



MIAMI-DADE TRANSPORTATION PLANNING ORGANIZATION

2045 LRTP
SUPPORTING DOCUMENTS

TECHNICAL REPORT 6

TRAVEL DEMAND MODEL

SEPTEMBER 2019

2045

LONG RANGE TRANSPORTATION PLAN (LRTP)

TECHINICAL REPORT 6 TRAVEL DEMAND MODEL

This document was prepared by the Miami-Dade Transportation Planning Organization (TPO) in collaboration with the Florida Department of Transportation (FDOT) District Six, Miami-Dade Expressway Authority (MDX), Florida's Turnpike Enterprise (FTE), South Florida Regional Transportation Authority (SFRTA), Miami-Dade Department of Transportation and Public Works (DTPW), Miami-Dade Regulatory and Economic Resources (RER) Department, Miami-Dade Aviation Department (MDAD), Miami-Dade Seaport Department, Miami-Dade County Office of Strategic Business Management, City of North Miami, City of Hialeah, City of Miami, City of Miami Beach, City of Miami Gardens, City of Homestead, Miami-Dade County Public Schools, Miami-Dade TPO Citizens' Transportation Advisory Committee (CTAC), Miami-Dade TPO Bicycle/ Pedestrian Advisory Committee (BPAC), Miami-Dade TPO Freight Transportation Advisory Committee (FTAC), Transportation Aesthetics Review Committee (TARC), Broward County Metropolitan Planning Organization (MPO), Palm Beach County Transportation Planning Agency (TPA), and the South Florida Regional Planning Council (SFRPC).

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TRAVEL DEMAND MODEL

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Planning Organization (TPO)

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CONTENTS

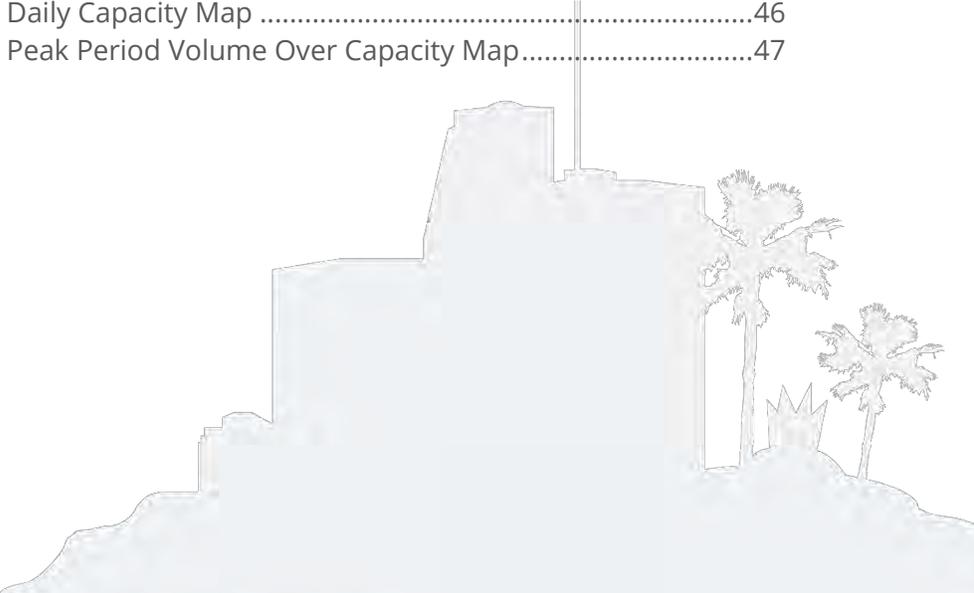
- REGIONAL COORDINATION..... 1**
- EXISTING PLUS COMMITTED NETWORK DEVELOPMENT 3**
- DEVELOPMENT OF THE YEAR 2045 NEEDS 7**
 - Needs Assessment and Development of Year 2045 Needs 7**
 - Scenario Planning..... 9**
 - Scenario 1 – 2040 Cost Feasible Scenario9
 - Scenario 2 – SMART Plan..... 13
 - Scenario 3 – Highway Scenario..... 19
 - Scenario 4 – Beyond SMART Plan Transit Scenario.....25
 - Scenario 5 – 2045 Alternate Land Use Scenario31
 - Scenario Summary Results 36**
 - Transit Route Miles36
 - Vehicle Hours Traveled36
 - Vehicle Miles Traveled37
 - Lane Miles.....37
 - Peak Period Speeds38
 - Transit Boardings.....38
 - Vehicle Trips38
 - Incremental Scenario Changes..... 39**
- SYSTEMS PERFORMANCE – NATIONAL PERFORMANCE MANAGEMENT MEASURES ... 41**
- SYSTEM PERFORMANCE – COST FEASIBLE PLAN MODEL RESULTS 43**

LIST OF TABLES

- Table 1** - Scenario 1 - 2040 Cost Feasible Scenario9
- Table 2** - Scenario 2 - SMART Plan Scenario 13
- Table 3** - Scenario 3 - Highway Scenario..... 19
- Table 4** - Scenario 4 - Beyond SMART Plan Transit Scenario25
- Table 5** - Year 2045 Versus Year 2045 Alternate Population and Employment31
- Table 6** - Scenario Results39
- Table 7** - Scenario Results – Performance Measures42
- Table 8** - 2045 Cost Feasible Plan Characteristics Comparison43

LIST OF FIGURES

- Figure 1** - Existing Plus Committed Network Number of Lanes Map.....4
- Figure 2** - Existing Plus Committed Network Facility Types Map5
- Figure 3** - Existing Plus Committed Network Area Types Map.....6
- Figure 4** - Existing Plus Committed Volume/Capacity Ratio Map8
- Figure 5** - List of Scenarios9
- Figure 6** - Scenario 1 - 2040 Cost Feasible Scenario Map 12
- Figure 7** - Scenario 2 - SMART Plan Scenario Map.....18
- Figure 8** - Scenario 3 - Highway Scenario Map.....24
- Figure 9** - Scenario 4 - Beyond SMART Plan Transit Scenario Map.....30
- Figure 10** - Alternate 2045 vs 2045 Population Difference by TAZ Map32
- Figure 11** - Alternate 2045 vs 2045 Employment Differences by TAZ Map33
- Figure 12** - Alternate 2045 vs 2045 Population Differences by Planning Area.....34
- Figure 13** - Alternate 2045 vs 2045 Employment Differences by Planning Area35
- Figure 14** - Scenario Comparison.....36
- Figure 15** - Scenario Results – Incremental Differences Between Scenarios40
- Figure 16** – 2045 Cost Feasible Plan Number Of Lanes Map44
- Figure 17** - 2045 Cost Feasible Plan Daily Volume Map.....45
- Figure 18** - 2045 Cost Feasible Plan Daily Capacity Map46
- Figure 19** - 2045 Cost Feasible Plan Peak Period Volume Over Capacity Map.....47



REGIONAL COORDINATION

The Miami-Dade TPO is a member of the Southeast Florida Transportation Council (SEFTC) and its technical subgroup the Regional Technical Advisory Committee (RTTAC). These two committees coordinate regional initiatives in the three-county region including Broward, Miami-Dade, and Palm Beach counties. In order to analyze transportation projects of regional significance and to better analyze the interaction of the trip making patterns of its area residents and visitors, a regional travel demand model was developed. The agencies in southeast Florida, coordinate their LRTP processes and develop a regional long-range transportation plan that is consistent with their own LRTP using the regional model.

Throughout the LRTP process, monthly SEFTC meetings were held to coordinate the travel demand model process with the Broward County MPO, the Palm Beach TPA, and other transportation agencies located in Southeast Florida. Close coordination between the MPOs is paramount because they develop socioeconomic data and transportation projects that are used in the regional travel demand model. The Southeast Regional Planning Model (SERPM) is based on a coordinated travel regional activity-based modeling platform (CT_RAMP) more commonly referred to as an activity-based model (ABM).

In preparation for the Year 2045 LRTP process, the base year of the SERPM was updated from the year 2010 to the year 2015. This update, also referred to as a validation, was conducted under a separate contract and documented in the SERPM validation report. The updated SERPM model is referred to as SERPM version 8.

Close coordination was particularly critical for network development. The project lists were reviewed and discussed with the members of the SEFTC to ensure consistency in the networks between the different counties. Four of the networks used in the Miami-Dade LRTP process, were coded under a separate contract. These were the Year 2015 highway and transit networks, the Existing plus Committed highway and transit networks, the highway and transit networks which contain the Existing plus Committed and the Year 2040 projects, and the Year 2045 Cost Feasible highway and transit networks.

The socioeconomic data files were developed by the respective Broward and Palm Beach counties and by the Miami-Dade TPO. The Miami-Dade County Year 2015 data and the Year 2045 data are discussed in a separate report titled "Data Compilation Review and Development Report". In addition, an alternative socioeconomic data set was developed for the year 2045 which used the same county control totals as the original but had different development patterns within the counties. In Miami-Dade County this alternate land use dataset focused on intensifying land use densities along six major transit corridors. These six major transit corridors form the Strategic Miami Area Rapid Transit (SMART) Plan. The SMART Plan is a comprehensive program of projects that focus on the advancement of the six rapid transit corridors. Creating this alternate land use dataset, allows the Miami-Dade TPO to analyze the impact of the land use changes on the transportation system and along these six corridors. The alternate land use dataset was used in the scenario planning effort and is discussed under the Scenario 5 section in this report.

EXISTING PLUS COMMITTED NETWORK DEVELOPMENT

The Existing plus Committed (E+C) network includes projects completed since the 2015 Base Year and projects for which funding sources have already been committed. The committed projects are those projects that are listed in the Transportation Improvement Program, FDOT Work Programs, and/or listed in the Capital Improvement Programs. The horizon year for these projects in this network is the Year 2024.

The E+C network was reviewed for completeness and refinements were made to the highway and transit networks as needed to accurately reflect the projects within Miami-Dade County.

Figure 1 shows the number of lanes, **Figure 2** shows the facility types, and **Figure 3** shows the area types that are coded in the E+C network.

FIGURE 1 - EXISTING PLUS COMMITTED NETWORK NUMBER OF LANES MAP

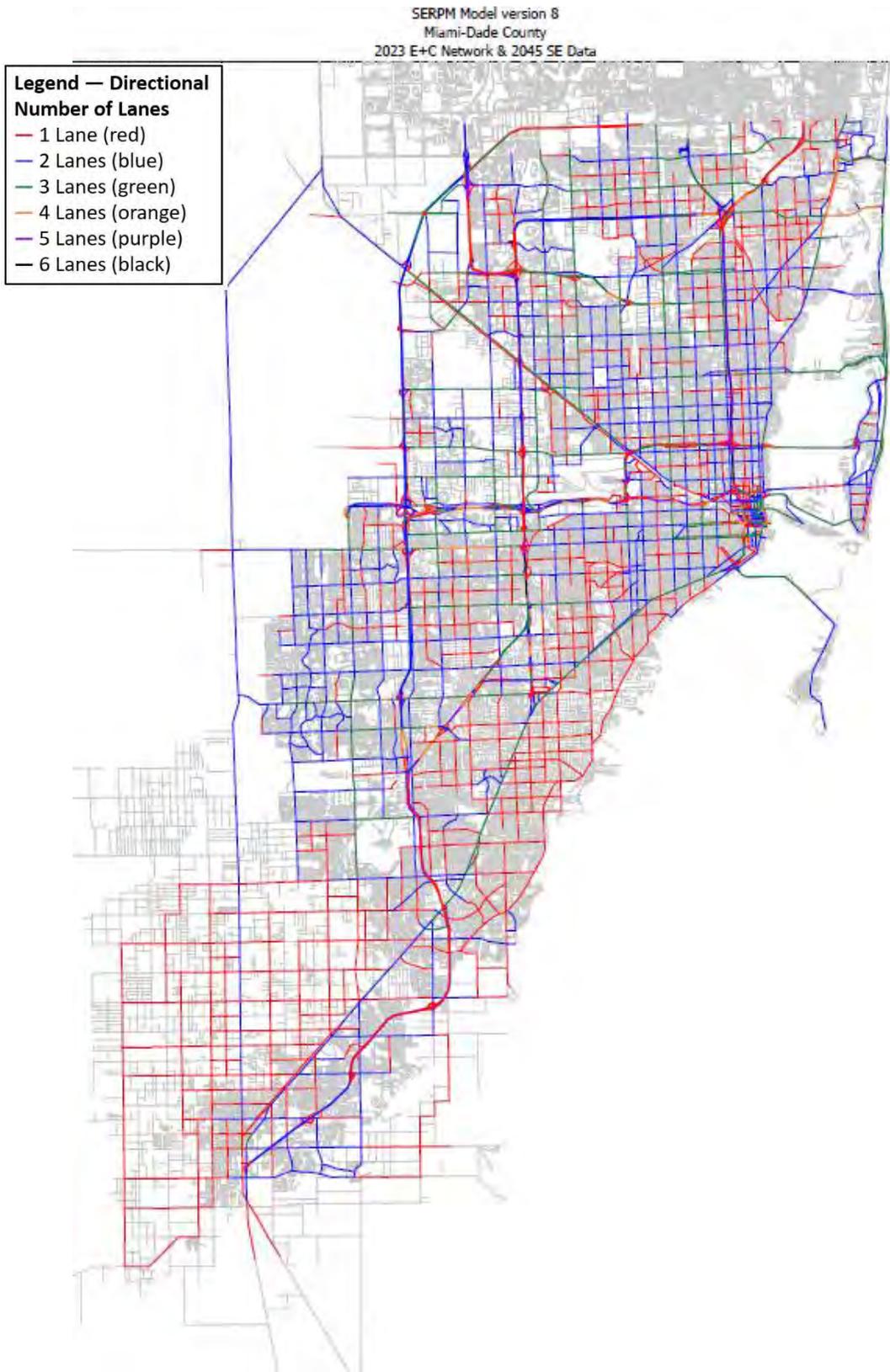


FIGURE 2 - EXISTING PLUS COMMITTED NETWORK FACILITY TYPES MAP

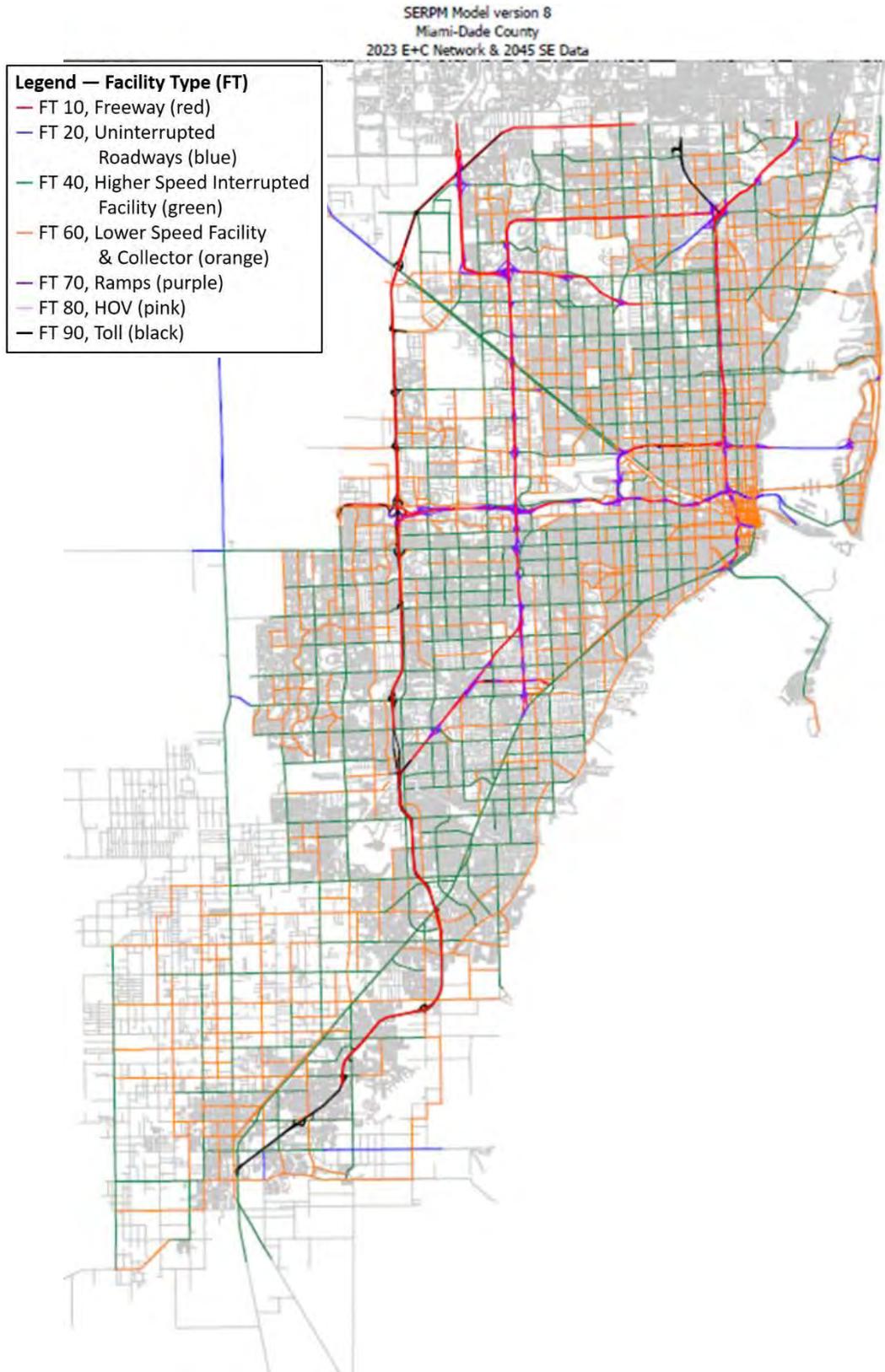
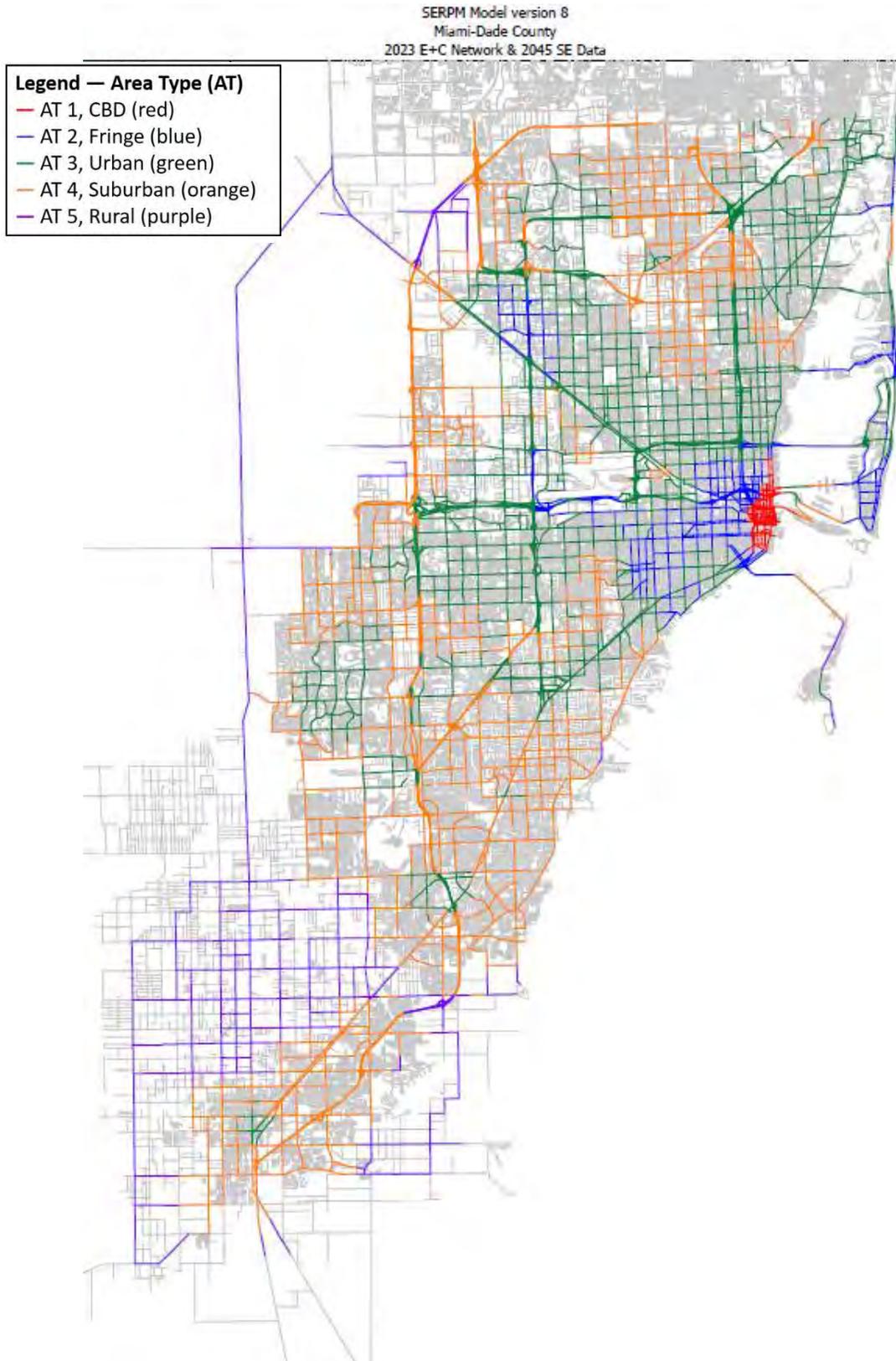


FIGURE 3 - EXISTING PLUS COMMITTED NETWORK AREA TYPES MAP



DEVELOPMENT OF THE YEAR 2045 NEEDS

In the effort to analyze future transportation needs in a quantitative manner, the year 2045 socioeconomic (SE) data was assigned to the Existing plus Committed (E+C) Network. Assigning the projected growth to the Existing plus Committed Network creates a conservative picture of the future's congestion levels. The SERPM was run using these input files. The resulting congestion was then measured through calculations of volume over capacity ratios. Plots depicting these ratios were developed for Miami-Dade County and reviewed by the Miami-Dade LRTP Steering Committee. The volume to capacity ratios were depicted in three categories:

- » Failing, Daily V/C ratio > 1.0
- » Near Failing, Daily V/C ratio between 0.8 and 1.0
- » Below Failing, Daily V/C ratio < 0.8

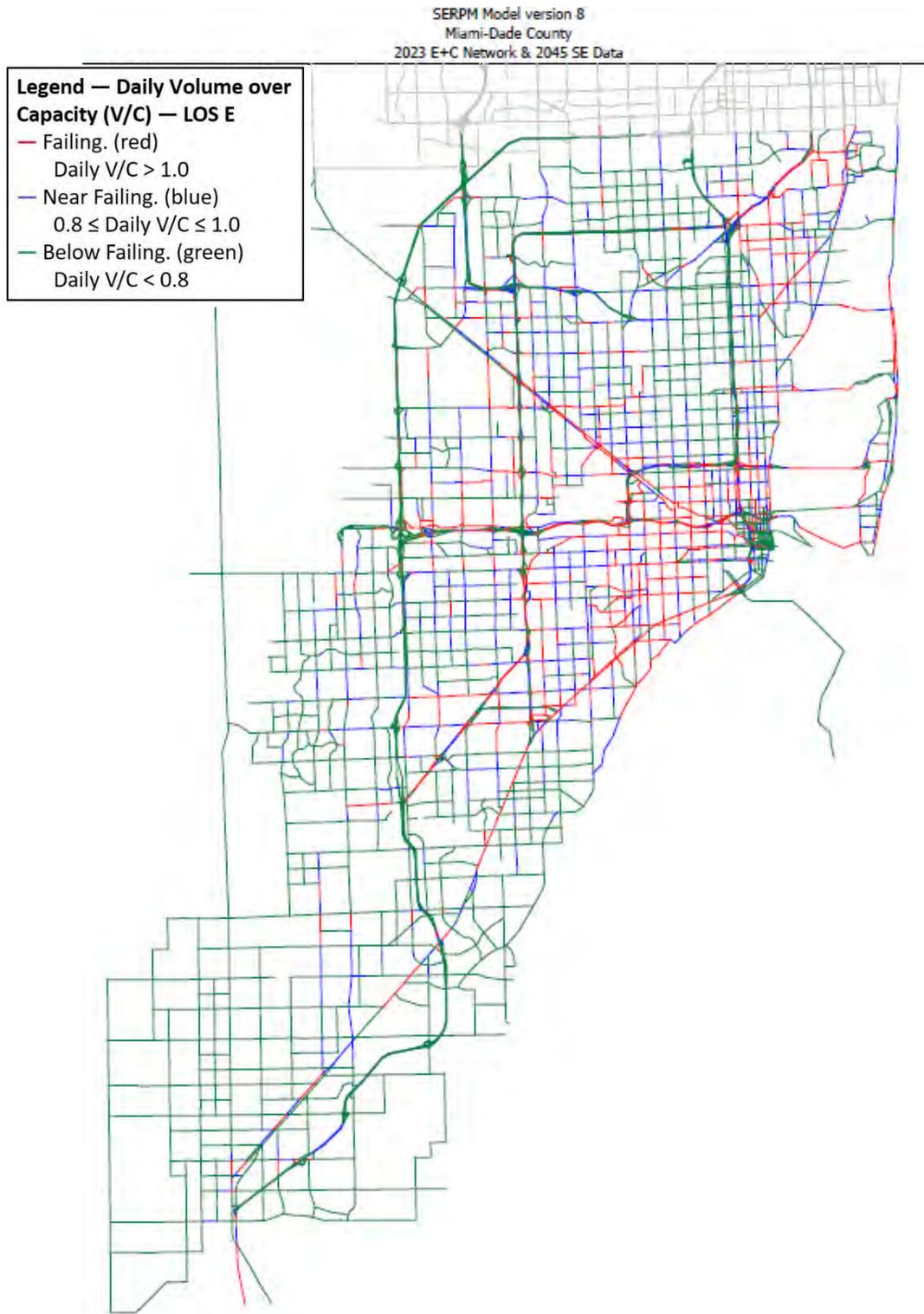
Figure 4 shows the volume to capacity ratios map for Miami-Dade County using the year 2045 SE data on the E+C networks. These volume to capacity ratios were based on the daily volume and a level of service (LOS) set to the level E. LOS is a typical measure used to identify the congestion level on a roadway system. Six letters are assigned to different levels of congestion. The LOS of service A is the highest level at which free flow occurs, and LOS F, stands for failing, is the lowest level. A LOS of E indicates that the volumes are approximately equivalent to the capacity of the road and the congestion level is high.

NEEDS ASSESSMENT AND DEVELOPMENT OF YEAR 2045 NEEDS

The SERPM allows for the analysis of different networks and socioeconomic data sets. The user can change the network by adding or removing highway and/or transit projects and run the model to analyze the effect of the changes. The same holds true for the socioeconomic data files. The user can increase or decrease the employment and/or population densities, change land use locations in the input files, and run the model to analyze the impacts.

As part of the Needs Assessment, the Miami-Dade TPO developed a scenario planning process. For the scenario planning process, projects were added and removed, and socioeconomic data was changed in order to analyze the effect of these changes on the transportation system in Miami-Dade County. The application of the SERPM provides the user with quantitative data by which different model runs / scenarios can be compared to each other.

FIGURE 4 - EXISTING PLUS COMMITTED VOLUME/CAPACITY RATIO MAP

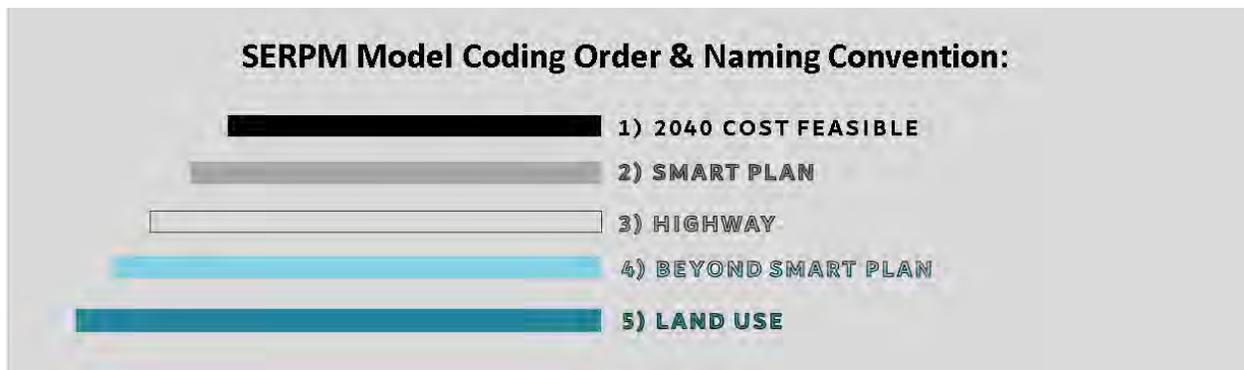


SCENARIO PLANNING

The Miami-Dade TPO developed a quantitative process to analyze different groups of projects using five modeling scenarios. In order to accomplish this, the SERPM was used to obtain measurable differences between the different scenarios. The baseline network used in the scenario planning process was the E+C network. The socioeconomic data used in the analysis was the year 2045 socioeconomic data, which was developed by the Miami-Dade TPO.

The scenario planning process is a layered process, meaning that scenario changes are added to the previous scenarios to create the next scenario in the layer. In order to clarify this process, **Figure 5** shows the different scenarios in the order in which they were coded and ran within the model.

FIGURE 5 - LIST OF SCENARIOS



SCENARIO 1 – 2040 COST FEASIBLE SCENARIO

Scenario 1, called the 2040 Cost Feasible Scenario, consists of the committed projects in the E+C Network with the addition of the highway projects in the 2040 Cost Feasible Plan. Projects in the 2040 Cost Feasible Scenario were, therefore, coded on top of the E+C network. **Table 1** list the projects which were included in this scenario, while **Figure 6** maps the projects which were added to the E+C network.

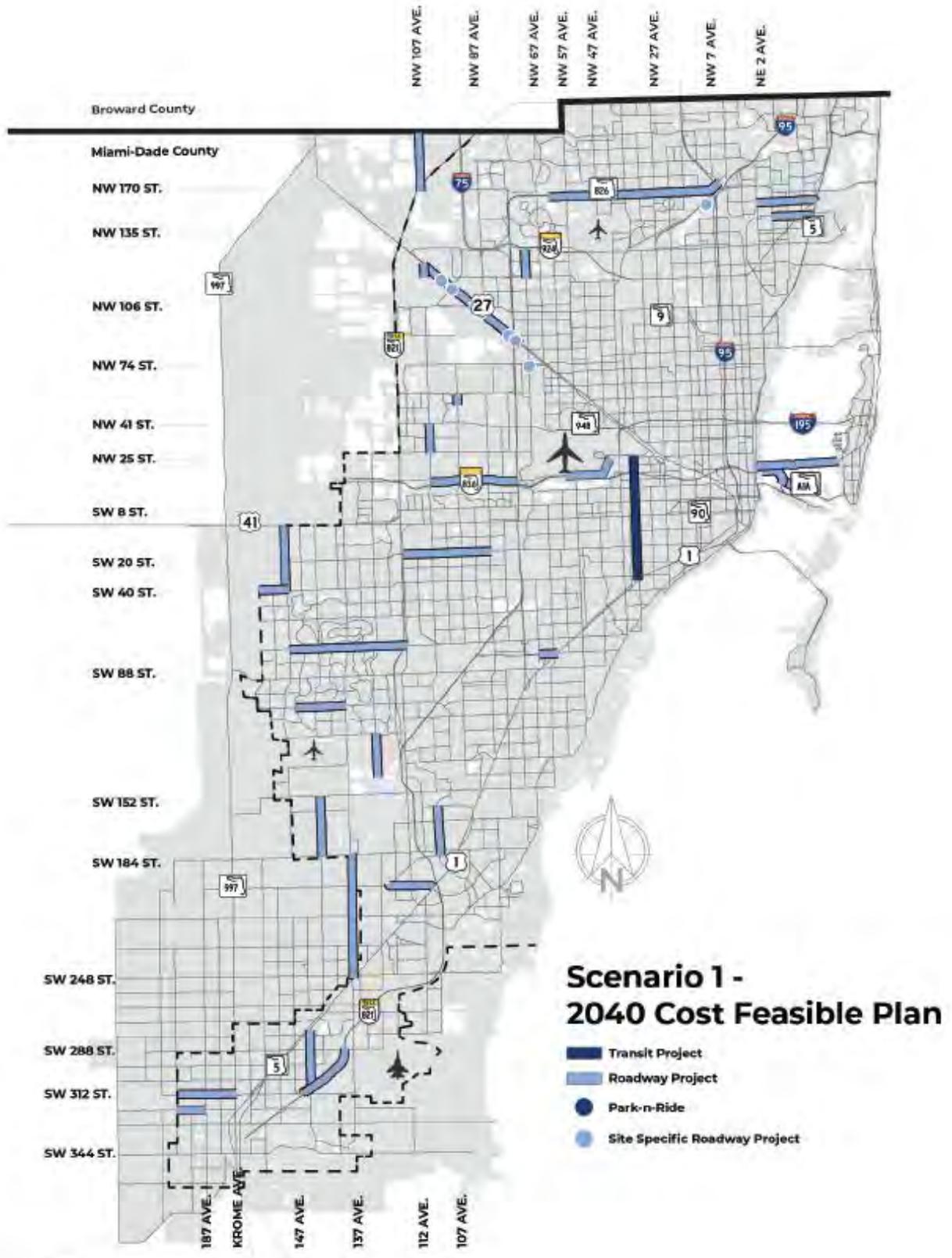
TABLE 1 - SCENARIO 1 - 2040 COST FEASIBLE SCENARIO

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
Medley Bridge/Canal Improvement Program			Improvements at; NW 121 Way, NW 116 Way, NW 105 Way, NW 79 Ave
Medley Freight Access Roadway Improvements	US-27 (Okeechobee)	Medley	Bridge widening and canal improvements
NE 151 St	NE 10 Ave	West Dixie Hwy	Add 2 lanes and reconstruct
NE 159 St	NE 6 Ave	West Dixie Hwy	Add 2 lanes and reconstruct
NW 107 Ave	NW 25 St	NW 41 St	Add 2 lanes and reconstruct
NW 107 Ave	1,000 feet North of W 122 St	Okeechobee Rd	Widen bridge over Miami Canal

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
NW 107 Ave	NW 170 St	Broward County line	Extend NW 107 Ave to the County Line
NW 72 Ave	W 74 St	W 84 St	Add center turn lane
NW 82 Ave	NW 8 St	NW 12 St	New 4 lane road construction
Perimeter Rd	NW 57 Ave	NW 42 Ave	Add 2 lanes and reconstruct
SW 104 St	SW 147 Ave	SW 137 Ave	Add 2 lanes and reconstruct
SW 104 St	Hammocks Blvd	SW 147 Ave	Add 2 lanes and reconstruct
SW 107 Ave	Quail Roost Dr	SW 160 St	Add 2 lanes and reconstruct
SW 127 Ave	SW 36 St	SW 144 St	Add 2 lanes and new 4 lane road construction
SW 137 Ave	US-1	SW 184 St	Add 2 lanes and reconstruct
SW 137 Ave	SW 24 St	SW 8 St	Add 2 lanes and reconstruct
SW 147 Ave	SW 184 St	SW 152 St	Add 2 lanes and reconstruct
SW 152 Ave	US-1	SW 312 St	Add 2 lanes and reconstruct
SW 157 Ave	SW 42 St	SW 8 St	Additional 2 lanes
SW 200 St	US-1	Quail Roost Dr	Add 2 lanes and reconstruct
SW 24 St	SW 107 Ave	SW 87 Ave	Add 2 lanes and reconstruct
SW 24 St	SW 117 Ave	SW 107 Ave	Add 2 lanes and reconstruct
SW 312 St	SW 197 Ave	SW 187 Ave / NW 14 Ave	Add 2 lanes and reconstruct
SW 320 St	SW 187 Ave South Dixie Hwy	SW 197 Ave SW 142 Ave	Add 2 lanes and reconstruct
SW 42 St	SW 167 Ave	SW 162 Ave	New 2 lane road construction
SW 42 St	SW 162 Ave	SW 157 Ave	Widen from 2 to 4 lanes
SW 72 St	SW 157 Ave	SW 117 Ave	Add 2 lanes and reconstruct
SW 80 St	SW 72 Ave	US-1	Add 2 lanes and center turn lane and reconstruct
Venetian Causeway Bridge	Bayshore Dr	Purdy Ave	Bridge replacement
West Dixie Hwy	NE 163 St	NE 175 St	Widen from 2 to 4 Lanes
79 St Causeway (JFK Causeway) Enhanced Bus	Northside Metrorail Station	Miami Beach Convention Center	Improve/implement transit service. Will replace route 79.
Douglas Rd Corridor (37 Ave)	US-1	Miami Intermodal Center (MIC)	Incremental improvement on PTP corridor (BRT)
NW 42 Ave (LeJeune)	US-27 (Okeechobee)		Improve advance signage for intersection lane alignment
US-27 (Okeechobee)	NW 42 Ave (Le Jeune)		Improve access at intersection
Port Miami Tunnel	McArthur Causeway	Port Miami	Port of Miami Tunnel Oversight Consultant
Port Miami Tunnel-Phase 52	Watson Island	MacArthur Causeway Bridge	Project Financing
Port Miami Tunnel-Phase 82	Watson Island	MacArthur Causeway Bridge	Project Financing
Port Miami Tunnel-Phase A8	Watson Island	MacArthur Causeway Bridge	Project Financing
SR 25/Okeechobee Rd	East of NW 87 Ave	NW 79 Ave (concrete)	Provide additional through lane each direction and intersection turning radius to

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
			facilitate operations at intersections at NW 95 ST and at NW 79 Ave.
SR 25/Okeechobee Rd	E. of NW 116 Way	E. of NW 87 Ave (concrete)	Depress Okeechobee mainline under NW 87 Ave and provide service road for local movements to NW 87 Ave; realign NW 103 further to the north; provide NW 87 Ave southbound left turn flyover ramp; provide NW 87 Ave northbound left turn flyover ramp; relocate the NW 105 Way bridge further w of NW 106 St.
SR 25/Okeechobee Rd.& SR 826/palmetto expressway (various ramps)			Modify interchange
SR 826/palmetto expy	E. of NW 67 Ave	E. of NW 57 Ave	Managed lanes
SR 826/palmetto expy	E. of NW 57 Ave	E. of NW 42 Ave	Managed lanes
SR 826/palmetto expy	E. of NW 42 Ave	E. of NW 32 Ave	Managed lanes
SR 826/palmetto expy	E. of NW 32 Ave	W. of NW 17 Ave	Managed lanes
SR 826/ palmetto expy /GGI	W. of NW 17 AVE	I-95 (Express Lanes)	Managed Lanes
Southern Turnpike Mainline / SR 91	MP 0X - Golden Glades / I-95 / SR 826	MP 47 - Turnpike Extension / SR 821	Widen from 6 to 8 lanes Includes interchange improvements: ◆ MP 2X - NW 199 St / Dolphin Ctr ◆ County Line Rd
Turnpike Extension / SR 821	MP 5 - SW 288 St / Biscayne Dr	MP 11 - SW 216 St	Widen from 6 to 8 lanes w/ 2 EL
Turnpike Extension / SR 821	MP 39 - I-75	MP 43 - NW 57 Ave	Widen from 4 to 8 lanes w/4 EL
Turnpike Extension / SR 821	MP 2 - SW 312 St / Campbell Dr	MP 5 - SW 288 St / Biscayne Dr	Widen from 4 to 6 lanes
NW 122 Ave	NW 12 St	NW 41 St	New 2 lane road to support the flow of truck traffic from SR-821 (HEFT)
NW 36 St/NW 41 St	NW 42 Ave (Le Jeune)	SR-821 (HEFT)	Operational improvements
NW 72 Ave (Milam Dairy)	Hialeah Expressway		Operational improvements

FIGURE 6 - SCENARIO 1 - 2040 COST FEASIBLE SCENARIO MAP



SCENARIO 2 – SMART PLAN

Scenario 2, known as the SMART Plan Scenario, consists of Scenario 1 projects plus all projects associated with the SMART Plan. Projects in the SMART Plan were coded on top of the Scenario 1 network. **Table 2** list the projects which were included in this scenario, while **Figure 7** maps the added projects.

TABLE 2 - SCENARIO 2 - SMART PLAN SCENARIO

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
Miami Executive Airport Park-and-Ride - SMART Terminal	Miami Executive Airport vicinity	Miami Executive Airport vicinity	MDX to construct a park-and-ride facility with 75 surface parking spaces to serve the SW Miami Dade Express (Route D) and other local routes
Kendall Corridor	West Kendall Transit Terminal at Kendall Drive and SW 162 Ave)	Dadeland area Metrorail Stations	Rapid Transit connecting the West Kendall Transit Terminal to the Dadeland area Metrorail Stations
Intermodal Terminal at SW 88 St / HEFT - SMART Terminal	SW 88 St / HEFT	SW 88 St / HEFT	Lease 100 surface parking spaces for park-and-ride/transit center
West Kendall Transit Terminal Improvements - SMART Terminal	SW 88 St / SW 162 Ave	SW 88 St / SW 162 Ave	Improve bus hub, add Kiss-and-Ride and expand parking facility to 500 structured parking spaces.
Kendall/SR-874 Station (SMART Terminal)	Kendall Drive and SR-874	Kendall Drive and SR-874	Construct Park-and-Ride facility with 100 surface parking spaces
MDC Sharks Central Station - SMART Terminal	Miami Dade College Kendall Campus - 11011 SW 104 St	Miami Dade College Kendall Campus - 11011 SW 104 St	Construct Transit Terminal with 4 bus bays
SMART - Beach Corridor	Midtown Miami and Downtown	Miami Beach Convention Center	Rapid Transit connecting Midtown/ Miami CBD to Miami Beach Convention Center area.
Miami Beach City Hall / Convention Center Intermodal Terminal - SMART Terminal	Miami Beach Convention Ctr.	Miami Beach Convention Ctr.	Terminus for local, express, MAX, and future BERT routes.
Florida's Turnpike Express (South) Park-and-Ride/Transit Terminal at SW 152 St and HEFT - SMART Terminal	SW 344 St Park-and-Ride Facility	Dolphin Station	Implement Bus Express Rapid Transit service
Florida's Turnpike Express (North)	SW 152 St (Coral Reef Drive) / HEFT	SW 152 St (Coral Reef Drive) / HEFT	Expand the existing 2 bay / 200 space park-and-ride facility. Construct new parking garage with 500 parking spaces and four bus bays.
Beach Express North	FIU Panther Station	I-75/Miami Gardens Station	Implement Bus Express Rapid Transit service
Beach Express Central	Miami Beach Convention Ctr.	Golden Glades Multimodal Transportation Facility	Implement Bus Express Rapid Transit service
Beach Express South	Miami Beach Convention Ctr	Civic Center Metrorail Station	Implement Bus Express Rapid Transit service
		Downtown Intermodal Terminal	Implement Bus Express Rapid Transit service

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
NW Miami Dade Express	Palmetto Metrorail Station	I-75/Miami Gardens Station	Implement Bus Express Rapid Transit service
Northwest Miami-Dade Express (BERT)	Palmetto Metrorail Station	I-75/Miami Gardens Dr Park-and-Ride Facility	SMART Plan-BERT- New express service from I-75/Miami Gardens Park and Ride Lot along I-75 and SR 826 to the Palmetto Metrorail Station. The project is funded by FDOT and will be operated by Miami-Dade County. C. Implement Bus Express Rapid Transit service.
S Miami Dade Express	SW 344th St Park-and-Ride Facility	Dadeland North Metrorail Station	Implement Bus Express Rapid Transit service
South Miami-Dade Express (BERT)	344 St Transitway Station	Dadeland North Metrorail Station	SMART Plan- BERT (b). Implement Bus Express Rapid Transit service.
SW Miami Dade Express	Miami Executive Airport Station	Dadeland North Metrorail Station	Implement Bus Express Rapid Transit service
Southwest Miami-Dade Express (BERT)	Miami Executive Airport	Dadeland North Metrorail Station	SMART Plan- BERT (d). Implement Bus Express Rapid Transit service
Transitway Park-and-Ride at SW 200 St (200 St Station) - SMART Terminal	Transitway and SW 200 St	Transitway and SW 200 St	Developer to build: Phase 1- 116 surface parking spaces; Phase 2- 150 space parking garage
Transitway Park-and-Ride at SW 136 St (136 St Station) - SMART Terminal	Transitway and SW 136 St	Transitway and SW 136 St	Lease parking with 100 parking spaces (\$500/space/yr.)
Transitway Park-and-Ride at SW 104 St (104 St Station) - SMART Terminal	Transitway and SW 104 St	Transitway and SW 104 St	Lease parking with 100 parking spaces
US-1 (Transitway)	Dadeland South Metrorail Station	SW 344 St Park-and-Ride	Implement Gold Standard BRT along the Transitway.
Transitway Park-and-Ride at SW 152 St (152 St Station) - SMART Terminal	Transitway and SW 152 St	Transitway and SW 152 St	DTPW is proposing to upgrade the existing park-and-ride facility in two phases. Phase 1 includes reconstruction of the existing facility to improve operations, bringing the total number of leased spaces to 196. Phase 2 includes a modernized 511 space parking garage with enhanced amenities.
Expand overcapacity park-and-ride facility at SW 168 St - SMART Terminal	SW 168 St	Transitway	Upgrade the existing park-and-ride facility in two phases. Phase I includes adding approximately 90 additional surface parking spaces. Phase II includes a modernized 450 space parking garage with enhanced amenities
Transitway Park-and-Ride at SW 344 St (344 St Station) - SMART Terminal	Transitway and SW 344 St	Transitway and SW 344 St	DTPW has identified a need to expand the existing end-of-the-line transit terminal/park-and-ride facility at SW 344 St in order to meet future demand for parking along the South Miami-Dade Transitway. The necessary right-of-way acquisition for this project is funded, but the design and construction costs are unfunded.

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
Transitway Park-and-Ride at SW 296 St (296 St Station) - SMART Terminal	Transitway and SW 296 St	Transitway and SW 296 St	Improve Existing Park-and-Ride facility with a 400-space parking garage
Transitway Park-and-Ride at SW 264 St (264 St Station) - SMART Terminal	Transitway and SW 264 St	Transitway and SW 264 St	Construct Park-and-Ride facility with 100 surface parking spaces
Transitway Park-and-Ride between SW 244 St and SW 248 St - SMART Terminal	Transitway and SW 244 Str	Transitway and SW 244 St	Reconstruction of the existing facility to improve operations and increase the number of leased parking spaces from 101 spaces to 111 spaces.
Transitway Park-and-Ride at SW 112 Ave (112 Ave Station) (SMART Terminal)	Transitway and SW 112 Ave	Transitway and SW 112 Ave	Reconstruction of the existing facility to improve operations and increase the number of parking spaces from 467 spaces to 500 spaces.
Homestead Multi-modal Transit Terminal (HMTT) - SMART Terminal	Transitway and Krome Ave	Transitway and Krome Ave	City of Homestead to construct 800 space parking garage for shared use with transit
Transitway Park-and-Ride at Marlin Rd - SMART Terminal	Transitway and Marlin Rd	Transitway and Marlin Rd	Construct Park-and-Ride facility with 100 surface parking spaces
Transitway Park-and-Ride at Quail Roost Dr (184 St Station) - SMART Terminal	Transitway and SW 184 St	Transitway and SW 184 St	A privately funded and constructed transit-oriented development that includes housing, commercial space and transit amenities. At a minimum, the TOD will include 500 housing units, 10,000 square feet of commercial space, a park-and-ride garage with 261 spaces exclusively for transit users and parking spaces to support the housing and commercial components.
Southland Mall Station - SMART Terminal	SW 205 St/South Dixie Highway	SW 205 St/South Dixie Highway	Lease 100 parking spaces and construct a four-bay transit terminal
South Dade Park-and-Ride - SMART Terminal	HEFT and SW 288 St	HEFT and SW 288 St	Purchase land for future Park-and-Ride facility
Flagler Corridor BERT	Tamiami Station	Downtown Intermodal Terminal	Implement Bus Express Rapid Transit service
East-West Corridor	FIU-MMC	Dadeland South	Rapid Transit connecting western Miami-Dade County to downtown Miami via the MIC
Mall of the Americas Station - SMART Terminal	W Flagler St and NW 77 Ave	W Flagler Str and NW 77 Ave	Construct Park-and-Ride/Transit Terminal facility with 300 surface parking spaces and 4 bus bays
Little River Park-and Ride	Biscayne Boulevard and NE 79 St	Biscayne Blvd and NE 79 Str	Lease 100 parking spaces (\$500/space/yr.)
Northeast Corridor	Miami Central Station	Aventura Station	Rapid Transit connecting Miami Central Station to Aventura Station

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
Aventura Terminal - SMART Terminal	Biscayne Blvd/ 197 St	Biscayne Blvd/ 197 St	Construct Park-and-Ride facility with 100 surface parking spaces
Midtown Station - SMART Terminal	Biscayne Blvd and NE 39 St	Biscayne Blvd and NE 39 St	Construct Park-and-Ride/Transit Terminal facility with 100 surface parking spaces
North Miami Beach Station	Biscayne Blvd and NE 163 St	Biscayne Blvd and NE 163 St	Construct Park-and-Ride/Transit Terminal facility with 100 surface parking spaces
North Miami Station	Biscayne Blvd and NE 125 St	Biscayne Blvd and NE 125 St	Construct Park-and-Ride/Transit Terminal facility with 100 surface parking spaces
Park-and-Ride/Transit Terminal at Gratigny Pkwy/NW 119 St/ NW 27 Ave	Gratigny Pkwy/NW 119 St/NW 27 Ave	Gratigny Pkwy/NW 119 St/NW 27 Ave	Construct Park-and-Ride facility with 100 surface parking spaces
Unity Station (TOD) - SMART Terminal	NW 215 St and NW 27 Ave	NW 215 St and NW 27 Ave	A 14-acre vacant parcel adjacent to the intersection of the Turnpike and NW 27 Ave has been identified as a strategic park-and-ride location for the SMART - North Corridor (NW 27 Ave) Premium Transit project which is being studied by the Florida Department of Transportation (FDOT). Up to 350 parking spaces are proposed for this facility which would serve the northern most station for new premium transit service in the corridor. This park-and-ride lot also provides strategic transit-oriented development (TOD) opportunities.
NW 27 Ave/SR 826 Station - SMART Terminal	NW 27 Ave and SR 826	NW 27 Ave and SR 826	Construct Park-and-Ride facility with 100 surface parking spaces
Palmetto Metrorail Intermodal Terminal Ph 1 & 2	SR 826 at NW 74 St		Passenger Terminal
SR 968/Flagler St (BRT Study)	SR 821/HEFT	SR 5/Biscayne Blvd	PD&E for Bus Express Rapid Transit
SR 94 / Kendall Dr (BRT Study)	SR 997/KromeE Ave	SR 5/DixieHWY	PD&E for Bus Express Rapid Transit
SR 9/NW 27 AVE (SMART Corridor)	MIA Intrmdal CTR	NW 215 ST/Unity STN (PTC Study)	Project Dev. & Env.
Direct Ramps to Palmetto Intermodal Terminal from Palmetto express Lanes	Palmetto Metrorail Station	Palmetto Metrorail Station	Construct ramps from express lanes to Metrorail terminal. Accessible to buses and park-and-riders.
Direct Ramps to Dolphin Station from SR-821 HEFT Express Lanes	HEFT at NW 12 St	HEFT at NW 12 St	Construct direct access ramps to connect the SR-821 HEFT express lanes to Dolphin Station.
Drop-off/Pick-up at Transitway Stations	SW 344 St/Transitway	Dadeland South Metrorail Station	Drop-off/Pick-up at all (30) Transitway Stations

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
Direct Ramps to Dolphin Station from SR 836	HEFT at NW 12 St (Dolphin Station)	HEFT at NW 12 St (Dolphin Station)	Construct direct access ramps from to connect the SR 836 express lanes to Dolphin Station.
Ramps between the US-1 Busway Transitway and SR 826 (Palmetto) Express Lanes	Transitway	SR 826 (Palmetto) Express Lanes	Construct ramps connecting the US-1 Busway Transitway to SR 826 (Palmetto) Express Lanes
FIU Engineering Station/Park-and-Ride - SMART Terminal	W. Flagler Stand 107 Ave	W Flagler St and 107 Ave	Construct park-and-ride facility with 200 parking spaces and 4 bus bays at the FIU Engineering campus located at the northeast corner of W Flagler St and 107 Ave. This proposed park-and-ride facility will be served by existing Metrobus routes in the area as well as the future Flagler BRT service, SMART - East-West RTC service, and other express bus services.
Golden Glades Multimodal Transportation Facility - IT Components - SMART Terminal	Golden Glades Interchange	Golden Glades Interchange	Construction/implementation for all of the necessary technological components for the Golden Glades Multimodal Transportation Facility (GGMTF), which includes, but is not limited to, wi-fi systems, security access control systems, CCTV systems, real-time signage systems, ticket vending machines, emergency phones/call boxes, electric vehicle charging stations, advanced parking management systems, and appropriate electrical and physical infrastructure components.
North Corridor	MLK Jr. Metrorail Station	Unity Station	Rapid Transit connecting the MIC to Unity Station
N Miami-Dade Express (BERT)	Golden Glades Multimodal Transportation Facility	I-75/Miami Gardens Station	Implement Bus Express Rapid Transit service

SCENARIO 3 – HIGHWAY SCENARIO

Scenario 3, known as the Highway Scenario, consists of Scenario 2 and its projects, adds the additional highway projects in transportation agency master plans (FDOT, FTE, MDX, DTPW - Roads), plus other highway projects identified by stakeholders and public input that would address further deficiencies. Projects in the Highway Scenario were coded on top of the SMART Plan Scenario network. **Table 3** list the projects which were included in this scenario, while **Figure 8** maps the added projects.

TABLE 3 - SCENARIO 3 - HIGHWAY SCENARIO

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
SW 7 St/SW 8 St	Brickell Ave	SW 27 Ave	Operational and capacity improvements
SR 924 (Gratigny Parkway)		I-95	East extension with express bus
SR 924 (Gratigny Parkway) East Extension	NW 32 Ave	I-95	New Extension of SR 924 Gratigny Parkway East to I-95
SR 826	SW 104 St	SR 836	Express lanes with express bus
Truck Parking at GGI East Lot			Truck Parking
I-95	US 1 to Broward County Line	Managed Lanes / Capacity / Operations	Ultimate Plan
I-75 / HEFT Int.	CD Rd	Miami Gardens Dr	Developer Project
I-75 / Miami Gardens Dr Int.	Turnpike (HEFT)	NW 170 St.	Developer Project
Kendall Parkway / SR 836 (Dolphin) SW Extension	SR 836 (Dolphin) terminus at NW 137 Ave/NW 12 St	SW 136 St	SR 836 SW Extension/ Kendall Parkway. New Multimodal corridor
SR 997/Krome Ave	SO. of Flagler Ave	SW 296 ST. (by-pass)	Project Dev. & Env.
SR 9A/I-95	N. of NW 151 St	Broward County Line	Project Dev. & Env.
SR 9A/I-95	US-1/South Dixie Highway	South of NW 62 St	Project Dev. & Env.
SR 9A/I-95	South of NW 62 St	N. of NW 151 St	Project Dev. & Env.
SR 826/Palmetto Expy	SR 968/W Flagler St	S of NW 154 St	Project Dev. & Env.
SR 826/Palmetto Expy	US-1/S. Dixie HWY	SR 836/Dolphin XWAY	Managed Lanes
I-95 Interchange	at SW 7 St and 8 St		Modify Interchange
NE 203 ST intersection improvements	B SR 5/US-1 & W. Dixie HWY		Grade Crossing/Signal
SR 112/I-195 frontage Rd & ramp realignment (Miami Design District)			New Road
I-195 at Miami Ave Interchange Improvement	at Miami Ave	at Miami Ave	Add ramps to and from the east
Miami Gardens Drive / NW 186th St	I-75	57 Ave	Roadway Widening to 6LNs

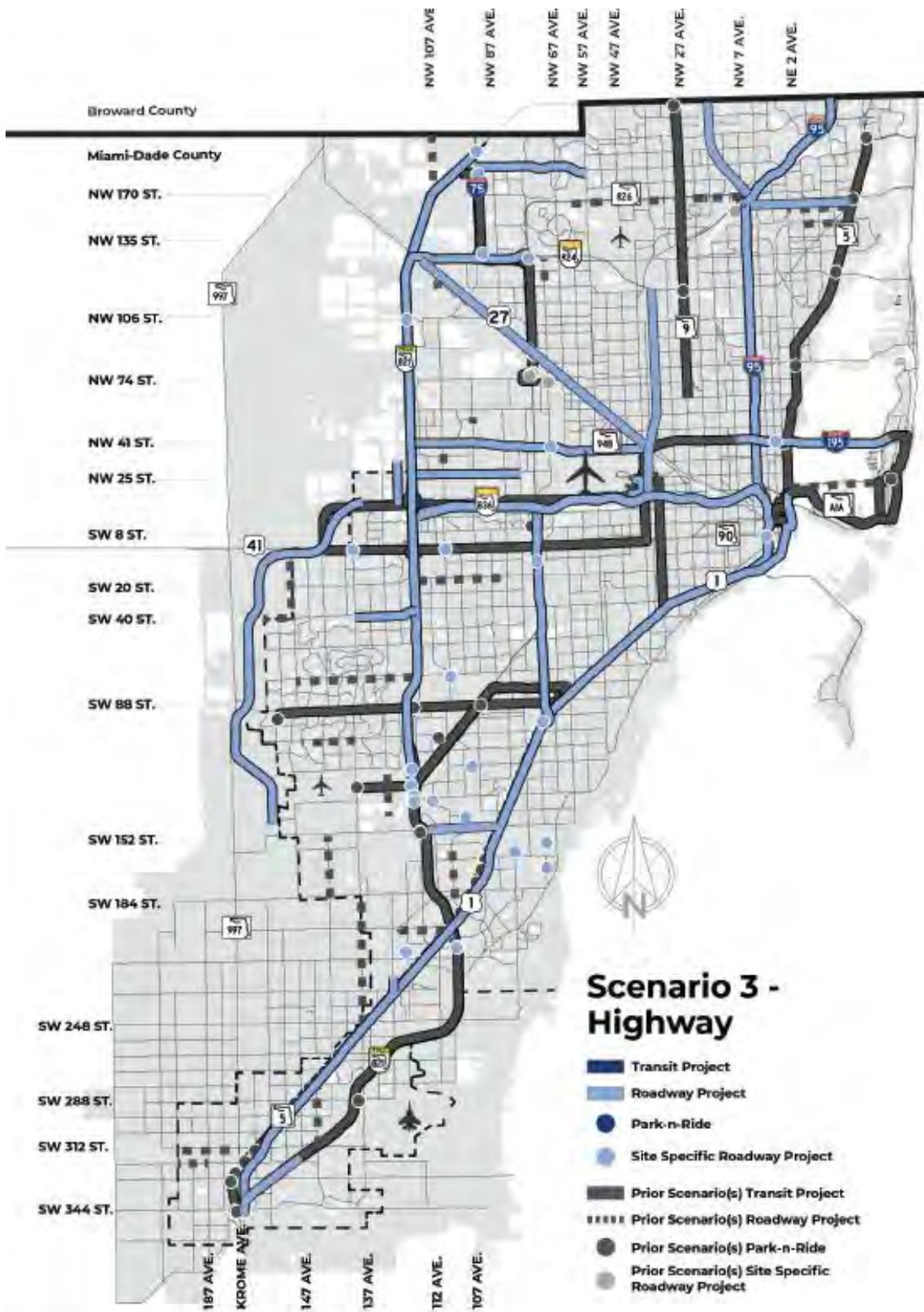
PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
NW 36 St /NW 41 St	SR-821 (HEFT)	NW 42 Ave (LeJeune)	Redesign NW 36 St/41 St as a super arterial express St
Golden Glades Multimodal Terminal (Phase 2)			Parking-and-ride facility with 1,800 space garage
Dolphin Mall-Dolphin Station Connector Rd	Dolphin Station	Dolphin Mall	New cut and cover roadway that would connect the Dolphin Mall to Dolphin Station
SR 836 (Dolphin) Managed Lanes	SR 826 (Palmetto)/ SR 836 (Dolphin)	West of 27 Ave	Managed lanes within the ROW of SR 836 (Dolphin Expressway) east of Palmetto
MDX Connect 4 Express	Central Miami-Dade County (SR 836)	North Miami-Dade County	New multimodal transportation corridor connecting SR 836, SR-112, SR-924 and SR 826
SR 836 (Dolphin) Managed Lanes	SR-821 (HEFT)	SR 826 (Palmetto) / SR 836 (Dolphin) Interchange	Managed lanes within the ROW of SR 836 (Dolphin Expressway) west of Palmetto to HEFT
NW 25 St			Viaduct Extension
Miami International Airport	Miami International Airport	Perimeter Rd	
SR 112 (Airport Expressway)		SR 826 HEFT	West extension with express bus
SR 112 (Airport Expressway) West Extension to HEFT	SR 112 termini at NW 42nd Ave HEFT	HEFT	New Extension of SR 112 west to HEFT
US-27 (Okeechobee Rd)		SR-112 (Iron Triangle)	Express lanes
I-195 Corridor Improvements	NW 12 Ave	Alton Rd	Operational and Capacity
SR 994 / Quail Roost Dr.	SW 137 Ave	SW 127 Ave	Widening and Resurfacing
Turnpike Extension / SR 821	MP 0 - US 1	MP 2 - SW 312 St / Campbell Dr	Widen from 4 to 6 lanes Includes interchange improvement: ◆ MP 0 - US 1
SR-856 (William Lehman Causeway)	US-1	A1A	TSM&O with transit lanes, barrier separated bicycle lanes/shared use path, and widened sidewalks connecting with NE Transit Hub
SR-91 (Turnpike)	GGI North	Broward County	Express lanes with express bus
SR 826 (Palmetto Expressway)	GGI	US-1	East extension with express bus
US-27 (Okeechobee Rd)	SR 826	SR-112 (Iron Triangle)	Widening and intersection grade separations

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
NE 79 St	E 11 Ave	Collins Ave Miami Beach Convention Center	Exclusive transit lanes, barrier separated bicycle lanes/shared use path, and widened sidewalks connecting with Tri-rail/Metrorail Transfer Station and Northside Metrorail Station
SR-878 BRT	SR-874	US-1 (Dadeland North)	Widening full depth and width outside shoulders and bus only lanes at ramps and cross streets
SW 128 St	SW 137 Ave	SR-874	Widening and transit lanes with express bus
Turnpike Extension / SR 821	MP 25 - SW 8 St / Tamiami Trail	MP 27 - NW 12 St	Auxiliary lanes
US-1 S	SW 344 St	Downtown Miami	TSM&O
Turnpike Extension / SR 821	MP 17 - Don Shula Expwy / SR 874	MP 39 - I-75	TSM&O improvements
Turnpike Extension / SR 821	MP 19 - SW 120 St		Interchange improvement
Turnpike Extension / SR 821	MP 34 - NW 106 St		Interchange improvement (ultimate)
Turnpike Extension / SR 821	MP 1 - SW 328 St / Lucy St		New interchange
SR 826 and US-1	Transitway	SR 826 express lanes	Direct access ramps
SR-821 (HEFT)	Turnpike	US-1	East extension with express bus
SR 836 (Dolphin Expressway)	HEFT	Downtown Miami CBD	Widening and bus only ramps, lanes and stations
SR-924 (Gratigny Expressway)		HEFT	West extension with express bus
I-195 / SR 112 Texas U-Turn	NW 12 Ave	NW 10 Ave	Express Lanes Access for Miami Beach
SW 42 St	HEFT	SW 137 Ave	Widen to 6 lanes
SW 152 St	SW 117 Ave	US-1	Widen to 6 lanes
SW 8 St	SW 107 Ave		Grade separate E-W through lanes
SW 8 St	SW 137 Ave		Grade separate E-W through lanes
NW 36 St	NW 72 Ave		Grade separate E-W through lanes
SW 56 St or SW 72 St	HEFT		Partial interchange
SW 72 St	SR 874 (Don Shula Expressway)		Partial interchange
SW 72 St	SW 107 Ave		Indirect left turns
SW 117 Ave/SW 152 St (Coral Reef) Grade Separation	SW 128 St, SW 134 St, SW 136 St		Continuous flow (turbo) lanes - southbound SW 117 Ave

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
SW 77 Ave	SW 159 Terrace	SW 160 Terrace	Bridge over C-100A feeder canal
SW 77 Ave	SW 173 St	SW 174 St	Bridge over C-100 canal
SW 87 Ave	SW 163 Terrace	SW 164 St	Bridge over C-100 canal
SW 102 Ave	SW 145 St	SW 146 St	Bridge over C-100 canal
SW 122 Ave	SW 210 St	SW 212 St	Bridge over Black Creek canal
SW 120 St	SW 99 Court	SW 99 Ave	Bridge over C-100C canal
SW 136 St	Harrison St	SW 112 Ave	Bridge over C-100 canal
NE 215 St	NE 14 Ave	I-95	Construct 2 lane facility
SW 120 St	SW 82 Rd	US-1	Construct 2 lane facility
SW 127 Ave	South of SW 224 St	W Dixie Highway	Construct 2 lane facility
SW 16 St	SR 826 (Palmetto Expressway)		Connect SW 16 St
SW 120 St	SR 874 (Don Shula Expressway)		Connect SW 120 St
SW 88 St (Kendall)/SW 127 Ave Grade Separation			Grade separate SW 88 St (Kendall) over SW 127 Ave.
SW 117 Ave/SW 152 St (Coral Reef) Grade Separation			Grade separate SW 117 Ave over SW 152 St (Coral Reef)
Town of Indian Creek Bridge			Reconstruct Bridge
Turnpike Extension / SR 821	MP 12 - SW 211 St / Caribbean Blvd		Interchange improvement
Southern Turnpike Mainline / SR 91	MP 47 - Turnpike Ext / SR 821 (Spur)		Interchange improvement Associated FPN: 406095-1
Arterial Grid TSM&O Improvements	Various locations	Various locations	NE Miami Dade County
Arterial Grid TSM&O Improvements			East Central Miami Dade County
NW 103 St / W 49 St	NW 57 Ave / W 8 Ave	NW 34 Ave	Widen to 6 lanes
NW 7 St	NW 79 Ave	NW 72 Ave	New 4L roadway
SW 42 St	Krome Ave	SW 167 Ave	New/Widen to 4 lanes
SW 56 St	Krome Ave	SW 162 Ave	New 4L roadway
SW 72 St	SW 117 Ave	SW 87 Ave	Widen to 6 lanes
SW 88 St	Krome Ave	SW 162 Ave	Widen to 6 lanes
SW 120 St	Kendall Pkwy	SW 147 Ave	New 4L roadway
SW 248 St	US 1	SW 112 Ave	Widen to 4 lanes
SW 312 St / NE 8 St	SW 187 Ave / NW 14 Ave	SW 167 Ave / NE 12 Ave	Widen to 6 lanes
SW 167 Ave	SW 344 St	SW 328 St	Widen to 4 lanes
SW 137 Ave	SW 72 St	SW 56 St	Widen to 6 lanes
SW 127 Ave	SW 42 St	SW 26 St / Coral Way	Widen to 4 lanes
SW 117 Ave	SW 152 St	SW 104 St	Widen to 6 lanes

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
SW 102 Ave	SW 152 St	SW 145 St	New 2L roadway
SW 72 Ave	SW 56 St	SW 40 St	Widen to 4 lanes
SW 67 Ave	SW 136 St	SW 40 St	Widen to 4 lanes
SW 32 Ave	SW 40 St	SW 8 St	Widen to 4 lanes
NW 137 Ave	NW 25 St	NW 41 St	New 4L roadway
NW 137 Ave	NW 12 St	NW 25 St	New 4L roadway
NW 107 Ave	NW 106 Way	NW 114 St	New 4L roadway
NW 107 Ave	NW 90th St	NW 106 St	widen from 2 to 4 lanes
NW 97 Ave	NW 122 St	NW 138 St	Widen to 4 lanes
NW 32 Ave	NW 21 St	N River DR @ NW 26 St	New 4L bridge
NW 22 Ave	NW 103 St	NW 119 St	Widen to 6 lanes
SR 924 Gratigny Parkway West Extension	SR 826 (Palmetto) /I-75	SR-821 (HEFT)	New Extension of SR 924 Gratigny Parkway West to HEFT, including access ramps to: west to SR 924, and I-75 north
SR 924 (Gratigny Parkway) Partial Interchange at NW 67 Ave	SR 924 at NW 67 Ave		SR 924 Interchange at 67Ave
Inland Port			Inland Port
Electric Car Charging Stations			Countywide line item
Homestead Air Reserve Base Connection to Turnpike			Connection to Turnpike
Sr 826/Palmetto Expy	I-75	N. of Canal C-8 Brdg (Approx NW 162st)	Managed Lanes
Sr 826/Palmetto Expy	N. of Canal C-8 Brdg (162 st)	E. of NW 67 Ave	Managed Lanes
I-75/NW 180 St: new partial interchange			New partial interchange
NW 17 Ave Bridge at Miami River			Bridge

FIGURE 8 - SCENARIO 3 - HIGHWAY SCENARIO MAP



SCENARIO 4 – BEYOND SMART PLAN TRANSIT SCENARIO

Scenario 4, known as the Beyond SMART Plan Transit Scenario, consists of the Scenario 3 projects but adds additional transit projects from past area studies, and also adds transit projects beyond the SMART Plan identified by stakeholders and the public to address further transit deficiencies. Projects in the Beyond SMART Plan Transit Scenario were coded on top of the Highway Scenario network. **Table 4** list the projects which were included in this scenario, while **Figure 9** maps the added projects.

TABLE 4 - SCENARIO 4 - BEYOND SMART PLAN TRANSIT SCENARIO

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
17 Ave Enhanced Bus	Vizcaya Metrorail Station	Golden Glades Interchange	Implement Enhanced Bus Service
183 St Enhanced Bus	Miami Gardens/I-75 Interchange (MDT120)	Aventura Terminal	Implement limited stop enhanced bus service
22 Ave Enhanced Bus	Coconut Grove Metrorail Station	Golden Glades Interchange	Implement Enhanced Bus Service
252 Coral Reef Express	SW 152 St/ Coral Reef Drive	Dadeland South Metrorail station	Implement express bus service from Country Walk, SW 152 St/Coral Reef Drive to Dadeland South Metrorail Station.
27 Ave Express	MIC	NW 215 St / Unity Station	Implement Express Bus service on express Lanes during AM/PM peak hours.
295 Express Improvements	NW 27 Ave / NW 215 St	Miami CBD	Implement Express Bus on express Lanes (Turnpike and I-95). Project to include addition of 6 articulated buses.
2 Ave Enhanced Bus	Miami Beach Convention Ctr 17 St / Wash Ave	Aventura Terminal	Implement Enhanced Bus Service
37 Ave Enhanced Bus (North)	MIC at MIA	Unity Station	Implement Enhanced Bus Service
72/67 Ave Enhanced Bus	Dadeland North Metrorail Station	Miami Lakes Terminal (NW 154 St / SR 826)	Convert local route 73 to Enhanced Bus
87 Ave Enhanced Bus	Palmetto Intermodal Terminal	Busway at SW 136 St Park-and-Ride	Convert local route 87 to Enhanced Bus
American Dream - MIC express	American Dream Transit Terminal	MIC	Implement Express Bus service
Bicycle and Pedestrian Improvements at all Transitway Stations	Transitway Stations	Transitway Stations	Improve Pedestrian and Bicycle connections to the Transitway stations
Collins Ave Enhanced Bus	Miami Beach Convention Ctr 17 St / Wash Ave	Aventura Terminal	Implement Enhanced Bus Service
Coral Way Enhanced Bus	SW 147 Ave/SW 8 St	Brickell Metrorail Station	Implement limited stop enhanced bus service
Dolphin-Brickell Express	Dolphin Station	Brickell Station	Implement Express Bus service on express Lanes during AM/PM peak hours
Douglas Rd LRT	US -1	MIC at MIA	Convert BRT1 to LRT
Government Center Station Upgrade (Downtown Miami Development of Regional Impact - Increment III)	101 NW 1 St	101 NW 1 St	Upgrades to the existing Government Center Metrorail Station in the form of new elevators, escalators, upgrades to existing flooring and roofing, fare collection updates, security equipment updates, new rolling gates, and automatic sliding doors

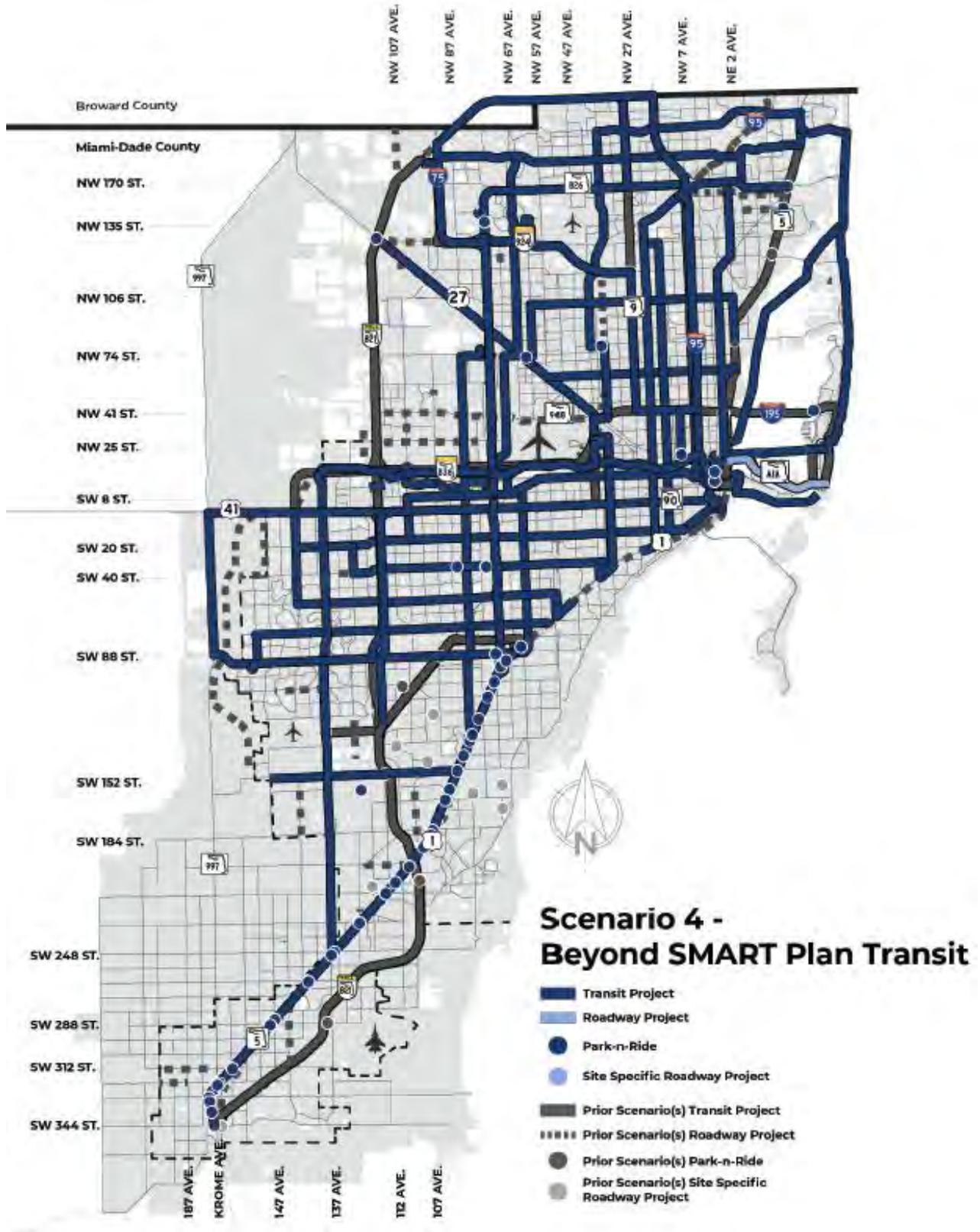
PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
Gratigny Express Bus (Central)	Miami Lakes Terminal (NW 154 St / SR 826)	Park-and-Ride/Transit Terminal at Gratigny Pkwy/NW 119 St/NW 27 Ave (Sharks North Station)	Implement Express Bus on express Lanes.
Gratigny Express Bus (West)	American Dream Transit Terminal	Park-and-Ride/Transit Terminal at Gratigny Pkwy/NW 119 St/NW 27 Ave (Sharks North Station)	Implement Express Bus on express Lanes.
HEFT Express Central	Miami Executive Airport	MIC	Implement Express Bus Service
HEFT Express West	Kendall FPL	MIC	Implement Express Bus Service
Historic Overtown/Lyric Theatre (Downtown Development of Regional Impact - Increment III)	100 NW 6 St	100 NW 6 St	Upgrades to the existing Historic Overtown/Lyric Theatre Metrorail Station in the form of new elevators, escalators, upgrades to existing flooring, fare collection, fare gates, Ticket Vending Machines updates, and security equipment updates. This project will also reconfigure the alleyway between the Overtown Transit Village and the Station to include new stamped concrete as well as a shared use Promenade with canopy from NW 6 St to NW 8 St.
I-95/27 Ave Express	Government Center Metrorail Station	NW 215 St / Unity Station	Implement Express Bus service on express Lanes during AM/PM peak hours
Kendall BRT	West Kendall Transit Terminal at Kendall Drive and SW 162 Ave)	Dadeland North Metrorail Station	Implement Express Bus Service
MDT Bus Acquisition	n/a	n/a	Purchase buses for existing and new routes
MDT Infrastructure Renewal Program	n/a	n/a	Infrastructure Renewal Program (IRP)
Metromover Brickell Loop Extension	Financial District Metromover St		Extension of Metromover service in the Brickell area.
Metromover Omni Extension	School Board St		Extension of Metromover service in the Omni area
Metrorail/Tri-Rail Bus Hub Improvements	Metrorail/Tri-Rail	Metrorail/Tri-Rail	Increase bus terminal capacity and add mixed use TOD with ground floor retail
Miami Gardens-MIC Express	Miami Gardens Station (Miami Gardens Mall)	MIC	Implement express bus service from Miami Gardens Station to MIC. The project will include the addition of four (4) new articulated buses.
Miami Lakes Park-and-Ride Terminal at NW 77 Ave and NW 154 St	Palmetto (SR 826) Expwy and NW 154 St	Palmetto (SR 826) Expwy and NW 154 St	Provide new passenger facilities (including Park-and-Ride) to support Express Bus Service connection.
Miller Drive (SW 56 St) Enhanced Bus	Tamiami Station	University Metrorail Station	Implement Enhanced Bus Service
North Corridor BRT	MIC	NW 215 St /Unity Station	Implement Gold Standard BRT

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
NW 103 St Enhanced Bus	Okeechobee Terminal (MDT202)	Biscayne Blvd/NE 79 St (Little River PNR)	Implement limited stop enhanced bus service
NW 199/203 Str Enhanced Bus	Unity Station	Aventura Terminal	Convert local route 99 to Enhanced Bus
NW 62 St Enhanced Bus	Okeechobee Metrorail Station	Biscayne Blvd	Implement limited stop enhanced bus service
NW 7 St Extension	NW 118 Ave	NW 114 Ave	New cut and cover roadway that would connect NW 7 St under or across the HEFT to serve new Dolphin Station and 7 St EBS
NW 7 Ave Enhanced Bus	Downtown Miami	Golden Glades Interchange	Convert MAX route 277 to BRT
NW 7 St Enhanced Bus	Dolphin Station (HEFT/NW 12 St)	Government Center	Premium limited-stop transit service along NW 7 St
Okeechobee Enhanced Bus	SR-821 (HEFT)	MIC at MIA	Implement Enhanced Bus
Okeechobee Metrorail Station Pedestrian Bridge	Miami Springs	Okeechobee Metrorail Station	Construct pedestrian bridge over the canal parallel to Okeechobee Rd to connect Miami Springs area.
Okeechobee Terminal	Turnpike / Okeechobee Rd	Turnpike / Okeechobee Rd	Construct Park-and-Ride with a minimum of 100 parking spaces
Palmetto Express (Central) via Palmetto Intermodal Terminal	Dolphin Station (HEFT/NW 12 St)	Miami Lakes Terminal (NW 154 St / SR 826)	Implement Express Bus service on express Lanes during AM/PM peak hours.
Palmetto Express (Civic Center)	Tamiami Station	Civic Center Metrorail Station	Implement Express Bus Service
Palmetto Express Bus (East)	Palmetto Intermodal Terminal	Golden Glades Interchange	Implement Express Bus service on express Lanes during AM/PM peak hours.
Palmetto Express Bus (new)	Palmetto Intermodal Terminal	104 St Station/Transitway	Implement Express Bus on express Lanes
Palmetto Express Bus (South)	Dadeland North Metrorail Station	Dolphin Station at NW 12 St/HEFT	Implement Express Bus service on express Lanes during AM/PM peak hours.
Palmetto Express Bus (West)	SW 147 Ave/SW 8 St (Tamiami Station)	Palmetto Intermodal Terminal	Implement Express Bus on express Lanes
Palmetto-MIC Express	MIC	Palmetto Intermodal Terminal	Implement Express Bus Service
Ramps between the Busway and Palmetto Expressway	South Dade Busway to Palmetto Expressway	Palmetto Expressway to South Dade Busway	Construct ramps connecting the Busway to the Palmetto Expressway
Senator Villas	Between SW 89 Ave and SW 89 Court at SW 40 St	N/A	Construct privately funded Park-and-Ride lot.
South Dade area bus garage Improvements	South Dade	South Dade	New bus garage in the south Dade area
Sunset Drive (SW 72 St) Enhanced Bus	West Kendall Transit Terminal at Kendall Drive and SW 162 Ave)	South Miami Metrorail Station	Implement limited stop enhanced bus service
SW 127 Ave Express	Tamiami Executive Airport	Dolphin Station at NW 12 St/HEFT	Implement Enhanced Bus
SW 137 Ave Enhanced Bus	Caribbean Blvd/US-1 (South Dixie Highway)	Tamiami Station	Premium limited-stop transit service along SW 137 Ave to link West Kendall neighborhoods. Project to include park-and-ride facilities and the addition of nine (9) articulated buses.
SW 40 St (Bird Rd) Enhanced Bus	SW 8 St/SW 147 Ave	Douglas Metrorail Station	Convert local route 40 to Enhanced Bus
SW 8 St Enhanced Bus	FIU-MMC	Brickell Metrorail Station	Convert local route 8/8A to Enhanced Bus

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
Systemwide Off-Street Bus Stop Enhancements	Systemwide	Systemwide	Enhance all off-street bus stops (i.e., malls, parks, libraries, hospitals, etc.) to include new shelters and passenger amenities.
Water Borne transit Service	Biscayne Bay	Biscayne Bay	Implement two Water Transit Routes - 1. North/South Route - Express route from Halouver Marina (North) to Sea Isle Marina (South) Downtown. 2. East/West Route - Express route from Miami Beach Marina (East) to FEC Inlet/Bay Front Park Trust Dock (West).
West Kendall express	West Kendall Transit Terminal at Kendall Drive and SW 162 Ave)	MIC	Implement Express Bus Service
I-195	I-95	Collins Ave Miami Beach Convention Center	Bus shoulder lanes
Palmetto Metrorail Station	SR 826 express lanes	SR 826 express lanes	Direct access ramps
SR-874 BRT	HEFT	SR 826	Widening full depth and width outside shoulders and bus only lanes at ramps and cross streets
BERT (HEFT)	Miami Gardens Dr Park-and-Ride	Unity Station Turnpike GGMTF	
BERT (HEFT)	Miami Gardens Dr Park-and-Ride	US-1 NE Transit Hub	East extension
Douglas Rd BRT	Coconut Grove Metrorail Station	Miami Intermodal Center (MIC)	Bus rapid transit
Kendall Dr BRT	Krome Ave	US-1 (Dadeland South)	
I-195 Bus on Shoulders	I-95	Alton Rd	New Express Bus Service
MacArthur Causeway TSM&O	US-1	Ocean Dr	Exclusive transit lanes, barrier separated bicycle lanes/shared use path, and widened sidewalks connecting with Government Center
Waterway Transit	Downtown Miami Port Miami south Miami Beach	Downtown Miami Port Miami south Miami Beach	Waterway transit
Northeast Corridor (Biscayne) Enhanced Bus Transitway extension to Dadeland North	Miami Downtown Terminal Dadeland South Metrorail Station	Aventura Terminal Dadeland North Metrorail Station	Incremental improvement on PTP corridor. Will replace route 93. Extend Transitway from Dadeland South to Dadeland North Metrorail Station
US-1 (Transitway)	Dadeland South Metrorail Station	SW 344 St Park-and-Ride	Construct grade separated intersections
US-1 (Transitway)	Dadeland South Metrorail Station	SW 344 St Park-and-Ride	Extend Metrorail
SMART - Kendall Corridor (North)	SW 88 St/SR-821 (HEFT)	SR-821(HEFT)/ SW 8 St	New Metrorail service linking Kendall BRT to the East-West Corridor along HEFT.
SMART - Kendall Corridor (South)	US-1/SW 200 St	SW 88 St/SR-821	New Metrorail service linking Kendall BRT to US-1 and the South Dade Busway.
Palmetto Intermodal Terminal - SMART Terminal	Palmetto Expressway and NW 74 St	Palmetto Expressway and NW 74 St	Construct a terminal with a 1000 space parking garage and 12 bus bays
Zoo Miami Station - SMART Terminal	Zoo Miami Park at SW 152 St	Zoo Miami Park at SW 152 St	Lease 100 parking spaces (\$500/space/yr.)
Kendall/SR 826 Station - SMART Terminal	Kendall Dr and SR 826	Kendall Dr and SR 826	Construct Park-and-Ride facility with 100 surface parking spaces

PROJECT	LIMITS FROM	LIMITS TO	DESCRIPTION
Tropical Station - SMART Terminal	SW 40 St	SR 826	Upgrade Park-and-Ride facility with 100 surface parking spaces and 4 bus bays
Shark North Station at MDC - SMART Terminal	11380 NW 27 Ave (MDC North Campus)	11380 NW 27 Ave (MDC North Campus)	Construct Transit Terminal with six bus bays
Expand overcapacity park-and-ride facility at Dadeland North - SMART Terminal	Dadeland North Metrorail Station and Hwy US-1	Dadeland North Metrorail Station and Hwy US-1	(existing 1,963 spaces) Construct a new parking garage with ground-floor retail and office space.
Expand overcapacity park-and-ride facility at Dadeland South - SMART Terminal	Dadeland South Metrorail Station and Hwy US-1	Dadeland South Metrorail Station and Hwy US-1	(existing 1,254 spaces) Construct a new parking garage with ground-floor retail and office space.
Sunshine State Industrial Park Kiss-and-Ride/Transit Terminal - SMART Terminal	NW 159 Dr (adjacent to GGMTF)	NW 159 Dr (adjacent to GGMTF)	DTPW, in coordination with the city of Miami Gardens and FDOT, is proposing the construction of a kiss-and-ride / transit terminal facility on the west side of the South Florida Rail Corridor (SFRC) just north of the Golden Glades Tri-Rail Station, which would be connected via a fully covered and illuminated pedestrian/bicycle overpass. This facility would be served by Metrobus service as well as City of Miami Gardens trolleys. Right-of-way acquisition is required.
Brickell Metrorail Station Improvements - SMART Terminal	Brickell Metrorail Station	Brickell Metrorail Station	Improve bus capacity and area circulation. Improve connection between Metrorail and Metromover. Construct Bicycle Station or Cage.
Civic Center Transit Terminal - SMART terminal	Civic Center Metrorail Station (NW 15th St and NW 12th Ave)	Civic Center Metrorail Station (NW 15th St and NW 12th Ave)	Construct Transit Terminal to Increase bus terminal capacity and improve bus circulation.
Mt Sinai Transit Terminal - SMART Terminal	I-195/Alton Rd	I-195/Alton Rd	Construct Transit Terminal with six bus bays
NE 151 St and Biscayne Boulevard Park-and-Ride/Transit Terminal	Biscayne Boulevard and NE 151 St	Biscayne Boulevard and NE 151 St	Construct Park-and-Ride/Transit Terminal facility with 100 surface parking spaces and 4 bus bays
Beach LRT Extension			Beach LRT extension to 163rd Ave/US1 and loop back to Miami Beach Convention Center.
SFRTA: TriRail Service Extension from NW 79 St	NW 79 St	Miami Central Station	SFRTA: TriRail Service Extension from NW 79 St to Miami Central Station
Tri-Rail Rolling Stock Capital (for new service) for New Service from NW 79 St	NW 79 St	Miami Central Station	SFRTA: TriRail Service Extension from NW 79 St to Miami Central Station

FIGURE 9 - SCENARIO 4 - BEYOND SMART PLAN TRANSIT SCENARIO MAP



SCENARIO 5 – 2045 ALTERNATE LAND USE SCENARIO

Scenario 5, the Alternate Land Use Scenario, consists of the Scenario 4 projects and uses an alternative year 2045 land use dataset which has the 2045 projected population and employment growth concentrated along the six SMART Plan transit corridors. Alternative socioeconomic data files were developed for the SERPM model to reflect this redistribution of growth. The socioeconomic data files were reformatted, and the Population Synthesizer was run to assign the necessary characteristics to the different patterns of households in the effected geographic locations. The County control totals were maintained as part of this effort. Only the redistribution of the population and employment data within Miami-Dade County was created in the new dataset. **Figure 10** shows the redistribution of the population by traffic analysis zone (TAZ) area, while **Figure 11** shows the redistribution of the employment by TAZ. **Figure 12** shows the redistribution of the population by planning area, while **Figure 13** shows the redistribution of the employment by planning area.

TABLE 5 - YEAR 2045 VERSUS YEAR 2045 ALTERNATE POPULATION AND EMPLOYMENT

			POPULATION				EMPLOYMENT			
PLANNING AREA	PLANNING AREA NAME	TAZ COUNT	SCENARIO 1-4	SCENARIO 5	ABSOLUTE DIFFERENCE	PERCENT DIFFERENCE	SCENARIO 1-4	SCENARIO 5	ABSOLUTE DIFFERENCE	PERCENT DIFFERENCE
1	Beach	110	292,590	286,192	-6,398	-2.19%	166,980	162,542	-4,438	-2.66%
2	Central	185	362,234	368,534	6,300	1.74%	353,604	357,762	4,158	1.18%
3	North	270	627,803	646,950	19,147	3.05%	233,398	262,593	29,195	12.51%
4	Northwest	192	471,455	457,505	-13,950	-2.96%	388,970	340,834	-48,136	-12.38%
5	South*	330	697,746	693,279	-4,461	-0.64%	214,806	224,706	9,900	4.61%
6	West	247	586,642	580,911	-5,731	-0.98%	200,867	213,674	12,807	6.38%
7	CBD	172	437,374	442,473	5,099	1.17%	277,087	273,601	-3,486	-1.26%
	TOTAL	1,506	3,475,844	3,475,844	0	0.00%	1,835,712	1,835,712	0	0.00%

* South Planning Area has 3 TAZs near Everglades and Oceans that are not completely within the planning area

FIGURE 10 - ALTERNATE 2045 VS 2045 POPULATION DIFFERENCE BY TAZ MAP

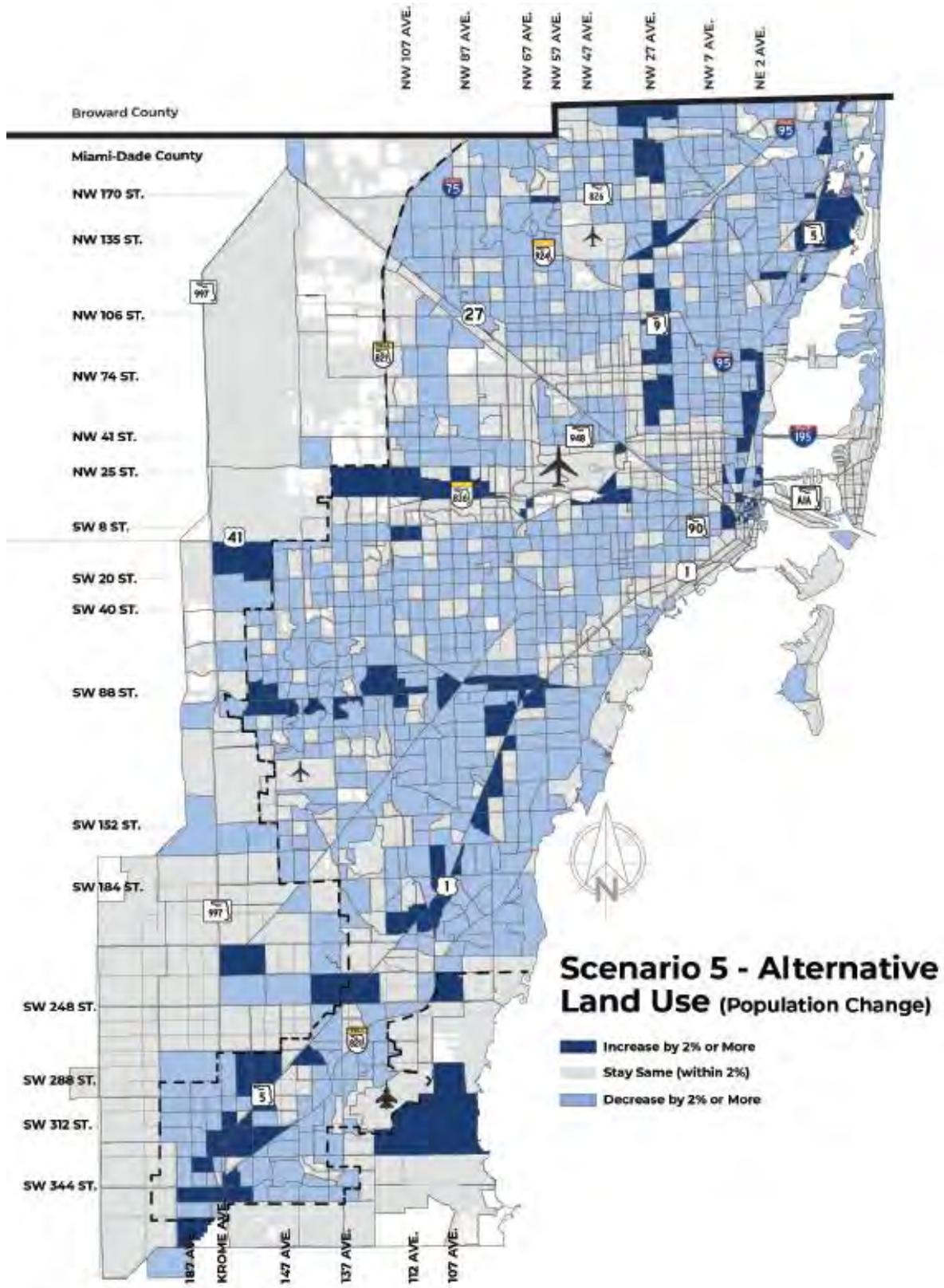


FIGURE 12 - ALTERNATE 2045 VS 2045 POPULATION DIFFERENCES BY PLANNING AREA

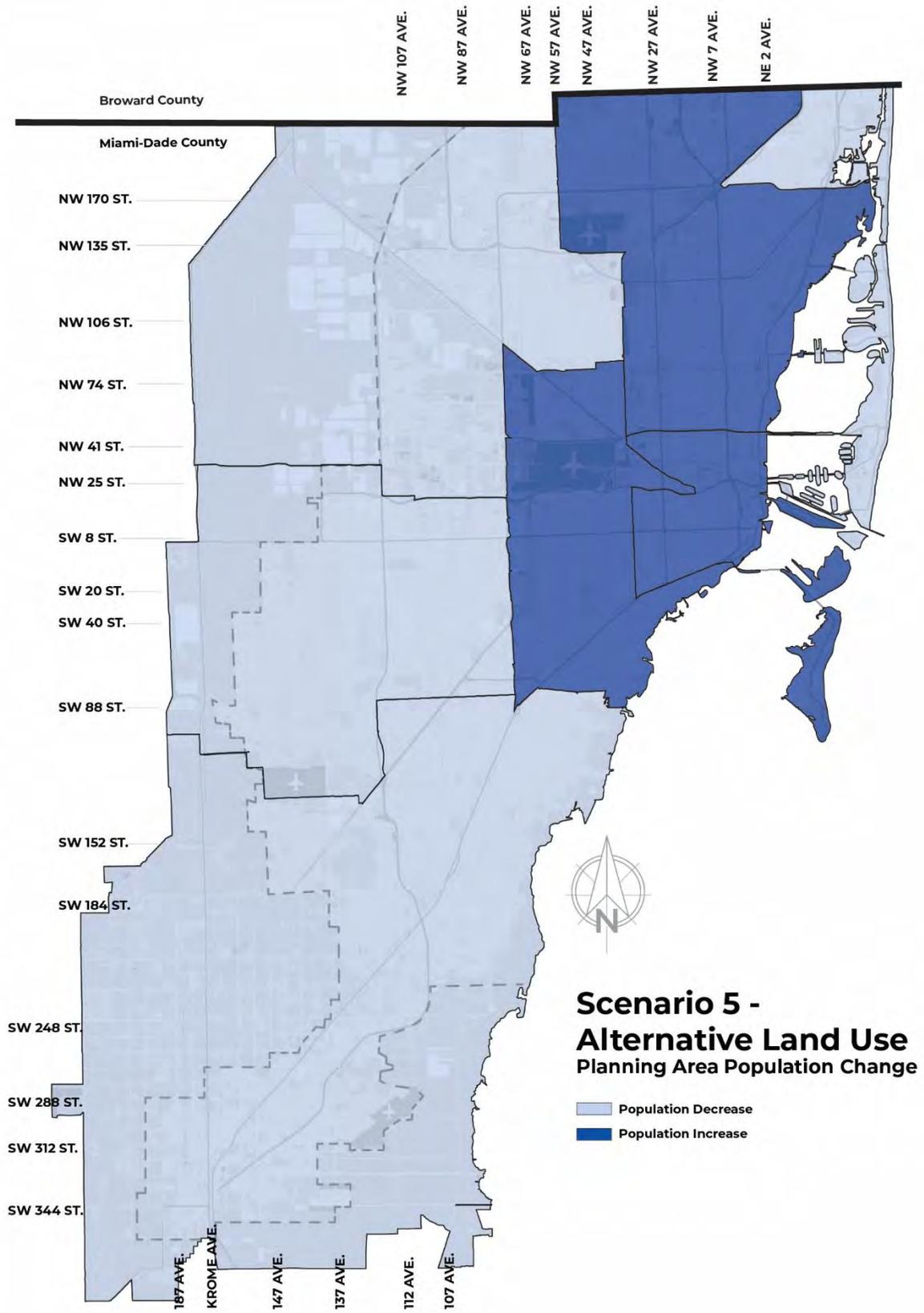
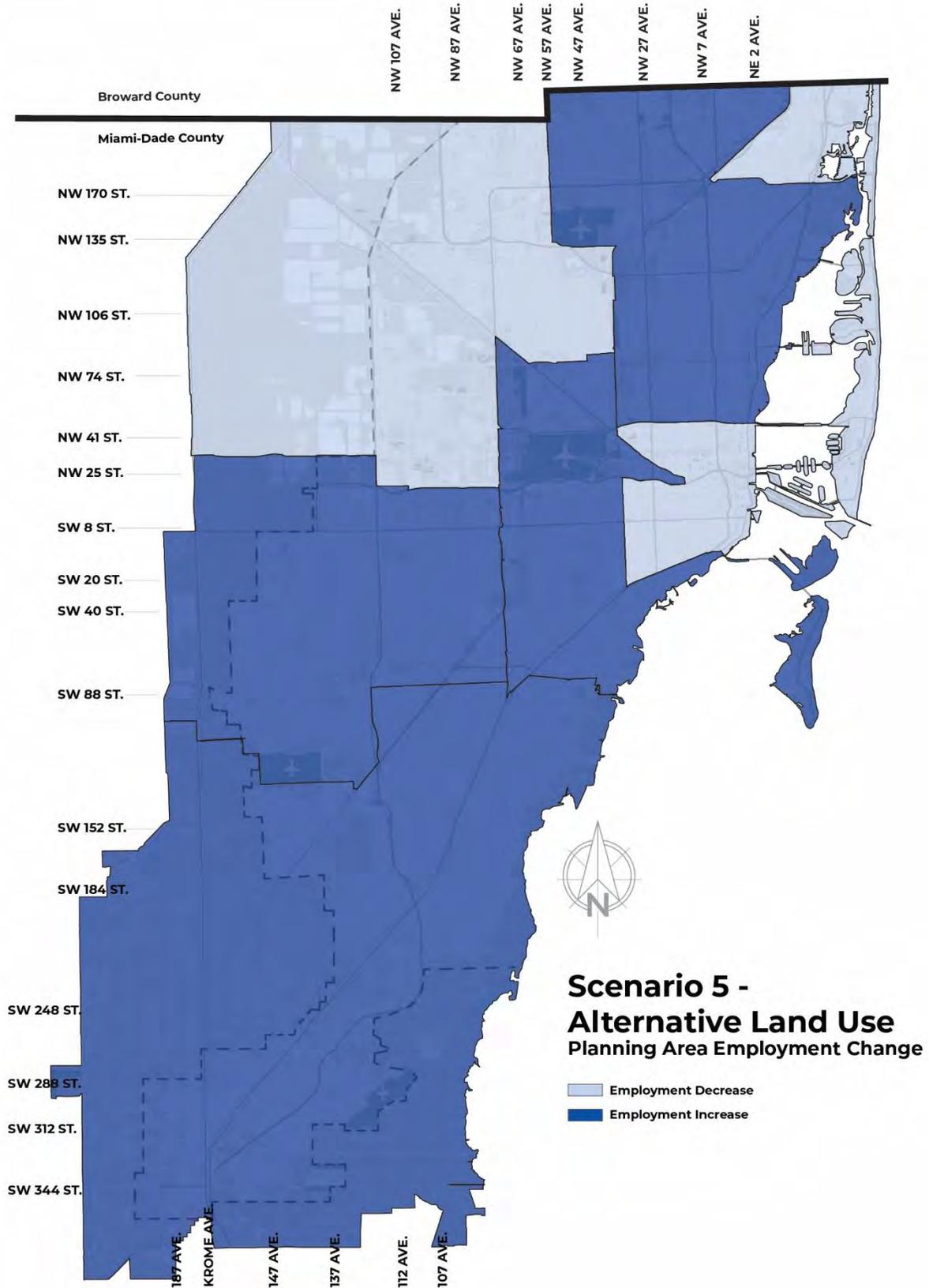


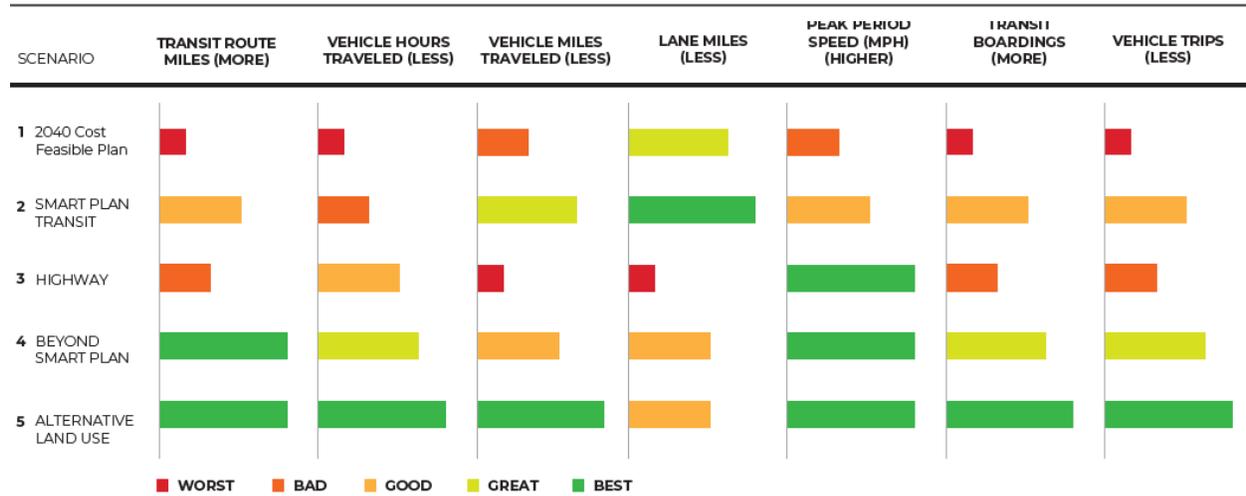
FIGURE 13 - ALTERNATE 2045 VS 2045 EMPLOYMENT DIFFERENCES BY PLANNING AREA



SCENARIO SUMMARY RESULTS

In coordination with the Miami-Dade TPO, seven variables were summarized from the SERPM model runs for each of the scenarios. The variable comparison is shown in **Figure 14** using a range of colors. In **Table 6**, a set of model results known as Measures of Effectiveness (MOEs) is presented for each of the scenario runs.

FIGURE 14 - SCENARIO COMPARISON



TRANSIT ROUTE MILES

The scenarios were ranked based on transit route miles; the more transit route miles the better the performance. Since the 2040 Cost Feasible Scenario has minimal additional route miles, it produces the worst results under this variable (3,415 miles). The SMART Plan Scenario only adds transit projects thus it produces a better measure (4,045 miles). The Highway Scenario performs slightly worse than the SMART Plan Scenario (4,030 miles). This is caused by some changes in the bus rapid transit routes and how they run; exclusive lanes versus mixed traffic. The Beyond SMART Plan Transit Scenario adds the most transit routes miles and scores the highest under this variable (6,210 miles). The Alternate Land Use Scenario scores the same as the Beyond SMART Plan Transit Scenario because there is no change in the number of projects in the Alternate Land Use Scenario; its projects are identical to the Beyond SMART Plan Transit Scenario.

VEHICLE HOURS TRAVELED

The scenarios were ranked based on a decrease in vehicle hours traveled; the less vehicle hours traveled the better the performance. Since the 2040 Cost Feasible Scenario adds a minimal number of projects and is based on the same 2045 socioeconomic data, its network is very congested. This congestion results in longer driving time. Therefore, the 2040 Cost Feasible Scenario produces the worst results under this variable (2,803,525 hrs.). The SMART Plan Scenario only adds transit projects thus it produces a slightly better result because people have the option to use transit. The switching of modes reduces the number of vehicle trips and provides more capacity on the highway network (2,700,915 hrs.). The Highway Scenario performs well

because many highway projects are added providing additional capacity, reducing congestion and decreasing the travel time (2,624,260 hrs.). The Beyond SMART Plan Transit Scenario not only includes the highway projects which are in Scenario 3, but also additional transit projects providing the option to travel using transit (2,573,450 hrs.). The Alternate Land Use Scenario scores the highest under this variable. The Alternate Land Use Scenario includes the highway and transit projects and includes higher land use densities and trip origins and destinations that are along the major transit corridors. The increase in densities along the corridors, increases access for people to use transit to reach their destinations, reducing the vehicle trips on the network and reducing the vehicle hours traveled (2,562,545 hrs.).

VEHICLE MILES TRAVELED

The scenarios were ranked based on a decrease in vehicle miles traveled; less vehicle miles traveled the better the performance. Since the 2040 Cost Feasible Scenario adds a minimal number of projects and does not offer as many alternative modes of transportation, people must drive their vehicles more. Therefore, the 2040 Cost Feasible Scenario produces poor results under this variable (60,089,935 miles). The SMART Plan Scenario adds transit projects which provides more alternative ways of traveling. This scenario produces better results because people have the option to switch to transit. The switching of modes reduces the number of vehicles trips and therefore decreases the vehicle miles traveled (58,803,510 miles). The Highway Scenario performs the worst because it adds many highway projects. These highway projects add additional capacity which reduces congestion. Due to the reduction in congestion, more trips enter the network and tend to travel farther because they can get there in a more reasonable time (60,140,875 miles). The Beyond SMART Plan Transit Scenario includes highway projects which are in Scenario 3 and adds a significant number of transit projects. Therefore, the Beyond SMART Plan Transit Scenario performs better than the Highway Scenario (59,277,675 miles). The Alternate Land Use Scenario reduces the vehicles miles even further. This is the result of the intensified land use densities along the transit corridors allowing people to more readily travel to their destination using a transit mode (58,600,865 miles) having greater access.

LANE MILES

The scenarios were ranked based on a decrease in lane miles; the less lane miles the better the measure. The 2040 Cost Feasible Scenario adds a minimal number of projects and performs relatively well under this variable (6,540 miles). The SMART Plan Scenario does not add any roadway projects, so it performs the best under this variable (6,500 miles). The Highway Scenario performs the worst because it adds many highway projects (6,985 miles). The Beyond SMART Plan Transit Scenario includes the highway projects. However, there is slight reduction in lane miles related to changes in the bus rapid transit routes and how they run; exclusive lanes versus mixed traffic (6,900 miles). The Land Use scenario has the same number of projects as the Beyond SMART Scenario and has the same number of lane miles.

PEAK PERIOD SPEEDS

The scenarios were ranked based on an increase in the peak period average speed; the higher the peak speed the better the performance. Since the 2040 Cost Feasible Scenario does not add a significant number of projects, it performed the worst under this variable (21 mph). The SMART Plan Scenario did increase the speed slightly but neither of the scenarios experienced a significant increase in speed (22 mph). The difference in speed between the SMART Plan Scenario and the other scenarios was only 1 mph. The other scenarios (Highway, Beyond Smart Plan Transit, and Alternate Land Use) had a peak period speed of 23 mph.

TRANSIT BOARDINGS

The scenarios were ranked based on an increase in transit boardings; the more transit boardings the better the performance. Since the 2040 Cost Feasible Scenario adds minimal transit service, it produces the worst results under this variable (545,830 transit boardings). The SMART Plan Scenario only adds transit projects thus it produces a better result (817,690 transit boardings). The Highway Scenario performs worse than the SMART Plan Scenario which is caused by some changes in the operation of the bus rapid transit routes; exclusive lanes versus mixed traffic. Additionally, the additional highway capacity created by the additional highway projects, results in higher use of highways which in turn lowers transit boardings (783,790 transit boardings). The Beyond SMART Plan Transit Scenario adds the most transit service and scores very well under this variable (965,670 transit boardings). The Alternate Land Use Scenario scores the best due to the additional transit service and land use densities that promote transit usage (1,005,770 transit boardings).

VEHICLE TRIPS

The scenarios were ranked based on a decrease in vehicle trips; the fewer vehicle trips the better the performance. The 2040 Cost Feasible Scenario adds a minimal number of projects therefore, its network is very congested, and has minimal transit changes. These issues result into more vehicle trips. Therefore, the 2040 Cost Feasible Scenario produces the worst results under this variable (9,332,790 vehicle trips). The SMART Plan Scenario only adds transit projects thus it produces a slightly better result because people have more of an option to switch to transit. The switching of modes, while providing more unused capacity on the highway network, decreases the vehicle trips (9,150,545 vehicle trips). The Highway Scenario performs better than the 2040 Cost Feasible Scenario even though many highway projects are added providing additional capacity, in turn reducing congestion and increasing vehicle trips (9,214,730 vehicle trips), but also because it has all of the additional transit from Scenario 2. The Beyond SMART Plan Transit Scenario not only includes the highway projects which are in Scenario 3, but many other transit projects were added. The additional transit projects result in less congestion and further decreases the vehicle trips (9,085,475 vehicle trips). The Alternate Land Use Scenario, however, scores the highest under this variable. Since this scenario includes all of the highway and transit projects, it also includes higher land use densities which produce more trip origins and destinations with higher accessibility to transit along the major SMART transit corridors. This allows more transit riders to reach their destinations by transit, reducing the vehicle trips that need to use the highway network (9,026,205 vehicle trips).

TABLE 6 - SCENARIO RESULTS

SCENARIO	TRANSIT ROUTE MILES	VEHICLE HOURS TRAVELED	VEHICLE MILES TRAVELED	LANE MILES	PEAK PERIOD SPEED (MPH) (CONGESTED)	PERCENT LANE MILES WITH V/C > 1.0 (AM PEAK)	WORK TRIP LENGTH (MILES) (FROM COUNTY)	TRANSIT BOARDINGS	TOTAL NUMBER VEHICLE TRIPS
Existing + Committed Network	3,429.3	3,229,753	59,910,810	6,336.5	18.5	12.3%	14.5	528,116	9,327,652
2040 Cost Feasible Plan	3,416.4	2,803,522	60,089,935	6,542.1	21.4	11.0%	14.6	545,829	9,332,792
SMART Plan	4,043.4	2,700,914	58,803,508	6,500.9	21.8	10.7%	14.7	817,691	9,140,544
Highway	4,028.9	2,624,261	60,140,875	6,983.9	22.9	8.1%	14.8	783,792	9,214,728
Beyond SMART Plan Transit	6,207.3	2,573,450	59,277,677	6,900.7	23.0	7.8%	14.8	965,672	9,085,476
Alternative Land Use	6,207.3	2,562,543	58,600,863	6,900.7	22.9	7.7%	14.7	1,005,772	9,026,204

INCREMENTAL SCENARIO CHANGES

The incremental changes between the different scenarios shows the impact that the individual scenarios have on the transportation system. **Figure 15** shows the incremental differences between the scenarios for the lane miles and transit route mile variables, and their impacts to the other variables measured. Referring to the figure, the information below the zero line represent reductions, while the information on top of the zero line represents increases between the scenarios.

FIGURE 15 - SCENARIO RESULTS – INCREMENTAL DIFFERENCES BETWEEN SCENARIOS



The figure, under “Changes in Network Miles” chart, depicts a slight reduction in lane miles going from the 2040 Cost Feasible Scenario to the SMART Plan Scenario, while a significant number of transit route miles are added (627 miles). The incremental change between the SMART Plan Scenario and the Highway Scenario, indicates that 483 lane miles are added and that there is a reduction of 15 transit route miles. When comparing the changes between the Highway Scenario and the Beyond SMART Plan Transit Scenario, a reduction of 83 lane miles and an increase of 2,178 transit route miles takes place. The addition of the SMART Plan projects has the greatest impact on the number of vehicle trips and the transit boarding variables. The addition of the 627 route miles in the SMART Plan Scenario results in a reduction of 193,000 vehicle trips and an increase in 272,000 transit boardings, in the figure under “Changes in Boardings and Vehicle Trips” chart. The Highway Scenario addition of 483 lane miles over the SMART Plan Scenario results in an increase of 74,000 vehicle trips and a reduction of 34,000 transit boardings. The addition of the Beyond SMART Plan Transit projects to the Highway Scenario, adds 2,178 route miles resulting in a reduction of 130,000 vehicle trips and an increase in 182,000 transit boardings.

SYSTEMS PERFORMANCE – NATIONAL PERFORMANCE MANAGEMENT MEASURES

The Scenarios were also evaluated based on how each scenario contributes in meeting the targets of the National Performance Management Measures on the systemwide level, as required by 23 US Code 134 Metropolitan Transportation Planning. The National Performance Management Measures are:

SAFETY

- » Number of Fatalities
- » Fatality Rate per 100 million Vehicle Miles Traveled (VMT)
- » Number of Serious Injuries
- » Serious Injury Rate per 100 million VMT
- » Number of Combined Non-Motorized Fatalities and Serious Injuries

PAVEMENT AND BRIDGE

- » Interstate System Pavement in Good Condition
- » Interstate System Pavement in Poor Condition
- » Non-Interstate National Highway System (NHS) Pavement in Good Condition
- » Non-Interstate NHS Pavement in Poor Condition
- » NHS Bridge Deck Area in Good Condition
- » NHS Bridge Deck Area in Poor Condition

SYSTEM/FREIGHT

- » Percent of person miles traveled on the Interstate that are reliable
- » Percent of person miles traveled on the non-Interstate NHS that are reliable
- » Truck travel time reliability ratio (TTR) on the Interstate

The FDOT and the Miami-Dade TPO have established targets for each of the above National Performance Management Measures. Please see <http://miamidadetpo.org/library/reports/tpo-system-performance-report-2019-06.pdf> for more information.

Table 7 shows the results of the evaluation of the analysis of the performance management measures by scenario. A color scale is used to show the incremental anticipated improvements of the National Performance Management Measures by scenario based on:

- » Transit projects provide additional mobility options, increases safety, and improves system reliability by eliminating vehicles on roadways,
- » Roadway projects provide additional capacity, improve system reliability,
- » Resurfacing, restoration, and rehabilitation projects improve pavement and bridge conditions, and
- » Operational and intersection projects improve safety

TABLE 7 - SCENARIO RESULTS – PERFORMANCE MEASURES

SCENARIO/PLAN	SAFETY	PAVEMENT/BRIDGE	SYSTEMS/FREIGHT
Existing + Committed Network	Baseline	Baseline	Baseline
2040 Cost Feasible Plan			
SMART Plan			
Highway			
Beyond SMART Plan Transit			
Alternative Land Use			
Cost Feasible Plan			

-  Scenario provides some improvement over the baseline
-  Scenario provides more improvement over the baseline
-  Scenario provides the most improvement over the baseline

SYSTEM PERFORMANCE – COST FEASIBLE PLAN MODEL RESULTS

The Cost Feasible network includes all the projects for which funding has been identified in the year 2045.

The Cost Feasible network was developed as part of the regional network analysis. It was reviewed for completeness and refinements were made to the highway and transit networks as needed to accurately reflect the projects within Miami-Dade County. **Figure 16** shows the final number of lanes map depicting all highway projects add for the 2045 Cost Feasible Plan.

A final model run for the 2045 Cost Feasible Plan was performed. **Table 8** shows a comparison of the final model results for the 2045 Cost Feasible Plan vs a few of the original model runs including the Base Year 2015, Existing plus Committed network, and the 2040 Cost Feasible Plan updated for this LRTP. **Figure 17** shows the model Daily Volume Map for the Cost Feasible Plan, and **Figure 18** shows the LOS C Daily Capacity map of the projects that are coded in the Cost Feasible network. **Figure 19** shows the Peak Period Volume to Capacity Ratio map for the Cost Feasible Plan network run where the volume is typically the highest of the day.

TABLE 8 - 2045 COST FEASIBLE PLAN CHARACTERISTICS COMPARISON

SCENARIO	TRANSIT ROUTE MILES	VEHICLE HOURS TRAVELED	VEHICLE MILES TRAVELED	LANE MILES	PEAK PERIOD SPEED (MPH) (CONGESTED)	PERCENT LANE MILES WITH V/C > 1.0 (AM PEAK)	WORK TRIP LENGTH (MILES) (FROM COUNTY)	TRANSIT BOARDINGS	TOTAL NUMBER VEHICLE TRIPS
BASE Year 2015	3,313.3	1,471,473	44,174,369	5,934.2	30.0	3.7%	12.1	332,465	7,216,256
Existing + Committed	3,429.3	3,229,753	59,910,810	6,336.5	18.5	12.3%	14.5	528,116	9,327,652
2040 Cost Feasible Plan	3,456.6	2,844,916	60,202,185	6,482.5	21.2	12.1%	14.6	566,357	9,326,044
2045 Cost Feasible Plan	3,835.9	2,140,070	61,348,235	6,928.8	28.7	6.5%	14.8	586,512	9,394,728

FIGURE 16 – 2045 COST FEASIBLE PLAN NUMBER OF LANES MAP

Directional Number of Lanes 2045 Cost Feasible Plan Network

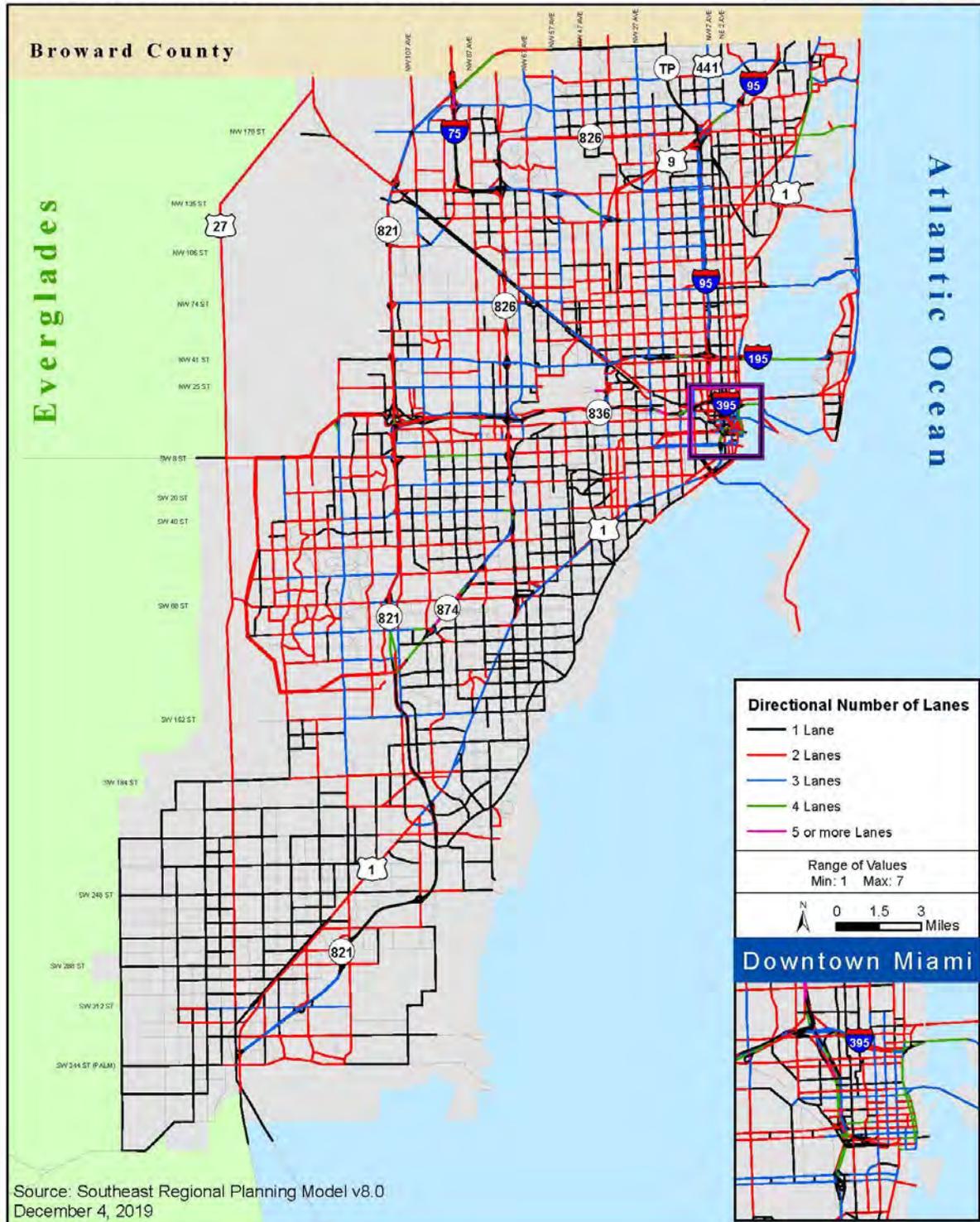


FIGURE 17 - 2045 COST FEASIBLE PLAN DAILY VOLUME MAP

Directional Daily Volume 2045 Cost Feasible Plan Network

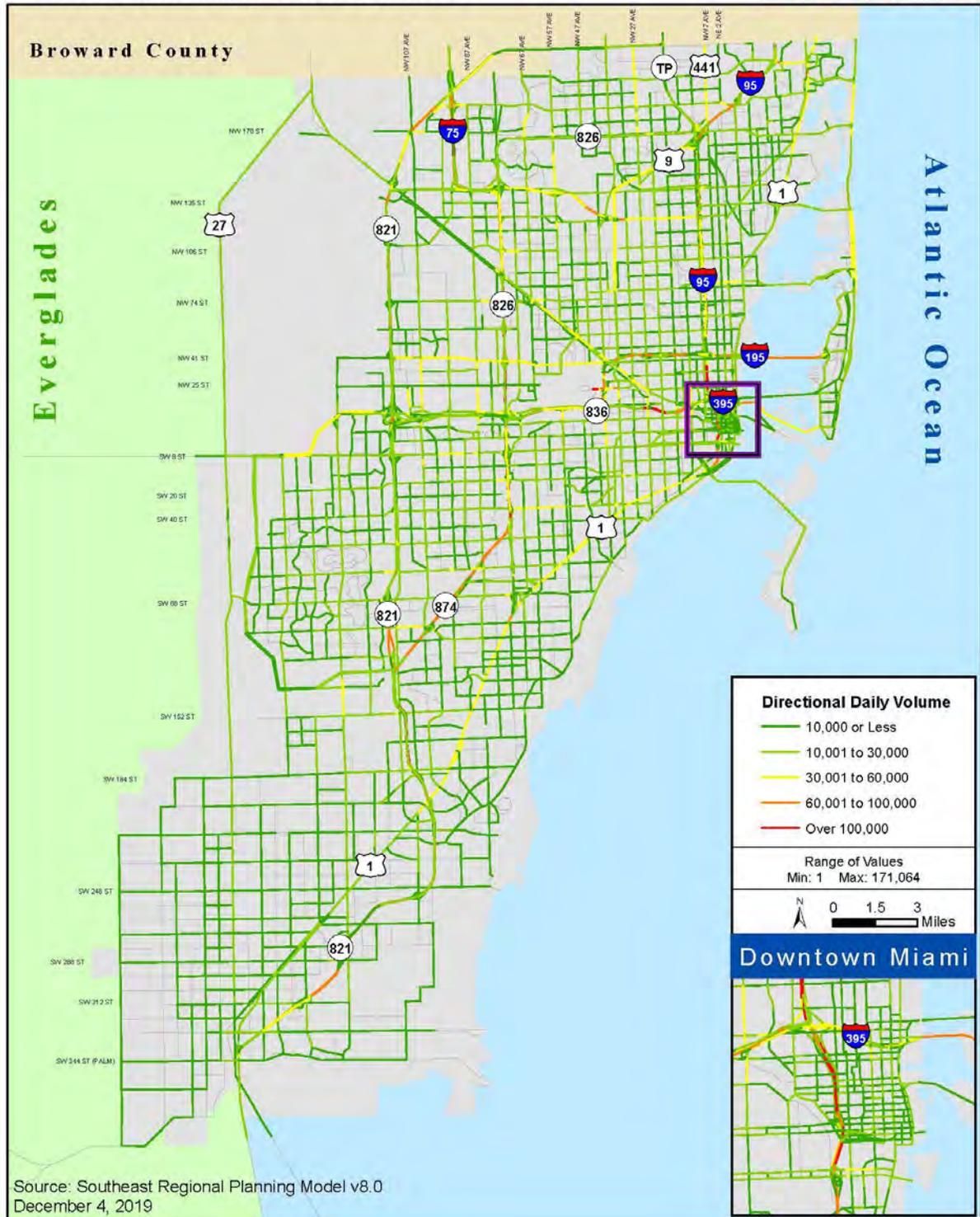


FIGURE 18 - 2045 COST FEASIBLE PLAN DAILY CAPACITY MAP

Directional Daily Capacity 2045 Cost Feasible Plan Network

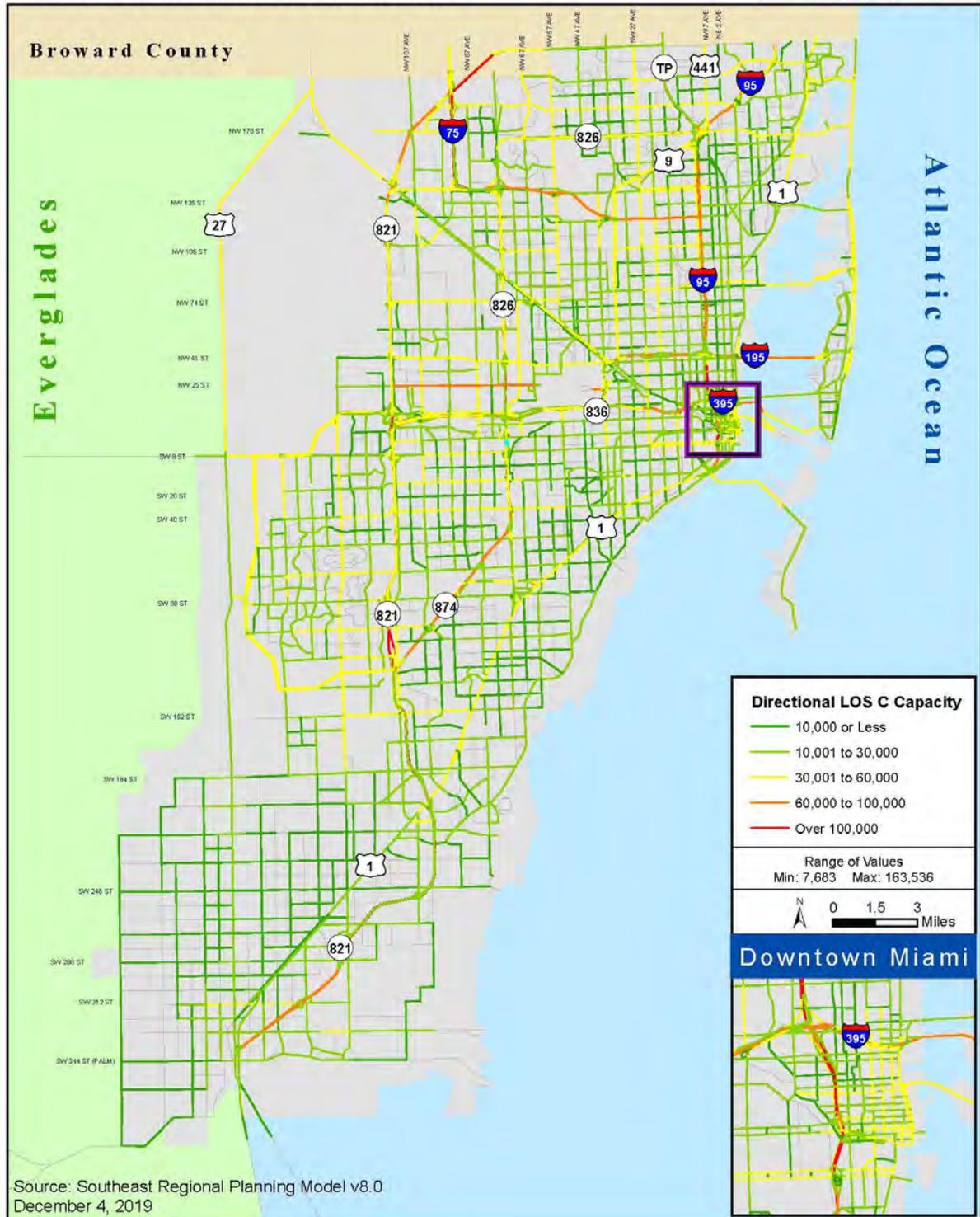
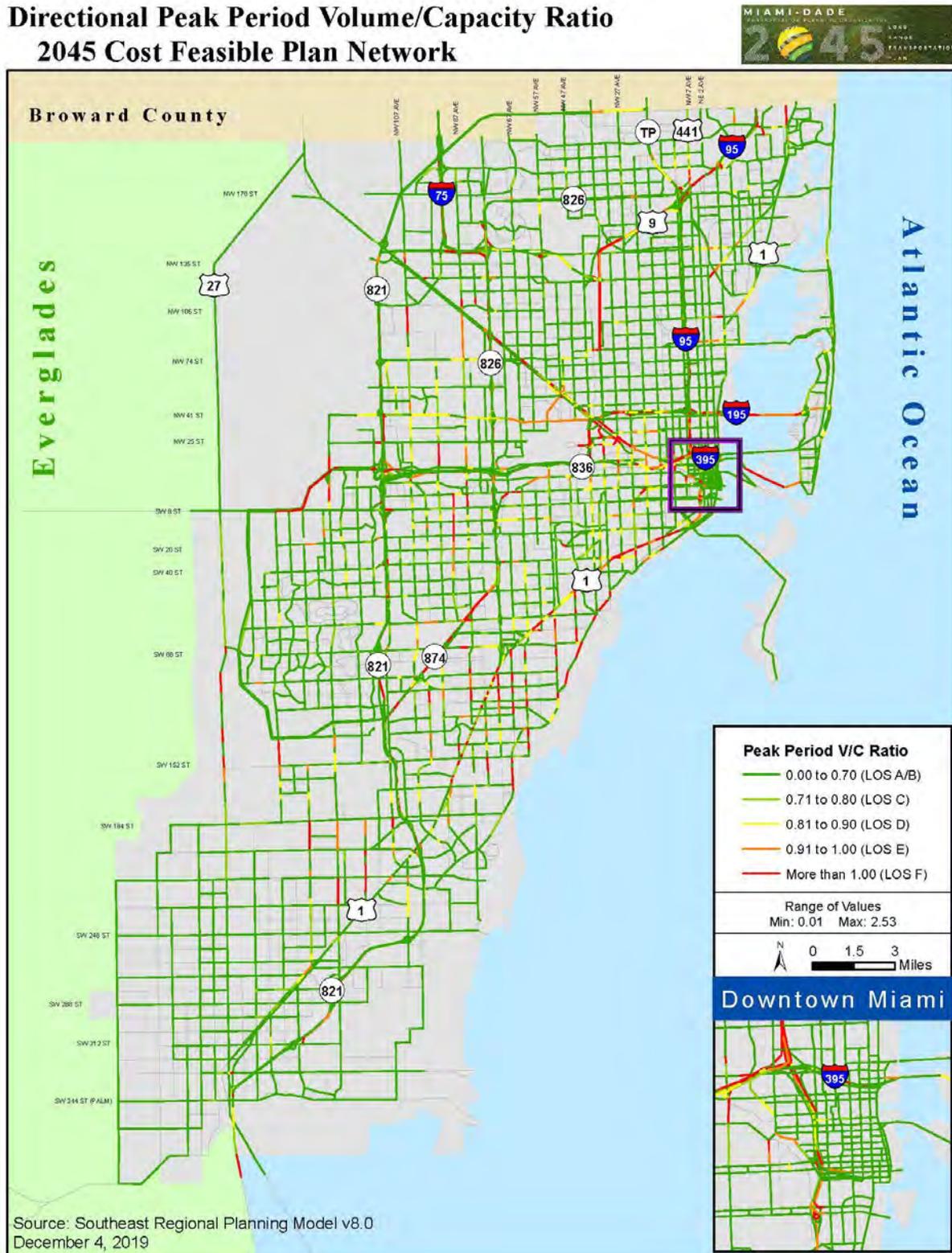


FIGURE 19 - 2045 COST FEASIBLE PLAN PEAK PERIOD VOLUME OVER CAPACITY MAP





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