



The Transportation Landscape of South Florida

March 22, 2017



**Metropolitan
Center**

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Executive Summary

Building an economically sustainable public transit system with widespread ridership is the result of many drivers. Factors under management control such as timeliness, frequency, accessibility, and cost constitute part of the sustainability equation. Nevertheless, other drivers such as income, demographics, land use, race, and gasoline price that are beyond policymaker influence also play a role in transit demand. South Florida's declining inflation-adjusted wages, high cost of living, and significant immigrant population augur for increased public transit. However, the region's geographical sprawl, conservative political economy, political fragmentation, and low education attainment are likely detractors.

Our review of South Florida's public transit institutional framework reveals multiple agencies responsible for planning, financing and delivering public transit. These agencies produce and update long-range plans. However, they lack concrete performance metrics, suffer from co-dependent rollout, and lack an overarching dedicated regional funding stream.

Public transit ridership is declining across South Florida. But growing ridership on the I-95 Express buses suggests timely, frequent, and accessible transit may wean drivers from their autos—a difficult task in the U.S. and around the world.

Successful public transit systems in the U.S. are often associated with Midwestern and Northeastern metro areas with long-established public transit cultures and high population densities. But successful development of transit systems in Atlanta, Denver, Los Angeles, and Portland provides South Florida decision-makers with examples of system building garnered with political persistence and commitment to a solely designated region wide service provider.

How should South Florida develop a comprehensive and sustainable public transit system? Prior research concludes there are no “hard-and-fast answers.” Recent steps to build greater cooperation across the region such as the use of interoperable Easy Card payment system across the Gold Coast are a step in the right direction. But planning and delivery remain fragmented. Experience in other regions denotes and connotes multiyear efforts at building support for augmented public transit. Integral to these efforts is communication that spells out consumer savings in time, money, and aggravation gained from transit utilization. Concurrently, employers and elected officials need to encourage transit usage as means to improved quality-of-life for the region's residents.

Finally, transportation planning is also related to and dependent on broader public policies in terms of land use, real estate development and access to economic opportunities. Comprehensive solutions to South Florida's transportation challenges will require cohesive planning and implementation efforts that go beyond just engineering options, technology solutions and typical transit operation measures such as cost and timeliness, but incorporate considerations for community and economic development.

Overview

The empirical research on successful public transportation systems is divided into two schools. One holds that demand for public transit is the result of “internal” factors such as scheduling, availability, reliability, pricing, and convenience that are under the control of policymakers. Other scholars subscribe to the belief that ridership is generally a function of “external” variables beyond management control. These would include sociopolitical factors such as earnings, unemployment, density, region, ideology, geography, and land use. Meta analysis, which is structured review of prior research (both qualitative and quantitative) undertaken to discern underlying patterns and common findings, supports both schools. But this conclusion comes with an important caveat: Finding a mix of public transit services that maximizes ridership while minimizing subsidy is elusive and may be time- and site-specific.

One finding that holds across time and venue is the criticality of frequent offerings. Infrequency of boarding and limited availability dampens demand. This suggests an “all-or-nothing” approach in transit planning. The early experience of Tri-Rail and its limited schedule and commensurate ridership exemplify that dictum.

In terms of “external” variables, South Florida presents a mixed picture as platform for public transit development. In its favor, the region has a high proportion of immigrants, a group that is favorably disposed to transit use (Pucher and Renne, 2003; Taylor, et. al. 2009). Further, the region’s steeply declining inflation-adjusted earnings should also attract public transit given the inverse relationship between transit demand and earnings. Simply stated, public transit should appeal to a broad-crossection of residents seeking to relieve family finances associated with the region’s high cost-of-living and low wage structure.

Nonetheless, a number of factors militate against widespread development and acceptance of public transit in the region. Miami and its central business district are singular; families and workers with no nexus to Miami may see limited utility to transit developed outside that destination. Similarly, the region’s sprawl reduces density, which typically reduces demand for public transit. While affordable housing options are typically found in the suburbs, jobs are more concentrated in the highly urbanized areas close to the coast. Census statistics show that while the majority of workers in Miami-Dade, Broward and Palm Beach do not travel across county lines for their job, a substantial number do make cross-county trips for work – over 90,000 in Miami-Dade, 197,000 in Broward and 63,000 in Palm Beach. Overall, over 350,000 workers in South Florida are employed in a county different from the county in which they reside. (U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates) Over one million workers travel 10 miles or more from their place of residence to their work location.

Location in the South is another damper. Prior research suggests that race (expressed as unwillingness to link predominantly white suburbs with minority urban cores) limits transit ridership (Hess, 2012). Our region’s conservative political economy and relatively low proportion of college-trained residents are other “external” variables that augur against widespread public transit support.

Weighing the positives and negatives suggests a contradictory landscape for public transit. Earnings dynamics at the household level should, on face, drive demand for increased transit. However, other factors, such as the region’s fiscally conservative electorate and its sprawled development, leave South Florida a less fertile landscape for transit development.

The declining ridership in Miami-Dade also creates an additional challenge for decision-makers when it comes to justifying transit expenditures (See [Appendix](#)). In the past two fiscal years there has been an 11 million decrease in ridership on Metrorail, Metromover and Metrobus. Even if the loss in ridership may be partially attributed to factors such as lower gas prices, competition from rider-sharing services and free municipal trolley systems, the decline certainly raises questions about the demand for and sustainability of an expanded public transportation network. ([Miami Today, March 7, 2017](#))

The upswing in ridership on the I-95 Express buses is, however, a positive development, particularly in light of diminished ridership in public transit elsewhere in the region. This success underscores the importance of reliable and frequent public transit, as well as regional connectivity. It may also speak to a broader social trend toward gentrified bus transit nationwide (Hess, 2012), particularly if so-called “premium” bus transit is benchmarked to slower, less frequent train travel. This is significant in light of bus transit’s lower cost and greater flexibility.

The development of an integrated public transportation system in South Florida is also hampered by organizational fragmentation. The presence of multiple layers of governmental structures and agencies in South Florida, each with its own mandate, funding sources and governing bodies, pose an additional challenge both from an accountability, as well as decision-making perspective. The following section presents a summarized overview of these agencies and their responsibilities.

I. Institutional and Policy Landscape

A. REGIONAL AGENCIES

1. South Florida Regional Planning Council (SFRPC)

The SFRPC is a “public policy agency providing state and local policymakers with the information they need to build South Floridians a better future.”¹ According to Florida law, the council is the “only multipurpose regional entity that is in position to plan for and coordinate intergovernmental solutions to growth-related problems on greater-than local issues, provide technical assistance to local governments, and meet other needs of the communities in each region.” One of the main contributions of the Council is the development of the Strategic Regional Policy Plan for South Florida (SRPP), which “contains regional policies and strategies for improvement in each goal area with targets and indicators to measure progress.”² In order to expand its involvement in regional transportation, “the Council is a member of the Tri-Rail Coastal Link Executive Committee organized to expand passenger rail service and connect it to all other transportation modes in the Region.”³ SFRPC also works with the South Florida Regional Transportation Authority and the Miami Dade County Metropolitan Planning Organization (MPO) in developing plans to enhance regional transportation.

2. South Florida Regional Transportation Authority (SFRTA)

Miami-Dade, Broward and Palm Beach counties established SFRTA in 2003 with the mission to “... plan, develop, fund and operate a seamless, safe and efficient regional transportation system.”⁴ SFRTA provides commuter rail service between the three counties with direct access to Miami International Airport, and connecting shuttles to Fort Lauderdale/Hollywood International Airport and Palm Beach International Airport. In addition to dedicated funding from each of the three counties, SFRTA also receives funding from the Florida Department of Transportation, as well as various federal sources, including the Federal Transit Administration and the Federal Highway Administration. According to SFRTA, the regional projects the agency is planning require dedicated funding of at least \$50 million per year.⁵ SFRTA’s current major projects include Tri-Rail Coastal Link and Tri-Rail Station Improvements, and encouraging Regional Transit Oriented Development. SFRTA’s main priority is the management of the Tri-Rail system, the 72-mile regional commuter rail system providing service to 18 stations in Miami-Dade, Broward, and Palm Beach counties.⁶

3. South Florida Commuter Service (SFCS)

South Florida Commuter Services is a rideshare program of the Florida Department of Transportation dedicated to improving traffic conditions by promoting alternatives to drive-alone commuting.⁷ SFCS’s main area included Monroe, Miami-Dade, Broward, Palm Beach counties, as well as some services in Martin and St. Lucie counties. The agency was founded by FDOT in 1988 to serve as a public information

¹ <http://sfregionalcouncil.org/>

² <http://sfregionalcouncil.org/overview/about/>

³ <http://sfregionalcouncil.org/programs/transportation-alternative-fuels/>

⁴ <http://www.sfrta.fl.gov/overview.aspx>

⁵ <http://www.sfrta.fl.gov/overview.aspx>

⁶ <http://www.sfrta.fl.gov/docs/planning/Boca-II-Feasibility-Study.pdf>

⁷ <http://www.1800234ride.com/about-us/sfcs-background>

office during the I-95 expansion project. Commuter options include carpool, vanpool, ride transit, bicycling, park & ride, and even Zipcar usage. SFCS's partners with universities and colleges, corporate companies, and other transportation agencies through which it promotes ridesharing options.

4. The Southeast Florida Transportation Council (SEFTC)

Since 2005, the SEFTC is a formal partnership of the Miami-Dade, Broward, and Palm Beach Metropolitan Planning Organizations (MPOs) within the U.S. Census designated Miami Urbanized Area. The council's prime objective is to serve "as a forum for policy coordination and undertakes regional planning efforts for all transportation modes." These efforts include:⁸

- Regional long range transportation plans for Palm Beach, Miami-Dade, and Broward
- Regional project prioritization and selection processes
- Regional transit and freight systems
- Regional public involvement.
- Project lists for Transportation Regional Incentive Program (TRIP)

SEFTC focuses on providing enhanced transit connectivity between the three counties by working with a number of agencies, including, local transit operators, seaports, airports, FDOT, and many other. In October 2015, the council adopted the 2040 Regional Transportation Plan, and shared plans with the public on November 6, 2015. The focus of the plan is to understand various trends affecting the land, the people, and the system. The system portion focuses on the regional transportation system.⁹

5. Florida Department of Transportation (FDOT) Districts Six and Four

FDOT comprises seven districts throughout the State of Florida and Florida's Turnpike Enterprise. South Florida is served by FDOT District Six which encompasses Miami-Dade and Monroe Counties, District Four which covers Broward, Indian River, Martin, Palm Beach, and St. Lucie counties. FDOT's mission is to provide a safe transportation system that ensures the mobility of people and goods, enhances economic prosperity, and preserves the quality of our environment and communities. FDOT is decentralized in accordance with legislative mandates, with oversight provided by the Florida Transportation Commission.

6. *Brightline*

Brightline is an express inter-city train service operated by *All Aboard Florida*. The 125 mph trains will initially connect Miami-Dade, Broward and Palm Beach with future plans to extend the service to Orlando. Trains departing Miami will reach Fort Lauderdale in 30 minutes and West Palm Beach in an hour.

⁸ <http://www.seftc.org/>

⁹ http://seftc.org/system/uploads/documents/SEFL2040RTP_Final_Oct2015_small-2.pdf

B. COUNTY AGENCIES

1. Miami-Dade County

Department of Transportation and Public Works: The Miami-Dade DTPW aims to improve the sustainability of Miami-Dade County's transportation network as part of a wider goal of creating more vibrant, livable, sustainable cities and improving the quality of life for its residents. The transit system, under DTPW, ranks in the top 20 largest public systems in the USA, and is the largest transit agency in the state of Florida. Their mission is to provide the highest quality transit service: safe, reliable, efficient, and courteous. The system is comprised of Metrobus, Metrorail, Metromover, and Special Transportation Service (STS).

Citizens Independent Transportation Trust CITT): CITT is the 15-member body created to oversee the People's Transportation Plan funded with the half-penny sales surtax. On the November 5, 2002, Miami-Dade voters approved the measure which asked: "Shall the County implement the People's Transportation Plan including: Plans to build rapid transit lines to West Dade, Kendall, Florida City, Miami Beach and North Dade; expanding bus service; adding 635 buses; improving traffic signalization to reduce traffic backups; improving major and neighborhood roads and highways, including drainage; and funding to municipalities for road and transportation projects by levying a ½ percent sales Surtax whose proceeds will be overseen by the Citizen's Independent Transportation Trust?" PTP funding has been used to fund the 2.4 mile extension of Metrorail to Miami International Airport, replacement of Metromover and Metrorail cars, improvements in the bus shelters, signage and fare collection systems and others.

Miami-Dade Expressway Authority (MDX): MDX is a user-funded transportation agency dedicated to improving the mobility of people, goods, and the economy in Miami-Dade County. The agency was created in 1994 by the Miami-Dade County Commission to establish local control of toll revenues collected on the five MDX expressways, and to ensure that the toll revenue collected would be reinvested to improve transportation locally. The MDX expressway system consists of five of the most heavily traveled expressways in Miami-Dade County: SR-112: Airport Expressway, SR-836: Dolphin Expressway, SR-924: Gratigny Parkway, SR-874: Don Shula, Expressway, and SR-878: Snapper Creek Expressway.

The Miami-Dade Transportation Planning Organization's (TPO) (formally MPO): The TPO mission is to plan transportation facilities and services that are integrated and efficient while providing effective community participation. A major role of the TPO is to ensure conformance with federal regulations requiring that highways, mass transit and other transportation facilities and services are properly developed and deployed in relation to the overall plan of urban development and to approve plans for regional and state transportation network accessibility. In addition, federal guidelines require that the use of Federal Aid for transportation be consistent with MPO endorsed plans and programs. Federal, state and local transportation planning funds are utilized on an ongoing basis to insure the effectiveness of the MPO process.

The FDOT adopts the TPO's Long Range Transportation Plan (LRTP) as the plan for implementing transportation system improvements in Miami-Dade County.¹⁰ The TPO is governed by the

¹⁰ <http://miamidademipo.org/about-mpo.asp>

thirteen (13) member Board of County Commissioners (BCC) and four appointments by the Governor of Florida.

2. Broward County

Broward Transit covers an area of approximately 410 square miles with a total operating fleet of 346 buses. Some of the routes connect to Miami-Dade and Palm Beach counties transit systems, and to Tri-Rail (commuter rail service). BCT's Route 18 is the first bus route to service the tri-county area of Miami-Dade, Broward and Palm Beach.

Broward MPO is responsible for transportation planning and the funding allocation in Broward County. The board is comprised of 25 members including representatives of SFRTA, the Broward County School Board, and four Broward County Commissioners. These committees' main goals include leadership, education, revenue, multimodal improvements, and economic development.

3. Palm Beach County

Palm Tran is the bus transit system in Palm Beach County, providing over 10 million rides per year on 150 buses.

Palm Beach MPO is responsible for the short and long-term transportation planning for Palm Beach County.

Regional Plan, Goals, and Objectives

A. Regional Plans

1. 2040 Regional Transportation Plan

On October 27, 2015, The Southeast Florida Transportation Council (SEFTC) adopted the 2040 Regional Transportation Plan. The 238-page document states that the common regional goal is “coordinated regional planning and decision-making that results in a seamless system of multimodal facilities to meet the travel needs of people and freight.”¹¹ The stated goals in the report include: (1) Mobility- provide an efficient and reliable transportation system for regional passenger and freight operations, (2) Accessibility- provide multimodal access to regional passenger and freight activity centers, (3) Connectivity- provide an integrated multimodal transportation system throughout the region, (4) Environment- protect the region’s environment, promote energy conservation, and provide a resilient and adaptable transportation system, (5) Safety and Security- provide for a safer and more secure transportation system for the region’s residents, businesses and visitors, and finally (6) Economy- provide transportation investments to support an expanding regional economy.

The plan summarizes existing planning documents, outlines the region’s transportation needs, identifies various mode and technology options that may have potential impact in Southeast Florida, and details funded and future projects in each county and the region. A total of 168 projects were included, including seven projects that crossed county lines and were graded based on a criteria that filled the goals and objectives of the report. The multi-county projects were Tri-Rail Coastal Link (on FEC Railway Corridor), FLL-Miami Beach Express Bus, FLL-PortMiami Express Bus, Florida’s Turnpike Express Bus, Florida East Coast Railway, and Intercity Passenger Rail.¹²

2. Strategic Regional Transit Plan- SFRTA

The Strategic Regional Transit Plan is developed by the South Florida Regional Transportation Authority covers Tri-Rail’s operational and capital improvements. Major updates are completed every 5 years, covering a 10-year planning horizon. The most recent update of the plan covers the 2017-2026 period.¹³ Despite the broad name of the plan (*Regional Transit Plan*), its focus on the SFRTA-operated Tri-Rail commuter rail service in Miami-Dade, Broward, and Palm Beach counties. SFRTA works with regional agency partners and the private sector to advance transformational projects, such as a region-wide Tri-Rail expansion onto the Florida East Coast (FEC) Railway corridor (known as the Tri-Rail Coastal Link), and planning for Transit Oriented Development opportunities along the regional corridors. The plan specifically mentions SFRTA’s effort at premium transit development with the Tri-Rail Coastal Link (TRCL) project which will introduce new commuter rail service along 85 miles of the FEC rail corridor.

3. Statewide Plans

There is a number of statewide transportation plans addressing regional problems in South Florida, such as the 2060 Florida Transportation Plan, the Strategic Highway Safety Plan, and the Strategic Intermodal System Strategic Plan. However, these plans have a broad impact such as identifying corridors and

¹¹ http://seftc.org/system/uploads/documents/SEFL2040RTP_Final_Oct2015_small-2.pdf, pg. 64

¹² http://seftc.org/system/uploads/documents/SEFL2040RTP_Final_Oct2015_small-2.pdf, pg. 191

¹³ <http://www.sfrta.fl.gov/transit-development-plan.aspx>

aspects of the region's transportation network that are critical to the state's transportation network, as well as potential future needs and areas for improvement at the state level.¹⁴

4. SEVEN 50 Prosperity Plan

Spearheaded by the South Florida and Treasure Coast Regional Planning Councils and the Southeast Florida Regional Partnership (SFRP), a unique collaboration of more than 200 public, private, and civic stakeholders, [Seven50](#) ("seven counties, 50 years") is a regional plan that provides a foundation for future development in the seven county region (Indian River, St. Lucie, Martin, Palm Beach, Broward, Miami-Dade, and Monroe Counties). The plan focuses on economic development, social equity/inclusiveness, multimodal transportation, and sustainable and resilient development over the next 50 years and beyond. Like the 2040 LRTPs, it provides a consistent vision for a multimodal future. It places a particular emphasis on sustainability in the face of climate change. The creation of the document was a combination of a series of public summits, workshops, online outreach and high-impact studies led by the region's top thinkers.¹⁵ One of the unique attributes of the plan was the Seven50 Online Scenario Modeler which allows the public to "explore different scenarios for growth and development in the seven counties for the next fifty years and beyond."¹⁶

B. Regional Components of County Plans

While there is a long list of municipalities in South Florida which also provide transit services, through trolley or circulator systems, these services are localized and are not intended to compete with countywide or the inter-county transit services. Each county has a Metropolitan Planning Organization mandated with the development of regional transportation plans. Federal law requires each MPO in the country to adopt a financially constrained plan for their 25+ year planning horizon. The three Southeast Florida MPO's adopted their 2040 Long Range Transportation Plans (LRTPs) in 2014. Each MPO used the transit vision to guide the identification of their 2040 transit investments."¹⁷ Generally, each county provides a 20-Year LRTP, a 5-Year Transportation Improvement Program (TIP), and a 2-Year Unified Planning Work Program (UPWP).

1. Miami-Dade County

- **Mobility options- 2040 Miami-Dade Long Range Transportation Plan – Eyes on the future**

A primary function for the Miami-Dade MPO is to produce every 5 years a Long Range Transportation Plan (LRTP) with a minimum time horizon of 20 years. The document establishes a clear need for additional regional efforts as "...statistics show that 7% of all trips made by Miami-Dade residents are destined to Broward or Palm Beach Counties. Conversely, with Miami-Dade containing a majority of the regionally sought destinations, 16% of trips in Miami-Dade originate from Broward and 1% from Palm Beach County."¹⁸ The document mentions the 2040 Regional Transportation Plan – a Plan that is complementary to the 2040 Miami-Dade Transportation Plan, but with a higher-level focus across the

¹⁴ http://seftc.org/system/uploads/documents/SEFL2040RTP_Final_Oct2015_small-2.pdf, pg. 61

¹⁵ http://www.miamidade2040lrtp.com/wp-content/uploads/2040_LRTP_Plan.pdf, pg. 184

¹⁶ http://www.miamidade2040lrtp.com/wp-content/uploads/2040_LRTP_Plan.pdf, pg. 185

¹⁷ http://seftc.org/system/uploads/documents/SEFL2040RTP_Final_Oct2015_small-2.pdf, pg. 82

¹⁸ http://www.miamidade2040lrtp.com/wp-content/uploads/2040_LRTP_Plan.pdf, pg. 177

three-county urbanized area. The plan also provides a regional coordination snapshot by highlighting the different agencies involved in regional development and an overview of their work plans.

- **The MDT10Ahead Transit Development Plan**

The Department of Transportation and Public Works (DTPW) 2016 Transit Development Plan Annual Update (TDP) was approved by the Florida Department of Transportation (FDOT) on September 21, 2016.¹⁹ Section 2.13, Regional Transit Service Connections, highlights the existing structures within Miami-Dade providing regional connections - BCT- 441 Breeze, US 1 Breeze, 595 Express, and the 95 Express services. The document also highlights the operations of the SFRTA and their management of the Tri-Rail commuter rail service, as well as the five connections within Miami-Dade. Section 4.3 mentions one of the goals of the department is to improve coordination and outreach, and objective 3.2 is to “increase coordination between regional and local transportation providers to provide better multimodal connections.” Achievement on this metric was measured by the number of meetings among regional transportation service providers. According to the reporting, 17 meetings were held by local transit service providers and 23/24 meetings were attended by BCT, Tri-Rail and Palm Tran, with an attendance rate of 96%.²⁰ DTPW also identified 113 transit improvement projects as part of the 2040 needs plan process for the Miami-Dade 2040 Long Range Transportation Plan.²¹ Most of the suggested priority projects are considered local (county) priorities that correspond to individuals plans such as the SMART Plan.

- **The SMART Plan²²**

The Strategic Miami Area Rapid Transit Plan (SMART) was developed by Miami-Dade County and the Metropolitan Planning Organization (MPO), and adopted by the MPO Governing Board on April 21, 2016. The SMART Plan is a comprehensive plan which advances six rapid transit corridors to the Project Development and Environment (PD&E) study phase to determine the costs and potential sources of funding for the project. Funding for the PD&E Phase has been secured, with the Citizens Independent Transportation Trust providing major financial support for three corridors and FDOT funding the other three.

SMART Plan goals include: improved travel times during peak travel periods; improved transit service and reliability for current transit users; less reliance on automobiles and more transit ridership (mode-shift); improved access to major employment centers, major commercial areas, and tourist attractions; improved air quality and reduced energy consumption due to less cars on the roadways; savings on transportation costs (gasoline, car maintenance, car insurance, tolls, etc.); increased interest from domestic and global markets in investing/establishing new businesses due to improved mobility and access which could result in more job opportunities for residents of Miami-Dade County (Economic growth); and, and enhanced visibility of the region as major travel destination.

¹⁹ <http://www.miamidade.gov/transit/mdt-10-ahead.asp>

²⁰ http://www.miamidade.gov/transit/library/10_year_plan/fy-2017-2026/ch-4-mdt-tdp-performance-assessment.pdf, 4-10

²¹ http://www.miamidade.gov/transit/library/10_year_plan/fy-2017-2026/ch-7-mdt-tdp-2027-beyond-vision-plan.pdf

²² <http://miamidademopo.org/smartplan.asp>

SMART REGIONAL COMPONENT

The SMART plan promotional materials acknowledge that “beyond the SMART plan, there is a smart region,” that the plan enhances regional connectivity and supports future population and employment growth.

2. Broward County

The 2017–2026 Transit Development Plan (TDP) Annual Update, known as BCT Connected, for Broward County Transit (BCT) serves as the strategic guide for public transportation in Broward County for the next 10 years.²³ The plan provides a comprehensive documentation of BCT's capital and operating needs for the next ten years. BCT promotes regional commuting by having fixed routes that provide connections to multimodal transportation network, as well as system wide connections at four transfer terminals: Broward Central Terminal (downtown Fort Lauderdale), West Regional Terminal (Plantation), Lauderhill Mall Transfer Facility (Lauderhill) and Northeast Transit Center (Pompano Beach). Express Bus Service provides free, Commuter Park and ride locations, and travel along the major interstate highways to downtown Fort Lauderdale and Miami on weekdays during morning and afternoon peak travel hours. Additionally, Route 18 is BCT's first bus route to service the tri-county area of Miami-Dade, Broward and Palm Beach.²⁴

One of the main contributions of the BCT towards regional transportation is the 95 Express Bus Service, a service between Broward and Miami-Dade County. From 2010 to 2014 it had a 684% increase rider usage. In addition to the 95 Express, BCT also offers the service of the 595 express, a service that serves between SW Broward and Sunrise to downtown Fort Lauderdale, downtown Miami, Miami Civic Center via I-95 and I-595. From 2012 to 2014, 595 express reported a 369% increase. Both services provide weekday morning and afternoon peak travel service with free Wi-Fi. Together they are reporting an average daily ridership of 2,300.²⁵

3. Palm Beach County

The 2040 Palm Beach County Long Range Transportation Plan (LRTP) identifies several roadway expansion projects, interchange improvement projects, all electronic conversion along the Turnpike, two new Tri-Rail stations (one at Palm Beach International Airport (PBI)/Southern Boulevard and one at Glades Road and Military Trail in Boca Raton); and rail capacity improvement projects, in hopes of contributing a regional promotion on transit.²⁶ As prospective future goals, the LRTP of Palm beach identifies the following:

- The All Aboard Florida (AAF) Brightline's West Palm Beach Intermodal Station is currently under construction, with service set to begin by the end of 2017 for the segment between West Palm Beach and Miami. The station will be located between S. Rosemary Avenue and S. Quadrille Boulevard in downtown.²⁷
- The Tri-Rail Coastal Link is scheduled to open in FY 2021 with 10 proposed stations within Palm Beach County.

²³ <http://www.broward.org/BCT/Reports/Pages/COA.aspx>

²⁴ <http://www.broward.org/BCT/Pages/About.aspx>

²⁵ <http://www.broward.org/BCT/Resources/Documents/LetsTalkTransit.pdf>

²⁶ http://discover.pbcgov.org/palmtran/PDF/Planning/TDP_Final_with_executive_summary_12_29_2016.pdf.pdf

²⁷ http://discover.pbcgov.org/palmtran/PDF/Planning/TDP_Final_with_executive_summary_12_29_2016.pdf.pdf

III. Effective Practices in Developing Transit Systems

Overview:

Despite some of South Florida’s defining characteristics – geography, climate, population, and decision-making fragmentation - South Florida’s transportation challenges are not unique. Many other communities across the country have confronted similar challenges and addressed them in a successful way. The following section outlines in broad strokes the characteristics of these communities and transit systems as a way to show the “path to success” they have followed. In the selection of the communities we focus on “young,” developing transit systems as they seek to address increasing populations and commute times, land use limitations, financial constraints, and community buy-in. These transit systems are frequently mentioned in Miami-Dade as examples of successfully implemented transportation planning efforts. The table below shows the selected communities, their service modes and ridership.

Location	Agency	Transportation Modes	Ridership (Unlinked Passenger Trips) (millions)
Atlanta, GA	Metropolitan Atlanta Rapid Transit Authority (MARTA)	bus and heavy rail	129.1
Denver, CO	Regional Transportation District	bus and heavy rail, Call-n-Ride personalized bus service	104.3
Los Angeles, CA	Los Angeles County Metropolitan Transportation Authority	bus, light rail, heavy rail, and bus rapid transit	479.7
Portland, OR	Tri-County Metropolitan Transportation District of Oregon	Bus, light rail, commuter rail	99.5
Seattle, WA	Central Puget Sound Regional Transit Authority (Sound Transit)	Bus, light rail, commuter rail	32.9
Miami, FL	Miami-Dade Transit	Bus, heavy rail, people mover	110.8

Source: [2016 Public Transportation Factbook](#), American Public Transportation Association.

Transit System Descriptions

Atlanta: The [Atlanta BeltLine](#) is a planned loop of 22 miles of modern streetcar (an expansion of the Atlanta Streetcar), 33 miles of multi-use trail, and 2,000 acres of parks. It will open in phases through the anticipated completion in 2030. As of 2016, the Atlanta BeltLine consists of four open trails; two trails under construction; seven parks; intensive planning for modern streetcar expansion; more than \$3 billion in private economic redevelopment; hundreds of affordable workforce homes; free fitness classes; a linear arboretum; and urban farm; and the largest temporary public art exhibition in the south.

The BeltLine is managed by the Metropolitan Atlanta Rapid Transit Authority (MARTA), established in 1965 and tasked with creating and managing a five-county bus and rail system. It has a governing board with representatives from the City of Atlanta and the three major counties around it, as well as from the Georgia Department of Transportation and the Georgia Regional Transportation Authority. Additional

jurisdictions can join by approving and contributing a full penny sales tax to it. MARTA also has jurisdictional taxing authority through 2057, and 30-year bonding capacity. It is financed by user charges (not less than 35 of operations costs), proceeds obtained from the collections of sales and use tax under the Rapid Transit Contract and Assistance Agreement with the City of Atlanta and the Counties of Fulton and DeKalb, Clayton, and Federal Subsidies. The sales tax is levied at a rate of 1% until June 30, 2057, and 0.5% thereafter.

MARTA has established performance metrics for seven core areas – bus service, rail service, mobility service, safety and security, facilities, customer service, and finance. The metrics are measurable and range from modal service times to costs per trip to customer wait times.

A proposed ten-county one-cent sales tax hike to support \$7.15 billion in spending on transit and roads was defeated in 2012, opposed by almost 70 percent of voters in the ten counties. The measure was approved by Atlanta city voters. That is why, in 2016 the City of Atlanta decided to go it alone and proposed two separate sales tax measures on the ballot. The half-cent MARTA sales tax (a 0.5 percent increase in the existing MARTA funding tax) was approved by 72% of voters, and is expected to generate \$2.5 billion for new train stations and other services (plus expanded streetcar routes and light-rail on the Beltline) over the next four decades. The second 0.4-percent transportation local special option sales tax, approved by 68% of voters, will last up to five years. The collected funds will finance new parks, sidewalks, bike lanes and the \$66-million purchase of remaining right-of-way around the entire 22-mile Beltline oval. The city's total sales tax will be 8.9 percent. In 2015 Atlanta voters had also approved a \$250 million Renew Atlanta infrastructure bond to address everything from new bridges to public art. Federal assistance was less than 20% of MARTA's operating revenues in 2016, supporting its operating and capital programs.

The Atlanta BeltLine project will be funded through a mix of public and private sources – including the Atlanta BeltLine Tax Allocation District (TAD), the City of Atlanta, private investment and philanthropic contributions, county, regional, state and federal grants, and public private partnerships. To date, 64% of the \$450 million spent on the project has been funded by the City of Atlanta and bonds.

Interestingly, the City of Atlanta is considering the creation of a city Department of Transportation to act as a liaison between the city and other governments as plans are hashed out for more regional responses to transportation.

Denver: The FasTracks system will culminate in 122 new miles of commuter and light rail and 18 miles of bus rapid transit service across the Denver area. Denver's light rail system will be almost 100 miles in 2017, surpassing the 93-mile system in Dallas and becoming the longest light rail system in the U.S.

FasTracks is managed by the Regional Transportation District, which provides public transportation in eight counties with over 2.8 million people within 2,400 square miles. RTD is governed by a 15-member, publicly elected Board of Directors. Each member represents the voters, residents, and transit riders of a specific area within the eight-county RTD service area.

Denver is the only region in the U.S. that ever attempted to open five major transit projects (four rail lines and one bus rapid transit line) in one year. Many credit its success to the support from various stakeholders at the local, state and federal level. FasTracks was unanimously supported by 31 mayors of the Denver metro area, as well as the business community and environmental groups

Residents voted in 2004 for a 0.4 percent sales tax to fund the \$4.7 billion effort. FasTracks was accountable from the beginning as a detail-specific plan including number of stations, miles to be built, and overall connectivity within and across transportation modes. The latest estimate is that the project will cost \$7.8 billion to complete by the original 2024 target date. The revised budget estimates have pushed the deadline for completion further in the future. FasTracks is financed by the local sales tax, funding from the Colorado Department of Transportation, Public-private partnerships (P3), proceeds from sales of land to private developers, federal grants (\$1.65 billion), federal loans, and [special taxing districts](#).

Los Angeles: In 2014, the city began the construction of an 8.5-mile extension of its rail. The Los Angeles County Metropolitan Transportation Authority oversees the construction of the \$2.06-billion, eight-station route. The project is also receiving \$700 million in federal grants and loans.

The Los Angeles County Metropolitan Transportation Authority (Metro) serves as transportation planner and coordinator, designer, builder and operator for a 1,433-square-mile service area of more than 9.6 million people. Metro's Board of Directors includes 13 members who represent Los Angeles County and cities in the county. Federal and state funds comprise less than [15%](#) of Metro's transit operations and transit capital recourses.

In 2008 voters approved Measure R, which increased sales tax by a half-cent to help fund public transportation projects and is expected to generate \$40 billion in revenues over 30 years. In 2016, the voters approved Measure M that raised the sales tax to build more rail and bus lines.

Metro does not publicize information on performance metrics but they provide annual reports to the public with basic statistics on ridership and expenditures. Spending from the sales tax measures (R and M) is tracked via an annual independent audit and report to taxpayers, and ongoing monitoring and review of spending by an independent taxpayer oversight committee.

Portland: Tri-County Metropolitan Transportation District of Oregon (TriMet) is the regional agency that manages public transit - bus, light rail and commuter rail transit - in the Portland metro area, including the counties of Clackamas, Multnomah and Washington. TriMet's area covers over 3,000 square miles populated by over 2 two million residents. Over the past 30 years TriMet has steadily added [new lines and routes](#) in its growing system.

TriMet is governed by the seven-member Board of Directors, appointed by the Governor of Oregon for a four-year term. The Board Members are residents of the seven Tri-Met geographic districts they represent. The Board of Directors sets agency policy, enacts legislation (taxing and policy ordinances), and reviews certain contracts. TriMet can issue and sell general obligation and revenue bonds, levy an employer payroll tax and levy a tax measured by net earnings from self-employment.

TriMet's most recent route is the Orange Line which opened to the public in 2015. The \$1.5 billion, 7.3-mile Portland-Milwaukie Light Rail Transit Project connects downtown Portland with downtown Milwaukie through Southeast Portland. The project includes the first of its kind multi-modal bridge in the U.S. carries light rail and streetcar trains, buses, bicyclists and pedestrians, but no private vehicles. Half of the funding was provided by the Federal Transit Administration, while State, regional and local contributions constitute the remaining 50 percent.

The Oregon Department of Revenue administers the Transit Payroll Taxes for Employers for the Tri-County Metropolitan Transportation District (TriMet). The Transit Payroll Tax is paid by all employers,

including nonresident employers, who are paying wages earned in the TriMet. The tax is paid based on the amount of gross payroll for services performed within the TriMet, and has undergone incremental increases over the years. Currently the tax is 0.7437 cents for every dollar in payroll. Approximately 95% of TriMet's revenues come from three sources; payroll tax revenues (60%), passenger revenues (22%), and [federal formula funds \(14%\)](#).

TriMet has a [Performance Dashboard](#) which tracks ridership, operating costs, revenues and other data.

Seattle: Central Puget Sound Regional Transit Authority (Sound Transit) is the regional transit agency that serves the Seattle metropolitan area. Sound Transit plans, builds and operates express bus, light rail and commuter train services in the urban areas of King, Pierce and Snohomish counties, an area of 1,080-square miles and 2.8 million people. The three transit services include: the 22-mile Link light rail system in Seattle and Tacoma; the Sounder commuter rail system which operates at peak hours from Everett to Lakewood, via Seattle; and the Sound Transit Express bus system with the bus fleet owned by Sound Transit and buses operated and maintained under contracts with local transit authorities (Community Transit, King County Metro, and Pierce Transit). Sound Transit directly operates only one of the light rails lines, while the other light rail line, the commuter train and the buses have operations and maintenance performed under contract.

Sound Transit is funded by a combination of local taxes, federal grants, fares, interest earnings and miscellaneous revenues. Local taxes make up just over half of Sound Transit's total funding. Federal grants make up only 11% of Sound Transit's financing sources in its [2016 budget](#).

In 1996, 2008 and 2016, voters within the RTA district approved tax increases to build and operate the regional mass transit system. These taxes are assessed only within the Sound Transit district. In 2016 voters approved an additional 0.5 percent sales and use tax effective April 1, 2017; an additional 0.8 percent Motor Vehicle Excise Tax (MVET, or car tabs) beginning March 1, 2017, with new and renewal vehicle registrations; and a new property tax of \$0.25 per \$1,000 of assessed valuation beginning January 1, 2017. The current tax rates for each of the four district revenue streams are: Sales & Use - 1.4% (\$0.14 on a \$10 taxable purchase); MVET (Car tab tax) - 1.1% (\$110 annually for each \$10,000 of depreciated vehicle value), Property Tax - \$0.25 annually per \$1,000 of assessed valuation (\$100 annually on a \$400,000 house); and Rental car sales tax - 0.8 percent (\$0.80 on a \$100 car rental). When it was placed on the ballot, the plan included broad goals and specific objectives –the collected revenue would support \$50 billion in new projects and services, funded by \$27 billion in new tax collections through 2041, along with existing taxes, long-term debt and federal grants. Sound Transit anticipates receiving up to a \$1.3 billion federal grant for construction of the light rail extensions.

It was estimated that the new taxes would equate to [\\$392 per year for a typical household](#). The increases were in addition to the Sound Transit taxes that voters approved in 1996 and 2008, which average \$330 per household, and would continue being collected.

Sound Transit has a policy of subarea equity which requires that tax dollars raised in each of the five geographic areas forming the Sound Transit District are used for the projects and services that benefit that area's residents. Subarea equity requirements are legally binding and regularly undergo independent audits.

Accountability to the public is primarily focused on expenditures and revenues. Sound Transit does not have a performance metrics system but instead relies on the various agencies with which it contracts to provide information [about fares, routes and ridership](#).

Factors for Successful Transit Plan Implementation

The five examples of successful implementation of major transit projects share some important characteristics that can serve as a guide for South Florida in its attempts to develop an integrated transportation system. First, major transportation development initiatives in these diverse communities is spearheaded and managed by a single governing organization. Each of the five areas has relied on a regional agency mandated to pursue transportation improvements, with input from the jurisdictions in the area provided by representatives who sit on a governing board. Secondly, these agencies received from other decision-makers – local jurisdictions, their states and governors, community organizations, business community, and as a result, were able to push for the implementation of their plans. Third, the regional organizations obtained buy-in from the majority of voters in the affected communities. This support was essential as it showed the community approved and stood behind the plans, this amassing further support from other stakeholders, but also in very practical terms, because the voter approval also included their agreement to finance the transportation initiatives. All five communities passed some type of a tax to finance transportation projects that allowed agencies to leverage that steady stream of funding for bonding and to obtain additional federal and state funding. While the transportation agencies in these communities have leveraged local funding sources to obtain additional financing, it is important to note that most of their funding still comes from local sources (sales tax, tax districts, business tax).

Finally, initial support of the transportation projects was predicated on the community understanding the specific parameters of the improvements in terms of impact and costs. When agencies proposed their ballot measures, they ensured that the population understood the plan specifics and projected outcomes. Denver's Regional Transportation District, for example, engaged in a two-year campaign to define their transportation plan, estimate costs and educate stakeholders – residents, the business community, elected officials, community leaders etc. The presence of a defined transit plan and project specifics was instrumental in garnering support. The continued support of stakeholders for these projects, some of which are still ongoing or being further expanded, is dependent on transparency about achievements and challenges. Most agencies rely on measurable performance metrics that are easily accessible to the public.

IV. Policy and Planning Assessment

The presence of multiple transportation agencies in South Florida and the county focus of many of them poses a significant coordination and collaboration challenge for regional transportation efforts. Each of the counties has its Metropolitan Planning Organization that develops the countywide plans for transportation improvements, and projects implemented within each county must comply with these plans. The Tri-County region's increased integration led the respective MPO's to create the Southeast Florida Transportation Council (SEFTC) in 2005.

In 2015, SEFTC adopted the *2040 Regional Transportation Plan (RTP)* that identified the most significant transportation investments needed to improve mobility in South Florida. While the plan represents the collaborative effort of the three MPOs and demonstrates regional demand for transit, it shows individual county projects, timelines and costs. In other words, the RTP *merges* the three individual long-range transportation plans into a single document. The underlying tone of the document is to advocate the need for greater funding in order to create a real impact on public transportation. However, the document does not address the limitations of the current projects nor an analysis of the current options.

The SEFTC was formed less than three years after establishment of the South Florida Regional Transportation Authority (SFRTA), which has the mission to "To coordinate, develop and implement, in cooperation with all appropriate levels of government, private enterprise and citizens at-large in the community, a viable regional transportation system in South Florida that endeavors to meet the desires and needs for the movement of people, goods and services."²⁸ SFRTA's main planning document is the Transit Development Plan, which is updated annually.²⁹ While SFRTA's main focus is the Tri-Rail commuter service, the agency is also involved in individual projects. For example, SFRTA was designated as the original sponsoring, implementing agency for the WAVE, responsible to administer the original \$18 million FTA grant awarded for the project. WAVE will be a 2.7 mile north/south streetcar line that will serve downtown Fort Lauderdale.³⁰ In September 2015, SFRTA received a Federal Transit Administration grant funding for a Transit-oriented Development Pilot Program along the proposed TRCL commuter rail line.

The review of the agencies and their plans points to five overarching conclusions:

1. The presence of multiple agencies, with overlapping mandates and funding sources, necessitates a sustained effort for collaboration and coordination of transportation planning initiatives and their subsequent implementation. Moreover, transportation partners may need to go beyond the individualistic nature of their planning efforts and incorporate a broader scope of partner efforts.
2. Unless agencies and stakeholders are able to speak in a concerted voice, funding for *regional* transportation efforts may be challenging. The question is whether agencies see the benefit of collaboration rather than competition for funding.

²⁸ <http://www.sfrta.fl.gov/overview.aspx>

²⁹ <http://www.sfrta.fl.gov/transit-development-plan.aspx>

³⁰ <http://www.sfrta.fl.gov/docs/planning/TDP/SFRTA-TDP-FY16-Annual-Update-Final-Draft-Transmittal-to-FDOT.pdf>, p. 2-15.

3. While some agencies are making collaborative attempts for transportation improvements, decision-making that impacts mobility remains local. Each county leaves the regional planning to other regional agencies, by simply mentioning the efforts of the SFRTA or of SFRPC, without connecting their own efforts to the bigger, regional picture. The spatial pattern of real estate development and job concentration, as well as land use policies at the county and even municipal level may pose a significant challenge. While over a million residents in the three counties travel to another county for work, the majority of workers still travel within their county. Thus, the localized nature of travel improvements may be responding to the needs of the majority of area residents. Additionally, the “not-in-my-backyard” voices in some communities may be a major impediment to transit development, particularly if improvement is undertaken against a backdrop of increased density and changing neighborhood character.
4. The county focus of transportation improvements may be predicated on political realities. For example, while Miami-Dade has a half-cent dedicated transportation sales tax, Broward voters did not approve a similar measure on their November 2016 ballot. While the “go it alone” model may not be desirable, Miami-Dade County currently has more opportunity to consider and accommodate the need for regional development. The Atlanta region had a similar challenge with the majority of Atlanta voters approving a transportation tax while the surrounding communities opposed it. The plan Atlanta’s transportation authority developed allowed for transportation improvements to commence and for other jurisdictions to join at their own pace as they garnered support from their communities.
5. While the various agency plans provide a comprehensive overview of the need for transportation improvements, the projects in development or implementation stages, and their costs, these plans and the already existing improvements they advanced lack real performance metrics and/or comparisons with other jurisdictions. Each agency mentions improving mobility and quality of life in its visions and plans, however, there is a lack of comprehensive discussion on measures such as savings, ridership, traffic volume, travel times etc. Moreover, while the plans mention how the rise in population will only make matters worse, general public involvement has been limited to tri-county surveys to measure the public opinion on transportation.

V. Creating a Common Vision

The Challenge

Creating premium transit services in South Florida is a challenge addressed by many metropolitan areas across the US. Reducing personal auto use is a thorny worldwide problem. Disrupting long-ingrained transit habits accompanied by emotional attachment to the automobile requires commitment to a public transportation culture. Creating reliable, frequent, timely, and accessible public transit is a necessary but insufficient first step in weaning drivers from their cars. Marketing efforts targeted to various demographics are critical. Encouraging employers to “sell” employees on the merits of public transit is another important tactic. Public officials need to recognize that positive citizen/passenger perceptions of public transit may lag objective service improvements. There are no “hard and fast answers” (Redman, et. al: 126) when endeavoring to build support for quality public transit, but transit improvements have support from various agencies in South Florida. The challenge is for these agencies to speak in unison, and to bring together all their plans in a coherent vision and approach to solving the region’s transportation challenges. There are some individual success stories that can be highlighted and that demonstrate the efforts of transportation organizations to work together and be proactive. The *2040 Regional Transportation Plan* is a step in the right direction as it is the first comprehensive attempt in South Florida to align objectives and projects. However, its oversight and implementation still lies within the MPOs of each county, the respective FDOT district and county transit agencies. The lack of a single governing body, not just a collaborative council but an agency with *resources* to dedicate to inter-county transportation projects (as is the case in the five examples discussed previously) may be a significant impediment to regional transportation development.

The most significant examples of regional transit thinking include the introduction of the 95 Express bus that now connects the three counties, and the soon-to-be-introduced joint fare collection system. Upcoming infrastructure developments will allow interoperability of payment collection across the three counties, as well as in the Tri-Rail system, through the EASY Card and EASY Pay mobile app.

The Broader Context

The previous sections of the report provide research and case study examples of how various metropolitan areas have addressed many of the determinants and attributes of premium transit service. Premium transit service typically means a high quality transit, rail or bus, that reduces transit travel times, enhances regional connectivity, and provides improved vehicles and transit amenities to attract new customers. The attributes that could inform mode choice models and transit networks for planning analysis are categorized as monetary cost, journey time, convenience, comfort, accessibility, productivity, information services, fare payment, and safety. Practitioners have attempted to quantify these service attributes and subsequently incorporate them in forecasting models. This planning analysis is fundamental to the successful management and operation of premium transit services in a number of metropolitan areas in the US and serves as a guide for the emergent planning efforts in South Florida.

Going forward, South Florida faces one of the biggest public transit planning challenges – accessibility. Under the current spatial pattern of population settlement and development in South Florida there is a wide disconnect between place of residence, workplace and existing transit stops/stations. Why is this important? As described well in *TCRP Report 95*, the proximity of the transit station to surrounding real

estate is one of the most important attributes of a successful transit system (Evans et al. 2007). A 2006 study of the San Francisco Bay Area done by the Metropolitan Transportation Commission found the following transit share for commute trips:

- 42% for trips where both the residence and workplace were within 0.5 mile of a transit stop/station;
- 28% for trips where the workplace was within 0.5 mile of a transit stop/station but the residence was not;
- 16% for trips where the residence was within 0.5 mile of a transit stop/station but the workplace was not; and
- 4% for trips where neither the residence nor workplace were within 0.5 mile of a transit stop station

Many studies of transit systems consider context and confounding factors, but the relationship between proximity and use is striking. Therefore, creating a vision of premium transit services in South Florida must begin by addressing the key issue of accessibility and providing a more robust planning analysis of the key attributes of premium transit services. The research has found that premium transit services are frequently proposed in conjunction with changes in land use policies that allow for higher densities and a mix of uses to support the development of premium transit services.

The previously discussed Portland, Oregon Tri-Met includes the following definition of a TOD: "Multiple-unit housing and mixed use projects that support the public investment in light rail and fixed route transit (bus) service because they preserve, enhance, or contribute to creating active pedestrian districts within walking distance of transit." TODs increase the density of people near transit, including residents, employees, visitors, and customers in a built environment that is pedestrian friendly and connected to transit. Mixed-use buildings, projects, or areas with a mix of uses are active from early in the morning to late in the evening, making the environment safer for pedestrians and providing peak and off-peak customers for transit service. (TOD Advocate, 2013).

In San Francisco, the \$50 million Bay Area Transit-Oriented Affordable Housing (TOAH) Fund provides financing for the development of affordable housing and other vital community services near transit lines throughout the Bay Area. The mission of the Fund is "to promote equitable transit-oriented development (TOD) across the nine-county Bay Area by catalyzing the development of affordable housing, community services, fresh foods markets and other neighborhood assets." Through the Fund, developers can access flexible, affordable capital to purchase or improve available property near transit lines for the development of affordable housing, retail space and other critical services, such as child care centers, fresh food outlets and health clinics. The TOAH Fund was made possible through a \$10 million investment from the Metropolitan Transportation Commission.

Transit Oriented Development (TOD) Design Guidelines have been developed by the Florida Department of Transportation (FDOT) that provide general parameters and strategies for local governments and agencies to promote and implement development that is supportive of transit investment. The guidelines include such variables as population and employment density, intensity and diversity of land uses, parking availability, and the physical design of the street network to provide connectivity and accessibility. In terms of bus-use TOD, the implementation experience is scarce and the number of exemplary cases is relatively small. However, the literature suggests that Enhanced Bus Service is ideally supported by TOD characterized with a mix of uses, more intense development and walkable streets

within a ½ mile of the transit service. TOD increases the density of people near transit, including residents, employees, visitors, and customers in a built environment that is pedestrian friendly and connected to transit.

The future Tri-Rail Coastal Link passenger service along the Florida East Coast (FEC) railway corridor provides an opportunity for South Florida cities to strategically plan for new workforce housing development within major employment centers and downtowns. The Tri-Rail Coastal Link includes 28 station locations extending from Jupiter in Palm Beach County to the Government Center in downtown Miami. The plan calls for groupings of projects into TOD Districts or station areas. The proposed typologies for “moderate” to “high density” development can support mixed-income, workforce housing. The opportunities for affordable housing development that will be created by the future Tri-Rail Coastal Link passenger service and other infill development plans in South Florida are significant.

Miami-Dade County has developed land use policies and regulatory provisions to accommodate development around bus-rapid transit (BRT) stations. According to Miami-Dade County’s Future Land Use Plan, the County: “shall encourage development of a wide variety of residential and nonresidential land uses and activities in nodes around rapid transit stations to produce short trips, minimize transfers, attract transit ridership, and promote travel patterns on the transit line that are balanced directionally and temporally to promote transit operational and financial efficiencies.” Approvable land uses around transit stations shall include housing, shopping and offices in moderate to high densities and intensities, complemented by compatible entertainment, cultural uses and human services in varying mixes. The particular uses that are approved in a given station area should, a) respect the character of the nearby community, b) strive to serve the needs of the community for housing and services, and, c) promote a balance in the range of existing and planned land uses along the subject transit line. Rapid transit station sites and their vicinity shall be developed as “urban centers” as provided in this plan element under the heading Urban Centers.

The upshot is simple: Improved public transit in the region must be viewed through a larger prism of land use and urban planning. Policy makers should be heedful of the transit-land use nexus as they enhance alternatives to personal automobile use.

REFERENCES

Alam, Bhuiyan; Nixon, Hillary & Zhang, Qiong (2015, May). Investigating the Determining Factors for Transit Travel Demand by Bus Made in US Metropolitan Statistical Areas. Mineta Transportation Institute, San Jose State University.

Hess, Amanda (2012, July 10). Race, Class and the Stigma of Riding the Bus in America. Can a City Successfully Gentrify its Bus System? Does it want to? www.citylab.com/cityfixer/2012/07/race-class-and-stigma-riding-bus-america/2510 downloaded March 16, 2017.

Pucher, Johna & Renne, John L. (2003). Socioeconomics of Urban Travel: Evidence from the 2001 NHTS. *Transportation Quarterly*, 57 (3): 49-77.

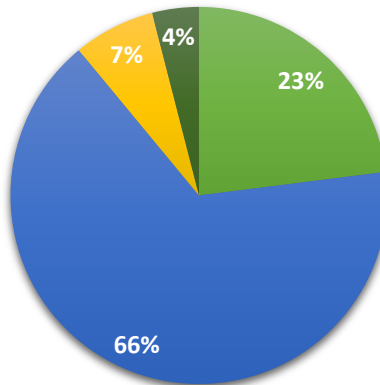
Redman, Lauren; Friman, Margarita; Garlin, Tommy & Hartig, Terry (2013). Quality Attributes of Public Transport that Attract Car Users: A Research Review. *Transport Policy*, 25: 119-126.

Taylor, Brian D. & Fink, Camille, N.Y. (2003, September 1). The Factors Influencing Transit Ridership: A Review and Analysis of the Ridership Literature. University of California-Los Angeles Transportation Center.

Taylor, Brian D; Miller, Douglas; Iseki, Hiroyuki & Fink, Camille. (2009). Nature and/or Nurture? Analyzing the Determinants of Transit Ridership Across U.S. Urbanized Areas. *Transportation Research A*, 43: 60-77.

Appendix: Current Regional Use

Regional December 2016 Ridership: All Modes



■ Broward County Transit ■ Miami-Dade Transit ■ Palm Tran ■ SFRTA

Sources: December 2016 BCT Monthly Ridership Report, MDT Ridership Technical Report, Palm Tran Ridership Report, SFRTA Operations Report

Regional Ridership			
	Dec-12	Dec-16	% Change
Transit Provider			
Broward County Transit	3,355,320	2,837,577	-15%
Fixed Route Bus	3,138,734	2,575,833	-18%
Community Bus	216,586	196,353	-9%
Paratransit		65,391	
Miami-Dade Transit	8,732,160	7,919,860	-9%
Metrobus	6,383,161	5,192,692	-19%
Metrorail	1,593,959	1,734,768	9%
Metromover	755,040	858,961	14%
Palm Tran	976,720	843,841	-14%
SFRTA	326,683	446,541	37%
Tri-Rail	326,683	368,243	13%
Feeder Bus		78,298	
Regional Total	12,414,163	12,047,819	-3%

Source:

<http://www.broward.org/BCT/Resources/Documents/RidershipReports/January2017Ridership.pdf>