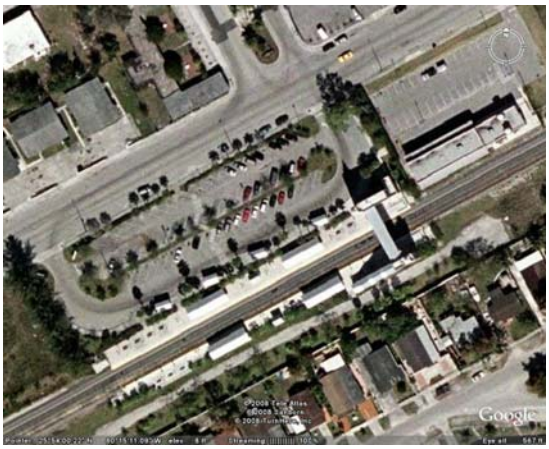
Situated near the complex interchange of Interstate 95, the Palmetto Expressway and State Routes 7 and 9, the Golden Glades station is accessible from several major highways. The station is one component of the sprawling Golden Glades park-and-ride facility, which contains a total of 1,146 parking spaces for bus riders, carpool/vanpool users, and Tri-Rail. The parking lots closest to the Tri-Rail station have 216 parking spaces.

Land uses within the station area are industrial, commercial, and residential. Areas to the north and west of the station tend to be industrial and commercial, while residential uses are located to the south. The station ranks 9th and 7th for population and employment density, respectively. Within the station area, population density is around 8,080 persons per square mile and employment density is just under 4,140 persons per square mile. However, there is no pedestrian access to the Golden Glades station from adjacent jobs and homes. SR 9, ramps to/from I-95, and the railroad tracks serve as barriers blocking all pedestrian access.

There is currently no TOD activity at the Golden Glades station, however a charette was held on October 31, 2007 for the site. Any development interest at this site has tended to be for automobile based uses. Despite the large number of parking spaces, the Golden Glades park-and-ride lot is regularly at or near capacity. As a result, FDOT has plans to add additional parking spaces at Golden Glades in the years ahead via reconfiguration and construction of parking structures.

Golden Glades Station Area Summary	
Existing Land Use	Industrial, Commercial, and Residential
Population Density within a ½ mile	8,084 persons per square mile (9th)
Employment Density within a ½ mile	4,140 persons per square mile (7th)
Daily Ridership	679 boardings per day (14th)
Parking Capacity	*216 close to Tri-Rail*, 1,027 overall park-and-ride spaces
Bus/Shuttle Connectivity	Broward County Transit Breeze route; Miami-Dade Transit Routes E, V, 22, 42, 77, 241, 246 and 95 Express.
Transit Oriented Development Activity	Low. Golden Glades charette held as part of Rail~Volution Conference Oct. 31, 207

6.8.2 Opa Locka

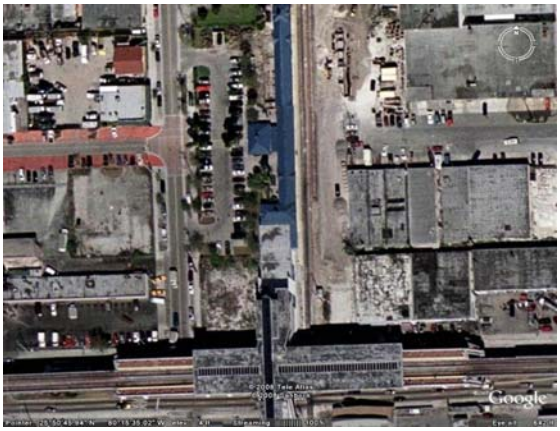


The Opa-locka station is located on Ali Baba Avenue at the edge of Opa-locka's historic downtown. The station has 72 park-and-ride spaces, four bus bays, and two dedicated taxi spaces. Land uses surrounding the station are mixed, but are mostly single-family residential. Single-family residential tends to be to the east and south of the station, while some multi-family residential uses are to the northwest. Retail and institutional land uses are to the north and northeast of the station, concentrated along Ali Baba Avenue and Opa-locka Boulevard. There are some industrial uses to the southwest and along the tracks to the northeast. The Opa-locka Elementary School is also located in the station area.

Opa-locka ranks 13th in population density and 15th in employment density. The population density in the area is just over 7,960 persons per square mile, while the employment density is around 2,000 persons per square mile. Some small scale development has been proposed in the station area in recent years, but no efforts for a substantial TOD have emerged. However, parking demand at the Opa-locka station has grown in recent years, and additional spaces adjacent to the existing parking lot are being pursued.

Opa Locka Station Area Summary	
Existing Land Use	Residential, Retail, Institutional, and Industrial
Population Density within a ½ mile	7,965 persons per square mile (13th)
Employment Density within a ½ mile	2,016 persons per square mile (15th)
Daily Ridership	254 boardings per day (17th)
Parking Capacity	72 park-and-ride spaces and 2 taxicab spaces
Bus/Shuttle Connectivity	Miami-Dade Transit Routes E, 32 and 42
Transit Oriented Development Activity	Inactive.

6.8.3 Metrorail Transfer



The Metrorail Transfer station is Tri-Rail's busiest station and serves as the transfer point for its patrons to connect with Miami-Dade Transit's Metrorail system. The station is located along the north side of NW 79th Street, at its intersection with East 11th Avenue. Forty one surface parking spaces are available at the station.

Land use immediately around the station is industrial and commercial, and this pattern continues to the north and south along the railroad tracks. However, uses quickly transition to residential a few blocks to the east and west. The station area ranks 7th in population density with approximately 11,290 persons per square mile. Employment density is above the average and mean with 2,979 persons per square mile, ranking 13th.

Despite being the location where the region's two passenger rail systems converge, development activity in the Metrorail Transfer station area tends to be automobile based. Access to both rail systems presents strong long term potential for TOD in this station area.

Metrorail Transfer Station Area Summary	
Existing Land Use	Industrial, Residential, Commercial and Institutional
Population Density within a ½ mile	11,290 persons per square mile (7th)
Employment Density within a ½ mile	2,979 persons per square mile (13th)
Daily Ridership	1,898 boardings per day (1st)
Parking Capacity	44 park-and-ride spaces and 2 taxicab spaces
Bus/Shuttle Connectivity	Miami-Dade Transit Routes L, 42 and 500; Metrorail and Amtrak
Transit Oriented Development Activity	Low. Area Redevelopment Plan for the area finalized.

6.8.4 Hialeah Market

The Hialeah Market station is located at the intersection of SE 12th Street and SE 10th Court. The station's location is less than ½ mile northeast of Miami International Airport and the interchange of the Airport Expressway (SR 112) and Okeechobee Road (US 27), The Hialeah Market station has only one platform (west side), as it is along the only portion of the Tri-Rail corridor that remains single-tracked. There are 70 park-and-ride spaces available at the station.

Land uses adjacent to the station are mostly industrial, along with retail to the west and some residential to the northwest. The station ranks 10th and 4th respectively in population and employment density. The station area's population density is almost 9,330 persons per square mile. Employment density is 7,762 persons per square mile, the fourth highest along the corridor, 10th of the 18 station areas.

There are no TOD projects currently in development at the Hialeah Market station. However, the City of Hialeah has recently rezoned the station area to allow for TOD and mixed uses. This action should improve the chances of TOD occurring at this station in the years ahead.

Hialeah Market Station Area Summary	
Land Use	Industrial, Retail and Residential
Population Density within a ½ mile	9,327 persons per square mile (10th)
Employment Density within a ½ mile	7,762 persons per square mile (4th)
Daily Ridership	191 boardings per day (18th)
Parking Capacity	123 park-and-ride spaces (
Bus/Shuttle Connectivity	Miami-Dade Transit Routes J, 1, 36, 42, 46; Tri-Rail Koger Shuttle.
Transit Oriented Development Activity	Low. City of Hialeah rezoning.

6.8.5 Miami International Airport

Tri-Rail's southern terminus, the Miami International Airport station is located on the north side of NW 21st Street, one block west of NW 37th Avenue. The station is less than one mile east of the airport's passenger terminals and has a large circular turnaround that accommodates three buses, two taxis (via dedicated spaces), and kiss-and-ride (although is not a designated kiss-and-ride area).

Existing land uses in the station area include commercial, retail, industrial, residential, and recreation. (Melreese Golf Course is to the south). Hotel and car rental facilities are immediately adjacent to the station, to the east and south. Industrial uses are located to the north and east of the station, while the closest residential areas are to the southeast. Population density for the station area is just over 2,060 persons per square mile, which ranks as the lowest density along the corridor. Employment density for Miami Airport Station ranks 6th in the Tri-Rail corridor with nearly 4,400 persons per square mile.

Completion of the MIC is scheduled for 2011 and will include a "Miami Central Station", where Tri-Rail, the future Metrorail Extension (MIC-Earlington Heights), and an airport people mover (MIA Mover) will connect. Tri-Rail passengers will be able to connect to the airport's terminals via the MIA Mover and will have another connection to Metrorail at this station. The MIC also has a joint development component tied to the Miami Central Station. Seven acres of the Central Station site are devoted to this concept, with 1.4 million square feet of mixed-use development envisioned. There are also plans for associated development to take place east of the Central Station, with up to 4.5 million square feet of mixed-use development possible.

Miami International Airport Station Area Summary	
Existing Land Use	Retail, Commercial, Industrial, and Residential
Population Density within a ½ mile	2,063 persons per square mile (18th)
Employment Density within a ½ mile	4,399 persons per square mile (6th)
Daily Ridership	694 boardings per weekday (13th)
Parking Capacity	143 park-and-ride spaces
Bus/Shuttle Connectivity	Miami-Dade Transit Routes 37, 133 and 238
Transit Oriented Development Activity	Low.

6.9 Overview of Previous SFRTA Transit Development Plans (TDPs)

The SFRTA has previously completed TDPs to include a major update in 2004 and two minor updates in 2006 and 2007. An overview of each of these TDPs is provided to include a recommendations summary as well as an overall assessment of these plans.

6.9.1 SFRTA Transit Development Plan – Major Update FY 2005 – 2010

SFRTA's first (and most recent) transit development plan major update was completed in 2004 and covered the fiscal years 2005 through 2010. The introduction to the plan comments on important changes occurring within Miami-Dade, Broward, and Palm Beach counties leading up to the development of this TDP. The tri-county area (Palm Beach, Broward and Miami) experienced a 25 percent population growth rate between 1990 and 2005, and Tri-Rail saw a 26.4 percent increase in ridership between 2000 and 2004. Further, rider demographics for Tri-Rail also changed between 2000 and 2004. In 2000 the typical rider was a Caucasian male with a college degree and annual earnings between $50,000 and $75,000. By 2004 the typical rider had shifted to a Hispanic male with a high school diploma and annual earnings of less than $25,000. These changes show that Tri-Rail is growing, and also that the market for transit service in the region is growing and changing.

This Major Update included five goals and was written to be consistent with SFRTA's Long-Range 2020 Plan, as completed in 2004. The five goals included in the 2005-2010 TDP Major Update were:

- Goal 1: Develop Cost Effective Transit System
- Goal 2: Expand System Facilities and Operations
- Goal 3: Improve Intergovernmental Coordination
- Goal 4: Expand Funding Opportunities for SFRTA
- Goal 5: Increase Customer Safety, Convenience, and Comfort

6.9.1.1 Recommendations

The Major Update was completed during a major capital improvement project for SFRTA known as the Segment 5 – Double Track Improvement Project. The expected completion of the double tracking was the centerpiece of the proposed service recommendations in the major plan update. The plan recommends an increase to a 48-train schedule (from the previous 28-train schedule) once the double tracking project is completed.

The TDP notes that the completion of the double tracking would reduce the headways to 20-minutes during peak travel periods. In order to compliment the increased train service schedule, a number of shuttle bus service improvement recommendations were also included for various Tri-Rail stations as listed below.

- West Palm Beach: Additional service between West Palm Beach Station and PBIA

- West Palm Beach: Additional service on West Palm Beach shuttle to meet new train headways
- Boca Raton: Additional service between Boca Raton Station and Park of Commerce
- Boca Raton: Additional service on Boca Center shuttle to meet new train headways
- Deerfield Beach: Additional service and merge of Deerfield shuttles to meet new train headways
- Cypress Creek: Additional service to meet new train headways at Cypress Creek Station
- Fort Lauderdale/Hollywood International Airport: Additional service on Fort Lauderdale Airport Shuttle to meet new train headways
- Fort Lauderdale/Hollywood International Airport**:** Additional service on SF Education Center bus to meet new train headways

Additionally, a number of long-term capital projects and studies were planned for the 2005-2010 period (either by SFRTA or other agencies) that could potentially affect Tri-Rail service. These projects included:

- Scripps Project – a potential rail extension along existing CSX tracks to the proposed Scripps development in northwest Palm Beach County
- Jupiter Extension – a potential rail extension to the City of Jupiter in northeast Palm Beach County.
- Okeechobee Bus Rapid Transit (BRT) – a study for BRT or fast bus on Okeechobee Boulevard in Palm Beach County that would include service to West Palm Beach Tri-Rail station.
- State Road 7 Rapid Bus Program – a study conducted by Broward MPO for express bus service from Palm Beach County to Golden Glades Intermodal Center that would parallel the Tri-Rail corridor through Broward County and into northern Miami-Dade County.

6.9.1.2 Assessment

SFRTA's 2005-2010 TDP Major Update assesses the needs of the agency and takes a comprehensive approach to Tri-Rail service in the tri-county area. The TDP Major Update notes unresolved issues regarding the double tracking construction and the anticipated service changes, and recommends services needed to compliment the new train schedule once the double tracking is complete and open for revenue service. The plan also lays the groundwork for a next round of major capital projects by making plans for extensions to Scripps and/or Jupiter.

Beyond SFRTA's own shuttle bus service, the TDP major update mentions coordination with local agencies, which is also delineated in Goal 3 of the TDP. It is noted that coordination with Broward County Transit (BCT), Miami-Dade Transit

(MDT), and Palm Tran was completed and ongoing to ensure that local bus service would be available for the longer service spans and shorter headways associated with Tri-Rail's new schedule once the double tracking project was complete.

Coordination between SFRTA and local agencies was also completed for several projects that could have regional implications. The Major Update notes that MDT, BCT, and Palm Tran have each proposed express bus/BRT or rail expansions to their respective systems. The implementation of these transit improvements would provide more efficient east-west service and connections that benefits riders who want to access the Tri-Rail corridor. Some of the proposed north-south services could potentially compete with Tri-Rail's existing services; however, many of the north-south corridors that have been considered for upgraded service, such as SR 7, support regional and inter-county transportation patterns that could be well served by the regional approach and standing of SFRTA.

6.9.2 SFRTA Transit Development Plan – Minor Update FY 2006 – 2011

The TDP Minor Update for FY 2006-2011 was SFRTA's first update to their 2005-2010 TDP Major Update, and was completed in 2006. The plan focuses on the period 2006 to 2007, as well as noting the accomplishments and changes to SFRTA's TDP for a single fiscal year, 2005-2006. Because this plan was the first update to the previous recently completed major plan, the goals and recommendations were mostly the same, with some minor commentary and updated information.

The Minor Update notes two major accomplishments for SFRTA in the 2005-2006 fiscal year – the completion of the Segment 5 Double Track Improvement project and the opening of the new Boca Raton Tri-Rail station. The Minor Plan Update also boasts of ridership increases due in part to the end of the double tracking construction and emphasized the increase in on-time performance for Tri-Rail train runs between 2005 and 2006, again as a result of the completion of the double tracking project.

6.9.2.1 Recommendations

As noted above, recommendations changed little from the previous year's major plan update, but with some updates on developments that occurred throughout the previous fiscal year.

The major accomplishment of FY 2005-06 was the implementation of a 40-train schedule with the completion of the Segment 5 Double Tracking Corridor Improvement project. With the increased train service there were recommendations for increased shuttle service to meet the new train headways and new shuttle routes to serve more passengers. The Minor Plan Update notes that some shuttle buses have increased their headways to 20 minutes in order to better serve Tri-Rail trains. However, the plan also states that most shuttle bus recommendations have not been implemented due to financial constraints, but will be expanded "as financial resources allow."

The Minor Plan Update also updates the proposed rail extensions to Scripps and Jupiter. The plan notes that because the Scripps development was moved from its

proposed site near the CSX tracks, an extension of Tri-Rail beyond the Mangonia Park Station into northwest Palm Beach County is no longer being pursued by SFRTA. The update does maintain the possibility of an extension to Jupiter, although this is contingent on the outcome of the South Florida East Coast Corridor (SFECC) study and is assumed to be ready for development in the 2010-2011 fiscal years.

Other projects of the Minor Update project list include the Okeechobee BRT (now renamed the Central Palm Beach County Transportation Corridor Study) and the State Road 7 Rapid Bus Project. New projects on the list include a Tri-Rail Station Parking and Circulation Study and Transit Oriented Development Studies for each municipality with a Tri-Rail station.

6.9.2.2 Assessment

The overall theme of the 2006-2011 Minor Plan Update is for SFRTA to "stay the course." There are no major changes between this plan and the 2006-2010 Major Plan Update completed the year before. All of the goals and recommendations stayed the same, with the addition of a couple of planning studies.

The Minor Plan Update highlights the completion of a major portion of the double tracking and the resulting 40-train schedule as the major accomplishment of the 2005-2006 fiscal year. The plan also laments the fact that most of the shuttle bus recommendations could not be implemented due to fiscal constraints. The plan does not discuss the nature of these fiscal constraints or offer remedies to address the budget issues.

This minor plan update also continues the coordination with local agencies as found in the previous 2005-2010 Major Plan Update.

6.9.3 SFRTA Transit Development Plan – Minor Update FY 2008 – 2012

The 2008-2012 Minor Plan Update is the second minor update to SFRTA's 2006-2010 Major Update. For the most part this plan continues the same work and recommendations of the previous major update, but also offers new goals and objectives and develops new information that is important both for this minor update and for setting the direction of SFRTA's next Major Update.

Two new goals added to this plan include:

- Goal 6: Stimulate Transit Oriented Development at or near Tri-Rail Station Areas
- Goal 7: Pursue opportunities to maximize Transportation Demand Management (TDM) strategies being implemented throughout the region.

The Minor Update notes the major long-term accomplishment of SFRTA, the completion of the New River Bridge, the double tracking corridor improvement project and the implementation of a 50-train service schedule. Many of the updates and changes to recommendations within the report are related to the new train schedule. Other changes within the minor update are mostly related to future planning studies and the future direction of the agency.

6.9.3.1 Recommendations

As noted above, the major accomplishment of SFRTA for the 2006-07 FY was the implementation of a 50-train service schedule that commenced with the completion of the double tracking project. As a result, service recommendations within the 2008-2012 Minor Plan update emphasize complementing the new train capacity with additional shuttle service to link passengers at stations to their ultimate destination. The plan states that some additional modifications to shuttle routes have occurred with the new train schedule but that not all shuttle services recommended from the previous 2006-2010 Major Plan Update have been implemented due to financial constraints. The plan also notes that these modifications are an on-going process that could change as conditions warrant. The minor update notes that budget constraints are the primary reason for lack of implementation, and that coordination with local agencies on improving shuttle services should continue into the future.

The plan also provides updates on the proposed rail extension to the City of Jupiter, which is an option in the South Florida East Coast Corridor (SFECC) study being conducted by FDOT. No other rail extensions to the Tri-Rail system are proposed in the minor update.

Another service recommendation in the 2008-2012 Minor Update is coordination with local agencies on a strategy for regional “premium” bus service. The plan makes it clear that the Tri-Rail corridor works much better as a piece of a larger three-county transportation system than as a stand alone rail system. As such, this recommendation is for more high-quality transit connections from stations to destinations located outside of the Tri-Rail corridor. The only study specifically mentioned in the plan is the Central Palm Beach County Transportation Corridor Study (formerly the Okeechobee Boulevard BRT study).

Additionally, the 2008-2012 Minor Update adds multiple studies to their project list aimed at adding or increasing service connections to local areas. These studies include:

- Palm Beach Airport Station Feasibility Study
- Hallandale/Ives Dairy Road Station Feasibility Study
- System-wide Pedestrian, Bicycle, and Amenity Improvements Study
- Tri-Rail/Metrorail Multi-modal Center Feasibility Study
- Fort Lauderdale Circulation Improvements
- Deerfield Beach Circulation Improvements
- Boynton Beach Circulation Improvements

These studies will look to either add service to new areas or improve service and circulation at existing Tri-Rail stations.

6.9.3.2 Assessment

The 2008-2012 TDP Minor Update documents the transition from the previous major update from 2005 to the future major plan update, and marks a clear departure from the previous major update. The majority of the plan details and updates the recommendations set in the previous 2005-2010 Major Plan Update. The results of these recommendations are mixed – there is the major accomplishment of the New River Bridge double tracking, but there is also the lack of shuttle bus improvements due to budget constraints.

At the same time, the document also prepares for the future, both in another Major Plan Update and the potential for new capital projects. The plan added two new goals and states SFRTA's ambitions for a new rail extension, new stations, and potential transit oriented development projects. Another indication that this minor plan update was looking to the future was the addition of several new planning studies to the project list. The plan is clearly transitional in nature, documenting the accomplishments and uncompleted work of the previous plans, while beginning to develop new directions for the development of SFRTA and the Tri-Rail system.

7.0 SFRTA PERFORMANCE EVALUATION

This section presents a performance evaluation of SFRTA's commuter rail service (Tri-Rail). The evaluation analysis utilizes both a five year trends analysis of data through a comparison of Tri-Rail's performance with corresponding national peer commuter rail systems. Tri-Rail service was compared to eight other commuter rail providers throughout the United States in a variety of statistical categories as compiled by the Federal Transit Administration's National Transit Database (NTD). The statistics were taken for 2006, the latest year available from NTD. The statistics evaluated include:

- Unlinked Passenger Trips
- Route Miles
- Passenger Miles Traveled
- Average Trip Length
- Train Revenue Miles
- Train Revenue Hours
- Operating Cost per Revenue Hour
- Operating Cost per Passenger Trip
- Passenger Trips per Revenue Hour

The peer services evaluated were taken from the following systems that operate commuter rail services:

- CalTrain (San Jose, CA and San Francisco, CA)
- ACE (Stockton, CA and San Jose, CA)
- TRE (Dallas, TX and Fort Worth, TX)
- Metrolink (Los Angeles, CA)
- Coaster (San Diego, CA)
- MARC (Baltimore, MD)
- VRE (Northern Virginia)

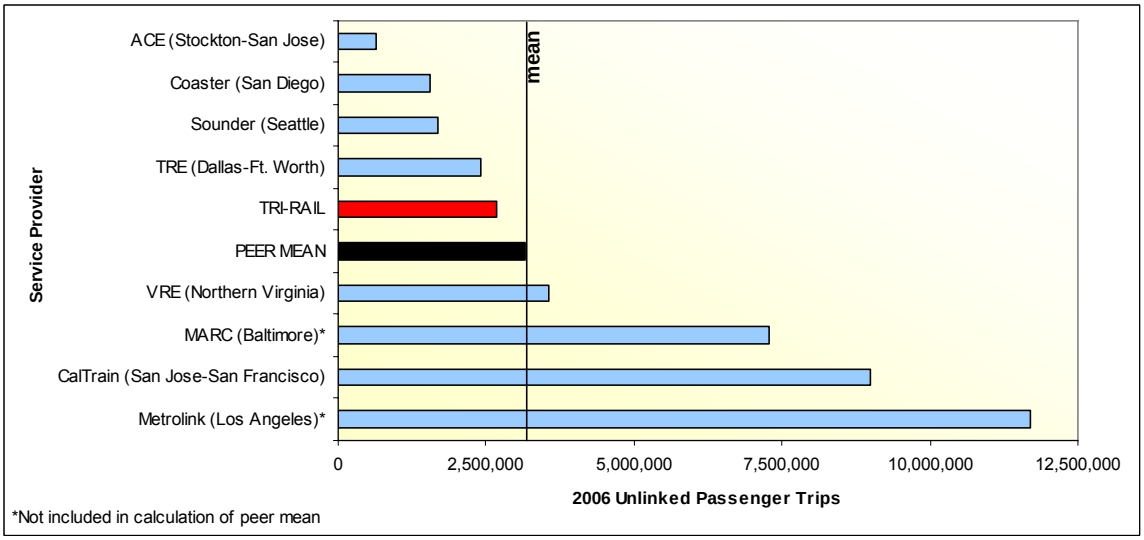
The comparison also included calculation of a peer mean calculated from the statistics of six of the peer providers. The mean did not include Tri-Rail's statistics for 2006. In addition, two of these systems—MARC in Maryland and Metrolink in Los Angeles, are significantly larger systems and were not included in the calculation of the mean. Tri-Rail was close to the mean on most of the operating statistics. In terms of service efficiency, Tri-Rail was better than average in cost per train revenue hour, below the peer average in passenger trips per revenue hour, and close to average in other statistics relating to efficiency.

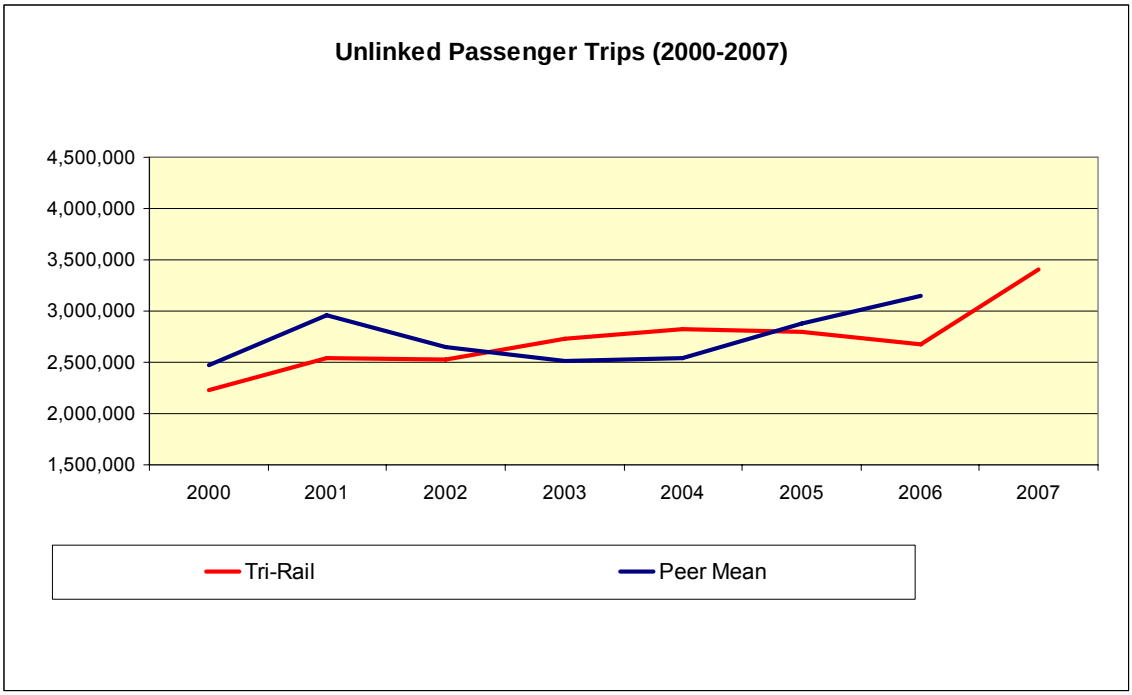
Comparison of the Tri-Rail system to other commuter rail systems is problematic because of Tri-Rail's unique service pattern. Tri-Rail operates in many areas of its alignment more like a regional light rail system, and the development and travel patterns of the Tri-Rail service area are far different than those of a traditional suburb-to-central city commuter rail system. Comparisons of the other agencies with Tri-Rail must be considered in the light of these operational and geographic differences.

7.1 Unlinked Passenger Trips

Tri-Rail reported 2.7 million unlinked passenger trips in 2006, which was only 56 percent of the peer mean. The peer mean of the group was 4.7 million trips. The provider within the peer group with the highest number of passenger trips was Caltrain with around 9 million trips. ACE, in Stockton, CA, had fewer than 650,000 trips. Figure 7-1 illustrates the comparison of unlinked passenger trips. As the lower graph shows, unlinked passenger trips went down slightly in 2005 and 2006, as a result of service disruptions related to the Segment 5 Double-Track Corridor Improvement project. In 2007, Tri-Rail ridership increased to nearly 3.5 million unlinked passenger trips as a result of the service improvements associate with double track effort being implemented.

Figure 7-1: Unlinked Passenger Trips

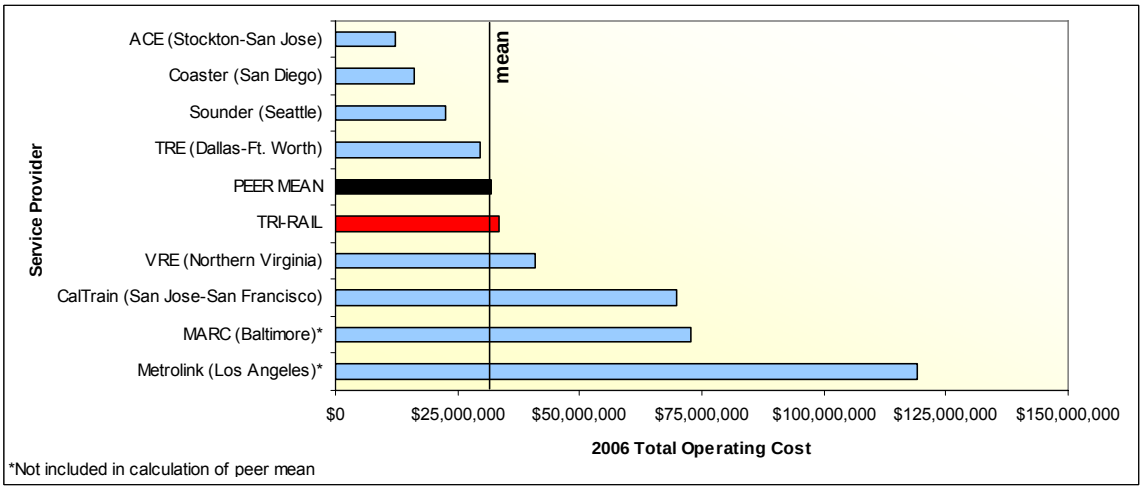


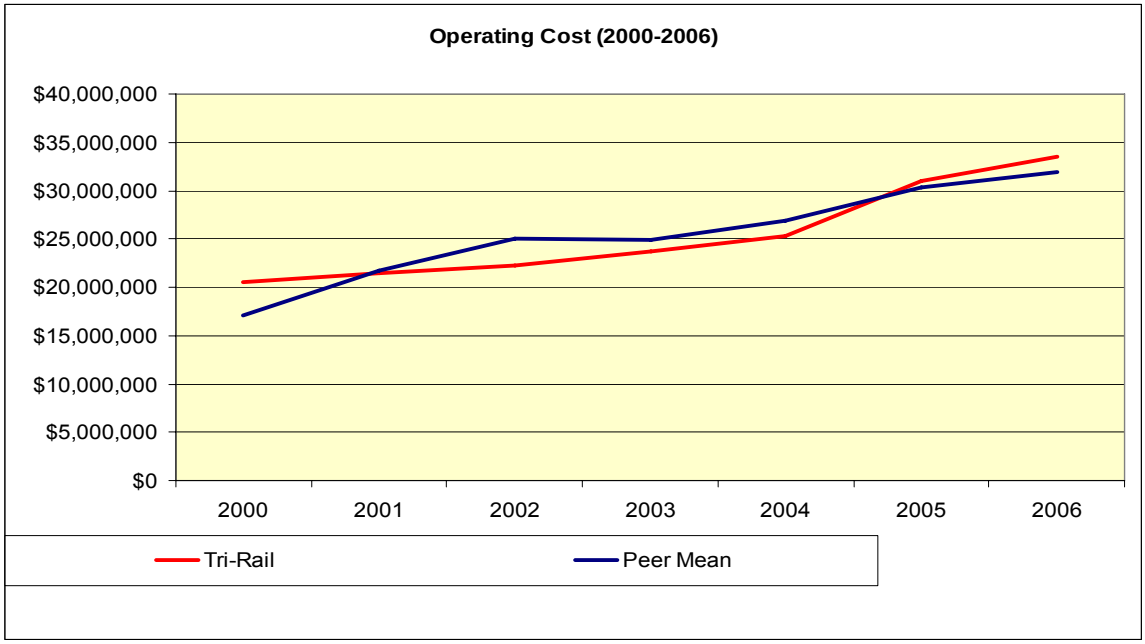


7.2 Operating Cost

Tri-Rail reported an operating cost of $33.5 million in 2006, which was just over the peer mean of about $32 million. The peer provider with the highest operating cost was Caltrain, at nearly $70 million. ACE had the lowest cost at less than $12.3 million. Figure 7-2 illustrates the comparison of operating cost. As the lower graph shows, operating cost at Tri-Rail has climbed essentially in tandem with the average of its peer agencies. The drivers of increased costs in recent years—primarily fuel and employee benefits costs—have affected service providers similarly across the country.

Figure 7-2: Operating Cost

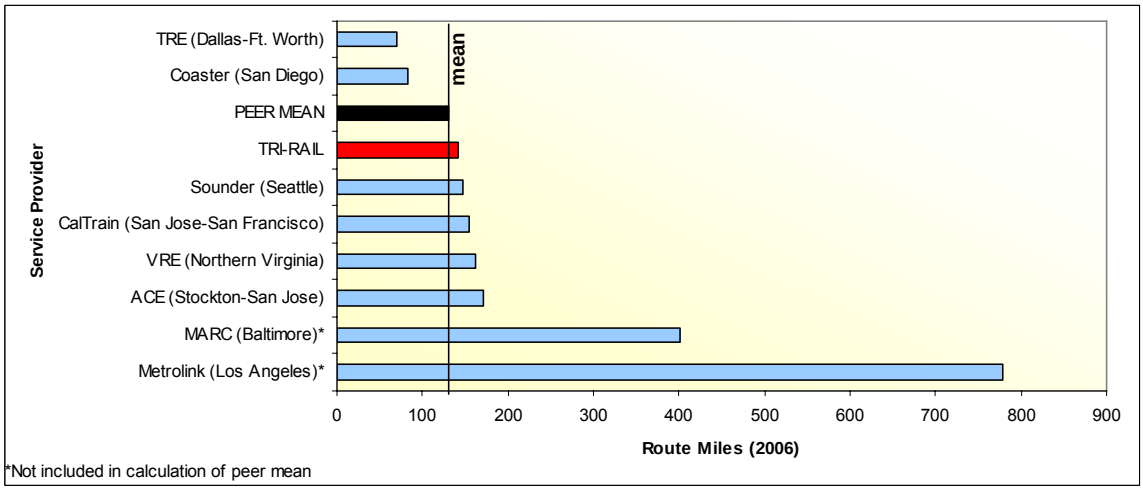


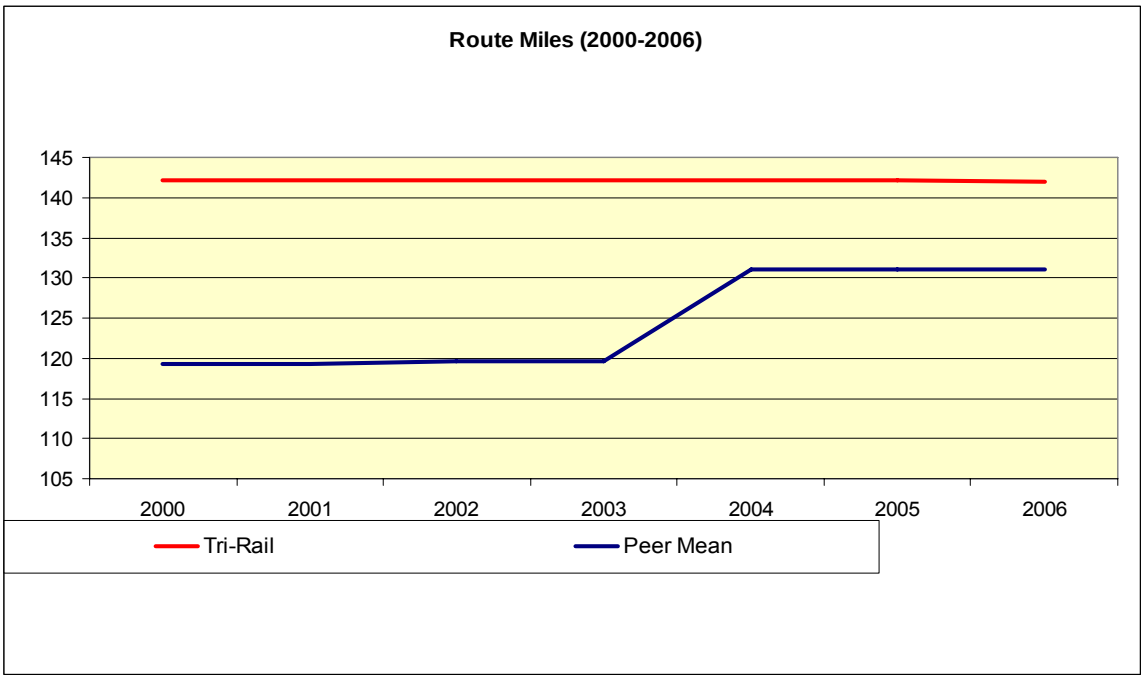


7.3 Route Miles

At 142 route miles, the Tri-Rail system is slightly larger than the mean of the selected peers, about 131 miles. The largest system in the peer group was ACE in Stockton at 172 miles; TRE was the smallest at 69.5 miles. Route miles for both Metrolink, at 778 miles, and MARC, at 400 miles, are substantially larger systems at this time. Figure 7-3 illustrates the comparison of route miles for the various providers. The increase in the peer mean between 2003 and 2004 is attributed to the addition of route miles for the Seattle Sounder system.

Figure 7-3: Route Miles

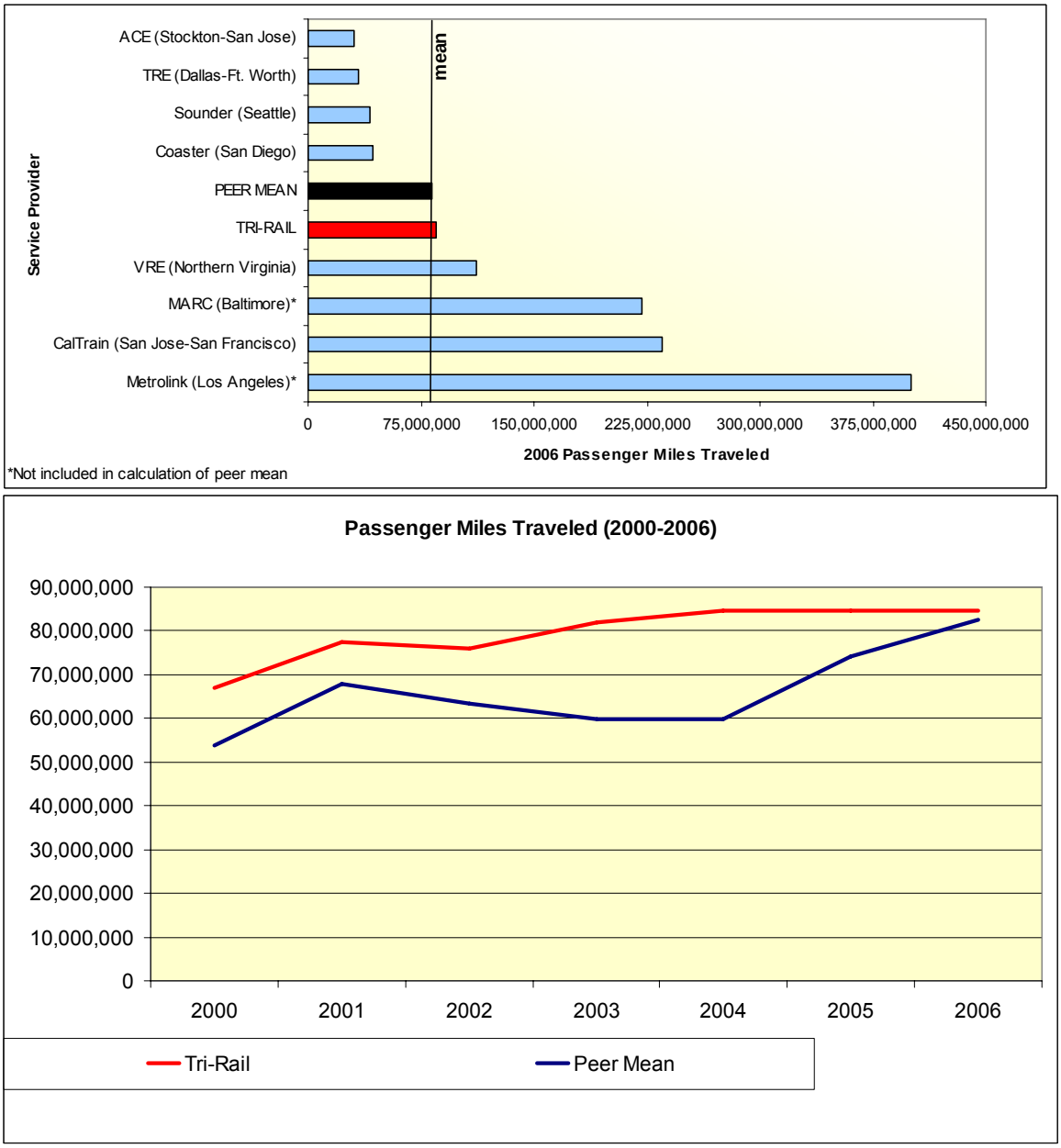




7.4 Passenger Miles Traveled

Tri-Rail reported 84.7 million passenger miles in 2006, just over the peer group mean of about 82 million. Caltrain carried the most passenger miles at 235 million, while ACE carried the fewest at 30.2 million passenger miles. Figure 7-4 illustrates the comparison of passenger miles traveled. The lower graphic shows that ridership was trending upward in the middle years of this decade while Tri-Rail ridership was generally flat during that period—again, with the increasing demand suppressed by service disruptions related to the Segment 5 Double-Track Corridor Improvement project.

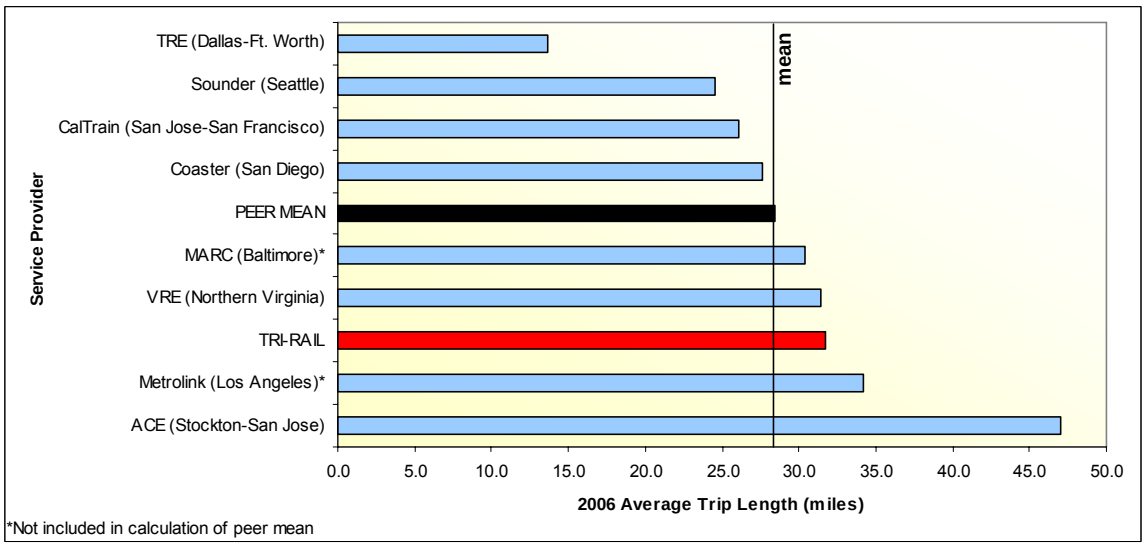
Figure 7-4: Passenger Miles Traveled

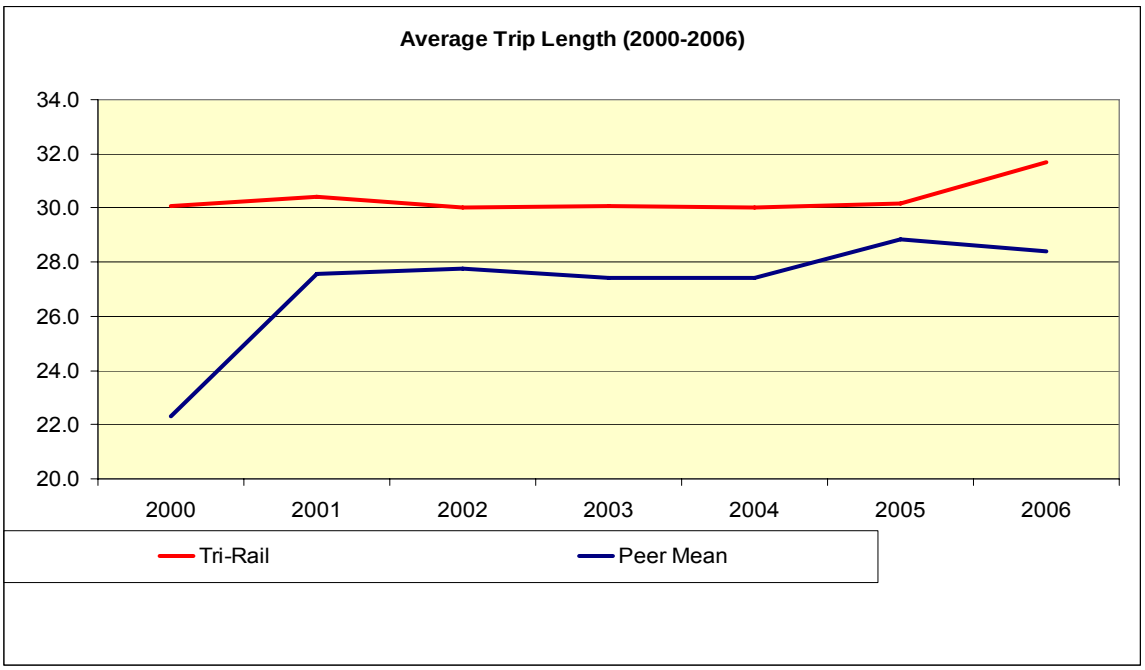


7.5 Average Trip Length

The average trip length for Tri-Rail is 31.7 miles. This was about 11 percent more than the peer mean, which is calculated at 28.4 miles. The provider that reported the highest average trip length was ACE, with an average trip length of 47.0 miles. The provider with the shortest trip length is TRE, with an average trip length of 13.7 miles. Figure 7-5 illustrates the comparison of average trip length for each provider. The lower graphic shows that average trip length rose substantially on Tri-Rail between 2005 and 2007, while it fell slightly in that time period, on average, on the peer systems.

Figure 7-5: Average Trip Length

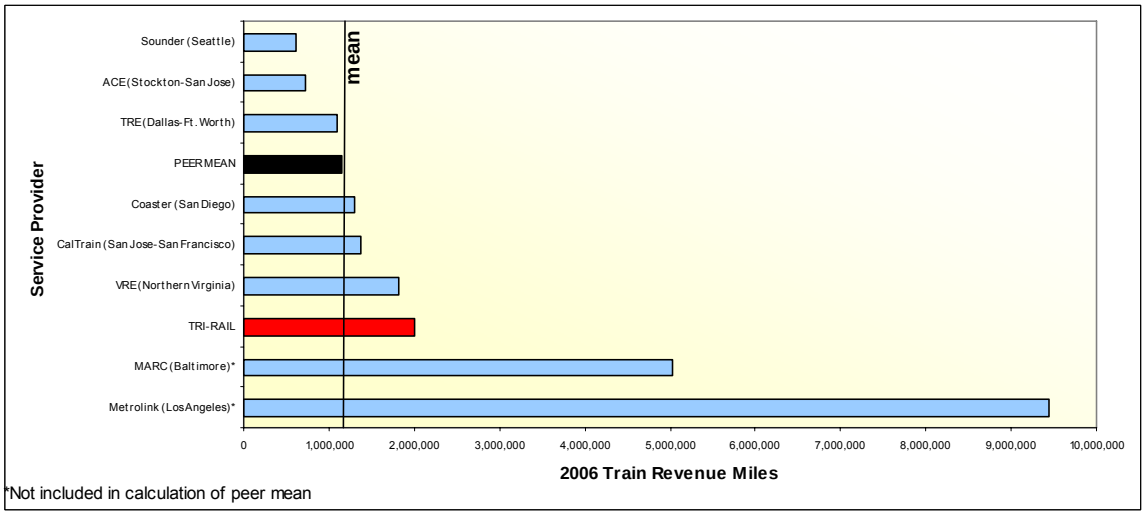


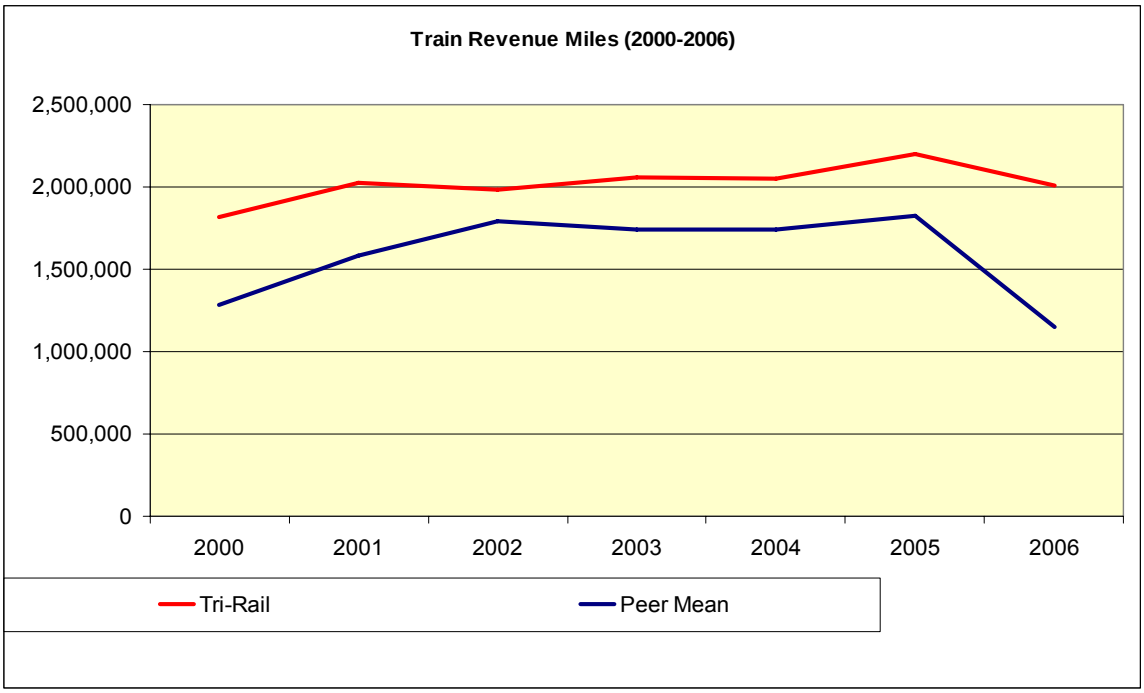


7.6 Train Revenue Miles

Tri-Rail operated 2.0 million train revenue miles in 2006, about 75 percent more than the peer mean of 1.15 million. Tri-Rail had the highest number of revenue miles of its peers, while Sounder had the least amount of reported train revenue miles, 620,000. However, Tri-Rail operated less than half as many miles of service as MARC (at 5.0 million) and less than a fourth as many as Metrolink (at 9.4 million). The lower graphic shows that the number of revenue miles fell between 2005 and 2006 for both Tri-Rail and the peer average. Figure 7-6 illustrates the comparison for train revenue miles.

Figure 7-6: Train Revenue Miles

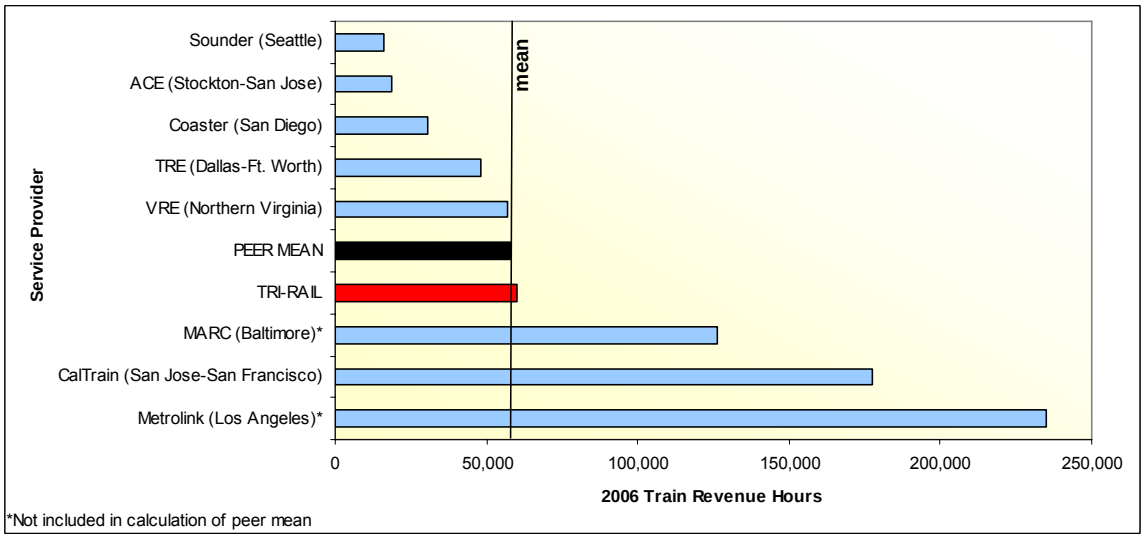


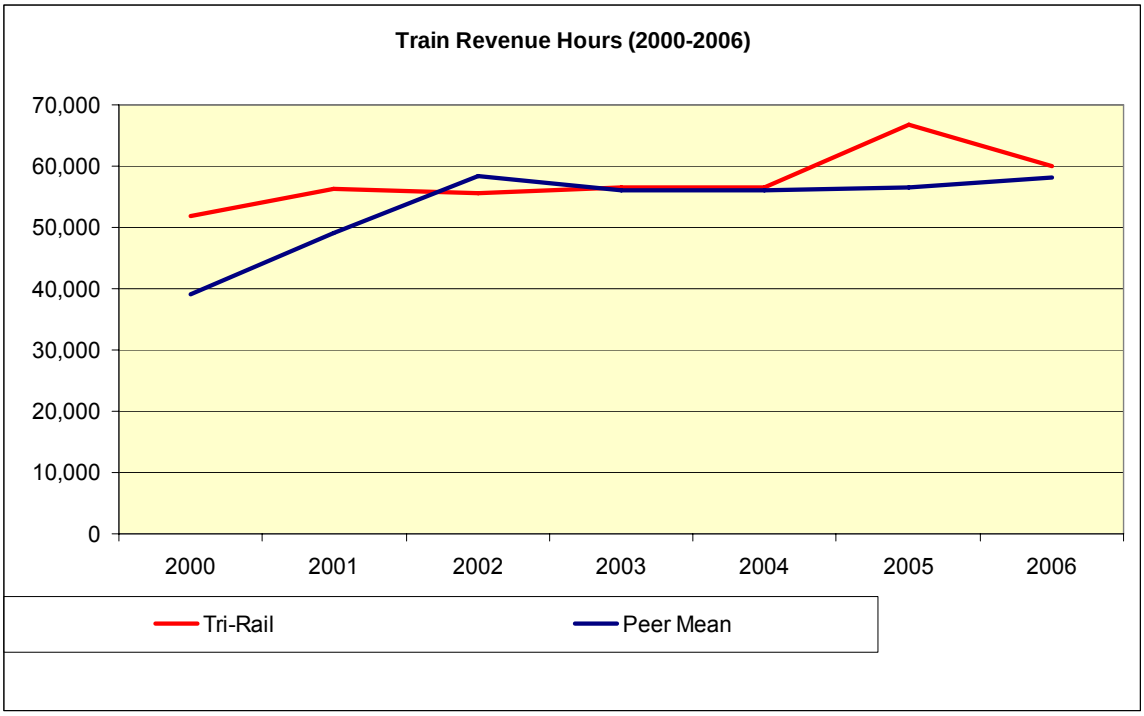


7.7 Train Revenue Hours

Tri-Rail reported 60,000 revenue hours for 2006, just over the peer mean of 58 million. Caltrain operated the most revenue hours of service at more than 177 million, while sounder operated the fewest at 16,100. The lower graphic shows that Tri-Rail service volume in revenue hours jumped high above the peer average in 2005 before falling back to near the average in 2006. Figure 7-7: illustrates the comparison for train revenue miles.

Figure 7-7: Train Revenue Hours

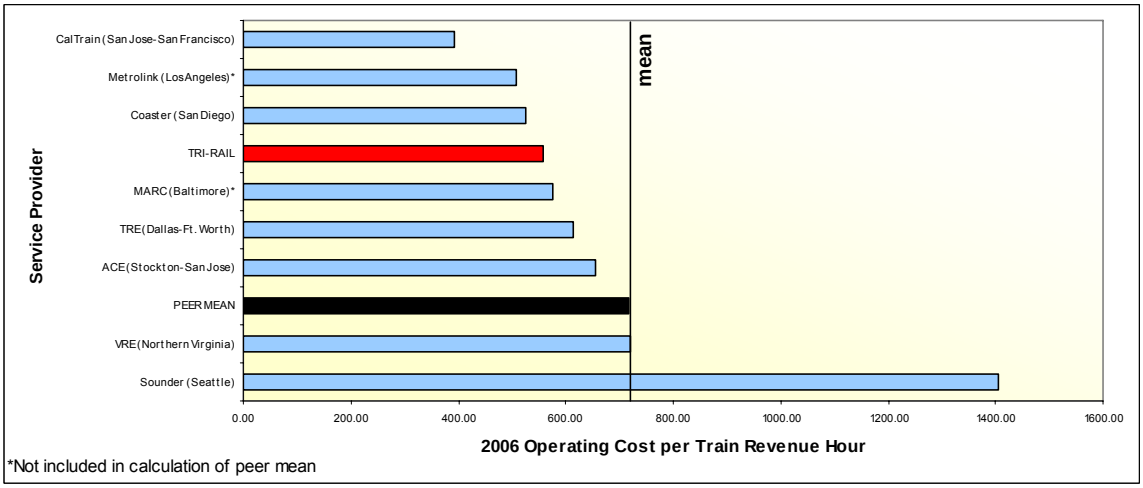


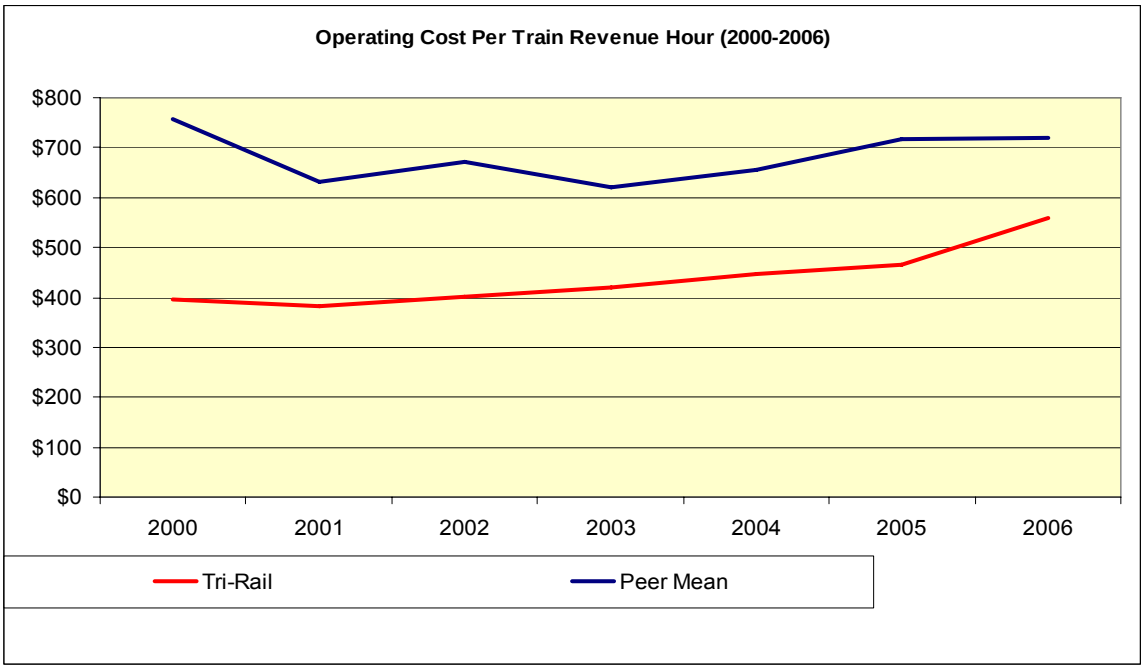


7.8 Operating Cost per Revenue Hour

Tri-Rail had a calculated operating cost per train revenue hour of $559.00 for 2006, which was only 77 percent of the peer mean of $718.00. Tri-Rail's costs were lower than four of the six peer agencies and also lower than the much larger MARC service. The highest operating cost was reported by Sounder, $1,404.00 per revenue hour, while the lowest operating cost was reported by CalTrain, $393.00. As the lower graphic shows, Tri-Rail's costs have been consistently lower than the average for the peer group, though they have risen steadily since 2001 and jumped significantly in 2006. Tri-Rail and peer agencies face significant cost increases driven by rising costs of fuel and labor fringe benefit costs, among other factors. Figure 7-8: illustrates the comparison for operating cost per train revenue hour.

Figure 7-8: Operating Cost Per Train Revenue Hour

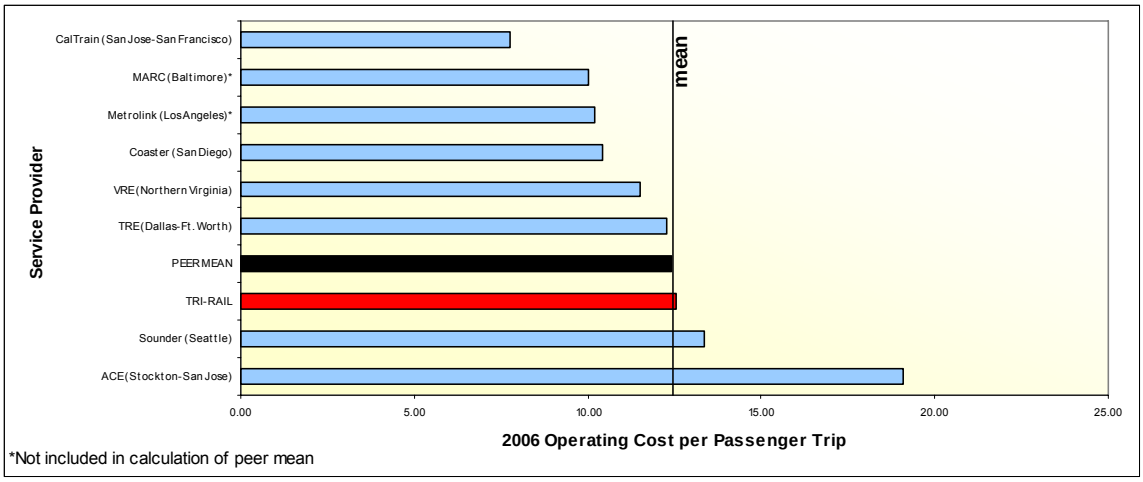


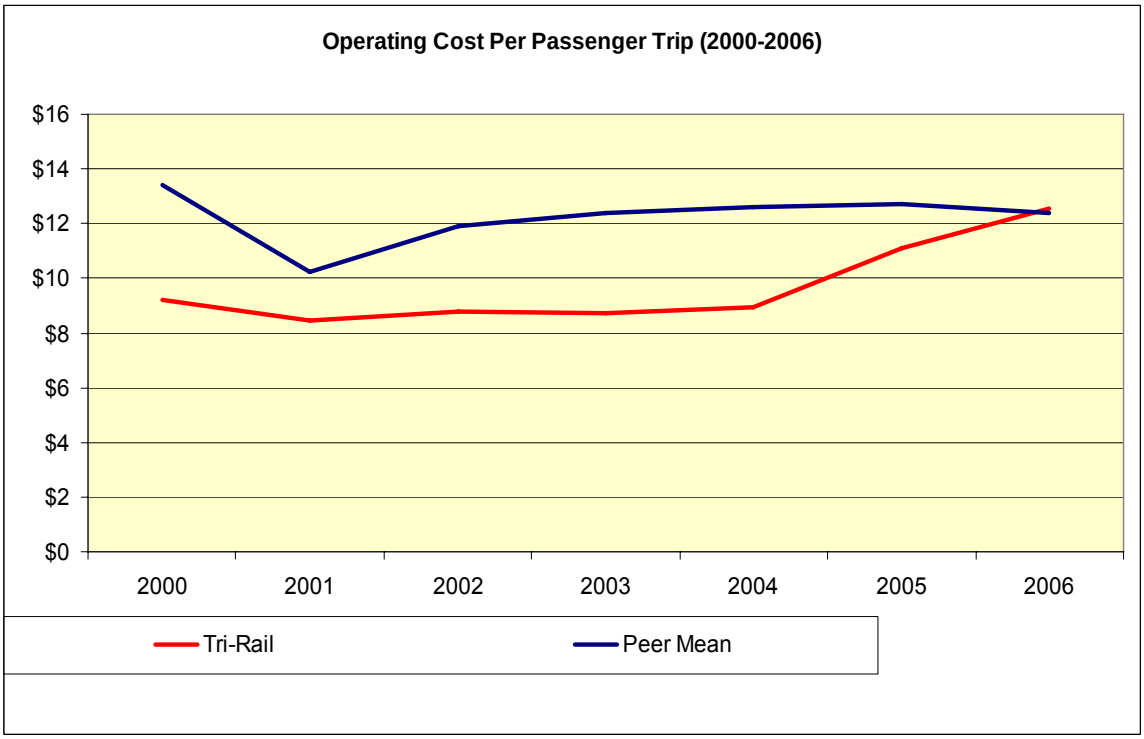


7.9 Operating Cost per Passenger Trip

Tri-Rail reported an operating cost of $12.54 per passenger trip, slightly below the peer average of $12.40. Most of the agencies were grouped tightly around $10.00 to $13.00 per passenger trip. The provider with the highest cost per passenger trip was ACE, with a cost of $19.09 per trip, while the lowest cost per passenger trip was CalTrain, with a cost of $7.74 per trip. Costs per passenger trip jumped at Tri-Rail in the most recent years, again, due to service disruptions related to double-tracking and resulting ridership loss. Cost per passenger trip remained most steady for the peer group, with ridership increases partially offsetting cost increases. Figure 7-9: illustrates the comparison of the providers.

Figure 7-9: Operating Cost per Passenger Trip

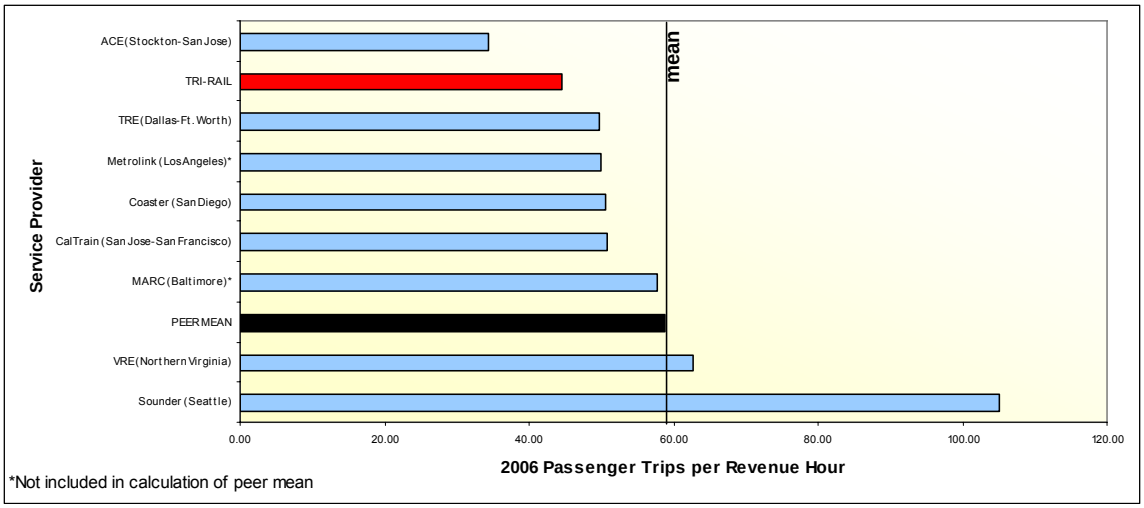


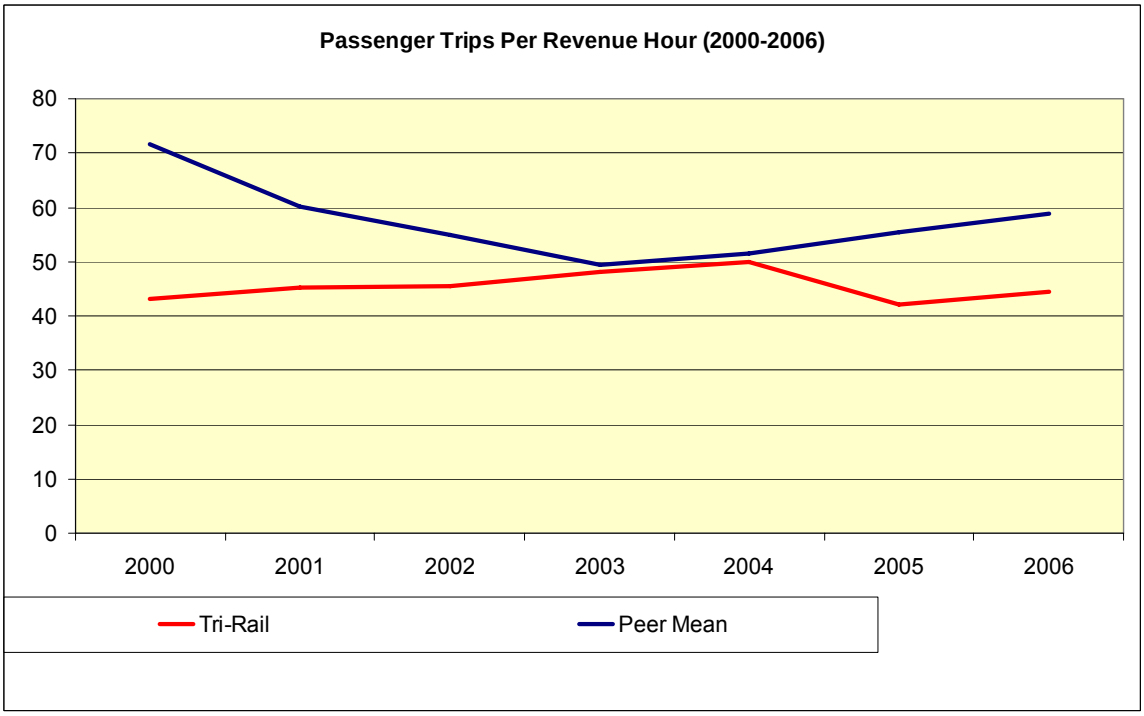


7.10 Passenger Trips per Revenue Hour

For 2006, Tri-Rail had a calculated 44.6 passenger trips per revenue hour, which was 75 percent of the calculated peer mean. The peer mean for the group is 58.9 passenger trips per revenue hour. The provider with the highest passenger trip per revenue hour is Sounder, with 105.2. The provider with the lowest passenger trip per revenue hour is ACE, with 34.3. As the lower graph shows, passenger trips per revenue hour rose steadily from 200 through 2004 before sliding in 2005 (during the double tracking project). Tri-Rail's performance on this statistic essentially recovered to year 2000 levels in 2006. Figure 7-10: illustrates the comparison of passenger trips per revenue hour.

Figure 7-10: Passenger Trips per Revenue Hour





7.11 Weekend Service

In addition to statistical data from the National Transit Database, SFRTA services were compared to the other peer agencies in terms of non-statistical parameters. Weekend service for the various peer agencies was compared using public timetables presented on the internet. As the table indicates, Tri-Rail provides service on weekends (albeit at a reduced service frequency from weekday service) while many of the peer agencies and even larger agencies like MARC and Metrolink either run no service or run limited stop service which does not serve all stations on weekend days and holidays. On some of these corridors (such as MARC, VRE and Metrolink), Amtrak service is available on some lines on weekends. Amtrak service also parallels Tri-Rail service. (Table 7-1)

Table 7-1: Weekend Service

	Weekday	Saturday	Sunday
ACE	Yes	No	No
Caltrain	Yes	Yes	Yes
Coaster	Yes	Yes	No
MARC	Yes	No	No
Metrolink	Yes	Yes	Yes
Sounder	Yes	No	No
TRE	Yes	No	No
Tri-Rail	Yes	Yes	Yes
Virginia Railway	Yes	Yes	No

7.12 Fare Policy

Fare policy is another area of analysis in which data was generated from non-NTD sources, essentially publicly posted fare policies on the internet. Comparing fare policies between agencies, services and regions can be difficult. Commuter rail services are much more likely than other transit services to use distance or zonal fare systems, as Tri-Rail does. This is difficult to compare between regions and between systems, since station spacing, geographic population and employment distribution, and other factors. Volume discounting (round trip, weekly or monthly fares) and the degree to which passengers use discounted fare media is a further complication in comparing systems. Tri-Rail's unique operating mode, specifically its relatively large number of workplace destination stations, with some stations acting as both strong origin and destination locations, and its mix of shorter and longer distance travel, make it more difficult to compare to other commuter rail lines in terms of fare policy than other measures of comparison.

As the table below shows, Tri-Rail's base and maximum fares were lower than any of the peer or next level agencies except for the Dallas TRE system. In many cases, Tri-Rail's fares were less than half that of the other agencies. Tri-Rail's unique operating characteristics, in which it provides a mix of shorter and longer distance trips, make a fare policy that is more in line with local transit more reasonable than in

other areas where a strong suburb-to-city pattern and longer distance travel predominates. However, the very low level of fares relative to peer agencies suggests an opportunity for Tri-Rail to further evaluate the potential to generate additional revenue through a moderate increase of fares while keeping its fare policies in line with peer commuter rail operations and the region's local transit agencies.

Table 7-2: Fare Policy

	System	Base Fare	Discount Fare	Maximum Fare
ACE	Origination/Destination	$ 3.25	50 percent	$ 11.00
Caltrain	Distance	$ 2.25	50 percent	$ 11.00
Coaster	Zonal	$ 4.00	50 percent	$ 11.00
MARC	Zonal	$ 4.00	Discount	$ 14.00
Metrolink	Distance	$ 4.75	Discount	$ 12.75
Sounder	Distance	$ 2.55	Discount	$ 9.25
TRE	Zonal	$ 1.50	Discount	$ 2.50
Tri-Rail	Zonal	$ 2.00	50 percent	$ 5.50
Virginia Railway	Zonal	$ 2.40	50 percent	$ 8.80

7.13 Existing Condition Level of Service

The existing quality of service provided by a transit system can be graded using a Level of Service (LOS) chart. Letter grades are assigned, with A being the highest and F being the lowest, in order to rate the level of service as viewed by the user. These LOS ratings can be used to evaluate specific performance measures such as Service Frequency and On-Time Performance.

The measurements of LOS can reflect overall passenger perception of the transit service being offered. These measures differ from other vehicle-based measures used in the Highway Capacity Manual and economic measures used in FTA reporting since they focus on the benefit of the passenger, not the operator. For example, LOS measures pertaining to boarding a vehicle may be viewed as optimal for the passenger when there are fewer riders, while an operator usually regards high boardings as optimal. The measures of service are measures identified in the Transit Capacity and Quality of Service Manual, 2nd Edition (2003) (TCQSM). These include six LOS measures as listed

- Service span
- Service frequency
- Service coverage
- Passenger loading
- On-time performance, and
- The ratio of transit to auto travel time.

Service Frequency or headway relates to the number of times passengers can board a mode of transit in a given hour. Headway is basically the amount of time spaced between two vehicles on the same route. Headway is important when assessing desired destination as opposed to the location of the stop. Many vehicles often connect at a similar location, yet may not share the same route or connect to the desired destination. Table 7-3 presents the different LOS thresholds for Service Frequency as defined in the TCQSM.

Table 7-3: Service Frequency LOS

LOS	Headway (min)	Vehicles/hour	Comments
A	<10	>6	Passengers do not need schedules
B	10-14	5-6	Frequent service, passengers consult schedules
C	15-20	3-4	Maximum desirable time to wait if bus/train is missed
D	21-30	2	Service unattractive to choice riders
E	31-60	1	Service available during the hour
F	>60	<1	Service unattractive to all riders

Span of Service refers to the number of hours that a transit service is operational between any two stops. The span is measured in hours to describe the length of operation on a daily basis. This is calculated by finding the difference between the first departure and the last departure of a given day. Table 7-4 presents the various LOS thresholds for service span as defined in the TCQSM.

Table 7-4: Hours of Service LOS

LOS	Hours of Service	Comments
A	19-24	Night or "Owl" Service provided
B	17-18	Late evening service provided
C	14-16	Early evening service provided
D	12-13	Daytime service provided
E	4-11	Peak hour service only or limited midday service
F	0-3	Very limited or no service

Commuter Rail Level of Service

Table 7-6 and Table 7-6 summarize the average weekday performance and LOS measures for Tri-Rail commuter rail service for the fiscal year 2008. It is notable that Tri-rail has made vast improvements in Service Frequency and Span of Service since the inception of the new weekday schedule of 50 trains per day. On-Time Performance (end-to-end) increased 3 percentage points from the previous fiscal year of 2007, yet still remains low relative to LOS standards. Due to the alignment of the SFRC along the fringe of most CBD locations the LOS measures for Service Coverage remain poor as well.

Table 7-5: Tri-Rail Service Frequency LOS

Tri-Rail Weekday and Weekend Headways								
	SB Weekday Minutes	SB Weekday LOS	SB Weekend Minutes	SB Weekend LOS	NB Weekday Minutes	NB Weekday LOS	NB Weekend Minutes	NB Weekend LOS
AM	40-50	E	120	F	30	D	120	F
AM Peak	20-30	C	120	F	20-30	C	120	F
Mid-Day	60	E	120	F	40-60	E	120	F
PM Peak	30-40	D	120	F	20-30	C	120	F
PM	60	E	150	F	60-90	F	150	F

Table 7-6: Average Weekday Measures Tri-Rail 2008

Average Weekday Rail Measures	FY 2008	
	Performance	LOS
1. Span of Service	18	B
2. Frequency		
Headway peak (peak Direction)	20 minutes	C
Headway peak (off peak Direction)	30 minutes	D
Headway off-peak (mid-day)	60 minutes	E
3. On-Time performance (end to end)	82%	E
4. Service Coverage		
Percent of population in service district with bus access to the station (within 1/4 mile)	35%	F
Percent of employment in service district with bus access to the station (within 1/4 mile)	50%	E

7.13.1 Shuttle Bus Level of Service

Shuttle bus service is offered at 12 of the 18 stations serviced by Tri-Rail and provides a mode of transport to popular final destinations such as CBD's, education

centers and all three major airports. Most shuttle routes' operational time spans have a corresponding LOS measure of E as they are only offered during weekday business hours. Headway increments are also problematic, as 9 out of 15 shuttles receive LOS ratings for Frequency of E or below.

Services that are not community-based shuttles, such as the Tri-Rail shuttles at West Palm Beach, Fort Lauderdale and all three airports, tend to have superior headways. The higher LOS grade can be attributed to the shuttle service timed to meet Tri-Rail trains which is a result of the corresponding headways of primarily 30 minutes with some service operating on 20-minute headways. Table 7-6 summarizes these hours of service using guidelines established in the TCQSM.

Table 7-6: Tri-Rail Shuttle Bus LOS

Route	Provider	Day	Headway	Frequency	Hours	Span
50 Shuttle	Palm Tran	Weekday Peak	20	C	6:00 a.m. - 5:10 p.m.	E
		Weekday Off-peak	20	C	6:00 a.m. - 5:10 p.m.	E
		Saturday	NA	NA	NA	
		Sunday	NA	NA	NA	
Boynton Beach Trolley	Boynton Beach	Weekday Peak	45	E	7:31 a.m. - 6:46 p.m.	E
		Weekday Off-peak	45	E	7:31 a.m. - 6:46 p.m.	E
		Saturday	45	E	9:46 a.m. - 5:16 p.m.	E
		Sunday	45	E	9:46 a.m. - 5:16 p.m.	E
Downtown Roundabout Shuttle Route 1	Delray Beach	Weekday Peak	30	E	7:00 a.m. - 8:00 p.m.	D
		Weekday Off-peak	30	E	7:00 a.m. - 8:00 p.m.	D
		Saturday	30	E	10:00 a.m. - 8:00 p.m.	E
		Sunday	30	E	12:00 p.m. - 8:00 p.m.	E
Boca Center Shuttle	Palm Tran	Weekday Peak	30	D	6:35 a.m. - 7:05 p.m.	D
		Weekday Off-peak	30	D	6:35 a.m. - 7:05 p.m.	D
		Saturday	NA	NA	NA	
		Sunday	NA	NA	NA	
DB 1Shuttle (M-F)	BCT	Weekday Peak	60	E	8:00 a.m. - 3:50 p.m.	E
		Weekday Off-peak	60	E	8:00 a.m. - 3:50 p.m.	E
		Saturday	NA	NA	NA	
		Sunday	NA	NA	NA	
DB 2 Shuttle (M-F)	BCT	Weekday Peak	60	E	8:00 a.m. - 3:50 p.m.	E
		Weekday Off-peak	60	E	8:00 a.m. - 3:50 p.m.	E
		Saturday	NA	NA	NA	
		Sunday	NA	NA	NA	
DB 3 Express Beach Shuttle	BCT	Weekday Peak	60	E	9:00 a.m. - 5:55 p.m.	E
		Weekday Off-peak	60	E	9:00 a.m. - 5:55 p.m.	E
		Saturday	60	E	9:00 a.m. - 5:55 p.m.	E
		Sunday	60	E	9:00 a.m. - 5:55 p.m.	E

Table 7-7 (Continued)

Route	Provider	Day	Headway	Frequency	Hours	Span
PB 1 Shuttle (Blue Route)	BCT	Weekday Peak	30	D	8:45 a.m. - 5:00 p.m.	E
		Weekday Off-peak	60	E	8:45 a.m. - 5:00 p.m.	E
		Saturday	NA	NA	NA	
		Sunday	NA	NA	NA	
PB 1 Shuttle (Green Route)	BCT	Weekday Peak	45	E	9:00 a.m. - 5:00 p.m.	E
		Weekday Off-peak	60	E	9:00 a.m. - 5:00 p.m.	E
		Saturday	NA	NA	NA	
		Sunday	NA	NA	NA	
Coconut Creek S Shuttle	BCT	Weekday Peak	20	C	7:21 a.m. - 4:21 p.m.	E
		Weekday Off-peak	20	C	7:21 a.m. - 4:21 p.m.	E
		Saturday	20	C	7:21 a.m. - 4:21 p.m.	E
		Sunday	NA	NA	NA	
Tri-Rail Weekend Connector	South Florida Sun Trolley Shuttle/ BCT	Weekday Peak	NA	NA	NA	
		Weekday Off-peak	NA	NA	NA	
		Saturday	120	F	9:00 a.m. - 9:30 p.m.	D
		Sunday	120	F	9:00 a.m. - 9:30 p.m.	D
South Florida Education Center (SFEC)/ Davie Campus Express Shuttle	BCT	Weekday Peak	30	D	7:06 a.m. - 7:50 p.m.	D
		Weekday Off-peak	60	E	7:06 a.m. - 7:50 p.m.	D
		Saturday	NA	NA	NA	
		Sunday	NA	NA	NA	
Dania Beach East (Blue)	BCT	Weekday Peak	60	E	9:00 am - 5:00 p.m.	E
		Weekday Off-peak	60	E	9:00 am - 5:00 p.m.	E
		Saturday	NA	NA	NA	
		Sunday	NA	NA	NA	
NW 36 Street/Koger Shuttle 132	MDT	Weekday Peak	60	E	6:50am - 6:43pm	E
		Weekday Off-peak	80	F	6:50am - 6:43pm	E
		Saturday	NA	NA	NA	
		Sunday	NA	NA	NA	
133 Airport Shuttle	MDT	Weekday Peak	10	B	5:35 a.m. - 9:27 p.m.	C
		Weekday Off-peak	40	E	5:35 a.m. - 9:27 p.m.	C
		Saturday	12-60	B	7:47 a.m. - 10:17 p.m.	C
		Sunday	12-60	B	7:47 a.m. - 10:17 p.m.	C

7.13.2 Conclusion

The standards included in the transit LOS measures are more appropriate to apply to the entire region-wide transit system than to Tri-Rail, or to any commuter rail service as a stand-alone transit operation. Tri-Rail has certain characteristics of light rail (relatively high service frequency, close station spacing in some areas), and regional rail (connecting three urban centers within a regional area) as well as commuter rail.

The relatively low development density of the Tri-Rail service area and the distance of Tri-Rail's stations from the Miami and Fort Lauderdale Central business Districts

also distinguish Tri-Rail from many other commuter operations. However, regardless of its function within the regional transit system, the important issue with regard to transit level of service is that it is a part or the regional transit network, made up also of the local county bus systems, Miami-Dade Transit's Metrorail and Metromover, and other private and non-profit transportation services.

Many transit LOS measures, such as service coverage and percentage of population with access to the station, are more appropriate when applied to the complete regional transit system. Likewise, the standards for peak, midday and off-peak headways are more appropriate to bus and heavy or light rail systems; Tri-Rail's current service frequency is relatively high for a single-line commuter rail line. For this reason, the concepts behind transit LOS are useful for analyzing the performance of Tri-Rail service. However, the ratings should be considered in relation to Tri-Rail's role in the overall transit system of the south Florida region.

PAGE INTENTIONALLY LEFT BLANK

8.0 PUBLIC INVOLVEMENT

The objective of public participation is to inform citizens about the project study process and findings; receive comments and suggestions on project phases beginning with the project initiation phase; provide opportunities throughout the study to receive comments and suggestions; and assure the openness and fairness of the study process by considering all reasonable comments. The public participation program includes several different elements, including formal meetings with the SFRTA Planning Technical Advisory Committee, coordination with the three workforce boards within the south Florida region and informal station meetings with Tri-Rail patrons during peak-hour weekday schedules.

Public involvement and outreach is an essential component of any planning process, especially those surrounding public transit projects. The Public Involvement (PI) process is vital in that it is used as a means to incorporate the input and recommendations of the public that patron the service. In order to ascertain concise planning goals and objectives, the public outreach element must be planned as a two-way street of dialogue between officials and stakeholders. The continued success of Tri-Rail service will depend on how well it reflects and responds to public needs, concerns, and desires.

The following presents an overview of the various public involvement activities and stakeholder groups that were engaged throughout the course of the development of the SFRTA TDP Major Update.

8.1 Planning Technical Advisory Committee

The Planning Technical Advisory Committee (PTAC) exists to provide technical recommendations to the SFRTA Board, through the Executive Director, on land-use and regional transportation planning issues. The PTAC for SFRTA meets on a monthly basis to review ongoing regional projects and technical documentation as to provide clarity to the SFRTA board members decision making process.

Throughout the development of the TDP Major Update the project team has provided project updates to discuss the development of the TDP, present preliminary technical documentation results and distribute task deliverable items for review, comment and discussion with the PTAC.

8.2 Workforce Board Coordination

Since one of the missions of the SFRTA is to provide transportation services to a commuting work force, South Florida's three workforce boards were identified as stakeholders for purposes of providing input to assist with the development of the SFRTA's FY 2009 - 2018 TDP Major Update. Collaboration with regional workforce boards is essential for a commuter rail service with a majority of work related to unlinked passenger trips such as those provide by Tri-Rail.

A statewide system of unemployment compensation centers was replaced when Workforce Florida, Inc. was created by the Florida Legislature with the passage of the Workforce Innovation Act of 2000, Chapter 445, Florida Statutes. Workforce

Florida, Inc., works locally through Workforce One serving Broward County, Workforce Alliance, serving Palm Beach County, and South Florida Workforce serving Miami-Dade and Monroe Counties.

Together, the three boards serve a total of about 200,000 workers a year, almost all of whom are in the process of changing jobs, thus changing their commuting patterns. Each of the three Regional Workforce Boards is in close touch with area employers. Each of the regional boards accomplishes its mission using slightly different strategies, but a common theme is that all three outreach to employers within their respective counties. South Florida Workforce alone reports that they work with 7,600 employers each year.

In March 2008, meetings were held with leadership from each of the three regional workforce boards in order to explore workforce trends and how they relate to transit planning. These meetings resulted in an overall understanding of the importance of reliable transit in relation to employment. Each organization offered to partner with the SFRTA in synergistic ways to achieve mutual goals. Specific measures of involvement discussed included coordination and cooperation on planning, employer/employee outreach, and public information efforts.

Workforce Alliance operates in Palm Beach County, which has the highest propensity of Tri-Rail riders. During meetings with the Workforce Alliance the executive indicated that the board keeps regular contact with representatives from Tri-Rail.

Workforce One the regional workforce board for Broward County, coordinates hiring and recruitment strategies with major county employers, some of which are part of the employee rider discount program administered by Tri-Rail. Workforce One purchases passes from SFRTA for eligible customers who need the service to get to work or attend school and training in Broward, Miami-Dade and Palm Beach Counties as well.

South Florida Workforce which is the workforce board for Miami-Dade County indicated that they have less current coordination with Tri-Rail than the other two workforce boards, but would like to increase awareness of Tri-Rail in the future. The South Florida Workforce is responsible for initiating state and federal funded workforce development programs in Miami-Dade and Monroe counties. They assist employers and job seekers with employment services, labor market information, and provide training for economically disadvantaged adults, youth, dislocated workers, individuals transitioning from welfare to work, and refugees. While promoting the advancement of underutilized workers, the South Florida Workforce stimulates the labor market by implementing policies such as business incentives, and provides valuable resources to South Florida's diverse community.

8.3 Platform Public Meetings

In order to better understand the concerns of Tri-Rail customers, a series of informal meetings were set up at various high-volume stations along the Tri-Rail commuter rail system. Informal meetings were chosen as the preferred method for eliciting

comments in a casual environment directly at the site of service. To be most effective, the meetings were set up at six key stations during peak morning and evening service hours on May 20, May 21, and May 22, 2008.

8.3.1 Methodology

The station meetings were conducted by approaching both boarding and alighting passengers on a platform style exchange. In many cases, groups of people joined together and made separate supporting comments in a single conversation, approximating a town meeting format. Stations polled included Golden Glades, Metrorail, Fort Lauderdale, West Palm Beach, Cypress Creek and Boca Raton; which together account for over half of all Tri-Rail passenger volumes.

Riders were engaged by explaining the TDP Major Update process and asking for their input and recommendations. This effort was conducted in both English and Spanish at each station. Participant responses were noted and recorded. A handout was provided to passengers disembarking the trains with an invitation stating that they were able to provide their comments via email or fax. This handout was also used to prompt conversation during interviews conducted on the platform.

8.3.2 Outreach Results

Team members collected 1,500 comments and suggestions from 386 riders. The comments were organized and grouped into relevant categories and then ranked in the table below. The ten most cited categories are presented below. For example, many people wanted to see cleaner restrooms, and these comments are recorded under “Want Cleaner Trains” with other related comments. Each passenger had the opportunity to share their stories, experiences, opinions and thoughts. Below is a snapshot of anecdotes and comments received regarding the top ten referenced categories.

Based upon the comments received during the station outreach a summary of the common suggestions/recommendations resulted in the listing of ten issues of importance. These issues are presented below and are not in any ranking order.

1) **On Time Trains:** Passengers clamored almost unanimously for a more reliable alternative to driving to work. For many this was fueled by the opposition to the rising cost of gasoline. The most frequent request was to acquire full dispatching capabilities (or any similar means) to ensure the trains run reliably each day. Many of the passengers commuting to work stated that they rely on the trains to make time-sensitive connections.

2) **More Trains- No Trains with only two cars during peak:** One American Airlines employee was visibly upset that SFRTA cannot correct what he called the “obvious problem.” Providing larger three car trains is necessary during peak hours. His ride home always consists of standing room only making for an extremely unpleasant commute. A majority of the comments received in this category surround personal anecdotes of people reverting to sitting on the steps and standing in the aisles during congested times which inevitably creates a safety concern.

Table 8-1: Comments Received from Platform Public Meetings, May 20-22, 2008

Station	Boca Raton	Fort Lauderdale	Cypress Creek	Golden Glades	West Palm Beach	Tri-Rail/ Metrorail	Fax	Total
Total Number of People Interviewed	76	81	46	39	65	67	12	386
Comments/Feedback/Recommendations Going Forward								
Add More Train Cars, standing room only	23	22	26	12	11	40	11	145
On Time Trains, More Reliable Service	25	37	17	23	11	22	5	140
Parking Issues	17	11	46	4	9	10	6	103
Improve Bus/Metrorail Connections	12	30	25	8	10	8	10	103
More frequent service	1	22	24	8	4	24	9	92
Cleaner Trains, mostly rest room issues	26	13	6	11	7	16		79
Northern Extension	19	12	13	11	6	11	1	73
Satisfied with service	8	2	16	21	10		3	60
Ticketing Issues, make more convenient	13	12	16	4	1	10	4	60
East West Service	5	8	14	6	2	15	5	55
Better info, Real Time, Announcements, etc	4	10	9	4	1	18	7	53
Cleaner Stations	12	14	1	4	4	12		47
Better AC on trains	6	15	1	9	4	10	1	46
Extended and weekend service	4	5	14	9	2	9		43
Want Starbucks, food, bar car, on train vending	10	7	6	12	1	3		39
Put Bathrooms in stations	11	3	1	2	5	10		32
Better and more courteous security	6	8	2	2	8	6		32
More DMU	4	3	4	9	7	5		32
Smart Card	3	7	8	3		4	4	29
FEC	2	2	11	4		3	2	24
Escalators or better side track access	10	7		1		1	1	20
Quieter Trains/ new locomotive/ alternative fuel	3	1	7	2	1	1	4	19
South Extension		1	7	4	1	2	2	17
Raise fares, charge for parking	5	2	6		1	1	2	17
Better bike/scooter parking	7	2	5			1	1	16
New stations	2	3	6	1		1	3	16
Rain covers at stations				4	2	7	1	14
More seating at station, in shade		6	5			1		12
Improve water fountains	4	1		6		1		12
Better ticketing enforcement	8	2			1			11
Express trains		2	1		1	6	1	11
Make trains seats more comfortable	1		2	3	1	3		10
Bike/ped access issues	2	3	3				1	9
Dislike DMU	3	1	1			3	1	9
Better way to deal with passengers when mechanical breakdown	1					7		8
Fans or AC in stations	5		2					7
Better preventive maintenance	2	1		2		1		6
do not cut back trains	2	2	1					5
Better Signage		3			2			5
do not increase rates	1	2	1					4
First Class			1	1	1	1		4
handicap access better		1		1		2		4
Laptop wifi/ power outlet		1			2	1		4
Better Employer Outreach	1		2					3
Daily emails when late		1				1	1	3
Put students separate	2							2
No smoking platforms		1			1			2
Free Fares for Disabled Vets				1		1		2
Total Comments	270	286	310	192	117	278	86	1,539

3) Parking Issues: Many people cited parking shortages at various stations such as Lauderdale Airport and West Palm Beach. The Cypress Creek riders sought better access to parking and expressed concerns about crossing Andrews Avenue. Passengers also requested that Tri-Rail initiate a parking decal program. Riders suggesting this program indicated that they would be willing to pay for guaranteed parking.

4) Improved Bus/Shuttle/Metrorail Connections: People waiting at the Metrorail station platform cited examples of how trains would pull away even as the other train approached. Many understand that it is difficult to coordinate transit agencies, but all asked that drivers respect passengers and wait an additional thirty seconds where appropriate.

5) More Frequent Service: Increased, more frequent daily service was another highly requested recommendation. Interestingly, newer regular riders wanted more frequent headways, but long-term experienced riders gave thanks for the double tracking headway improvements that have been implemented.

6) Cleaner Trains: The most frequent comment was about the sanitation of the bathrooms during afternoon peak. One lady in the Cypress station described the condition of train by stating: "This should not happen in America". Others commented that security personnel at times simply walk over discarded newspapers and debris in the train and at the stations.

7) Northern Extension: Riders at every station surveyed expressed the desire for a future northern extension. Most asked for an extension to Jupiter. Some asked for long term extension to Ft. Pierce and Port St Lucie, Orlando, and even as far north as Jacksonville.

8) Ticketing Issues: Ticketing vending machines were regarded as "antiquated" and the need for newer, more user friendly machines was frequently requested. Several cited issues regarding whether monthly tickets should be calendar or pro-rated. Some passengers stated that they were not asked for tickets "for weeks". Others complained that they are asked three times on one ride.

9) East-West Service: A long term expansion for an east-west service route along I-595 in Broward County was commonly requested. Plans for an East-West corridor light rail system, currently in the environmental analysis phase, are included in the Broward MPO 2030 Long Range Transportation Plan.

10) Satisfaction with Service: Although the team was looking for recommendations for improvements, an underreported number of passengers wanted to make us aware of their sincere gratitude for Tri-Rail and how pleased they were with the current service provided. There existed a universal sentiment, when the issue arose, that train service should not be cut over funding. "The existing service meets my needs", was a commonly received comment.

8.4 Tri-Rail On Board Survey

An on-board survey of Tri-Rail patrons was administered on May 6, May 7 and May 10, 2008. The on-board survey was developed and administered in collaboration with SFRTA staff for purposes of identifying origin and destination of patrons as well as determining overall satisfaction with of Tri-Rail service, station facilities and transit connections.

8.4.1 Methodology

The survey instrument was translated into Spanish, Creole and French to ensure the major languages of the South Florida transit ridership were addressed. The on-board survey resulted in a total sample of 1,277 completed surveys for the three days the survey was conducted. The survey results have been tabulated and are presented in the section that follows.

8.4.2 On Board Survey Results

Public perception regarding the quality and performance of the South Florida Regional Transportation Authority's commuter rail service (Tri-Rail) was found to be generally positive. Additionally, the overall ratings pertaining to customer service and station efficacy were found to be positive, same for bus connections.

The survey was conducted among a randomly selected group of 1,277 passengers with areas of inquiry relating to items such as station cleanliness and on-time performance. Respondents rated each area of inquiry from a range of five choices; with excellent being the very best service rating and poor being the very worst service rating. The overall results found that 83 percent of customers surveyed were satisfied with the existing service, marking responses in the excellent to good ranges.

Briefly, in other areas the following was found which represents the percentage of participants who registered a response to the specific are of inquiry:

Area of inquiry	Positive response
Price/Value	95.3%
On-train Announcements	95.2%
Customer Service	93.9%
Station Cleanliness	92.7%
Train Cleanliness	90.4%
Ticket Machines	90.1%
Station Announcements	89.1%
On-time performance	87.6%
Station Parking	85.5%
Bus Connections	64.0%

For the ease of reporting the following results are being broken into the top three responses for each question and presented as a percentage to include non-responses. Results for station locations of trip origin and destination are shown in their entirety.

8.4.2.1 Origin of Trip

The survey reflects a similarity of origin among riders which is consistent with commuter rail peer systems. The vast majority (93 percent) of the riders surveyed began their journeys from home, work or school, with 61.7 percent of those passengers reporting starting the trip from home. The next largest group, 29.1 percent, began its commute from work. The third largest group of people started their route from school, 2.4 percent.

• Home	61.7%
• Work	29.1%
• School	2.4%
• Airport	2.3%
• Recreational	1.2%
• Family/Friends	0.8%
• Medical/Dental	0.7%
• Shopping	0.6%
• No Answer	0.6%
• Hotel	0.3%
• Metrorail Transfer	0.2%
• Visit Jail	0.1%
Total	100%

8.4.2.2 Boarding Station

The station of origin is an important indicator for determining centers of population base and job attraction. Home-Based Work trips account for the majority of Tri-Rail travel, as 41 percent of respondents indicated they used the service to commute to work. The three stations with the highest boarding levels were Metrorail, Mangonia Park and West Palm Beach Stations.

• MetroRail	9.8%
• Mangonia Park	9.7%
• West Palm Beach	7.4%
• Boynton Beach	7.3%
• Miami Airport	7.0%
• Ft Lauderdale	6.3%
• Sheridan Street	6.0%
• Cypress Creek	6.0%
• Boca Raton	5.8%
• Lake Worth	4.7%
• Deerfield Beach	4.5%
• Hollywood	4.2%
• Delray Beach	4.2%
• Pompano Beach	3.7%
• Ft Lauderdale Airport	3.6%
• Golden Glades	3.5%
• Hialeah Market	2.3%
• Opa Locka	1.6%

• No Response	2.4%
Total	100%

8.4.2.3 Means of Getting to the Station

The survey indicated that the majority of riders (53.8 percent) accessed the Tri-Rail station by car. Despite an indication of overcapacity occurring in parking lots systemwide, only 12.8 percent of Tri-Rail riders accessed stations via bus transit, further indicating a need for improved expansion of bus service.

• Drove alone and parked	31.9%
• Dropped off	21.9%
• Transferred from bus	12.8%
• Walked 0-3 blocks	5.8%
• Walked > 3 blocks	5.7%
• Tri-Rail Shuttle	5.4%
• Carpooled	5.2%
• Metrorail Transfer	4.2%
• Bicycle	3.7%
• Taxi	1.9%
• No Answer	1.1%
• Company/Private Shuttle	0.4%
Total	100%

8.4.2.4 Destination of Trip

The majority of riders indicated that they were commuting between work and home. Trip purposes involving school related functions accounted for about eight percent of trip destinations, which when combined with home and work, accounted for 84 percent of respondents.

• Work	41.4%
• Home	34.6%
• School	7.9%
• Airport	4.9%
• Recreational	3.7%
• Family/Friends	2.5%
• No Answer	1.5%
• Shopping	1.4%
• Medical/Dental	1.1%
• Other	1.0%
Total	100%

8.4.2.5 Alighting Station

According to the survey the three most popular stations for alightings accounted for nearly a third of all trip destinations. While Metrorail is popular due to it's connectivity to Downtown Miami, the popularity of Boca Raton and Cypress Creek Stations are inexplicably linked to the proportion of the three major destination attractions: work, home and school.

• Metrorail Transfer	11.0%

• Boca Raton	10.1%
• Cypress Creek	9.1%
• Fort Lauderdale	7.4%
• Mangonia Park	6.4%
• Miami Airport	6.1%
• Ft Lauderdale Airport	6%
• West Palm Beach	5.3%
• Hollywood	5.2%
• Pompano Beach	5.2%
• Deerfield Beach	4.5%
• Golden Glades	4.1%
• Lake Worth	4.0%
• Sheridan Street	3.7%
• No Answer	3.6%
• Boynton Beach	3.3%
• Delray Beach	3.2%
• Opa Locka	1.1%
• Hialeah Market	0.7%
Total	100%

8.4.2.6 Mode Usage From Tri-Rail Station

Tri-rail passengers make use of several means of transportation to get from their final train stop to the terminus of their trip. Of all the responses, the three most reported methods involved driving, carpooling and making a bus connection. Use of shuttle service lagged behind at nine percent.

• Drive to final destination	21.4%
• Carpool with other train riders	17.3%
• Use a bus	16.5%
• Tri-Rail Shuttle	12.0%
• Walked 0-3 blocks	8.2%
• Walked > 3 blocks	6.3%
• Bicycle	3.8%
• Picked up	2.6%
• No Answer	2.0%
• Taxi	1.3%
• Other	8.5%
Total	100%

8.4.2.7 Frequency of Tri-Rail Usage

The vast majority of the riders participating in this survey reported using the services of Tri-Rail at least once a week. Most of the passengers ride the train 5, or more, days per week, which would be consistent with the work week. For at least weekly riders their patterns of usage are as follows:

• 5+ days per week	59.8%
• 3-4 days per week	16.8%
• 1-2 days per week	8.4%
• Less than once a week	2.8%

• Less than once a month	6.4%
• This is my first time	4.3%
No Answer	1.5%
Total	100%

8.4.2.8 Ridership Frequency

A majority 53.3 percent of the passengers surveyed specified they had been riding the Tri-Rail train for more than one year, with 26.0 percent pointing out over three years of ridership. New transit riders comprise the single largest category, with 45.1 percent reporting either first time ridership or having ridden the train for less than one year.

• Less than one year	38.9%
• More than one year	27.3%
• More than three years	26.0%
Other	7.8%
Total	100%

8.4.2.9 Method of Payment

The largest group of riders appears to be regular users of the train. While 47.7 percent used a Monthly Fare, 16.8 percent made use of a Round-Trip Fare and 15.9 percent were using a One-Way Fare. A sizable amount of riders took advantage of discount fares, which are offered to students, children and senior citizens.

8.4.2.10 Discount Fares

Another indicator that most Tri-Rail train riders are regular passengers is that of the people surveyed, 60.4 percent reported using a Fare Discount to purchase the ticket for that particular ride.

8.5 Public Workshop

On July 24, 2008, the project team held a final public workshop at the SFRTA offices. This meeting was an opportunity to present to the public the TDP Major Update recommendations and to solicit their feedback. The public workshop was advertised by SFRTA via legal notice in the local media newspapers and on its web site in accordance with standard practices. In addition, immediately before and during the meeting, flyers regarding the public meeting were offered to disembarking Tri-Rail passengers at the nearby Pompano Beach Tri-Rail station.

The public was provided with a plethora of information about the project to date. During the meeting a slide presentation outlining the highlights of the TDP Major Update was played on continuous loop for everyone to view. Public platform meeting survey results, station area descriptions, and existing conditions maps were presented to the public via large display boards and handouts. Also, an early draft version of the TDP Major Update was made available to the public at the meeting.

9.0 ESTIMATION OF COMMUNITY'S DEMAND FOR TRANSIT

In addition to the evaluation of potential transportation need on the basis of existing socioeconomic and general population distribution data, the estimation of future ridership demand helps to formulate the development of general planning initiatives and identify capital improvement needs. While SFRTA regularly evaluates Tri-Rail operations and facilities to further improve the system efficiency, the Agency also examines and estimates the future travel demand market.

In recent years, SFRTA has undertaken numerous technical efforts for purposes of estimating future transit demand both system wide and for the South Florida Region. Some of these analyses have projected Tri-Rail ridership in both the short-term and long-term needs, while others have identified broader transit needs in the region. These include travel demand forecasts to support the 2004 Amended Full funding Grant Agreement (FFGA) for the Segment 5 Double Track Project, the Tri-Rail Parking and Circulation Study, the SFRTA Performance Measurement Evaluation, the recently completed Strategic Regional Transit Plan and now the development of the FY 2009 – 2018 TDP Major Update.

This chapter summarizes SFRTA's technical efforts in this regard, with the output of these efforts providing ample direction for the TDP FY 2009-2018 Major Update.

9.1 Segment 5 Double Track Corridor Improvement Project (2003)

In support of the Amended FFGA for the Segment 5 project, travel demand forecasts were prepared from the Southeast Florida Regional Planning model (SERPM-IV) regional planning model for estimating daily ridership through FY 2020. These travel demand forecasts and corresponding passenger fare revenue projections were included in the 2003 Financial Plan as submitted to the Federal Transit Administration (FTA) to support the FFGA Amendment. The SERPM-IV model was calibrated using historical Tri-Rail commuter rail ridership.

The following table presents the average weekday ridership estimates from the model results for 2008 through 2020. As recently as June 2008, SFRTA's average weekday ridership is 15,408 passengers and is anticipated to exceed the estimated ridership for 2008.

Table 9-1: Tri-Rail 2020 Weekday Projected Ridership

Year	Ridership
2008	15,489
2009	15,953
2010	16,432
2011	16,925
2012	17,433
2013	17,956
2014	18,494
2015	19,049
2016	19,621
2017	20,209
2018	20,815
2019	21,440
2020	22,221

Source: FTA FFGA as Amended

Station passenger loads were also projected for 2020 with the estimated peak vehicle loads occurring at Golden Glades and the Metrorail Transfer station. The peak station activity occurs at the Metrorail Transfer station.

Table 9-2: Daily Station Activity
2020 Build Alternative

STATION	ON	OFF	DAILY BOARDINGS
Mangonia Park	321	274	298
W. Palm Beach	293	2,257	1,275
Lake Worth	1,317	444	881
Boynton	1,094	406	750
Delray Beach	1,042	1,324	1,183
Boca Raton	1,022	783	903
Deerfield Beach	979	899	939
Pompano Beach	1,458	793	1,126
Cypress Creek	934	1,282	1,108
Ft. Lauderdale	1,258	2,178	1,718
FLL (Airport)	725	512	619
Sheridan	919	353	636
Hollywood	2,084	758	1,421
Golden Glades	6,553	661	3,607
Opa-Locka	439	497	468
Metro-Rail Transfer	1,509	6,164	3,837
Hialeah Market	98	223	161
MIA-MIC	176	2,413	1,295
TOTAL	22,221	22,221	22,221

Source: FTA FFGA as Amended

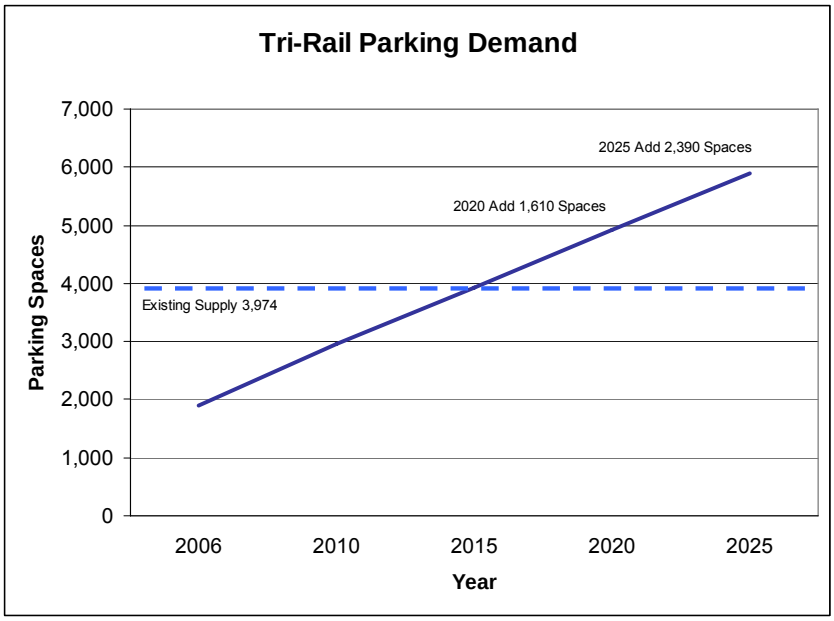
9.2 Tri-Rail Parking and Circulation Study (2007)

SFRTA performed a Parking and Circulation Study for purposes of understanding future parking needs as well as to determine whether adequate parking capacity and efficient station circulation for all modes of access can be maintained as ridership grows.

As part of this effort, SFRTA developed parking projections for the years 2010 through 2025. The SERPM model (version 5.1) was used to develop ridership growth rates for each station from the 2025 long range transportation plans of the three metropolitan planning organizations. The estimated model results predicted that Tri-Rail ridership would grow approximately 234 percent by 2025.

The SERPM analysis was then combined with historical trends in train service, ridership, and parking demand in order to make projections of future parking demand. The establishment of a parking ratio (number of boardings compared to the maximum number of parked vehicles) also contributed to the calculations of future demand. Three parking growth scenarios were developed as part of the analysis- Moderate, Medium-High, and High. The Medium-High growth scenario was the selected methodology, and projected a need of 1,610 additional parking spaces by 2020 and 2,390 additional parking spaces by 2025.

Figure 9-1: Tri-Rail Estimated Parking Demand



Source: Tri-Rail Parking and Circulation Study, 2007

SFRTA is now performing an update to this study (just underway) and it is anticipated to be complete in late 2008.

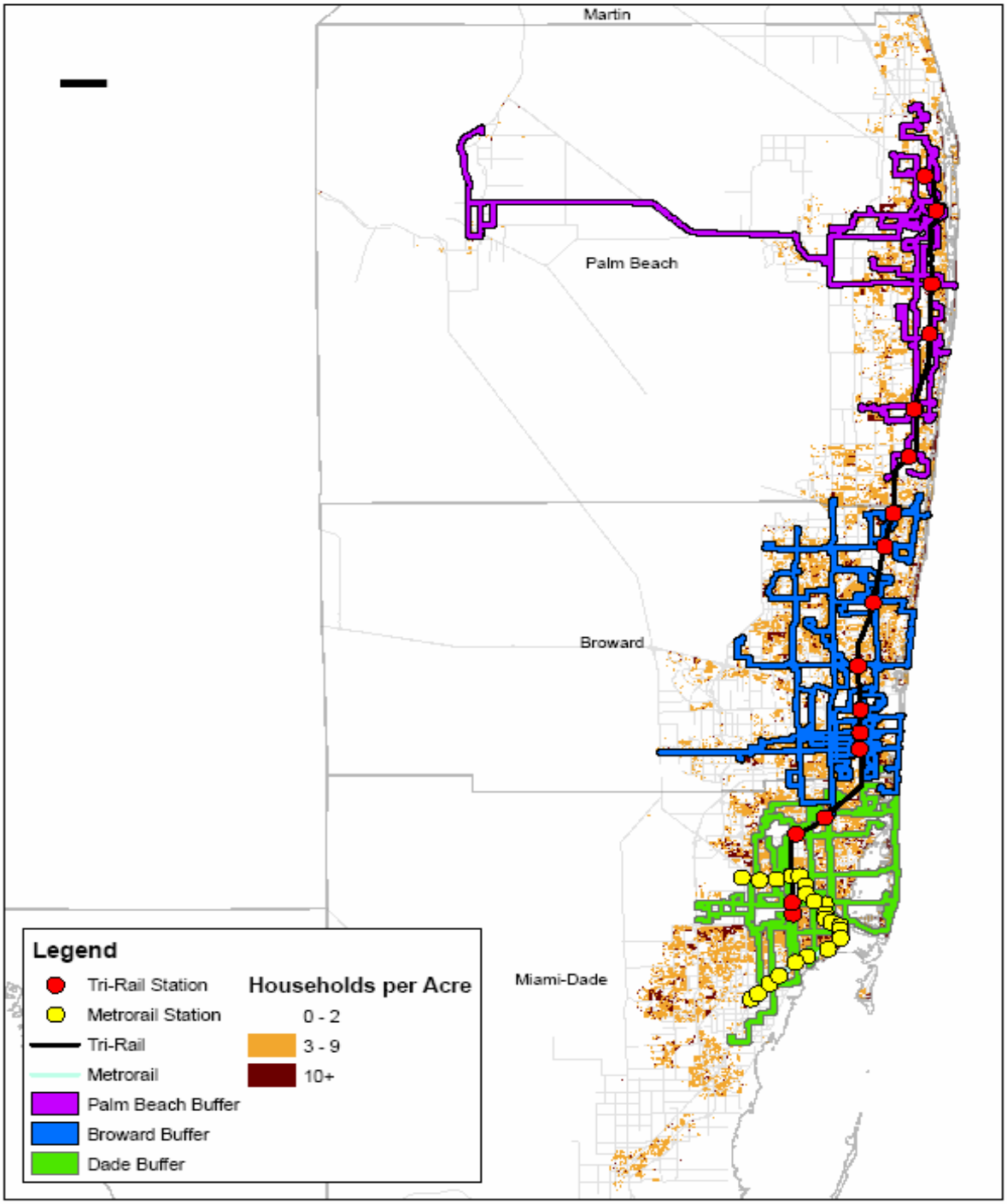
9.3 Performance Measurement Evaluation (2007)

SFRTA's Performance Measurement Evaluation was a comprehensive examination of Tri-Rail service using accepted industry standards and a comparison to peer commuter rail systems. The study included a number of analyses that had never previously been conducted for SFRTA/Tri-Rail services. One such analysis was a measure of service area coverage provided by Tri-Rail and its connecting bus service. Specifically, calculations were done to determine the portion of the region's population and employment that are located in areas one-half mile surrounding Tri-Rail stations and the area one-quarter mile surrounding each connecting bus route. It was determined that only 35 percent of the region's population and 50 percent of the region's employment were located in these station and bus route areas.

Translated into level of service (LOS) ratings established in TCRP Report 100: Transit Capacity and Quality of Service Manual (on a letter A through F scale), residential coverage is LOS F, and employment coverage is LOS E. This attribute is where Tri-Rail scored the lowest as a result of modest connecting bus service with Tri-Rail stations. Therefore, ridership development will continue to heavily rely on auto access until connecting services can be improved.

The map below displays the residential area coverage, with gaps in connecting service clearly shown in populated residential areas of western Miami-Dade County, western Palm Beach County, and northern Palm Beach County.

Figure 9-2: Tri-Rail and Connecting Bus Service Coverage



Source: SFRTA Performance Measurement Evaluation

9.4 Strategic Regional Transit Plan (2008)

The SFRTA Strategic Regional Transit Plan is an extensive technical analysis of the region's long range transit needs. The SERPM model (version 5) was used to evaluate the attractiveness of new transit corridors. Model runs were performed for individual corridors during the Strategic Plan's early phases, followed by model runs for combined transit networks. Some network runs were also conducted using alternate land use scenarios, where a portion of future population growth was reallocated to station areas, regional activity centers, and community redevelopment areas (CRA's).

All of these model runs allowed the opportunity to see how the various projects and networks interacted with the existing Tri-Rail service. The chart below (Table 9-3) shows various criteria used to analyze the individual corridors examined as part of the Strategic Regional Transit Plan. Included is a column titled "Tri-Rail Trips", which contains the estimated daily ridership on Tri-Rail if that one particular project is implemented. In the model, the baseline Tri-Rail daily weekday ridership is 23,250 passengers. The rise or fall of this number reflects the impact of the new project on Tri-Rail ridership. If the project is an extension of Tri-Rail, the total daily ridership for the extended Tri-Rail system is shown in the "Tri-Rail Trips" column.

The analysis has found that regardless of county, projects providing a new premium east-west transit service connection to Tri-Rail have a positive impact on Tri-Rail ridership. This trend is most dramatic with various alternatives of the Central Broward East-West light rail project, and is also quite strong with the various projects connecting to the west and south of the Miami Intermodal Center (MIC) at Miami International Airport. Meanwhile, premium north-south transit projects have more varied impacts on Tri-Rail ridership. One clear trend is that new transit service on the Florida East Coast (FEC) Railway has a positive to neutral impact on Tri-Rail ridership if connected to Tri-Rail (as an extension or allowing a direct transfer), but a completely separate FEC transit corridor is projected to have a negative impact on Tri-Rail ridership.

Table 9-3: Strategic Regional Transit Plan Trip Estimates

	Alternative		Mode	Strategic Plan Performance Criteria										
				Total Alignment Length (in miles)	Incremental Trips on New Service (Annual)	Incremental Trips/Mile on New Service (Annual)	Total Daily Trips	Tri-Rail Trips	Capital Cost per Mile (w/ Right-of-Way) (in millions)	Capital Cost per Mile (w/o Right-of-Way) (in millions)	Annual Cost per Trip	Subsidy per Trip	Total Capital Cost (w/ Right-of-Way) (in millions)	Total Capital Cost (w/o Right-of-Way) (in millions)
Miami East-West	30C	East-West Metrorail Extension West to FIU	Metrorail	8.8	3,561,600	404,727	30,269	26,357	$145.0	$121.3	$29.19	$2.55	$1,276.20	$1,067.1
	30D	East-West Metrorail Extension South to Kendall	Metrorail	14.4	4,490,100	311,813	35,650	26,649	$144.2	$120.5	$37.70	$3.50	$2,077.14	$1,735.0
	31R	137th Rapid Bus	BRT	23.6	1,225,920	51,946	8,915	25,895	$23.3	$15.3	$38.91	$2.85	$548.78	$361.88
	31T	Metrorail Extension plus 137th Avenue Rapid Bus	Combined Metrorail/BRT	22.6	5,663,680	250,605	36,660	26,334	$70.6	$56.5	$23.26	$2.21	$1,595.93	$1,277.53
MB	30F	Miami Beach LRT	LRT	8.6	3,965,755	461,134	13,535	25,146	$56.7	$40.9	$12.14	$1.99	$487.94	$351.7
Broward East-West	30G	Broward East-West LRT	LRT	20.8	7,623,274	366,504	26,018	28,133	$75.2	$59.3	$17.94	$1.21	$1,563.78	$1,234.3
	30T	Broward E-W LRT SFEC to CBD	LRT	8.2	4,121,631	502,638	14,067	27,006	$76.7	$60.8	$13.41	$1.05	$628.87	$499.0
	32L	Broward E-W LRT Sawgrass to CBD	LRT	17.9	6,544,448	365,612	22,336	27,999	$82.1	$66.2	$19.50	$1.17	$1,469.10	$1,185.6
Palm Beach Tri-Rail Extension	30V	Jupiter Extension (7 Stations)	Commuter Rail	13.4	1,973,648	147,287		32,312	$41.6	$25.8	$23.38	$1.62	$557.39	$345.09
	30W	Jupiter Extension (5 Stations)	Commuter Rail	13.4	1,622,927	121,114		31,115	$40.7	$24.9	$27.92	$2.15	$545.74	$333.44
	30X	Jupiter via Mangonia	Commuter Rail	15.5	1,163,503	75,065		29,547	$39.6	$23.8	$43.32	$3.55	$614.34	$368.84
	31U	Tri-Rail Extension to VA Hospital	Commuter Rail	2.8	278,057	99,306		26,525	$45.0	$29.1	$33.87	($1.11)	$125.92	$81.52
Miami Tri-Rail Extensions	30J	Tri-Rail Split to CBD	Commuter Rail	9.6	2,462,079	257,809		33,989	$40.4	$24.6	$20.82	$8.21	$386.01	$234.7
	32K	Tri-Rail Extension to Dadeland	Commuter Rail	10.7	1,970,425	184,152		32,301	$39.6	$23.7	$17.92	$0.78	$423.36	$253.86
FEC	30K	FEC Complete	Commuter Rail	83.3	10,793,534	129,574	46,450	15,964	$41.1	$25.3	$27.51	$3.29	$3,426.53	$2,107.0
	30L	FEC Shorter Line	Commuter Rail	40.6	8,512,529	209,668	32,406	22,223	$40.2	$24.4	$16.71	$1.77	$1,634.05	$991.0
	32A	FEC West Palm Beach to Miami	Commuter Rail	66.1	8,586,951	129,908	38,347	16,536	$41.2	$25.4	$27.49	$3.30	$2,723.51	$1,676.51
	32B	FEC Ft. Lauderdale to Miami	Commuter Rail	24.4	4,976,898	203,971	20,634	21,928	$43.1	$27.2	$24.78	$2.69	$1,050.60	$664.10

Table 9-3: Strategic Regional Transit Plan Trip Estimates (Continued)

Rapid Bus	31A	North-South Premium Bus	BRT	98.0	5,712,000	58,286	24,228	26,858	$7.1	$4.0	$11.82	$0.88	$700.65	$390.15
	31S	North-South Rapid Bus with Douglas Avenue	BRT	92.5	4,315,520	46,654	20,514	26,599	$7.2	$4.1	$15.09	$1.57	$670.38	$377.38
	31D	University Drive Rapid Bus	BRT	23.0	1,617,280	70,317	10,645	25,253	$22.7	$14.8	$27.51	$1.52	$522.79	$340.59
	31K	Wellington Rapid Bus	BRT	13.9	2,535,040	182,377	7,748	25,275	$22.7	$14.8	$10.66	$0.26	$316.01	$205.91
	31L	Military Trail Rapid Bus	BRT	32.2	4,306,240	133,734	10,782	23,752	$22.7	$14.7	$14.47	$0.09	$729.35	$474.35
	31N	Pines Rapid Bus	BRT	16.0	2,553,600	159,600	10,698	25,366	$23.2	$15.3	$13.61	$1.60	$370.73	$244.03
	31P	Atlantic Rapid Bus	BRT	18.1	2,243,840	123,969	6,381	25,521	$23.3	$15.3	$17.40	$1.94	$421.08	$277.68
	31O	Oakland Park Rapid Bus	BRT	18.5	2,235,840	120,856	7,577	25,562	$23.5	$15.6	$18.25	$2.04	$435.15	$288.65
	32O	Oakland Park Rapid Bus - Revised	BRT	29.5	2,247,680	76,193	10,232	25,471	$15.8	$12.7	$19.75	$2.07	$467.20	$373.70
	32P	Sample Road Modified Rapid Bus - Revised	BRT	23.5	2,127,040	90,512	8,399	25,787	$15.8	$12.6	$15.75	$1.20	$371.40	$297.00
Kendall	32R	US 1 Rapid Bus	BRT	43.4	1,859,200	42,839	7,485	24,134	$15.7	$12.5	$61.20	$2.34	$679.60	$542.10
	30E	Kendall Drive East-West Extension	Metrorail	7.8	2,714,400	348,000	53,456	25,680	$142.9	$119.1	$32.30	$2.02	$1,114.35	$929.0
	31V	Tri-Rail Extension to Zoo	Commuter Rail	19.4	1,215,071	62,633		29,723	$41.1	$25.2	$55.84	$6.73	$796.72	$489.42
	30Y	Kendall DMU Combination	DMU	21.4	1,812,791	84,710	5,818	25,945	$41.9	$26.0	$41.02	$4.42	$895.84	$556.84
	31Q	Kendall Rapid Bus	BRT	8.0	874,240	109,280	6,810	25,588	$23.4	$15.4	$18.53	$0.99	$186.89	$123.49
	32G	Kendall Hybrid BRT-DELRT SW 137th Augmented	Combined DELRT/BRT	15.2	3,741,268	246,136	11,978	25,671	$33.9	$21.6	$12.29	$0.95	$515.87	$328.17

10.0 IDENTIFICATION OF UNMET NEEDS

The purpose of this task was to identify unmet needs in the Tri-Rail system related to services and facilities. The identification of unmet needs took into account the analysis of the existing system as well as projections for ridership potential and incorporates the following:

- The findings of technical analyses performed as part of the 2008 TDP Minor Update.
- Ongoing work being done as part of the South Florida Rail Corridor Operations Simulation.
- Findings of ongoing SFRTA planning studies.
- Coordination with SFRTA Operations Department staff to document updated operating and maintenance needs.

10.1 Findings of Technical Analyses from 2008 TDP Minor Update

The project team that prepared the 2008 TDP Minor Update performed a number of technical analyses to support that effort. These included technical memoranda on the following areas:

- Service Sufficiency Analysis
- New Station Location Assessment
- Existing Station Performance Assessment
- Shuttle and Feeder Bus Service Analysis

A Parking and Circulation Study was also prepared by a separate study team in 2007, and a signage and wayfinding plan, one of the recommendations of the 2008 TDP, was prepared in late 2007 and early 2008.

These various memoranda document in-depth technical analysis and suggest recommendations for future studies and changes to the SFRTA Tri-Rail system, stations and feeder bus routes.

10.2 Service Sufficiency Analysis

10.2.1 Synopsis and Recommendations

The service sufficiency analysis developed data to support a review and analysis of existing Tri-Rail ridership patterns to determine whether alternative train operating schedules—such as express or skip-stop services, might better serve riders. An on-board survey was conducted in March 2007 to provide data for this analysis (this was prior to the beginning of 50 train service in July 2007) and on-off counts were used to expand the survey data from a 60 percent sample to 100 percent of daily ridership (at that time around 10,500 daily riders).

The survey indicated that the Metrorail transfer station, West Palm Beach, Ft. Lauderdale, Miami Airport, Mangonia Park and Boca Raton stations had the highest ridership, while Opa Locka and Hialeah Market had the lowest. Analysis was performed for each time of day (morning peak, midday, afternoon peak, evening) and origin-destination matrix was developed for each period to identify strong origin-destination pairs. The analysis noted that Tri-Rail is a strongly peak-period oriented service (more than 70 percent of trips during the morning or evening peak periods), a trait it shares with most commuter rail systems. A number of station pairs stood out as having a strong affinity, though no station pair represented more than 2 percent of ridership in each direction. The strongest station pairs overall were Boca Raton to West Palm Beach, Boynton Beach to West Palm Beach, and Boynton Beach to Mangonia Park. Many stations, including all of the stations in central Broward County, had high numbers of morning origin trips destined to the Metrorail transfer station. It was noted that school trips represented a large percentage of trips in Palm Beach County. Passenger loadings were noted by train but overcrowding was not identified as an issue in the study.

The analysis examined train operating scenarios that offered alternatives to the all-trains, all-stops service currently operated by Tri-Rail. These scenarios include turnbacks, limited or skip stop service, and express service. The study identified other commuter rail operators that use each of these alternative scenarios. The study recommended no change to Tri-Rail's current all-trains, all-stops operation. The study noted that Tri-Rail's ridership patterns support implementation of turnback operations because of the high level of ridership activity at both ends of the line. Limited stop or skip stop operations were considered potentially unworkable and not worth the limited (5-10 minute) time savings they would offer given the limitations of the existing two-track line and the complexity of the current operation, in which Tri-Rail trains are operated between Amtrak and freight operations.

Finally, while the study acknowledged that express service could provide worthwhile time savings and that considerable volumes of passengers have the Metrorail transfer station as their destination, the study ultimately concluded that this was not warranted due to the inconvenience of such service to passengers destined to intermediate stations. The study suggests revisiting the potential for alternative operating scenarios after the 50-train service schedule is in place. Most recently, strong growth has resulted in some crowding of peak trains. As a result, the possibility of implementing some turnback service is being studied.

10.2.2 Analysis

The origin-destination matrices identify a number of strong trip pairings that could lend themselves to skip-stop or express services. For example, nearly 50 percent of morning peak ridership is destined to just five stations-Metrorail Transfer, West Palm Beach, Mangonia, Boca Raton and Cypress Creek. Over 17 percent of total morning peak ridership is destined to Metrorail Transfer, while more than 25 percent is destined to the adjacent pair of stations at the northern end of the line, Mangonia Park and West Palm Beach. Ridership and loading patterns suggest that an additional turnback train operating from Boynton Beach to West Palm Beach and

Mangonia Park would serve a significant purpose, as would a train operating from Boca Raton south to Metrorail transfer.

10.3 New Station Location Assessment

10.3.1 Synopsis and Recommendations

The consultant team preparing the SFRTA 2007 TDP defined station location criteria for the system. The study team noted that no agreed upon industry standard for station location criteria exists, and that the standards, and the purposes for which those standards exist, differ greatly between systems. The study team based their proposed station location criteria on those of a number of peer properties (Trinity Railway Express, Virginia Railway Express, Coaster in San Diego and Sounder in Seattle) as well as three other systems with established criterion (SEPTA, New Jersey Transit and the proposed Northstar System in Minneapolis-St. Paul). The following factors were evaluated as criteria for station locations:

- Distance between stations
- Minimum daily boardings
- Station access
- Parking spaces, bus bays, and kiss-and-ride
- Signage
- Track geometry

In terms of distance between stations, the report suggests a minimum distance between stations as low as two miles provided that ridership is sufficient to warrant it. The report notes that the distance between Hollywood and Golden Glades Station is 7.6 miles and suggests several possible locations for new stations in between those two, including Ives Dairy Road and Hallandale Beach Boulevard. The report suggests that the Sheridan Street and Hollywood Stations continue to both be operated in spite of the short distance between them (1.4 miles) because closing Hollywood would further increase the long distance between stations north of Golden Glades, while closing Sheridan would reduce the supply of park-and-ride spaces. The station location criteria report identifies four possible locations for new stations based on the station distance measure:

- Between West Palm Beach and Lake Worth, probably near the former site of the Palm Beach International Airport station.
- Between Hollywood and Golden Glades, at Ives Dairy Road or Hallandale Beach Boulevard as discussed above.
- Between Boca Raton and Deerfield Beach, in the vicinity of Glades Road
- Between Pompano Beach and Cypress Creek, near Pompano Race Track

In terms of minimum daily boardings, the report noted that only SEPTA and NJT have minimum standards for stations. No Tri-Rail stations currently have boardings below SEPTA's minimum standard of 75 boardings/alightings per day, with Hialeah

Market having the lowest at an average of 103. The study team recommended separate standards for keeping an existing station open (which includes no incremental capital cost) and for new stations, which would require both station construction and, in some locations, track improvements. The report suggests a minimum standard of 100 average daily boardings to keep open an existing station, while requiring a projection of at least 350 daily boardings to warrant opening a new station, although it states that these standards should not be seen as hard and fast rules.

Station access measures were used by NJT and Northstar. These criteria suggested that:

- Stations should be located adjacent to existing grade crossings,
- Access points should be located on minor arterials or collector streets, not on major arterials or residential streets, and
- Adjacent neighborhoods within ¼ mile radius of the station should be connected to the station by a complete network of pedestrian paths and bicycle lanes or routes.

Northstar and NJT were also the only properties to consider the availability of parking spaces, kiss and ride and bus bays in their criteria. Location of bus bays, bus circulation and distance of parking spaces from the platform were all included in these criteria. Based on analysis of the existing Tri-Rail system's parking, the report sets a 350 space minimum as the criteria for new stations, a standard that could be reduced if warranted by surrounding development. The report also recommended that the distance of the farthest space from the platform should be no more than 1,000 feet. Also based on existing conditions at Tri-Rail stations, a minimum of 2 bus bays and a kiss-and-ride drop off location, both located nearer the platform than the parking spaces, was recommended.

Signage is a multi-faceted issue at Tri-Rail stations, encompassing way finding signage as well as signage for drivers and pedestrians within the stations. The study recommended that signage standards be established in the signage study.

Track geometry was not considered by any of the other properties examined, but as the report notes, placing a station on a curved section of track creates design problems and safety issues, and is best avoided. The team recommended including in the criteria that stations be located on tangent sections of track.

Based on these criteria and the recommendations contained in the location criteria report, the TDP study team prepared assessments of new and existing stations. The existing stations assessment is described in the next section. The new stations location assessment fleshed out the assessment of the four new station locations described on the previous page.

The study recommended a feasibility study to assess between two potential sites for the Palm Beach International Airport Station and for a new station between Hollywood and Golden Glades stations. The study assessed two potential sites for a

new station between Boca Raton and Deerfield Beach, and recommended one of those sites, near Glades Road about half way between the two existing stations, on the grounds of more land availability, equidistance between the two existing station and the volume of development near the station. The study recommended against a new station at Pompano Park Race Track, either to replace the existing Pompano Beach station or as an additional station, citing the available parking and recent investments at the existing stations and the close proximity of Pompano Park as an additional station.

10.3.2 Analysis

The recommendations are sufficient for inclusion as proposed recommendations for the TDP, subject to further analysis in the case of the Hollywood-Golden Glades and Palm Beach International Airport stations, although funding is not currently available for either location.

10.4 Existing Station Performance Assessment

10.4.1 Synopsis and Recommendations

The assessment of station performance used station location criteria developed as part of the 2008 TDP Minor Update effort to evaluate the performance of stations on the Tri-Rail system. In addition, the assessment made several system-wide recommendations that would benefit all stations in the system, including a system-wide pedestrian and bicycle access program and a system-wide wayfinding and signage study and implementation program.

The pedestrian and bicycle access program would plan improvements to on and off site pedestrian and bicycle circulation, and amenities to improve conditions for bicycles and pedestrians including shelters, benches, bicycle racks and lockers. This program has not been completed by SFRTA. The system-wide way-finding and signage study and implementation program was completed in early 2008. The study included an inventory of trailblazer and informational signs on arterials, interstate ramps, local streets and interstate highways, as well as entrance marquees, post-mounted signs, parking restriction signage, temporary signs, and station internal circulation signage. The study also compared Tri-Rail to a peer group to determine how its signage programs compare to industry standards. The plan made a series of recommendations for signage improvements in many station areas throughout the Tri-Rail system and provided a cost estimate and implementation plan for these improvements.

The station-specific recommendations included:

Mangonia Park

- Bus shelters or bus bays (after site is under long term control)
- Study also noted a shortage of bus bays

West Palm Beach

- Acquire available adjacent land to construct additional surface parking

- Construct additional crosswalks on Tamarind
- Consider bus shelters on sidewalks at bus stop location

Lake Worth

- Add pedestrian Crosswalk on Lake Worth Road

Deerfield Beach

- Construct bus shelters at bus bays

Cypress Creek

- Surface parking on vacant SFRTA-owned land immediately west of station

Fort Lauderdale

- Construct bus shelters at bus stop locations

Metrorail Transfer

- Feasibility study for intermodal center

Hialeah Market

- Consider eliminating station if double tracking requires expensive upgrades at this location

10.4.2 Analysis

Funds for systemwide bike improvements, specifically new bike lockers, are included in the capital program in fiscal year 2009. The system-wide way-finding and signage study and implementation program was completed in early 2008. Recommendations concerning station construct lack a detailed description in terms of the number of bus bays, parking spaces or shelters to be included at the various stations. Such details would be necessary to establish cost estimates and phasing for the improvements. Further analysis is recommended to establish such details.

10.5 Parking and Circulation Study

10.5.1 Synopsis and Recommendations

The parking and circulation study sought to identify existing and future parking needs at Tri-Rail stations and to develop a staged parking improvement implementation plan. Counts of parked vehicles and arrivals by mode during peak period were made at each station, and estimates were prepared for parking demand to the year 2025.

The study found that five stations on the system have current parking utilization above 90 percent (West Palm Beach, Fort Lauderdale Airport, Hollywood, Metrorail Transfer and Miami Airport). Two more stations (Lake Worth and Golden Glades) have current demand approaching 80 percent, which is practical capacity for a

parking facility. The study projects the need for an additional 1,610 spaces by 2020 (about a 40 percent increase over existing supply) and 2,390 spaces by 2025 (about a 60 percent increase). The study projects the need for additional spaces at virtually every station in the system. Only three stations have sufficient spaces to meet 2025 demand (Cypress Creek, Fort Lauderdale and Sheridan) while several stations require hundreds of additional spaces to meet demand. Table 10-1 shows the estimated number of additional spaces required at each station using medium projections from the 2007 Parking and Circulation study.

The recent surge in parking demand has rendered the demand and phase implementation plans of the original parking and circulation study obsolete. Efforts are underway outside the TDP process to significantly update the Parking and Circulation Study to reflect demand based upon the FTA FFGA, as amended, ridership projections and recent demand counts. Fortunately, most of the improvements identified in the study are still valid just needed sooner than anticipated.

Table 10-1: Additional Spaces Needed at Tri-Stations

Station	2025 Estimated Need for Additional Spaces
Mangonia Park	191
West Palm Beach	241
Lake Worth	90
Boynton Beach	45
Delray Beach	85
Boca Raton	97
Deerfield Beach	150
Pompano Beach	23
Cypress Creek	0
Fort Lauderdale	0
Ft. Lauderdale / Hollywood International Airport	405
Sheridan Street	0
Hollywood	189
Golden Glades	289
Opa-Locka	83
Tri-Rail/Metrorail Transfer	74
Hialeah Market	10
Miami Airport	414
Total Additional Spaces	2,386

Source: 2007 SFRTA Parking and Circulation Study

The plan recommended a comprehensive package of improvements at each station, including the development of additional parking spaces (either surface or structured parking), circulation improvements, shelters, benches, bicycle racks and lockers, signage and wayfinding improvements and in several cases, pedestrian bridges and new connections to un-served sides of the SFRC. In many cases, the improvements constitute a complete reconfiguration of the station layout, with new driver and pedestrian circulation patterns and new parking configurations. The proposed improvements are programmed in four phases (before 2010, 2010-2015, 2015-2020 and beyond 2020), and estimated capital costs are provided for most improvements. Table 10-2 from the Parking and Circulation plan showing the improvements and phasing are included in Appendix A to this memorandum.

10.5.2 Analysis

The Parking and Circulation Study is the most comprehensive and, in terms of costs, number and scale of projects, is the largest block of proposed improvements to the system currently planned. Integrating the many projects into the constrained capital budgets of Tri-Rail will be an ongoing challenge, and the elements of the plan will be updated by September 2008 as part of the current TDP update.

Table 10-2: Tri-Rail Station Parking and Circulation Improvements Program

< 2010		2010-2015		2015-2020		> 2020	
project	*cost*	*project*	*cost*	*project*	*cost*	*project*	*cost*
Mangonia Park (274 Existing Spaces)							
Landscaping maintenance required	Part of existing station maintenance costs	Improve circulation elements as shown in conceptual plan, adding an additional 94 surface spaces for 368 total spaces.	$ 1,340,000	Drop-off/pick-up on NE side of SFRC	TBD (Note: Right-of-Way costs not included.)	Construct parking garage (provide at least 465 total spaces)	$ 3,730,000
Acquire property or long-term lease for existing station parking and circulation	TBD (Note: Right-of-Way costs not included.)	Add bicycle racks (4) and bicycle lockers (6)	$ 19,500				
		Add benches (12) and shelters (10)	$ 455,000				
West Palm Beach (139 Existing Spaces)							
Provide 140 temporary parking spaces at future Palm Tran Bus Transfer Facility adjacent to station for 279 total parking spaces.*	$ 99,000	Improve circulation elements as shown in conceptual plan, including one-way movement pattern, resulting in loss of 51 parking spaces for 228 total parking spaces	$ 1,900,000	Add 291 parking spaces in garage at location of temporary parking lot for a total of 379 spaces.	$ 5,440,000	Pedestrian/bicycle overpass connection to crossing bridge from garage	$ 772,000
Shift unutilized spaces from signed employee parking to signed Tri-Rail parking (Signage)	$ 1,000	Add bicycle improvements including additional racks (4) and bicycle lockers (6), and restriping for bike lanes on Tamarind	$ 134,500	Provide traffic signal at Datura St. and Tamarind	$ 373,500		
Monitor "no parking" areas more frequently, discourage taxi cabs blocking drop-off and bus bays	Part of existing station maintenance costs	Pedestrian improvements including crosswalks on Tamarind, possible pedestrian countdown signal, and sidewalks improvements (including to Banyan St.)	$ 313,000				
		Add shelters (13) and benches (13)	$ 587,000				
Lake Worth (85 Existing Spaces)							
Secure long-term agreement to continue use of temporary parking lot west of station	TBD	Add shelters (4) and benches (2)	$ 177,500			Examine options for additional parking spaces on parcel situated between station and temporary lot	TBD (Note: Right-of-Way costs not included.)
Recover approximately 161 surface parking spaces under I-95 per FDOT plans for a total of 246 spaces.	Coordinate with FDOT plans	Add bicycle racks (4) and bicycle lockers (6)	$ 19,500				
Create bus pull-off locations on Lake Worth Rd. Add crosswalks and pedestrian countdown signals on Lake Worth Rd.	$ 68,000						
Boynton Beach (330 Existing Spaces)							
Improve Kiss-and-Ride signage	$ 5,000	Improve circulation elements as shown in conceptual plan, resulting in a loss of 44 parking spaces for 286 total parking spaces.	$ 2,335,000	Additional minimum of 89 spaces in surface lot expansion for a total of at least 375 total spaces. (Additional spaces can be added by extending surface parking on SFRTA owned property.)	$ 275,500		
		Add shelters (11) and benches (6)	$ 490,000				
		Add bicycle racks (4) and bicycle lockers (6)	$ 19,500				
Delray Beach (130 Existing Spaces)							
Relocate formerly used bus shelter and add benches (7)	$ 26,000	Improve circulation elements as shown in conceptual plan, including shelters (5), which will result in loss of 18 parking spaces for a total of 112 spaces.	$ 990,500	Add sidewalk from station to Congress Ave.	$ 123,000	Work with city, county and FDOT to provide pedestrian access from east side of I-95	TBD
Improve signage to station	$ 5,000	Construct parking garage (provide at least 215 total spaces)	$ 4,100,000				
Identify location for temporary parking while parking garage constructed	TBD	Bicycle racks (3) and bicycle lockers (6)	$ 17,500				
Boca Raton (163 Existing Spaces)							
Designate locations for drop-offs/pick-ups by restriping/extending fire lane	$ 12,450	Improve circulation elements as shown in short-term conceptual plan including 24 additional surface spaces for 187 total spaces	$ 2,600,000	Add 236 spaces in parking garage, with 24 remaining surface spaces, for a total of 260 parking spaces (with no remaining temporary spaces)	$ 5,050,000	Monitor FDOT construction program to ensure access of bike/pedestrian and shuttles, especially from FAU (east side of station).	NA
Correct signage for entering/exiting motorists from Congress and Yamato	$ 2,500	Provide 50 temporary parking spaces in gravel lot for a total of 237 spaces.[1]	$ 47,000				
		Add benches to existing shelters (8) and additional shelters in waiting areas (6)	$ 273,900				
		Add bicycle racks (4) and bicycle lockers (6)	$ 19,500				

Table 10-2: Continued

< 2010		2010-2015		2015-2020		> 2020	
project	*cost*	*project*	*cost*	*project*	*cost*	*project*	*cost*
Deerfield Beach (255 Existing Spaces)							
Improve signage from Hillsboro Blvd.	$ 2,500	Improve circulation elements as shown in conceptual plan, resulting in loss of 46 existing spaces for a total of 209 total spaces.	$ 3,200,000	Negotiate for use of additional surface parking at adjacent courthouse lot	TBD (Note: Right-of-Way costs not included.)	Potential crossing bridge (pedestrian/bicycle overpass) to facilitate safe movement at the south end of the platforms	$ 2,000,000
Maintain spaces and coordinate access improvements with adjacent developments	NA	Construct parking garage (provide at least 405 total spaces)	$ 3,660,000				
		Add bicycle racks (8) and bicycle lockers (6)	$ 28,000				
		Add shelters (24) and benches (16)	$ 1,100,000				
		Create sidewalk improvements	$ 175,000				
Pompano Beach (272 Existing Spaces)							
Complete SFRTA planned access and parking improvements adjacent to west platform, adding 43 additional parking spaces for 315 total spaces	See existing SFRTA Plans	Complete identified sidewalk improvements around station	$ 140,000	Improve circulation elements as shown in conceptual plan, including addition of twelve (12) parking spaces, for a total of 327 parking spaces	$ 1,200,000		
				Add bicycle racks (4) and bicycle lockers (6)	$ 19,500		
				Add benches (6) and shelters (8) in waiting areas	$ 358,000		
Cypress Creek (556 Existing Spaces)							
Address maintenance needs in park-and-ride lot	Coordinate with FDOT	Construct sidewalk to Cypress Creek Rd. on west side of SFRC (does not include curb/gutter)	$ 45,500	Examine options for pedestrian underpass or overpass of Andrews Ave. (shown as Options 1 and 2 on Conceptual Drawings)	$ 7,000,000		
Improve pedestrian crossing of Andrews Ave. with striping, signage, pedestrian countdown signal and refuge island	$ 75,500	Create 116 additional surface parking spaces and circulation elements on SFRTA owned land to the west of the station with access to Powerline Rd., for a total of 672 parking spaces	$ 2,300,000	Maintain parking east of the station	NA		
				Add shelters (11) and benches (4)	$ 486,000		
				Add bicycle racks (4) and bicycle lockers (6)	$ 19,500		
Improve signage to better identify existing drop-off/pick-up area and disabled parking	$ 5,000						
Fort Lauderdale (394 Existing Spaces)							
Shift Amtrak spaces to remote lot (signage), assigning all 394 spaces in lot to Tri-Rail	$ 5,000	Improve circulation elements as shown in conceptual plan, including shelters (9), resulting in loss of 20 spaces for a total of 374 spaces.	$ 1,900,000	Maintain parking spaces to meet demand and monitor progress of FDOT joint development plans and Central Broward E-W premium transit project	NA	Continue maintaining parking spaces to meet demand and monitor progress of FDOT joint development plans and Central Broward E-W premium transit project.	NA
Improve pedestrian crosswalk to remote lot	$ 1,500	Add bicycle racks (4) and bicycle lockers (6)	$ 19,500				
Improve signage directing traffic movements	$ 5,000						
Add stop sign at station entrance at south end of lot	$ 1,000						
Fort Lauderdale Airport at Dania Beach (180 Existing Spaces)							
Improve circulation elements as shown in conceptual plan, resulting in loss of 31 parking spaces, for 149 total spaces. (NOTE: Right-of-Way costs not included.)	$ 929,000	Provide benches (4) and shelters (8) in waiting areas	$ 355,000	Remove temporary overflow parking. Construct parking garage (provide at least 585 total spaces.) Maintain circulation underneath garage.	$ 10,035,000	Crossing bridge from parking garage to east platform	$ 2,660,000
Provide 115 temporary overflow parking spaces in gravel lot east of station for 264 total parking spaces[1]	$ 87,000	Add bicycle racks (4) and bicycle lockers (6)	$ 19,500	Potential for pay or permit parking for Tri-Rail customers	NA		
Improve signage directing people to station and east parking lot	$ 5,000	Create pedestrian crosswalks on Gulfstream Way	$ 10,000				
Improve pedestrian crossing at Griffin Rd. and I-95	$ 3,000						

Table 10-2: Continued

< 2010		2010-2015		2015-2020		> 2020	
project	*cost*	*project*	*cost*	*project*	*cost*	*project*	*cost*
Sheridan Street (475 Existing Spaces)							
Address maintenance issues identified	Coordinate with FDOT	Maintain parking to meet projected demand and coordinate circulation improvements with FDOT and developer of adjacent park and ride lot	NA	Monitor situation for an opportunity to provide access on west side of SFRC	NA	Continue monitoring situation for an opportunity to provide access on west side of SFRC	NA
Improve signage	$ 5,000	Pedestrian connection to west platform	$ 37,000				
Hollywood (141 Existing Spaces)							
Explore options for use of some Amtrak designated spaces as Tri-Rail spaces	NA	Improve circulation elements as shown in conceptual plan, resulting in loss of 67 spaces, for a resulting total of 74 spaces.	$ 1,900,000	Work with city, county and FDOT to create an intermodal center with parking garage containing 256 spaces for Tri-Rail, east of I-95 and a possible pedestrian crossing bridge to connect with Tri-Rail station. (Cost does not include property acquisition or lot clearance.) Results in 330 total spaces (not including any shared spaces at planned Railroad Museum.)	$ 9,500,000	Potential for pay or permit parking for Tri-Rail customers	TBD
Improve signage directing people to station	$ 5,000	Work with city and county regarding possibility of shared parking with planned Railroad Museum north of station. Need to accommodate up to 67 spaces from potential circulation improvements and 50 additional spaces for parking demand, resulting in a 191 total parking spaces	TBD				
Provide pedestrian crosswalk and pedestrian countdown signals at Hollywood Blvd. and I-95 ramps	$ 75,500	Provide benches (4) and shelters (8) in waiting areas	$ 355,000				
		Add bicycle racks (4) and bicycle lockers (6)	$ 195,000				
Golden Glades (216 Existing Spaces)							
Address identified maintenance needs	Coordinate with FDOT	Improve circulation elements as shown in conceptual plan, resulting in loss of 25 parking spaces, for a total of 191 spaces	$ 1,231,000	Monitor FDOT joint development progress and maintain space for projected parking levels, including possible garage to provide a total of 505 spaces	$ 9,500,000	Acquire property to provide access on west side of SFRC and potential parking facilities	TBD (Note: Right-of-Way costs not included.)
Improve signage	$ 5,000	Add bicycle racks (4) and bicycle lockers (6)	$ 19,500			Add pedestrian/bicycle crossing bridge to gain access on west side of SFRC	$ 2,000,000
		Add shelters with seating (11)	$ 546,000			Add sidewalk connections to provide access on west side of SFRC	$ 35,000
Opa-Locka (72 Existing Spaces)							
Improve signage and directions on website	$ 5,000	Improve circulation elements as shown in conceptual plan, resulting in loss of 4 parking spaces, for a total of 68 parking spaces	$ 1,400,000	Acquire property to NE for additional 87 spaces of surface parking, resulting in a total of 180 parking spaces. (NOTE: Cost does not include lot clearance or Right-of-Way)	$ 312,000	Work with city to create bike/pedestrian path on SE side of SFRC	NA
		Secure shared parking agreement with museum, for a minimum of 25 spaces, resulting in a total of 93 parking spaces	TBD				
		Add bicycle racks (4) and bicycle lockers (6)	$ 19,500				
		Provide benches (4) and shelters (9) in waiting areas	$400,000				
Tri-Rail / MetroRail Transfer (41 Existing Spaces)							
Add 40 parking spaces on SW lot owned by SFRTA for 81 total spaces. Implement gated access for Tri-Rail passengers only	$ 191,000	Coordinate with Miami-Dade Transit and FDOT on potential bus transfer facility adjacent to station	NA	Improve circulation elements as shown in conceptual plan including east side access, drop-off/pick-up area, and 37 additional surface parking spaces on land owned by SFRTA on east side of station for a total of 118 spaces	$ 1,700,000	Coordinate with Miami-Dade Transit regarding potential parking garage	NA
Encourage city to construct sidewalks between station and nearby residential areas	NA	Acquire property for construction of parking garage and circulation improvements	TBD (Note: Right-of-Way costs not included.)	Provide benches (4) and shelters (9) in waiting areas	$ 400,000		
Improve nearby crosswalks and transfer connectivity of stations	$ 2,000			Add bicycle racks (6) and bicycle lockers (6)	$ 24,000		

Table 10-2: Continued

< 2010		2010-2015		2015-2020		> 2020	
project	*cost*	*project*	*cost*	*project*	*cost*	*project*	*cost*
Hialeah Market (70 Existing Spaces)							
Improve signage	$ 5,000	Improve circulation elements as shown in conceptual plan, for a loss of 32 spaces, with a resulting total of 38 spaces.	$ 1,150,000	Provide pedestrian access and station crossing bridge from the east side of SFRC	$ 2,040,000		
Improve pavement striping and address other identified maintenance needs	Part of existing station maintenance costs	Negotiate short term lease to accommodate shift of demand during MIC construction	TBD				
Provide more frequent monitoring by security personnel	NA	Add 122 spaces in short term lease described above (cost of gravel lot)*, for a total of 160 parking spaces	$ 83,000				
		Provide benches (4) and shelters (9) in waiting areas	$ 400,000			160	
		Add bicycle racks (6) and bicycle lockers (6)	$ 24,000				
Miami Airport (181 Existing Spaces)							
Restripe disabled spaces	$ 6,500	Pedestrian crosswalk	$ 5,000	Monitor progress of MIC and preserve parking spaces	NA	Potential for pay or permit parking for Tri-Rail customers	NA
Install fencing to prohibit pedestrian crossing of SFRC	$ 25,000						
Total Costs							
	$ 2,163,450		$ 37,136,400		$ 53,856,000		$ 11,197,000

Notes:

*Includes cost of gravel only and does not include lot clearance or any required drainage costs.

NA= Not Applicable

TBD=To be determined

Assumptions:

1. Kimley-Horn and Associates, Inc. has no control over the actions of jurisdictional agencies and is not a party to agreements between the client and others. Accordingly, professional opinions as to the status of permits and entitlements or the suitability for a specific purpose, and professional opinions as to the probability and timeframe for approvals, are made on the basis of professional experience and available data. Kimley-Horn does not guarantee that the outcome of permits and entitlements or suitability will not vary from its opinions. Because its opinions are based upon limited site investigation and scope of services, Kimley-Horn does not guarantee that all issues affecting the

2. No code research has been done to determine the cost, feasibility and constructability of the project.

3. Parking space dimensions are assumed to be 9 1/2' x 20' .

4. Assumes that no materials will be reused.

10.6 Signage and Wayfinding Plan

10.6.1 Synopsis and Recommendations

The Signage and Wayfinding Plan was another recommendation of the 2007 TDP to flesh out the documented need for improved station circulation and wayfinding signage throughout the Tri-Rail system. The plan began with a documentation of existing conditions. The consultants catalogued and created a database of trailblazer and informational signs on arterials, interstate ramps, and local streets, as well as the interstate highways and interstate-standard state and county highways in the eastern part of the region, including I-95, I-595 from the Turnpike East, SR 112, 836, 826 and Gratigny Parkway. The plan also inventoried and assessed the quality of entrance marquees, post-mounted signs, parking restriction signage, temporary signs, and internal circulation signage at Tri-Rail stations. The inventory identified nearly more than 1,000 signs, including more than 600 Tri-Rail trailblazer signs, 453 Station signs and 56 highway signs.

The consultants also conducted a peer group review, contacting twelve commuter rail operators including the northeastern commuter rail systems from Boston to Virginia, Metro in Chicago, GO Transit in Toronto, Trinity Railway Express in Dallas, Sound Transit in Seattle, Metrolink in Los Angeles and Coaster in San Diego. Signage Standards and other information were collected from these systems for comparison with practices and conditions at Tri-Rail. The consultants also inventoried auto and bike access characteristics for each of Tri-Rail's stations. The plan includes a recommended set of graphics for future Tri-Rail trailblazer, and sign placement guidelines for trailblazing from highways and other locations into the station. The plan also includes recommended signage standards for signs directing autos and pedestrians within stations.

The plan includes immediate or near term recommendations to address immediate needs, and more long-term recommendations that reflect important but less urgent needs. Concept-level cost estimates were included for each of the recommendations. Table 10-3 lists the near term recommendations with estimated costs:

Table 10-3: Wayfinding Recommendations and Estimated Costs

Station	Planned Project	Cost
West Palm Beach	Add trailblazer signage from I-95 and improve entrance signage	$5,000
Boynton Beach	Add Tri-Rail signs at top of ramps from I-95. Add a station entrance sign coming from I-95. Move newspaper boxes to a location where their presence doesn't clutter the area.	$2,500
Delray Beach	Move or add new directional sign for station entrance off Congress Avenue. Upon entering station, remove the primary Tri-Rail sign from the bank of other signs.	$2,500
Boca Raton	Add trailblazer signage from I-95	$5,000
Deerfield Beach	Add station entrance ahead sign	$2,500
Pompano Beach	Change directional arrow on eastbound sign on Sample just before turn to Andrews Avenue	$1,000
Cypress Creek	Add trailblazer signage and signage maintenance and replacement where necessary	$6,600
Ft. Lauderdale	Improve entry/exit signage to station	$2,500
Ft. Lauderdale International Airport	Signage maintenance and replacement where necessary	$6,600
Sheridan Street Station	Replace missing signs in station area. An information sign should be placed at the top of the northbound I-95 off-ramp.	$1,000
Hollywood	No change from Table 5-2	$2,500
Opa-locka	Add trailblazer signage and signage maintenance and replacement where necessary	$6,600
Tri-Rail/Metrorail Transfer	Signage maintenance and replacement where necessary	$6,600
Hialeah Market	Signage maintenance and replacement where necessary	$6,600
Miami Airport	Reevaluate/redo signage after MIC construction complete	$6,600
TOTAL		**$66,600**

Source: SFRTA Systemwide Wayfinding and Signage Study, 2008

In addition to these improvements, the plan programs normal maintenance for signage and wayfinding at 13 of the 18 stations, at a cost of $2,200 per station, or a total of $26,400. Added to the cost of near term improvements, this brings the cost of the program to $93,000. The plan assumes that this program would be completed in 2008. The plan includes a program for the next ten years to maintain and replace signage and wayfinding materials at the station, under the following schedule:

Table 10-4: Wayfinding Signage Maintenance and Replacement Schedule

Year	Maintenance	Replacement	Total
2008	$26,400	$66,600	$93,000
2009	$40,000	0	$40,000
2010	$40,000	0	$40,000
2011	$40,000	0	$40,000
2012	$40,000	0	$40,000
2013	$40,000	0	$40,000
2014	$40,000	0	$40,000
2015	$40,000	$35,000	$75,000
2016	$40,000	$35,000	$75,000
2017	$40,000	$35,000	$75,000
TOTAL	$386,400	$171,600	$585,000

Source: SFRTA Systemwide Wayfinding and Signage Study, 2008

The plan also includes an implementation plan, maintenance plan and disaster plan for maintenance and replacement of signage and wayfinding materials.

10.6.2 Analysis

The Signage and Wayfinding Plan provides a detailed and affordable strategy for addressing the persistent problems that have plagued this element of Tri-Rail's visual image. Implementation of these recommendations will provide as high a ratio of benefit to cost as any possible improvement to Tri-Rail's system.

10.7 Tri-Rail Shuttle and Feeder Bus Service Analysis

10.7.1 Synopsis and Recommendations

The shuttle and feeder bus analysis was a technical memorandum prepared to support the 2007-2012 TDP. The memorandum summarized bus service characteristics at each station, assessed Tri-Rail shuttle route performance, and listed potential service changes for further investigation by Tri-Rail. The result was a thorough inventory of the bus routes serving Tri-Rail stations and the characteristics of those services.

The analysis identified a large number of issues with the bus routes serving Tri-Rail as well as the station-bus interface at each station. For example, the analysis notes that the quality of the connection at many stations is sub-standard, offering no off-street bus stops and long, poorly signed walks between the bus stops and train platforms. The plan, however, generally stops short of making specific recommendations regarding changes to either the bus routes or the stations. The following tables (Table 10-5 and Table 10-6) detail the observations made regarding the station bus facilities and connecting busses:

Table 10-5: Station Bus Facility Observations

Station	Bus Area Observations	Bus Service Information	Other Comments
Mangonia Park	No dedicated bus area. Buses share curb lane with cars, taxis, school buses.	Bus schedules combined with train schedule information at station kiosk. No printed schedules available at station.	
West Palm Beach	All routes except Route 50 utilize curbside stops. Route 50 pulls into congested station drive area.	Bus schedules combined with train schedule information at station kiosk. No printed schedules available at station. Sign at station shows outdated downtown circulator routing. Only directional signage to PalmTran stops was for service to PBIA.	Palm Tran soon to break ground on off-street transit center that will be located on west side of train station. All Palm Tran routes will utilize this new facility. This will improve bus connections and add new connection opportunities at this station.
Lake Worth	Buses presently utilizing on-street stops. Requires pedestrian crossing of Lake Worth Rd. for WB buses.	Bus schedules combined with train schedule information at station kiosk. No printed schedules available at station.	Interstate reconstruction forced temporary relocation of bus area. Buses will presumably move back to an area under I-95 upon completion of construction project.
Boynton Beach	Station has bus bays adjacent to station that are separated from general traffic.	Bus schedules combined with train schedule information at station kiosk. No printed schedules available at station.	This station reflects good design characteristics that should be emulated at other stations, if possible.
Delray Beach	Station has bus bay area that is located along one edge of the station parking lot. Buses must mix with general auto traffic.	Bus schedules combined with train schedule information at station kiosk. No printed schedules available at station.	
Boca Raton	Station has bus bays adjacent to station that are separated from general traffic.	Bus schedules combined with train schedule information at station kiosk. No printed schedules available at station.	This station reflects good design characteristics that should be emulated at other stations, if possible.
Deerfield Beach	BCT buses stop on-street. Tri-Rail shuttles use bus bays on west side of station, with access from Goolsby Blvd.	Only Tri-Rail shuttle schedule information available at station. No directional signage to lead riders to BCT on-street stops.	
Pompano Beach	BCT buses stop along NW 33rd Street. Tri-Rail shuttle uses bus curb lane located on east side of station. No signage indicating that that this is the shuttle stop location.	Bus schedule information is provided at a customer service booth at this station. No directional signage to lead riders to BCT on-street stops.	
Cypress Creek	Tri-Rail shuttles recently began using office building parking area located on west side of station. BCT buses use bus bays in parking area, located east of Andrews Ave. - a several minute walk across a busy road.	No bus schedule information provided at station. No signage directing passengers to Tri-Rail shuttles. Trailblazer signage to BCT bus stops (east of Andrews) is spotty.	
Ft. Lauderdale	Bus curb lane located adjacent to westside station platform. Taxis & autos often pull into bus area.	Only Tri-Rail shuttle schedule information available at station.	
Ft. Lauderdale Airport	Bus curb lane located adjacent to westside station platform. No direct bus access from Griffin Rd. Bus capacity is limited. Autos often mix with buses along curbside bus lane.	Only Tri-Rail shuttle schedule information available at station.	
Sheridan St.	Bus area located adjacent to station and is well-signed as a bus-only area.	Only Tri-Rail shuttle schedule information available at station.	
Hollywood	Right-in/right-out access only off of Hollywood Blvd. BCT Route 7 remains on Hollywood Blvd. Passengers must cross Hollywood Blvd. to travel EB on Rte. 7.	No BCT route information available at station. No directional signage to lead riders to BCT's Route 7 on-street stops.	
Golden Glades	Major bus transfer area. Long walk between bus area and Tri-Rail station. Bus bay area disjointed, with buses stopping at various locations around lot, and no clear signage directing passengers to specific routes.	No BCT and limited MDT route information available at station.	
Opa-Locka	Station has sawtooth bays located separate from auto parking area.	No MDT route information available at station.	
MetroRail/Tri-Rail	Buses stop on-street, along 11th Street.	No directional signage to bus stop. No MDT bus route information available at station.	
Hialeah Market	There are bus bays located at station, but are only used by Route 132 - Koger Shutte. Passengers walk blocks to LeJune Rd. and NW 36th Ave. to access MDT routes.	No MDT route information available at station. Transfer survey information indicates passengers are walking significant distances to access MDT routes.	
Miami Airport	Station has curbside area for buses. Autos & Taxis also use this space.	Tri-Rail shuttle and MDT schedule information was available at station.	Station will soon be temporarily relocated due to construction of the Miami Intermodal Ctr.

Table 10-6: Connecting Bus Observations

Station	Connecting Bus Routes	Nearby Destinations Served	Add'l. Service Considerations
Mangonia Park	Palm Tran Routes 20, 31, 33	St. Mary's Med. Ctr., WPB Veternas Med. Ctr., Gardens Mall, PBCC North Campus	Consider service to Palm Beach Indust. Park (off of Garden Road).
West Palm Beach	Palm Tran Routes 1, 31, 40, 43, 44, 45, 50	Downtown WPB, Palm Bch Mall, Palm Beach Int'l. Airport	Consider dedicated Tri-Rail shuttle service to PBIA (similar to service provided at Ft. Lauderdale and Miami Airports)
Lake Worth	Palm Tran Routes 61, 62	Downtown Lake Worth, Palm Beach Community College (PBCC).	Consider evening service between PBCC and Tri-Rail.
Boynton Beach	Palm Train Routes 70, 71 and Boynton Beach CRA Trolley.	Boynton Beach Mall	
Delray Beach	Palm Tran Routes 2, 70, 81. Delray Beach Shuttle Route 1	Downtown Delray Beach, shopping centers around Military Trail	
Boca Raton	Palm Tran Routes 2, 94, Tri-Rail Boca Shuttle, T-Rex shuttles.	T-Rex. Corp. Ctr., Arvida Park, South Congress, Boca Raton Commerce Centers, Florida Atlantic Univ., Boca Ctr, Boca Town Ctr. Mall	Consider dedicated shuttle service to FAU, similar to what is provided for SFEC.
Deerfield Beach	BCT Routes 92, 93, Tri-Rail Shuttles DB1 and DB2.	Hillsboro, Deerfield Commerce, Newport Center and Powerline Industrial Parks, Deefield Mall	
Pompano Beach	BCT Routes 34, 93, 95, Tri-Rail Shuttle PB1.	Park Central, Cpans, Whisp. Lakes Industrial Parks, Broward Comm. College North, Pompano Citi Center	
Cypress Creek	BCT Routes 60, 62, Tri-Rail Shuttles CC1, CC2, CC3.	Corp. Park at Cypress Creek, Pompano Comm. Corp. Ctr., Commercial Blvd. office, industrial businesses.	
Ft. Lauderdale	BCT Routes 9, 22, 81, Westrn XPr, Tri-Rail Shuttles FL1, Sun Trolley	Downtown Ft. Lauderdale, Broward Mall	
Ft. Lauderdale Airport	BCT Routes 4, 6, 15, 16, Tri-Rail Shuttles FLA 1, FLA 2, SFEC Shuttle	Ft. Lauderdale Int'l. Airport, Commerce Park, S. Florida Education Ctr.	
Sheridan St.	BCT Routes 3, 12, 17, Tri-Rail Shuttle SS1	Sheridan St. commerical, N. 29th Ave. business/industrial	
Hollywood	BCT Route 7	Hollywood Mall, Hollywood CBD	
Golden Glades	BCT Routes 2, 18, 441 Breeze. MDT Routes 22, 42, 77, 95's, 105, 122, 241, 277	Sunshine Ind. Park	
Opa-Locka	MDT Routes 32, 42, 105	St. Thomas Univ., Fl. Memorial College, Miami Lakes, N. Dade Commercial Park, Palmetto Lakes Ind. Park. Seaboard Ind. Park	Consider service to one or more nearby industrial parks.
MetroRail/Tri-Rail	MDT Routes 42, 112, Metrorail	Miami Dade Comm. College North Campus, Palm Springs Mile shops	
Hialeah Market	MDT Routes 36, 42, 46, 132 (Koger Shuttle)	Koger Center	
Miami Airport	MDT Routes 42, 37, 57, 238, 133 (MIA Shutle)	Miami Airport, Airport Commerce Centers, Mall of the Americas	Consider service to commerce centers located west of MIA.

The analysis identified several concerns regarding bus facilities at the stations, although it notes that recommendations in the 2007 Parking and Circulation Study address many of these concerns. The analysis also makes a number of observations and recommendations regarding signage that presumably would be addressed by the Signage and Wayfinding Plan. General recommendations include the following:

- Relocate BCT operations at Cypress Creek Station from the parking lot out of sight from the platform to a location nearer to the platform, and place signage to direct passengers to this location.

- Make printed schedules available at Tri-Rail stations for all connecting Palm Tran, BCT and MDT bus routes at the specified station.

- Display a master bus and train schedule at station platform display boards, as is now done in Palm Beach County. A station area map should also be provided that shows bus route alignments and locations of nearby destinations. Provide this information at station display boards and on Tri-Rail's web site.

- The Port Everglades shuttle route has the lowest ridership route of all SFRTA-operated Tri-Rail shuttles. Further evaluation of this route should be conducted to determine if service should be continued in its present form, cut back or eliminated.

- Extend Palm Tran's Routes 61 and 62 to operate until around 8:30 PM 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 if service should be continued in its present form, cut back or eliminated.

- The potential for new shuttle service to this 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 (PBIA), as is done with the Ft. Lauderdale and Miami Airports.

- There are many industrial parks located near the Opa Locka station. The potential for new shuttle service to one or more of these industrial parks should be evaluated.

- There are also several industrial and commerce centers located west of Miami International Airport. The potential for new shuttle service to one or more of these industrial parks should also be considered.

10.7.2 Synopsis and Recommendations

The recommendations made in the Shuttle and Feeder Bus Service Analysis carry with them no cost estimates or specific recommendations for implementation. Many are essentially conceptual in nature and would require further analysis development to convert them into specific recommendations, and to estimate capital and operating costs for the proposed facility and service changes.

10.8 Conclusion

SFRTA has conducted a number of studies aimed at identifying unmet needs related to their existing operations and facilities. Several of these studies have provided highly detailed, if occasionally overlapping, recommendations for changes to facilities and services. Many of the recommendations are supported by conceptual cost estimates that will allow SFRTA to program these improvements into their capital and operating budgets. These improvements must be prioritized along with the internal

needs of the organization and programmed for development. Some of the recommendations will require further analysis and development before they can be implemented. Some of these recommendations could be developed for implementation by SFRTA staff, while others should be packaged as studies for analysis and development by consultants. However, these studies and plans tend to be inward looking, concentrating on improving the systems and services that SFRTA has in place, rather than examining the needs of the region and identifying new initiatives and new directions for SFRTA.

The 2007 On-Board Survey offered an opportunity for a more outward-looking view of the region's transportation needs, at least as experienced by Tri-Rail's existing passengers. The study provided a great deal of data regarding passenger views on the system, origin and destination data. No recommendations were made in the survey document, and the survey itself did not provide many surprises, finding that most trips begin and end in zones in the east of the region, that Tri-Rail passengers tend to make longer commute trips, and that passengers are generally satisfied with the service (except for the cleanliness of rest rooms and on-time performance), giving "good" but not "very good" ratings to most aspects of the service.

The present TDP analysis is analyzing regional travel to identify unmet needs that cannot be identified through analysis of the existing Tri-Rail system. Needs such as east-west connections, the opportunities for extensions of the existing Tri-Rail commuter rail line, new east-west services, and perhaps new north-south services in other areas of the three counties, are among the unmet needs that cannot be analyzed with reference to the existing system. These needs, once identified, will require extensive study to determine the nature of the improvements that might meet them, as well as SFRTA's role in developing strategies to meet them.

11.0 FY 2009 – FY 2018 PROGRAMMED AND PLANNED CAPITAL PROJECTS

Unmet system needs as identified in the various technical analyses and assessments that were summarized in the previous chapters. These needs were coupled with the needs identified in the on–board survey and station outreach results from the participation of Tri-Rail patrons, and from collaboration with SFRTA departmental staff, to create a ten year program of projects for implementation developed. The development of this improvement program is responsive to SFRTA's goals and objectives.

11.1 SFRTA Programmed and Planned Capital Project Improvements list

The programmed project improvements for SFRTA are presented in the following table. The first five years represented by FY 2009 through FY 2013 is reflective of the adopted SFRTA Budget and Five Year Plan FY 2008-2009. Between FY 2014 and FY 2018 additional projects are programmed and listed under the specific Agency department category.

An overview of the various programmed and planned projects for FY 2009 – FY 2013 is provided immediately following the table.

Table 11-1: SFRTA 10-Year Capital Improvement Plan

PROGRAMMED AND PROPOSED PROJECTS	Annual Project Cost (in Thousands)							Total Project Cost (in Thousands)	SFRTA Goal and Objective
	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14-18		
Autos									
Automobiles	$114	$75		$75			$75	$339	2
Preventative Maintenance									
Preventative Maintenance	$12,480	$7,000	$7,000	$8,200	$8,200	$8,200	$8,200/yr	$92,080	2
Smart Card and Ticket Vending Machines (TVM)									
Smart Card Technology	$2,744							$2,744	1,5
TVM Procurement	$9,912	$1,715						$11,627	1,5
Operations-DMU Rail Project									
DMU Locomotives	$2,252							$2,252	1,2
DMU Maintenance	$966							$966	1,2
New Rolling Stock									
New Rolling Stock	$13,289	$2,525	$3,475					$19,289	1
Rail Car Consultants	$500							$500	1
Segment 5 Rolling Stock									
New Rolling Stock	$2,388							$2,388	1,2
Contingency	$238							$238	1,2
Rolling Stock Overhaul/Spare Parts									
Spare Parts	$295					$500	$500	$1,795	2
Decolocstat	$201							$201	2
HEP Unit	$51							$51	2
Locomotive Generator	$241							$241	2
16 Outside Train Cameras	$200							$200	5
Coach Graphics	$840	$840						$1,680	2
Engine 801-804 Upgrade/Replacement	$2,500					$1,250		$3,750	1,2
Locomotive Paint				$1,700				$1,700	2
Covert Traction Gearing to 88 MPH	$500							$500	1,2
Wayside Inboard Hot Box Detection	$1,000							$1,000	1
GPS Tracking System	$199							$199	1
Dynamic Stabilizer	$850							$850	5

Table 11-1: SFRTA 10-Year Capital Improvement Plan (Continued)

PROGRAMMED AND PROPOSED PROJECTS	Annual Project Cost (in Thousands)							Total Project Cost (in Thousands)	SFRTA Goal and Objective
	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14-18		
Pompano & Lake Worth Parking	$1,195							$1,195	2
Dania, Pompano & Delray Design	$1,156							$1,156	2
Dania, Pompano & Delray Constr.	$10,322							$10,322	2
Cypress Creek Station Platform Improvements	$63							$63	2,5
Golden Glades Station	$400								2
78th Street Metrorail/Tri-Rail Design	$364								2
79th Street Metrorail/Tri-Rail Constr	$1,038	$896			$2,100			$4,034	2,5
Mangonia Park Station Improve Circulation Elements and Rebuild Package	$1,750							$1,750	2,5
Cypress Creek Station Surface parking on vacant SFRTA owned land west of station Design	$300							$300	2,5
Cypress Creek Station Surface parking on vacant SFRTA owned land west of station Constr.	$1,583							$1,583	2,5
Parking Lot Improvements	$1,796	$2,000	$1,500	$2,500	$3,200	$6,000	$6,000/yr	$46,996	2
General Engineering Consultants									
General Engineering Consultants	$700	$500	$500	$600	$600	$600	$600/yr	$6,500	
Planning and Capital Development									
General Planning & Capital Development	$5,174	$1,250	$1,250	$2,875	$1,850	$1,450	$1,500/yr	$21,349	3
FEC Jupiter AA Extension	$1,257	$1,800	$1,200					$4,257	2,3
FEC Jupiter EIS/New Starts	$697		$3,000	$2,000				$5,697	2,3
Parking Policy	$450							$450	3
Miami Extension Evaluation					2,000			$2,000	2,3
Mainline Operation Efficiency Study		$325						$325	1,3
Southern Double Track AA	$1,100							$1,100	2,3
Scripps Project Study	$174							$174	3
Planning Assistance	$150					$150		$300	3
Regional Planning Council Services	$500			$250				$750	3
Transit Development Plan	$850	$350	$375	$375	$400	$400	$400/yr	$4,750	3,4
Transportation/Land use Planning	$650							$650	3
SFRTA Strategic Regional Transit Plan	$1,525							$1,525	2,3,4
Golden Glades Station	$150							$150	2
79th Metrorail Multimodal Facility		$250						$250	2
New Tri-Rail Stations	$500							$500	2
Cypress Creek Station	$175							$175	2

Table 11-1: SFRTA 10-Year Capital Improvement Plan (Continued)

PROGRAMMED AND PROPOSED PROJECTS	Annual Project Cost (in Thousands)							Total Project Cost (in Thousands)	SFRTA Goal and Objective
	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14-18		
FDOT FEC Study									
FDOT FEC Study	$2,324							$2,324	3
West Palm Beach Intermodal									
West Palm Beach Intermodal Facility Parking	$1,929							$1,929	2,5
Planning and Program Support									
Program Support	$3,457	$1,100	$1,150	$1,500	$1,750	$2,500	$2,500/yr	$23,957	1
Operations Department Projects-Hialeah Yard Projects									
Hialeah Yard Projects	$992			$1,000	$750	$1,000	$1 ,000/yr	$8,742	2
Hialeah Yard Rewire Mech Shop (PE/Con)		$150	$1,150					$1,300	2
Hialeah Yard- New Car Wash			$195	$1,495				$1,690	2
Hialeah Yard Generator	$300							$300	2
Hialeah Yard- Fuel Tank	$150							$150	2
Hialeah Yard-Sludge & Lube Tanks	$150							$150	2
Hialeah Yard 75 Ton Bottle Jack	$15							$15	2
Hialeah Yard Water Cut Outs	$15							$15	2
Hialeah Yard Cantilevered Platform	$75							$75	2
Hialeah Yard Dump Station	$75							$75	2
Hialeah Yard- Layup Track Improvements (PE/Con)		$200	$1,500					$1,700	1,2
Hialeah Yard- Layup Track In-House Administration	$45							$45	2
Operations Department-Station Repairs/Improvements									
Misc. Station Rehabilitation	$220						$250/yr	$1,470	2
Elevator Improvement/Monitoring	$750							$750	5
Painting, Deerfield and Hollywood	$290							$290	2
Paving/Striping	$200							$200	2
Emergy Lighting at Hollywood	$40							$40	2,5
Structural Improvements at Fort Lauderdale Airport Station	$250							$250	2
Repair at Golden Glades	$200							$200	2
Key Station Generators	$1,200							$1,200	2
GPS Tracking System	$2,000							$2,000	1
Bus Pads	$96							$96	2,5
Irrigation Wells	$60							$60	2
ADA Improvements	$600							$600	5

11.1.1 Preventative Maintenance

Scheduled preventative maintenance of Tri-Rail facilities and equipment is critical for safe and reliable operations. Rolling stock represents one of the major capital investments of SFRTA that must be well maintained to maximize its service life. Preventative service initiatives for the Tri-Rail vehicle fleet and system wide station area facilities include a progressive maintenance schedule that encompasses ongoing general, electrical, mechanical and safety inspections as programmed for within the Agency budget.

11.1.2 Smart Card Technology Research

The SFRTA is examining the implementation of universal fare card technology commonly referred to as Smart Card through additional research and study. The implementation of Smart Card will result in a common acceptable form of payment for paying fares on any one of the systems as operated by Palm Tran, Broward County Office of Transportation and Miami-Dade Transit.

11.1.3 Ticket Vending Machines

To further improve the efficiency of intermodal transfers throughout south Florida SFRTA has also programmed capital funds for the procurement and implementation of a new generation of ticket vending machines for the Tri-Rail system. These ticket vending machines will include Smart Card technology to provide a seamless regional transportation system that utilizes the same type of fare media.

11.1.4 Rolling Stock

SFRTA will continue to add to its existing vehicle fleet of 26 passenger cars through the procurement of 14 additional passenger cars. The delivery of these cars and their placement into revenue service will occur between FY 2009 and 2010. Specifically, two cab cars will be delivered in the fall of 2009. The following year SFRTA will take delivery of four cars in summer followed by eight more cars in fall 2010.

The additional passenger cars will increase passenger capacity since each passenger car will be able to seat between 136 and 162 passengers depending on car design and seating configuration. These additional cars will enable Tri-Rail to consistently operate three-car train consists. The three car trains will provide needed capacity as evident from the increasing ridership growth that is anticipated to continue through FY 08/09.

SFRTA will also continue the purchase of spare parts and other train related equipment for the overhaul and rehabilitation of rail equipment.

11.1.5 Station and Parking Lot Improvements

SFRTA has programmed both station and parking lot improvements at various Tri-Rail station areas. Station improvements are programmed in the next five years for the following stations: West Palm Beach; Mangonia Park; Pompano Beach; Cypress Creek; Golden Glades; and Metrorail Transfer. Parking improvement projects are planned for Mangonia Park; Pompano Beach; and Cypress Creek to address issues

with parking lot location, configuration and capacity. Miscellaneous parking lot improvements and other station improvements such as the installation of bike lockers are programmed to occur at Tri-Rail stations system wide.

11.1.6 Planning Initiatives

There are a number of ongoing planning efforts for the SFRTA and the South Florida region that are programmed to evaluate potential new facilities and services within the SFRTA service area. These include:

- South Florida East Coast Corridor Transit Analysis Study
- Mainline Operation Efficiency Study (using rail traffic controller software)
- Southern Double Track Alternatives Analysis
- New Tri-Rail Station Analysis

11.1.7 Hialeah Yard Projects

SFRTA has programmed many miscellaneous improvement projects to facilities at Hialeah Yard. Specific improvements include a rewire of the mechanical shop and the installation of a new car wash as well as the construction of additional track for overnight storage of rail equipment.

11.1.8 Jupiter Extension

The northern expansion of the Tri-Rail system will be evaluated as part of the South Florida East Coast Corridor Study which will access the feasibility of additional commuter rail service to serve the City of Jupiter. For the design build phase of this northern extension the associated capital improvements such as track and signal improvements, grade crossing safety improvement, station construction, acquisition of new rolling stock and the construction of a new maintenance layover are programmed in the SFRTA five year capital plan.

11.2 FY 2009 – FY 2013 Unfunded Needs

The following unmet needs are based on completed analysis of Tri-Rail operations and either highlight, or are in addition to recommendations which have originated from previous technical and planning studies.

11.2.1 Dispatch of the South Florida Rail Corridor

For the additional improvement of service reliability it is essential that SFRTA continue its pursuit to secure a dedicated funding source which will allow the Agency to take full control of the dispatch of the South Florida Rail Corridor. Once obtained SFRTA will use its dispatch capability to further improve Tri-Rail's on-time performance and maximize service travel time to include more efficient operations and passenger service.

11.2.2 North Storage and Crew Facility

The scheduled delivery of additional passenger cars in the nest two years will require additional layover space for storing train sets overnight as well as light maintenance, cleaning and inspection activities. The planning, design, right-of-way and construction of a northern storage and crew facility are identified as an unfunded need.

11.2.3 Tri-Rail Station Shuttle Bus Service Improvements

As part of this TDP Major Update, regional and local planning documents were reviewed. Specifically, an assessment of each of the three counties (Miami-Dade, Broward, and Palm Beach) TDP's was performed to identify proposed local bus service improvements to further enhance service connections with Tri-Rail stations. These service improvements include expanding local bus service spans as well as reducing service or bus headways to further improve connections with Tri-Rail service. 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 with Fort Lauderdale and Sheridan Tri-Rail station areas to downtown Miami.

These proposed service increases programmed under the local transit providers latest TDP will greatly improve transit access to Tri-Rail stations, and reduce wait times, more closely match the shuttle bus service span with that of Tri-Rail service, and provide greater transit coverage and access to Tri-Rail services.

In addition to local bus service connections at Tri-Rail stations, Tri-Rail also operates shuttle services to serve specific regional destinations and activity centers. A Tri-Rail shuttle and feeder bus service analysis resulted in the recommendation of various shuttle service improvements for Tri-Rail stations. These improvements include expansion of service hours, increases in headway frequency as well as the implementation of new shuttle routes altogether.

An annual operating cost has been estimated for each recommended service improvement. The basis for this estimation relies on a $60 per hour of bus service in operation for 255 weekdays per year. SFRTA currently contracts with a private operator for shuttle service and as such these services would be implemented upon

qualifying for additional operating assistance that would be allocated towards Tri-Rail shuttle bus services. In the past these sources of operating funds have been in the form of operating grants as awarded to SFRTA from the Florida Department of Transportation and/or county jurisdiction of the shuttle service area.

The specific shuttle service improvement recommendations for FY 2009 – FY 2013 include:

1.) Additional Service to Meet Headways on Boca Center Shuttle:

Add one bus for two hours during each peak period (AM/PM)

Estimate annual operating cost: $61,000

2.) Additional Shuttle Service to Meet New Headways: Recommended changes were developed to the following shuttle routes that are operated by Tri-Rail. Estimated total annual operating cost for these improvements is $244,000.

A.) Deerfield Beach Shuttles: Add two additional hours of service in each peak to achieve 20 minute headways.

Estimated annual operating cost: $122,000 for both shuttles

B.) Pompano Beach: Add two additional hours of service in each peak to achieve 20 minute headways.

Estimated annual operating cost $61,000

C.) Cypress Creek: No change to either shuttle

D.) Fort. Lauderdale Airport: FL1 Shuttle add two additional hours of service in each peak to achieve 20 minute headways

Estimated annual operating cost $61,000

No change to FLA2 (the cruise ship route)

E.) Sheridan: No change to shuttle

F.) Hialeah Market: Shuttle operated by MDT.

3.) Additional service for West Palm Beach Routes to Meet New Headways

Add two additional hours of service in each peak (AM and PM) to achieve 20 minute headways.

Estimated annual operating cost: $61,000

4.) Additional shuttle Service to Meet New Headways on the South Florida Education Center Bus (From Ft. Laud. Airport station).

Add two additional hours of service in each peak (AM and PM) to achieve 20 minute headways.

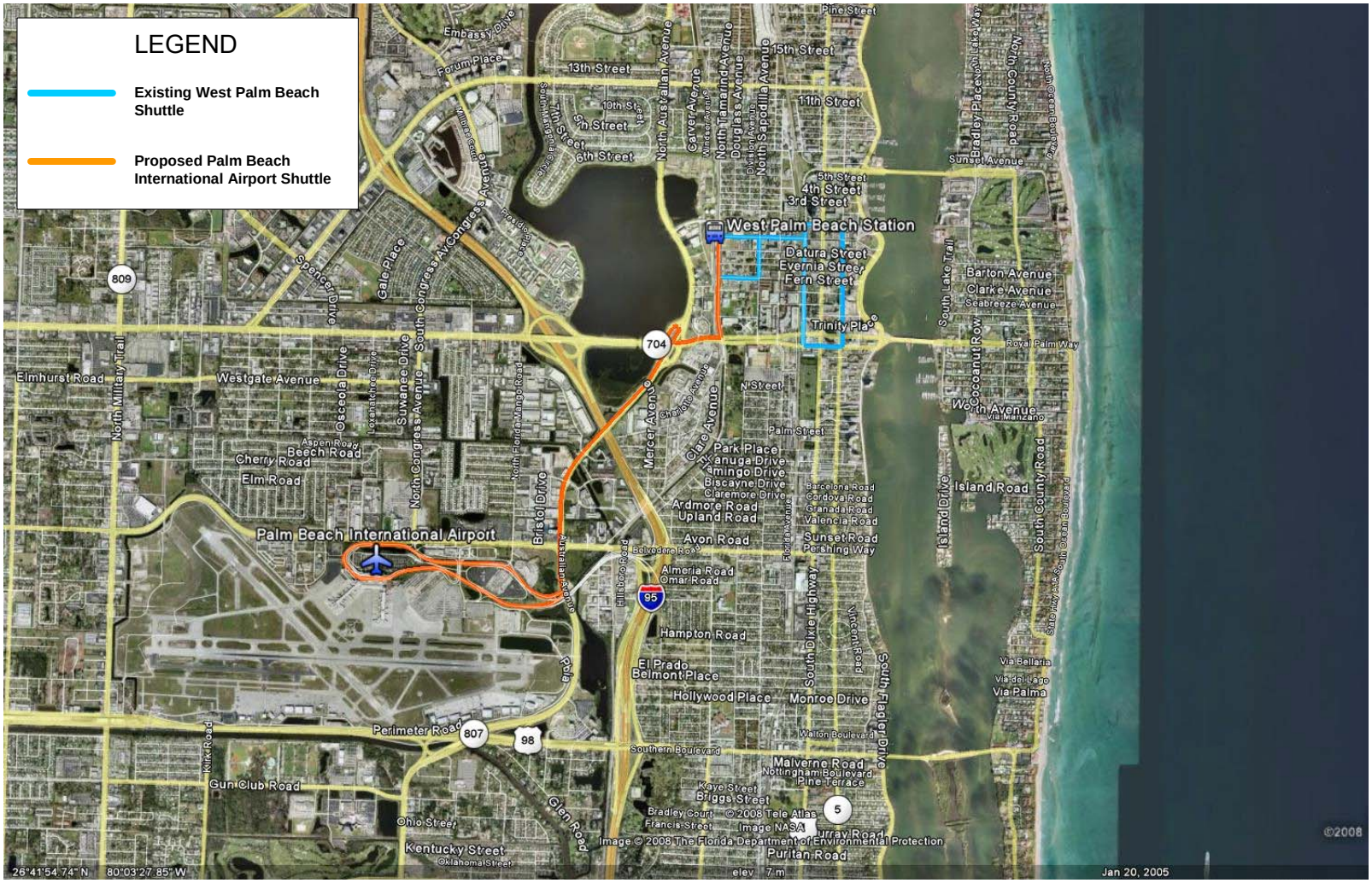
Estimated annual operating cost: $61,000

5.) Palm Beach International Airport Shuttle Service from West Palm Beach Station

Implement new shuttle service that provides a connection between Palm Beach International Airport (PBIA) 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 to include weekend service. The proceeding figure illustrates a proposed route alignment for consideration to provide a connection between the airport and West Palm Beach Tri-rail station.

Estimated annual operating cost: $581,000

Figure 11-1: Proposed PBIA Shuttle Alignment



11.3 FY 2014 – FY 2018 Recommendations

The following recommendations were developed from the previous chapters of the report.

11.3.1 Station and Parking Lot Improvements

As identified from the completed parking and circulation study and station assessment study presented in Chapter 10 a recommended capital improvement program was developed for station areas through 2025. Proposed improvements planned through FY 2018 were prioritized from the initial program schedule. The various types of station and parking lot improvements that will occur throughout the Tri-Rail system can be generally categorized under station circulation, parking capacity, and pedestrian improvements.

1.) Station Circulation: Upgrade station area circulation which could include the installation of traffic signals at existing station entrances; implement improvements through coordination with adjacent existing and/or planned development; and develop taxi cab accommodations at additional Tri-Rail stations or those stations that are not served by Amtrak.

2.) Parking Capacity: Increase station area parking capacity through the construction of additional surface parking lot capacity and also through the design and construction of structural parking

3.) Pedestrian Improvements: These improvements include the installation of crosswalks sidewalk improvements as well as the installation of additional shelters and benches.

11.3.2 New Tri- Rail Station Locations

The unmet needs analysis of the previous chapter identifies the previous station location assessment and criteria that have been developed and evaluated as part of the TDP Minor Update. Several new station locations were proposed for additional evaluation and consideration for implementation along the existing Tri-Rail commuter rail line.

The new stations as recommended for additional evaluation for design and construction include locating a station area that would serve the Palm Beach International Airport and a station area that would serve the travel market between the existing Hollywood and Golden Glades Tri-Rail stations. Both of these stations would potentially serve under utilized travel markets as well as improve the accessibility of the Tri-Rail system.

Furthermore, additional shuttle bus service would also be implemented at each of these stations in addition to existing local transit bus service. The proposed shuttle bus services for the Palm Beach International Airport station would operate at a 20-minute headway during the peak periods for the AM and PM and would include a service span that is similar to those Shuttle operations currently serving Miami International Airport and Fort Lauderdale-Hollywood International airport on both weekdays and weekends to provide adequate service coverage and service to meet

the specific travel markets and activity center served. Proposed shuttle service for the station between Hollywood and Golden Glades is proposed to also operate on 20-minute headways during the AM/PM peak periods.

Both of these new station locations and corresponding shuttle bus service are recommended between years 6-10 or (FY 14 –FY 18) of the TDP Major Update.

11.3.3 Rolling Stock Rehabilitation/Overhaul

The Tri-Rail locomotive fleet and passenger car fleet periodically require a major overhaul, additional maintenance beyond regular inspections, necessary repairs and ongoing scheduled preventative maintenance efforts.

Tri-Rail locomotives are maintained on a nine year overhaul cycle. A complete locomotive overhaul can require between four to six months. Based on the latest SFRTA Rail Fleet Management Plan's overhaul history six locomotives are anticipated to undergo a complete overhaul in FY 2015 and FY 2016.

Passenger cars (cabs and coaches) are expected to be maintained with a 10-year overhaul cycle. A complete overhaul of a passenger car is estimated to take four months. Between FY 2016 and FY 2018 12 passenger cars in total are anticipated to undergo a complete overhaul as based upon the latest SFRTA Rail Fleet Management Plan recommendation.

11.3.4 New Rolling Stock

In addition to the scheduled overhaul of the locomotive fleet and passenger cars it is envisioned that there is a need to procure additional locomotives to ensure reliable and efficient operations of commuter rail service. Between FY 2014 and FY 2018 five new locomotives would need to be acquired. Additional passenger cars are also anticipated to be a need of SFRTA with the acquisition of six cars to occur in FY 2014 and FY 2018.

11.3.5 Additional Planning and Technical Evaluation Study Recommendations

A number of recommendations were made on the basis of the evaluation of demographic and technical material prepared for the study, including the financial analysis, and other data prepared for the study. These recommendations in many cases are not as fully developed as needs that have been identified by past studies, and further study will be required to determine the feasibility and develop the details of some of these recommendations.

11.3.5.1 Intercounty North-South Study

Intercounty north-south connections are a primary mission of SFRTA as a multi-county transportation entity. SFRTA should be involved in a lead role for the development of north-south corridors that interconnect between the three counties in South Florida. Some of these efforts include the SFECC study, SR 7/US 441, and University Avenue (Broward)/NW 27th Avenue (Miami-Dade).

Miami-Dade County

SFRTA should also evaluate opportunities to extend commuter rail service further south of the existing Tri-Rail terminus. It is recommended that SFRTA evaluate the feasibility and potential for extending Tri-Rail service to Downtown Miami. It is further recommended that SFRTA evaluate options for extending service on the existing CSX railroad from the MIC south through Kendall to the Metro Zoo (Kendall Corridor) in Miami-Dade County). Travel demand estimates performed as part of the Strategic Regional Transit Plan illustrate that additional service in the form of premium transit can be supported The Kendall Corridor is included in the capital program of the 2020 Tri-Rail Master Plan (March 2002). In addition, the Miami-Dade MPO is currently undertaking a study to be completed in 2009 that will evaluate the feasibility of introducing transit service along this corridors south of the Oleander Junction.

11.3.5.2 East-West Corridors

Palm Beach County

The analysis performed for the TDP Major Update illustrates a potential east-west travel market within Palm Beach County. It is recommended that SFRTA conduct corridor study between Delray Beach Tri-Rail Station and Western Palm Beach County centered on Atlantic Boulevard.

It is also recommended that SFRTA play a role to advance and implement East-West transit recommendation within Central Palm Beach County from the result of the Central Palm Beach Transportation Corridor Study.

Broward County

The analysis performed for the TDP Major Update illustrates a potential east-west travel market within two east-west corridors in Broward County. As a result it is recommended that SFRTA seek to lead the following corridor analysis and evaluation efforts.

Conduct corridor study between the South Florida Rail Corridor and Western Broward County and centered on McNabb Rd/Cypress Creek Road between Atlantic Boulevard and Oakland Park Boulevard.

Conduct corridor study between the South Florida Rail Corridor and Southwestern Broward County and centered on Hollywood/Pines Boulevard between Sheridan Street and Pembroke Road.

Miami-Dade County

Dolphin Corridor is currently under study as part of the East-West Corridor Study being conducted by Miami-Dade Transit. SFRTA should continue to monitor the project development process specifically on the selection and development of a preferred transit technology since this would have implications on the potential of a southern extension.

11.3.6 Evaluate and Assess Additional Operating Revenue Options

Several additional source of operating revenue are proposed for additional study and evaluation. The SFRTA should consider the evaluation of advertising revenues as well as potential for additional revenue from passenger fares. Both of these options are discussed in more detail in the Finance Chapter of this TDP Major Update.

11.3.7 Evaluate the Development/Implementation of a Parking Fee program

SFRTA currently does not charge for parking at its facilities. However, many of its facilities are now operating at over capacity. Based on these capacity issues as well as the need for additional funding documented in the Finance Chapter of this report, it is recommended that the SFRTA institute a study on the implementation of fees for parking at SFRTA-owned and operated park-and-ride lots, particularly at lots where future structured parking will be needed. Issues to be further examined include SFRTA's:

1.) Ability to levy parking fees at leased parking lots;

2.) Ability to secure parking areas and enforce parking fees;

3.) The amount of additional costs associated with levying a parking fee;

4.) The amount of potential additional revenue that could be generated by a parking fee

5.) Fee collection mechanisms that could be used including monthly decals or permits, or daily payment mechanisms.

12.0 FINANCIAL

12.1 Introduction

The financial issues are of critical importance to the future of SFRTA. In the past year, Tri-Rail's very existence was at risk due to uncertain funding. This plan looks out ten years, five more years than previous plans, to forecast South Florida Regional Transportation Authority's (SFRTA) future financial situation. The analysis estimates the gap between revenues and expenses in both the operating and capital realms. A key component of the analysis is a list of alternative revenue sources that SFRTA can consider to close this gap. This section includes a summary of efforts to secure a dedicated revenue source through the Florida legislature.

This section contains a high degree of uncertainty since state and county funding levels in future years is uncertain and subject to annual revision. This funding uncertainty makes rational and orderly planning for future service and capital development difficult, if not impossible.

Please note that FY 08-09 SFRTA Proposed Budgets are used throughout this document since FDOT's September 1st submittal deadline for the SFRTA TDP Major Update did not allow this effort to wait for the approved budget documents. Furthermore, it should be noted that the approved SFRTA operating budget will include a 10 percent reduction from the SFRTA proposed budget for FY 08-09 due to recent County and FDOT contribution reductions.

12.2 Operating Costs

Operating costs for SFRTA in Fiscal Year (FY) 08-09 total more than $57 million. As shown in Table 12-1, 38 percent of the operating budget is used for train operations. This includes operating and maintenance contracts with Veolia Transportation and Bombardier Transportation, respectively. It also includes a station maintenance contract with Meridian Management Corp. The next highest operating costs are associated with personnel and fuel.

Table 12-1: FY 08-09 Operating Costs (Proposed Budget)

Operating Cost	FY 08-09 Proposed Budget	% of FY 08-09 Operating Budget
Train & Station Maintenance	$12,736,574	22%
Train Operations Contracts	$8,795,036	15%
Train Fuel Contract	$8,707,166	15%
Personnel Services	$8,615,169	15%
Security Contract	$4,806,149	8%
Feeder Service	$3,903,920	7%
Bridge Tender/Dispatcher	$3,136,461	5%
Insurance - Liability/Property/Auto	$2,000,000	3%
Professional Fees	$1,239,450	2%
Office Business Expense	$883,370	2%
Marketing Expenses	$847,072	1%
Office Rent	$714,886	1%
Station Utilities	$679,202	1%
Reserve	$500,000	1%
Revenue Collection	$340,500	1%
Business Travel/Conferences	$148,750	0%
Dues & Subscriptions	$115,615	0%
Seminars & General Training	$91,979	0%
1-800-TRI-RAIL Phone Charges	$43,000	0%
Transfer to Capital	-$973,176	-2%
Total	**$57,331,123**	100%

12.2.1 Historic Operating Costs

Between FY 02-03 and FY 08-09, SFRTA's operating costs have more than doubled. As shown in Figure 12-1 and Table 12-2, a significant increase in operating costs occurred in FY 06-07 and FY 07-08 after the system increased commuter rail service from 30 to 50 trains per day. New 10-year maintenance and operating contracts were signed during the period that reflect typical higher market costs (specifically, fuel-related) for these services.

Figure 12-1: Historic Operating Costs

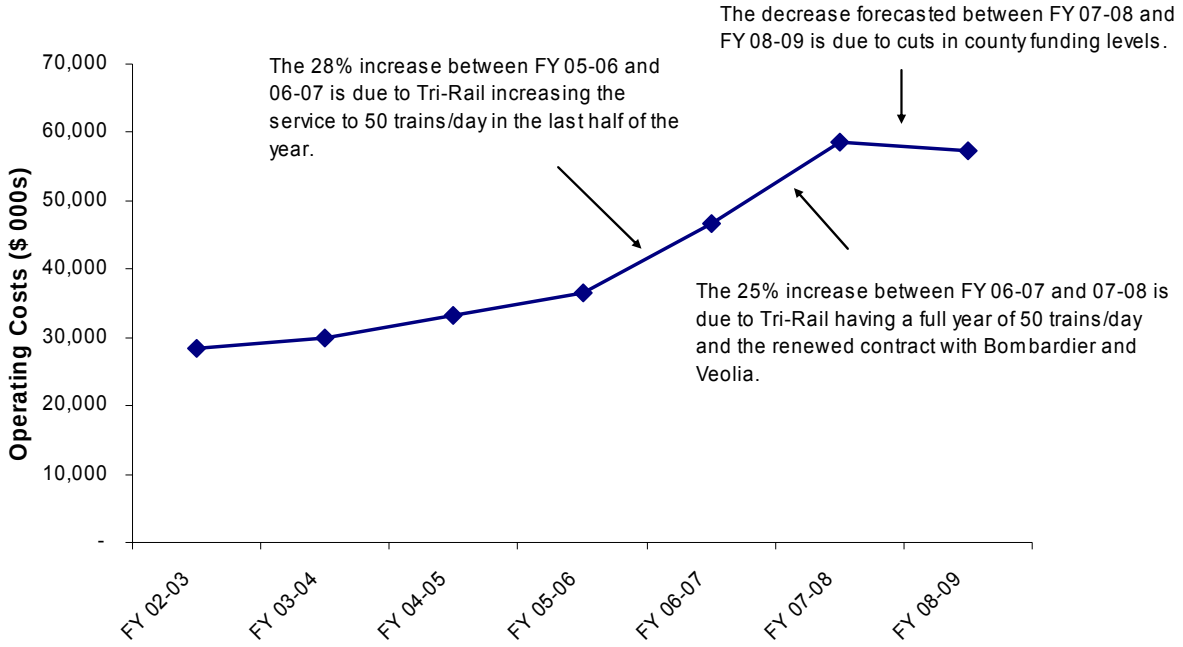


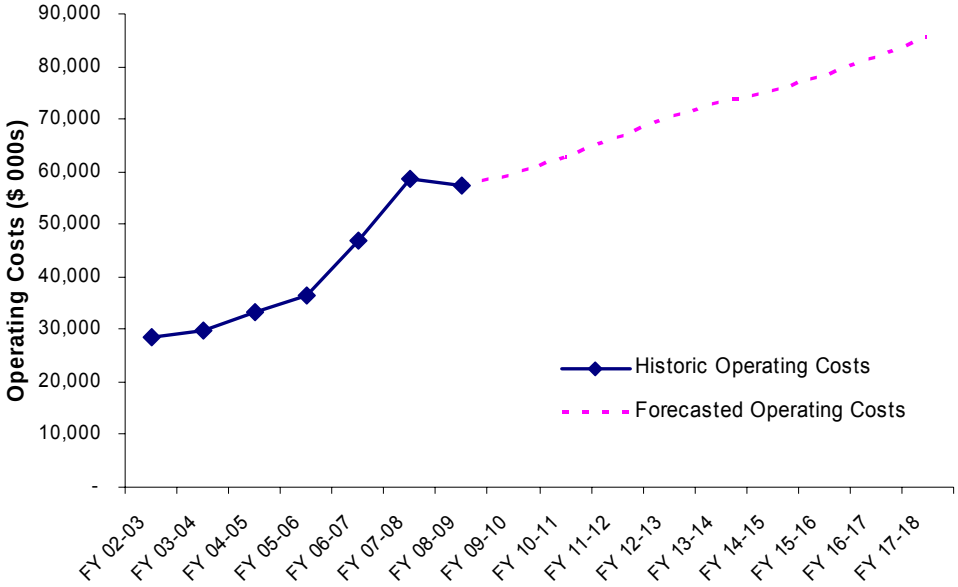
Table 12-2: Historic Operating Costs

Year	FY 02-03	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09
	Actual					Approved	Proposed
Operating Costs ($ 000s)	28,485	29,875	33,285	36,442	46,764	58,558	57,331
Annual % Increase		*4.88%*	*11.41%*	*9.49%*	*28.32%*	*25.22%*	*-2.10%*

12.2.2 Forecasted Operating Costs

SFRTA's operating costs are estimated for FY 09-10 to 17-18 (FY 08-09 is based on the proposed operating budget) and they are estimated to reach approximately $85.7 million in FY 17-18. Projections assume no service improvements or enhancements. Please see Figure 12-2 for a graphical representation of SFRTA's forecasted operating costs between FY 09-10 and 17-18.

Figure 12-2: Historic and Forecasted Operating Costs



Note: Due to county and FDOT contribution reductions, the FY 08-09 operating budget assumes lower total operating costs than the prior year which emphasizes the fragile funding environment SFRTA operates within.

In the last year, SFRTA signed contracts with Bombardier Mass Transit and Veolia Transportation. Bombardier maintains Tri-Rail's rolling stock and facility equipment while Veolia operates the train service. These contracts represent 32 percent of the total Tri-Rail operating costs in FY 08-09, so this analysis used these established annual amounts as the base cost. These are 7-year contracts with three 1-year options. Since these contracts were initiated in FY 07-08, they will need to be re-negotiated for FY 17-18. For the purposes of this analysis, the compound annual growth rate (CAGR) of the Bombardier and Veolia contract amounts was used to forecast the cost in the last forecast year. See Table 12-3 for these annual costs.

Table 12-3: Bombardier and Veolia Contract Estimated Operating Costs FY 09-10 to 17-18 ($ 000s)

Fiscal Year	Veolia	Bombardier	Total
09-10	$8,727	$10,104	$18,831
10-11	$9,091	$10,850	$19,942
11-12	$9,461	$12,344	$21,805
12-13	$9,808	$13,403	$23,211
13-14	$10,192	$13,621	$23,814
14-15	$10,564	$13,002	$23,566
15-16	$11,009	$12,785	$23,794
16-17	$11,429	$13,185	$24,614
17-18	$11,892	$13,635	$25,527
Total	**$92,172**	**$112,931**	**$205,102**

In addition to the base costs (Bombardier and Veolia contract amounts), SFRTA is also responsible for fuel costs, insurance, revenue collection, etc. For the purposes of the TDP financial estimates, all of these costs are assumed to escalate at 5 percent. As shown in Table 12-4, the average of the annual increases in operating costs between 2002 and 2006 for SFRTA's peers is 4.32 percent. Since SFRTA does not have any significant service growth planned in the next 10 years, 5 percent was used as the escalation factor in this analysis.

Table 12-4: SFRTA Peers' Average Annual Increase in Operating Costs (2002 to 2006)

System	Location	Average Weekday Ridership*	Compound Annual Growth Rate (CAGR) of Operating Costs Between 2002-2006
Pennsylvania DOT	Harrisburg, PA	1,400	5.91%
Shore Line East	New Haven, CT	1,900	8.55%
NCTD Coaster	San Diego, CA	5,300	7.61%
Trinity Railway, DART (TRE)	Dallas & Fort Worth, TX	9,100	2.32%
SFRTA	South Florida	12,600	***8.98%***
NICTD South Shore Line	Chicago, IL	13,600	3.47%
Maryland Rail/MARC, MTA	Baltimore, MD & Washington DC	30,100	6.31%
Caltrain	California	36,993	2.59%
Metrolink	Southern California	43,737	3.40%
SEPTA Regional Rail	Philadelphia, PA	128,600	1.58%
MBTA Commuter Rail	Boston, MA	143,700	3.09%
Metro-North Railroad	New York, NY	289,400	4.58%
Metra	Chicago, IL	311,700	2.19%
Long Island Rail Road	New York, NY	359,400	4.51%
		Average	**4.32%**

* Source: American Public Transportation Association, Commuter Rail Ridership Report, First Quarter 2008

It is important to note that SFRTA's annual operating costs have increased significantly more than its peers in recent years due to increases in service and recently re-negotiated operating and maintenance contracts. See the section on operating costs above for more explanation behind the significant growth in operating costs.

12.3 Operating Revenues

Operating revenues in SFRTA's FY 08-09 budget total over $57 million. As shown in Table 12-5, 15 percent of the operating revenues come from fares. 85 percent of SFRTA's operating costs are covered through partnerships with FTA, FHWA, FDOT, Palm Beach County, Broward County, and Miami-Dade County. All three counties fund their contribution to SFRTA through their gas tax, general revenue funds and other sources.

Table 12-5: FY 08-09 Operating Revenues (Proposed Budget)

Operating Revenue		FY '08-'09 Proposed Budget	% of FY '08-'09 Operating Budget
Train Revenue			
	Train Service Revenue	$8,471,917	15%
	Interest Income/Other Income	$157,500	0%
Operating Assistance			
	FDOT JPA - Operating Assistance	$12,405,894	22%
	FTA Preventative Maintenance	$9,926,498	17%
	Miami-Dade Operating Assistance	$4,135,298	7%
	Broward Operating Assistance	$4,135,298	7%
	Palm Beach Operating Assistance	$4,135,298	7%
	FHWA	$4,000,000	7%
	FDOT JPA - Dispatch	$3,216,126	6%
	FDOT JPA - Feeder Service	$3,004,780	5%
	FTA - Planning Grant	$1,500,000	3%
	Capital Allocation	$1,480,000	3%
	Broward Feeder Service Funding	$662,514	1%
	Other Local Funding	$100,000	0%
	Total	**$57,331,123**	**100%**

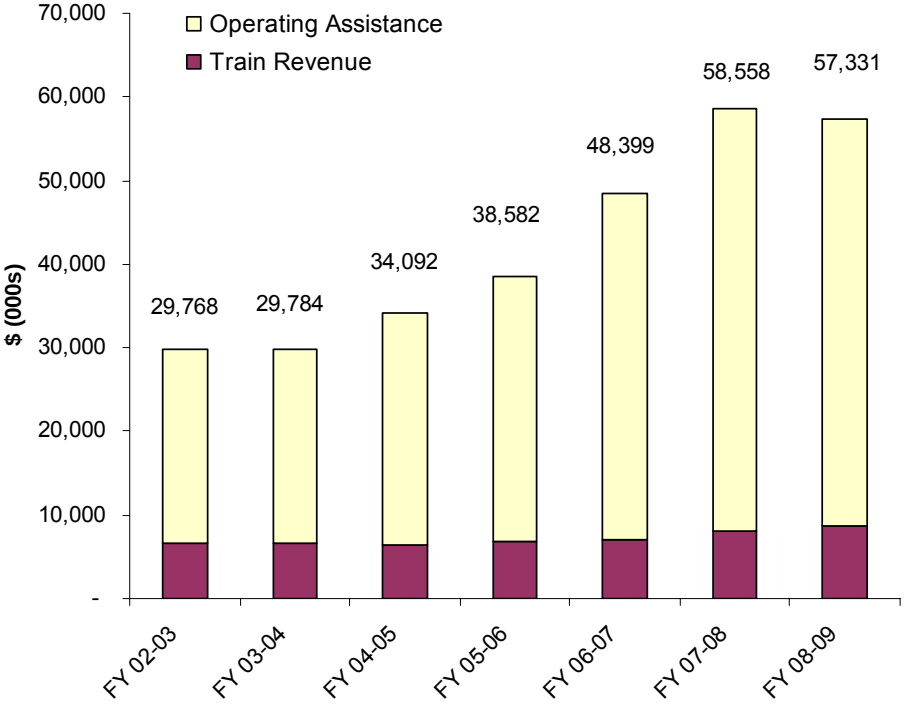
12.3.1 Historic Revenues

Between FY 02-03 and FY 08-09, SFRTA's operating revenues have almost doubled. Operating revenues are comprised of train revenue (passenger fares and interest income/other income) and operating assistance. Fare revenue has not increased much over time, whereas, other revenue sources have risen dramatically. As shown in Table 12-6 and Figure 12-3, the significant increases in operating revenues occurred in FY 06-07 and FY 07-08 after the system increased service to 50 trains/day. Unfortunately, fuel costs have grown faster than passenger revenue.

Table 12-6: Historic Operating Revenues

Year	FY '02-'03	FY '03-'04	FY '04-'05	FY '05-'06	FY '06-'07	FY '07-'08	FY '08-'09
	Actual		Estimated	Approved			Proposed
Train Revenue	6,573	6,579	6,393	6,849	7,000	8,031	8,629
Operating Assistance	23,195	23,205	27,699	31,733	41,399	50,527	48,702
Total Operating Revenues	**29,768**	**29,784**	**34,092**	**38,582**	**48,399**	**58,558**	**57,331**
Annual % Increase		*0.05%*	*14.46%*	*13.17%*	*25.45%*	*20.99%*	*-2.10%*

Figure 12-3: Historic Operating Revenues



Note: The decrease in proposed operating revenues in FY 08-09 is due to the county's desire to decrease their contribution. The original proposed operating budget was 5 percent over the FY 07-08 total and the final adopted operating budget for FY 08-09 will be 5 percent under, resulting in a 10 percent decrease in the original proposed operating budget for FY 08-09.

12.3.2 Forecasted Operating Revenues

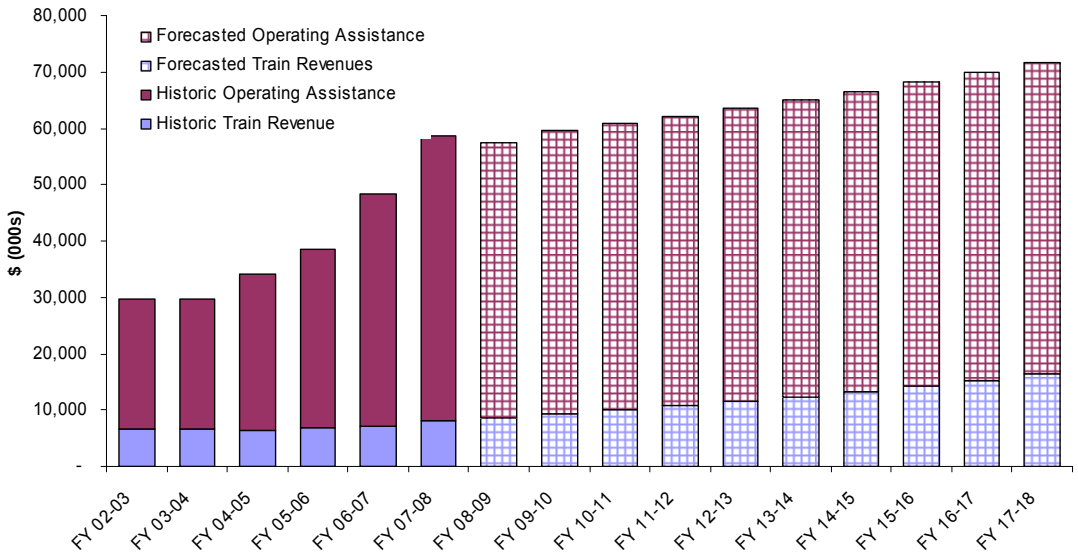
SFRTA's operating revenues are expected to be $71.7 million in FY 17-18. This assumes no major service changes. Additionally, this analysis assumes that FDOT and county contributions will continue through FY 17-18. Please see Figure 12-4 for a graphical representation of SFRTA's forecasted operating costs between FY 09-10 and 17-18.

Assuming a 7.5 percent annual increase in train revenues, SFRTA's train revenues are expected to be approximately $16.5 million in FY 17-18. Growth in train revenues is dependent on either fare increases or increased ridership. Since no fare increases are scheduled, the 7.5 percent increase in train revenues was used in this analysis since it is the budgeted increase in operating revenues between FY 07-08 and 08-09. Earlier years were not considered due to the significant change in service. Fare increases were not evaluated in the current analysis to determine future funding gaps.

The operating assistance is comprised of two major contributors. One is the state and county assistance which is assumed to be available until FY 17-18. This analysis assumes that the counties will each contribute $4.3 million and FDOT will match these contributions with $12.9 million each year of the forecast. This is highly

uncertain and subject to significant revision. The remaining operating assistance is assumed to escalate at 2.5 percent annually beginning in FY 08-09, recognizing some components may increase or even decrease over the study period.

Figure 12-4: Historic and Forecasted Operating Revenues



12.4 Operating Gap

With estimated operating costs of $711 million and operating revenues of only $645 million between FY 08-09 and FY 17-18, SFRTA is expected to face an operating gap of $67 million for the period. See Figure 12-5 and Figure 12-6 below.

Figure 12-5: Forecasted Operating Costs and Revenues

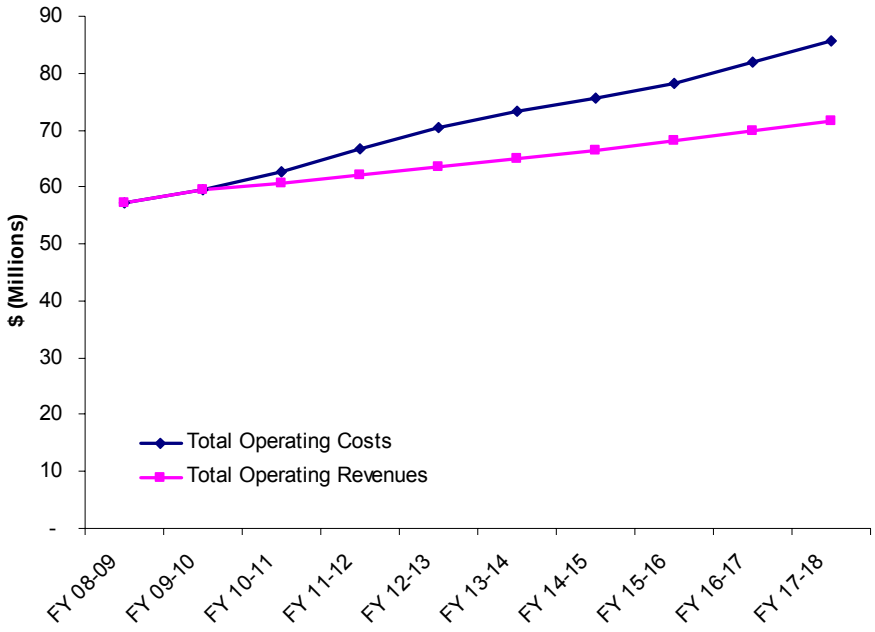
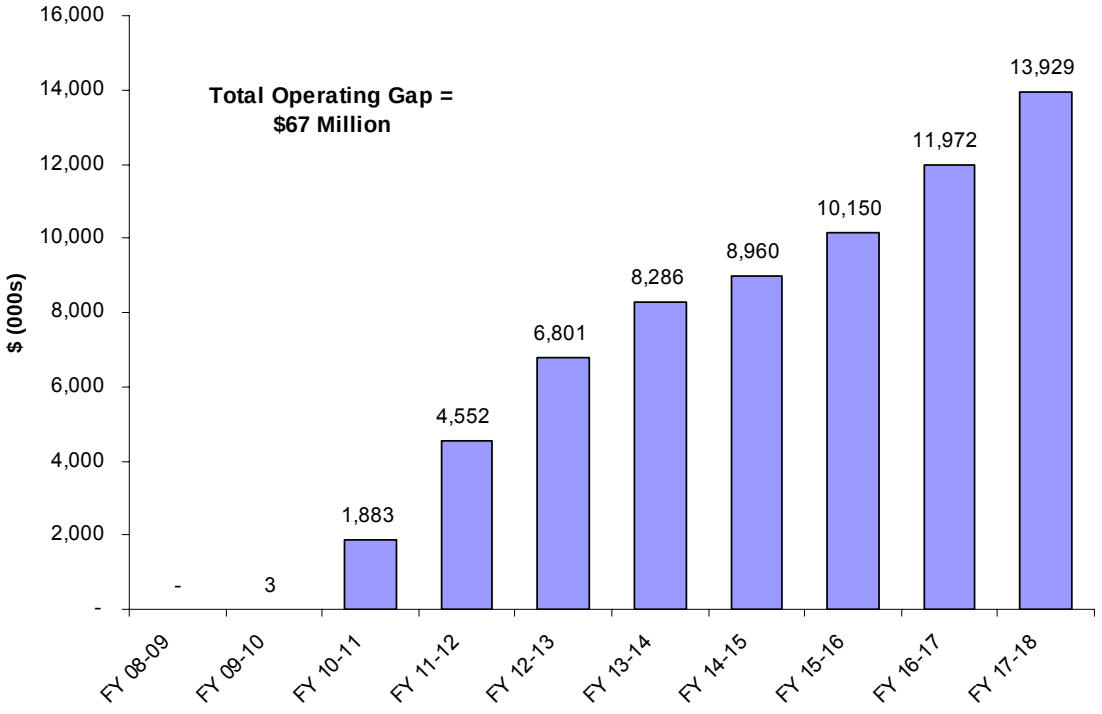


Figure 12-6: SFRTA Operating Gap



12.5 Capital Costs

Table 12-7 and Table 12-8, shown on the following two pages, present SFRTA's capital expenses from FY 08-09 to 17-18. The first six years are based on the SFRTA's adopted FY 2008-2009 Capital Budget and 5-Year Plan and the last four years are based on analysis completed by the TDP Project Team. More information about the capital projects is presented in Chapter 11.

12.6 Capital Revenues

Table 12-9 presents SFRTA's forecast capital funds as described in SFRTA's FY 2008-2009 Capital Budget and 5-Year Plan. The majority of SFRTA's capital revenues are from the Federal Transit Administration (FTA) 5307 and 5309 programs. However, both of these programs are available through SAFETEA-LU, which is set to expire in the fall of 2009. SFRTA is assuming that these programs or other federal funds will contribute consistent with historic trends. More information about these two federal funding programs is included below.

12.6.1 Section 5307 Urbanized Area Formula

The Urbanized Area Formula program makes Federal resources available for transit capital and operating assistance in urbanized areas and for transportation planning. For urbanized areas with more than 200,000 people, funds are apportioned and flow directly to a designated recipient selected locally to apply for and receive Federal funds.

The apportionment formula is based on bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, fixed guideway route miles, population, and population density. Funds may be used for capital investments in bus and bus-related activities, construction of maintenance and passenger facilities, and capital investments in new and existing fixed guideway. In FY 2007, the program was funded at $3.606 Billion nationwide.

Table 12-7: SFRTA Planned Capital Expenses (FY 08-09 to FY 12-13) in Thousands of Dollars

	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	Total FY 08-09 to FY 13-14
Autos	-	75	-	75	-	**150**
Preventive Maintenance	8,600	7,000	7,250	8,200	8,200	**39,250**
Ticket Vending Machines	2,500	1,715	-	-	-	**4,215**
Smart Cards	445	-	-	-	-	**445**
Jupiter Corridor Extension	-	1,500	1,500	1,500	1,500	**6,000**
Office/Computer Equipment	-	-	100	-	-	**100**
Rolling Stock	-	-	-	-	-	**-**
Rolling Stock (New)	2,500	2,525	3,475	-	-	**8,500**
Rolling Stock Overhaul/Rehab	2,690	1,340	-	1,700	500	**6,230**
Engineering Dept Projects	-	-	-	-	-	**-**
Station and Parking Lot Improvements	14,720	2,896	1,500	2,500	5,300	**26,916**
GEC	500	500	500	600	600	**2,700**
Planning Dept Projects	-	-	-	-	-	**-**
Planning/Capital Development	3,375	3,975	5,825	5,500	4,250	**22,925**
West Palm Beach Intermodal	500	-	-	-	-	**500**
Planning and Program Support	1,000	1,100	1,150	1,500	1,750	**6,500**
Operations Dept Projects	-	-	-	-	-	**-**
Hialeah Yard Projects	-	150	1,345	2,495	750	**4,740**
Hialeah Yard Layup Track	200	1,545	-	-	-	**1,745**
Station Repairs/Improvements	1,600	-	-	-	-	**1,600**
Total	**38,630**	**24,321**	**22,645**	**24,070**	**22,850**	**132,516**

Source: Adopted SFRTA FY 2008-2009 Capital Budget and 5-Year Plan (FY 09-10 to FY 13-14)

Table 12-8: SFRTA Planned Capital Expenses (FY 13-14 to FY 17-18)

	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	Total FY 13-14 to FY 17-18
Autos	-	75	-	75	-	**150**
Preventive Maintenance	8,200	8,200	8,200	8,200	8,200	**41,000**
Ticket Vending Machines	-	-	-	-	-	**-**
Smart Cards	-	-	-	-	-	**-**
Jupiter Corridor Extension	1,500	-	-	-	-	**1,500**
Office/Computer Equipment	300	-	-	-	350	**650**
Rolling Stock	-	-	-	-	-	**-**
Rolling Stock (New)	-	11,330	-	9,115	-	**20,445**
Rolling Stock Overhaul/Rehab	1,250	2,250	3,450	1,200	1,700	**9,850**
Engineering Dept Projects	-	-	-	-	-	**-**
Station and Parking Lot Improvements	6,000	6,000	12,000	6,250	11,000	**41,250**
GEC	600	600	600	700	700	**3,200**
Planning Dept Projects	-	-	-	-	-	**-**
Planning/Capital Development	2,000	4,000	4,500	5,000	5,500	**21,000**
West Palm Beach Intermodal	-	-	-	-	-	**-**
Planning and Program Support	2,500	2,750	3,000	3,250	3,500	**15,000**
Operations Dept Projects	-	-	-	-	-	**-**
Hialeah Yard Projects	1,000	1,000	1,000	1,000	1,000	**5,000**
Hialeah Yard Layup Track	-	-	-	-	-	**-**
Station Repairs/Improvements	-	250	250	250	250	**1,000**
Total	**23,350**	**36,455**	**33,000**	**35,040**	**32,200**	**160,045**

Source: Adopted SFRTA FY 2008-2009 Capital Budget and 5-Year Plan (FY 09-10 to FY 13-14) and TDP Project Team for the last four years

Table 12-9: SFRTA Forecasted Capital Revenues (FY 08-09 to FY 12-13)

	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	Total FY 08-09 to FY 12-13
FTA Section 5307 - Formula Funds	$9,565	$10,125	$10,050	$10,575	$10,800	$51,115
FTA Section 5309 - Rail Mod	$9,286	$9,800	$10,095	$10,245	$10,550	$49,976
FTA Section 5309 - SAFETEA	$5,059	$0	$0	$0	$0	$5,059
Palm Beach County MPO	$0	$1,500	$1,500	$1,500	$1,500	$6,000
FDOT JPAs (Multiple)	$7,716	$0	$0	$0	$0	$7,716
FDOT District 6 SIS	$1,038	$896	$0	$0	$0	$1,934
SFRTA Interest on Capital Deposits	$0	$1,104	$1,000	$1,750	$0	$3,854
County Capital Contribution	$8,010	$8,010	$8,010	$8,010	$8,010	$40,050
Total Capital Revenues	**$40,674**	**$31,435**	**$30,655**	**$32,080**	**$30,860**	**$165,704**

Source: Adopted SFRTA FY 2008-2009 Capital Budget and 5-Year Plan

12.6.2 Section 5309 Rail and Fixed Guideway Modernization

Rail and Fixed Guideway Modernization funds are allocated by formula to urban areas with existing fixed guideway systems that have been operating for at least seven years. The formula contains seven tiers and includes transit route miles and revenue vehicle miles on fixed guideways, including HOV lanes. Capital projects to modernize or improve existing fixed guideway systems are eligible, including purchase and rehabilitation of rolling stock, track, line equipment, structures, signals and communications, power equipment and substations, passenger stations and

terminals, security equipment and systems, maintenance facilities and equipment, operational support equipment. In FY 2007, the program was funded at $1.448 Billion nationwide.

Table 12-10, shown below, presents SFRTA's forecasted capital funds from FY 13-14 to FY 17-18.

Table 12-10: SFRTA Forecasted Capital Revenues (FY 13-14 to FY 17-18)

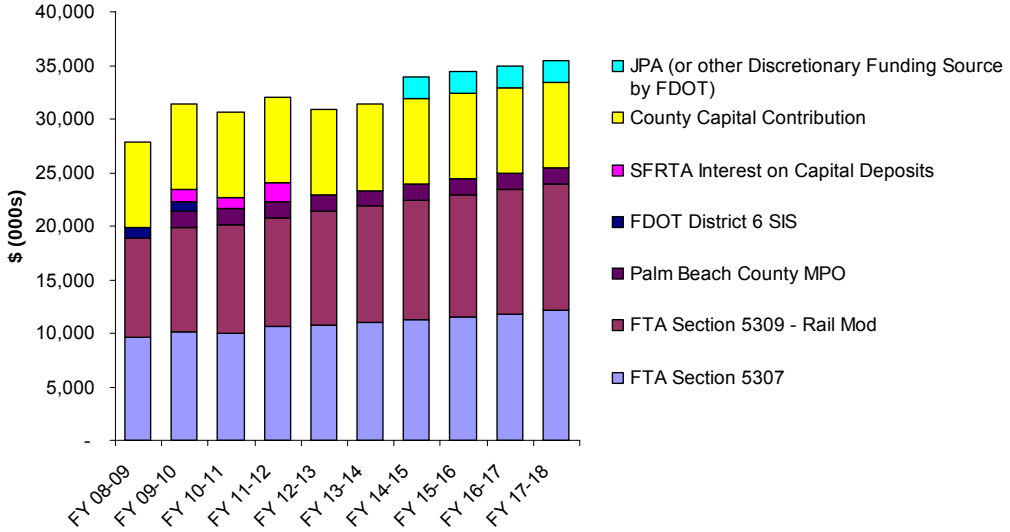
	FY 13-14	FY '14-'15	FY '15-'16	FY '16-'17	FY '17-'18	Total Capital Revenues FY '13-'14 to FY '17-'18
FTA Section 5307 - Formula Funds	$11,050	$11,306	$11,567	$11,835	$12,109	$57,868
FTA Section 5309 - Rail Mod	$10,800	$11,056	$11,318	$11,586	$11,861	$56,621
Palm Beach County MPO	$1,500	$1,500	$1,500	$1,500	$1,500	$7,500
FDOT JPAs or Other Discretionary	$0	$2,000	$2,000	$2,000	$2,000	$8,000
County Capital Contribution	$8,010	$8,010	$8,010	$8,010	$8,010	$40,050
Total Capital Revenues	**$31,360**	**$33,872**	**$34,395**	**$34,931**	**$35,480**	**$170,038**

Source: Adopted SFRTA FY 2008-2009 Capital Budget and 5-Year Plan for FY 13-14 and TDP Analysis for last four forecast years.

The only capital funding sources expected after FY 13-14 are funds from FTA Section 5307, FTA Section 5309 Rail Mod, Palm Beach County MPO, County contributions ($2,670 per county annually) and $2 million per year through JPAs or other discretionary funding source. Other sources described in the *Adopted SFRTA FY 2008-2009 Capital Budget and 5-Year Plan* are not included because they are one-time contributions. This analysis assumes that the two federal programs (5307 and 5309) will continue to be available to SFRTA in some form after SAFETEA-LU expires. These are estimated to increase at the same rate assumed in the SFRTA FY 2008-2009 Capital Budget and 5-Year Plan. So, between FY 14-15 and FY 17-18, the 5307 funds will increase at 2.31 percent while the 5309 funds will increase at 2.37 percent.

Figure 12-7, shown below, shows the FY 08-09 to FY 13-14 budgeted capital revenues and the FY 14-15 to FY 17-18 forecasted capital revenues.

Figure 12-7: SFRTA's Forecasted Capital Revenues (FY 08-09 to 17-18)



12.7 Capital Funding Gap

Capital funding levels are generally in line with anticipated capital needs with a major exception: capital funding needs for the Jupiter and Miami-Dade extensions, while identified as needs, are not included in this analysis. These costs will be developed through future corridor-specific studies.

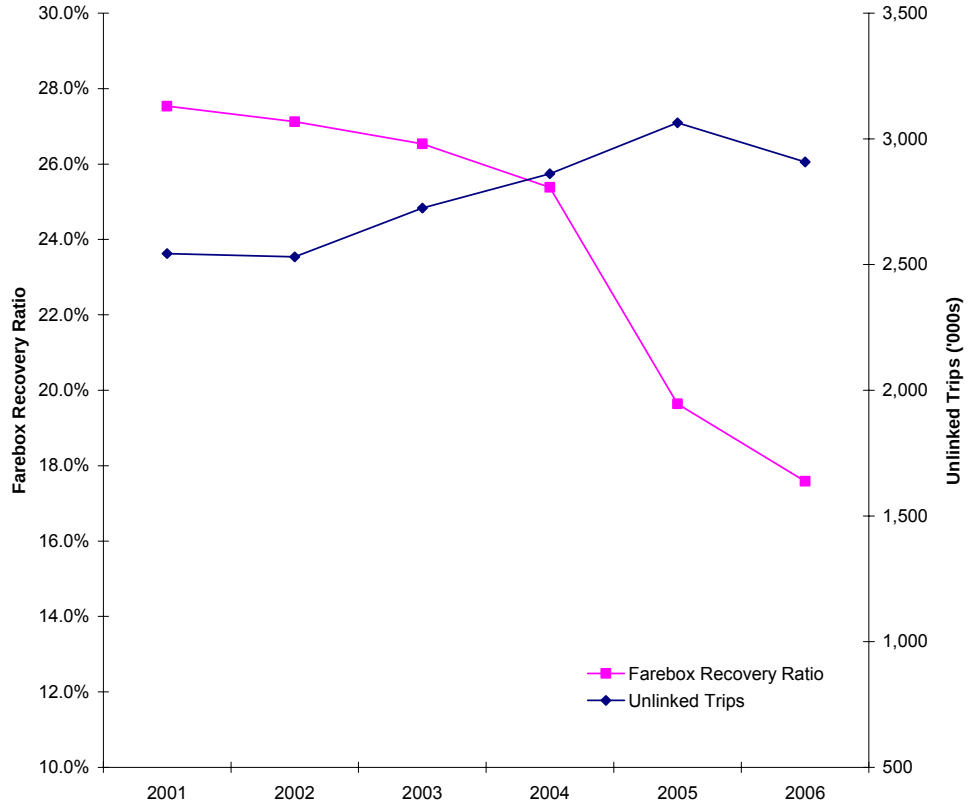
12.8 Potential Revenues

Since the SFRTA is likely to experience a $67 million operating gap between FY 08-09 and FY 17-18, it is vital that new funding sources are considered. The following section will present options of potential funding sources and describe the financial and policy considerations associated with each.

12.8.1 Fare Increase

SFRTA has not had a fare increase since 1995. In that time, service has improved significantly, ridership has doubled and many parking facilities are at or near capacity. As shown in Figure 12-8, ridership has grown, but the farebox recovery ratio has decreased by 10 percentage points from 28 percent to 18 percent between 2001 and 2006, due to higher operating costs and flat fare rates.

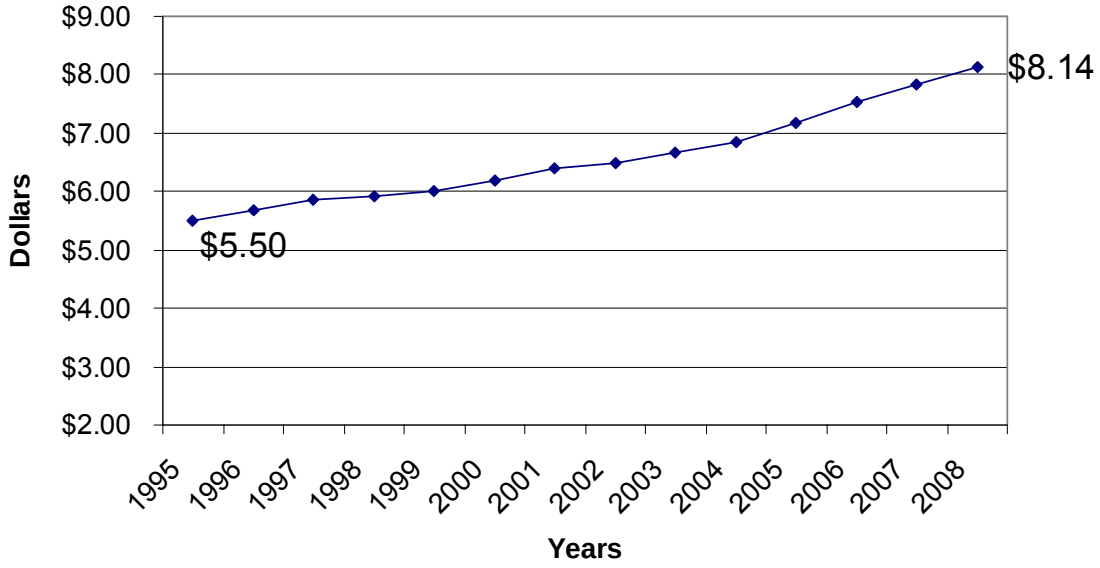
Figure 12-8: SFRTA's Farebox Recovery Ratio and Unlinked Trips (2001-2006)



Source: NTD 2006

The significant drop in SFRTA's farebox recovery ratio can be explained, in part, by the fact that fares did not keep up with the rising costs of goods and services. While SFRTA's costs have increased, the fares have not been changed since 1995.Figure 12-9 shows that had SFRTA's maximum fare kept up with inflation, the fare today would be $8.14 instead of $5.50. This is a 48 percent increase over the current, 1995, prices. Similarly, a monthly pass, instead of costing $80 would cost $118.

Figure 12-9: Maximum Fare Escalation to 2008 Dollars



Source: Consumer Price Index for Miami-Fort Lauderdale-Pompano Beach, FL region

While a fare increase of 48 percent may seem politically infeasible, it would increase train revenue by approximately $3 million a year.[9] This increase would be just enough to allow SFRTA to meet its farebox recovery ratio target of 25%, as set by the Florida Transportation Commission.

The SFRTA system is comprised of six zones, with weekday ticket prices determined by the number of zones through which a passenger travels. Ticket prices ranges from $2 for a one-way fare (within one zone) to $80 for an unlimited Monthly Ticket. A flat fee of $4 is charged on weekends and holidays (regardless of where travel occurs along the system). Discounted fares are available for senior citizens (65 years or older), persons with disabilities, Medicare Card holders, students and children (children under the age of five ride free, discounts are available for children ages 5 - 12). Reduced fares are also available for employees of businesses enrolled in the Employer Discount Program, with Monthly and 12-Trip tickets discounted by 25 percent. No fare increase or changes in fare structure are planned for FY 2008.[10]

[9] This rough calculation assumes a fare elasticity of 3.3%, based on the Simpson-Curtin Rule Curtin, John. 1968. Effects of Fares on Transit Riding. *Highway Research Record 213*: 8-18. For a more accurate projection, SFRTA would need a robust fare elasticity model.

[10] SFRTA Farebox Report – FINAL, January, 2008

There are a few options as to how SFRTA can increase operating revenues through fare changes:

- Increase the zone-based charges
- Increase fares for trains during peak hours
- Add zone-based charging on weekends and holidays
- Eliminate or increase discounted fares for senior citizens, persons with disabilities, Medicare Card holders, students, and children
- Eliminate or increase the reduced fares for employees of businesses enrolled in the Employer Discount Program

SRFTA may want to choose a combination of these options. These can be implemented at one time or phased in over a set period. Given that increases in the base fare are often most politically contentious, SFRTA may want to begin by reducing discounts and raising the costs of monthly passes.

Table 12-11, shown on the following page, details the fare policies of some of SFRTA's peers. As shown in this table, SFRTA has one of the lowest fares of all of its peers. While SFRTA's reduced fare and employer discount policies seem to be comparable to many of its peers, it seems that SFRTA could charge its weekday zone-based fares on the weekends and holidays.

There are many political, social, and economic considerations to evaluate with regards to fare increases or policy changes. Fare increases can be politically unpopular particularly since transit often serves lower income populations; however, SFRTA rail surveys show that Tri-Rail riders represent the entire economic spectrum. A fare elasticity model would have to be built in order to evaluate the impacts of fare policy changes on ridership. The model would need to take into account ridership, elasticity, and service changes in order to understand the impact on fare revenues.

12.8.2 Regionally-Dedicated Revenue

In 2003, after being approached by government and business leaders in South Florida, the Legislature created the SFRTA. The creation of the SFRTA was widely hailed as an innovative move to help South Florida tap into federal dollars that would otherwise go to projects in other metropolitan areas of the country. The plan was to create a local dedicated source of funding (such as a modest license tag fee) to act as a local match to infuse much-needed transit dollars into South Florida.

However, an initiative to include the fee on license tags drew opposition from many fronts. In 2004 and 2005, SFRTA expanded the potential funding sources that the Legislature could consider. Some of the funding sources, such as a $100 fee on new car purchases, would not yield sufficient funding but were still considered in the possible array of sources to propose to the Legislature. Ultimately, the SFRTA Governing Board selected the $2-per day rental car surcharge as the funding source and SFRTA assisted in drafting the legislation. The legislation was passed by both houses of the Legislature but was vetoed by the Governor in June 2006 and therefore never made it onto the ballot of the counties.

Table 12-11: SFRTA's Peers' Fare Policies

North American Commuter Railroads Fare Rate Comparison - *Draft* - 6/26/08

System	Service Area	Directional Route Miles	Fare Structure	One-Way Low	One-Way High	Monthly Pass Low	Monthly Pass High	Round-Trip Range	Other	Discounts	Payment System
Tri-Rail	Miami - West Palm Beach, FL	142	Zones	$2.00	$5.50	$80.00	$80.00	$3.50-9.25	12-trip ticket, weekend flat fare	50% Seniors, disabled, students, children 5-12, under 5 free, 25% monthly employee discount	TVM, On board verification
Comparables from Tri-Rail TDP											
ACE	Stockton - San Jose, CA	172	Zones	$3.25	$11.00	$70.00	$282.50	$4.25-$19.75	20 trip ticket $37.50-$153.75	50% senior/disabled/children	TVM (cash, credit), On board verification, purchase by mail
Caltrain	San Francisco - San Jose, CA	154	Zones	$2.25	$11.00	$59.75	$145.75	Daily Pass $4.50-$22.00	10-Trip Pass $19.25-$46.75	50% senior/disabled/children	TVM (cash, credit), On board verification, purchase by mail, 10-ride tickets available online
Coaster	San Diego, CA	82	Zones	$4.00	$5.50	$115.00	$154.00	$8.00-$11.00	pass valid on Amtrak	50% Senior/disabled (monthly $38.50), children free	TVM - On board verification, purchase by phone
MARC	D.C and Baltimore	400	Stations	$4.00	$14.00	$100.00	$350.00	N/A	10 trip, weekly, Amtrak crossover	50% senior, disabled, ~20% student	On board, purchase by mail, purchase by phone, online
Metrolink	Los Angeles, CA	778	Mileage	$4.75	$12.75	$106.25	$389.50	N/A	10 trip ticket, pass valid on Amtrak	50% senior/disabled	TVM - On board verification, purchase by mail
Sounder	Seattle, WA	147	Mileage	$2.75	$4.75	$99.00	$171.00	N/A	PugetPass	Seniors/Disabled/Youth	TVM (cash, credit), On board verification, purchase by mail
TRE	Dallas - Fort Worth, TX	70	Zones	$1.50	$2.50	$50.00	$80.00	Daily Pass $3.00-$5.00		Seniors/Disabled/Youth	TVM (cash, credit), On board verification, purchase by mail, and various retail locations
VRE	Northern VA - D.C.	162	Zones	$2.50	$9.10	$130.30	$252.30	N/A	10 trip, 5 day	50% Seniors, disabled, youth	
Other Commuter Rail Systems											
Rail Runner	Albuquerque, NM	100	Zones	$1.00	$3.00	$35.00	$65.00	Daily Pass $2.00-$4.00	Annual $350.00-$650.00	50 %seniors/disabled/students	Ticket Vendors on platform and onboard (cash, credit),Online
Front Runner	Ogden - SLC, Utah	88	Stations	$2.50	$5.00	$145.00	$145.00	$5.00-$10.00	Day Pass $4.50	Seniors/Disabled/Youth	
Metra	Chicago, IL	940	Zones	$2.15	$8.05	$58.05	$217.35	N/A	$5 weekend pass unlimited rides, 10 ride ticket	Seniors Free, reduced fare for disabled, students and children	station agents, on train ($2 additional), internet (requires registration), by mail
MCS	Nashville, TN	64	Stations	$4.00	$5.00	$134.00	$168.00	N/A	10 ride	None	TVM, station agents, online, On board verification
VRE	Northern VA - D.C.	162	Zones	$2.50	$9.10	$130.30	$252.30	N/A	10 trip, 5 day	50% Seniors, disabled, youth	
NJT	New Jersey	1070	Mileage	$1.25	$17.00	$33.00	$352.00	N/A	Weekly, 10 Trip, Off Peak Round Trip	50% senior/disabled/student	TVM, Station, On-board, online
MN	NY/NJ/CT	546	Stations	$4.04	$24.00	$125.44	$372.00	$8.08-$37.00	Peak and off-peak (25%less), weekly	50% Seniors or Children,$1 each up to 4 children w/Family	TVM, Station, Web, Mail, On-board($4.75-$5.50 more)
LIRR	Long Island, NY	638	Zones	$5.25	$26.00	$69.00	$356.00	N/A	Weekly, 10 Trip	Senior, disabled	
SLE	Connecticut	101	Stations	$2.50	$8.25	$51.00	$175.00	N/A	10 trip, combine with Metro-North, combine with bus		
MBTA	Boston, MA	702	Zones	$1.70	$7.75	$59.00	$250.00	N/A		50% senior, disabled, student, children free	on board, online
SEPTA	Philadelphia, PA	447	Zones	$3.50	$9.00	$96.00	$181.00	$6.75-$18.00	10-trip, daily, weekly, peak charges	Senior, disabled, student, family	on board, online, station
GoTransit	Toronto, ON	N/A	Zones	$3.70	$18.05	$122.00	$576.00	N/A	2 trip, 10 trip, day pass, monthly pass holders can bring a companion with for free on weekends and holidays	50% Senior, child, student	TVM - On board verification
West Coast Express	Vancouver, BC	N/A	Mileage	$5.00	$11.25	$121.00	$269.00	$9.50-$21.00	Weekly	seniors/disabled/youth	TVM-on board verification
WES	Portland, OR	N/A	Mileage	$2.05	$2.05	$76.00	$76.00	N/A	10 trip, 7 day, 1/2 month, Annual ($836)	Seniors/Disabled/Youth	TVM, online, vendors

Notes: This information is for planning purposes only and may not be current or comprehensive. Fare information was collected by planning staff of the South Florida Regional Transportation Authority (SFRTA) from agency websites and phone calls during June 2008. Canadian systems fare rates are reported in Canadian dollars. WES is scheduled to begin service in Oregon in Fall 2008.

For the 2006/07 legislative session, SFRTA's Governing Board approved the agency's State Legislative Initiatives which included: (a) the request for dedicated funding of at least $50 million annually, and (b) a request for support from all three counties. The funding request was kept general – no specific source was identified in the legislative packets developed by the agency. SFRTA also made presentations to its transportation partners and business leaders in South Florida and later assisted in preparing draft legislative bill language. Possible dedicated funding sources included a one-time title fee on vehicles, an annual registration fee on vehicles, a surcharge on rental cars and a gas tax. However, the 2006-07 season was punctuated by sweeping measures to reduce taxes and make government smaller, therefore no legislation creating a dedicated funding source for the SFRTA was sponsored.

Before the 2007-08 season, legislative leaders warned the SFRTA that the prevailing mood of the legislature was to reduce taxes even further and that the SFRTA had no chance of passing a new tax as a source of dedicated funding. The SFRTA was urged to identify an existing tax that could be redirected towards providing a dedicated source of funding to the SFRTA.

The SFRTA Governing Board voted to seek a $2 rental car fee that had been originally promulgated to provide security for tourists at turnpike and interstate rest stops but which in recent years has been collected by the Florida Department of Transportation as a general revenue stream. This measure moved forward in the House but died in the Senate.

Meanwhile, revenue sources to local government have been cut by voter referendum and by falling property values. County Commissions are cutting programs, including transit, and have told the SFRTA that a dedicated funding source must be found during the 2008-09 legislative session since the counties might not be able to continue their level of funding for Tri-Rail. As of this writing, the strategy is for the SFRTA to take the leadership on creating a coalition of RTA's throughout the State of Florida to pursue a dedicated funding for RTA's.

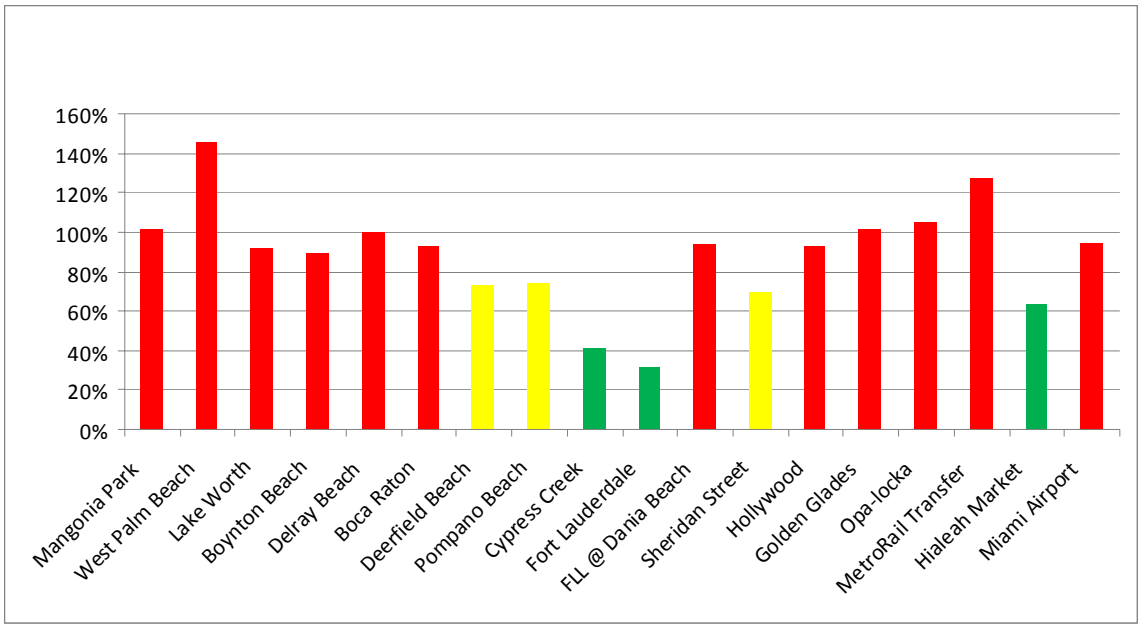
12.8.3 Charging for Parking

As ridership continues to grow, many of SFRTA's commuter parking lots are either at or near capacity. In 2006, SFRTA commissioned a parking and circulation study to identify parking demands through 2025 and, consequently, identify associated needs; however, this report did not address the opportunity to charge for parking services and, therefore, provide a new revenue stream for SFRTA. Since ridership is sky-rocketing and parking spaces are in demand, parking fees may be a viable new funding source. In addition, charging for parking would decrease demand for spots, therefore improving reliability – riders will know that they will find a parking spot if they are willing to pay the small fee.

There are 18 parking facilities with 3,974 parking spaces at SFRTA's stations. Figure 12-10, shown below, shows the percentage of parking spaces utilized at the end of the AM peak period (the AM peak period was observed to be the most active timeframe). As shown in this figure, twelve of the eighteen parking facilities are at least at 90 percent utilization (shown in red). These numbers are only predicted to increase in the coming years.

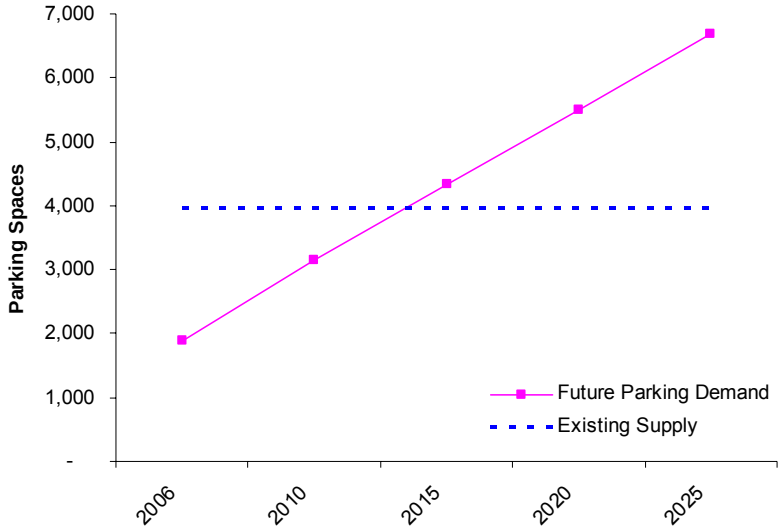
The Tri-Rail Parking and Circulation Study from August, 2007 estimated the demand for parking between 2010 and 2025 and compared that to the existing supply. Figure 12-11 shown below depicts the "high-growth" assumption scenario to demonstrate the excessive demand for parking. The "high-growth" scenario assumes significant additional premium transit service supporting SFRTA, aggressive residential growth, and high gas prices. This study shows that the demand exceeds the capacity before 2015. (These estimates only include SFRTA commuters; they do not include car poolers, bus riders, etc.).

Figure 12-10: SFRTA Projected Station Parking Utilization Rates 2008



Source: SFRTA Parking Counts (June 2008)

Figure 12-11: SFRTA Future Parking Demand (High-Growth Scenario)



Source: Tri-Rails Parking and Circulation Study (2007

Even though Tri-Rail's ridership and demand suggest that charging for parking is a logical source for new revenues, many of Tri-Rail's peers do not seem to charge for parking. As shown in Table 12-12, six out of eight of Tri-Rail's peers do not charge for parking. Of the two agencies that do charge for parking, the fee is $2/day.

Table 12-12: SFRTA's Peers' Parking Charging Policies

System	Location	Avg Weekday Ridership Q4 2007	Parking Charges
Altamount	San Jose	3,100	Free
NCTD Coaster	San Diego	5,300	Free
Coaster/Sounder	Seattle	8,800	Free
Trinity Railway	Dallas, Fort Worth	9,100	Free
Tri-Rail	South Florida	12,600	Free
Virginia Railway	Washington DC	14,200	Free
Maryland Rail/MARC	Baltimore, Washington	30,100	Free
Caltrain	California	36,993	$2/day
Metrolink	Southern California	43,737	City-operated lots; Some stations are free and some charge $2/day and $10-20/month depending on residency

If SFRTA were to charge $2/day for parking, the agency has the potential to make approximately $1.34 million annually on parking fees. If this money were to be used for capital purposes, there is potential for a state match and the revenue would be $2.68 million. These calculations assume a conservative 65% occupancy rate, an additional 161 parking spaces, 250 workdays/year, and free weekend and holiday parking.

The following considerations should be made:

- Currently, SFRTA fully or jointly owns eight out of the eighteen parking lots. Other stations are owned by FDOT, local counties, cities, and private owners. SFRTA would need to secure agreement with these owners to be able to charge on the lots. These may involve revenue sharing with the owner organizations.
- SFRTA could consider charging for parking only at those stations which have demonstrated a high demand.
- Capital costs for instituting a parking charge would need to be considered. These would include the costs of installing signage and electronic parking fee collection machines. In addition, there would be an operating cost for enforcement which could be outsourced.
- SFRTA should examine the potential for installing parking canopies on SFRTA lots that incorporate solar power equipment to provide shade while generating electricity.
- Parking revenues will be largely influenced by parking price changes, which will be affected by inflation and the demand for paid parking.

- Collection mechanisms will need to be put in place at all lots with a parking fee. The amount of revenues generated could be highly dependent on the cost of collection.
- While parking lots may become less congested, surrounding areas may see more illegal and legal street parking. On the other hand, a parking charge may eliminate drivers leaving their cars at stations overnight or for airport commuting purposes.
- An update of the parking and circulation study is underway with results expected to be available in the Fall of 2008.

12.8.4 Advertising

SFRTA may want to consider advertising as a modest but stable source of revenue. While SFRTA has explored advertising in the past, the current increases in ridership should allow SFRTA to consider this option. Should SFRTA decide to actively pursue advertising, there would be a number of considerations.

- Where to advertise – station posters and interior ads (car cards) are obvious choices for SFRTA. Other options include printing on SFRTA tickets and advertising on feeder buses. However, these mediums alone will only generate modest ad revenues. There would be considerable revenue potential in wrapping the trains, though this will be a significant shift from SFRTA's current palm tree-decorated trains. In addition, creating "stations domination" (when one entity advertises in a station on a large scale), can also increase revenues.
- How to advertise – SFRTA would have the option of contracting the advertising to an outside firm or handling the advertising themselves. Many transit properties in large media markets like South Florida choose to use an outside vendor. According to the 2004 TCRP report Transit Advertising Sales Agreements, CBS Outdoor holds the largest share of this market. Typical contracts guarantee the transit property a set minimum annual dollar amount and then there is a revenue sharing agreement after that. Vendors often take on the responsibility of installing and removing the ads.
- What to advertise – Many transit properties have policies prohibiting advertisement for alcohol or those with a political or non-commercial purpose.

The capital outlay for station posters would be minimal. According to representatives from CBS Outdoor, this can be done for approximately $1,000 a station. SFRTA could negotiate an agreement to share these costs with an advertising vendor, but would need to take care to ensure that they remain SFRTA property at the end of the contract period.

While it is difficult to estimate revenues from advertising, representatives of CBS Outdoor use a rough figure of $2 - $5 per daily rider per month. Assuming 15,000 daily riders, the maximum revenue that SFRTA could generate would be approximately $450,000 per year assuming that all advertising sold. Since generally only 60 percent of advertising space is occupied, and SFRTA would either need to share revenue with a vendor or expend labor and capital on sales and installation, it is estimated that SFRTA could expect approximately $125,000 per year from advertising. If SFRTA would want to wrap trains or allow "station domination", this figure would be higher.

12.8.5 Concessions

SFRTA may want to consider offering concessions on its trains and stations. These could include kiosks at stations or food service on trains. Kiosks or carts at stations could be operated by private vendors under a franchise fee to SFRTA. While it would be unlikely that SFRTA would see significant revenues from concessions, it may improve the rider experience thereby increasing ridership.

12.8.6 New Transit Funding Opportunities at the Federal Level

In addition to the formula and discretionary programs authorized in SAFETEA-LU, Congress is considering two new funding authorizations for transit. While neither is expected to become law this year, chances may be somewhat higher in the next Congress, depending on the results of the November election.

12.8.7 HR 6052, the "Saving Energy through Public Transportation Act of 2008"

On June 26, the U.S. House of Representatives passed the "Saving Energy Through Public Transportation Act of 2008" (H.R. 6052) by a vote of 322-98. Representatives James L. Oberstar (D-MN), Chairman of the House Committee on Transportation and Infrastructure, John L. Mica (R-FL), Ranking Member of the Committee, and Peter M. DeFazio (D-OR), Chairman of the Subcommittee on Highways and Transit, are the bill's original co-sponsors. The legislation authorizes $850 million for both Fiscal Year (FY) 2008 and 2009 to help transit systems cope with rising fuel costs and to promote public transportation ridership as a means to reduce domestic fuel consumption. Of the amounts authorized in the bill, $750 million would be distributed through the urbanized area formula program and $100 million would be added to the rural transit formula program each year. The funds can be used by transit agencies for operating or capital costs to expand service or reduce fares, to avoid fare increases or service cuts that would otherwise result from increased costs for fuel, or to meet additional transportation-related equipment or facility maintenance expenses caused by increased ridership.

The Senate is not expected to consider a similar measure, and the Bush Administration has stated opposition to the bill based on the use of federal funds for the operating purposes outlined in the bill.

12.8.8 S. 3036, “Lieberman-Warner Climate Change Bill”

The Senate began debate on the Lieberman-Warner Climate Security Act (S. 3036) during the week of June 3, but Democratic leaders withdrew the measure after four days of debate. The legislation was pulled from consideration after a procedural vote failed to prevent a filibuster by the bill’s opponents. While Lieberman-Warner was not expected to pass this year, the Senate debate on the bill was shorter than expected because of partisan differences over the amendment process and an unrelated dispute concerning judicial appointments. The version of Lieberman-Warner brought to the Senate floor by Environment and Public Works Committee (EPW) Chairman Boxer would have provided $171 billion to transit between 2012 and 2050.

Since its introduction last year, the Lieberman-Warner bill’s provisions related to transit and transportation-related greenhouse gas emissions have improved significantly. As introduced, the legislation did not include funding for transit-related

solutions and only addressed transportation sector emissions through vehicle and fuel technology. At the EPW Committee markup of the bill last December, Senator Ben Cardin (D-MD) proposed to dedicate roughly $38 billion for public transportation investment between 2012 and 2050, the span of Lieberman-Warner's cap-and-trade system, and the Committee adopted his proposal. On May 22, Boxer released a new version of the bill, which included the $171 billion funding level for transit.

Climate change legislation is not expected to return to the Senate floor this year, but EPW Chairman Boxer has already begun meeting with Senators in an effort to expedite consideration of a bill next year and address any adverse impact of a cap-and-trade system on consumer energy prices. Presumptive Presidential nominees McCain and Obama both expressed support for the cap-and-trade concept and stated that they would have voted to continue debate, a signal of their interest in pursuing legislation next year.

In the House of Representatives, the Energy and Commerce Committee, which has primary jurisdiction over climate change issues, is evaluating options to address global warming, but has not yet introduced legislation. Representative Ed Markey (D-MA), Chairman of the House Select Committee on Energy Independence and Global Warming, recently introduced the outline of a bill to address climate change. Markey's "Investing in Climate Action and Protection Act" (H.R. 6186) utilizes a cap-and-trade system and provides roughly 2.5 percent of revenues from its cap-and-trade system to transit investment and other strategies that curb growth in vehicle travel. Several members of the House, including Speaker Pelosi, have expressed support for increasing investment in public transportation to address climate change.

12.8.9 Other Revenue Sources to Consider

Dedicated funding has added benefit beyond revenue stability. With dedicated funding, SFRTA projects would become eligible for additional federal and state matching funds, and would receive increased priority for State funding programs. Those Federal and State programs most appropriate for SFRTA are as follows:

- FDOT/Strategic Intermodal System (SIS) – SIS, created in 2005, is a statewide network of high-priority transportation facilities. Funding for the SIS is administered by FDOT. Since the South Florida Rail Corridor on which SFRTA operates is part of the SIS network, SFRTA is pursuing SIS funding assistance to help cover capital project expenses in the corridor. SIS requires a 50% match for transit projects, but no match for highway projects.
- The Transportation Regional Incentive Program (TRIP) was signed into law into law on June 24, 2005 (SB 360). TRIP makes State funds ($1.6 billion from FY 2006 – 2015) available to local governments and the private sector for critical projects that benefit regional travel and commerce. Under the program, the Florida Department of Transportation (FDOT) will pay 50 percent of project capital costs, or up to 50 percent of the nonfederal share of project costs for public transportation facility projects.
- FDOT/State Infrastructure Bank (SIB) – SIB is a revolving loan program administered by FDOT. SIB loans may be applied to fund projects on or linked to the State Highway System. In FY2003/04, $10 million of SIB funding was used in FDOT District 4 to assist in the funding of the double-tracking project. SFRTA can continue

to monitor SIB funding as a potential revenue source, although the State SIB is already near or at capacity for available revenue.

- Florida Department of Transportation (FDOT) New Starts Program - Florida State Senate Bill #360, passed in 2005, made $709 million in work program commitments available from FY 2006 through 2015 for State New Starts funding.[11] A project does not necessarily have to have received approval from Federal New Starts to be eligible. The maximum contribution of State New Starts funding is 50 percent of non-federal share of eligible capital costs, which may include final design, right of way acquisition, construction, and procurement. A typical New Starts project will be funded at:

  - 50 percent Federal Transit Administration
  - 25 percent local
  - 25 percent Florida New Starts Transportation Program

  However, the federal contribution may vary, and other federal funds may be included in the mix, as well as other State funds.

- SFRTA/Public-Private Joint Ventures – Transit-oriented joint development can be accomplished through a sale or lease of federally-funded property, or through direct participation of the transit agency in the development - as a general partner for instance - depending upon the needs of the project. If a joint development project produces income for the transit system, it can be used by the agency for eligible transit purposes. The only restriction placed on such arrangements is that the transit system must retain effective continuing control of the joint development for transit purposes. In other words, the property being used for joint development could be sold for this purpose to the developer, but the transit grantee must retain some assurance that the joint development will remain accessible to the transit system during the life of the project. As long as such assurances can be maintained, the transit agency may retain all revenues from such joint development as program income. As a potential revenue source, transit-oriented joint development on SFRTA's 72-mile corridor holds significant funding possibilities.

[11] <http://www.dot.state.fl.us/programdevelopmentoffice/Development/Instructions/Section_6.pdf>

APPENDIX

SOUTH FLORIDA REGIONAL TRANSPORTATION AUTHORITY SURVEY (SFRTA) – MAY 2008

SFRTA is planning for the future. To do this we need to learn more about **the trip you are on now**. Please complete this survey and return it to the surveyor as you leave the train. Complete as many questions as your time allows. **WE DON'T NEED YOUR NAME AND ALL INFORMATION IS CONFIDENTIAL.**

1. Where were you when you started this trip?

_____ (h) home
_____ (w) work
_____ (s) shopping
_____ (m) medical/dental
____ (o) Other: **SPECIFY**_____
___ (r) recreational
___ (s) school
___ (a) airport
___ (h) hotel

1b. What is the address/location of the place you checked above, (where you started this trip or nearest intersection)
_____ **OR**

_____ _____and _____

2. At what Tri-rail Station did you board the train?

_____

3. How did you get to the station where you get on the train?

_____(a) walked more than 3 blocks
____ (b) walked 0-3 blocks
____ (c) bicycle (see 3 B please)
_____ (d) drove alone & parked
____ (e) carpooled with another person & parked at station
_____ (t) Transferred from Bus (circle one below)
___ (f) dropped off
___ (g) Tri-Rail shuttle
___ (h) taxi

MDT **BCT** **Palm Tran**

What bus route: (#)_____

_____ **(o) Other: SPECIFY**_____

3b. I took my BIKE on the Train: ____ (y) Yes____ (n) No

4. What is the final destination for this trip?

_____ (h) home
_____ (w) work
_____ (s) shopping
_____ (m) medical/dental
____ (o) Other: **SPECIFY**_____
___ (r) recreational
___ (s) school
___ (a) airport
___ (h) hotel

4b. What is the address/location of the place you checked above, (where you started this trip or nearest intersection.
_____ **OR**

_____ _____and _____

5. At what Tri-rail station will you get off the train?
_____

6. How will you get from Tri-Rail to the place you are going?

_____ (a) walked more than 3 blocks
____ (b) walked 0-3 blocks
____ (c) Tri-Rail shuttle
_____ (d) will drive to destination
____ (h) will carpool to destination with other train riders
_____ (t) Transferred TO Bus **(circle one below)**
____ (e) Picked up
____ (f) taxi
____ (g) bicycle

MDT **BCT** **Palm Tran**

What bus route: (#) _____

_____ **(o) Other: SPECIFY**_____

7. How often do you ride Tri-Rail? (Check one)

___ (a) 5+ days per week
___ (b) 3-4 days per week
___ (c) 1-2 days per week
___ (d) less than once a week
___ (e) Less than once a month
___ (f) This is my first time

8. How long have you been riding Tri-Rail?

_____ (a)First time
_____ (b) less than one year
_____ (c) more than one year
_____ (d) more than 3 years

9. How do you rate your overall satisfaction with Tri-Rail? (Check one)

_____ (a) Excellent
_____ (b) Very good
_____ (c) Good
_____ (d) Fair
_____ (e) Poor

10. How did you pay for your ride on this Tri-Rail Trip?
____ (a) Monthly fare
____ (b) One-way fare
____ (c) 12 trip fare
____ (d) Round Trip fare
____ (e) Weekend fare/all-day

10b. Did you use a fare Discount- ____ ?
____ (a) Employer Discount Program (EDP)
____ (b) Senior Citizen Discount Program
____ (c) Disabled Citizen Discount Program
____ (d) Medicare Card Holder Discount Program
____ (e) Students/Children with ID
(Discounts are for Senior Citizens, persons with disabilities, Medicare card holders, students and children with ID)

11. How many autos, trucks or motorcycles are owned or leased by people in your household?
_____ #

12. Please rate Tri-Rail on each of the categories below. Check one answer for each category:

(a) On-time performance

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

(b) Customer Service

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

(c) Train Cleanliness

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

(d) Station Cleanliness

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

(e) Bus Connections

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

(f) Station Parking

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

(g) Price/value

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

(h) Ticket machines

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

(t) Announcements on the train that announce the next stop

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

(s) Announcements at the station that announce the next train

Excellent	Very good	Good	Fair	Poor
_____	_____	____	____	____

13. Your home zip code? _____

14. What is your age?
_____ (a) UNDER 18
_____ (b) 18-24
_____ (c) 25-34
____ (d) 35-44
____ (e) 45-54
____ (f) 55-64
____ (g) Over 65

15. What is your household's annual income? (Check one)
____ (a) Under $25,000
____ (b) $25,001-35,000
____ (c) $35,001-50,000
____ (d) $50,001-75,000
____ (e) $75,001-100,000
____ (f) Over $100,000

16. Are you:
____ (a) White
____ (b) Black/African American
____ (c) Native American/Alaskan Native
____ (d) Native Hawaiian or other Pacific Islander
____ (e) Two or more races
____ (f) Asian
____(g) Hispanic
____(o)Other: **specify:** _____

17. Are you: _____ (m) Male
____ (F) Female

SFRTA/TRI-RAIL 10-YEAR PLAN

(FY 2009-2018 Transit Development Plan)

WE WANT YOUR IDEAS!

Help us create a plan which will provide improved service for you and the growing number of new riders expected in the years ahead!

SFRTA/Tri-Rail is working on a new Transit Development Plan (TDP) looking 10 years into the future.
Your ideas for improved service and new projects are needed to make the plan a success!

Below you will find three boxes showing the types of improvements being considered within the 10-Year Plan, along with potential timeframes.
Please help us by circling those items that are most important to you and writing in other ideas that you'd like to see included.

1 – 2 YEARS	3 – 5 YEARS	6 – 10 YEARS

• **SFRTA/Tri-Rail Control of Train Dispatching (Allowing for Improved On-Time Performance)**
• **Additional Parking**
• **Better Bus/Shuttle Connections**
• **New/Additional Train Cars**
• **More Bicycle Lockers/Racks at Stations**
• **Better Train Tracking & Real-Time Info**
• **New Ticket Vending Machines**
• **Other Ideas:**_____
	• **Additional/More Frequent Train Service**
	• **Regional "Smart Card" - Seamless Transit Fare Payment (For Tri-Rail and County Transit)**
	• **Additional/New Tri-Rail Stations**
	• **Further Parking Expansion**
	• **Continued Improvement of Bus/Shuttle Connections**
	• **Additional Train Cars**
	• **Better Bicycle & Pedestrian Connections to/from Tri-Rail Stations**
	• **Other Ideas:**_____
		• **Tri-Rail Extension(s):**
		  o **North**
		  o **South**
		  o **West**
		  o **Florida East Coast Corridor**
		• **Parking Garages**
		• **New Locomotives**
		• **Additional/More Frequent Train Service**
		• **Other Ideas:**_____

You may also send your comments or suggestions to us via e-mail at Plan@sfrta.fl.gov or via fax to 954-942-3325. More information on the SFRTA/Tri-Rail's 10-Year Plan will be provided in the months ahead at www.tri-rail.com and www.sfrta.fl.gov. Thank you for your patronage and support of public transportation.

SFRTA/TRI-RAIL 10 YEAR PLAN

(FY 2009-2018 Transit Development Plan Major Update)

WE WANT YOUR FEEDBACK!

The State of Florida requires that all transit operators complete a transit development plan (TDP) looking 10 years into the future. We have created a draft plan that incorporates many of the nearly 1,500 comments received from the public during the planning process.

We want your feedback. You have several ways to respond to our draft plan as presented at this July 24, 2008 public meeting:

1. Voice your comments to members of the public involvement team at tonight's meeting, and we will make your comments part of the minutes of the meeting.
2. Write your comments in the space below (and/or on the back of this sheet) and hand to a member of our public involvement team.
3. Send your comments to us, using this form or other, no later than August 1, 2008 to:
    - Fax 954-942-3325 or
    - Email us at Plan@sfrta.fl.gov or
    - Mail to Mr. Joseph Quinty, SFRTA, 800 NW 33rd Street, Suite 100 Pompano Beach, Florida 33064

Name (optional) _____

Email or telephone (optional) _____

Comments (continue on reverse if needed)

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Proposed Capital Projects FY 2014 - 2018

UNFUNDED PROPOSED STATION IMPROVEMENT SUMMARY FY 2014 - 2018	ESTIMATED COST OF IMPROVEMENTS	SFRTA TDP GOAL AND OBJECTIVE
Engineering-Station & Parking Lot Improvements		
Mangonia Park Station	$455 K	2,5
West Palm Beach Station	$1.40 M	2,5
Lake Worth Station	Cost TBD	2
Boynton Beach Station	$2.3 M	2
Delray Beach Station	$5.1 M	2,5
Boca Raton Station	$2.9 M	2
Deerfield Beach Station	$4.8 M	2,7
Pompano Beach Station	$140 K	5
Cypress Creek Station	$130 K	5
Fort Lauderdale Station	$1.3 M	5,7
Sheridan Street Station	$6 K	2,5
Hollywood Station	$435 K	1,5
Golden Glades Station	$10.2 M	2,3
Opa-Locka Station	$1.8 M	2

Proposed Capital Projects FY 2014 - 2018

UNFUNDED PROPOSED STATION IMPROVEMENT SUMMARY FY 2014 - 2018	ESTIMATED COST OF IMPROVEMENTS	SFRTA TDP GOAL AND OBJECTIVE
Tri-Rail/Metrorail Transfer Station	$212 K	2,3,5,7
Hialeah Market Station	$1.26 M	2
Planning and Capital Development		
Palm Beach International Airport Station Design/Construction	$15,000	2,3,6
Hallandale/Ives Dairy Road Station Design/Construction	$15,000	2,5
Additional Equipment Storage Location	TBD	2
Pocket Tracks and Siding	TBD	2