

1. PURPOSE OF EFFORT

This memo outlines the process used by the study team to create the transit service recommendations for the *2045 Southeast Florida Regional Transportation Plan (RTP)*. In order to model out a set of future development scenarios for Southeast Florida, the team had to prepare different conceptual recommendations for how the transit system might look. These recommendations were initially identified through a data analysis that resulted in a list of gaps and needs. From there, the team prepared a set of recommendations focused on:

- A regional high-capacity transit network. While the network is modal neutral, a high-capacity transit network would consist of BRT or rail-based transit that provides greater speed and capacity than a conventional bus service.
- Major transit transfer facilities that would serve as hubs for the region's transit network.
- A commuter bus network which provides regional connections to key employment centers.

As this was a high-level exercise, the recommendations make several general assumptions about service characteristics, costs, and ridership.

2. DATA

This study utilized a wide range of data to support the analysis. In addition to data, existing plans provided an important basis for identifying gaps and developing recommendations.

2.1. Data Sources

The following sources were used in our quantitative analysis for this study, notably as the underlying data behind the transit propensity and travel flow analyses:

- 2012-2016 American Community Survey (ACS)
- 2010 Decennial Census
- 2015 Longitudinal Employer-Household Dynamics (LEHD)
- Southeast Florida Regional Planning Model (SERPM) 7, 2040
- National Transit Database (NTD), 2016

Data from the US Census Bureau reports on the socio-economic and demographic characteristics of the study area, including factors like age, income, commuting method, and population density. The SERPM model forecasts travel between traffic analysis districts (TADs) across Southeast Florida for the current year and 2040. The future year figures are based on projects of population and employment growth in the region. Finally, the NTD data provides standardized statistics of transit agency performance in the region, including costs and ridership.

2.2. Existing Plans

The following studies were utilized to develop and refine the recommended transit network developed for this analysis. Where possible, existing plans provide the basis for transit improvement cost estimates.

- [Tri-Rail Coastal Link \(TRCL\) Project Update](#), South Florida Regional Planning Council

- [Palm Beach 2040 LRTP](#), Palm Beach Transportation Planning Agency
- [Palm Beach Transit Development Plan 2017-2026](#), PalmTran
- [Commitment 2040: The Long-Range Transportation Plan for Broward County](#), Broward Metropolitan Planning Organization
- [BCT Connected: Transit Development Plan 2018-2027](#), Broward County Transit
- [Miami-Dade 2040: Long Range Transportation Plan \(LRTP\)](#), Miami-Dade Metropolitan Planning Organization
- [The Strategic Miami Area Rapid Transit \(SMART\) Plan](#), Miami-Dade Transportation Planning Organization
- [Miami-Dade Transit Ahead: 2019-2028 Transit Development Plan](#), Miami-Dade Transit
- [Bus Rapid Transit Implementation Plan](#), Miami-Dade Metropolitan Planning Organization
- [Beach Corridor Transit Connection Study](#), Miami-Dade Metropolitan Planning Organization

3. METHODOLOGY/ANALYSIS

The team utilized a data-intensive methodology to develop the recommendations of the study. Early in the study process, four types of transit recommendations were defined: (1) high-capacity transit network, (2) frequent transit network, (3) transit transfer facilities, and (4) commuter bus service. A transit propensity analysis was conducted that estimates the overall level of transportation demand and suitability of public transit in meeting that demand. The propensity analysis, coupled with data on existing travel flows and transit service, allowed the team to identify gaps and formulate recommendations.

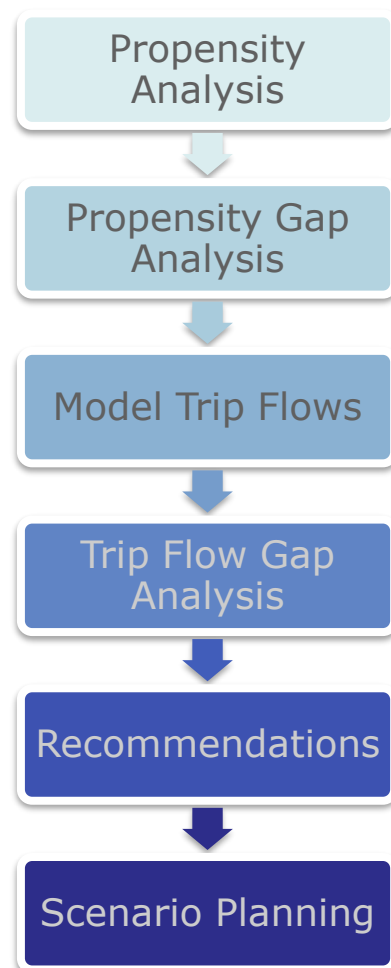
3.1. Propensity Analysis

The study team ran a transit propensity model to understand the demand for transit use across the region. The model results in four indices that describe different attributes of transit demand:

- Transit Oriented Origin Index: Measures demand for all-day transit service.
- Commuter Origin Index: Measures demand for peak commuter-oriented transit service.
- Workplace Destination Index: Measures level of attraction for commuters based on job density.
- Activity Destination Index: Measures level of attraction for transit-oriented populations based on density of activity and destinations.

Each index is comprised of weighted categories, and each weighted category is comprised of data obtained from 2012 – 2016 American Community Survey (ACS), the 2010

Figure 1: Overview of Methodology Process



decennial Census, and 2015 Longitudinal Employer-Household Dynamics (LEHD) data. Only the portions of the study area that reach a minimum threshold of job and population density are considered for further analysis.

Weights were determined based on the relative significance of each factor to transit in each county based on a regression model and previous experience with Florida transit systems. The following weights were used for the Foursquare ITP propensity model as submitted February 23, 2018.

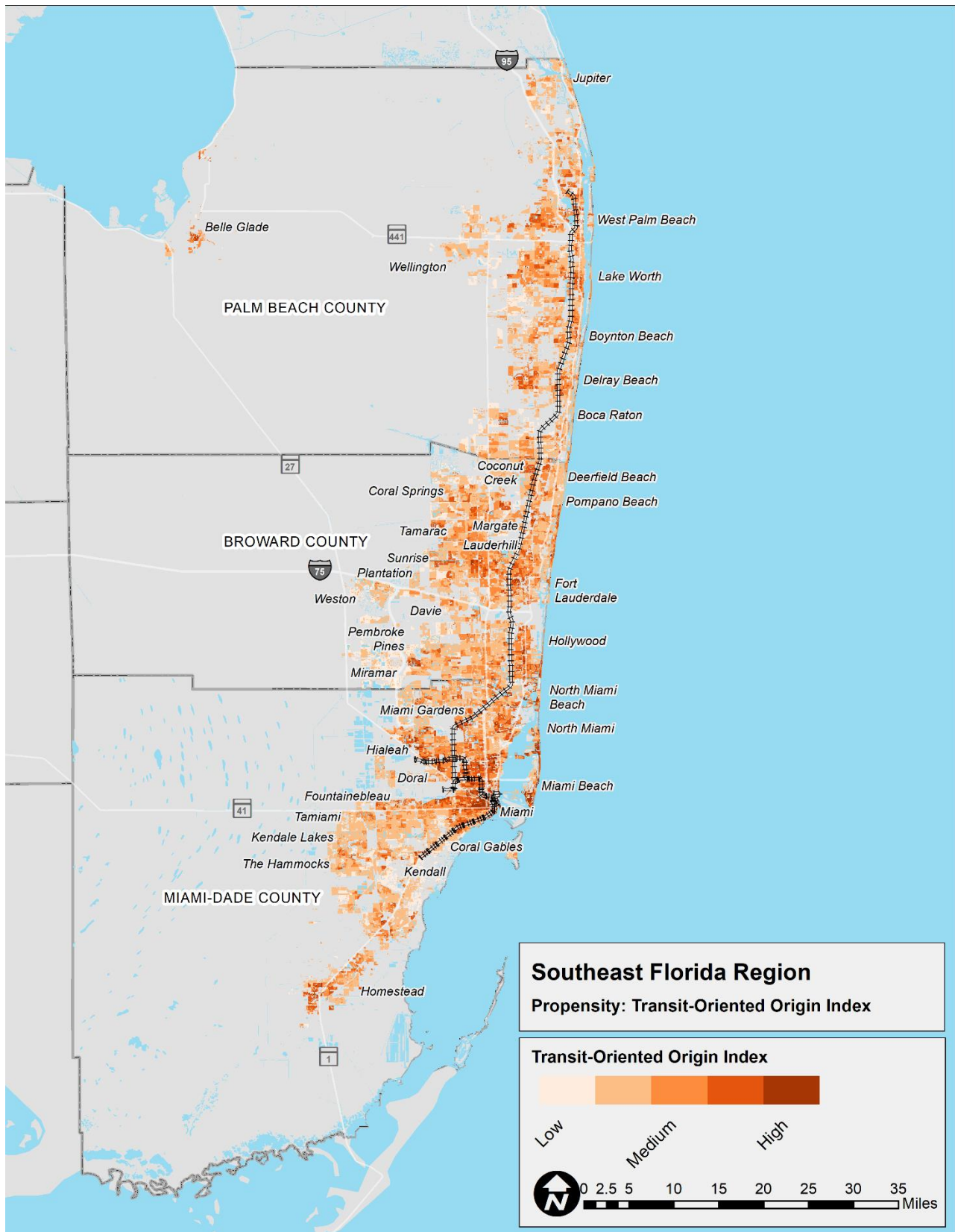
Table 1: Description of Factors and Weighting Utilized by the Propensity Model

Propensity Index	Category	Propensity Weights		
		Broward	Miami-Dade	Palm Beach
Transit-Oriented Origin Index	Age (Youth and Seniors)	5	5	5
	Population (Total Population and Non-White or Hispanic)	13	14	16
	Income (Persons with income less than 150 percent of poverty line)	22	6	25
	Vehicle Ownership (Zero-car households)	55	45	45
	Vehicle Ownership (One-car households)	5	29	9
	Disability Status	5	5	5
Commuter Origin Index	Labor Force	70	70	70
	Non-SOV Commute Mode	30	30	30
Workplace Destination Index	Employment	100	100	100
Activity Destination Index	Retail & Restaurant	20	20	20
	Recreation & Entertainment	10	10	10
	Healthcare & Social Assistance	35	35	35
	Education	25	25	25
	Government	10	10	10

3.1. Model Travel Flow Analysis

SERPM 7 data was used to map 2010 and 2040 trip flows between Traffic Analysis Districts (TADs), for both peak and all-day. Peak flows represent SOV and transit bi-directional trips for the AM peak period. All-day flows represent all trips, for all modes, for 24-hours. This information was then coupled with the propensity analysis to identify travel demand that could be well served by improved public transit. For example, heavy flows between an area of high transit-oriented origin and activity destination index scores would be better suited for transit than high travel flows between two areas that score poorly in the propensity indices.

Figure 2: Map Showing Areas with the Greater All-Day Transit Propensity in the Region.



3.2. Defining Gaps and Recommendations

3.2.1. Analysis to Identify High-Capacity Transit Network

Step 1: Define Levels of Investment

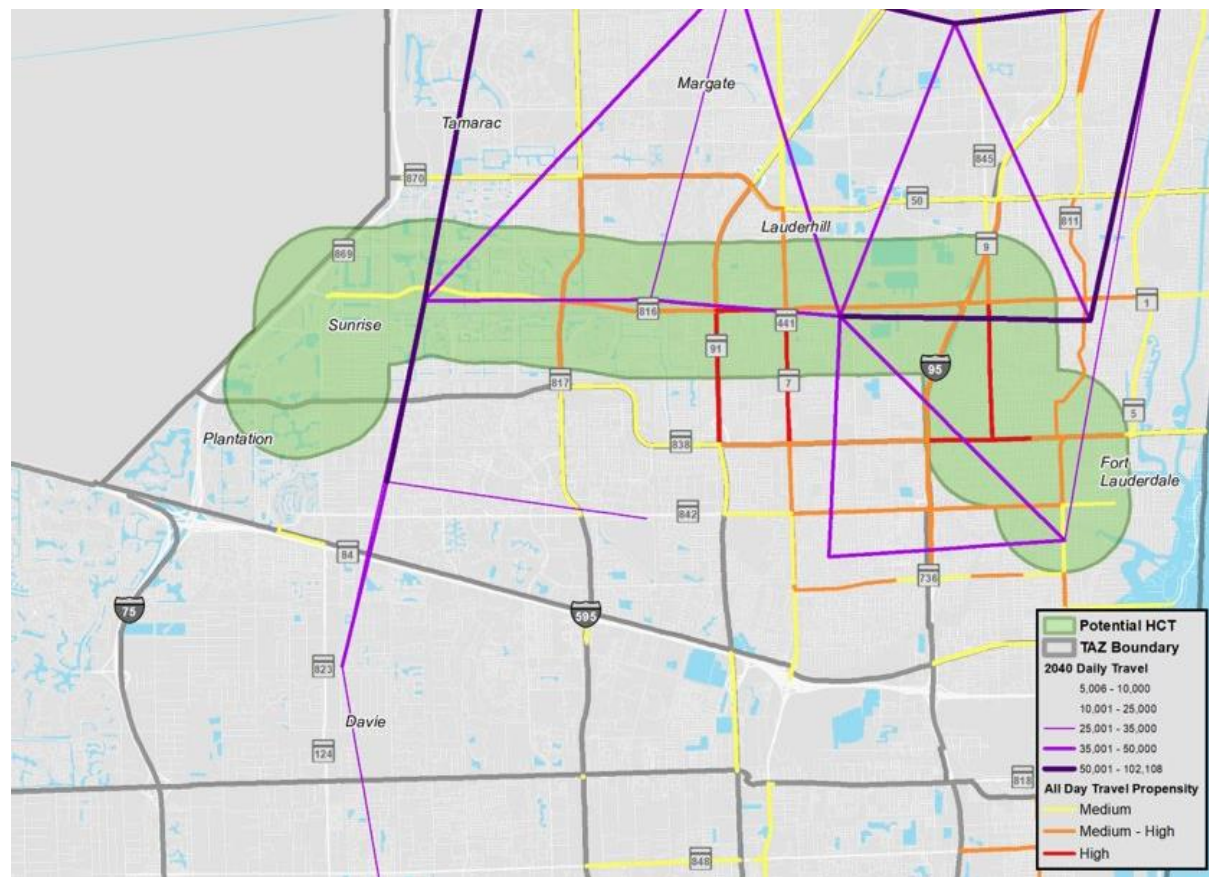
High Capacity Transit (HCT) can describe a wide range of transit investments, from new Metrorail lines to bus rapid transit. To acknowledge that one model of high-capacity transit may not fit the travel needs across the region, the study team identified three basic levels of investment:

- Low Investment HCT: Limited-stop express bus service with some transit priority treatments.
- Medium Investment HCT: Similar to Low Investment HCT but with portions containing dedicated travel lanes or business access and transit (BAT) lanes (at a minimum during peak periods).
- High Investment HCT: BRT or rail-based transit operating in a dedicated fixed-guideway.

Step 2: Identify HCT Corridors Based on Intersection of Travel Flows and Transit Propensity

Utilizing travel flows from the SERPM 7 model, the team overlaid all-day transit-oriented propensity and travel flow desire lines. Corridors for investment were identified based on where travel flow and high transit propensity overlap. These corridors follow key roads within the region but were drawn as buffers around roads to avoid identifying specific routing for HCT investments.

Figure 3: Example of HCT Corridor, with Transit Propensity and Travel Flow Data Overlaid



Step 3: Assign Level of Investment

Once the corridors are identified, the study team assigned each corridor a level of investment based on the underlying transit propensity and travel flows. The few corridors with very high transit propensity and heavy travel flows, were selected as High Investment HCT corridors. This process of assigning investment levels was relative to the level of flows by County. The travel flows were evaluated in ranges and those ranges associated with the investment level. The propensity was utilized as a guide for the corridor alignment, and other factors such as land use type, major activity centers, transfer locations, network value and potential route termini anchors were also considered.

Step 4: Reconcile Proposed HCT Network with Existing Plans

Many proposals for transit throughout the Southeast Florida region exist across different local- and county-level plans. The final step in determining alignments and levels of HCT routes was to reconcile the proposed HCT network with these existing plans. Stakeholders throughout the Southeast Florida region were consulted according to the process detailed in Section 7 of this report, and the final HCT network adjusted, to reflect the most up-to-date understanding of regional transit goals.

3.2.2. Analysis to Identify Transit Transfer Facilities

Transit transfer facilities are major hubs where several transit routes are expected to come together. These locations would feature upgraded amenities for passengers.

Step 1: Define Levels of Transit Transfer Facility (TTF) Investment

Like with the HCT network, TTFs can be implemented with varying degrees of investment. The team defined three levels of TTFs:

- Low Investment TTF: Upgrade on-street transit stop with shelter, benches, lighting, and real-time arrival information.
- Medium Investment TTF: Off-Street facilities with a covered waiting area and part-time staffing. These would serve as transfer nodes between several routes.
- High Investment TTF: Major off-street facilities with indoor waiting area, restrooms, and full-time staffing.

Step 2: Identify Location of TTFs

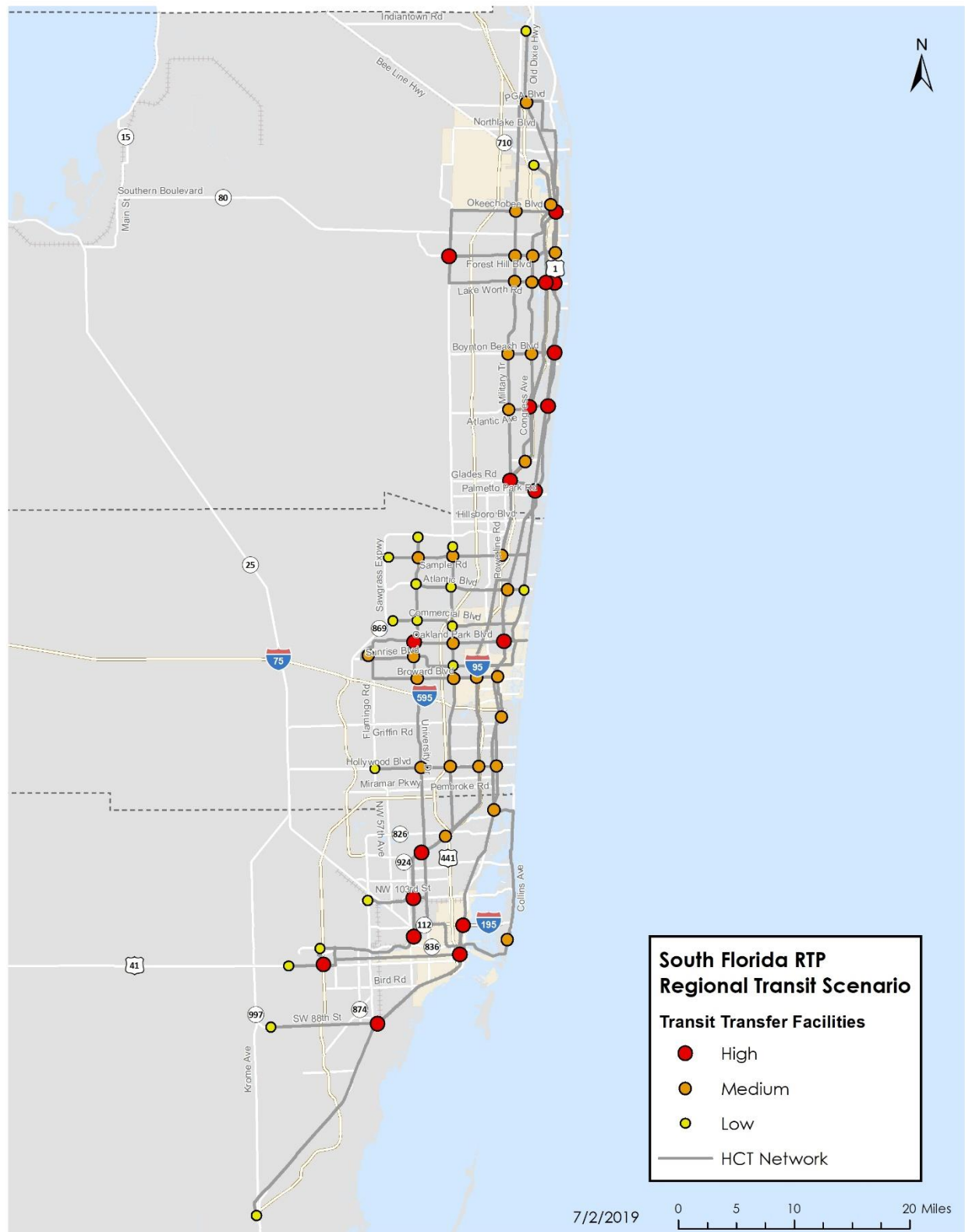
The location and level of investment of TTFs was based on the proposed High-Capacity Transit Network. Locations at the end of HCT corridors, or at the intersection of two low, or the crossing of a low and medium HCT corridor were assigned a low investment TTF. Locations where a more than one low investment HCT

Figure 4: Initial Proposed HCT Corridors by Level of Investment



corridor intersected with a medium HCT corridor, the crossing of a low investment HCT corridor with a high investment HCT corridor, or the crossing of two medium investment HCT corridors was assigned a medium investment TTF. Finally, any location where two or more medium or high investment HCT corridors cross would be assigned a high investment TTF.

Figure 5: Location of Proposed Transit Transfer Facilities (TTF)



3.2.3. Analysis to Identify Commuter Bus

The final network type defined by the study was the Commuter Bus network. Commuter bus routes are peak-only express bus service to major employment centers. These routes have at least two trips per day in each direction.

Step 1: Aggregate Employment Data to TADs

Employment data was aggregated to the TAD level to allow the team to identify the region's top 26 employment destinations

Step 2: Filter Out Employment Destinations that Do Not Meet Screening Criteria

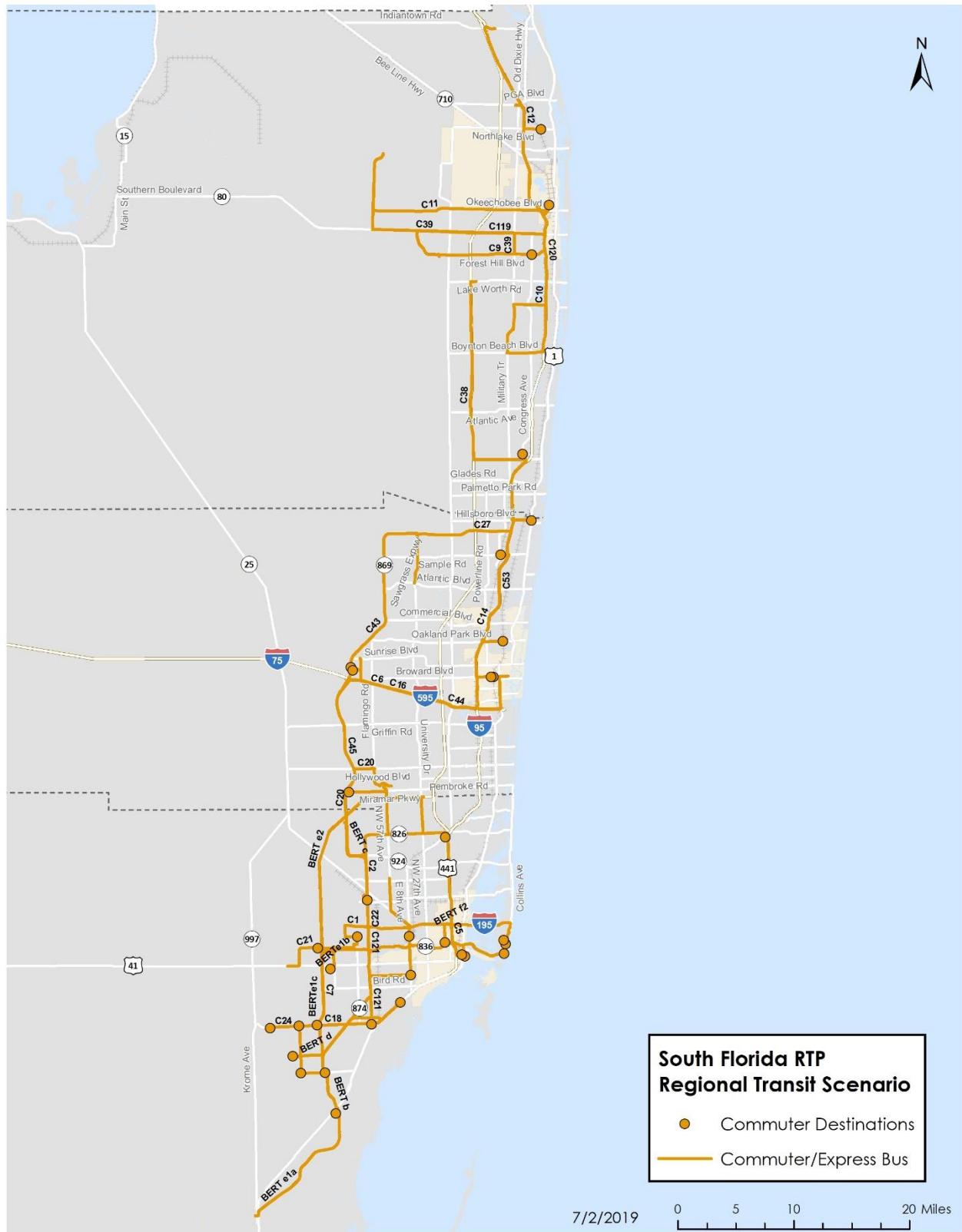
Of the 26 top employment destinations, ten were screened out for not meeting the minimum requirements for commuter bus service:

1. Commuters travel to the employment site more than 5 miles. Trips under 5 miles are better served by other types of transit service.
2. There is at least one TAD outside the 5-mile radius that generates approximately 1,000 trips in the AM peak to the respective employment center.

Step 3: Draw Commuter Routes

The team drew commuter routes that connect the 16 employment centers that met the criteria in Step 2, to TADs with a minimum of approximately 1,000 trips a day to the employment center. Where possible, corridors connected multiple residential areas generating commuter trips. Routes were designed to take advantage of existing Park & Rides. In places where no Park & Ride was available to serve the travel need, additional Park & Rides were proposed. A small number of additional commuter routes were added at the discretion of relevant stakeholders.

Figure 6: Proposed Miami-Dade Commuter Bus Network



4. PRELIMINARY RECOMMENDATIONS

A summary map of the preliminary proposed transit improvements (excluding the Commuter Bus network for clarity) is shown in **Figure 7**. This network was later modified based on feedback from the RTTAC Workshop. The preliminary recommendations included:

- 46 Commuter Bus Routes
- 17 HCT Corridors, including: 6 High Investment corridors; 3 Medium Investment Corridors; and, 8 Low Investment Corridors
- 35 Transit Transfer Centers, including: 8 High Investment locations; 8 Medium Investment locations; and, 19 Low Investment Locations
- Frequent Transit Networks in Broward and Miami-Dade County (which were dropped entirely from final recommendations)



5. SERVICE ASSUMPTIONS

Service assumptions were agreed to by the RTTAC. All service assumptions are documented in the Trend and Alternative Scenarios Report.

6. DEVELOPMENT OF COST ESTIMATES

Table 2 lists the assumptions used to estimate the capital and operating costs associated with the recommended transit network. These were high-level cost estimates based on comparable costs from other studies conducted in Southeast Florida region and nationwide. In the case of the High Capacity Transit network, two separate costs were prepared for High Investment HCT: a generic value which applied to most corridors, and an estimate for Light Rail based on a 2013 cost estimate for BayLink.

Table 2: Cost Assumptions

Type	Capital Cost per Unit	Unit	Operating Cost per Unit	Unit	Assumption Notes
Commuter Transit	\$600,000	per vehicle	\$215	revenue hour	2016 Miami Dade Transit average cost per hour (NTD). Assume 30 mph operating speeds. Trips differ by route and are derived from internal analysis.
High Capacity Transit					
Low Investment	\$1,750,000	per mile	\$500,000	per mile	Per mile cost for SWIFT BRT in Washington State. Example of shoulder running BRT with enhanced stops but limited ROW treatment.
Medium Investment	\$5,500,000	per mile	\$500,000	per mile	Combination of low-end BRT capital cost estimate across 4 corridors in 2015 Miami-Dade BRT Implementation Plan. Figures inflated to 2018 \$. O&M costs based on same source and rounded to nearest \$100k.
High 1 (Generic BRT with extensive dedicated ROW)	\$14,500,000	per mile	\$500,000	per mile	Combination of high-end BRT capital cost estimate across 4 corridors in 2015 Miami-Dade BRT Implementation Plan. Figures inflated to 2018 \$. O&M costs based on same source and rounded to nearest \$100k.
High 2 (BayLink LRT costs)	\$73,800,000	per mile	\$3,500,000	per mile	Capital cost based on average cost per mile for all SMART corridors, excluding Northeast which is commuter rail. O&M estimate from 2015 Beach Corridor Study (DC Low Cost Alt) with a 5-minute peak headway and 10-minute off peak headway.
Transit Center					
Small Generic	\$1,500,000				Ballpark of smaller projects in L RTP including Miami Beach Transfer Center, SW 88 St Transit Center.
Medium Generic	\$12,500,000				West Kendall Transit Center
High Generic	\$35,000,000				Lynx Central Station, Orlando, FL - \$35 million (2018 \$). \$7.5 million subtracted, estimate for cost of 68,000 sf extra office space on site. Inflated to 2018 dollars using RS Means

Type	Capital Cost per Unit	Unit	Operating Cost per Unit	Unit	Assumption Notes
					construction cost adjustment figures: https://www.rsmeansonline.com/references/unit/refpdf/hci.pdf
Enhance Existing	\$1,500,000				Cost of implementing improvements at existing transit centers to accommodate new routes. Estimate only for new bus bays. Based on "small" cost estimate.

7. REVISING RECOMMENDATIONS FOR SCENARIO PLANNING

7.1. RTTAC Workshop

On September 21st, 2018 a workshop was held at the Broward County MPO. The purpose of the workshop was to develop alternative scenarios for consideration as part of the 2045 South Florida Regional Transportation Plan (RTP). During the workshop it was expected that RTTAC members would provide input and feedback that would help shape critical assumptions about transportation projects and strategies, revenue sources, and growth and development.

The workshop was framed around two primary elements and four scenario concepts. The two main elements included:

- Financial and legislative: What changes to policy and legislation will allow greater flexibility in how existing revenue sources are used? What new revenue sources can feasibly generate revenue for regional transportation infrastructure?
- Growth and development: Are changes in development patterns (density/intensity) necessary to complement regional transportation investments?

To help answer those questions, a set of distinct scenarios concepts were created as follows:

1. Trend: Current funding practices, transportation investment and land use decisions.
2. Flexible Transit: Creating flexibility in existing revenue sources to enable a "flexing" of funds to new transit investment.
3. Regional Transit: New revenue sources to fully build out a regional transit network.
4. Alternative Growth and Development: Shifting future growth to compact locations in close proximity to regional transit.

The goal of the Scenario Workshop was to flesh out these scenarios in greater detail, reaching consensus on major assumptions, such as where and how much revenue flexibility, best candidates for new revenue, future transit networks and the location and amount of shifts in growth and development.

The purpose of the Workshop is to start a high-level discussion of alternative scenarios and to answer important questions about underlying assumptions. The workshop was a starting point for an exploration of different approaches and associated outcomes for our future. Decisions on projects, policies or any other final recommendations for the 2045 RTP were not made during the workshop.

The workshop had six main objectives:

1. Agree on projects and revenue assumptions for Trend Scenario

2. Confirm regional transit network.
3. Agreement on preferred new revenue sources.
4. Agree on flexible transit network strategy.
5. Agree on flexible revenue sources and percentages.
6. Agree on percent of 2015-2045 growth to shift to regional transit network.

During the workshop consultants presented the concept of each scenario, the methodology to develop recommendations, and key assumptions about level of service and costs. As previously noted, the transit recommendations were comprised of High Capacity Transit (HCT), Commuter Bus, a Frequent Transit Network (FTN), and Transit Transfer Facilities (TTF). Within the Flexible Transit Scenario these recommendations were further segregated into three sub-scenarios titled Flex 1, Flex 2, and Flex 3. The reasoning behind this scenario was the assumption that there would be limited funding to “flex” requiring a more strategic approach to identifying recommendations and their level of investment.

Flex 1 (Performance), included all High Capacity Transit recommendations, the SMART Plan, and Tri-Rail. Flex 2 (Coverage 1) included all recommendations, SMART Plan, and Tri-Rail, but all of the HCT recommendations were downgraded one level. So HCT High became Medium, and HCT Medium became Low. Flex 3 (Coverage 2) included all recommendations, SMART Plan, and Tri-Rail, but all of the HCT recommendations were downgraded two Low.

After this information was presented workshop attendees were encouraged to review plots of the scenarios, ask questions, and provide feedback either verbally or in writing, the latter of which was done directly onto the map plots. In this fashion attendees were able to “make edits” or recommendations directly onto the maps by drawing lines, crossing out elements, and adding notes. In addition to the recommendations additional maps were provided for reference including mode trip flows, commuter origin-destination pair maps, and transit propensity maps.

In addition to the feedback that was received during the workshop, many attendees submitted additional comments electronically afterwards. All the comments, edits, and recommendations were compiled into a database and reviewed by the consultant team. Whenever possible edits and recommendations were adopted, and where not clear explanations were developed as to why not. In many cases those recommendations not adopted were a result of them not applying, due simply to limitations in how the information could be graphically represented on the maps.

7.2. Reviewing Plan Elements with Counties

During the scenario evaluation portion of this study in late 2018 and early 2019, the Counties were involved in their own internal processes to develop transit recommendations. As a result, several meetings were convened to reconcile transit recommendations between those developed through the RTP process and those developed through internal County processes. In general, this was accomplished by the Counties suggesting revisions to recommendations, e.g., modifying commuter bus origin-destination locations or changing the corridor or level of HCT. In some cases, Counties also suggested additional recommendations for the HCT. For each suggested recommendation the consultant team would analyze if the change could be supported by proximity to transit propensity, alignment with model trip flows, or value to the network and provide feedback to the Counties. Through this process a final network was developed.

8. FINAL RECOMMENDATIONS/NETWORKS

Following the revisions based on feedback from the RTTAC Workshop, and further meetings with project stakeholders, the final recommendations include:

- 38 Commuter Bus Routes
- 33 HCT Corridors, including: 18 High Investment corridors; 10 Medium Investment Corridors; and 5 Low Investment Corridors
- 67 Transit Transfer Centers, including: 18 High Investment locations; 31 Medium Investment locations; and 18 Low Investment Locations.

8.1. High Capacity Transit (HCT) Network

The final recommendations include 33 HCT corridors in the region, totaling approximately \$11.2 billion in capital costs. The HCT network assumes a range of investment types, from enhancing existing bus routes with transit priority features, to building out new fixed-guideway transit lines. The system would cost approximately \$531 million per year to operate. Table 3 summarizes the number of HCT corridors, and sum of costs by each corridor's primary jurisdiction. Costs for routes in Miami-Dade that are part of the SMART network are estimated using figures from the Miami-Dade TPO. Figure 8 maps out the proposed network.

Table 3: Summary of HCT Network Capital and Operating Costs by Jurisdictions

County	Number of Corridors	Route Miles	Capital Costs	Annual Operating Costs
Broward	12	161	\$2,563,500,000	\$161,800,000
Miami-Dade	8	92	\$5,089,500,000	\$174,400,000
Palm Beach	10	140	\$2,781,900,000	\$154,300,000
Coastal Link (multi-county)	3	175	\$800,000,000	\$40,000,000
Total	33	568	\$11,234,900,000	\$530,500,000

*for corridors that cross jurisdictions, figures allocated to district with the most corridor miles.

8.2. Transit Transfer Facility (TTF)

The final recommendations call for 67 transit transfer facilities. As discussed in the prior section, the TTFs have been categorized by low, medium, or high investment facilities. Medium and high investment facilities would be located off-street, with high-investment facilities including significant infrastructure investments like indoor waiting areas. Low-investment transfer facilities would be an enhanced on-street facility. The facility locations are based on where existing and proposed major transit routes intersect one another. Eighteen facilities are marked for high-investment, 31 are medium-investment facilities, and 18 are low-investment facilities.

Table 4: Summary of Transit Transfer Facility Costs by Level of Investment

Level of Investment	Count	Capital Costs
High	18	\$630,000,000
Medium	31	\$387,500,000
Low	18	\$27,000,000
Total	67	\$1,044,500,000

Figure 8: HCT Network

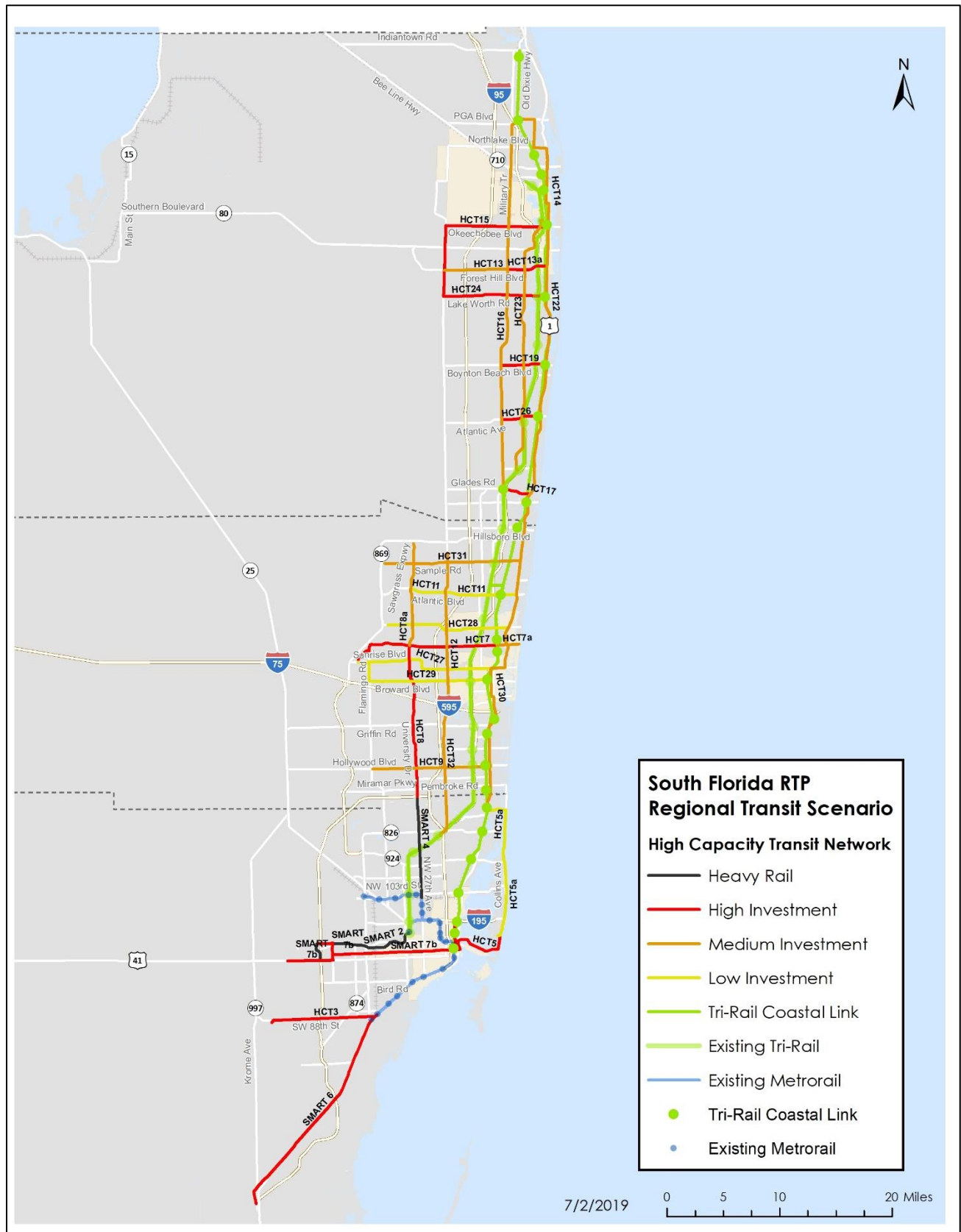
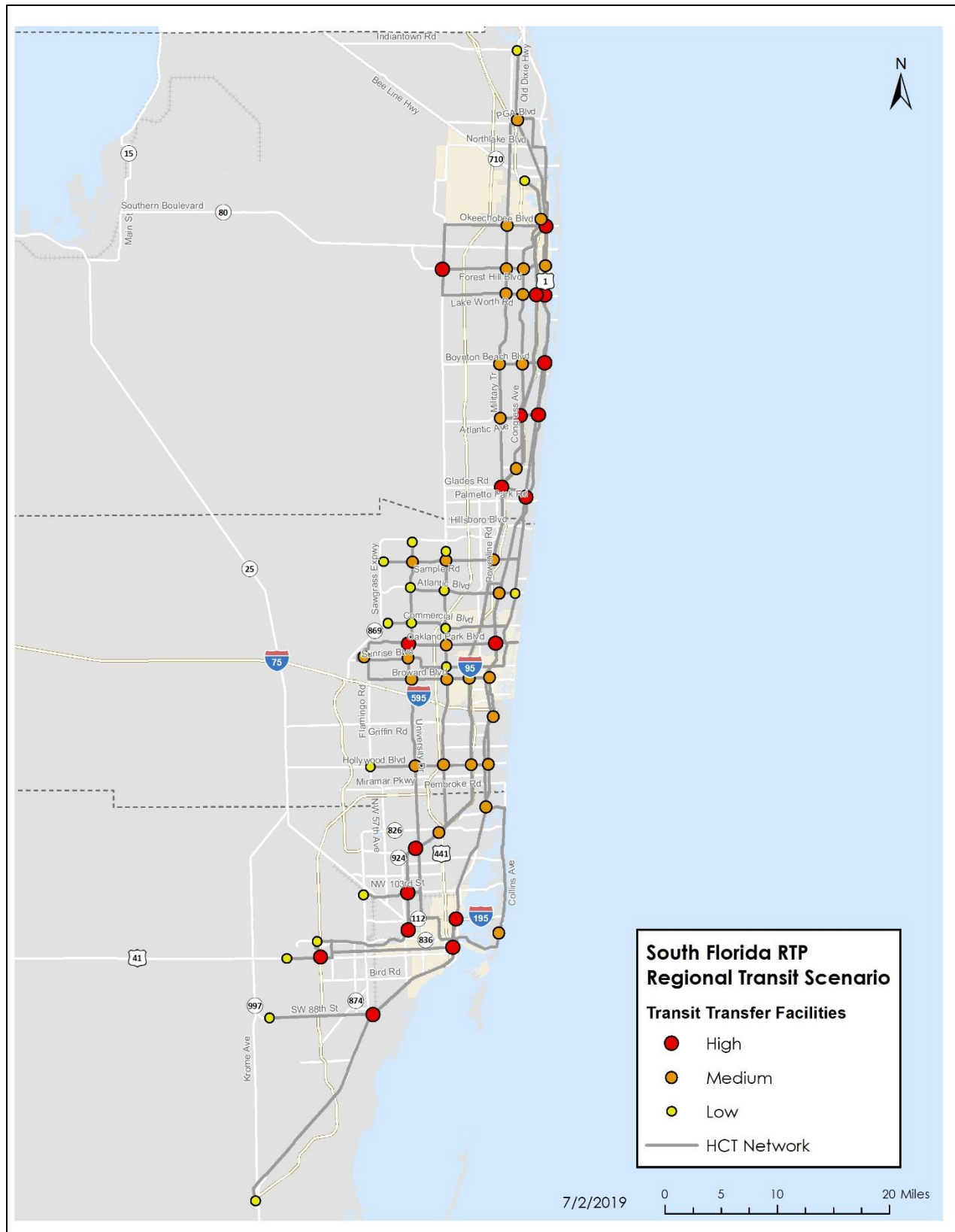


Figure 9: Transit Transfer Facilities



8.3. Commuter Bus Network

The final recommendations identify 38 commuter bus routes to serve the Southeast Florida region. These routes would run during peak periods only and provide express service to major employment centers in the region. Table 5 summarizes the cost and scope of the commuter bus network and Figure 10 shows the location of proposed routes.

Table 5: Summary of Commuter Bus Recommendations

	Statistics
Count	38
Peak Vehicles	103
Annual Revenue Hours	154,500
Capital Costs	\$61,800,000
Annual Operating Costs	\$32,200,000

9. APPENDICES

9.1. Transit Propensity Maps

9.2. Model Flow Maps

9.3. Detailed Cost Estimates

Table 6: List of HCT Corridors and Costs

Primary Jurisdiction	ID	Level of Investment	Name	Length (Miles)	Capital Costs	Annual Operating Costs
Miami-Dade	HCT3*	High	West Kendall Transit Terminal	10.15	\$200,000,000	\$10,100,000
Miami-Dade	HCT5*	High	Downtown Miami	9.37	\$1,175,800,000	\$30,500,000
Miami-Dade	HCT5a*	Low	Miami Beach Convention Center	13.46	\$270,000,000	\$6,700,000
Miami-Dade	SMART 2*	High	SW 147th Ave	11.50	\$1,540,000,000	\$46,000,000
Miami-Dade	SMART 4*	High	Miami Intermodal Center (MIC)	8.95	\$1,344,000,000	\$35,800,000
Miami-Dade	SMART 6*	High	Florida City	20.70	\$300,000,000	\$36,200,000
Miami-Dade	SMART 7b	High-1	Downtown Miami	4.50	\$65,300,000	\$2,300,000
Miami-Dade	SMART 7a	High-1	Downtown Miami	13.41	\$194,500,000	\$6,700,000
Miami-Dade HCT Totals					\$5,089,500,000	\$174,400,000
Broward	HCT7	High-2	Oakland Park	13.45	\$992,500,000	\$47,100,000
Broward	HCT7a	Medium	Oakland Park	1.93	\$10,600,000	\$1,000,000
Broward	HCT8	High-2	University Drive	13.59	\$1,003,200,000	\$47,600,000
Broward	HCT8a	Medium	University Drive	9.28	\$51,000,000	\$4,600,000
Broward	HCT9	Medium	Pines/ Hollywood Blvd	10.41	\$57,300,000	\$5,200,000
Broward	HCT11	Low	W Atlantic Blvd	9.58	\$16,800,000	\$4,800,000
Broward	HCT27	Low	Sunrise Blvd	12.64	\$22,100,000	\$6,300,000
Broward	HCT28	Low	Commercial Blvd	10.96	\$19,200,000	\$5,500,000
Broward	HCT29	Low	Broward Blvd	12.48	\$21,800,000	\$6,200,000
Broward	HCT30	Medium	US-1	29.46	\$162,000,000	\$14,700,000
Broward	HCT31	Medium	Sample Rd	12.09	\$66,500,000	\$6,000,000
Broward	HCT32	Medium	SR-7	25.52	\$140,400,000	\$12,800,000
Broward HCT Totals					\$2,563,500,000	\$161,800,000
Palm Beach	HCT13	Medium	Forest Hill Blvd	5.64	\$31,000,000	\$2,800,000
Palm Beach	HCT13a	LRT	Forest Hill Blvd	3.59	\$264,800,000	\$12,600,000
Palm Beach	HCT15	LRT	Okeechobee Blvd	13.05	\$963,300,000	\$45,700,000
Palm Beach	HCT16	Medium	Military Trl	33.38	\$183,600,000	\$16,700,000
Palm Beach	HCT17	BRT	Glades Rd	2.52	\$36,500,000	\$1,300,000
Palm Beach	HCT19	BRT	W Boynton Beach Blvd	4.02	\$58,300,000	\$2,000,000
Palm Beach	HCT22	Medium	US-1	38.51	\$211,800,000	\$19,300,000
Palm Beach	HCT23	Medium	Congress Ave	24.04	\$132,200,000	\$12,000,000
Palm Beach	HCT24	LRT	Lake Worth Rd	11.51	\$849,700,000	\$40,300,000
Palm Beach	HCT26	BRT	Atlantic Ave	3.50	\$50,700,000	\$1,700,000
Palm Beach HCT Totals					\$2,781,900,000	\$154,300,000
Multi- County	CL1, CL2, CL3	High	TriRail Coastal Link Corridor	175.25	\$800,000,000	\$40,000,000
Coastal Link Total					\$800,000,000	\$40,000,000
Totals for Region					\$11,234,900,000	\$530,500,000

Table 7: Transit Transfer Facility Details

Jurisdiction	ID	Level of Investment	Name	Capital Cost
Broward	TTC1	Low	Lakewood Mall	\$1,500,000
Broward	TTC2	Low	Pompano Beach	\$1,500,000
Broward	TTC3	Medium	South Lakes Shopping Plaza	\$12,500,000
Broward	TTC4	High	Sunrise Town Center	\$35,000,000
Broward	TTC5	Medium	Peppertree Plaza	\$12,500,000
Broward	TTC6	Medium	Coral Springs	\$12,500,000
Broward	TTC7	Medium	Sawgrass Mall	\$12,500,000
Broward	TTC8	Medium	Fort Lauderdale	\$12,500,000
Broward	TTC9	Low	Lauderhill Mall	\$1,500,000
Broward	TTC10	Low	Coral Square	\$1,500,000
Broward	TTC11	Medium	Hollywood CBD	\$12,500,000
Broward	TTC12	Low	Pembroke Lakes Mall	\$1,500,000
Broward	TTC13	Medium	Fort Lauderdale-Hollywood International Airport	\$12,500,000
Broward	TTC14	Medium	Pembroke Pines	\$12,500,000
Broward	TTC15	Medium	Hollywood Station	\$12,500,000
Broward	TTC16	High	Oakland Park Coastal Link	\$35,000,000
Broward	TTC17	Low	Sawgrass Springs	\$1,500,000
Broward	TTC18	Medium	Pompano Beach Tri-Rail	\$12,500,000
Broward	TTC19	Medium	Pompano Beach Coastal Link	\$12,500,000
Broward	TTC20	Low	Sunrise West	\$1,500,000
Broward	TTC21	Low	University Dr / Commercial Blvd	\$1,500,000
Broward	TTC22	Low	Commercial Blvd / SR-7	\$1,500,000
Broward	TTC23	Medium	Sunrise Blvd / University Dr	\$12,500,000
Broward	TTC24	Medium	Broward Blvd / University Dr	\$12,500,000
Broward	TTC25	Medium	SR-7 / Broward Blvd	\$12,500,000
Broward	TTC26	Medium	Fort Lauderdale Broward Tri-Rail	\$12,500,000
Broward	TTC27	Medium	Hollywood Blvd / SR-7	\$12,500,000
Broward	TTC28	Low	University Dr / Sawgrass Expwy	\$1,500,000
Broward	TTC29	Low	SR-7 / Wiles Rd	\$1,500,000
Broward TTF Total				\$286,500,000
Miami-Dade	TTC30	Medium	Aventura Mall	\$12,500,000
Miami-Dade	TTC31	High	Government Center	\$35,000,000
Miami-Dade	TTC32	High	Florida International University	\$35,000,000
Miami-Dade	TTC33	Low	Palmetto	\$1,500,000
Miami-Dade	TTC34	Low	Kendall Plaza	\$1,500,000
Miami-Dade	TTC35	Low	Laroc Plaza	\$1,500,000
Miami-Dade	TTC36	High	Dadeland	\$35,000,000
Miami-Dade	TTC37	Low	Homestead	\$1,500,000
Miami-Dade	TTC38	High	Miami International Airport	\$35,000,000
Miami-Dade	TTC39	High	Tri-Rail / Metrolink Transfer	\$35,000,000

Jurisdiction	ID	Level of Investment	Name	Capital Cost
Miami-Dade	TTC40	High	Opa-locka Station	\$35,000,000
Miami-Dade	TTC41	Medium	Miami Beach	\$12,500,000
Miami-Dade	TTC42	High	Midtown Miami	\$35,000,000
Miami-Dade	TTC43	Low	Tamiami Cemex	\$1,500,000
Miami-Dade	TTC44	Medium	Opa-locka Station	\$12,500,000
Miami-Dade TTF Total				\$290,000,000
Palm Beach	TTC45	High	Downtown West Palm Beach	\$35,000,000
Palm Beach	TTC46	Medium	West Palm Plaza	\$12,500,000
Palm Beach	TTC47	Medium	Boynton West	\$12,500,000
Palm Beach	TTC48	High	Town Center at Boca Raton	\$35,000,000
Palm Beach	TTC49	High	Boynton Beach Coastal Link	\$35,000,000
Palm Beach	TTC50	Medium	Parker Ridge	\$12,500,000
Palm Beach	TTC51	High	The Mall at Wellington Green	\$35,000,000
Palm Beach	TTC52	Low	Jupiter	\$1,500,000
Palm Beach	TTC53	Low	Mangonia Park	\$1,500,000
Palm Beach	TTC54	High	Mizner Park	\$35,000,000
Palm Beach	TTC55	Medium	Okeechobee Blvd / Military Tr	\$12,500,000
Palm Beach	TTC56	Medium	The Gardens	\$12,500,000
Palm Beach	TTC57	Medium	Congress Ave / Forest Hill Blvd	\$12,500,000
Palm Beach	TTC58	Medium	Military Tr / Lake Worth Rd	\$12,500,000
Palm Beach	TTC59	Medium	Congress Ave / Lake Worth Rd	\$12,500,000
Palm Beach	TTC60	High	Lake Worth Coastal Link	\$35,000,000
Palm Beach	TTC61	Medium	Congress Ave / Boynton Beach Blvd	\$12,500,000
Palm Beach	TTC62	Medium	Military Tr / Atlantic Ave	\$12,500,000
Palm Beach	TTC63	High	Atlantic Ave / Congress Ave / Tri-Rail	\$35,000,000
Palm Beach	TTC64	High	Delray Beach Coastal Link	\$35,000,000
Palm Beach	TTC65	Medium	West Palm Beach Tri-Rail	\$12,500,000
Palm Beach	TTC66	Medium	Boca Raton Tri-Rail	\$12,500,000
Palm Beach	TTC67	High	Lake Worth Tri-Rail	\$35,000,000
Palm Beach TTF Totals				\$468,000,000
Totals for Region				\$1,044,500,000

Table 8: Details of Commuter Bus Recommendations

Jurisdiction	ID	Name	Peak Vehicles	Capital Cost	Operating Quantity (Rev. Hours)	Annual Operating Cost
Broward	C6	Miramar to Downtown Ft Lauderdale (Broward Central Terminal)	2.00	\$1,200,000	3,000	\$600,000
Broward	C14	Pompano PnR to Downtown Ft Lauderdale (Broward Central Terminal)	2.00	\$1,200,000	3,000	\$600,000
Broward	C16	Sawgrass Mills Mall to Downtown Ft Lauderdale (Broward Central Terminal)	2.50	\$1,500,000	3,752	\$800,000
Broward	C43	Magnolia Shoppes plaza to Plantation	2.40	\$1,400,000	3,602	\$800,000
Broward	C44	Sawgrass Corporate Park to Downtown Ft Lauderdale (Broward Central Terminal)	2.69	\$1,600,000	4,036	\$900,000
Broward	C45	Miramar to Plantation	2.62	\$1,600,000	3,932	\$800,000
Broward	C53	Deerfield Beach to Coral Heights	2.30	\$1,400,000	3,452	\$700,000
Broward Commuter Totals			17	\$9,900,000	24,774	\$5,300,000
Miami-Dade	C1	Unity Station/NW 27th Ave to Doral / Medley	3.00	\$1,800,000	4,500	\$1,000,000
Miami-Dade	C2	cb Smith PnR - Pembroke Pines to Doral / Medley	3.38	\$2,000,000	5,076	\$1,100,000
Miami-Dade	C5	Hialeah to Downtown Miami (Miami Central Station)	1.83	\$1,100,000	2,746	\$600,000
Miami-Dade	C6	Miramar to Downtown Ft Lauderdale (Broward Central Terminal)	4.00	\$2,400,000	6,000	\$1,300,000
Miami-Dade	C7	W Kendall Transit Terminal to Downtown Miami (Miami Central Station)	3.74	\$2,200,000	5,604	\$1,200,000
Miami-Dade	C18	W Kendall Transit Terminal to Miami Springs / Miami International Airport	3.25	\$1,900,000	4,871	\$1,000,000
Miami-Dade	C20	Pembroke Lakes Mall to Miami Springs / Miami International Airport	3.34	\$2,000,000	5,006	\$1,100,000
Miami-Dade	C21	Tamiami Station to Coral Gables	2.23	\$1,300,000	3,351	\$700,000
Miami-Dade	C22	I-75/HEFT PnR to Coral Gables	3.00	\$1,800,000	4,500	\$1,000,000
Miami-Dade	C24	W Kendall Transit Terminal to Coral Gables	2.35	\$1,400,000	3,524	\$800,000
Miami-Dade	C118	FIU/Panther Station to Miami Beach	2.66	\$1,600,000	3,989	\$900,000
Miami-Dade	C121	Golden Glades Interchange to Dadeland	3.67	\$2,200,000	5,501	\$1,200,000
Miami-Dade	BERT b	Homestead to Doral/Medley	4.85	\$2,900,000	7270	\$1,600,000
Miami-Dade	BERT c	Ronald Reagan Tpk to Okeechobee	1.19	\$700,000	1786	\$400,000
Miami-Dade	BERT d	Miami Exec. Airport to South Miami / Coral Gables via Kendall	1.57	\$900,000	2362	\$500,000
Miami-Dade	BERT e1a	Homestead to Dadeland	3.38	\$2,000,000	5072	\$1,100,000
Miami-Dade	BERT e1b	Cutler Bay (south) to Doral/Medley	2.65	\$1,600,000	3969	\$900,000
Miami-Dade	BERT e1c	Cutler Bay (north) to Doral/Medley via Miami Executive Airport	2.71	\$1,600,000	4058	\$900,000
Miami-Dade	BERT e2	Dolphin Station to North Miami-Dade	2.39	\$1,400,000	3590	\$800,000
Miami-Dade	BERT f1	Miami Beach Conv. Ctr to Golden Glades	1.78	\$1,100,000	2674	\$600,000
Miami-Dade	BERT f2	Miami Beach Conv. Ctr to Civic Center	1.09	\$700,000	1636	\$400,000
Miami-Dade	BERT f3	Miami Beach Conv. Ctr to Downtown Miami	0.73	\$400,000	1089	\$200,000
Miami-Dade Commuter Totals			59	\$35,300,000	88,175	\$19,000,000
Palm Beach	C9	Wellington (Crestwood Square) to West Palm Beach (Brightline station)	2.66	\$1,600,000	3,992	\$900,000
Palm Beach	C10	Boynton Beach (Military and BB Blvd) to West Palm Beach (Brightline station)	2.49	\$1,500,000	3,739	\$800,000
Palm Beach	C11	Loxahatchee to West Palm Beach (Brightline station)	3.23	\$1,900,000	4,852	\$1,000,000

Jurisdiction	ID	Name	Peak Vehi- cles	Capital Cost	Operating Quantity (Rev. Hours)	Annual Operating Cost
Palm Beach	C12	Jupiter to West Palm Beach (Brightline station)	3.00	\$1,800,000	4,500	\$1,000,000
Palm Beach	C27	Coral Square Mall to Boca Raton (Innovation Campus)	3.00	\$1,800,000	4,500	\$1,000,000
Palm Beach	C38	Wellington to Boca Raton (Innovation Campus)	3.17	\$1,900,000	4,761	\$1,000,000
Palm Beach	C39	Loxahatchee to Green Acres / Palm Springs	2.98	\$1,800,000	4,476	\$1,000,000
Palm Beach	C119	Wellington (Crestwood Square) to Lake Park/North Palm Beach	3.43	\$2,100,000	5,140	\$1,100,000
Palm Beach	C120	Boynton Beach (Military and BB Blvd) to Lake Park/North Palm Beach	3.70	\$2,200,000	5,549	\$1,200,000
Palm Beach Commuter Totals			28	\$16,600,000	41,510	\$8,900,000
Totals for Region			103	\$61,800,000	154,459	\$33,200,000