FDOT

FLORIDA DEPARTMENT OF TRANSPORTATION

Final Draft

Homestead

FREIGHT IMPROVEMENT PLAN

Final Report

May 2023

FM 437999-1-22-01

City of Homestead Subarea Freight Improvement Plan

Final Report

Prepared for:

Florida Department of Transportation - District Six
Modal Development Office

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May 2023

City of Homestead Subarea Freight Improvement Plan
Existing Conditions Report

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Executive Summary

Overview

The Homestead Freight Improvement Plan is one of several subarea freight studies that have been conducted by the Florida Department of Transportation - District 6. The aim of this plan is to enhance freight mobility in key districts of Miami-Dade County where the most significant concentration of freight and logistics operations in the State of Florida are clustered.

This study focuses on the subarea of southern Miami-Dade County, with a primary study area lying south of SW 268th Street and encompassing the Cities of Homestead and Florida City, surrounded by a secondary study area lying south of SW 184th Street.

The study area street network is beginning to experience the traffic growth and congestion associated with central and northern areas of the county and has emerging operational issues associated with truck movements and delivery staging. The purpose of the study is to address infrastructure and operational needs of the south county region of Miami-Dade County and to identify improvements and actions to increase freight access and mobility, enhance safety, preserve the existing transportation system, and improve freight flow in the region. The study researches, formulates and recommends a set of viable options to improve intermodal freight movement within the study area.

The study examines the existing and planned transportation infrastructure with an emphasis on how effectively the study area road network accommodates the existing and forecasted vehicular and truck traffic volumes. The transportation network was tested by applying various travel demand of growth scenarios developed using the regional travel demand model.

Project Recommendations

The study formulates a set of proposed improvement actions centered around roadway improvements and supported by other recommendations. Recommendations were formulated through the review of other prior and relevant studies, roadway network analysis, field reviews, and ongoing outreach to key stakeholders in the study area. This integrated approach was crucial in formulating the recommendations.

Proposed projects and actions were evaluated using a scoring matrix with weighted performance measures. Based on this analysis, relative cost, and ease of implementation, the plan recommendations were prioritized into three implementation time frames (short-, mid-, and long-term). Short-term projects are anticipated within the next five years, mid-term projects between five and ten years and long-term projects beyond ten years. The list of recommended projects and actions by implementation time frame follows.

Immediate Action/Short Term (0-5 Years)

Location	Location	Traffic Signal Improvements	Capacity Improvements	Overall Rank	Conceptual Cost
22	US 1/ S Homestead Blvd. & Lucy Street	Implement protected left-turn phasing on all approaches.	Add 300' right-turn lanes and 2nd left-turn lane on all approaches, add 3rd NB thru lane Extend NB left-turn lane to 200'.	1	$ 9,792,698.62
21	SW 177th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing on all approaches.	Add 150' right-turn lanes on SB, EB and WB approaches. Add 2nd through lane on all approaches. Extend NB left-turn lane to 150', SB left-turn lane to 200', and WB left-turn lane to 150'.	2	$ 5,243,765.64
5	SW 137th Avenue & SW 288th Street		Add 2nd left-turn lane on all approaches, extend SB left to 250' and EB left to 300'. Add 350' WB, 450' NB, 200' SB right-turn lanes.	3	$ 8,818,366.27
30	US 1 & NE 7th Street (FL Turnpike SB Offramp		Add 3rd NB and SB thru lanes.	4	$ 4,434,171.16
29	US 1 & SW 177th Avenue	Install traffic signal. Implement protected left-turn phasing for north-south approaches.	Convert intersection to "Green T". Add 3rd SB through lane. Extend NB left-turn lane to 450'.	5	$ 4,781,078.60
28	US 1/ S Dixie Hwy & Palm Drive		Add 500' NB right-turn lane. Add 300' WB right-turn lane and convert current right turn trap lane to through lane.	6	$ 4,967,529.34
7	Florida Turnpike SB Ramps & SW 288th Street		Widen to three 500' SB right-turn lanes. (This will require an additional WB through lane to receive the three SB right-turn lanes.)	7	$ 4,735,870.35
			PHASE 1 Total Cost		**$ 42,773,479.98**

Segment Location	Street	Segment Start	Segment End	Length (Miles)	Improvement	Overall Rank	Conceptual Cost
10	US 1	SW 344th St. Palm Dr.	SW 360th St.	1.0	3 to 4 lanes (NB) and 2 to 3 lanes (SB)	1	$ 1,812,476.53
11	SW 177th Ave. Krome Ave.	SW 312th St.	SW 328th St.	1.0	2 lanes to 4 lanes	2	$ 6,120,743.37
12	SW 320th St. Mowry Dr.	SW 177th Ave.	N. Flagler Ave.	0.1	2 lanes to 4 lanes	3	$ 2,159,860.33
5	SW 167th Ave. NE 12th Ave.	SW 304th St.	SW 312th St.	0.5	2 lanes to 4 lanes	4	$ 2,582,366.19
				PHASE 1 Total Cost			**$ 12,675,446.42**

Intermediate Term (5-10 Years)

Location	Location	Traffic Signal Improvements	Capacity Improvements	Overall Rank	Conceptual Cost
24	SW 152nd Avenue/ Kingman Road & SW 328th Street	Implement protected left-turn phasing on all approaches.	Add 2nd left turn lane on all approaches (150' NB, 300' SB, 230' EB and 350' WB), right-turn lanes on NB (300'), SB (200') and WB (200') approaches, and 2nd NB and SB thru lanes.	8	$ 5,568,580.48
4	SW 137th Avenue & Homestead Extension of Florida's Turnpike NB Ramp	Install traffic signal.	Add 2nd 250' NB left-turn lane.	9	$ 2,050,286.01
25	SW 192nd Avenue & SW 344th Street	Install traffic signal. Permitted left-turn phasing on all approaches.	Add 150' EB left-turn lane, 300' WB left-turn lane, 150' NB right-turn lane.	9	$ 2,831,751.31
14	US 1/ N Homestead Blvd & Campbell Drive		Add 300' NB and 100' WB right-turn lanes. Extend SB left-turn lane to 350'.	11	$ 6,436,997.33
2	SW 127th Avenue & SW 280th Street	Install traffic signal.	Add 200' EB/WB left-turn lanes, 200' WB right-turn lane.	12	$ 2,358,466.79
17	SW 137th Avenue & SW 312th Street		Add 200' SB and 150' WB right-turn lanes.	13	$ 4,434,171.16
26	SW 177th Avenue & SW 344th Street	Implement protected/permitted left-turn phasing on north/south approaches and protected left-turn phasing on east/west approaches.	Add 350' 2nd EB left-turn lane. Add EB and WB thru lanes. Add 200' NB right-turn lane.	13	$ 6,463,448.77
			PHASE 2 Total Cost		**$ 30,143,701.85**

Segment Location	Street	Segment Start	Segment End	Length (Miles)	Improvement	Overall Rank	Conceptual Cost
4	SW 157th Ave.	SW 264th St.	SW 280th St.	1.0	2 lanes to 4 lanes	5	$ 3,136,695.84
2	SW 137th Ave.	SW 288th ST.	SW 312th St.	1.5	4 lanes to 6 lanes	6	$ 5,387,001.80
6	SW 162nd Ave. NE 18th Ave.	SW 296th St.	SW 312th St.	1.0	2 lanes to 4 lanes	7	$ 3,857,664.35
9	SW 344th St. Palm Dr.	SW 182nd St.	SW 192nd St.	1.0	2 lanes to 4 lanes	7	$ 4,541,074.01
				PHASE 2 Total Cost			**$ 16,922,436.00**

Long Term (10-20 Years)

Location	Location	Traffic Signal Improvements	Capacity Improvements	Overall Rank	Conceptual Cost
5	SW 137th Avenue & SW 288th Street		Add 3rd NB/SB thru lanes. Add 200' EB right-turn lane	15	$ 6,805,618.45
9	US 1 (S Dixie Hwy) & SW 296th street		Add 2nd left-turn and thru lanes EB and WB (as a part of this convert WB auxiliary lane west of intersection to thru lane). Extend EB left-turn lane to 250', WB left-turn lane to 200' and NB left-turn lane to 350'. Add 250' EB right-turn lane.	16	$ 7,366,409.79
1	SW 127th Avenue & SW 268th Street	Add E/W Prot LT phasing, NBR overlap	Add 2nd 250' WB left-turn lane	17	$ 2,148,036.87
15	Florida Turnpike NB Ramps & SW 312th Street		Extend NB left-turn lane to 400'	17	$ 216,066.56
12	SW 177th Avenue & SW 312th Street		Extend SB left-turn lane to 350'.	19	$ 456,000.19
8	US 1 (S Dixie Hwy) & SW 280th street		Extend WB left-turn lane to 350'.	20	$ 859,586.37
19	US 1/ S Homestead Blvd./ Dixie Hwy & E. Mowry Drive		Add 100' EB left-turn lane, 300' NB right-turn lane and 200' WB left-turn lane. Extend EB right-turn lane to 150'.	21	$ 5,830,377.18
23	SW 162nd Avenue/ NE 18th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing for north/south approaches, protected left-turn phasing for east/west approaches.	Add 200' EB right-turn lane, 250' NB left-turn lane, 200' SB left-turn lane, 2nd EB left-turn lane. Change southbound approach to 1 left, 1 thru and 1 right turn lane with 200' SB left-turn lane.	22	$ 6,488,799.75
18	SW 177th Avenue & SW 320th Street		Extend NB and EB left-turn lanes to 250'.	23	$ 3,663,164.62
			PHASE 3 Total Cost		**$ 33,834,059.78**

Segment Location	Street	Segment Start	Segment End	Length (Miles)	Improvement	Overall Rank	Conceptual Cost
7	SW 192nd Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes	9	$ 2,732,741.86
1	SW 147th Ave.	SW 184th St.	SW 232nd St.	3.0	2 lanes to 4 lanes	10	$ 10,728,299.79
8	SW 187th Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes	11	$ 3,529,900.74
3	SW 147th Ave.	US 1	SW 248th St.	1.2	2 lanes to 4 lanes	12	$ 4,157,874.50
				PHASE 3 Total Cost			**$ 21,148,816.89**

These proposed project costs are summarized as follows:

- Immediate Action/Short Term (0-5 Years)
  - Intersections $42.77 million
  - Segments $12.68 million
  - Subtotal $55.45 million
- Intermediate Term (5-10 Years)
  - Intersections $30.14 million
  - Segments $16.92 million
  - Subtotal $47.06 million
- Long Term (10-20 Years)
  - Intersections $33.83 million
  - Segments $21.15 million
  - Subtotal $54.98 million
- TOTAL of All Phases
  - Intersections $106.74 million
  - Segments $ 50.65 million
  - Subtotal $157.59 million

Other Recommendations

An important part of the study findings is the identification of other actions, specifically ongoing and follow-up activities relating to the advancement of freight mobility across the study, in both the urban and agricultural areas. The ownership of conducting these actions is across the hierarchy of agencies and entities with responsibility for transportation facilities and/or a governance role. These actions include:

- Monitor the ongoing Florida's Turnpike TSM&O Alternatives Study to track development of alternatives and to provide input.
- Coordinate findings of this study with the Miami-Dade County Transportation Plan through the Department of Transportation and Public Works, sharing the results of this study and advocating for inclusion of identified projects in the County transportation plan and roadway work program.
- Coordinate with the Miami-Dade TPO on the development of the 2050 LRTP regarding south County congestion needs and solutions.
- Coordinate with the Miami-Dade County Agricultural Manager and the Real Estate Office to pursue truck parking options in the Redlands and at Homestead Air Reserve Base.
  - Consider pursuing a version of the County ordinance with suitable restrictions allowing "unimproved" commercial truck parking outside the UDB.
  - Pursue the identified truck parking sites on Krome Ave.
  - Pursue truck parking sites in the recently approved commercial truck parking area adjacent to Turnpike at SW 248th St.
  - Investigate further truck parking options at Homestead Miami Speedway.
  - Investigate with U.S. Department of Defense sites at Homestead Air Reserve Base, including the former munitions storage area on the west side of the base, and other undeveloped sites at the former air base under Miami-Dade County control (Real Estate Office).
- Monitor the status of the CSX RR Homestead Subdivision ROW as a long-term transportation corridor ~~of~~ some kind. While a return to robust rail service is unlikely, some other function could enhance general mobility.
- Explore expanding the role of the Homestead/Florida City area as a Florida Keys freight gateway and staging area.
- Monitor the ongoing Miami-Dade County traffic signal improvement program (Advanced Traffic Management System (ATMS) Project Fact Sheet (miamidade.gov)), scheduled to be complete in 2028. The County is

installing a new state-of-the-art Advanced Traffic Management System (ATMS), including upgrade of the traffic control software, replacement of approximately 3,000 controllers, and installation of additional detection systems at signalized intersections.

- Coordinate with Miami-Dade County on implementation of its Vision Zero Framework Plan (https://www.miamidade.gov/transit/library/vision-zero-framework-plan.pdf) regarding implementation of Commission Districts 8 and 9 priority safety improvement projects.

Conclusions

The Homestead and Florida City study area possesses a diverse and extensive freight and logistics presence. It supports the agricultural industry, manufacturing and industrial sites, construction firms and material suppliers, institutional and governmental facilities, and, of course, the consumer-based goods and foodstuff distribution chain. This freight and logistics presence is not as visible and dominant as it is in the freight-centric districts of the northern half of the county, but it is just as vital to the local economy on a proportional basis. There is not a large freight district present today, but legacy concentrations of industrial land lie along the south ends of the CSX Railroad and former FEC Railroad (now the South Busway) corridors. A new area is emerging in the southeastern sector of the study area near the Homestead Air Reserve Base and the Homestead Miami Speedway where there are larger tracts of land inside the UDB with separation from residential areas. The newly approved UDB expansion for an industrial park adjacent to the Turnpike at the SW 112th Ave. interchange is another sign of industry recognition of this market and the opportunities it offers.

Freight logistics interests are clearly responding to the growing marketplace as they plan for efficiency in distribution of goods, materials, and food stuffs. Serving as a closer base for supplying the Florida Keys market also plays into this strategy. As the southern portion of the county grows with a forecasted increase in population and employment across the Primary and Secondary Study areas exceeding 70% by 2045, traffic congestion affecting both general and freight traffic increases dramatically. The implementation of the intersection and road segment improvements identified by the network analysis, if all constructed, should counteract future congestion, and keep the same levels experienced today. Pursuit of the other study recommendations will further complement the advancement of freight mobility and general community mobility into the future as the study area grows and matures.

Section 1.0 Introduction

1.0 Introduction

The Homestead Freight Improvement Plan is one of several subarea freight studies being conducted by the Florida Department of Transportation (FDOT) District 6. The aim of this plan is to enhance freight mobility in key districts of Miami-Dade County where freight and logistics operations are clustered.

1.1 Study Background

The study area street network within southern Miami-Dade County is experiencing traffic growth and congestion and has other operational issues associated with truck movements and delivery staging. The purpose of the study is to address infrastructure and operational needs of the freight and logistic community and surrounding industrial areas, and to identify improvements and actions that will increase freight mobility access, enhance safety, preserve the existing transportation system, and improve freight flow in the region. The study researches, formulates and recommends a set of viable options to improve intermodal freight movement within the study area.

The study examines the existing and planned transportation infrastructure in southern Miami-Dade County with an emphasis on how effectively the study area road network accommodates the existing and forecasted vehicular and truck traffic volumes today and into the future (2045). The transportation network was tested by applying various travel demand of growth scenarios developed using the regional travel demand model. Transportation network improvements are proposed to address anticipated traffic service deficiencies.

1.2 Study Area

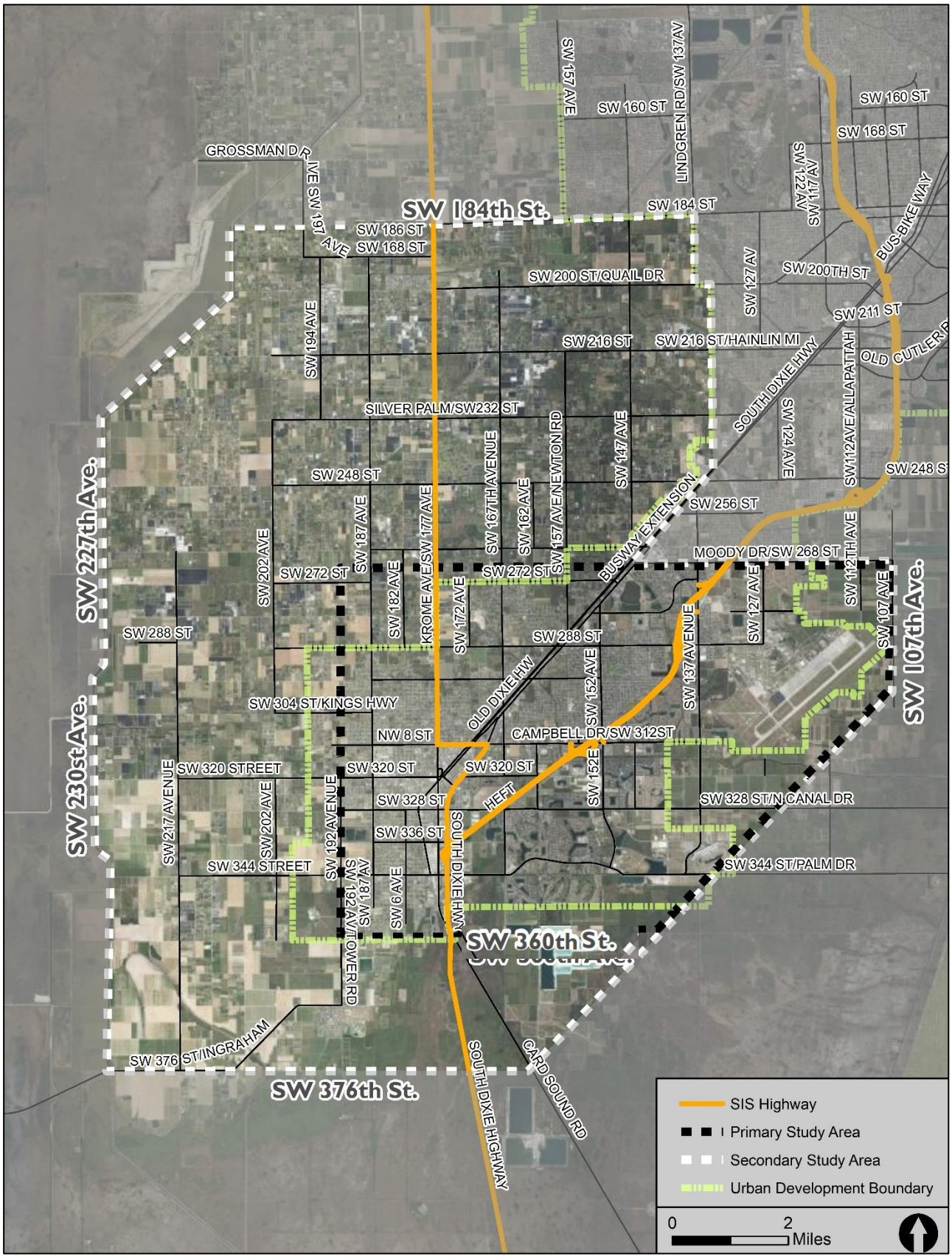
This study focuses on the subarea of southern Miami-Dade County, with a primary study area lying south of SW 268th Street and encompassing the Cities of Homestead and Florida City, surrounded by a secondary study area lying south of SW 184th Street. The primary study area focused on the developed municipalities which are more suburban. The secondary study area was defined to include the large agricultural districts surrounding the primary study area because of their relation to the area economy and their reliance on trucking for commodity shipments. Figure 1-1 displays the study area boundary.

1.3 Study Organization

This report is organized into ten sections, summarized as follows:

- Section 1. Introduction: Describes the study background, presents the study area, and summarizes report organization.
- Section 2. Study Context: Provides the framework for freight planning in Miami-Dade County.
- Section 3: Study Area Characteristics: Profiles the socio-economics and land uses of the study area.
- Section 4: Existing and Future Transportation Conditions: Presents an analysis of transportation facilities and operating conditions.
- Section 5. Purpose and Need: Establishes the reason for the study and identifies the needs for the analysis.
- Section 6. Transportation Network Analysis: Presents the study area growth scenarios and analysis of the transportation network for each scenario.
- Section 7: Truck Parking Analysis: Examines potential sites within the study area for truck parking.
- Section 8: Stakeholder Outreach and Feedback: Summarizes the process for conducting outreach to and soliciting feedback from stakeholders, agencies, and elected officials.
- Section 9. Freight Improvement Recommendations: Discusses the proposed improvements and actions, summarizes the evaluation and ranking process, and presents a prioritized set of recommendations.

Figure 1-1 Homestead Freight Improvement Plan Study Area



Section 2.0 Study Context

2.0 Study Context

This section provides an overview of freight planning activities in FDOT District Six (6) and Miami-Dade County, and a synopsis of existing and ongoing freight-related studies in the region.

2.1 Freight Planning Activities

2.1.1 FDOT District 6 Freight Planning Activities

A key part of the overall FDOT agency mission is the advancement of freight mobility. Each district office of FDOT has a District Freight Coordinator whose role is to monitor and support freight mobility needs within the district. The position facilitates incorporation of freight-supportive projects within the FDOT project work program, works with partner agencies in identification and advancement of priority freight initiatives, collaborates with freight stakeholders in a variety of coordination and outreach efforts, and conducts relevant studies that investigate and characterize freight needs across the district. District 6 also coordinates with District 4 to the north and District 1 to the west on matters of mutual interest. In addition, District Freight Coordinators coordinate on projects that span District boundaries. Furthermore, at the state level, FDOT performs a variety of freight program functions, including enhancing multimodal networks that drive commerce, leveraging funding opportunities, implementing effective countermeasures that improve rail and motor carrier safety, developing system planning documents including the Florida Mobility and Trade Plan, and partnering with industry to support innovation. To guide its efforts, the Florida Freight Advisory Committee comprising public and private sector representatives provides input and guidance into freight improvement needs.

2.1.2 Miami-Dade Transportation Planning Organization

The Miami-Dade Transportation Planning Organization (TPO) coordinates transportation planning activities in Miami-Dade County, develops the area's Long-Range Transportation Plan (LRTP), maintains the multi-agency five-year Transportation Improvement Program, and conducts other transportation studies and research. Periodically, the TPO conducts a freight planning study to provide input into the current LRTP update process. The TPO also has a freight set-aside element in the LRTP that funds high-priority freight improvement projects. One of the committees of the TPO is the Freight Transportation Advisory Committee. This body, comprising of representatives appointed by the Commissioner of each of Miami-Dade County's commission districts, meets monthly to provide input for ongoing studies, receive presentations on freight-related research or local businesses involved in freight and logistics, and discuss and act on freight priority issues.

The TPO collaborates with the Broward Metropolitan Planning Organization and the Palm Beach Transportation Planning Agency on regional transportation matters, jointly preparing periodic regional transportation and transit plans, as well as a freight-focused planning document. In addition, the TPO participates in statewide initiatives bodies work through the MPO Advisory Council (MPOAC) on a variety of topics of mutual interest, including identifying annually a set of priority freight projects for incorporation in the FDOT work program.

2.1.3 Miami-Dade County

Miami-Dade County oversees the two primary transportation economic engines in the county – Miami International Airport and PortMiami, both are leaders in state and national freight transportation activity. For both facilities, the county develops periodic master plans with freight components to guide ongoing infrastructure investments to support the continued significant growth at both facilities. The county's Department of Transportation and Public Works (DTPW) through its traffic engineering and roadway functions manages a county-wide network of traffic signals and public roads to assure efficient traffic operations and roadway capacity. In addition, the DTPW transit division provides a network of elevated rail, peoplemover, and bus transit services across the county. All of the county-led programs and facilities play a significant role in leading and supporting Miami's state-leading freight and logistics industry.

2.2 Review of Previous and On-going Studies

As part of this study, previous goods movement studies and study area-related reports conducted by the FDOT, the TPO, Miami-Dade County, and other agencies were reviewed. The purpose of this research was to obtain relevant freight movement information, with special attention paid to freight movement data, identy areas of need, major freight generators, and projects identified by the private industry to facilitate the movement of freight. These reports are listed below and summarized as one-page information sheets on the following pages. The reviewed studies were:

Statewide Plans and Studies:

- FDOT – Strategic Highway Safety Plan (2021)
- FDOT – Freight Mobility and Trade Plan (FMTP) (2020)
- FDOT – Seaport and Waterways System Plan (2016)
- FDOT – Florida Cruise Industry: A Statewide Perspective (2013)

Study Area-Related Studies:

- Southeast Florida Regional Freight Plan (2014)
- PortMiami Strategic Plan (2010)
- Miami-Dade County Freight Plan Update - 2018
- Miami-Dade TPO 2045 Long Range Transportation Plan
- FDOT District 6 Truck Parking Supply and Demand Analysis (2022)

FDOT District 6 Freight Subarea Studies:

- City of Doral Subarea Freight Plan (2017)
- Town of Medley Freight Mobility Improvement Plan (2017)
- City of Opa-Locka Freight Implementation Plan (2017)
- Miami River Freight Improvement Plan (2018)
- Miami Gardens Freight Improvement Plan (2018)

Monroe County Plans and Studies:

- Capacity Improvements Feasibility Study – Monroe County (2014)
- US 1 Travel Time and Delay Study (2019, 2021) – Monroe County
- O-D Study (2018) – Monroe County
- US 1 Transportation Master Plan – Monroe County (2021)

2.2.1 Statewide Plans and Studies

Document Title: Florida Strategic Highway Safety Plan

Agency: FDOT

Jurisdiction: State of Florida

Document Year: 2021

Document Cover:

Document Summary: The vision of the Florida Strategic Highway Plan (2021) is to eliminate all transportation-related fatalities and serious injuries for all modes of travel. The plan provides a framework for how Florida's traffic safety partners will move toward the vision of a fatality-free transportation system during the next five years.

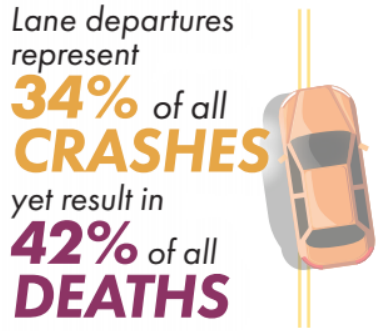
Key Findings: The plan introduces a *Safe System* approach with new priorities and strategies for the state of Florida. This approach includes:

- Safe road users
- Safe vehicles
- Safe speeds
- Safe roads
- Post-crash care

TARGET ZERO FATALITIES & SERIOUS INJURIES

The plan also identifies three emphasis areas to focus safety initiatives and specific strategies:

- Roadways: lane departures and intersections
- Road users: bikes and pedestrians, aging road users, motorcycles and motor scooters, commercial motor vehicle operators, and teen drivers
- User behavior: impaired driving, occupant protection, speeding and aggressive driving, and distracted driving



The following evolving emphasis areas were highlighted:

- Work zones
- Drowsy and ill driving
- Rail grade crossings
- Roadway transit
- Micromobility
- Connected and automated vehicles

Various crash and fatality statistics. Source: Florida Strategic Highway Safety Plan, 2021.

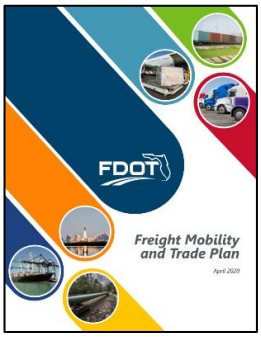
Document Title: Freight Mobility and Trade Plan (FMTP)

Agency: FDOT

Jurisdiction: State of Florida

Document Year: 2020

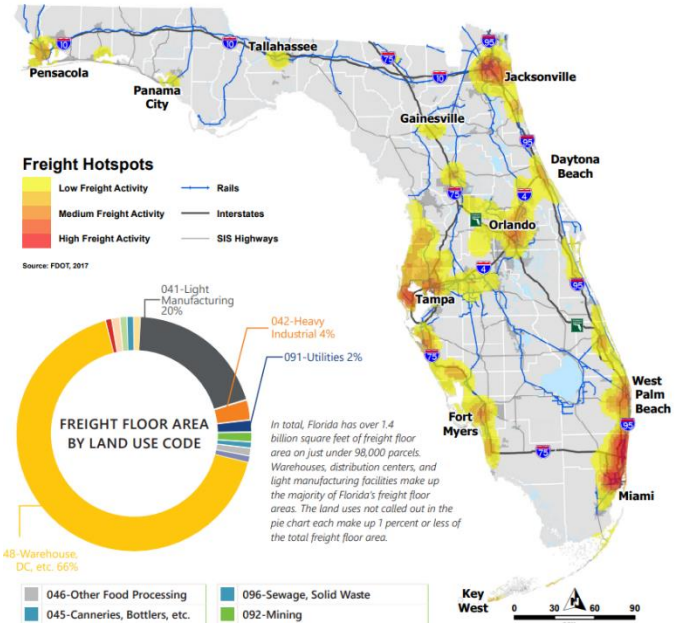
Document Cover:



Document Summary: A comprehensive plan that identifies freight transportation facilities critical to the state's economic growth and guides multimodal freight investments in the state. The FMTP develops objectives from the goals in the Florida Transportation Plan.

Key Findings: Developed qualitative and quantitative performance measures and criteria to be used in project prioritization such as:

- Truck injuries/fatalities
- Vicinity to hubs
- Truck parking
- Labor force size
- Safety or security enhancements
- Alternative fuels corridors
- Technology driven



The top 3 issues and challenges to freight mobility in the state are:

- Congestion/bottlenecks
- Truck parking (identified as more than 100% utilized in Monroe County)
- Empty backhaul

- Technology trends in goods movement include:
- Drone/robot delivery: currently being tested to fulfil last-mile delivery needs
- Alternative fuels: as battery and quick charging technology improves, trucking companies may explore shifting from diesel to electric
- Connected and automated vehicles: by synchronizing multiple truck operations, trucks run closely together resulting in fuel savings and increased safety.

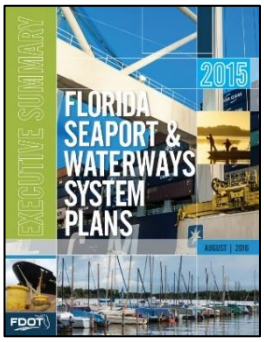
Document Title: Florida Seaport & Waterways System Plan Executive Summary

Agency: FDOT

Jurisdiction: State of Florida

Document Year: 2016

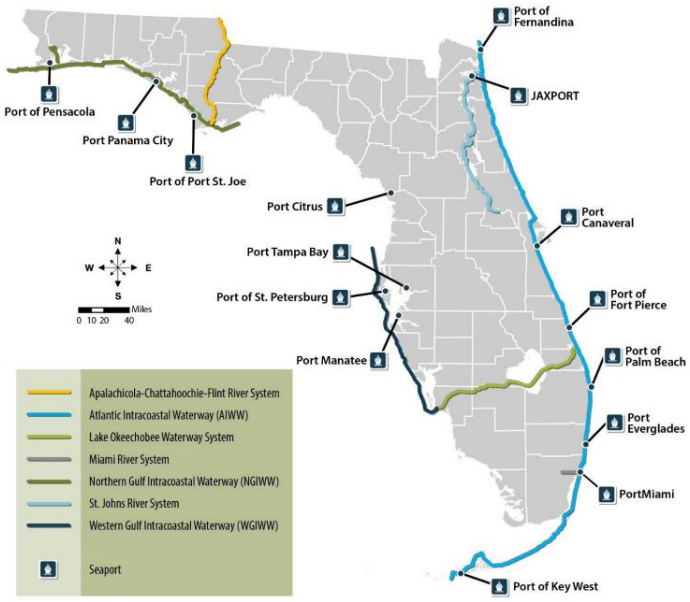
Document Cover:



Document Summary: Covers both the Seaport System Plan and the Waterways System Plan. Highlights of both plans are included illustrating the seaport and waterways conditions, challenges, trends, strategies, initiatives, and areas of focus for the FDOT Seaport and Waterways office.

Key Findings: Port of Key West is classified as a Cruise and Other Seaport; PortMiami is a Cruise and Cargo Seaport. The top constraints to growth identified by the stakeholder outreach included:

- Highway access or bottlenecks; Local Funding (Matching Requirements)
- Navigation issues; Gate Operations; Security Access
- Highway (Cruise and Cargo Traffic Interaction)
- The top issues or needs identified by the stakeholder outreach included:
- Increased bulkhead and berthing infrastructure
- Cargo handling equipment needs; Site Expansion Development Needs

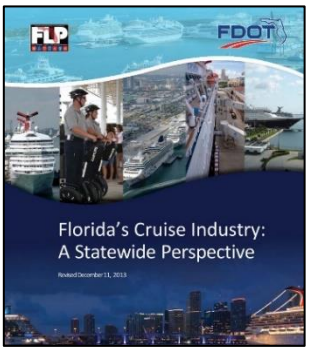


Studies, Plans, Economic Analysis; Education of Law Makers and Public Seaport Program Focus Areas include:

- Seaport Access Enhancement; Seaport Capacity Expansion
- Seaport Efficiency Improvement; Waterborne Freight Supply Chain Optimization

Waterway Focus Areas include:

- Maintenance of current waterway network; Encouragement of appropriate uses
- Explore needs and benefits of additional data acquisition to better understand the range of impact of non-freight users of the waterways

Document Title: Florida Cruise Industry: A Statewide Perspective	**Document Cover**: 
Agency: FDOT	
Jurisdiction: State of Florida	
Document Year: 2013	

Document Summary: Provides a framework for actions to ensure that Florida retains and enhances its longstanding position as the nation's leading cruise state. The intent of the report is to furnish extensive background information and provide possible implementation actions that encourage cruise-related economic growth within Florida.

Key Findings:

- The four primary considerations of cruise line decision-makers in positioning vessels are: port infrastructure availability, airlift capabilities, marketing of the home port as a destination, and proximity of ports of call and regulation.
- Florida ports have many ships in them based on a year-round basis, but activity level is increased with seasonal home-portings in winter months
- As cruise lines build and deploy larger vessels, it is essential that facilities keep pace so that the industry continues to position its newest and biggest cruise ships in Florida
- Sufficient landside and waterside capacity are essential to state's growth
- Florida should start working to determine how to best capture the upcoming River Cruise market, particularly in Key West
- Port of Key West received 832,887 port-of-call passengers in 2012
- Port of Key West also hosts ships and ferry activities
- Port of Key West required infrastructure improvements (widening and deepening of the channel) as of 2013 to continue to be competitive in the cruising industry. The City of Key West has not committed to those improvements.
- Port-of-call expenditures are the primary source of industry for Key West as no ships are home ported there.
    - Port-of-call passengers spend an average of $123.58 per visit including tours and excursions

2.2.2 Study-Area Related Studies

Document Title: Southeast Florida Regional Freight Plan

Agency: Broward MPO, Miami-Dade MPO, Palm Beach MPO, FDOT

Jurisdiction: Region

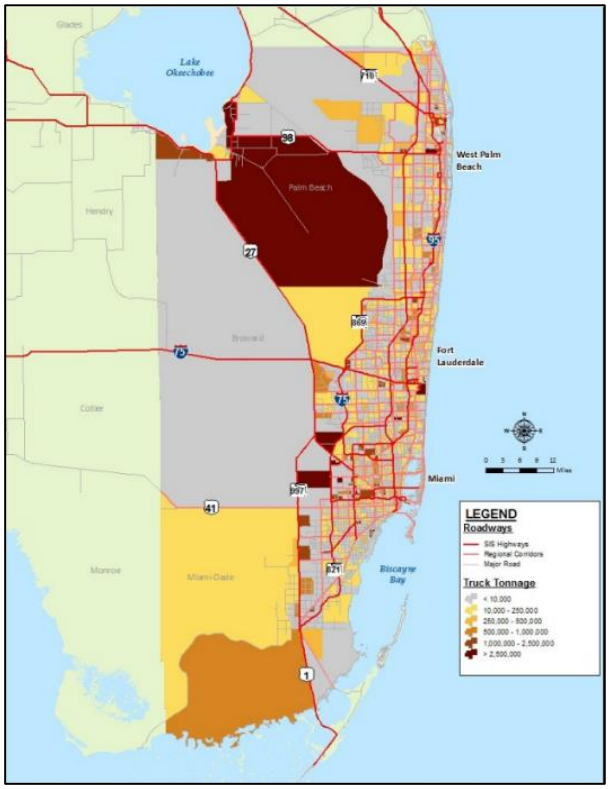
Document Year: 2014

Document Cover:

Document Summary: Provides an overview of the freight transportation system and key logistics infrastructure elements, identifies key state, national, and international developments and initiatives impacting the region, documents the economic impacts of the freight industry in Southeast Florida, includes a list of prioritized freight needs, and provides strategies and key next steps.

Key Findings:

- The most concentrated truck commodity flows in the region are concentrated around PortMiami, MIA, Port Everglades, and the Port of Palm Beach
- US 1 in southern Miami-Dade and near Everglades National Park experience heavier than anticipated truck tonnage
- Interregional trade accounts for 50% of movement
- Traffic along the Atlantic Intracoastal Waterway (Jacksonville to Key West) fluctuate annually, largely driven by petroleum movements
- Available land for development of industrial capacity is a key factor impacting future growth in trade and logistics
- Truck parking continues to be a significant concern for the region; parking must become a focal point within the region's identity



Truck commodity flows, Transearch 2011.

Freight system needs and priorities include:

- Additional investments in highway and rail corridors and connectors
- Warehouse and distribution infrastructure
- Truck parking and service facilities
- Work force development
- Maintenance and enhancements to existing facilities

Document Title: PortMiami 2035 Master Plan

Agency: Miami-Dade County

Jurisdiction: Miami-Dade County

Document Year: 2010

Document Cover:

Document Summary: This document is a planning tool used to update the Port of Miami Master Plan Sub element of Miami-Dade County's CDMP. Included was a market analysis for both cruise and cargo and a financial analysis of capital infrastructure. The document also proposes projects and a phased implementation plan.

Key Findings: The three main components to the Port's future progress are cargo, cruise, and commercial with an overarching theme of sustainability:

- Sustainability progress through shore power (cold ironing), electrification of cranes, LEED buildings, green energy initiatives, and other sustainable projects
- Cargo progress through three major projects: construction of the PortMiami tunnel, dredging the main channel, and the rehabilitation of rail on Port
- Cruise progress by investing in new, larger terminal complexes and multimodal centers

Central port aerial.

Commercial progress by providing commercial development onsite including a cruise ferry, marina, hotel and commercial, trans-shipment, and utilities

- Additionally, cargo movements are limited to ship-to-truck transfers and vice versa since the rail had not been used in several years.
- Port Miami is a general cargo port with strict limitations on handling certain types of bulk products. Main cargos passing through the port include: e fruits and vegetables, apparel and textiles, non-refrigerated food products / groceries, paper, electronic equipment, stone, clay and cement tiles, construction and industrial equipment, trucks, buses, and automobiles.
- There are three major terminal operators at the port: Seaboard Marine, South Florida Container Terminal, and Port of Miami Terminal Operating Company
- The main distribution center locations from the port are: Hialeah, Medley, Orlando, and Jacksonville
- Continuing with the tunnel implementation to provide interstate access for trucks is a key cargo strategy

Document Title: Miami-Dade 2045 LRTP	**Document Cover**: 
Agency: Miami-Dade MPO	
Jurisdiction: Miami-Dade County	
Document Year: September 2019	

Document Summary: This study was a comprehensive transportation infrastructure plan for Miami-Dade County prepared in response to federal planning regulations, to guide funding of the region's transportation system. The 2045 LRTP serves as an instrument to identify the needed improvements to the transportation network and provides a long-term investment framework to address current and future challenges.

Key findings: This comprehensive transportation infrastructure plan for Miami-Dade County is prepared in response to federal planning regulations to guide funding of the region's transportation system. The 2045 LRTP serves as an instrument to identify the needed improvements to the transportation network and provides a long-term investment framework to address current and future challenges.

Freight movement is emphasized in the 2045 LRTP. The 2014 Miami-Dade Freight Plan is integrated within the LRTP cost feasible plan and includes a variety of freight related improvements identified to improve freight mobility and provide benefits to non-freight travel. The plan commits to improvements that will primarily improve freight movement (Freight Only Projects) will be funded with a predetermined financial set aside devoted to Freight Only Projects.

- Freight infrastructure needs are grouped as projects that will improve both freight and passenger vehicle movements and are incorporated into Priorities I-IV and unfunded projects.
- Freight only projects are identified and prioritized, based on facility type, adjacent freight center density, truck ADT, project cost, attraction to general traffic, and type of project.
- Identifies truck parking as a critical issue to facilitate general regional economic and population growth and recognizes that it is necessary accommodate truck parking needs over the planning horizon. Key parking strategies are identified.
- Document opportunities provided for public input into plan development.
- Continued dialogue with the freight industry regarding truck parking needs and developments.

Document Title: PortMiami 2035 Master Plan	**Document Cover**: 
Agency: Miami-Dade County Freight Plan Update - 2018	
Jurisdiction: Miami-Dade County	
Document Year: 2018	

Document Summary: This study provides a list of prioritized needs which have been incorporated into the Miami-Dade 2045 LRTP, the Southeast Florida Regional Plan and the Southeast Florida Regional Freight Plan.

Key document findings and recommendations regarding freight or logistics:

- Even with recent investments at PortMiami Tunnel and NW 25th St Viaduct, significant needs remain such as maintenance and improvements to existing infrastructure and new facilities.
- Major missing links in the freight system include: Gratigny Parkway, SR 826/SR 836 interchange, Golden Glades interchange, NW 25th Street Extension to the Homestead Extension of Florida's Turnpike (HEFT), and US 27 corridor.
- Critical investments are in place or under construction to modernize and advance the region.
- Miami-Dade County is well positioned for continued growth in freight related industries.
- Freight set aside included in the 2040 LRTP will help promote critical freight investments.
- Investment element of the state's Freight Mobility and Trade Plan should further advance needs of statewide significance.
- Formal adoption of the national freight highway network should also promote freight investments as Congress works to reauthorize the federal transportation bill.
- Key short-term and ongoing strategies to advance Miami-Dade County's freight program are as follows:
    - Promote economic contributions of freight and logistics industry.
    - Maximize use of available funding programs.
    - Leverage investments through public private partnerships.
    - Evaluate the effectiveness of the freight system.
    - Engage the freight community in the identification of freight bottlenecks.
    - Ensure trade and logistics remains a targeted industry.
    - Support work force development programs.
    - Continue to develop, test and expand pilot program.
    - Monitor intermodal logistics center developments and partner as appropriate.
    - Support advancement of solutions for missing freight links.
    - Promote regional freight mobility.

Key Regional Freight Implications: The 2018 Miami-Dade County Freight Plan Update has allowed a consolidation of previous regional and corridor/sub-area freight plans and policy studies to continue to serve the region's major economy. It continues to prepare the region for its prominent role in national and international trade, and provides strong integration of freight needs into the overall regional transportation plan.

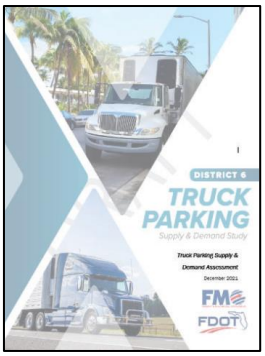
Document Title: Truck Parking Supply and Demand Analysis

Agency: FDOT District Six

Jurisdiction: Miami-Dade County

Document Year: 2021

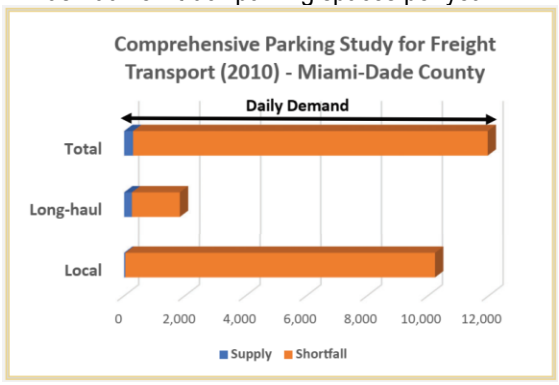
Document Cover:

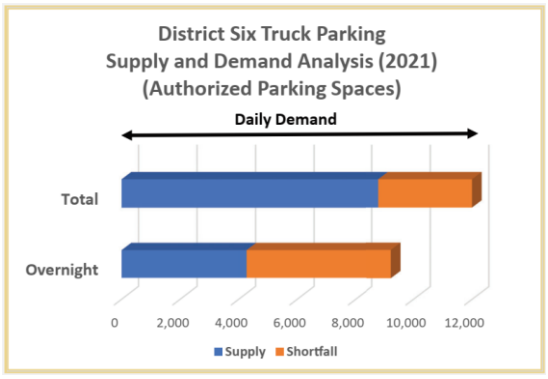


Document Summary: This study used information from the previous studies augmented by aerial imagery and field reviews to develop an updated inventory of existing truck parking supply. It used Global Positioning System data to classify stopped events depending on time stopped and create turnover factors for truck parking. It expanded the sample data to the total data population based on Census Block Group and time period of day.

Key document findings and recommendations regarding freight or logistics:

- Supply of truck parking includes 8,800 authorized spaces and 1,680 informal spaces, for a total of 10,480 spaces. For overnight parking, there were 4,270 authorized spaces and 1,680 informal spaces for a total of 5,950 spaces.
- Identified a total daily demand of approximately 12,100 truck parking spaces witha daily shortfall of 3,390 spaces, and 1,710 spaces if informal spaces were included.
- Identified an overnight truck parking shortfall of 4,960 spaces, and 3,280 spaces if informal spaces were included.
- The need for overnight truck parking is over twice the existing authorized supply.
- The study also noted that new industrial and retail building construction increases the need for truck parking by about four spaces per 100,000 square feet of new development. Data indicates that the rate of new building footage (5-year average of new industrial and retail space at 2.5 million square feet per year) leads to the need for as many as 100 new truck parking spaces per year.





Key Regional Freight Implications: The Truck Parking Supply and Demand Analysis provides an updated assessment of truck parking supply and demand in Miami-Dade County using current mapping, GIS big data, and other newer resources. The matter of quantifying truck parking supply and demand, and hence shortfall, is a complex undertaking involving disparate data sources that do not individually or collectively fully capture the various dimensions of truck parking, human behavior and changing driver decisions on their parking actions, and the dynamics of the freight and logistics industry's changeable use of use of supply chain fulfillment through truck shipments. Nevertheless, both the 2010 TPO study and the current District Six Truck Parking Supply and Demand Analysis are solid quantitative estimations. The District Six study has the advantage of the 2010 study as a frame of reference. As noted, both studies indicate a sizable parking shortfall for both long-haul and local truckers, with gradual growth in demand outstripping the rate of new truck parking supply coming online. Both studies confirm that considerable new truck parking supply can be brought online without risk of overdevelopment.

2.2.3 FDOT District 6 Freight Subarea Studies

Document Title: City of Doral Subarea Freight Mobility Improvement Plan

Agency: FDOT

Jurisdiction: City of Doral

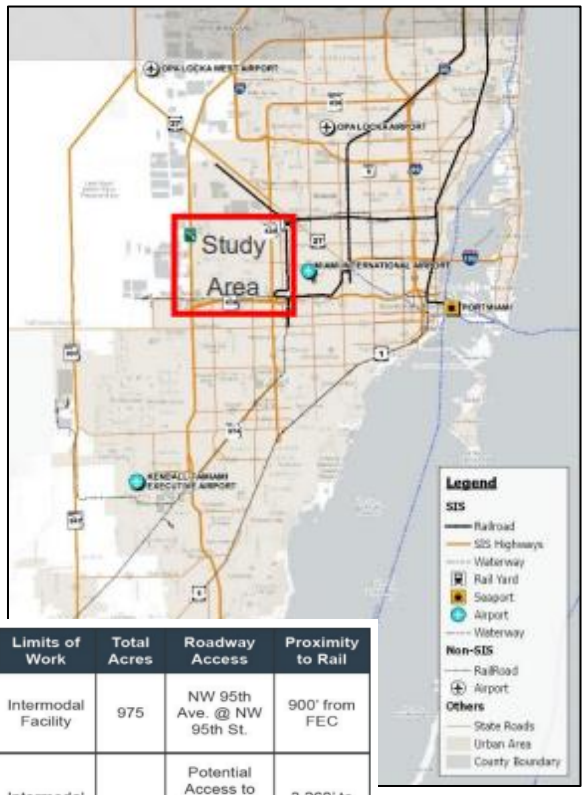
Document Year: 2017

Document Cover:

Document Summary: This study was part of a series of Subarea Freight Mobility Plans prepared by FDOT D6. This plan documents existing conditions, challenges and opportunities, evaluates a range of growth scenarios, and provides a list of improvements to enhance freight mobility.

Key Findings:

- The Doral study area represents the largest concentration of industrial, warehousing, and distribution center locations in Florida with 65 million square feet of freight-related uses.
- Traffic is highly congested in this area, with travel speeds as slow as 6-10 mph during peak periods
- Freight continues to grow in the area, along with residential, commercial, and hotel/resort development.
- Recommendations include the following:
    - Advancing 6 corridor projects to PD&E: Hialeah Expressway to Okeechobee Boulevard, NW 25th extensions to MIC and NW 82nd Avenue, NW 117th extension to NW 74th Street, reconstruction of NW 74th Street interchange at the HEFT, and NW 72nd to Okeechobee Road
    - Coordinating with PortMiami on the locations for an Inland Terminal; 3 are in or near the Doral project area (see table)



Doral study area.

Facility	Limits of Work	Total Acres	Roadway Access	Proximity to Rail
Site 1B Proposal	Intermodal Facility	975	NW 95th Ave. @ NW 95th St.	900' from FEC
Site 4 Proposal	Intermodal Facility / Transload Facility	2350	Potential Access to NW 74th St. Interchange at the HEFT and NW 106th St.	3,260' to FEC and 2.13 miles to CSX
Site 9 Proposal	Transload Facility	316	NW 114th St. and potential access to NW 106th St. HEFT Interchange	1,000' from FEC

Document Title: City of Miami Gardens Freight Mobility Improvement Plan

Agency: FDOT

Jurisdiction: City of Miami Gardens

Document Year: 2018

Document Cover:

Document Summary: This study was part of a series of Subarea Freight Mobility Plans prepared by FDOT D6. The focus of this subarea plan was the City of Miami Gardens with the purpose of partnering with the community to develop strategies that advance freight and logistic systems and identifies viable freight improvement projects. A truck parking feasibility study was also performed.

Key Findings:

- The city is located with direct access to I-95, SR 826, and Florida's Turnpike providing north-south and east-west movements
- The city's local roadway system is a grid with connectivity issues such as one-way roads and dead-end streets
- The commercial and industrial areas are focused on three corridors: NW 27thAvenue, NW 2nd Avenue, and SR 826
- The freight hotspots are the Golden Glades Interchange and the area north of Opa-Locka Airport
- Major freight generators:
    - Identified based on space available within the study area
    - Currently contains over 177 facilities of 50,000 square feet, with 135 facilities with at least 5 permitted dock positions
    - 75 properties have at least 10 dock positions; 20 properties have at least 30 dock positions
- The top freight generators include: Public Super Markets, Con-Way/XPO Logistics, Flowers Foods, Inc,, Sun Electronics, and Miami Freight Solutions
- There is only one truck parking location within the city and it is equipped with 8 parking spaces
- The main considerations for the truck parking locations were: ownership/management, amenities, study boundary, and creative opportunities

Miami Gardens study area.

Document Title: Town of Medley Freight Mobility Improvement Plan	**Document Cover**: 
Agency: FDOT	
Jurisdiction: Town of Medley	
Document Year: 2017	

Document Summary: This study was part of a series of Subarea Freight Mobility Plans prepared by FDOT D6. The purpose of this study is to improve freight movement and circulation in and around the Town's existing transportation system, investigate freight corridors within the Medley area, and develop a plan to enhance freight connectivity and minimize conflicts.

Key Findings:

Medley study area.

- The Town of Medley is an 8-square mile municipality in northwest Miami-Dade County
- Medley is home to over 1,800 businesses, a large majority are warehouse and distribution centers
- Due to proximity to freight logistics facilities and key infrastructure, Medley has been established as a prime location for industrial development resulting in a high concentration of industrial and freight-logistic related activities. As a result, congestion is high and impacting the town's aging infrastructure
- Using different growth scenarios, recommendations were developed based on an alternatives analysis
- The plan was developed in coordination with the *Town of Medley Mobility Plan* and recognizes the value of reducing single occupant vehicle trips as benefiting the Town's mobility as well as local freight mobility and connectivity
- Several of the recommendations include the following:
    - Resurfacing to fix potholes and flood retention issues
    - Use of Traffic Adaptive Signal System throughout the corridor
    - Widening roadways and bridges
    - Building new roadways
    - Enhancing ITS systems such as CCTV devices and dynamic message systems

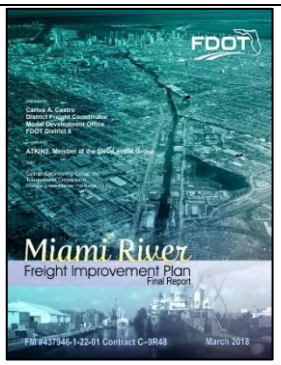
Document Title: Miami River Freight Improvement Plan

Agency: FDOT

Jurisdiction: Miami River Subarea

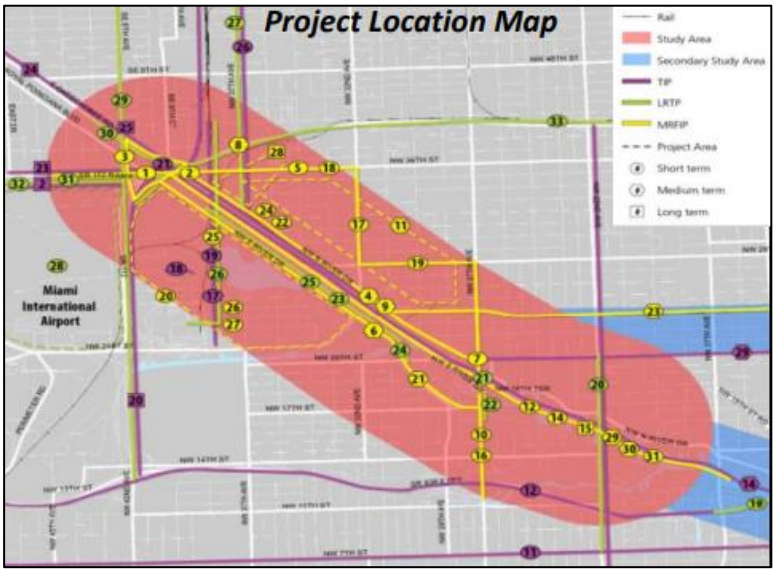
Document Year: 2018

Document Cover:



Document Summary: This study was part of a series of Subarea Freight Mobility Plans prepared by FDOT D6. This study focuses on the subarea surrounding the western reach of the federally navigable section of the Miami River with a secondary study area following the Downtown Lead rail spur. The study examines the existing and planned transportation infrastructure along the Miami River with an emphasis on how the existing network accommodates existing and forecasted traffic volumes.

Key Findings:



- Current shipping volumes are nearly 400,000 tons per year
- Marine shipping movements are much lower in number than the recreational boat movements on the lower river
- The study area has growth potential, but is confronted with older, smaller, and less modern industrial building stock and a somewhat deteriorated marine and upland infrastructure
- The closest truck parking facility to the study area is approximately 6 miles away
- Dolphin Expressway between NW 12th Avenue and NW 27th Avenue has the highest number of daily trucks within the project area (between 4,000-5,500 daily trucks)
- The five largest freight generators within the study area are: Antillean Marine Shipping, Beruth Marine Shipping, Air Marine Terminal, Betty K, and Bimini shipping
- Warehousing and truck terminal uses account for 71% of the industrial sites
- Recommendations include:
    - Improvements to roadways, rail crossings, and supporting facilities
    - Improved connectivity to the regional network
    - Preservation of the marine industrial land uses
    - Develop a truck staging area and truck travel center

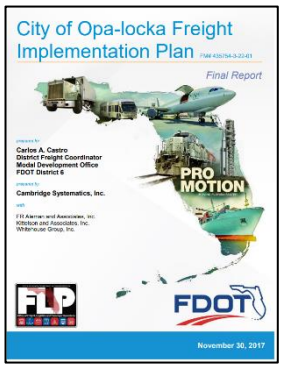
Document Title: City of Opa-locka Freight Implementation Plan

Agency: FDOT

Jurisdiction: City of Opa-locka

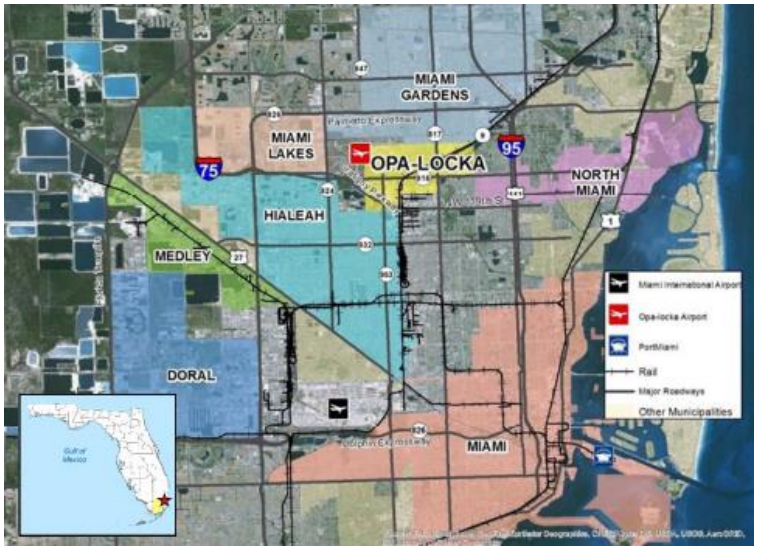
Document Year: 2017

Document Cover:



Document Summary: This study was part of a series of Subarea Freight Mobility Plans prepared by FDOT D6. This plan documents existing conditions, identifies key challenges and opportunities, evaluates a range of growth scenarios, and provides recommendations to support the efficient movement of freight into, out of, and within Opa-Locka.

Key Findings:



- Existing warehousing and distribution sites within the city primarily have older building configurations and experience tight road access and/or flooding issues
- The city allows heavy industrial uses that are not always allowed in other municipalities which has led to recycling, salvage, and industrial businesses to concentrate there
- The city also faces institutional stability challenges, high tax rates, security concerns, and limited supply of developable land
- A recent major freight opportunity is the location of an Amazon distribution center at the Miami-Opa-Locka Airport. Many of the short-term recommendations in this plan are focused on ensuring efficient access for this facility and to its markets
- Redevelopment and reuse of existing properties within Opa-Locka will likely occur after development in more competitive areas like Doral and Medley
- Recommendations include:
    - Capacity and operational improvements close to the Miami-Opa Locka Executive Airport to handle traffic generated by the new Amazon fulfillment center
    - Corridor-level operational improvements
    - Access management improvements near the new Amazon facility
    - Long-term improvements include new lanes, interchange reconstruction, and corridor level improvements
    - Develop a designated truck route network
    - Incentivize and support new truck parking facilities

2.2.4 Monroe County Plans and Studies

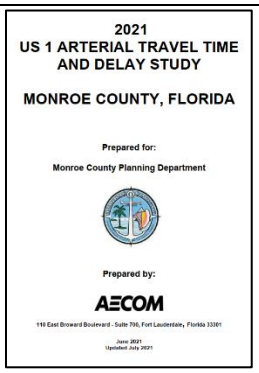
Document Title: US 1 Arterial Travel Time and Delay Study

Agency: Monroe County Planning Department

Jurisdiction: Monroe County

Document Year: 2021

Document Cover:


2021
US 1 ARTERIAL TRAVEL TIME AND DELAY STUDY

MONROE COUNTY, FLORIDA

Prepared for:

Monroe County Planning Department

Prepared by:

AECOM

Document Summary: The primary objective of this study was to determine the LOS on US 1 for concurrency management purposes. The methodology established a procedure for using travel speed as a means of assessing the LOS and reserve capacity for US 1.

Key Findings:

- Both Monroe County and FDOT have adopted a LOS C standard for US 1
- 45 mph has been adopted as the LOS C standard for the entire length of US 1 regardless of posted speed limits
- Under the adopted growth management process, if the overall LOS for US 1 falls below the LOS C standard, then no additional land development will be allowed in the Florida Keys, unless mitigation measures are proposed to address the LOS deficiencies
-
- The overall travel speed was 45.5 mph

Segment	Name of Segment	Beginning Control Point	Ending Control Point	Beginning Mile Marker	Ending Mile Marker	LOS 2017	LOS 2019	LOS 2021	Median Speed 2017	Median Speed 2019	Median Speed 2021
1	Stock Island	Cow Key Bridge (N)	Key Haven Boulevard	4.0	5.0	B	B	A	29.4	33.0	40.0
2	Boca Chica	Key Haven Boulevard	Rockland Drive	5.0	9.0	A	B	A	59.6	55.8	59.9
3	Big Coppitt	Rockland Drive	Boca Chica Road	9.0	10.5	B	B	B	46.6	46.1	47.5
4	Saddlebunch	Boca Chica Road	Harris Channel Bridge (N)	10.5	16.5	B	C	B	53.3	52.0	53.5
5	Sugarloaf	Harris Channel Bridge (N)	Bow Channel Bridge (N)	16.5	20.5	A	A	A	48.3	48.1	48.8
6	Cudjoe	Bow Channel Bridge (N)	Spanish Main Drive	20.5	23.0	A	A	A	48.2	47.2	47.9
7	Summerland	Spanish Main Drive	East Shore Drive	23.0	25.0	B	B	B	45.0	45.2	46.1
8	Ramrod	East Shore Drive	Torch-Ramrod Bridge (S)	25.0	27.5	B	A	A	46.1	46.7	46.5
9	Torch	Torch-Ramrod Bridge (S)	N. Pine Channel Bridge (N)	27.5	29.5	A	A	A	47.7	48.1	48.8
10	Big Pine	N. Pine Channel Bridge (N)	Long Beach Drive	29.5	33.0	C	B	A	39.4	42.4	42.7
11	Bahia Honda	Long Beach Drive	7-Mile Bridge (S)	33.0	40.0	B	A	A	53.7	54.2	54.8
12	7-Mile Bridge	7-Mile Bridge (S)	7-Mile Bridge (N)	40.0	47.0	B	B	B	53.3	53.4	53.2
13	Marathon	7-Mile Bridge (N)	Coco Plum Drive	47.0	54.0	A	A	A	37.9	37.9	39.6
14	Grassy	Coco Plum Drive	Toms Harbor Ch Bridge (S)	54.0	60.5	C	C	C	51.6	50.7	51.4
15	Duck	Toms Harbor Ch Bridge (S)	Long Key Bridge (S)	60.5	63.0	C	C	C	53.3	53.3	53.2
16	Long	Long Key Bridge (S)	Channel #2 Bridge (N)	63.0	73.0	C	B	C	50.5	52.0	49.9
17(2)	Lower Matecumbe	Channel #2 Bridge (N)	Lignumvitae Bridge (S)	73.0	77.5	C	C	C	49.8	49.6	48.2
18(1)(2)	Tea Table	Lignumvitae Bridge (S)	Tea Table Relief Bridge (N)	77.5	79.5	D	D	A	47.6	46.9	46.6
19(2)	Upper Matecumbe	Tea Table Relief Bridge (N)	Whale Harbor Bridge (S)	79.5	84.0	D	E	E	39.2	36.4	35.3
20(2)	Windley	Whale Harbor Bridge (S)	Snake Creek Bridge (N)	84.0	86.0	C	E	D	41.0	37.0	39.3
21(1)(2)	Plantation	Snake Creek Bridge (N)	Ocean Boulevard	86.0	91.5	B	D	C	40.5	35.3	34.7
22	Tavernier	Ocean Boulevard	Atlantic Boulevard	91.5	99.5	A	A	A	47.4	46.9	49.4
23	Key Largo	Atlantic Boulevard	C-905	99.5	106.0	A	A	A	44.4	44.2	45.0
24	Cross	C-905	County Line Sign	106.0	112.6	B	B	C	52.7	50.2	49.1
Overall				4.0	112.6	C	D	C	46.0	44.6	45.5

(1) - Village of Islamorada

(2) = Segments with Speed Limit Changes

Segments with NO Reserve Capacity

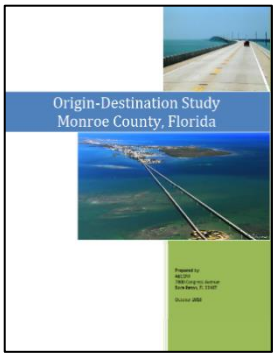
Document Title: Origin-Destination Study

Agency: Monroe County

Jurisdiction: Monroe County

Document Year: 2018

Document Cover:



Document Summary: Summarizes the results of a comprehensive study to identify travel patterns along US 1 in Monroe County. Types of analysis in this study included: Census data, origin-destination, zone activity, visitor home-work analysis, FDOT traffic data, , and Monroe County Tourism Development Council (TDC) data.

Key Findings:

- The major destinations for work related travel are Key West, Stock Island, and Marathon
- The origin-destination data revealed that internal trips within Key West accounted for approximately 40% of the total trips. Other major destinations were Islamorada, Key Largo, and Marathon.
- Internal trips within a single zone and trips to/from neighboring zones were consistently ranked among the top 10%
- With the exception of morning peak hours, a majority (60%-80%) of the travelers appear to be tourists from mainland Florida or out of state
- In Key Largo, southbound US 1 experiences higher volumes on Fridays/Saturdays and northbound US-1 experiences higher volumes on Sundays
- The most common mode of travel in 2017 shifted from "fly to Miami and rent a car" to "drive personal vehicle"
- 60% of travelers surveyed also visited other parts of Florida, with Orlando being the most common destination
- The average speed is around 40 mph with the exception of a few mid-day periods where the speeds drop to 30-40 mph
- This study did not include specific data for truck or freight travel.

	2017	2016	Diff
	%	%	+/- chg
QE - How did you get to the Keys for this trip?			
Sample Size	3152	3600	
Drive personal vehicle	1151 36.5%	706 19.6%	16.9%
Drive rental vehicle	516 16.4%	639 17.8%	-1.4%
Come by Tour Bus	25 0.8%	107 3.0%	-2.2%
Fly into Marathon	37 1.2%	74 2.1%	-0.9%
Fly into Key West	450 14.3%	621 17.3%	-3.0%
Fly to Miami and rent a car	912 28.9%	1330 36.9%	-8.0%
Other FL airport and drive rental	61 1.9%	88 2.4%	-0.5%
Other	2 0.0%	35 1.0%	-0.9%

Monroe County TDC traveler survey results.

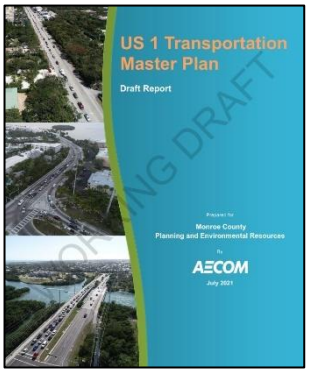
Document Title: US 1 Transportation Master Plan

Agency: Monroe County Planning and Environmental Resources

Jurisdiction: Monroe County

Document Year: 2021

Document Cover:



Document Summary: A transportation master plan for the US 1 corridor in Monroe County. The master plan identifies transportation needs, goals/objectives, and an action plan to meet those goals. The recommendations emphasize technology trends to address traffic safety, operations, and roadway improvement projects.

Key Findings:

- Technology trends identified for freight management improve delivery times, inventory management, and customer satisfaction. The plan proposes implementing the following:
  - Consider freight signal priority at select signals along the US 1 corridor
  - Promote eCommerce by considering to form a coalition of freight companies modeled after Transportation Demand Management programs
  - Coordinate with FDOT D6 on the upcoming deployment of the Keys Connecting Overseas to Advance Safe Travel (COAST) project as well as future needs to address Monroe County's connected vehicle needs and system requirements for traffic signal optimization
- Other recommendations include:
  - Coordinate with FDOT D6 to identify gaps in existing ITS infrastructure and field devices (e.g. Closed Circuit Television (CCTV) devices, vehicle detectors) and tie into existing microwave communications
  - Consider installing workstations at Monroe County Sheriff's Office to provide a higher level of incident management in the Keys
  - Promote more active use of the Rapid Incident Scene Clearance (RISC) program to address severe incidents
  - Have qualified Traffic Homicide Investigators (THI) located within Monroe County to help expedite traffic homicide investigations and thus reduce the impact of major lane/road closures on traffic flow and secondary crashes

Stock Island bridge options.

- Three new bridge options were identified to provide alternative routes to help improve traffic flow in three critical areas: Stock Island to/from Key West Bridge; Big Pine Key Bridge; Upper Matecumbe. Feasibility studies still need to be conducted for each of these options.

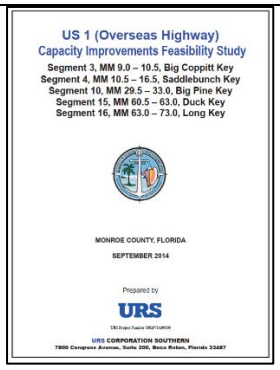
Document Title: US 1 (Overseas Highway) Capacity Improvements Feasibility Study

Agency: Monroe County Planning Department

Jurisdiction: Monroe County

Document Year: 2014

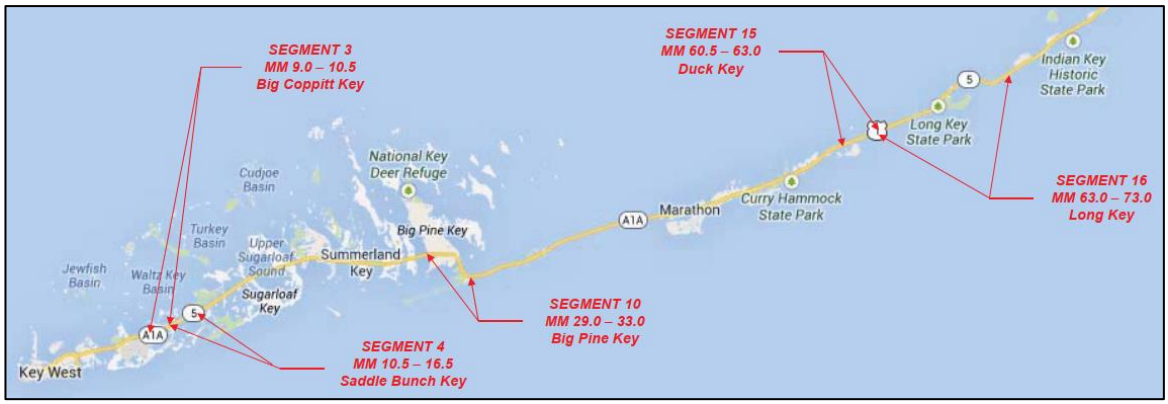
Document Cover:



Document Summary: Identifies appropriate improvements to address the capacity deficiencies along US 1 and to evaluate their implementation feasibility in five segments along the corridor.

Key Findings:

- The five segments evaluated in this study are listed below. Three of the segments were chosen based on the US 1 Travel Time Delay Study (TTDS) and the other two were selected based on historical trends:
    - Segment 3, MM 9.0 – 10.5, Big Coppitt Key (Historical Trend)
    - Segment 4, MM 10.5 – 16.5, Saddlebunch Key (2013 TTDS)
    - Segment 10, MM 29.5 – 33.0, Big Pine Key (Historical Trend)
    - Segment 15, MM 60.5 – 63.0, Duck Key (2013 TTDS)
    - Segment 16, MM 63.0 – 73.0, Long Key (2013 TTDS)
- Road widening along US 1 in Monroe County is restricted by the adopted comprehensive plan policies with the intent to preserve and protect the fragile ecological conditions
- Other, less intrusive remedies to improve traffic flow include:
    - Adding turn lanes at strategic locations
    - Enhancing signal timing
    - Consolidating driveways/access points
    - Conduct speed studies to confirm/correct posted speed limits
    - Not allowing new signalized intersection if there is alternative safe access
    - Improve conditions along the county maintained local streets
- The plan includes a list of specific improvements to the US 1 corridor as Phase 1 improvements to mitigate existing and projected LOS



Section 3.0 Study Area Characteristics

3.0 Study Area Characteristics

The Homestead Subarea Freight Improvement Plan study area includes infrastructure elements encompassing roadways, railways, waterway and freight hubs that enable freight movements. These elements complement one another to promote the flow of goods locally and throughout the region. In addition, information on other transportation facilities such as bicycle, pedestrian, and transit that may affect truck, rail and waterway freight movement in the Homestead Subarea were collected to evaluate the complete transportation system. The overall study area was categorized as primary study area and secondary study area. The primary study area focused on the developed municipalities whereas he secondary study area included the large agricultural districts surrounding the primary study area because of their relation to the area economy and their reliance on trucking for commodity shipments. By assessing the extent of infrastructure and how it functions, a framework for assessing improvement needs to enhance freight mobility is defined.

3.1 Existing Roadway Network

3.1.1 FDOT Strategic Intermodal System

The Strategic Intermodal System (SIS) is Florida's high priority network of transportation facilities important to the state's economy and mobility. The Governor and Legislature established the SIS in 2003 to focus the state's limited transportation resources on the facilities most significant for interregional, interstate, and international travel. The SIS is a network of high-priority transportation facilities which includes the state's largest and most significant commercial service airports, spaceport, deep water seaports, freight rail terminals, passenger rail and intercity bus terminals, rail corridors, waterways and highways. **Figure 3-1** displays the SIS facilities within the study area which includes portions of South Dixie Highway, Krome Avenue/SW 177th Avenue, and the HEFT.

3.1.2 Functional Classification

Table 3-1 and **Figure 3-2** display the arterial roads and freeways that traverse the study area. These roads were identified through FDOT's functional classification system as either principal or minor arterial urban roadways, which are typically utilized for freight traffic. As defined by FDOT's Urban Boundary and Functional Classification Handbook, arterials are those roadways that serve the highest degree of through traffic movement and the largest proportion of total travel.

Table 3-1 Functional Classification

Roadway Name	Classification	Classification Description	Toll
HEFT	12	Principal Arterial – Freeway and Expressway - Urban	Yes
Krome Avenue/ SW 177 Avenue	04/14	Principal Arterial – Other – Rural/Urban	No
South Dixie Highway	04	Principal Arterial – Other - Rural	No
SW 288th Street	16	Minor Arterial - Urban	No
NW 8th Street	16	Minor Arterial - Urban	No
Campbell Drive/SW 312th Street	16	Minor Arterial - Urban	No
SW 187th Avenue	16	Minor Arterial - Urban	No
SW 344th Street	16	Minor Arterial - Urban	No
Card Sound Road	06	Minor Arterial - Rural	No

3.1.3 Jurisdiction

The cities of Homestead and Florida City fall within the study area boundaries, mainly within the primary study area. The remaining study areas are under the jurisdiction of unincorporated Miami-Dade County (see **Figure 3-3**).

City of Homestead: Located about 30 miles south of Miami, the city of Homestead has a total land area of approximately 14.4 square miles and a population estimate of 80,737 people (US Census, 2020).

Florida City: Located adjacent to the city of Homestead to the southwest, Florida City has a total land area of approximately 3.2 square miles and a population estimate of 13,085 people (US Census, 2020).

Figure 3-1 Strategic Intermodal System

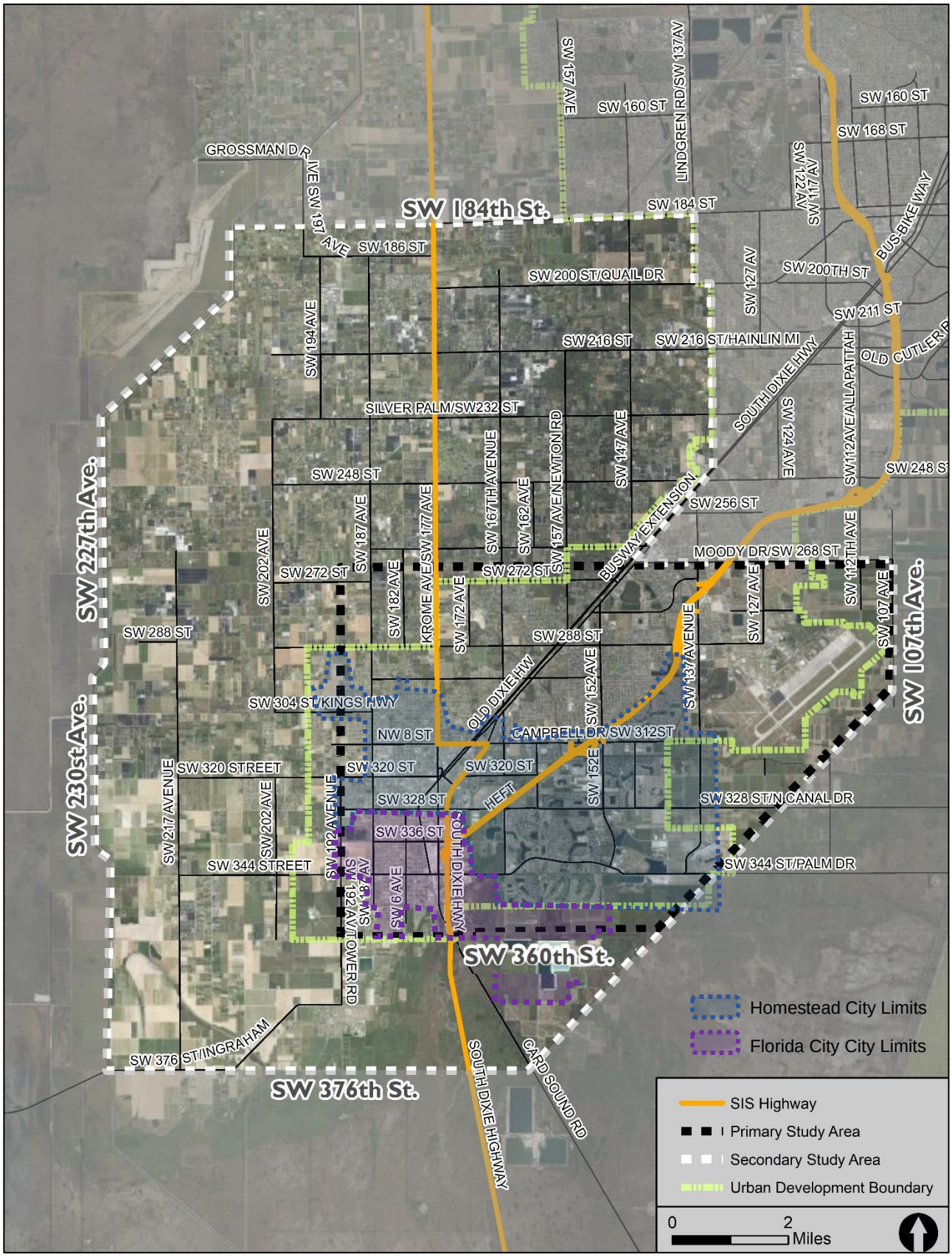


Figure 3-2 Functional Classification

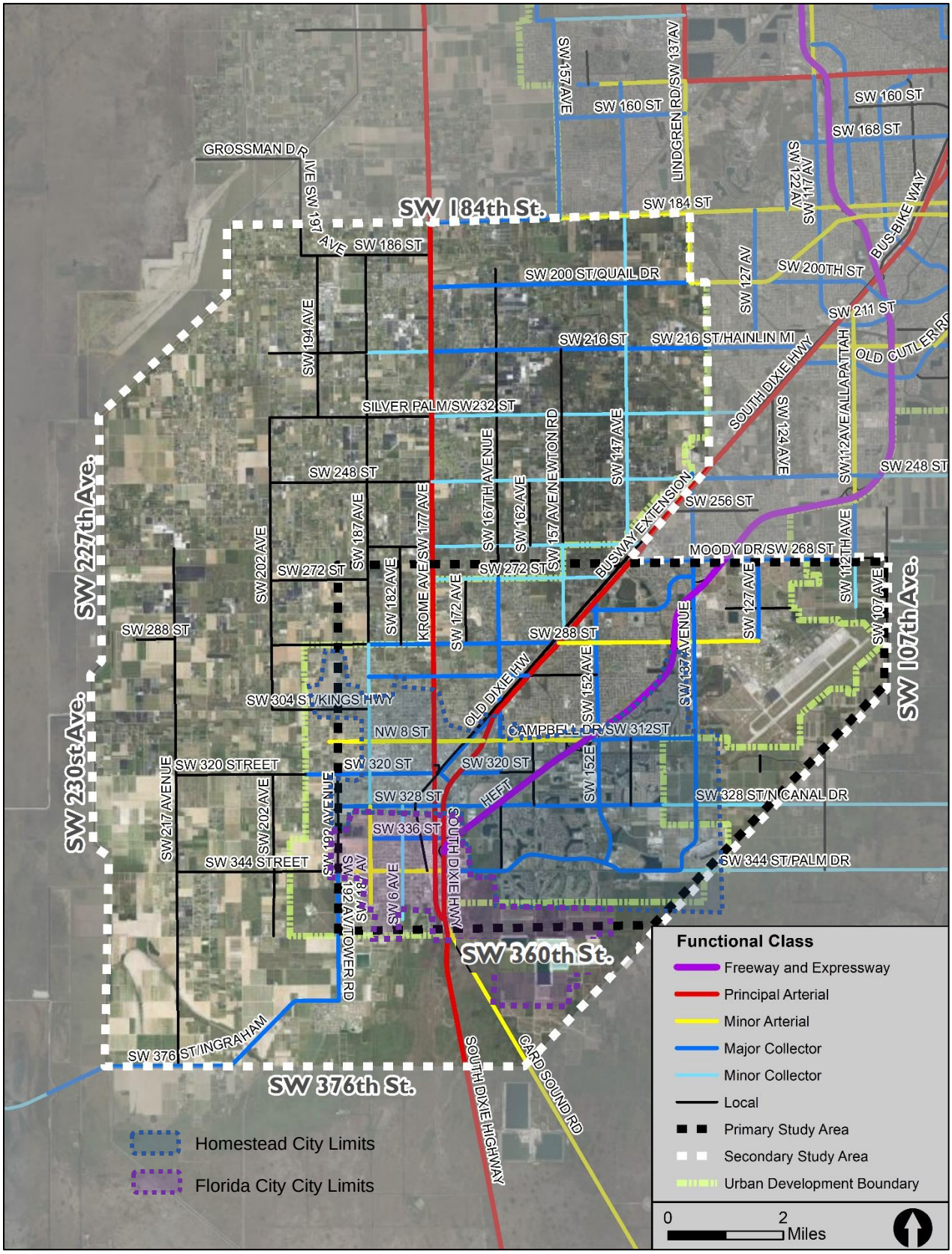
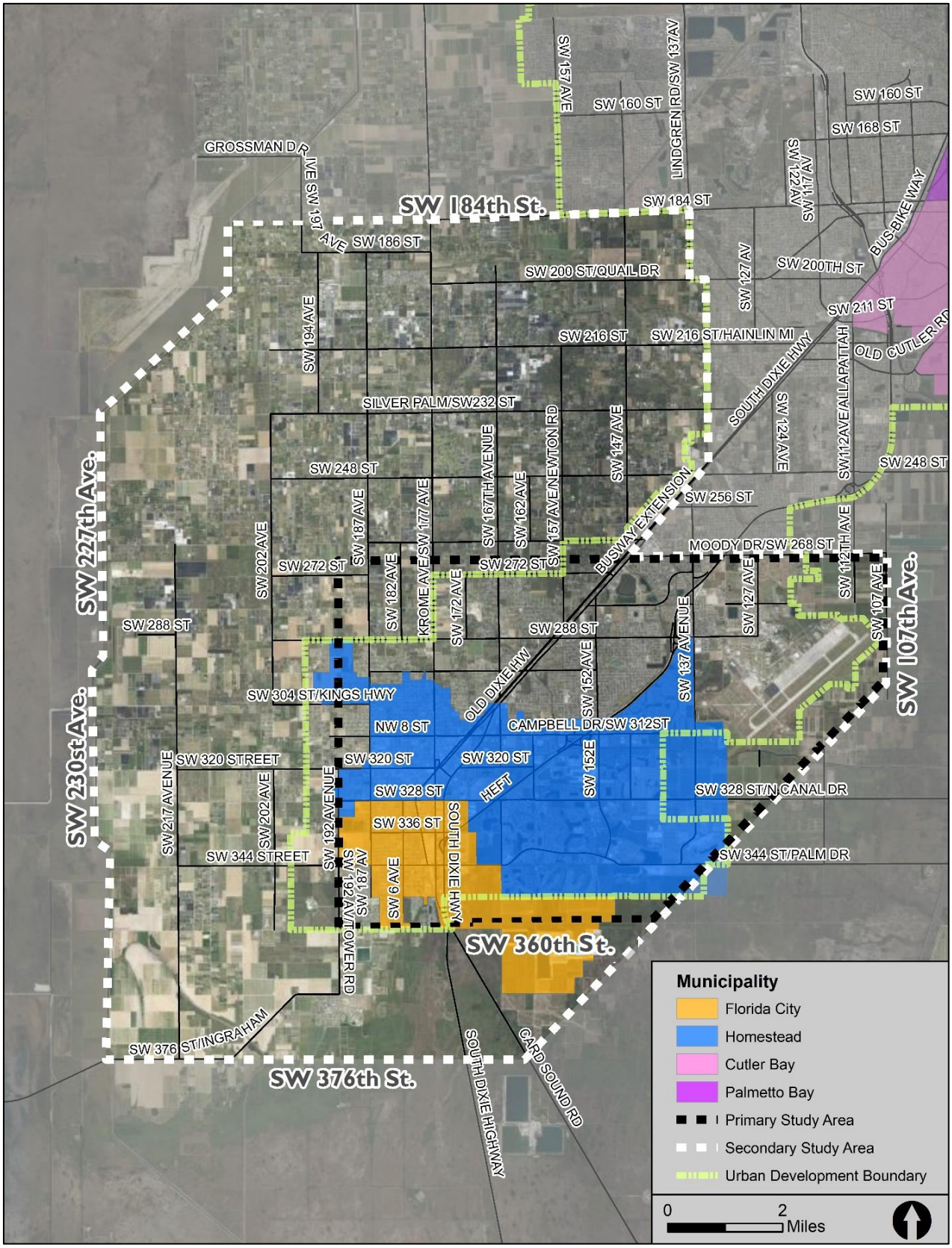
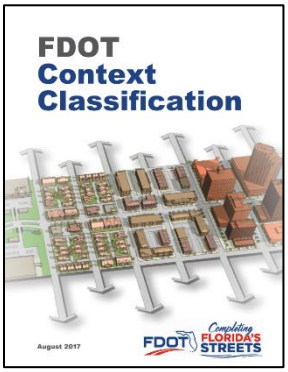


Figure 3-3 Municipal Boundaries



3.1.4 Context Classification

FDOT's Context Classification System describes the general characteristics of land use, development patterns, and roadway connectivity along a roadway, providing cues as to the types of uses and user groups that will likely utilize the roadway. The context classification of a roadway in combination with its transportation characteristics provides information about the users along the roadway, the regional and local travel demand of the roadway, and the challenges and opportunities of each roadway user. There were five unique context classifications identified within the study areas and are defined below:



- **C1 – Natural**: Lands preserved in a natural or wilderness condition, including lands unsuitable for settlement due to natural conditions.
- **C2 – Rural**: Sparsely settled lands; may include agricultural land, grassland, woodland, and wetlands.
- **C3R – Suburban Residential**: Mostly residential uses within large blocks and a disconnected or sparse roadway network.
- **C3C - Suburban Commercial**: Mostly non-residential uses with large building footprints and large parking lots within large blocks and a disconnected or sparse roadway network.
- **C4 - Urban General:** Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor or behind the uses fronting the roadway.

The context classification of the major roadways within the study area is displayed in **Figure 3-4** and summarized in **Table 3-2**. The data for the context classification was obtained from FDOT District 6.

Table 3-2 Context Classification

Roadway Name	Classification(s)	Classification Description
Krome Avenue/ SW 177 Avenue	C3C, C4, C2	Suburban Commercial, Urban General, Rural
Ingraham Road/SW 376 Street	C2	Rural
Palm Drive/SW 344 Street	C3R, C4	Suburban Residential, Urban General
South Dixie Highway	C1, C3C, C4	Natural, Suburban Commercial, Urban General
Quail Drive/SW 200 Street	C2	Rural

3.1.5 Traffic Signals

There are approximately 200 traffic signals in the study area managed by the Miami-Dade County Department of Transportation and Public Works. The locations of the traffic signals within the study area are displayed in **Figure 3-5.**

Figure 3-4 Context Classification

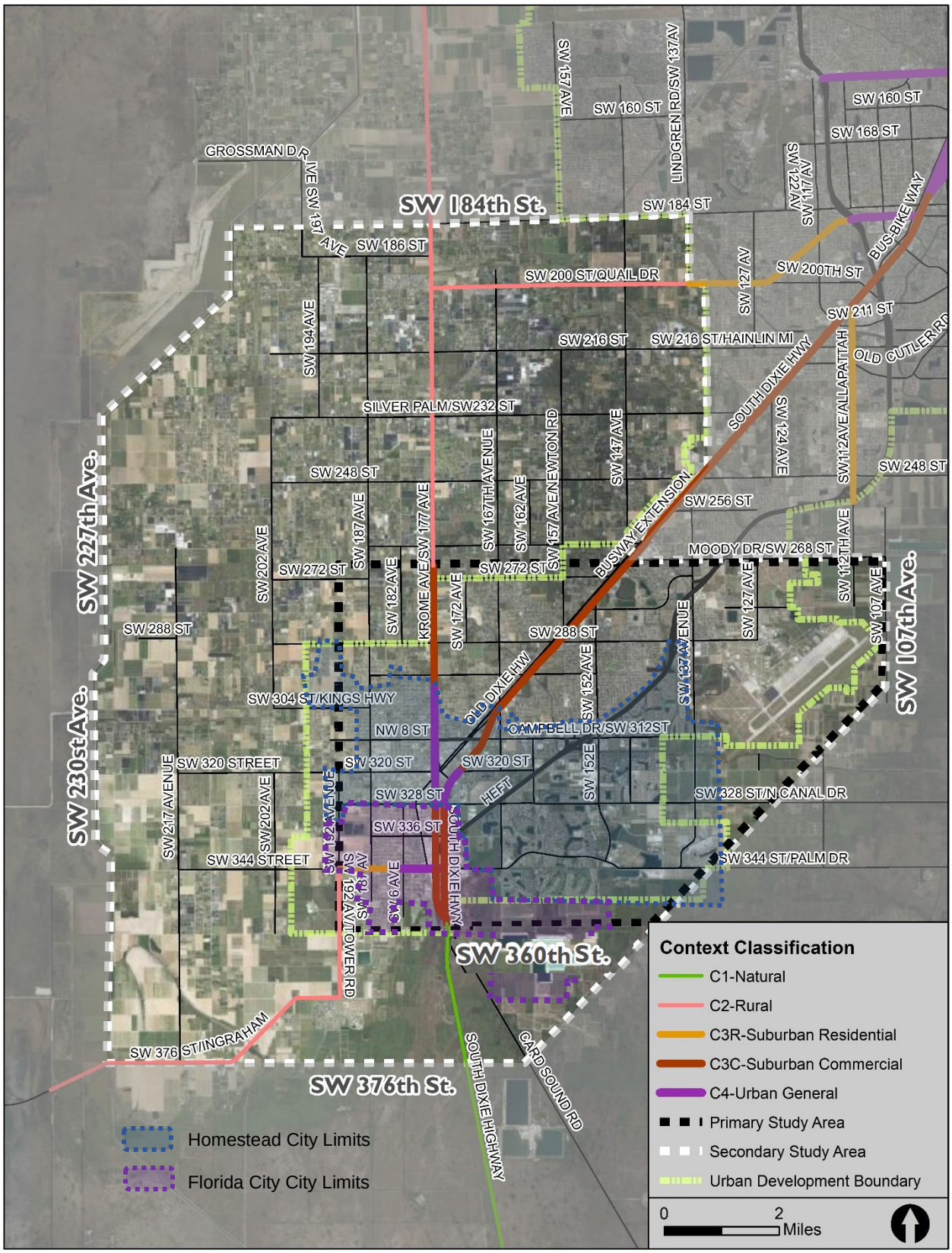
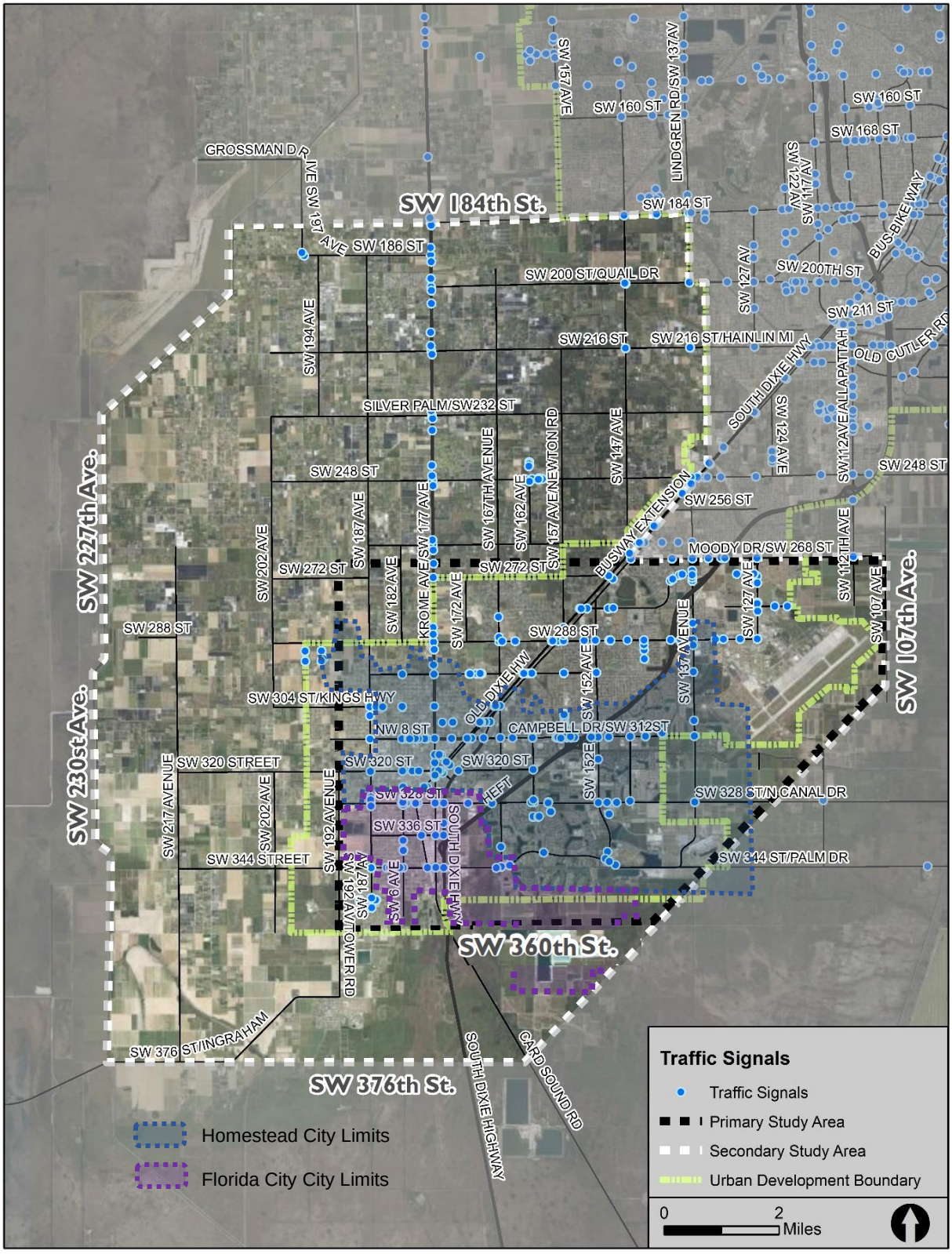


Figure 3-5 Traffic Signals



3.2 Infrastructure Network

In addition to the roadway network, information regarding the railroad network, transit services, existing and planned truck parking facilities, and paved pathways and bike facilities was collected for analysis.

3.2.1 Railroad Network

Both the primary and secondary study areas are served by CSX Transportation (CSX) in the Homestead Subdivision Corridor. Data was gathered for railroad crossings from FDOT in the primary and secondary study areas all within the CSX Homestead Subdivision between Milepost 56.45 and Milepost 66.80, as shown in **Figure 3-6**. This corridor is not registered as a Quiet Zone and requires locomotive horn sounded at each crossing. This information is based on information available through the Federal Railroad Administration (FRA) Office of Safety Analysis[1].

The track within the study area and within the Homestead Subdivision is owned and operated by CSX; however, the most recent use reported to the FRA was recorded in 2017. Train transit through this area is inconsistent by year and relatively inactive. The timetable speed through the area is 10 to 25 MPH, likely attributed to the number of passive warning highway railroad at-grade crossings and the current track condition. Track further north, outside of the study area, in Three Lakes, Florida, has an active spur at Milepost 53.8 where typically two trains per week operate which consist primarily of quarry and materials freight.

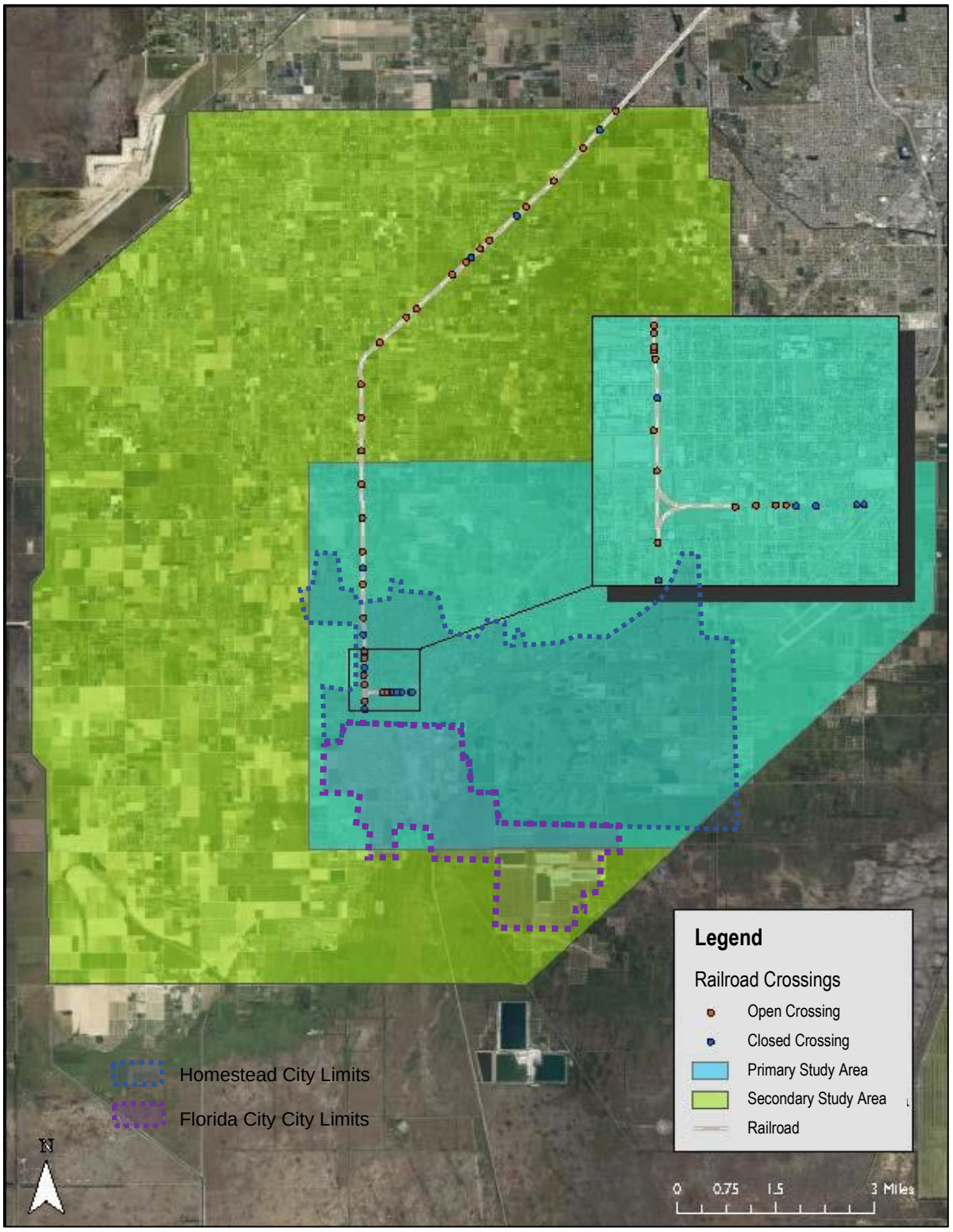
Based on an assessment completed using aerial imagery, track and highway railroad at-grade crossing conditions are generally in "fair" to "poor" condition. If improvements were required, for a new operating agreement for the railroad, resurfacing and tie replacement would likely be required throughout the corridor. Highway railroad at-grade crossing conditions were generally identified as deteriorated, timber and rubber crossings are silted in with spalled pavement, and there has been no recent improvement to the highway railroad at-grade crossing surfaces. Track would likely also need to be replaced at the highway railroad at-grade crossing locations. In addition, it was estimated that existing rail was at 100-pound rating or less, while current design standards would call for 115- or 132-pound rated rail depending on design loads. Track would likely need replacement if the corridor were to resume a significant freight service role.

Land use within the Homestead study area has experienced turnover since the rail infrastructure was last in use. For example, the wye at the south end of the Homestead Subdivision contains several properties with rail access, by means of a rail spur on property; however, it appears that the companies that own or lease the land are not currently utilizing the current rail infrastructure. These companies include:

- Kimre Inc., located at 744 SW 1st Street, is an environmental engineering firm. This property has a rail spur with a covered loading area within the building.
- ABC Supply Company, Inc., located at 1001 W Mowry Drive, is distribution for roofing and building supplies. The property has a rail spur with an unloading platform and gated unloading access. Based on aerial imagery, the enclosed track within the property limits appears to be a storage area and currently not maintained for freight rail use.
- Construction Materials, Inc., located at 1038 NW 4th Street, is a construction material wholesale company. The property has a rail spur that, according to the FRA railroad crossing reports, was in use in 2017. Based on aerial imagery, the spur appears to be in poor condition and used as a storage area on property.
- Diamond R. Fertilizer, located at 18375 SW 260th Street, is a fertilizer supplier. The company also uses the adjacent lot for their business. The facility has a gated and fenced in rail spur the full length of the property.

[1] https://safetydata.fra.dot.gov/officeofsafety/publicsite/crossing/crossing.aspx

Figure 3-6: Study Area and Highway Railroad At-Grade Crossings



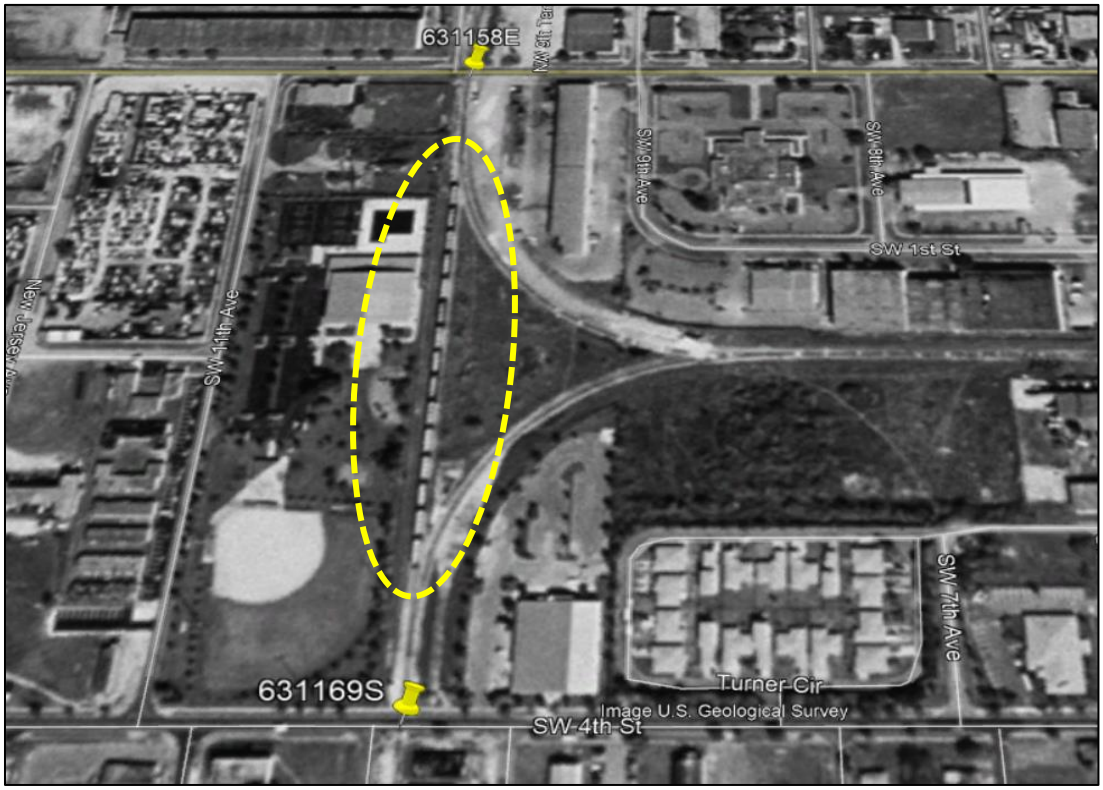
Highway Railroad At-Grade Crossing Information

Data was compiled from FDOT for each highway railroad at-grade crossing within the primary and secondary study areas, as shown in **Table 3-3**. This data provides summary information about the location, train and Average Daily Traffic (ADT), crossing control, and crash history. There are three types of highway railroad at-grade crossing systems in use within the study area: 1) active warning systems, including flashers and bells only; 2) passive warning systems, including posted Emergency Notification Systems signs and cross bucks; and 3) closed crossings, including concrete barriers and signs to prevent vehicles from crossing. Determination of the railroad crossing type and the warning system in place is based, in part, on the Annual Average Daily Traffic (AADT) counts and generally all crossings have the minimum required safety infrastructure in place. Based on interpretation of aerial imagery, the following was identified:

- The highway railroad at-grade crossing active warning systems do not appear to have been recently maintained by the owning railroad.
- The closed crossings show evidence of pedestrian traffic crossing the tracks.
- Companies located adjacent to the railroad right-of-way have created additional, illegal crossings using aggregate across the tracks to increase access without posted signage.

As previously stated, within the study area, there are no known active trains reported. The majority of highway railroad at-grade crossing reports identified “no train traffic” since early 2019, and inventory reports dated between 1998 and 2018 also indicated inconsistent rail traffic throughout the corridor. The most recent active client within the study area is assumed to be Construction Materials Inc.; the highway railroad at-grade crossing report for crossing number 631156R reported that CSX provided freight rail services, one train per week, to this company in 2017. Prior to 2017, inventory reporting in 1996 and 1997 identified two trains per week operating within the study area and a review of aerial imagery identified railcars within the wye in 1999, as shown in **Figure 3-7** (railcars circled in yellow).

Figure 3-7 Railcars Stored Within Homestead Wye



Aerial image dated 1999. Source: Google Earth.

Table 3-3 FRA Highway Railroad At-Grade Crossing Data Compilation

Study Area	Crossing Inventory Number	Status	Street	Milepost	# of Tracks	# of Lanes (Roadway)	ADT			# of Trains (2019)	Crossing Control	Crash History		Other
							Vehicles (ADT)	Year Reported	% Trucks			# of Incidents (1975-2019)	Most Recent Year	
Secondary	631127F	Open	SW 184th St / Eureka Dr.	56.45	1	2	15,100	2017	0	0	Active	3	1994	No Train Traffic
Secondary	631128M	Closed 2017	Private	56.74	1	0	0	2017	0	0	Closed	0	N/A	Closed 2017
Secondary	631129U	Open	Private	57.2	1	0	0	1983	0	0	Not Present	0	N/A	No Train Traffic
Secondary	631130N	Open	Quail Roost Rd	57.87	1	2	7,100	2017	7	0	Active	3	1984	No Train Traffic
Secondary	631131V	Open	Farmlife Rd	58.37	1	2	1,587	2011	5	0	Passive	3	1987	No Train Traffic
Secondary	631132C	Closed 1998	Private	58.77	1	0	0	1998	0	0	Closed	0	N/A	Closed 1998
Secondary	631133J	Open	SW 167th Ave	59.09	1	2	7,887	2011	5	0	Passive	2	2002	No Train Traffic
Secondary	631134R	Open	SW 216th St	59.26	1	2	5,100	2017	0	0	Active	0	N/A	No Train Traffic
Secondary	631135X	Closed 1998	Private	59.39	1	0	0	1998	0	0	Closed	0	N/A	Closed 1998
Secondary	631218L	Open	Private	59.6	1	0	1	1984	0	0	Passive	0	N/A	No Train Traffic
Secondary	631136E	Open	SW 172 Ave	59.85	1	1	1,277	2008	5	0	Not Present	0	N/A	No Train Traffic
Secondary	631137L	Open	SW 177th Ave	60.53	1	2	17,500	2017	9	0	Passive	0	N/A	No Train Traffic
Secondary	631138T	Open	SW 232nd St	60.67	1	2	4,000	2017	13	0	Active	0	N/A	No Train Traffic
Secondary	631139A	Open	SW 182nd Ave / Roberts Rd	61.23	1	2	406	2011	5	0	Passive	0	N/A	No Train Traffic
Secondary	631140U	Open	SW 248th St	61.97	1	2	3,729	2011	0	0	Active	1	1980	No Train Traffic
Secondary	631141B	Open	SW 256th St	62.44	1	2	842	2011	0	0	Active	1	1982	No Train Traffic
Secondary	631142H	Open	SW 264th St / Bauer Dr	62.98	1	2	3,100	2017	0	0	Active	3	1989	No Train Traffic
Primary	631143P	Open	SW 272nd St	63.43	1	2	687	2011	5	0	Active	1	1983	No Train Traffic
Primary	631144W	Open	SW 280th St	63.99	1	2	999	2011	0	0	Active	2	1981	No Train Traffic
Primary	631145D	Open	SW 288th St / Biscayne Dr	64.36	1	2	3,600	2017	0	0	Active	1	1980	No Train Traffic
Primary	631146K	Closed 1996	SW 292nd Street	64.86	1	0	0	1996	0	0	Closed	0	0	Closed 1996
Primary	631147S	Open	SW 296th St / Avocado Dr	65	1	2	10,300	2017	0	0	Active	0	N/A	No Train Traffic
Primary	631148Y	Open	SW 304th St / Kings Hwy	65.47	1	2	1,152	2011	0	0	Active	0	N/A	No Train Traffic
Primary	621465B	Closed 2017	NW 11th St	65.76	1	0	0	2017	0	0	Closed	0	N/A	Closed 2017
Primary	631149F	Open	SW 312th St / W Campbell Dr	66	1	2	10,100	2017	6	0	Active	0	N/A	No Train Traffic
Primary	631150A	Open	Private	66.04	1	0	0	1988	0	0	Not Present	0	N/A	No Train Traffic
Primary	631151G	Open	Private	66.06	1	0	0	1988	0	0	Not Present	0	N/A	No Train Traffic
Primary	631152N	Open	Private	66.07	1	0	0	1988	0	0	Not Present	0	N/A	No Train Traffic
Primary	631153V	Open	Private	66.09	1	0	0	1988	0	0	Not Present	0	N/A	No Train Traffic
Primary	631155J	Closed	Private	66.2	1	0	0	2017	0	0	Closed	0	N/A	Closed 2017
Primary	631156R	Open	NW 10th Ave	66.27	1	2	453	2003	0	0	Passive	0	N/A	No Train Traffic
Primary	631158E	Open	SW 320th St / W Mowry Dr	66.5	2	2	8,700	2017	0	0	Passive	0	N/A	No Train Traffic
Primary	631160F	Open	SW 6th Ave	66.55	2	3	1,575	1988	14	0	Passive	1	1977	No Train Traffic
Primary	631161M	Open	SW 5th Ave	66.55	1	2	898	2011	0	0	Passive	0	N/A	No Train Traffic
Primary	631162U	Open	SW 4th Ave	66.55	1	2	780	2011	0	0	Passive	0	N/A	No Train Traffic
Primary	631163B	Open	SW Third Ter	66.55	1	1	5,098	1999	0	0	Passive	0	N/A	No Train Traffic
Primary	631164H	Closed 2017	SW 3rd Ave	66.55	1	2	351	1999	0	0	Passive	0	N/A	Closed 2017
Primary	631165P	Closed 2017	SW 2nd Ave	66.55	1	2	650	1999	0	0	Passive	1	1975	Closed 2017
Primary	631166W	Closed 1998	SW 1st Ave	66.55	0	1	11	1998	14	0	Not Present	0	N/A	Closed 1998
Primary	631167D	Closed 2005	S Railroad Ave	66.55	0	1	11	1988	14	0	Not Present	0	N/A	Closed 2005
Primary	631169S	Open	SW 4th Street	66.8	1	2	336	2011	0	0	Active	0	N/A	No Train Traffic
Primary	631170L	Closed 2017	SW 6th Street	66.9	2	3	1,175	1992	14	0	Passive	0	N/A	Closed 2017

Crash History

The most recent crashes at a currently open highway railroad at-grade crossing occurred in 2002, both occurring at crossing number 631133J, at the intersection of SW 167th Avenue. This highway railroad at-grade crossing is a rural connector intersection with passive warning signage and a statutory speed of 40 MPH. There were no other accidents reported to the FRA within this corridor since 1994. The low crash rate is likely attributed to the low operating train speeds and low volume of trains throughout the corridor over the reviewed period.

Sale and Abandonment

Based on available parcel information, the railroad corridor is currently owned by railroad entities, excluding individual properties that have rail access.[2] Several highway railroad at-grade crossings have been identified as closed by the owning railroad to rail traffic. Track remains in place within the roadways; however, the FRA Database lists them as closed. Several private and public highway railroad at-grade crossings have also been closed to vehicular use either due to private crossing lack of use or redundant access across tracks. While closed, the right-of-way remains owned by railroad entities.

Sale and abandonment are typically not a common practice among railroads, especially along the east coast where losing track and property would most likely result in the inability to ever reestablish that track without significant property acquisition costs. As referenced above, closing crossings along inactive routes is an operational practice that allows the owning railroad to preserve their right-of-way access. Recent changes in operational tactics attributed to Precision Scheduled Railroading may change the priorities of the owning railroad to determine if rail can be sold; however, abandonment is still unlikely.

Conclusion

A review of existing conditions of the study area identified limited railroad freight transportation and a lack of consistent reporting for highway railroad at-grade railroad crossings; however, freight rail transportation has been relatively inactive between 1999 and 2020. Future growth of freight traffic would be dependent on freight shippers taking over existing facilities that have rail spurs, track and crossing improvements to the rail corridor, as well as the rail spurs on private property, and development of railroad operating agreements between those users and CSX. Further, transition of ownership of the railroad would likely require an agreement of sale with the owning railroad. CSX has reportedly conveyed interest a few years ago in selling their rail assets south of Miami International Airport to FDOT.

Increasingly, Class 1 railroads are focused on mainline trunk routes hauling larger volumes of freight in longer trains. Ancillary lines such as the Homestead Subdivision with declining or minimal traffic loads are being shed to short line railroads or in some cases identified for abandonment. Modern merchandising together with product and material distribution are less reliant on rail access unless situated along a Class 1 mainline or a shortline rail corridor with sufficient load density. This corridor was also explored many years ago as a possible rail transit corridor. However, as the corridor traverses mostly farming districts outside the UDB (except for the south end in Homestead), and the South Transitway Corridor is under construction as a “gold standard” bus rapid transit corridor, conditions were not favorable for advancing the transit option.

[2] https://gisweb.miamidade.gov/emaps/

3.2.2 Transit Services

Rapid Transit Zone (RTZ)

A Rapid Transit Zone (RTZ) is a type of zoning district in Miami-Dade County. RTZs are designated as necessary for construction, operation, maintenance, and support of the County's Rapid Transit System. The following areas have designated RTZs: Dadeland, South Miami, University, Douglas Road, Coconut Grove, Vizcaya, Brickell, Government Center Station, Government Center Expansion, Culmer/Civic Center, Allapattah/Santa Clara, Earlington Heights/Brownsville, Martin Luther King, Northside, Hialeah, Okeechobee/Yard & Shop, and Test Track. Details about the RTZ designation are included in Section 33C-2 of the Miami-Dade County Code of Ordinances. As of this publication, the study areas are not located in an RTZ.

Metrobus (Miami-Dade Transit)

The Miami-Dade County Department of Transportation and Public Works (MDC DTPW) provides transit service throughout Miami-Dade County 365 days a year. With 95 Metrobus routes using more than 800 buses and traveling approximately 95 million miles per year, most routes are designed to intersect with Metrorail and Metromover to provide further coverage by the collective transit network.

Figure 3-8 displays the transit system routes and stops within and surrounding the study area. The route data was retrieved from the Miami-Dade County Open Data Hub and was last updated May 27, 2020. The bus stop data was also retrieved from the Miami-Dade County Open Data Hub and was last updated December 14, 2018.

Future Transit Under the Strategic Miami Area Rapid Transit (SMART) Plan

MDC DTPW, Miami-Dade Transportation Planning Organization (TPO), and FDOT are partnering to develop the county's "next generation" transit network through the Strategic Miami Area Rapid Transit (SMART) Plan, which envisions six new premium transit corridors serving radial corridors emanating from downtown Miami and the exiting Metrorail heavy rail service corridors. Within the study area, the following new premium transit services are being planned:

- South Transitway Bus Rapid Transit (BRT)
  - "Gold Standard" BRT operating on the existing independent bus corridor adjacent to US 1, extending southwesterly from the Dadeland Metrorail station.
  - High frequency, limited stop transit service over most of the day.
  - Construction of this project has been initiated.
- Bus Express Rapid Transit (BERT) service corridors: providing high speed, non-stop coach bus service
  - Line b – South Miami-Dade Express: connects from Florida City BRT station (SW 344th Street) to Dadeland Metrorail station.
  - Line e1 – Florida's Turnpike Express (South): connects from Florida City BRT station (SW 344th Street) to the Dolphin Station Park-and-Ride Lot at NW 12th Street

Figure 3-9 illustrates the SMART Plan transit corridors, and **Figure 3-10** shows the planned station locations for the South Transitway BRT. The TPO has led the effort for station area transit-oriented development (TOD) planning around the proposed transit stations and has also sponsored mobility hub planning for these stations that identifies needed first-mile/last-mile access strategies to connect transit travelers between the transit stations and their ultimate origin or destination.

These transit improvements are expected to be open to service in the next few years and will provide travel options for work commuters living in southern parts of the county with jobs further north, as well as the reverse commute.

Figure 3-8 Transit Routes and Stops

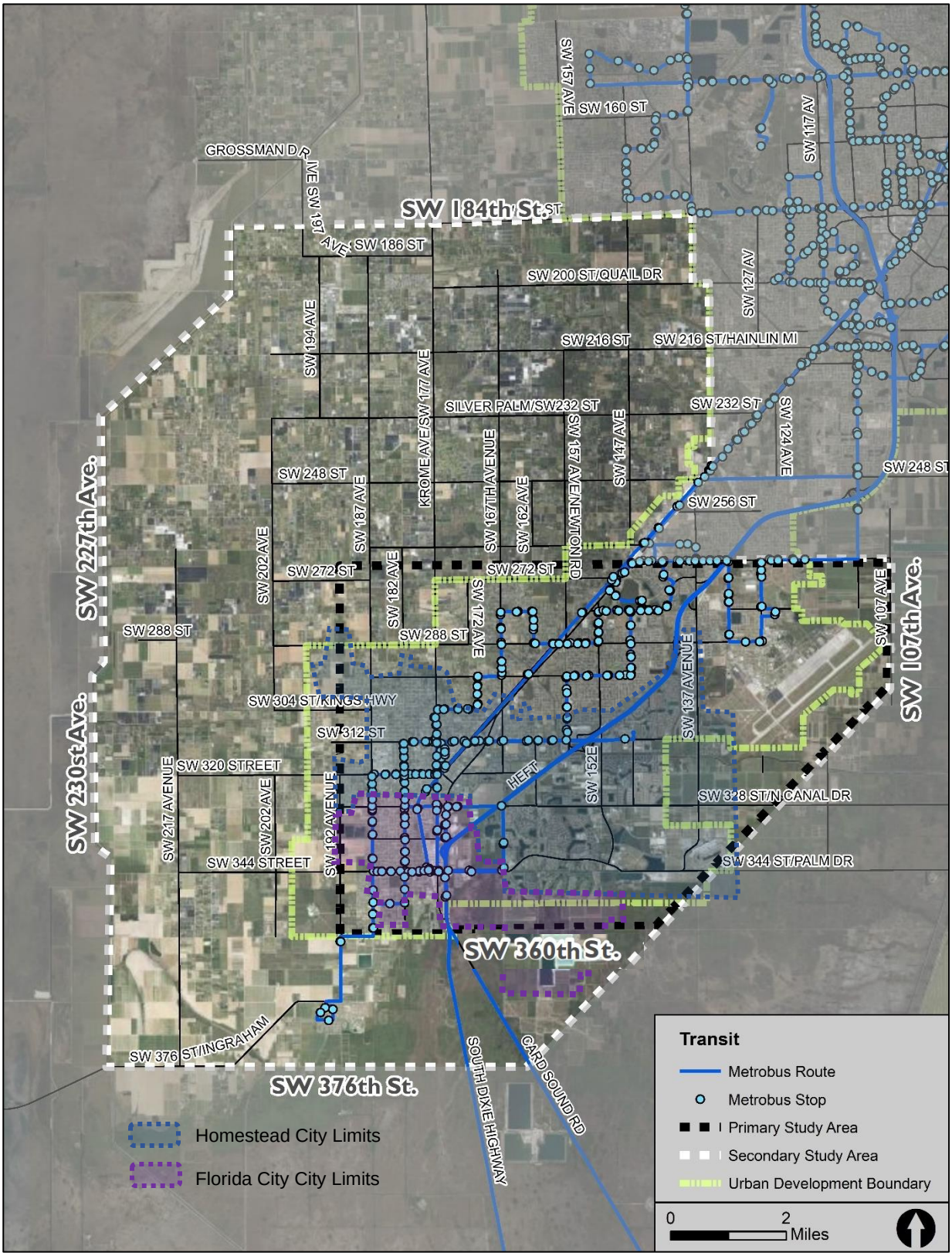


Figure 3-9 SMART Plan

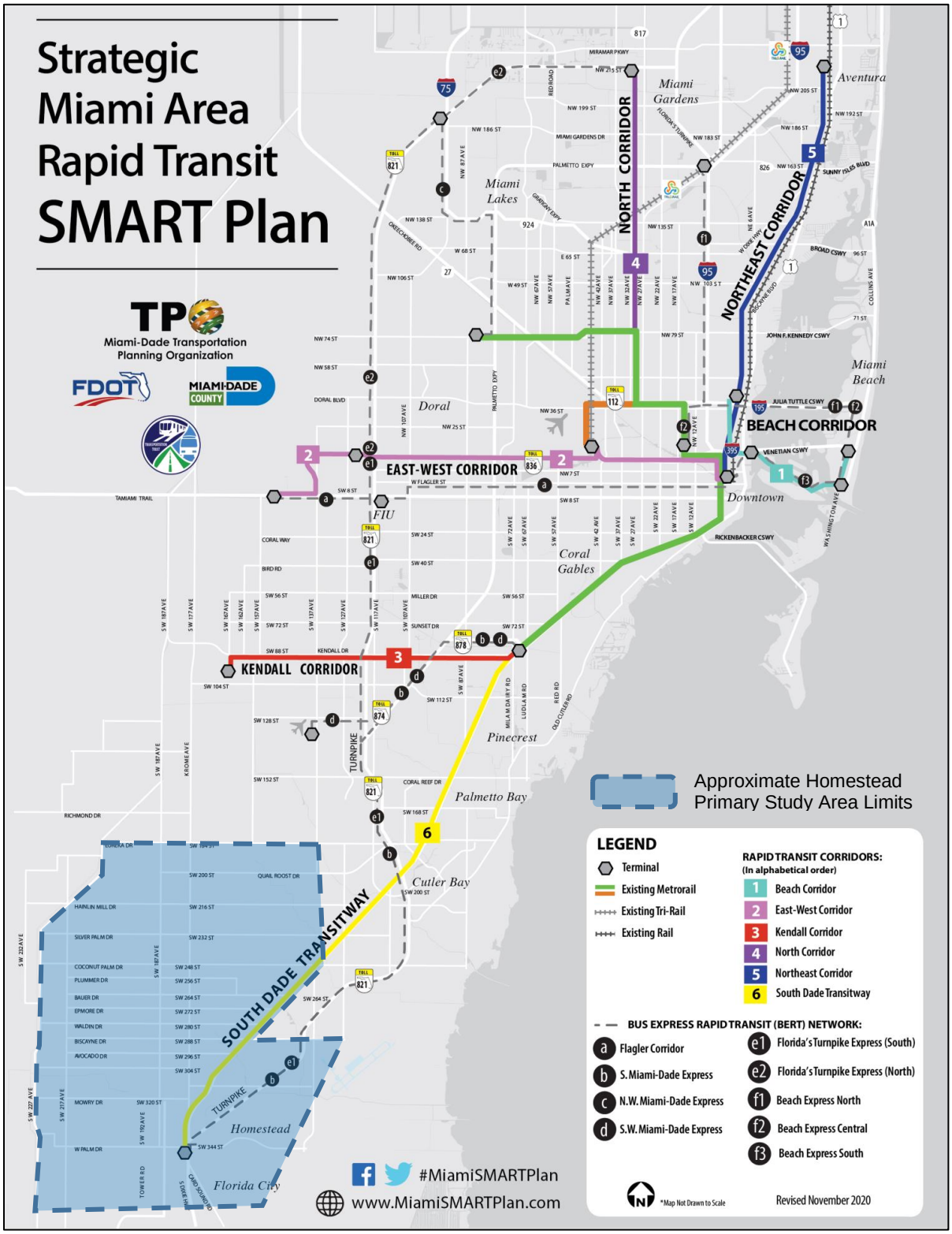
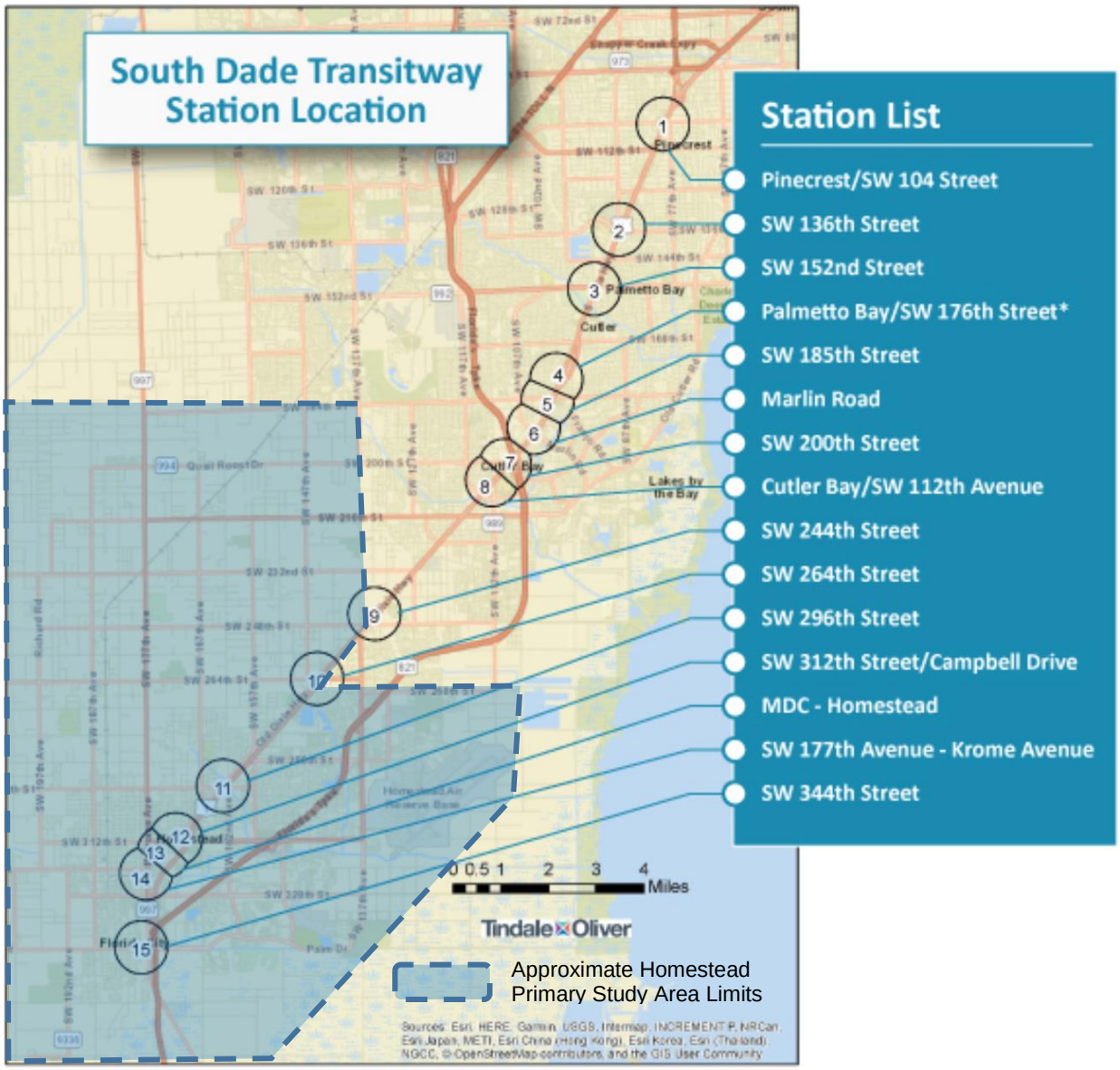


Figure 3-10 South Transitway Station Locations



3.2.3 Existing and Planned Truck Parking Facilities

A *Truck Parking Supply & Demand Study* was completed for FDOT D6 in December 2021. The study included supply, demand, and shortfall related analyses, truck parking facility cut sheets, Census Block Group (CBG) and city-level truck parking supply and demand tables, and unauthorized parking issue locations and parking concerns. A summary of this study is provided in this section.

The truck parking facilities that are within or near the Homestead study area noted in the *Truck Parking Supply and Demand Study* are summarized in **Table 3-4** and displayed on the map in **Figure 3-11.** There are approximately 265 truck parking spaces on 15.8 acres within the vicinity of the study area.

Table 3-4 Truck Parking Facilities

Location	Facility Name	Address	City/Place	Inside/Outside UDB	Lot Size (acres)	Parking Spaces
Site 9	Mobil Truck Stop #2 / Exprezo Krome Truck Stop	24791 FL-997, Homestead, FL 33031	Unincorporated	Outside	1.46	20
Site 14	Chevron Truck Stop	1360 W Mowry Drive, Homestead, FL 33030	Homestead City	Inside	0.72	5
Site 31	Private Truck Parking Lot	23505 SW 132nd Avenue, Homestead, FL, 33032	Princeton CDP	Inside	8.58	130
Site 37	Private Truck Parking Lot	Near SW 256th Street/SW 187th Avenue, Homestead, FL 33031	Unincorporated	Outside	3.96	90
Site 60	Propane Cowboy Parking Lot	186 SW 1st Street, Homestead, FL 33030	Homestead City	Inside	1.36	20
Total					15.81	265

3.2.4 Paved Pathways and Bike Facilities

The existing paved pathways and bicycle facilities (bike lanes) are displayed in **Figure 3-12**. Both datasets were retrieved from the Miami-Dade County Open Data Hub provided by the Miami-Dade County MPO. Both datasets are dated June 3, 2019.

Figure 3-11 Truck Parking Facilities

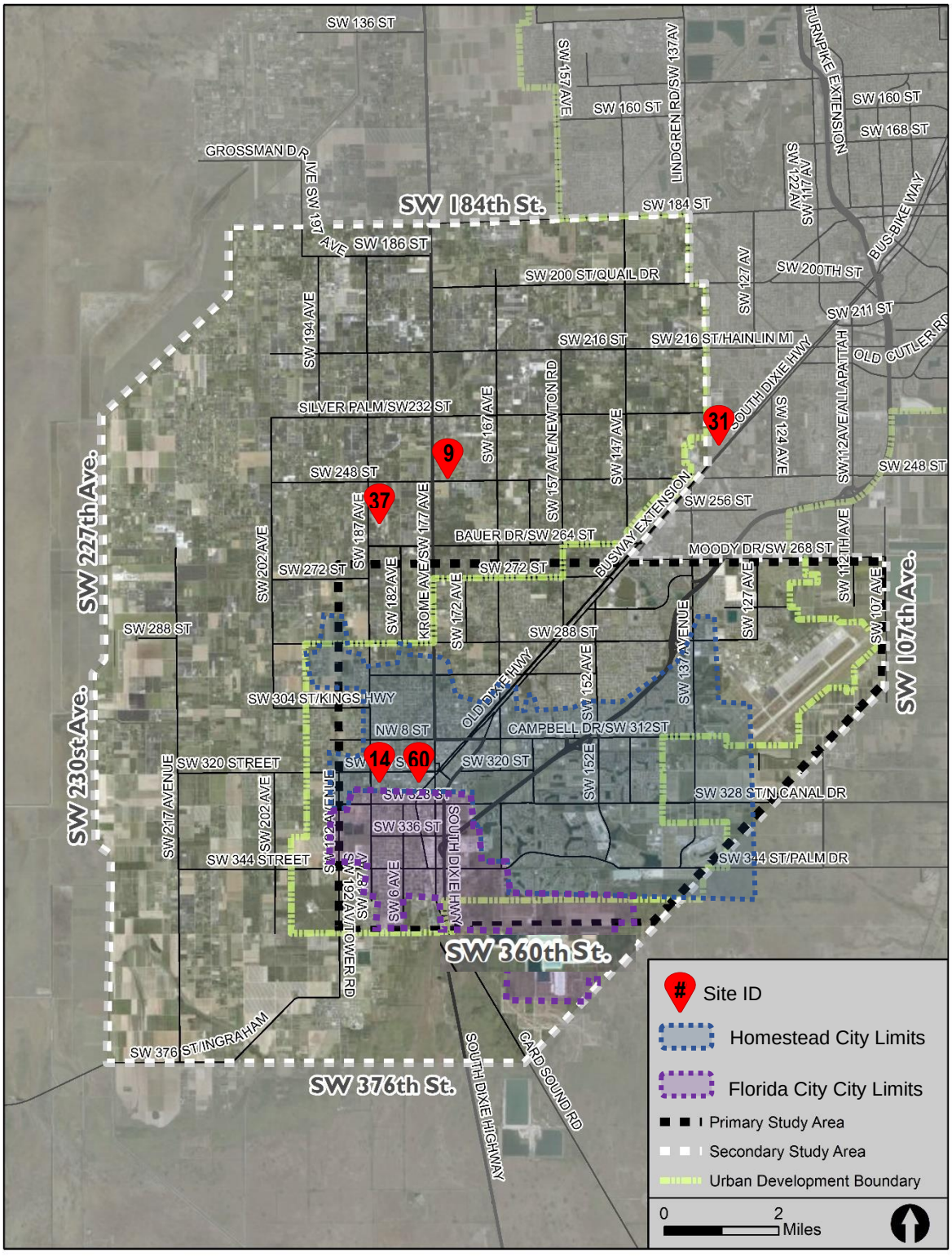
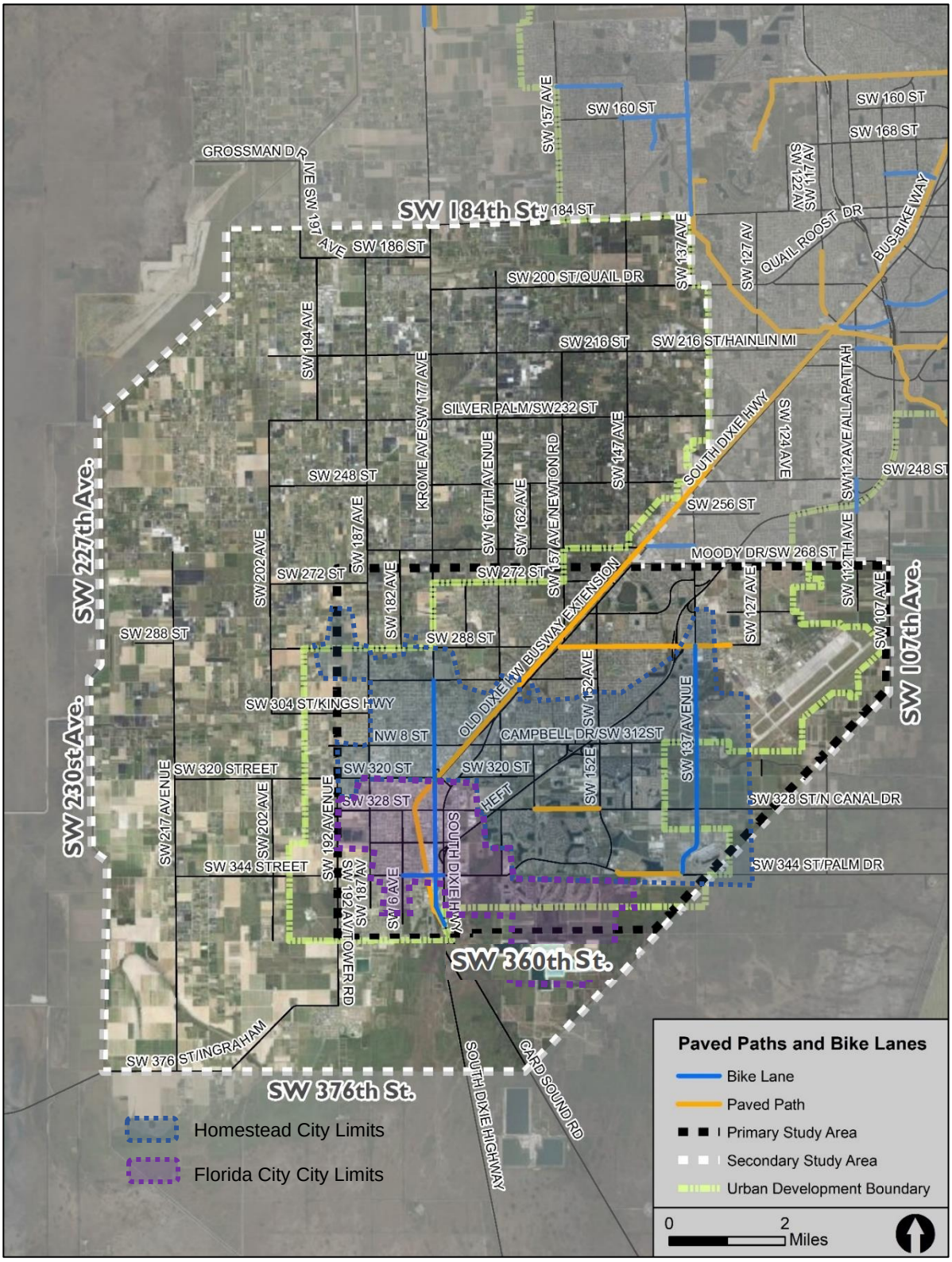


Figure 3-12 Paved Pathways and Bike Facilities



3.3 Land Use, Socioeconomics, Demographics

The main purpose of collecting cultural, historic, and demographic data will be to mitigate any adverse impacts of implementing freight improvements. The environmental and socioeconomic conditions data collection effort includes natural and physical resources, demographic, social, and cultural features.

3.3.1 Existing and Future Land Use

Existing Land Use

Figure 3-13 displays the generalized land use map for the study area. The generalized land use was determined using the 'Generalized Land Use Derived from 2018 Florida Parcels' dataset from the GeoPlan Center. The dataset was created for FDOT and generalizes 99 available land uses into 15 land use classifications.

The secondary study area generally consists of Agricultural (green) and Residential (yellow) land uses. The primary study area contains fewer Agricultural uses and contains more Residential and Retail/Office (red) land uses. A summary of the existing land use along with acreage is displayed in **Table 3-5.**

Future Land Use

Figure 3-14 displays the municipal future land use designations for the study area. The dataset was retrieved from the Miami-Dade County Open Data Hub and was dated 11/13/2018. The land uses have been generalized for simplicity.

Zoning

Figure 3-15 displays the existing zoning designations for the study area. The dataset was retrieved from the Miami-Dade County Open Data Hub and was dated 11/13/2018.

Urban Development Boundary

The Urban Development Boundary (UDB) was adopted by the Miami-Dade Board of County Commissioners as per recommendation. The boundary identifies the area where urban development may occur through the year 2030. Development orders permitting urban development will generally be approved within the UDB provided that level-of-service standards for necessary public facilities will be met. Adequate countywide capacity will be maintained within the UDB by increasing development densities or intensities inside the UDB or by expanding the UDB when the need for such change is determined to be necessary through the amendment process. The UDB is depicted as a green dotted line on all the maps in this report.

Community Redevelopment Areas (CRAs)

The cities of Homestead and Florida City are Community Development Areas (CRAs) which are special taxing districts to be used for community redevelopment projects.

Figure 3-13: Generalized Existing Land Use

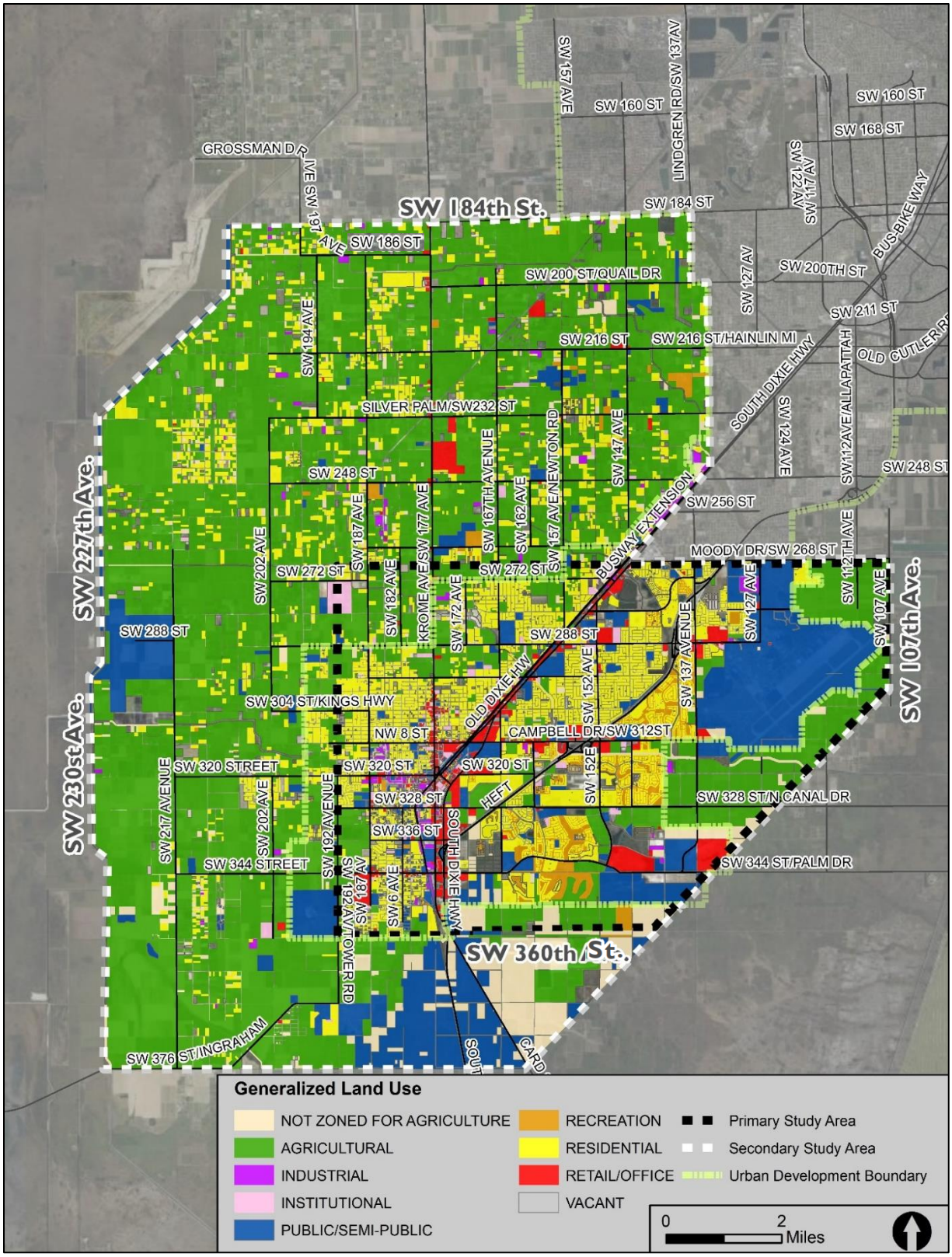
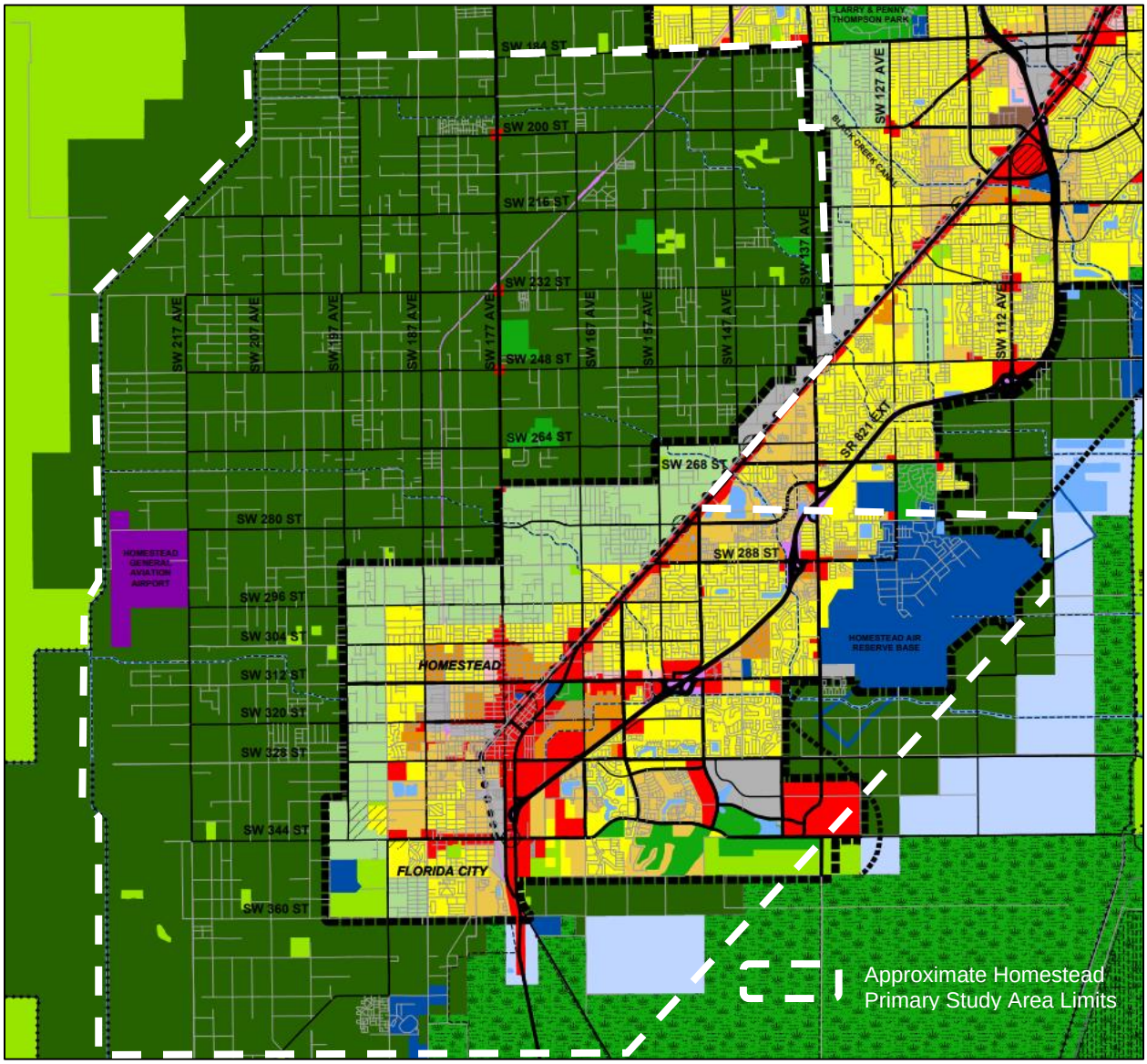


Table 3-5 Existing Land Use Acreages

Land Use Type	Acres	Percentage
Acreage Not Zoned for Agriculture	3,807.6	5.1%
Agricultural	42,453.5	56.4%
Centrally Assessed	129.1	0.2%
Industrial	495.2	0.7%
Institutional	521.8	0.7%
Mining	0.4	0.0%
Parcels With No Values	407.6	0.5%
Public/Semi-Public	9,139.4	12.1%
Recreation	1,262.7	1.7%
Residential	10,917.8	14.5%
Retail/Office	1,610.2	2.1%
Row	20.0	0.0%
Vacant Nonresidential	632.4	0.8%
Vacant Residential	3,576.4	4.7%
Water	325.0	0.4%
Grand Total	75,299.0	100.0%

Figure 3-14 Future Land Use Map

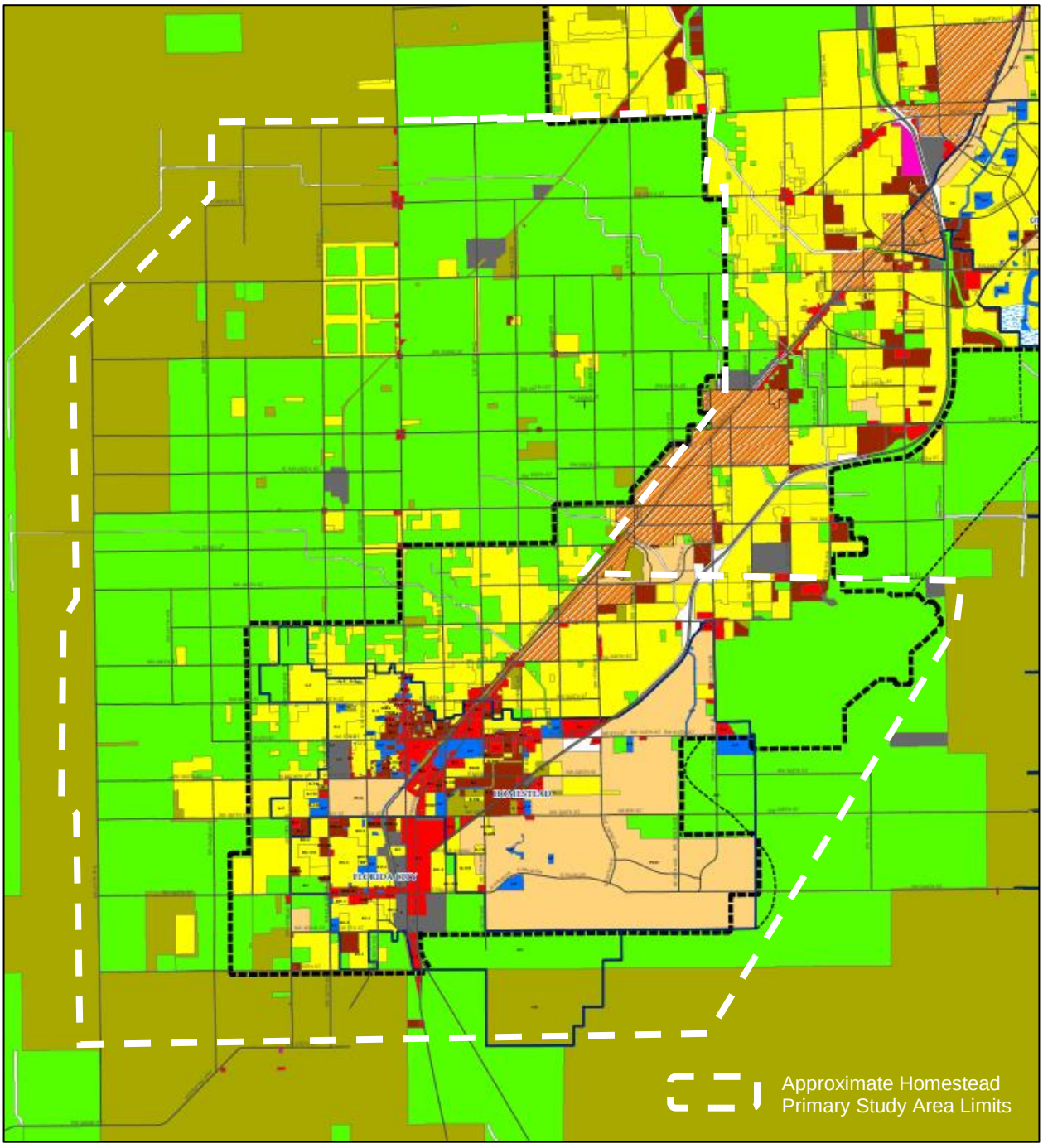


RESIDENTIAL COMMUNITIES

- ESTATE DENSITY (EDR) 1-2.5 DU/AC
- ESTATE DENSITY W/ ONE DENSITY INCREASE (DI-1)
- LOW DENSITY (LDR) 2.5-6 DU/AC
- LOW DENSITY W/ ONE DENSITY INCREASE (DI-1)
- LOW-MEDIUM DENSITY (LMDR) 6-13 DU/AC
- LOW-MEDIUM DENSITY W/ ONE DENSITY INCREASE (DI-1)
- MEDIUM DENSITY (MDR) 13-25 DU/AC
- MEDIUM DENSITY W/ ONE DENSITY INCREASE (DI-1)
- MEDIUM-HIGH DENSITY (MHDR) 25-60 DU/AC
- HIGH DENSITY (HDR) 60-125 DU/AC OR MORE/GROSS AC
- TWO DENSITY INCREASE WITH URBAN DESIGN (DI-2)
- INDUSTRIAL AND OFFICE
- RESTRICTED INDUSTRIAL AND OFFICE
- BUSINESS AND OFFICE
- OFFICE/RESIDENTIAL
- SPECIAL DISTRICT
- INSTITUTIONS, UTILITIES, AND COMMUNICATIONS
- PARKS AND RECREATION
- ZOO MIAMI ENTERTAINMENT AREA
- AGRICULTURE
- OPEN LAND
- ENVIRONMENTAL PROTECTION
- ENVIRONMENTALLY PROTECTED PARKS
- TRANSPORTATION (ROW, RAIL, METRORAIL, ETC.)
- TERMINALS

Source: Adopted 2030 and 2040 Land Use Plan for Miami-Dade County Florida, updated February 2021.

Figure 3-15 Zoning Map



Source: Current Zoning in Miami-Dade County Florida, RER, April 2021.

3.3.2 Social Factors

The Environmental Screening Tool (EST) Sociocultural Data Report (SDR) was used to derive demographic data for the study area along with any pertinent observations. The SDR uses the Census 2014-2018 American Community Survey (ACS) data and reflects the approximation of the population based on a project buffer intersecting the Census Block Groups along the study area. Using the study area, the SDR identified the following demographics described in this section. The complete SDR report is provided in **Appendix A**.

Population and Income

The SDR identified 41,940 households with a population of 162,719 people within the study area according to the 2014-2018 ACS. The median household income is $44,956. Approximately one-quarter (23.36%) of households are below poverty level, and approximately three percent (2.55%) of households receive public assistance**. Table 3-6** depicts some general population trends in the study area.

Table 3-6 General Population Trends

Description	Study Area				Miami-Dade County
	1990	2000	2010 (ACS)	2014-2018 (ACS)	2014-2018 (ACS)
Total Population	89,357	93,586	139,415	162,719	2,715,516
Average Persons per Acres	5.05	5.91	8.69	9.79	7.81
Average Persons per Household	3.11	3.25	3.33	3.93	3.07
Average Persons per Family	3.52	3.73	3.84	4.41	3.74
Males	45,382	46,937	69,456	82,460	1,318,627
Females	43,974	46,648	69,958	80,259	1,396,889
Population Under Age 5	9.62%	9.16%	9.18%	8.54%	5.8%
Population Age 65 and Over	9.87%	7.56%	7.77%	9.69%	15.6%
Median Household Income	$28,680	$34,531	$37,961	$44,956	$48,982
Households Below Poverty Level	17.48%	23.12%	22.51%	23.36%	16%
Households with Public Assistance Income	8.58%	7.96%	2.26%	2.55%	2.4%

Race and Ethnicity

Within the study areas, the identified minority population accounts for 86.74% of the total population. The categories for the minority population include those people that selected "Black or African American Alone" with a population of 33,505 persons (20.59%) and 106,324 persons (65.34%) that have selected "Hispanic or Latino of Any Race" as their ethnicity. **Table 3-7** displays the race and ethnicity trends within the study area.

Table 3-7 Race and Ethnicity

Description	1990	2000	2010 (ACS)	2014-2018 (ACS)
White Alone	65,435 (73.23%)	59,752 (63.85%)	95,484 (68.49%)	115,999 (71.29%)
Black or African American Alone	16,008 (17.91%)	21,062 (22.51%)	29,372 (21.07%)	33,505 (20.59%)
Native Hawaiian or Other Pacific Islander Alone	70 (0.08%)	0 (0%)	99 (0.07%)	121 (0.07%)
Asian Alone	1,198 (1.34%)	1,006 (1.07%)	1,626 (1.17%)	1,754 (1.08%)
American or Alaska Native Alone	247 (0.28%)	320 (0.34%)	474 (0.34%)	848 (0.52%)
Some Other Race Alone	6,397 (7.16%)	7,543 (8.06%)	8,109 (5.82%)	5,731 (3.52%)
Claimed 2 or More Races	NA	3,899 (4.17%)	4,247 (3.05%)	4,759 (2.92%)
Hispanic or Latino of Any Race	27,120 (30.35%)	44,656 (47.72%)	85,488 (61.32%)	106,324 (65.34%)
Not Hispanic or Latino	62,237 (69.65%)	48,930 (52.28%)	53,927 (38.68%)	56,395 (34.66%)
Minority	43,844 (49.07%)	67,975 (72.63%)	115,736 (83.02%)	141,142 (86.74%)

Median Age and Disability

The median age is 33 and persons aged 65 and over comprise 5.88% of the population. There are 10,965 persons (11.91%) between the ages of 20 and 64 that have a disability.

Housing

There are 46,100 total housing units which is 0.84 units per acre. The housing consists of multi-family units (13,387), single family units (30,667), and mobile home units (2,028). More units are renter occupied (21,059) than owner occupied (20,880), and 4,159 units are vacant. The median housing value is $178,500.

Language

There are 13,391 people (9.0%) that speak English "not at all" and 16,608 people (11.16%) that speak English "not well". Based on US DOT Policy Guidance, the FDOT has identified four factors to help determine if Limited English Proficiency (LEP) services would be required as listed in the FDOT PD&E Manual, Part 1, Chapter 11, Section 11.1.2.2. The four factors are:

- The number or proportion of LEP persons eligible to be served
- Frequency of contact with LEP persons
- Nature or importance of the program
- Resources available

Cultural and Community Features

The following types of facilities are located within the study area. A complete list of the facilities is included in the SDR in **Appendix A.**

- Assisted Rental Housing Units: 54
- Community and Fraternal Centers: 34
- Three Correctional Facilities: South Florida Evaluation and Treatment Center, Homestead Correctional Institution (female), and Dade Correctional Institution (male)
- Six Cultural Centers: Naranja Branch Library, Miami-Dade College (Homestead Campus) Library, Flagship Cinemas, Florida Pioneer Museum, Homestead Branch Library, Historic Homestead Townhall Museum
- Fire Department and Rescue Station Facilities: 6
- Six Government Buildings: City of Homestead City Hall, Post Office (Florida City), City of Florida City Hall, Post Office (Princeton), Florida Department of Highway Safety and Motor Vehicles Service Center, Post Office (Homestead)
- Two Hospital Facilities: South Florida Evaluation and Treatment Center, Homestead Hospital (Baptist Health South Florida)
- Four Law Enforcement Facilities: Florida City Police Department, US Drug Enforcement Administration – Homestead Resident Office, Miami-Dade College Police Department – Homestead Campus, Homestead Police Department
- Florida Parks and Recreational Facilities: 43
- Religious Centers: 98
- Public and Private Schools: 50
- Veteran Organizations and Facilities: 4
- Mobile Home Parks: 7
- Group Care Facilities: 121
- Migrant Camps: 1

3.3.3 Land Use Market Conditions




Homestead and Florida City date back to 1913 and 1914 respectively as incorporated municipalities, among the very oldest in the County, and served as a base for the area's growing agricultural trade. Both were eventually served by Flagler's railroad to the Florida Keys. Their relative remoteness from the center of Miami-Dade County development to the north made the area a "world apart" from the rest of the county. Today as the urban area has evolved, they have been considered bedroom communities for the job base to the north, with relatively inexpensive land for housing on the urban fringe.

The economy was founded on agriculture, and as a gateway to the Florida Keys from the mainland. Now the economy has diversified beyond agriculture to include ecotourism and gateway to two national parks, the military presence remaining at the former Homestead Air Force Base, base redevelopment, the NASCAR motor speedway, and other emerging industries.

Study Area Growth Trends

Population and employment growth statistics were compiled for various southern Miami-Dade County geographies to assess the anticipated increases and growth percentages across the study area and to the north. Data was obtained from the Southeast Regional Planning Model (SERPM) package used to develop the adopted Miami-Dade 2045 Long Range Transportation Plan prepared by the Miami-Dade Transportation Planning Organization (TPO). The resulting data are presented in **Table 3-8.**

Table 3-8 Forecast Population and Employment Growth

Area	2015	Increase	2045	Percent Growth
City of Homestead				
Population	66,900	51,900	118,800	77.6%
Employment	16,100	13,100	29,200	81.4%
City of Florida City				
Population	12,400	15,100	27,500	121.8%
Employment	6,100	3,200	9,300	52.5%
Primary Study Area (PSA)				
Population	132,047	99,015	231,062	75.0%
Employment	29,999	25,515	55,714	85.1%
Secondary Study Area (SSA) Excluding the PSA				
Population	22,518	10,102	32,620	44.9%
Employment	9,930	2,776	12,706	28.0%
Total Study Area (PSA + SSA)				
Population	154,565	109,117	263,682	70.6%
Employment	39,929	27,991	67,920	70.1%
TPO South Planning District				
Population	476,717	230,835	697,552	46.3%
Employment	163,918	62,688	226,606	38.2%
Miami-Dade /County				
Population	2,648,000	935,000	3,583,000	33.4%
Employment	1,351,000	463,000	1,814,000	34.3%

Source: SERPM travel demand model.

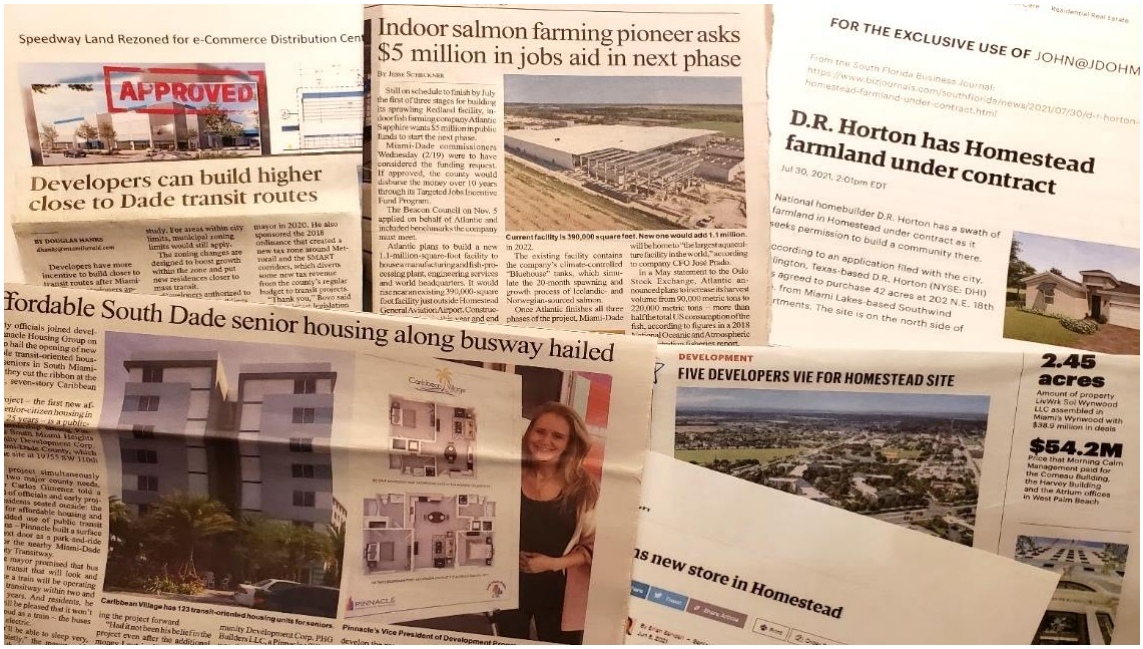
From this table, the following pertinent observations can be drawn:

- Both Homestead and Florida City are forecast to experience dramatic growth in the order of 2%/year compounded. The beginning of this growth is already occurring.
- Primary Study Area statistics are similar to the two cities as this area encompasses the two cities and additional area.
- Secondary Study Area statistics (for the ringed area surrounding the Primary Study Area) are significant as well but less robust given its agricultural/rural residential character.
- Total Study Area statistics are very robust as well. It is seen that the larger TPO South Planning District lying south of SW 88th Street and SW 104th Street has strong growth but has a smaller percentage of undeveloped area to accommodate more growth. Hence, development will advance further south over time across the study area.
- The County at-large is forecast to grow 33.4% in population and 34.3% in employment by 2045. Study area growth is clearly more than twice that growth rate.

Study Area Development Trends

While much new development is concentrated in the middle and north sectors of Miami-Dade County, the south county sector has been developing over recent years as well. Examples of that development activity include the following examples:

- Increasing pace of new residential projects being announced by large residential developers such as GL Homes, Horton, Lennar and Pulte.
- Reflecting rising land costs and increasing scarcity of large-size greenfield tracts, much of the new housing stock is taking the form of two-story residences on small lots, and multi-story townhouse and apartment projects.
- Some of the new housing stock announcements are occurring along the South Transitway Bus Rapid Transit corridor near station locations, in the form of transit-oriented or transit-adjacent development.
- Downtown Homestead has undergone a gradual transformation with its new City Hall facility and nearby new public works and public safety complex. Other residential and mixed-use projects are being announced. The City is reviewing bids currently for mixed use redevelopment of the former City Hall property.
- Supporting grocery and retail development announcements are occurring as the number of residential rooftops increases.
- The Miami-Dade County Urban Development Boundary (UDB) defines the limits of standard urbanization. While certain activities are permitted outside the UDB, conventional suburban development is highly restricted. The county periodically assesses the available land supply within the UDB to accommodate ongoing and anticipated development. Decisions have been made to make relatively small incremental outward shifts into the UDB, but given environmental restrictions and other considerations, there are few bordering areas where UDB expansion is considered feasible. The County has designated a few specific areas for possible UDB expansion, but the need for more raw land must be demonstrated while other concerns. The presence of the UDB is a significant influence on the location and character of future development on open land and redevelopment of existing uses within the UDB. Planning forecasts for population and employment elsewhere in this report show the increasing densification of population and



employment within this study area over time, meaning more compact and to a degree more vertical development.

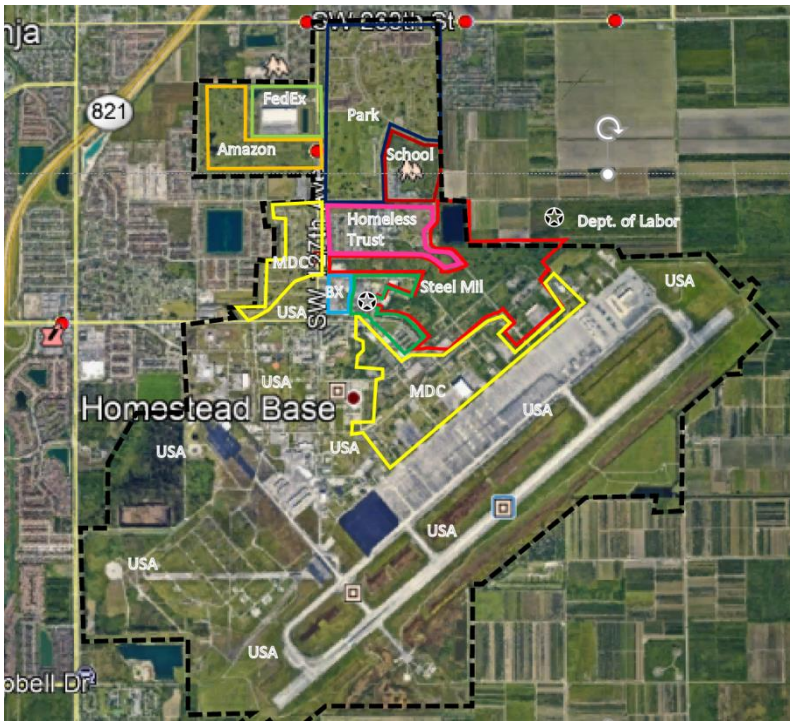
Industrial Land Use Trends

Industrial development patterns and trends are of interest as they are particularly responsible for truck trip generation related to the movement of goods and commodities. A review of south county industrial land use inventory using a real estate database tool reveals these key observations:

- Land values for industrial properties in the study area have been gradually rising. Market interest is increasing for larger greenfield tracts. As is the case over the rest of the county, industrial uses are competing with residential and retail projects which are intensifying in demand in the study area.
- The norm in land pricing in northwest Miami-Dade County for standard industrial properties has approximately $1 million/acre ($23/square foot (SF)), but prime sites are now commanding up to $3 million/acre. Industrial sites in the study area have historical ranged from $5 to $10/SF but are now 30-50% higher and are likely to keep rising.
- The industrial building inventory in the study area is 4.5 million SF but only comprises 3% of the countywide total of over 235 million SF. By comparison, the county area south of SR 836/Dolphin Expressway is approximately 10% of the countywide total.
- The study area industrial building stock tends to be smaller in average size at approximately 21,000 SF compared to over 28,000 SF countywide.
- Legacy industrial sites are situated along the former FEC Railroad Corridor which has evolved into the South Transitway Corridor and provides bus rapid transit service as part of the SMART Transit Plan. These sites tend to be smaller and older facilities. Over time, it is anticipated that such buildings in the vicinity of busway transit stations will transition into other uses as the underlying property values increase, and as downtown revitalization of Homestead continues to evolve. This pattern may take longer to happen near the busway terminal station in Florida City. These legacy industrial sites are older in condition, so they traditionally have fewer building amenities and tend to appeal to smaller businesses as operations sites.

There have been several emerging industrial development activities across the study area in recent years, as summarized in the following list:

- Former Homestead Air Force Base (pictured below): After the downsizing of the former Homestead Air Force Base following Hurricane Andrew to become the Homestead Air Reserve Base, surplus federal property on the base was released to Miami-Dade County for economic redevelopment and other committed public uses, including a regional park, school site, and the Miami-Dade Homeless Trust. Amazon and FedEx have developed facilities in the area (listed and pictured on the following pages). In addition, a steel mill facility is under development, and Miami-Dade County has expressed interest in developing a general aviation facility and sharing the runway with the military. This combination of Fixed-Base Operations (FBO) for general aviation and the military is not new, there are 22 similar facilities around the country. It is important to note that the existing military at the base are pursuing additional facilities.



- FedEx Ground distribution center – 237,000 SF opened in 2017.

- Amazon distribution center – 1,000,000 SF under construction (site shown below) at the former air base.

- Amazon distribution center (second site near Homestead Speedway) – 600,000 SF under construction.

- Atlantic Sapphire Salmon Farm: located on 160 acres six miles northwest of downtown Homestead. Salmon are grown onsite in a tank system and packaged for retail sales. According to the farm, production has been initiated and is projected to increase to 220,000 tons/year by 2031. Employment started at 60 persons and is expected to grow to a staff of about 250. About 10 production-related truck trips daily initially and is forecast to increase to approximately 40 truck trips daily, with additional trucks expected for packing materials and other supplies is estimated.

- Dunham Bush (Commercial air-conditioning (HVAC/R) products and cooling systems) – 200,000 SF in the Homestead Park of Commerce, built in 2020.

- Goodman Air Conditioning and Frito Lay (Tenants) – 32,300 SF in Homestead Park of Commerce, built in 2017.

- Sea Hunter Boats – proposed expansion from 46,000 to 134,000 SF.

Agricultural Land Uses

Under this land use category are field crops such as beans, corn, potatoes, and greens/produce; plant nursery operations; animal (livestock) husbandry; and fruit and nut tree groves. There have been historically produce stands, wineries, "u-pick-em" lots for certain fruits and vegetables, and other scattered such uses. An emerging land use is agritourism where the visitor is immersed in aspects of the agricultural production experience.

A broad transition in how agricultural production occurs has evolved over recent decades, with growing pressures on profitability, competitiveness, and marketability. These economic pressures lead to industry adaptation, further refinements in economic efficiency and other responses by producers, and perhaps increased market prices for their

outputs. These patterns will continue, but for the foreseeable future, there will continue to be a mix of agricultural and nursery production in the Redlands district. With a growing population, pressures on eating "local", and avoidance of long-distance trucking, the prospect for the South Miami-Dade County agricultural district is one of continued viability and sustainability, even if in the face of a mixed economic outlook and further business challenges.

For historical agricultural production, stakeholder feedback indicated that this trade is under a variety of pressures, including:

- Increasing production costs ranging from fertilizer, pesticides, equipment, product processing, transportation, and labor shortage, which pressure profit margins or otherwise introduce risk elements.
- Transition of product-to-market distribution from the local farmer market clearinghouse model to a more decentralized model.
- Western droughts have brought into question the viability of continued California desert production of vegetables, which may shift need and demand to other producing regions of the country like Florida.
- Continuing transition of some farmlands to other permitted uses. Examples include the new salmon farm, an FPL solar panel "farm", and 5-acre rural residential ranchettes for the wealthier seeking a secluded lifestyle.
- Periodic pressures from weather events (hurricanes, wet spells, freezes), and pest/disease issues which may ruin crops in production, damage production stock, and cause transitions from one crop type to another.
- Market pressures on crop/product pricing which may affect sales and profits.
- Competition from foreign suppliers which may affect market demand and pricing of locally grown commodities.
- The State Farmer's Market has experienced a reduction in activity as agricultural production processing and transportation strategies have evolved over time. However, DiMare Fresh still operates a sizable produce sorting, processing and packing facility nearby.
- Transition of generational family ownership and management of production to third-party investment and absentee ownership with production leasing, as family succession plans unravel with newer generations not interested in the farming lifestyle.

Proposed Urban Development Boundary Expansion

In 2021, a developer team proposed the South Dade Logistics Park project on the south side of the Turnpike to the east and the west of SW 112th Avenue. This proposed 793-acre project would be adjacent to the existing Urban Development Boundary, but would constitute a significant expansion into existing agricultural lands. The project proposal consists of mostly industrial warehousing with a small amount of retail and hotel uses, and with no residential uses. **Figure 3-16** presents the location of the proposed development project which is projected to require decades to reach buildout conditions.

On September 9, 2021, after months of coordination with the County Department of Regulatory and Economic Resources, the developer team made a presentation of its application for an amendment to the Miami-Dade County Comprehensive Development Master Plan (CDMP) to the Board of County Commissioners sitting as the CDMP Committee. At that meeting, the committee approved a resolution forwarding the application for review by the State of Florida. As of summer 2022, the proposal remains in the review phase, with further action by Miami-Dade County as to approval or disapproval in pending status. The County Commission is scheduled to consider the project at a hearing rescheduled to September 2022.

The project is presented as addressing in a significant way to increase job opportunities and partially adjust the imbalance of jobs per capita in the south county area. As a whole Miami-Dade County has about 1 job per every person (0.5 jobs per capita). The total study area has a current ratio of 0.25 jobs per capita, or half the countywide rate. The proposed project at buildout would increase the study area ratio to 0.30 jobs per capita, a substantial 20% increase in the ratio. This is one reason why south county is historically referred to as a 'bedroom community' along with its generally lower land costs (though they are increasing like the rest of the county).

FDOT has conducted a supplemental analysis of this proposed project to ascertain its impact on the pending infrastructure findings and recommendations of this study, and to characterize the advantages and disadvantages of the project in terms of truck trips, truck travel patterns, and relation to freight mobility in the study area. The results of this analysis is incorporated into **Section 6.4** of the study report.

Figure 3-16 South Dade Logistics Park Location

3.3.4 Free/Foreign Trade Zones

Free and foreign trade zones within study area include Empowerment Zones, Enterprise Zones, Qualified Opportunity Zones. All data for this section was obtained from Miami-Dade County's Open Data Hub. A map of the three zones is displayed in **Figure 3-17**. The locations of the zones overlap within the City of Homestead west of the HEFT.

- **Empowerment Zones**: The Miami-Dade County Empowerment Zone initiative began in 1993 with the goal of reducing unemployment and generating economic growth through the designation of Federal tax incentives and awards of grants to distressed communities. Empowerment Zone boundaries define poverty areas derived from pre-selected Census Tracts. The South Dade Empowerment Zone is located within in the Primary Study Area.

- **Enterprise Zones**: Enterprise Zones are special areas within Miami-Dade County where certain incentives from the State are available for new business. The areas were created based on studies of income, employment, and state requirements. A portion of the South Enterprise Zone is located within the Primary Study Area.

- **Qualified Opportunity Zone (QOZ)**: A Qualified Opportunity Zone is a designation of the Internal Revenue Code that identifies an economically distressed community where new investments, under certain conditions, may be eligible for preferential tax treatment. Census Tracts 110.05, 110.01, 111.01, 113, and 114.03 within the Primary Study Area were identified as QOZs.

3.3.5 Major Freight Generators

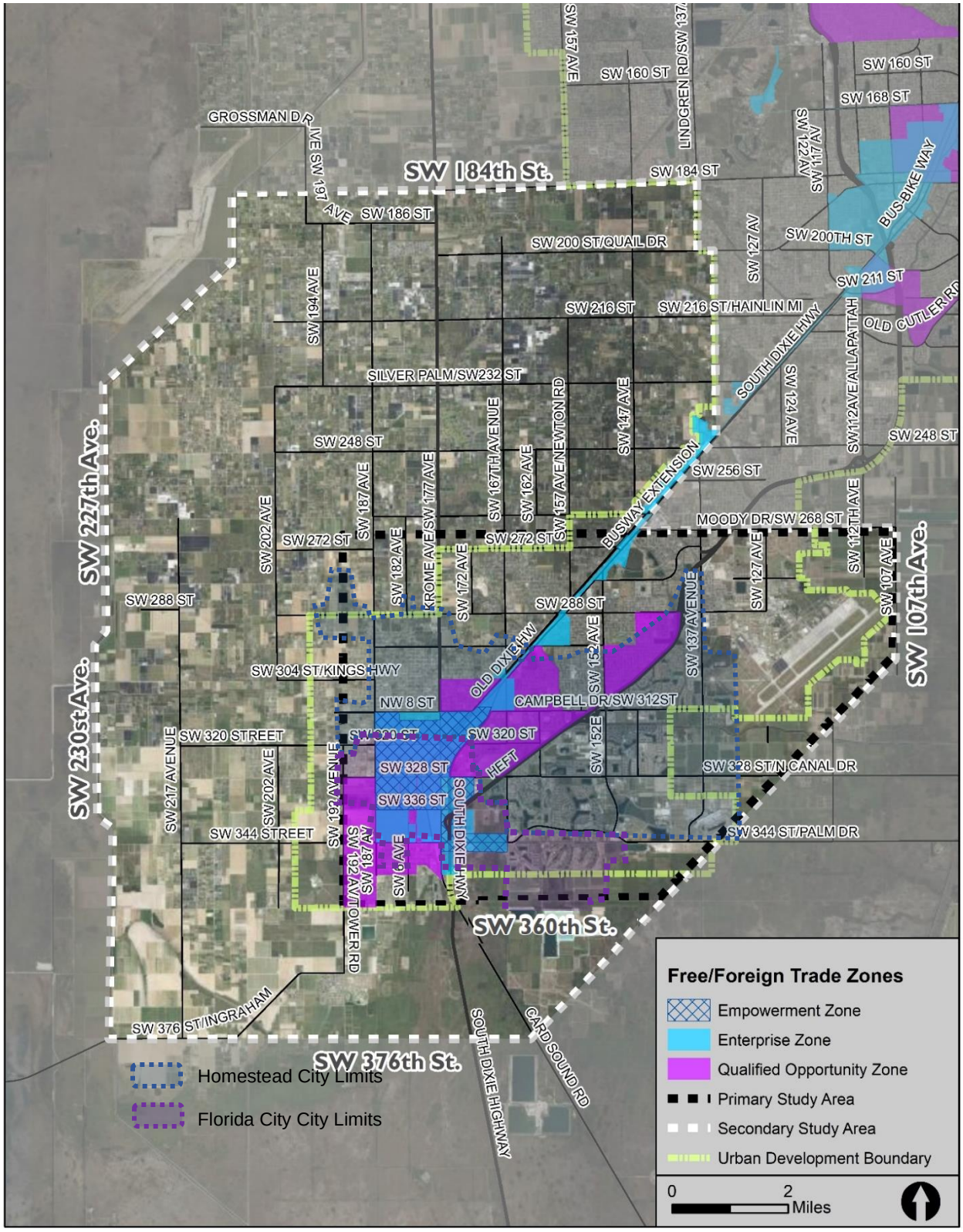
PortMiami, MIA, and the FEC Railroad Yard are among the state's most important freight and logistics centers. According to *Miami-Dade's Aviation Department's 2021 Annual Report*, MIA is ranked 1st in US international air freight and 9th globally with a total trade value of $67.5 billion in 2021. . According to *Air Cargo News,* MIA's imports and exports had a combined commercial value of $67.5 billion in 2022; MIA's 2021 air trade amounted to 95% of Florida's total air trade value and 41% of the state's total air and sea trade values combined.

PortMiami is the 10th largest US mainland container port in 2022 according to *Freight Caviar*. According to the Florida Seaport Transportation and Economic Development Council's *Five-Year Florida Seaport Mission Plan (2020-2024),* the total trade of PortMiami was valued at $26.2 billion, or 30% of the dollar value of Florida's total sea imports and exports in 2019. Together, MIA and PortMiami account for nearly 60% of Florida's total air and sea imports and exports.

According to the FHWA *Freight and Land Use Handbook*, "freight generating land uses such as agriculture, natural resources and mining, construction, warehousing, manufacturing, logistics, and port and harbor operations can bring positive benefits to a region". These benefits justify the retention of industrial land uses in growing urban areas, such as employment, tax benefits, and economic contributions.

The freight-centric land uses within the study areas (see previous **Figure 3-13**) are generally the non-residential areas (residential areas shown in yellow). The higher concentrations of residential areas are in the northern half of the City of Homestead and scattered throughout the northern regions within the Secondary Study Area. There is a concentration of agricultural land uses throughout most of the Secondary Study Area (shown in green). Additionally, land uses directly along the major roads of South Dixie Highway, Krome Avenue, and generally the southern half of the Primary Study Area are generally non-residential and can be considered freight-centric land uses.

Figure 3-17 Free/Foreign Trade Zones



3.4 Population and Employment Projections

The population and employment data were determined using the Southeast Florida Regional Planning Model Version 8 (SERPM 8). SERPM 8 is the travel demand model calibrated to a 2015 base year and a 2045 forecast year for southeast Florida covering Palm Beach, Broward, and Miami-Dade counties. More information regarding SERPM 8 can be found here: https://sites.google.com/site/serpm8reference/home.

Data for the project area was derived by selecting the Micro-Analysis Zones (MAZs) within the project area. The following section presents the total population, population density, total employment, and employment density for the base year (2015), the forecast year (2045), and the percent change between the base year and forecast year in a series of maps. These features are presented in **Figures 3-18 to 3-29**.

3.4.1 Population

Much of the current population is within the Primary Study Area within the City of Homestead. The higher concentrations of population are generally along the HEFT. The projected population through 2045 is forecasted to increase in the majority of the MAZs within both study areas. Some of the highest projected population increases (over 200%) are located along the edge of the Urban Development Boundary mostly within the Primary Study Area and spreading along SW 344 Street and near SW 272 Street within the Secondary Study Area. The MAZs projected to decrease in population are mostly located within the Secondary Study Area north of Moody Drive/SW 268 Street.

3.4.2 Employment

Much of the employment is located along the major roads such as South Dixie Highway, the HEFT, and Campbell Drive/SW 312 Street. There are also some concentrations of employment along Krome Avenue and portions of SW 216 Street. Through 2045, employment is projected to grow consistently within the Primary Study Area by more than 50% in most MAZs and between 1% and 50% in most MAZs within the Secondary Study Area north of SW 360th Street. Employment is projected to decrease along the southern limits of the Urban Development Boundary and the edges of the Secondary Study Area.

Figure 3-18 Total Population, 2015

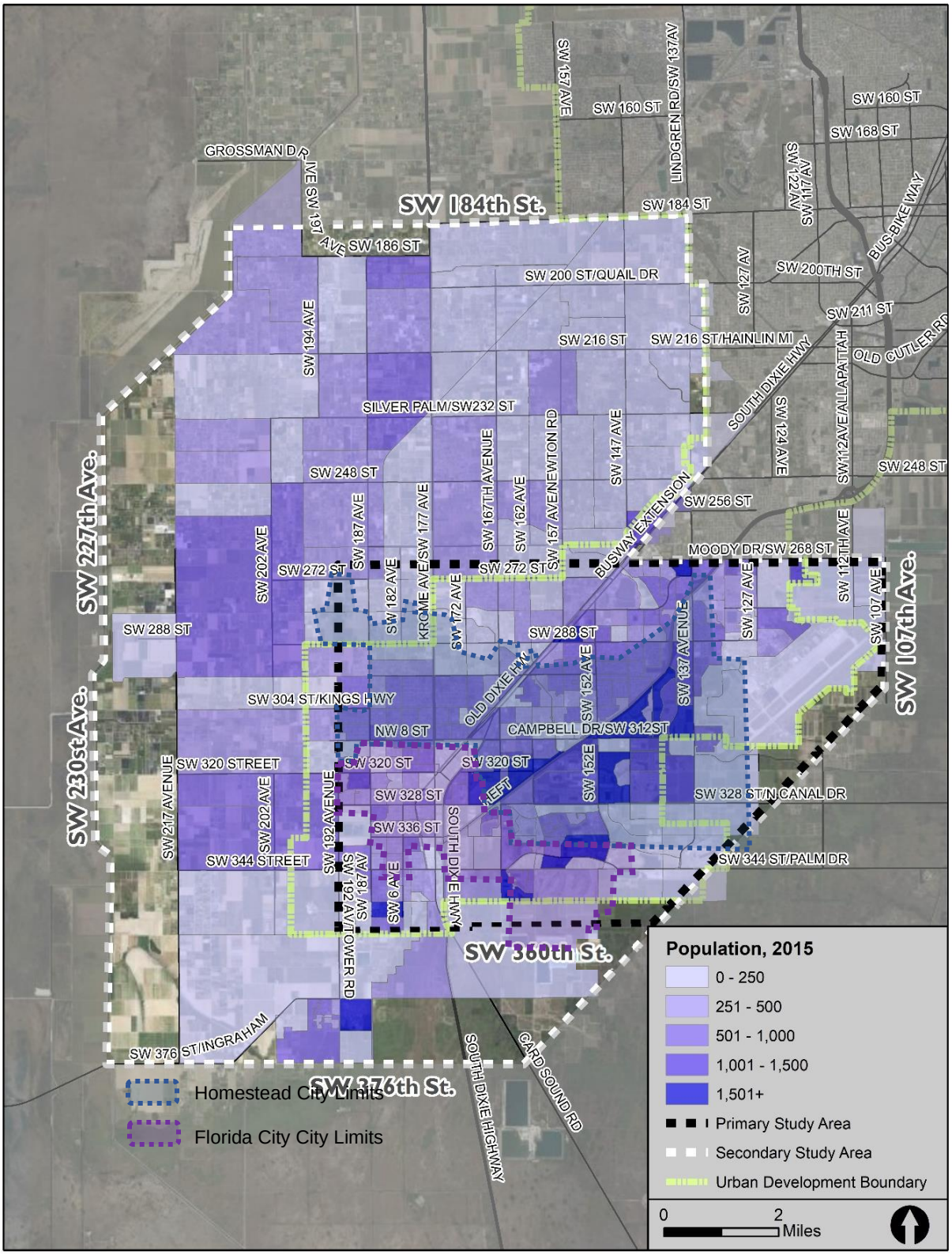


Figure 3-19 Total Population Forecast, 2045

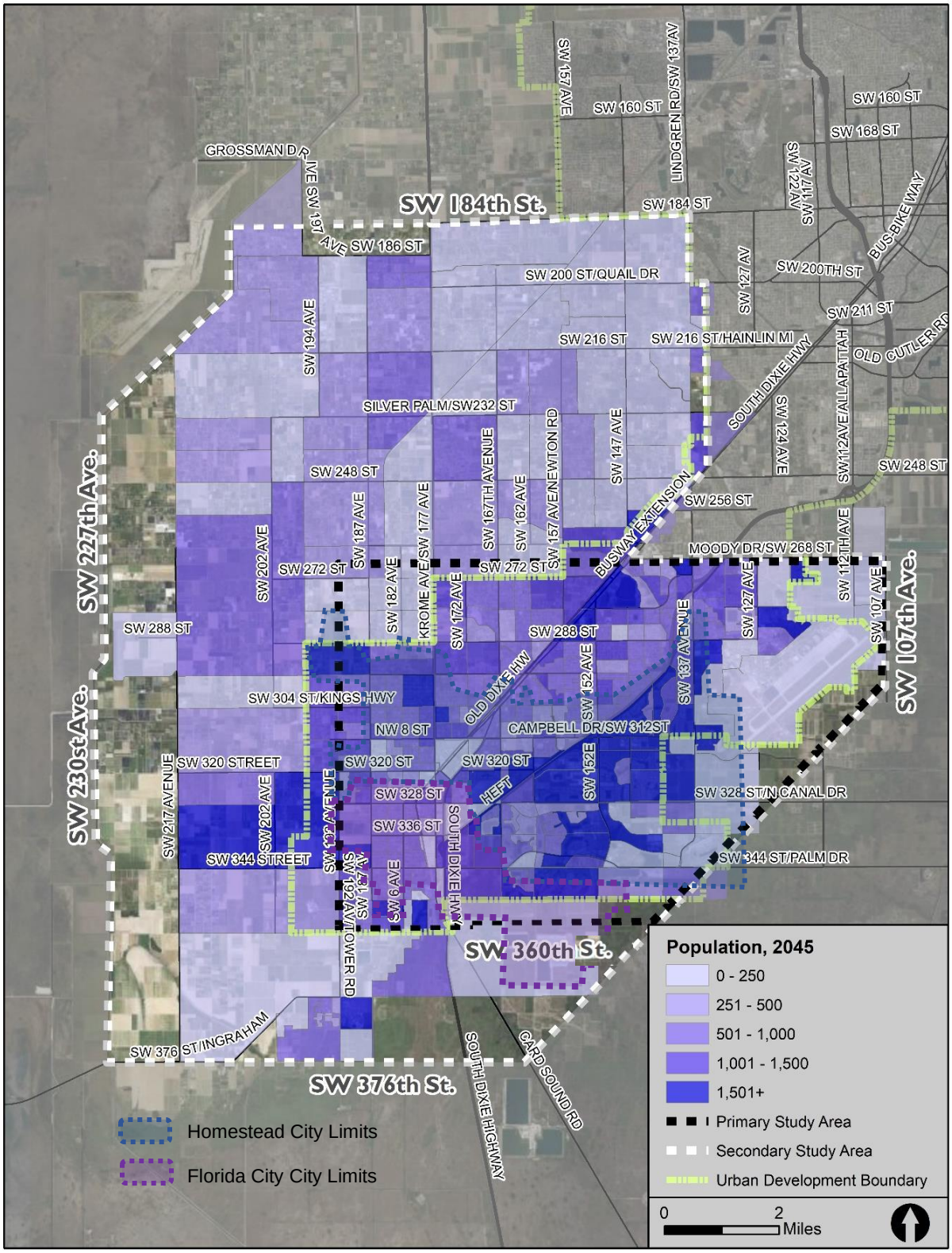


Figure 3-20 Total Population Change, 2015-2045

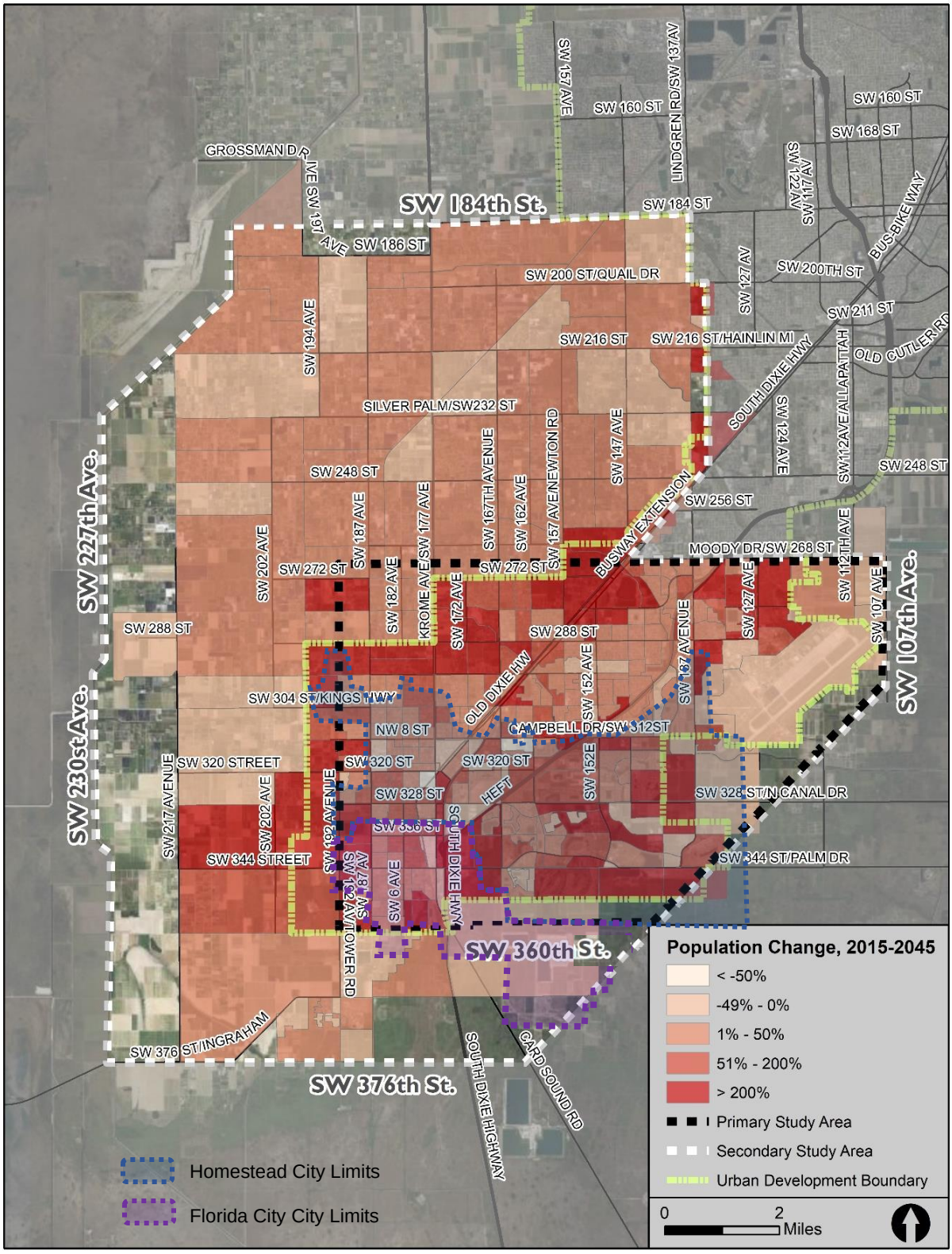


Figure 3-21 Population Density, 2015

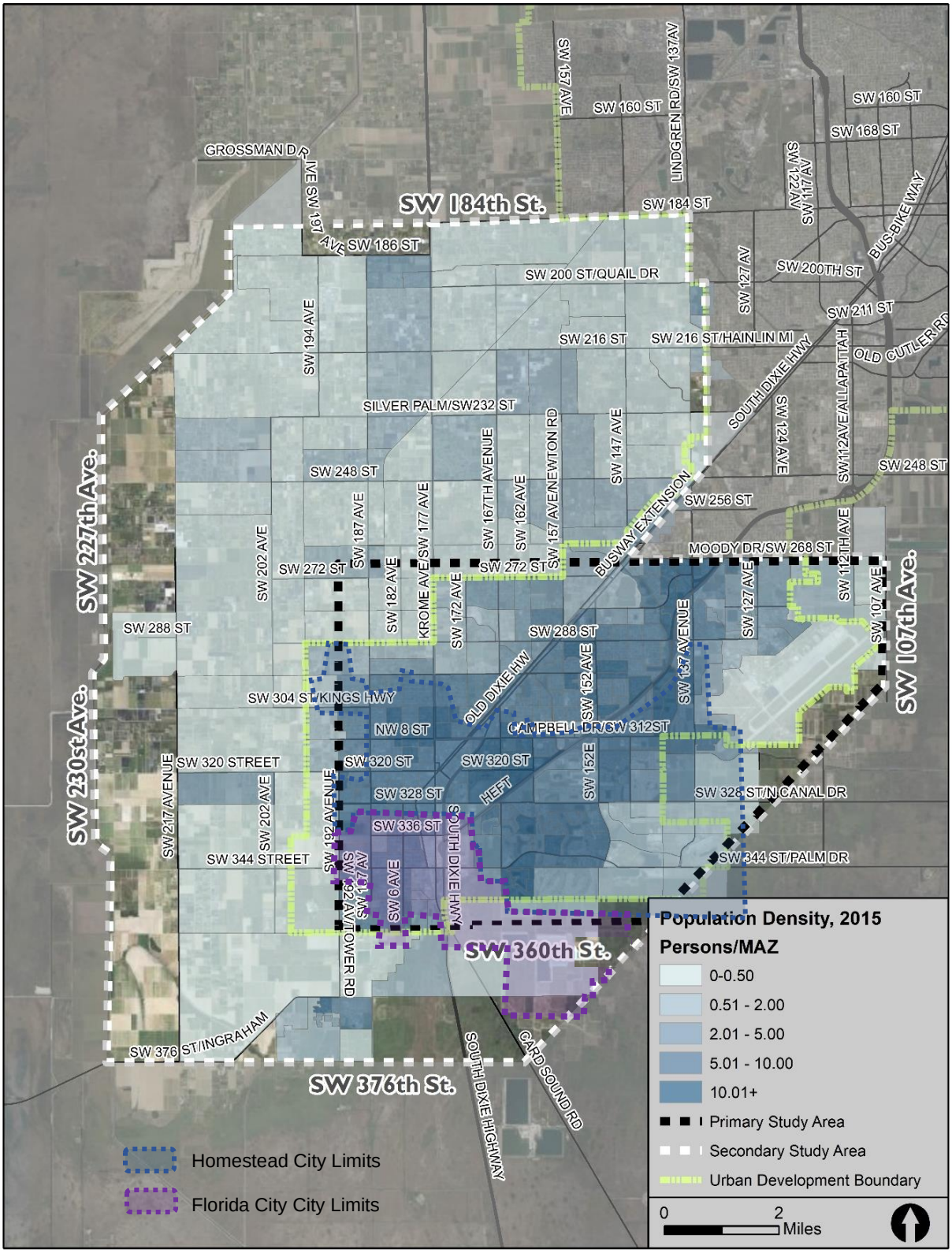


Figure 3-22 Population Density, 2045

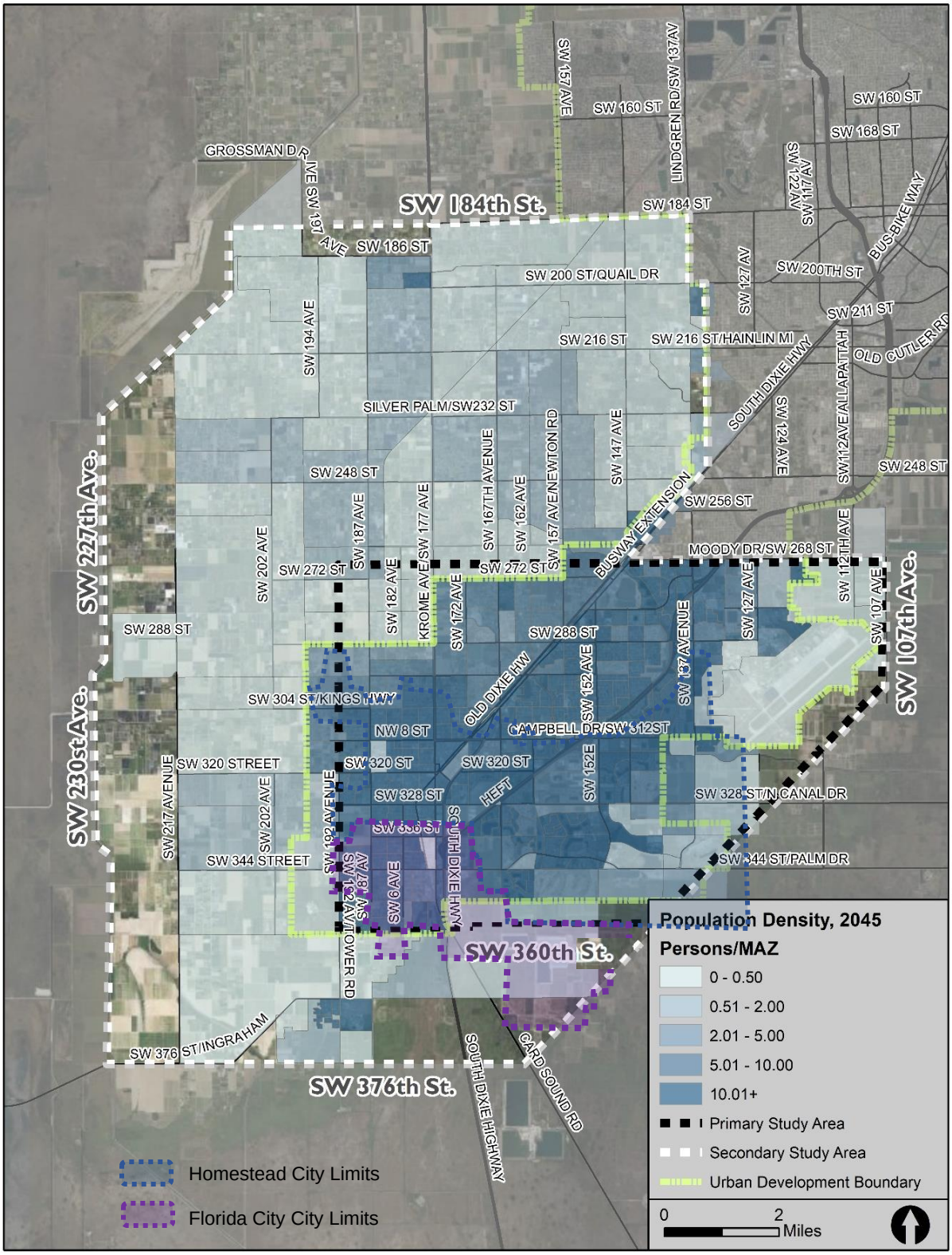


Figure 3-23 Population Density Change, 2015-2045

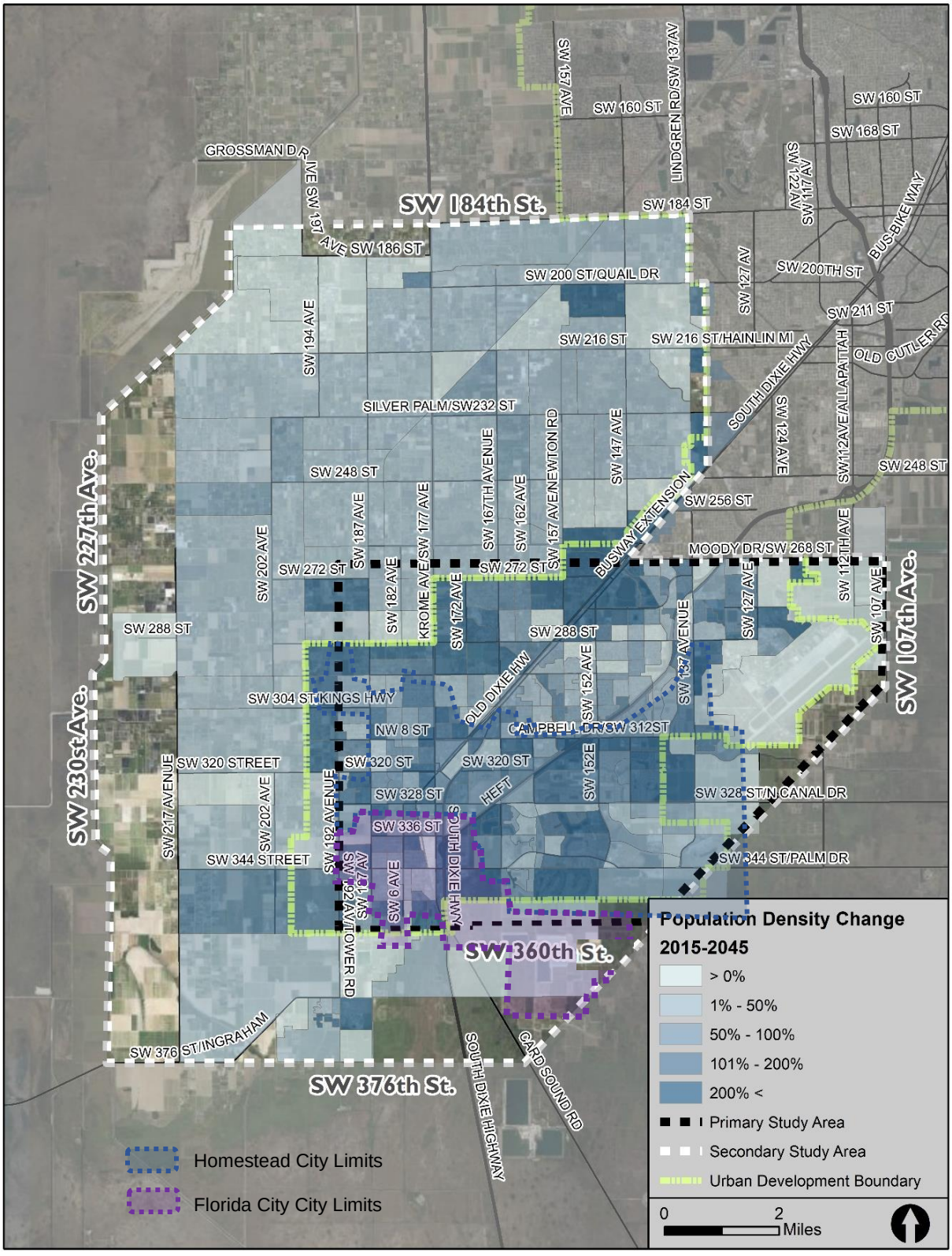


Figure 3-24 Total Employment, 2015

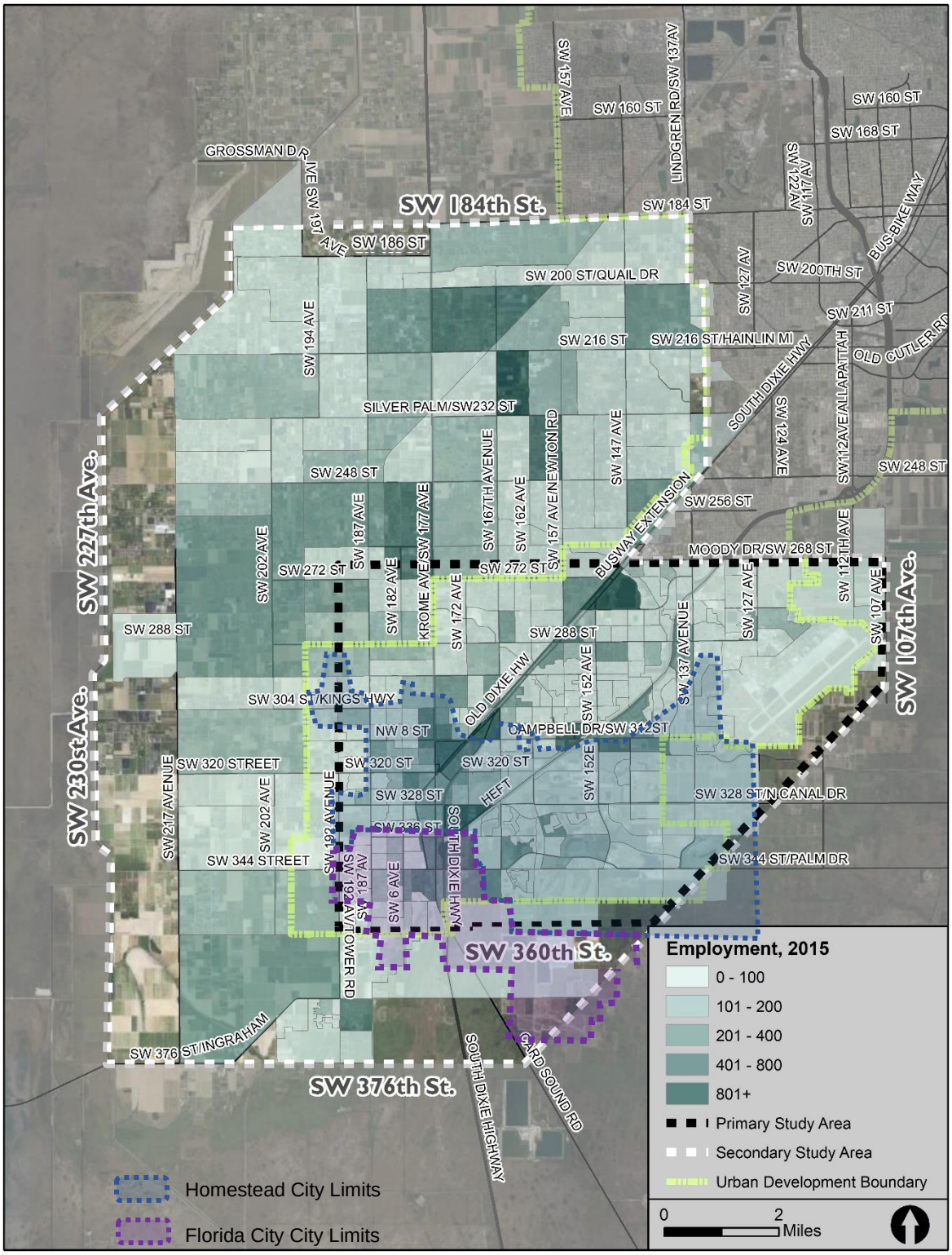


Figure 3-25 Total Employment, 2045

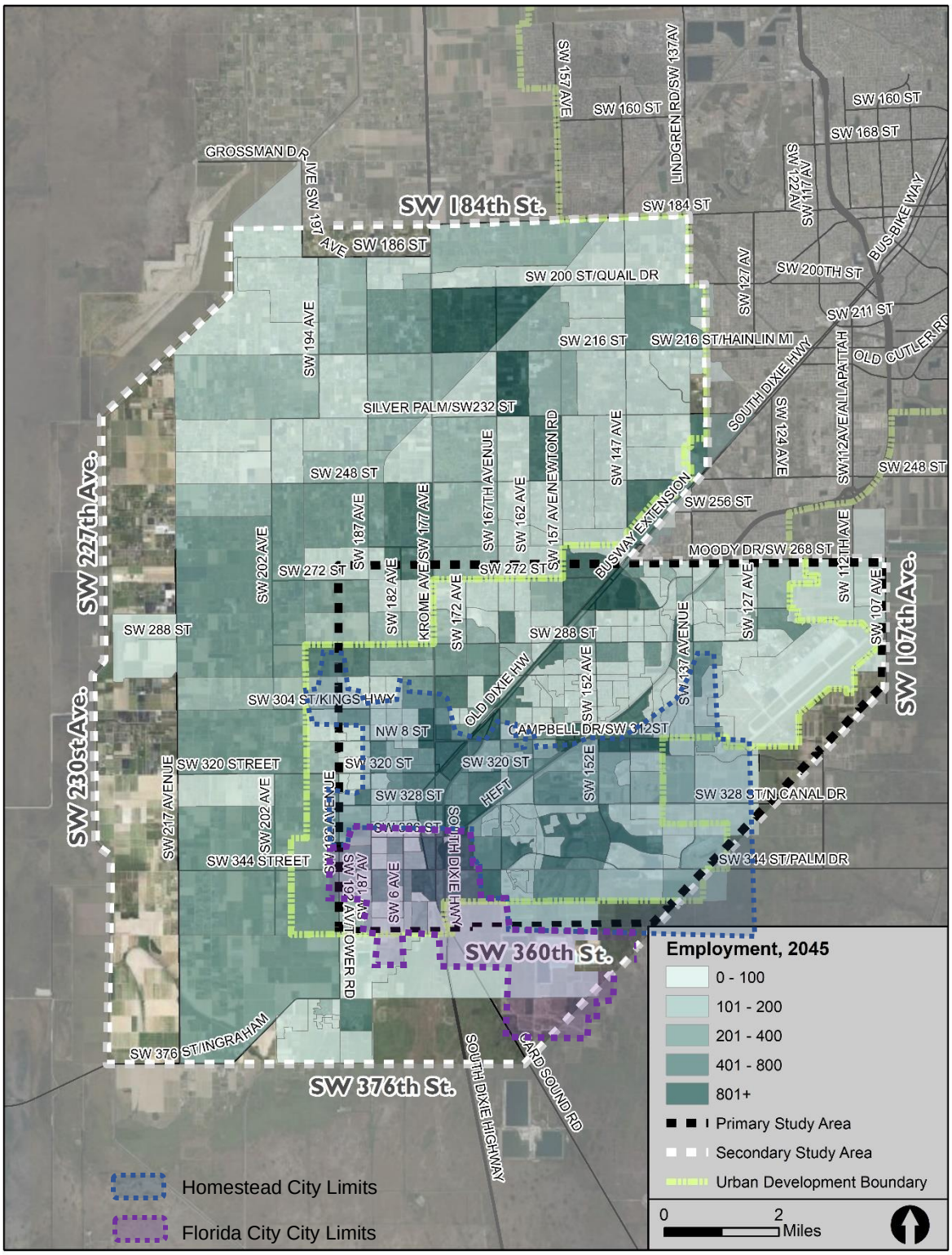


Figure 3-26 Total Employment Change, 2015-2045

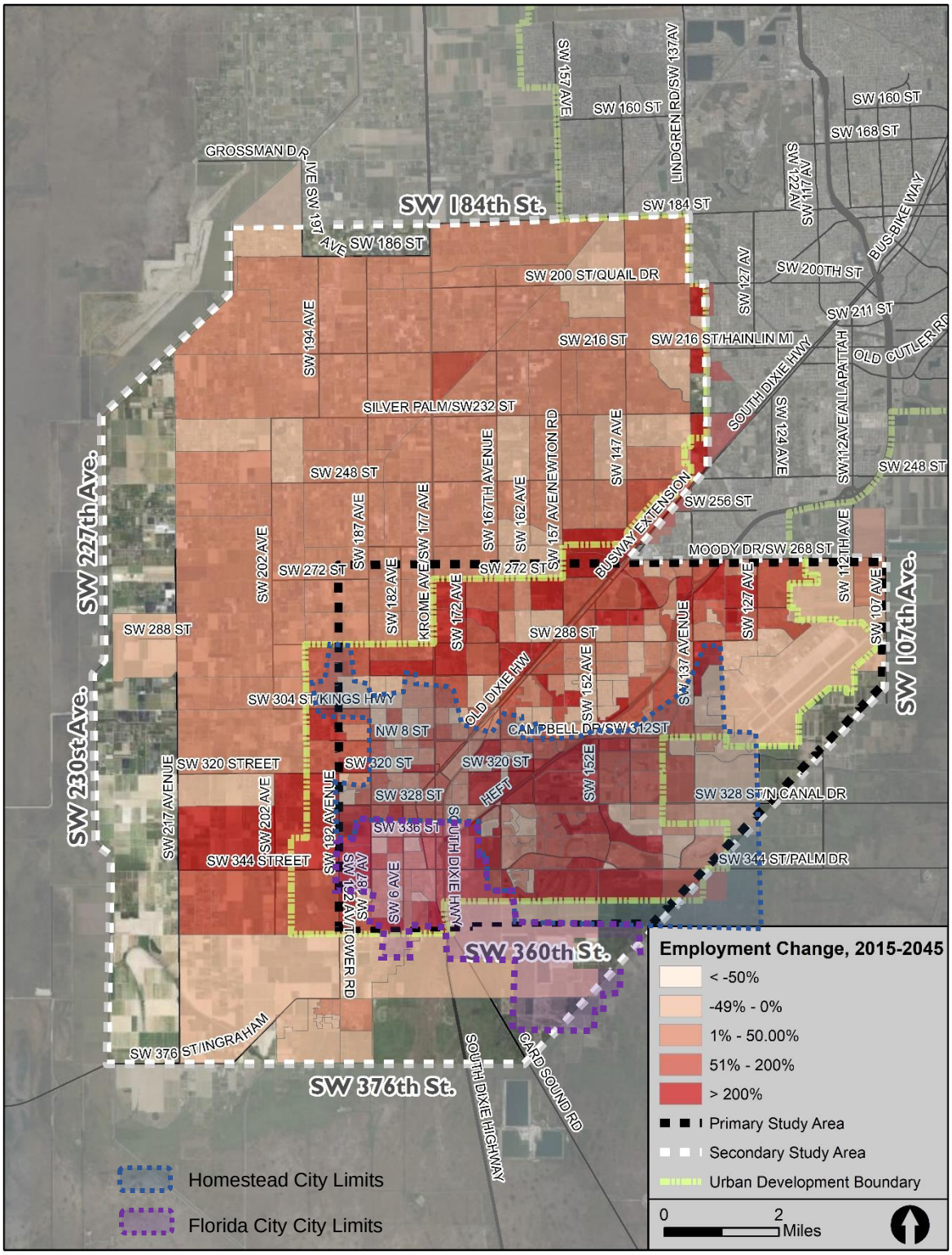


Figure 3-27 Employment Density, 2015

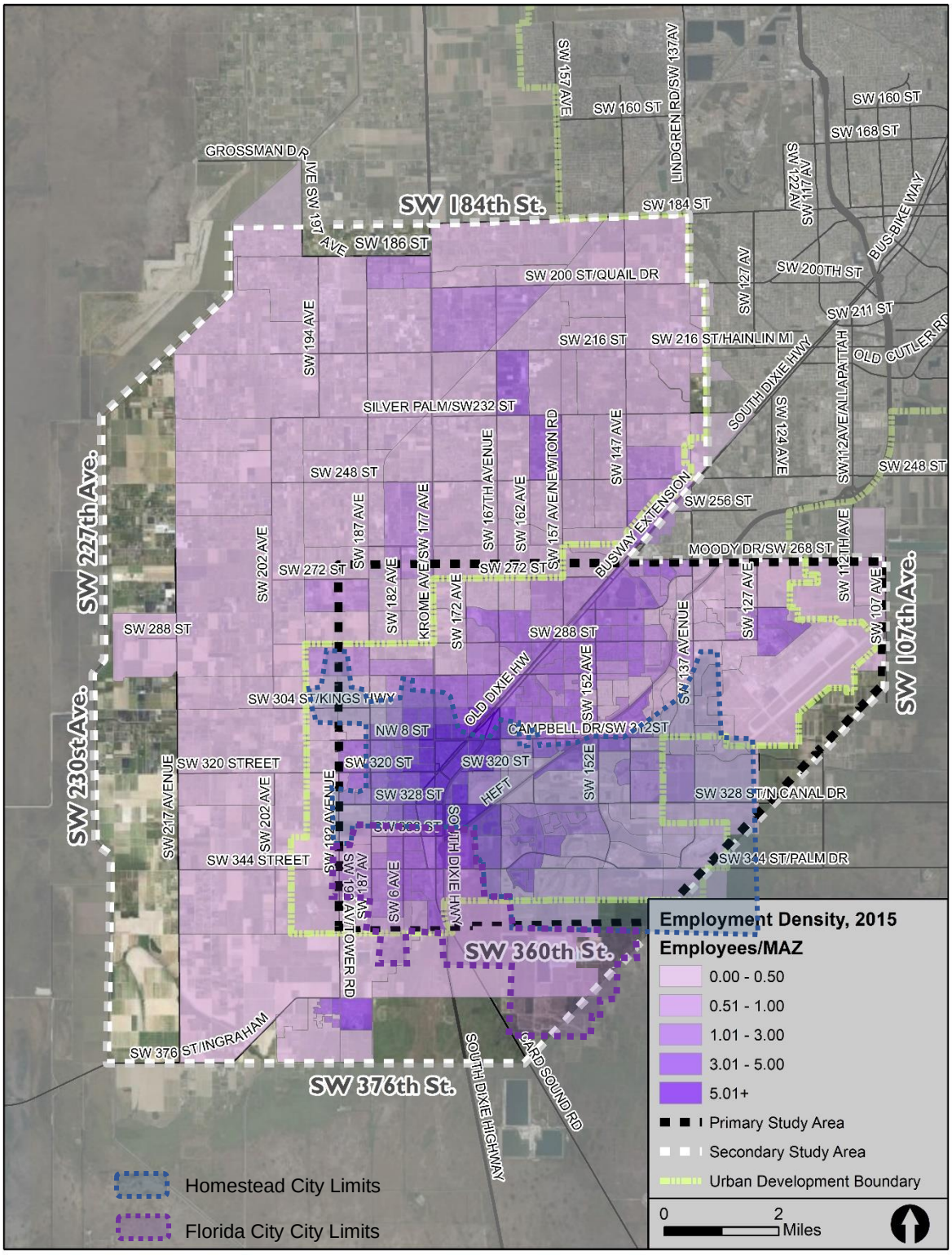


Figure 3-28 Employment Density, 2045

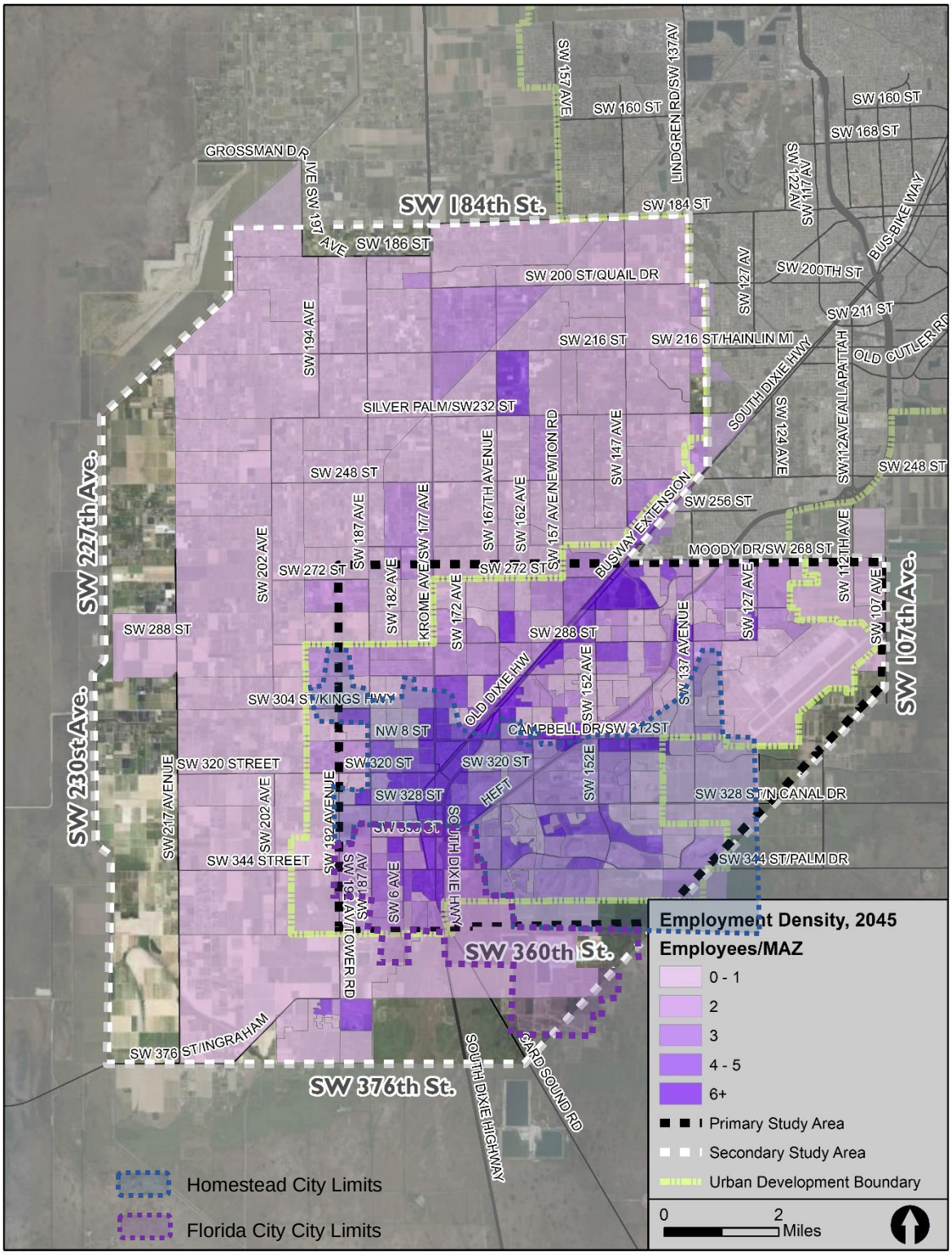
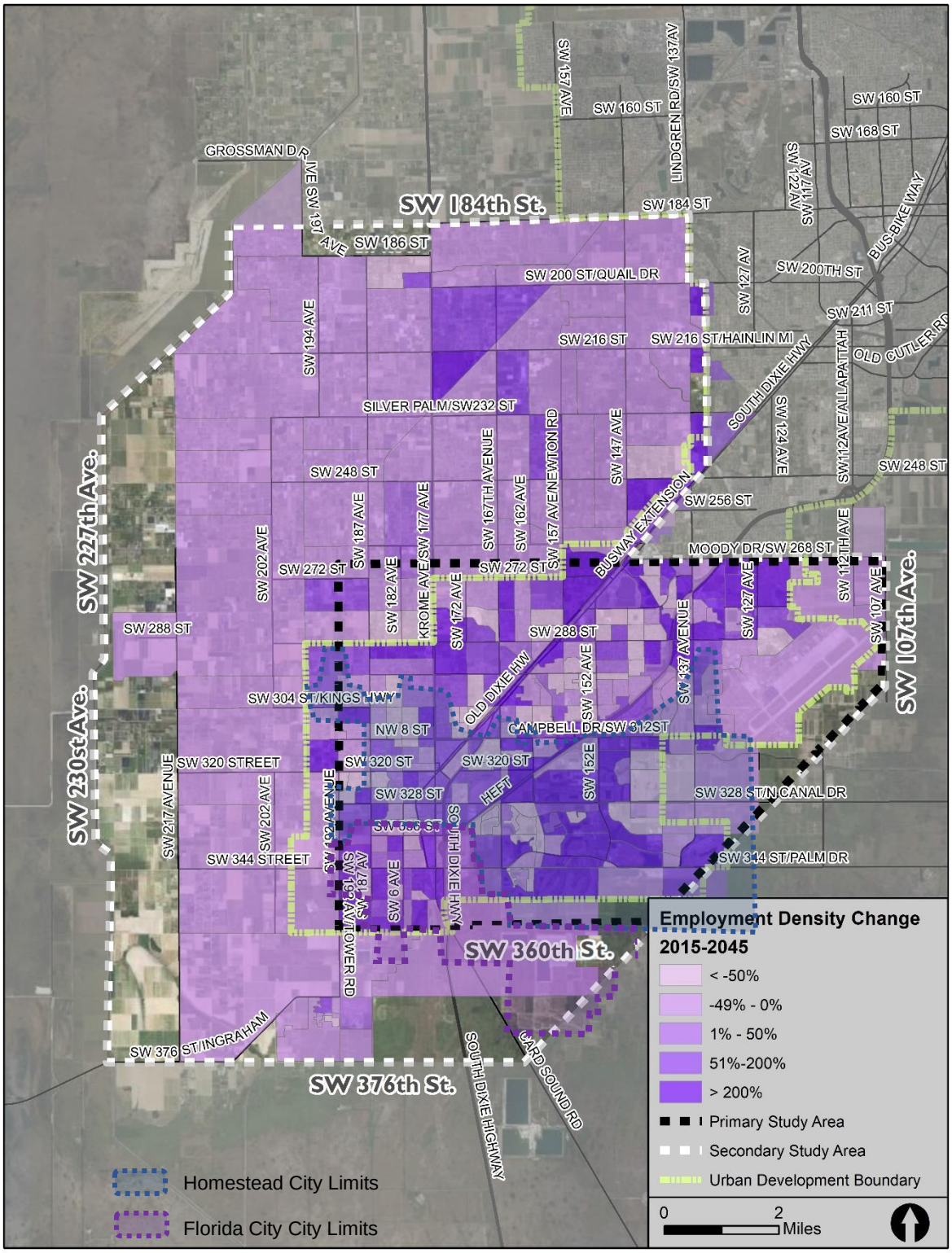


Figure 3-29 Employment Density Change, 2015-2045



3.5 Implications of Study Area Characteristics

This profile of the study area characteristics provides insights into the implications for the possible impacts on future freight conditions in the study area. These insights are summarized as follows:

Demographics

- The 2045 forecasts depict the larger study area to grow by about 70% in both population and employment, and within the primary study area by 75% for population and 85% for employment. These rates are approximately double the county-wide growth rate.
- These are dramatic rates which will increase the county population south of SW 104th Street from the equivalent of "two Tallahassees" to "three Tallahassees" (about 460,000 to about 690.000), and study area population by almost 110,000 persons.

Land Use

- As development continues across the county and especially in the southern portions of the county, developers will likely continue to pursue incremental expansions of the UDB. On the west side of the study area, public policy resistance is anticipated due to the goal of preserving agriculture. To the east and southeast, there are the same agriculture concerns perhaps to a lesser degree, as well as several environmental considerations. Some area north of the former airbase is designated for UDB expansion. In addition, both Homestead and Florida City have prior annexations outside the UDB. The outcome for the current large industrial proposal outside the UDB if approved may hinder other UDB expansion efforts in the short-term. However, it may support others in the future if the case is made that there is insufficient land for new development within the UDB.
- The area outside the UDB in the Redlands has become popular for the 5-acre rural "ranchettes" allowed under the code, and this trend which diminishes agricultural cropland is expected to continue as urbanites seeking a rural, ex-urban setting settle in this area.
- Homestead's large Planned Unit Development district covering its southeast sector is codified to focus on residential and supporting retail. However, an Amazon processing facility is nearing completion just southeast of the motor speedway and other industrial building announcements have been made nearby. This may be the focal point for further industrial development depending upon future city land use decisions.
- As discussed, the changing economics and supply chain characteristics of agricultural production are having a dampening effect on the long-term outlook for this sector. While all industries experience evolution and change, this trade is grounded in tradition and requirements which are more labor-intensive and less amenable to technology efficiencies due to cost and inapplicability. Still, agricultural production in its various forms is expected to be sustained and remain a significant part of the study area economic picture.

Transportation

- Significant growth in average daily traffic is forecast across the study area's roadway system to 2045. Truck traffic is anticipated to grow in similar proportion to overall traffic.
- Forecasts in truck trip density suggest that the core of the primary study area will experience the greater increases in truck traffic, as that area will see higher density increases in population, and as truck trips migrate towards the primary access corridors of the Florida Turnpike, US 1 and Krome Avenue.
- The fairly complete roadway grid network, with some interruptions caused by US 1 and the busway corridor, and the Florida Turnpike, provides for the distribution and redundancy of travel paths in general. However, there are points of traffic concentration due to travel patterns and street system irregularities where traffic congestion is occurring presently: Downtown Homestead, segments of the Florida Turnpike, Campbell Drive

from downtown to Homestead Air Reserve Base, portions of US 1 northeast of downtown Homestead, US 1 from Florida Turnpike to SW 244th Street and will continue to downgrade without investment.

- Despite areas of existing congestion, much of the study area roadway network experiences satisfactory traffic service levels currently, and thus there is some latent capacity to absorb much of the future growth. However, there are limits to this, and the study analysis will identify hot spots for further attention.
- Much of the grid, section road network comprises two-lane roads. Their junctions variously include Two-Way and Four-Way Stop sign control, with a few traffic signals. As volumes grow, the need for turning lanes and traffic signals at intersections is expected to grow.
- Little of the study area network is on the FDOT roadway system which includes SR 997/Krome Avenue, US 1, the Florida Turnpike, SR 9333 from Florida City to Everglades National Park, and .SR 994/SW 200th Street. Many future roadway capacity improvements will require Miami-Dade County and the Cities of Homestead and Florida City for implementation.
- Pending further analysis later in this report, roadway improvements will be needed due to general traffic growth. This study will identity such needed improvements and prioritize them based on the immediacy of need and those with higher truck traffic percentages.

Section 4.0 Transportation Conditions

4.0 Transportation Conditions

4.1 Historic Traffic Growth

An analysis of the existing traffic and rail conditions are included in this section. Historic AADT and truck traffic data were analyzed using the FDOT Historical Annual Average Daily Traffic feature class as derived from event mapping selected characteristics from the FDOT Traffic Characteristics Inventory (TCI) containing five years of data, including the most currently available year (2019). A summary of the results by Primary Study Area (PSA), Secondary Study Area (SSA) and Primary/Secondary Study Area (PSSA – two roadway segments overlap both study areas) is provided in **Table 4-1 through 4-3** and the full spreadsheet showing data for all 5 years is provided in the **Appendix B**.

Using the FDOT feature class data set, traffic and truck data were analyzed using both AADT growth rates and truck traffic growth rates for all the FDOT count stations in the study area. Highlighted within the table in '**green**' are those roadway segments that showed that truck traffic was growing faster than all traffic. This was especially significant on SR 997/Krome Avenue where the truck growth rate was approximately 50% higher than all traffic.

Table 4-1 Summary of 2015 – 2019 AADT and Truck Growth Rates, Primary Study Area

Roadway Name	Station	Roadway Description	2019 AADT	2019 T Factor	2019 Truck Volume	2015-2019 Historic AADT Growth Rate	2015-2019 Historic Truck Growth Rate	Truck Rate Minus AADT Rate
Coconut Palm Drive	878325	COCONUT PALM DR, 200' WEST OF US-1	4,600	11.0	506	-9.8%	-27.6%	-17.8%
Flagler Avenue	878595	FLAGLER AVE, 200' NORTH OFNE 5 DR (2011 OFF SYSTEM CYCLE)	4,800	7.4	355	-4.0%	-43.2%	-39.2%
	878631	FLAGLER AVE, 200' SOUTH OF SR 5/US-1 (2011 OFF SYSTEM CYCLE)	3,700	7.4	274	42.3%	-15.8%	-58.1%
Hainlin Mill Drive	878188	HAINLIN MILL DR, 200' WEST OF 134TH AVE	6,100	11.0	671	-3.2%	-22.3%	-19.1%
HEFT	970051	HEFT NB OFF RAMP TO BISCAYNE DR/SW 288TH ST, M5A	2,650	6.8	180	47.2%	37.1%	-10.1%
	970021	HEFT NB OFF RAMP TO CAMPBELL DR/SW 312TH ST, M2A	1,900	6.8	129	18.8%	10.6%	-8.1%
	970022	HEFT NB ON RAMP FROM CAMPBELL DR/SW 312TH ST EB, M2B	4,700	6.8	320	-60.8%	-63.5%	-2.7%
	970020	HEFT NB ON RAMP FROM CAMPBELL DR/SW 312TH ST WB, M2I	6,800	6.8	462	-	-	-
	970052	HEFT NB ON RAMP FROM EB BISCAYNE DR/SW 288TH ST, M5B	5,500	6.8	374	14.6%	6.7%	-7.8%
	970012	HEFT NB ON RAMP FROM SB US-1/SOUTH DIXIE HWY, M1B	4,400	6.8	299	12.8%	5.1%	-7.7%
	970061	HEFT NB ON RAMP FROM TALLAHASSEE RD/SW 137TH AVE, M6A	8,000	6.8	544	29.0%	20.2%	-8.8%
	970053	HEFT NB ON RAMP FROM WB BISCAYNE DR/SW 288TH ST, M5C	1,800	6.8	122	20.0%	11.8%	-8.2%
	970011	HEFT NB ONE WAY FROM NB US-1/SOUTH DIXIE HWY, M1A	17,510	6.8	1,191	16.7%	8.7%	-8.0%
	970054	HEFT SB OFF RAMP TO BISCAYNE DR/SW 288TH ST, M5D	7,300	6.8	496	14.1%	6.3%	-7.8%
	970023	HEFT SB OFF RAMP TO CAMPBELL DR/SW 312TH ST, M2C	11,500	6.8	782	-4.2%	-10.7%	-6.6%
	970013	HEFT SB OFF RAMP TO NB US-1/SOUTH DIXIE HWY, M1C	6,200	6.8	422	12.7%	5.0%	-7.7%
	970014	HEFT SB OFF RAMP TO SB US-1/SOUTH DIXIE HWY, M1D	15,500	6.8	1,054	14.8%	7.0%	-7.9%
	970062	HEFT SB OFF RAMP TO TALLAHASSEE RD/SW 137TH AVE, M6B	8,000	6.8	544	29.0%	14.0%	-15.1%
	970055	HEFT SB ON RAMP FROM BISCAYNE DR/SW 288TH ST, M5E	2,650	6.8	180	47.2%	37.1%	-10.1%
HEFT	970024	HEFT SB ON RAMP FROM CAMPBELL DR/SW 312TH ST, M2D	1,900	6.8	129	18.8%	10.6%	-8.1%
	972260	HEFT/SR-821 M/L, N OF MM 4	63,400	6.8	4,311	11.0%	3.4%	-7.6%
	972258	HEFT/SR-821 M/L, N OF SW 137TH AVE INTERCHANGE	89,000	6.8	6,052	14.2%	6.4%	-7.8%

Table 4-1 Continued

Roadway Name	Station	Roadway Description	2019 AADT	2019 T Factor	2019 Truck Volume	2015-2019 Historic AADT Growth Rate	2015-2019 Historic Truck Growth Rate	Truck Rate Minus AADT Rate
	972262	HEFT/SR-821 M/L, N OF SW 162 AVE BRIDGE	44,000	6.8	2,992	18.6%	10.5%	-8.1%
	972263	HEFT/SR-821 M/L, NB ONE-WAY, N OF RAMP 102	44,000	6.8	2,992	15.8%	7.9%	-7.9%
HEFT	972259	HEFT/SR-821 M/L, S OF SW 137TH AVE	72,900	6.8	4,957	10.6%	3.0%	-7.6%
Kingman Road	878559	KINGMAN RD/SW 152 AV, 200' N OFSW 328 ST/ SE 8 ST (2011 OFF SYSTEM CYCLE)	12,200	7.4	903	6.1%	-37.2%	-43.3%
NE 12th Avenue	878469	NE 12 AVE, 200 FT N OF SW 312 ST/CAMPBELL DR (2011 OFF SYSTEM CYCLE)	5,700	7.4	422	0.0%	-40.8%	-40.8%
NW 6th Avenue	877106	NW 6 AVE, 300' SOUTH OF DAVIS PARKWAY	5,400	3.4	184	-	-	-
NW 8th Street	870517	NW 8 ST/ SW 312 ST/ CAMPBELL DR 300' EAST OF NE 3 AVENUE	25,500	3.6	918	-	-	-
SR 5/US 1	870544	SR 5/US-1, 100' N LUCY ST/SW 328 ST(HOMESTEAD)	32,500	4.8	1,560	14.0%	19.0%	5.0%
	870545	SR 5/US-1, 100' N SW 308 ST	29,000	4.8	1,392	0.0%	-7.7%	-7.7%
	870543	SR 5/US-1, 2500' S PALM DR (FLA CITY)	31,000	9.3	2,883	3.3%	1.2%	-2.2%
SR 9336/Palm Drive	870084	SR 9336/PALM DR, 200' W OF SW 2 AVE.	24,000	6.3	1,512	2.1%	-5.4%	-7.5%
SR 997/Krome Avenue	870043	SR 997/KROME AV, 200' S AVOCADO DR/SW 296 ST	16,400	11.3	1,853	3.1%	53.4%	50.2%
	875017	SR 997/KROME AV, 200' S NE/NW 8 ST (HOMESTEAD)	17,000	12.5	2,125	-13.7%	0.8%	14.5%
	870131	SR 997/KROME AV, 200' S SE 8 ST (FLA CITY)	20,400	12.5	2,550	61.9%	89.1%	27.2%
	870518	SR 997/KROME AV, 400' NW SR 5/US-1	4,300	17.3	744	53.6%	43.6%	-10.0%
SR 9336/SW 344 Street	872548	SR9336/SW 344 ST., 100 FT E OF SR 997/KROME AVE	22,500	12.5	2,813	-8.2%	7.3%	15.4%
SW 127 Avenue	878372	SW 127 AVE, 200 FT N OF NEVADA AVE (2011 OFF SYS)	2,000	7.4	148	-62.3%	-77.7%	-15.4%
	878593	SW 127 AVE, 200' NORTH OF HOMESTEAD AIR RESERV (2011 OFF SYSTEM CYCLE)	5,600	7.4	414	-15.2%	-49.8%	-34.6%
SW 137 Avenue	878503	SW 137 AVE, 200' SOUTH OF SW 336 ST/SE 16 ST (2011 OFF SYSTEM CYCLE)	4,200	7.4	311	20.0%	-29.0%	-49.0%
	877064	SW 137TH AVE 0.25 MILE NORTH OF SW 328TH ST	10,300	7.7	793	33.8%	-3.7%	-37.5%
SW 140th Avenue	878555	SW 140TH AVE, 100’ N OF SW 275TH ST, NARANJA	6,000	7.4	444	-9.1%	-46.2%	-37.1%
SW 152nd Avenue	878557	SW 152 AVE, 200' NORTH OFSW 280 ST (2011 OFF SYSTEM CYCLE)	7,100	7.4	525	26.8%	-24.9%	-51.7%
	878118	SW 152ND AVE, 200' NORTH OF SW 288TH STREET	7,900	11.0	869	-2.5%	-21.7%	-19.2%

Roadway Name	Station	Roadway Description	2019 AADT	2019 T Factor	2019 Truck Volume	2015-2019 Historic AADT Growth Rate	2015-2019 Historic Truck Growth Rate	Truck Rate Minus AADT Rate
SW 167th Avenue	878247	SW 167TH AVE, 200' NORTH OF SW 288TH STREET	5,300	11.0	583	20.5%	-3.3%	-23.7%
SW 187th Avenue	878510	SW 187 AV/REDLAND RD,200' SOUTH OF ARTHUR VINING DAVIS (2011OFF SYSTEM CYCLE)	9,000	7.4	666	8.4%	-35.8%	-44.2%
	878558	SW 187 AVE, 200' NORTH OFSW 348 ST (2011 OFF SYSTEM CYCLE)	5,400	7.1	383	1.9%	-42.1%	-44.0%
SW 187th Avenue	878511	SW 187 AVE, 200' SOUTH OFSW 308 ST (2011 OFF SYSTEM CYCLE)	7,500	7.4	555	-5.1%	-43.8%	-38.7%
SW 268th Street	878104	SW 268 ST/MOODY DR, 200' WEST OF SW 119 PLACE	14,400	7.4	1,066	11.6%	-33.9%	-45.5%
	877002	SW 268TH ST/MOODY DR, 0.25 MILE EAST OF SW 117TH AVE	15,500	6.0	930	4.7%	-37.2%	-41.9%
	878120	SW 268TH STREET, 200' WEST OF SW 127TH AVE	9,900	11.0	1,089	-7.5%	-25.7%	-18.2%
SW 272 Street	877105	SW 272 STREET, 200' EAST OF SW 172 AVE	3,600	8.9	320	-	-	-
SW 280th Street/	878179	SW 280TH ST, 200' EAST OF US-1	5,400	11.0	594	-19.4%	-35.3%	-15.9%
SW 288th Street	878512	SW 288 ST, 200' WEST OF SW 182 AVE/ROBERTS (2011 OFF SYSTEM CYCLE)	4,500	7.4	333	25.0%	-26.0%	-51.0%
	878706	SW 288TH ST 250 FT EAST OF SW 174TH	6,800	7.4	503	13.3%	-32.9%	-46.2%
	878337	SW 288TH ST, 200' WEST OF SW 147TH AVENUE	21,000	9.7	2,037	41.9%	0.5%	-41.4%
	877005	SW 288TH ST, 500 FT WEST OF OLD DIXIE HWY	7,800	4.9	382	-4.9%	-67.4%	-62.5%
	878117	SW 288TH STREET, 300' WEST OF SW 137TH AVE	18,400	11.0	2,024	-12.4%	-29.6%	-17.3%
SW 296th Street	878226	SW 296TH ST/AVOCADO DR, 200' WEST OF US-1	9,400	11.0	1,034	-12.1%	-29.5%	-17.3%
SW 312th Street	877004	SW 312TH ST .25 MILE WEST OF KROME AVE/ SW 177TH AVE	10,200	5.5	561	-2.9%	-55.5%	-52.6%
	878278	SW 312TH ST, 200' EAST OF NE 12TH AVENUE	24,500	7.4	1,813	-7.5%	-45.3%	-37.7%
	877003	SW 312TH ST, 300 FT EAST OF 152ND AVE/KINGMAN AVE	26,500	7.4	1,961	-	-	-
	877077	SW 312TH STREET, 200' EAST OF SW 190TH AVE	1,900	11.1	211	35.7%	-25.8%	-61.5%
	878113	SW 312TH STREET, 200' SOUTH OF NE 34 TER	17,500	7.4	1,295	8.0%	-36.0%	-44.1%
SW 320th Street	878371	SW 320 ST, 200 FT E OF NW 8 AVE (2011 OFF SYSTEM CYCLE)	7,500	7.4	555	-3.8%	-43.1%	-39.2%
	878275	SW 320TH ST, 200' EAST OF US-1	6,800	11.0	748	4.6%	-16.0%	-20.6%
SW 328th Street	878103	SW 328 ST/N. CANAL DR, 200' WEST OF SW 137TH AVE	4,100	11.0	451	2.5%	-17.7%	-20.2%
	878189	SW 328TH ST, 200' EAST OF US-1	9,200	7.4	681	-8.0%	-45.5%	-37.5%
SW 336th Street	878368	SW 336 ST, 200' WEST OF NW 6 AVE (2011 OFF SYSTEM CYCLE)	6,200	7.4	459	-18.4%	-51.7%	-33.3%
SW 344th Street	878634	SW 344 ST/PALM DR, 200' E OFSE 24 PL	8,600	7.4	636	10.3%	-34.7%	-45.0%

Table 4-2 Summary of 2015 – 2019 AADT and Truck Growth Rates, Secondary Study Area

Roadway Name	Station	Roadway Description	2019 AADT	2019 T Factor	2019 Truck Volume	2015-2019 Historic AADT Growth Rate	2015-2019 Historic Truck Growth Rate	Truck Rate Minus AADT Rate
Coconut Palm Drive	878325	COCONUT PALM DR, 200' WEST OF US-1	4,600	11.0	506	-9.8%	-27.6%	-17.8%
Hainlin Mill Drive	878188	HAINLIN MILL DR, 200' WEST OF 134TH AVE	6,100	11.0	671	-3.2%	-22.3%	-19.1%
Mowry Drive	878367	MOWRY DR/SW 320 ST, 200 FT W OF SW 194 AVE (2011 OFF SYSTEM CYCLE)	4,200	7.4	311	5.0%	-37.8%	-42.8%
SR 5/US 1	872521	SR 5/US-1, 380' N SW 272 ST	44,000	3.3	1,452	7.3%	22.1%	14.8%
SR 9336/ Ingraham Highway	870151	SR 9336/INGRAHAM HWY, 300' E EVERGLADES PARK ENT	1,650	11.0	182	13.8%	30.4%	16.6%
SR 994/Quail Roost Drive	871117	SR 994/QUAIL ROOST DR, 200' E KROME AV/SR 997	8,200	14.8	1,214	13.9%	63.6%	49.8%
SR 997/Krome Avenue	870361	SR 997/KROME AV, 200' N SILVER PALM DR/SW 232 ST	17,500	15.8	2,765	-98.0%	-97.6%	0.4%
SW 137 Avenue	877107	SW 137 AVENUE, 150' SOUTH OF SW 244 ST	600	8.9	53	-	-	-
	878336	SW 137TH AVE, 200' SOUTH OF SW 184TH STREET	14,800	13.4	1,983	45.1%	41.9%	-3.2%
SW 147th Avenue	878109	SW 147TH AVE, 200' SOUTH OF SW 200 STREET	8,900	11.0	979	-14.4%	-31.3%	-16.9%
	878108	SW 147TH AVE, 200' SOUTH OF SW 216 STREET	8,200	11.0	902	-8.9%	-26.8%	-18.0%
	878107	SW 147TH AVE, 200' SOUTH OF SW 232 STREET	7,700	11.0	847	-2.5%	-21.7%	-19.2%
	878223	SW 147TH AVE, 200' SOUTH OF SW 256TH STREET	7,600	7.4	562	38.2%	-18.2%	-56.4%
SW 184th Street	878170	SW 184TH ST, 200' WEST OF SW 137TH AVENUE	16,000	3.5	560	-11.6%	-9.0%	2.6%
	878114	SW 184TH STREET, 200' WEST OF SW 147TH AVE	13,300	7.1	944	8.1%	9.7%	1.5%
SW 216 Street	878105	SW 216 STREET, 200' EAST OF SW 177 AVE/KROME AVE	4,500	11.0	495	-22.4%	-37.7%	-15.3%
SW 232nd Street	878711	SW 232ND STREET, 500 FEET EAST OF SW 177TH AVE	4,300	7.4	318	7.5%	-36.4%	-43.9%
SW 248th Street	878720	SW 248TH STREET, 700' WEST OF SW 157 AVE	5,600	7.4	414	14.3%	-32.3%	-46.6%
SW 264th Street	878710	SW 264TH ST, 1100 FEET EAST OF SW 177TH AVE	3,300	7.4	244	6.5%	-37.0%	-43.4%
	878224	SW 264TH ST, 200' WEST OF BUSWAY	4,500	7.4	333	-4.3%	-43.3%	-39.1%

Table 4-3 Summary of 2015 – 2019 AADT and Truck Growth Rates, Primary/Secondary Study Area

Roadway Name	Station	Roadway Description	2019 AADT	2019 T Factor	2019 Truck Volume	2015-2019 Historic AADT Growth Rate	2015-2019 Historic Truck Growth Rate	Truck Rate Minus AADT Rate
SR 997/Krome Avenue	870040	SR 997/KROME AV, 200' N COCONUT PALM DR/SW 248 ST	17,600	12.5	2,200	-0.6%	16.2%	16.7%
SW 157th Avenue	878106	SW 157TH AVE, 200' SOUTH OF SW 272 STREET	3,400	11.0	374	9.7%	-11.9%	-21.6%

4.2 Existing Traffic Data and System Performance

4.2.1 Annual Average Daily Traffic

The AADT data was collected from the Florida Department of Transportation (FDOT) Transportation and Data Analytics Office website. The data depicted in **Figure 4-1** is from 2019. The roadway segment with the highest number of daily vehicles is the HEFT north of Campbell Drive/SW 312th Street (shown in orange in **Figure 4-1**), with an AADT of 63,400. South Dixie Highway and the HEFT south Campbell Drive/SW 312th Street also had higher ranges of AADT within the study area (shown in yellow in **Figure 4-1**), with AADTs ranging from 25,001-50,000. **Table 4-4** displays the AADT, K, T, and D factors for the principal freight roadway facilities in the study area.

Table 4-4 Freight Roadway AADT, 2019

Roadway Name	Count Site	AADT	K Factor	D Factor	T Factor
HEFT	972260	63,400	9	54.6	6.8
Krome Avenue/SW 177th Avenue	870043	16,400	9	56	11.3
South Dixie Highway	870009	26,000	9.5	56	4.8
SW 288th Street	878337	21,000	9	56	9.7
NW 8th Street	877004	10,200	9	56	5.5
Campbell Drive/SW 312th Street	870517	25,500	9	56	3.6
SW 187th Avenue	878511	7,500	9	56	7.4
SW 344th Street	870084	24,000	9	56	6.3
Card Sound Road	878365	4,000	9.5	56	7.4

4.2.2 Annual Average Daily Truck Traffic, 2019

The Annual Average Daily Truck Traffic (AADTT) data was collected from the FDOT Transportation and Data Analytics Office website. The data depicted in **Figures 4-2** and **4-3** are for the year 2019. The roadway segment with the highest number of daily trucks was the HEFT north of SW 288th Street (more than 6,000). Most roadways within the study area had an AADTT of less than 1,500 trucks. The roadway with the highest percentage of truck traffic within the study area is on Krome Avenue between Silver Palm/SW 222nd Street and SW 184th Street. Many of the roadways within the study areas have between 5% and 15% truck volume.

4.2.3 Annual Average Daily Traffic, 2045

The AADT was projected for the study area using SERPM 8 to the year 2045. The total AADT, truck AADT, and percent truck traffic projections are displayed in **Figures 4-4 through 4-6**. The roadway segments projected to have high growth include Krome Avenue, Campbell Drive, and SW 326th Street between US 1 and HEFT.

Figure 4-1 Annual Average Daily Traffic (AADT), 2019

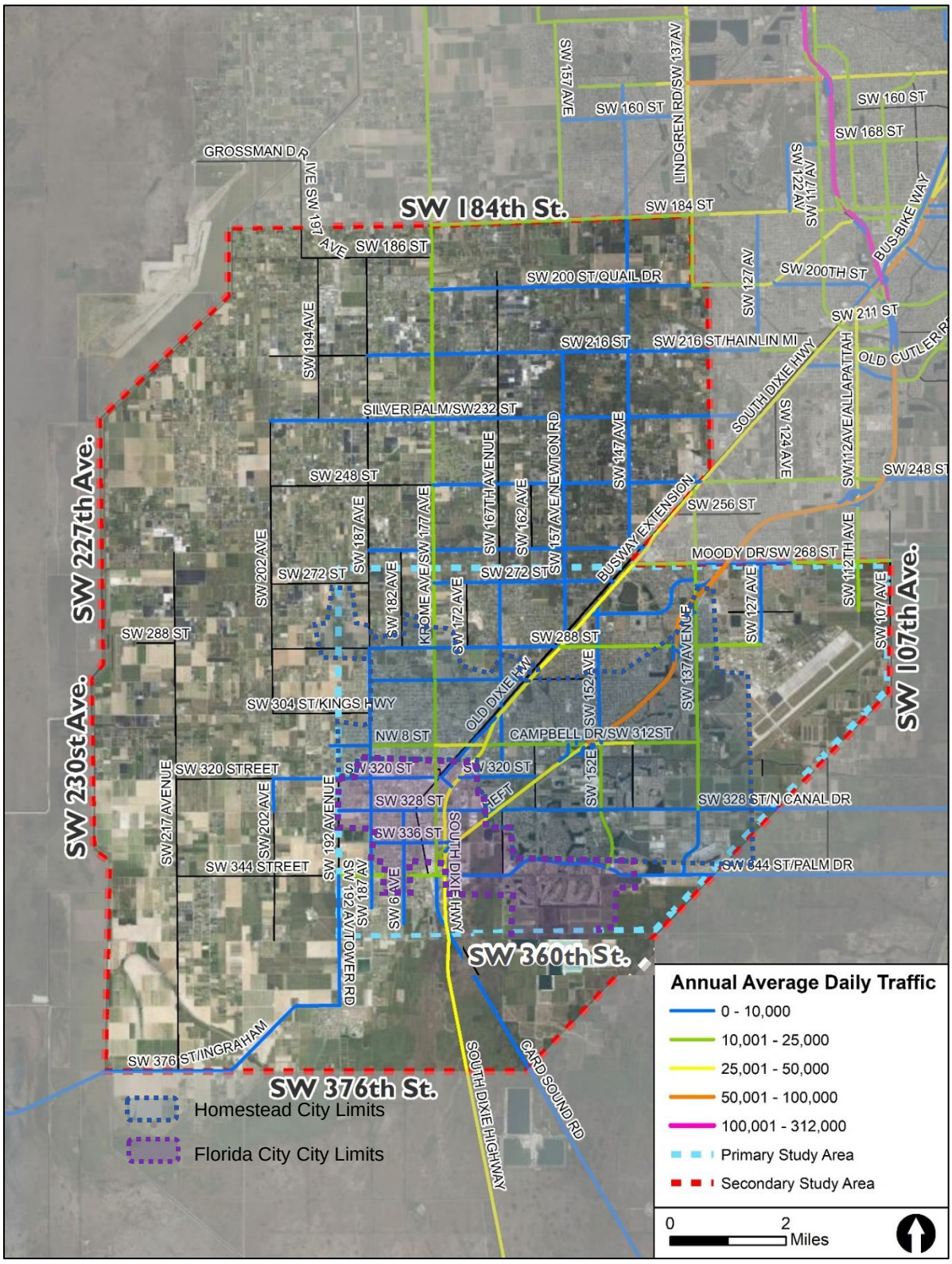


Figure 4-2 Truck AADT, 2019

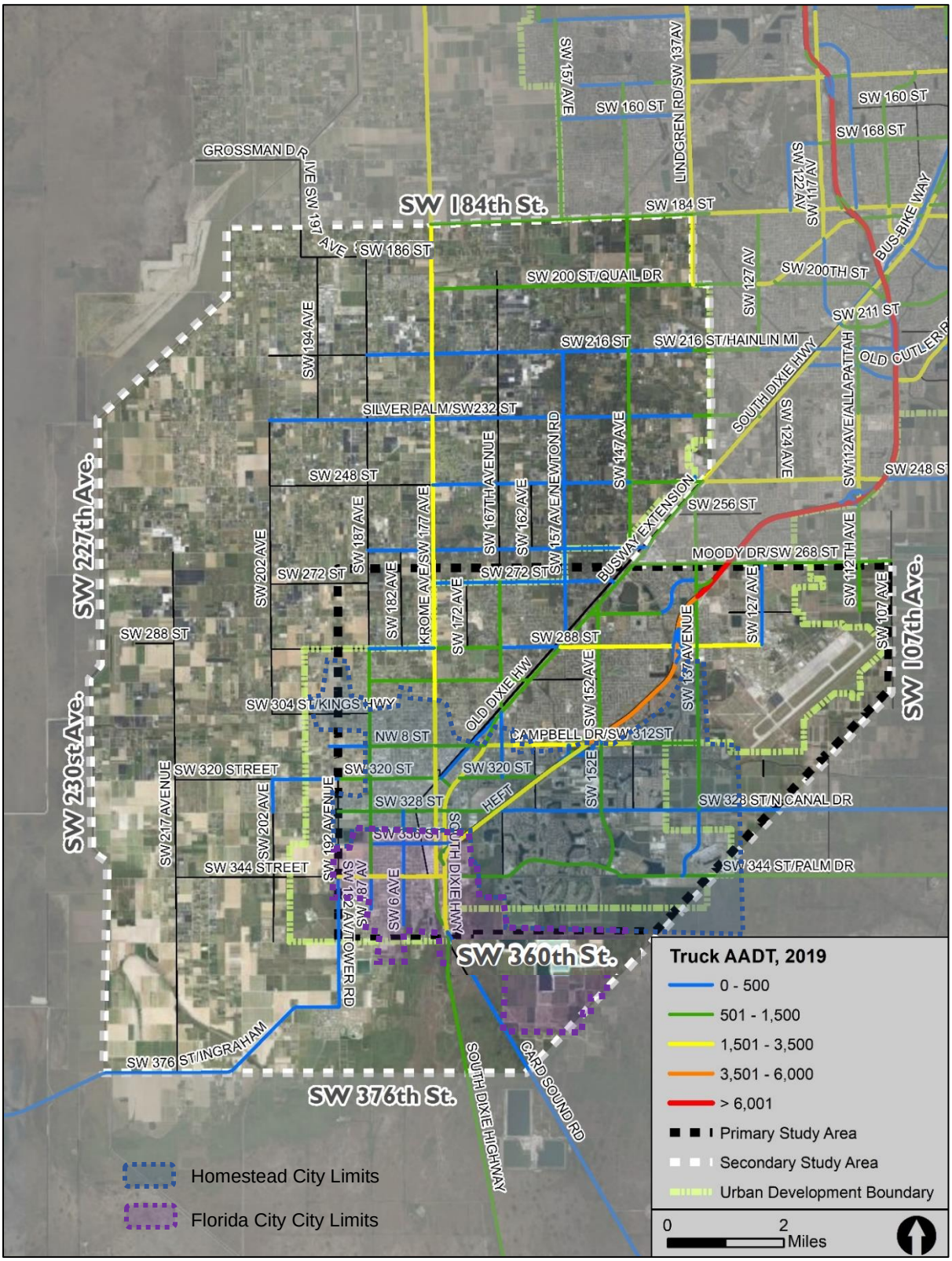


Figure 4-3 Truck Percentage, 2019

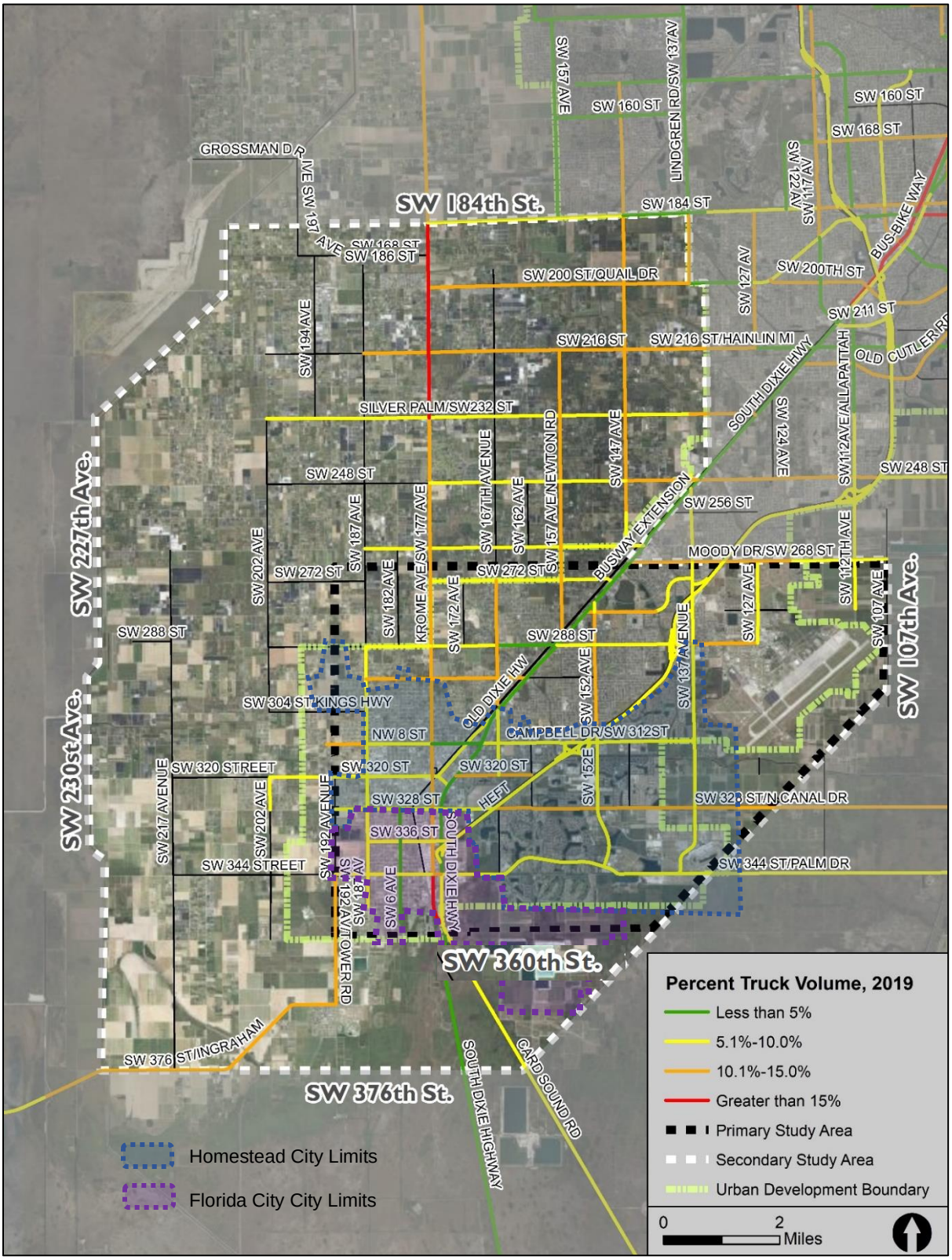


Figure 4-4 Total AADT, 2045

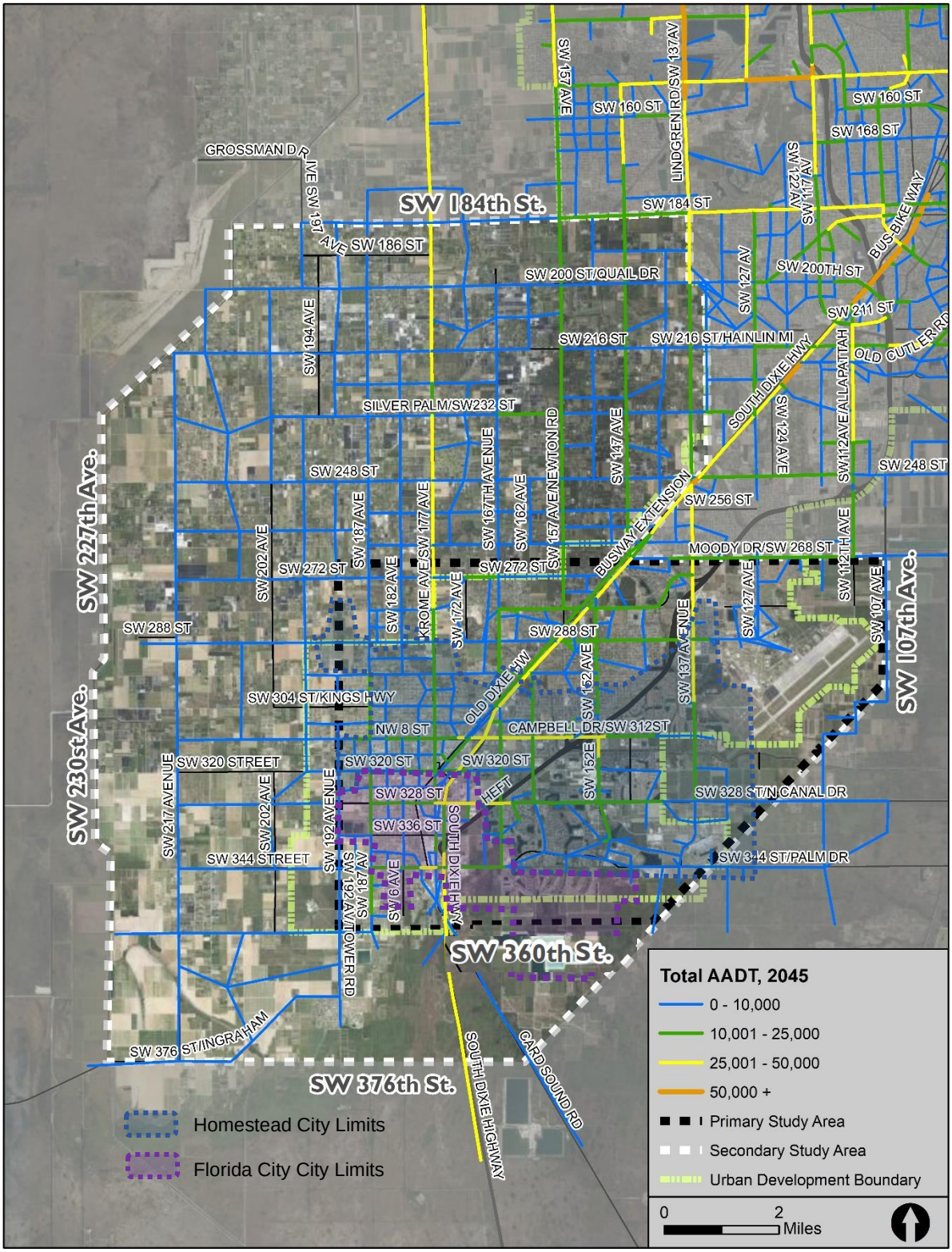


Figure 4-5 Truck AADT, 2045

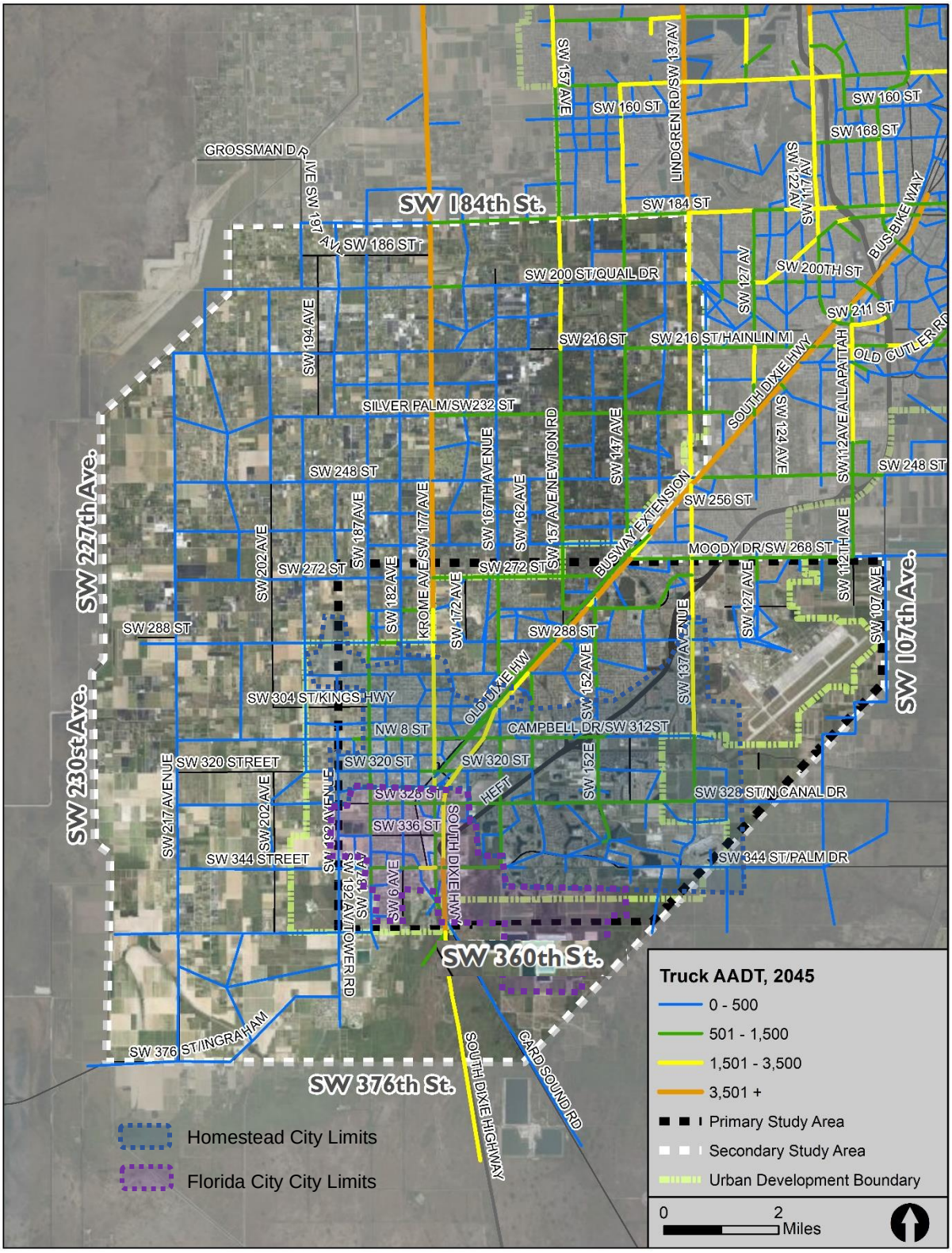
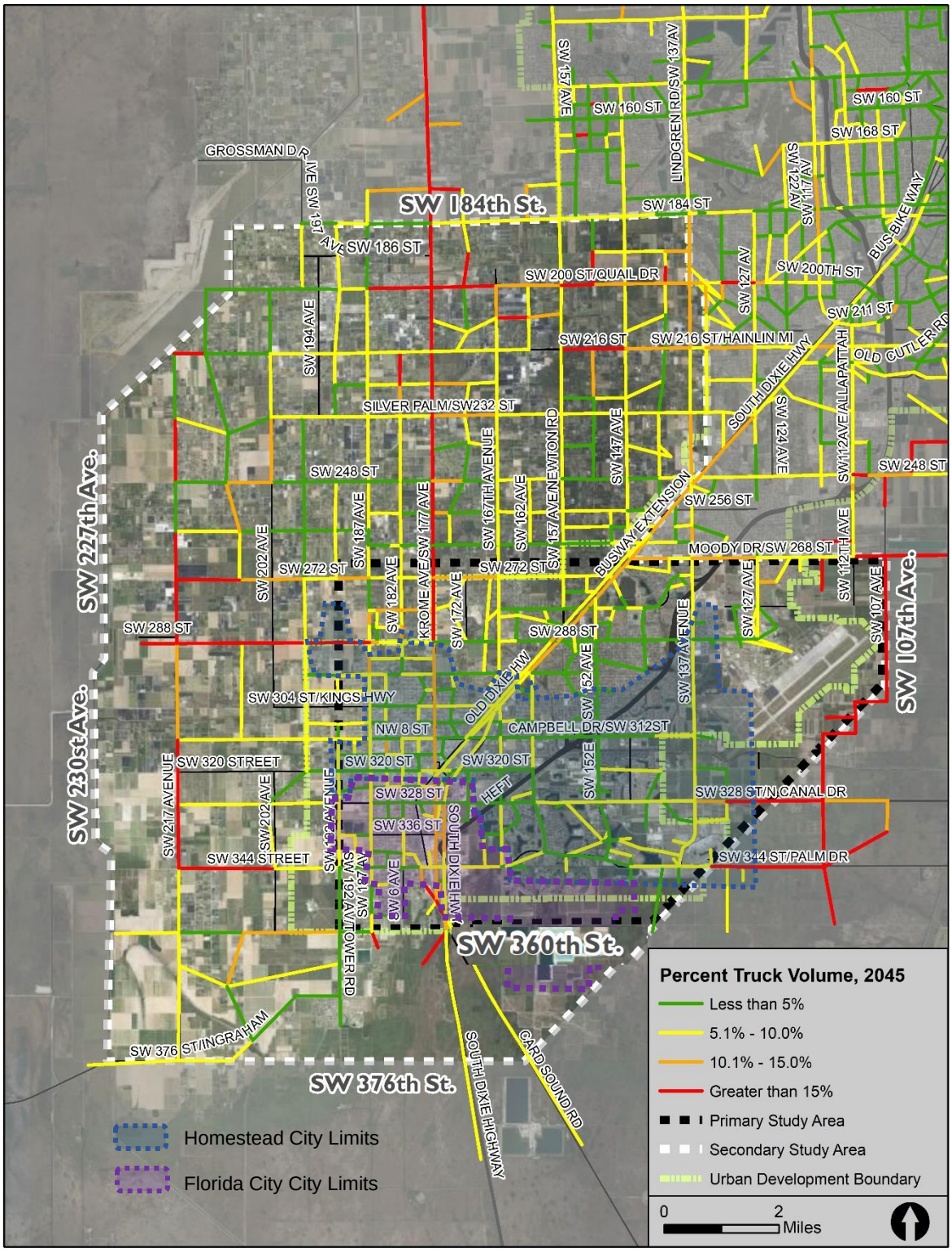


Figure 4-6 Percent Truck Volume, 2045

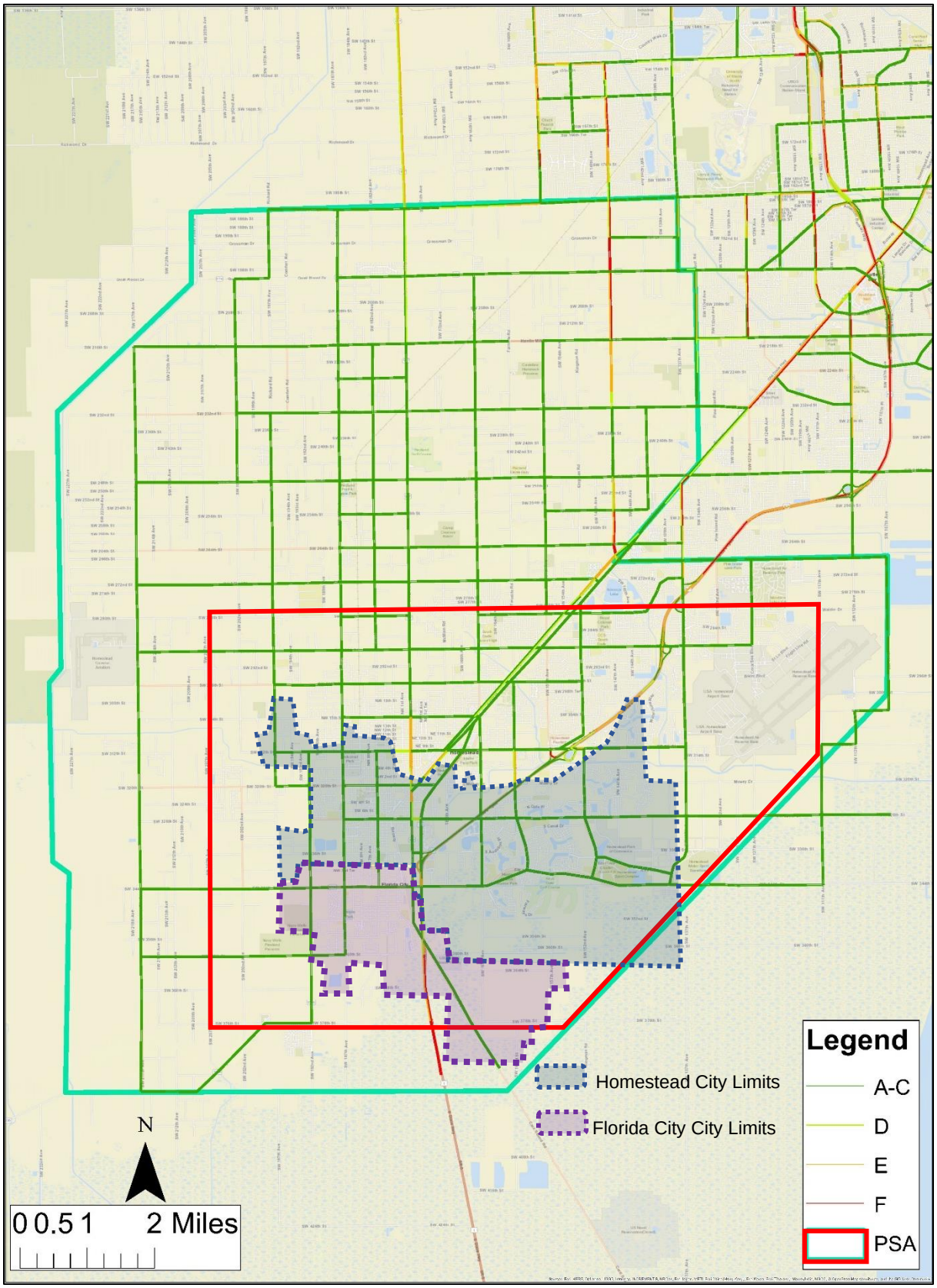


4.2.4 Existing Level of Service

Level of Service (LOS) is a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, maneuverability, delay, and safety. The LOS of a facility is designated with a letter, "A" through "F", with "A" representing the best operating conditions and "F" the worst.

The Southeast Florida Regional Planning Model (SERPM) was the tool used to assign a level of service letter grade based on the PM (evening) volume over capacity ratio. If the volume exceeded the capacity, then that roadway segment received a failing grade of F. If the volume was at or slightly less than capacity (0.85 to 1) then it received a letter grade of "E". The other roadway capacities were adequate based on the model volumes assigned to the network, with adequate meaning a letter grade "D" through "A". **Figure 4.7** depicts year 2015 segment level of service for the roadways within and surrounding the study area.

Figure 4-7 2015 PM Peak LOS

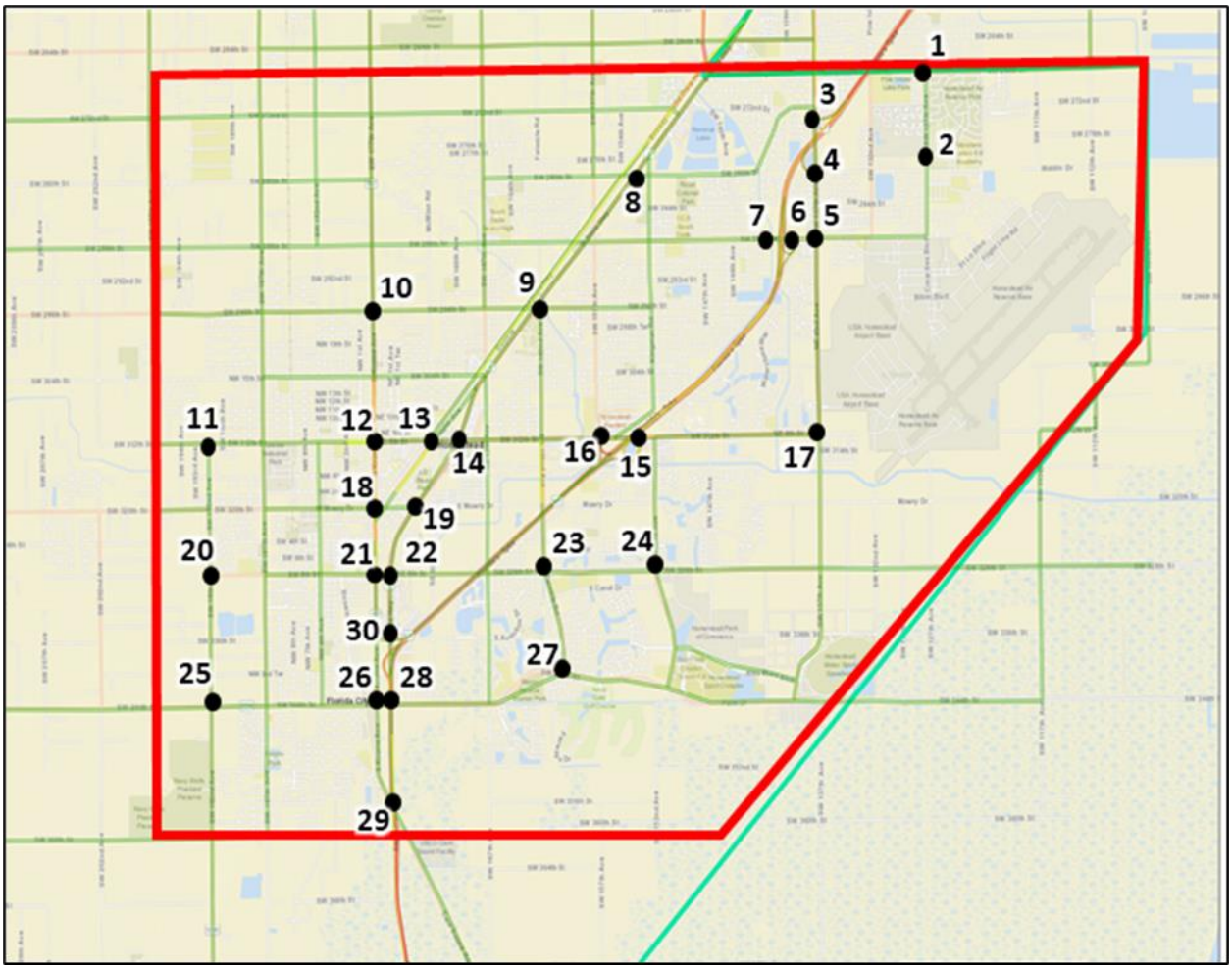


Roadway segments with LOS E or F based on the segment traffic assignment map are summarized as follows:

- Primary Study Area
  - SW 162nd Avenue
    - SW 312nd Street to 320th Street
  - SW 177th Avenue (Krome Avenue)
    - SW 312th Street (Campbell Drive) to SW 328th Street (Campbell Drive)
  - US 1
    - South of Card Sound Road
    - Southbound from Turnpike ramp to SW 344th Street (Palm Drive)
  - Florida Turnpike
    - Between SW 288th Street (Biscayne Drive) to SW 328th Street (Campbell Drive)
    - Southbound exit ramp from Florida Turnpike to SW 328th Street (Campbell Drive)
- Secondary Study Area
  - SW 147th Avenue
    - SW 264th Street to SW 268th Street
    - SW 184th Street to SW 232nd Street
  - Old Dixie Highway
    - SW 264th Street to SW 272nd Street
  - Florida Turnpike
    - North of SW 288th Street (Biscayne Drive)

In addition, traffic counts were taken at 30 intersections across the primary study area, as shown in **Figure 4-8.** These traffic counts are provided in **Appendix C** and included in *Section 6.2 Traffic Service Analysis – Existing Conditions*. Six of these intersections are currently unsignalized while the remaining locations are signalized.

Figure 4-8 Traffic Count Locations



Each of the 30 intersections were evaluated for the existing traffic LOS for both the AM and PM peak periods. LOS is indicated by letter grades from "A" through "F" with "A" denoting uncongested conditions with minimal queuing on the approaches and "F" denoting severe congestion and significant queuing. The existing peak hour traffic counts on each intersection approach are shown in **Table 4-5**, and the resulting LOS values for each approach are shown in **Table 4-6**. LOS "D" through "A" or better is considered to be an acceptable LOS.

Table 4-5 Existing (2020) Peak Hour Intersection Traffic Volumes

Inter-section Number	Intersection	Traffic Control	2020 AM Peak Hour Volumes by Approach				2020 PM Peak Hour Volumes by Approach				2020 AM Peak Hour Truck Percents by Approach				2020 PM Peak Hour Truck Percents by Approach			
			NB	SB	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB
1	SW 127th Ave & SW 268th St	Signalized	424	186	697	744	514	107	457	908	7.8%	3.4%	4.0%	4.7%	2.4%	2.9%	4.5%	8.9%
2	SW 127th Ave & SW 280th St	Unsignalized	394	516	120	104	455	350	91	85	5.6%	4.7%	2.2%	14.8%	1.1%	7.7%	0.0%	5.6%
3	SW 137th Ave & Florida's Turnpike SB Off Ramp	Signalized	653	1,262	n/a	534	655	1,088	n/a	1,043	4.1%	2.5%	n/a	5.8%	1.6%	1.3%	n/a	1.5%
4	SW 137th Ave & Florida's Turnpike NB On Ramp	Unsignalized	1,027	1,484	n/a	n/a	901	1,612	n/a	n/a	3.3%	3.4%	n/a	n/a	1.3%	0.8%	n/a	n/a
5	SW 137th Ave & SW 288th St	Signalized	1,516	1,037	752	759	1,233	1,289	802	894	2.4%	3.7%	4.2%	2.6%	1.4%	1.2%	0.8%	0.9%
6	Florida's Turnpike NB Ramps & SW 288th St	Signalized	216	n/a	1,449	1,081	317	n/a	1,273	977	3.0%	n/a	3.1%	3.9%	2.0%	n/a	1.2%	0.6%
7	Florida's Turnpike SB Ramps & SW 288th St	Signalized	n/a	536	1,442	945	n/a	893	1,167	986	n/a	7.4%	2.6%	4.1%	n/a	3.4%	1.7%	0.5%
8	US 1/S Dixie Hwy & SW 280th St	Signalized	1,135	914	200	291	1,276	1,206	254	217	3.2%	2.1%	3.6%	2.4%	1.3%	1.2%	1.9%	0.5%
9	US 1/S Dixie Hwy & SW 296th St	Signalized	1,177	1,186	477	547	1,455	1,440	590	372	3.2%	3.2%	3.1%	2.8%	1.3%	1.4%	1.1%	2.0%
10	SW 177th Ave & SW 296th St	Signalized	621	640	370	336	617	672	326	303	5.3%	8.3%	2.8%	4.2%	5.4%	3.9%	1.9%	3.6%
11	SW 192nd Ave & SW 312th St	Unsignalized	26	6	81	105	36	1	118	80	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	1.3%	5.8%
12	SW 177th Ave & SW 312th St	Signalized	544	638	345	445	740	671	338	486	4.3%	8.6%	5.3%	3.8%	6.3%	2.6%	0.9%	4.3%
13	N Flagler Ave/Dixie Hwy & SW 312th St	Signalized	234	374	435	686	320	398	768	714	2.6%	3.9%	6.6%	3.7%	1.2%	1.8%	2.4%	2.9%
14	US 1/S Dixie Hwy & SW 312th St	Signalized	815	956	461	869	1,382	1,051	814	886	2.9%	3.3%	6.1%	3.9%	1.4%	1.3%	0.9%	1.5%
15	Florida's Turnpike NB Ramps & SW 312th St	Signalized	124	n/a	1,798	1,221	227	n/a	2,421	1,131	6.3%	n/a	4.3%	1.8%	0.7%	n/a	1.1%	1.4%
16	Florida's Turnpike SB Ramps & SW 312th St	Signalized	977	433	1,262	1,125	1,558	562	1,452	1,033	5.8%	5.9%	3.4%	1.6%	1.6%	1.6%	1.4%	1.2%
17	SW 137th Ave & SW 312th St	Signalized	632	1,158	591	191	591	1,066	577	140	3.2%	2.2%	3.0%	4.7%	2.9%	1.9%	0.5%	1.1%
18	SW 177th Ave & SW 320th St	Signalized	553	571	382	262	687	615	485	313	4.0%	9.6%	4.8%	5.5%	7.8%	3.4%	1.6%	6.1%
19	US 1 & SW 320th St	Signalized	826	946	203	414	1,369	984	402	324	3.9%	2.7%	5.1%	2.0%	1.9%	1.4%	1.3%	2.0%
20	SW 192nd Ave & SW 328th St	Unsignalized	327	196	n/a	99	209	264	n/a	94	1.2%	1.9%	n/a	2.6%	4.4%	1.2%	n/a	6.5%
21	SW 177th Ave & SW 328th St	Signalized	473	577	363	543	796	614	460	400	3.3%	12.9%	4.0%	2.7%	6.8%	2.3%	2.8%	8.0%
22	US 1 & SW 328th St	Signalized	871	939	339	449	1,299	1,209	570	421	4.1%	3.0%	6.5%	5.1%	3.4%	1.0%	2.4%	2.0%
23	SW 162nd Ave & SW 328th St	Signalized	669	503	483	363	427	713	517	358	1.1%	2.9%	3.4%	2.0%	0.7%	0.7%	1.4%	1.4%
24	Kingman Rd & SW 328th St	Signalized	894	679	458	473	558	631	357	467	2.1%	3.5%	2.5%	3.5%	1.7%	1.1%	1.4%	2.9%
25	SW 192nd Ave & SW 344th St	Unsignalized	435	223	139	477	459	223	251	354	2.1%	2.9%	1.9%	3.8%	2.0%	5.0%	4.5%	4.4%
26	SW 177th Ave & SW 344th St	Signalized	146	362	938	888	438	289	1,088	810	7.2%	12.7%	4.3%	6.2%	9.1%	7.2%	4.0%	3.2%
27	SW 162nd Ave & SW 344th St	Signalized	149	222	576	507	86	293	659	481	2.6%	4.0%	4.0%	3.8%	1.8%	0.5%	1.6%	2.2%
28	US 1 & SW 344th St	Signalized	523	1,858	676	858	1,562	1,537	874	712	9.1%	7.8%	8.1%	5.3%	3.8%	2.1%	4.5%	1.8%
29	US 1 & SW 177th Ave	Unsignalized	407	1,551	288	n/a	1,914	732	135	n/a	13.5%	7.7%	8.2%	n/a	5.1%	7.9%	4.9%	n/a
30	US 1 & NE 7th St/Florida's Turnpike SB Off Ramp	Signalized	429	870	364	861	829	1,107	478	622	3.0%	4.7%	3.8%	4.7%	3.7%	1.4%	1.8%	6.4%

Table 4-6 Existing (2020) Peak Hour Level of Service

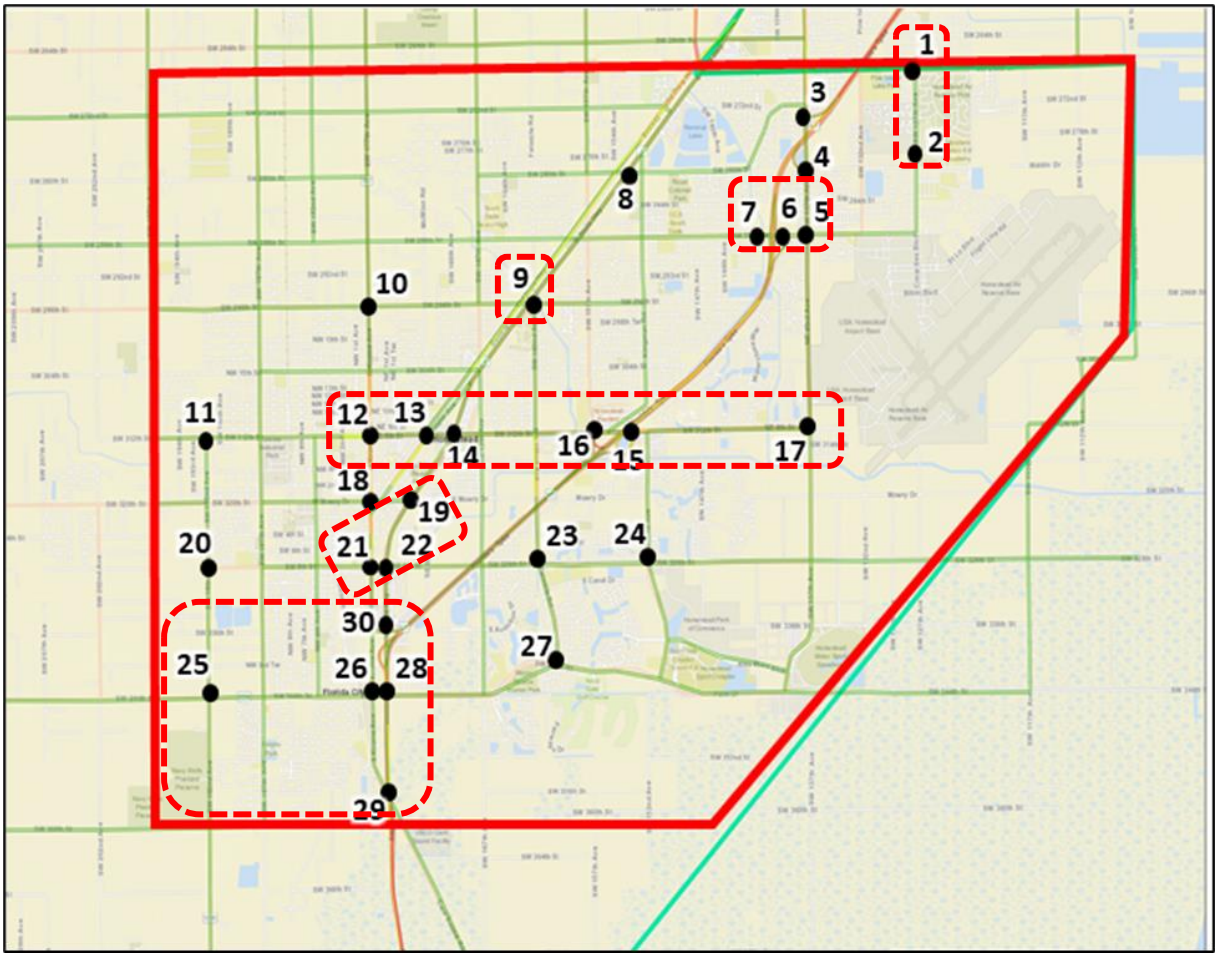
Inter-section Number	Intersection	Traffic Control	2020 AM Peak Hour LOS by Approach				2020 PM Peak Hour LOS by Approach			
			NB	SB	EB	WB	NB	SB	EB	WB
1	SW 127th Ave & SW 268th St	Signalized	F	C	A	C	C	B	A	B
2	SW 127th Ave & SW 280th St	Unsignalized	A	A	F	D	A	A	D	C
3	SW 137th Ave & Florida's Turnpike SB Off Ramp	Signalized	A	A	n/a	B	B	A	n/a	D
4	SW 137th Ave & Florida's Turnpike NB On Ramp	Unsignalized	A	A	n/a	n/a	A	A	n/a	n/a
5	SW 137th Ave & SW 288th St	Signalized	D	D	F	F	D	D	F	E
6	Florida's Turnpike NB Ramps & SW 288th St	Signalized	D	n/a	A	A	E	n/a	A	A
7	Florida's Turnpike SB Ramps & SW 288th St	Signalized	n/a	D	B	A	n/a	E	A	A
8	US 1/S Dixie Hwy & SW 280th St	Signalized	B	B	D	D	B	B	D	D
9	US 1/S Dixie Hwy & SW 296th St	Signalized	C	C	E	E	D	D	E	D
10	SW 177th Ave & SW 296th St	Signalized	C	C	C	C	C	B	C	C
11	SW 192nd Ave & SW 312th St	Unsignalized	A	A	A	A	A	A	A	A
12	SW 177th Ave & SW 312th St	Signalized	B	B	D	D	B	B	D	E
13	N Flagler Ave/Dixie Hwy & SW 312th St	Signalized	B	B	D	E	B	C	D	D
14	US 1/S Dixie Hwy & SW 312th St	Signalized	C	C	D	D	C	C	D	E
15	Florida's Turnpike NB Ramps & SW 312th St	Signalized	E	n/a	A	A	E	n/a	A	A
16	Florida's Turnpike SB Ramps & SW 312th St	Signalized	E	D	C	C	D	D	D	D
17	SW 137th Ave & SW 312th St	Signalized	C	E	D	E	C	C	D	D
18	SW 177th Ave & SW 320th St	Signalized	B	B	D	C	B	B	D	C
19	US 1 & SW 320th St	Signalized	B	B	C	E	C	B	D	E
20	SW 192nd Ave & SW 328th St	Unsignalized	A	A	n/a	B	A	A	n/a	B
21	SW 177th Ave & SW 328th St	Signalized	B	B	D	E	C	C	D	E
22	US 1 & SW 328th St	Signalized	B	C	E	D	C	C	E	D
23	SW 162nd Ave & SW 328th St	Signalized	B	B	B	C	B	B	B	C
24	Kingman Rd & SW 328th St	Signalized	B	B	B	B	B	B	B	B
25	SW 192nd Ave & SW 344th St	Unsignalized	E	C	C	F	F	C	D	E
26	SW 177th Ave & SW 344th St	Signalized	D	E	B	B	E	E	B	B
27	SW 162nd Ave & SW 344th St	Signalized	D	D	A	B	C	C	A	B
28	US 1 & SW 344th St	Signalized	D	D	E	E	D	D	E	F
29	US 1 & SW 177th Ave	Unsignalized	A	A	F	n/a	A	A	F	n/a
30	US 1 & NE 7th St/Florida's Turnpike SB Off Ramp	Signalized	B	B	E	E	B	B	E	E

From this LOS analysis for existing conditions, the following observations are made:

- There are 224 total approaches across the 30 intersections considering both AM and PM peak periods. LOS "E" or "F" prevailed in the AM and/or PM peak periods on 42 approaches, or 19% of the total approaches, at 20 of the intersections.
- Of these 42 approaches, 44% or 18 approaches (and 8% of total approaches studied) were situated at intersections on US 1. The US 1 corridor, as the primary arterial spine of the study area, has exhibited congestion at locations along its length in past years.
- At least 20 of the 42 approaches with LOS "E" or "F", (about half) were at 14 intersections (70% of the intersections with underperforming approaches) with other approaches performing at much higher levels of service, suggesting that rebalancing of signal timing and/or phasing would elevate the poorly performing approaches to LOS "D" or better. If this were successful, there would be nine approaches in the AM and/or PM peak hours at four intersections on US 1 that would require other physical intersection improvements. The two deficient AM and PM eastbound approach deficiencies at US 1/SW 324th St. (Campbell Drive) reflect that construction work was being done for the FDOT Truck Bypass project and it is assumed that final signal timing and phasing plans were not in full effect.
- As a result, there are several intersections on US 1 that would require improvement beyond signal timing and phasing. One of these is US 1/SW 344th Street (Palm Drive) which is within the study limits of the ongoing FDOT Florida Turnpike Enterprise PD&E Study that is working to address safety and traffic service issues at this intersection (Intersection 28) and at US 1/Turnpike exit ramp/West Davis Parkway (Intersection 30).

Figure 4-9 illustrates the intersections within dashed red boxes where one or more approaches function at LOS "E" or "F" in either the AM or PM peak hours.

Figure 4-9 Intersections with LOS E or F on Approaches

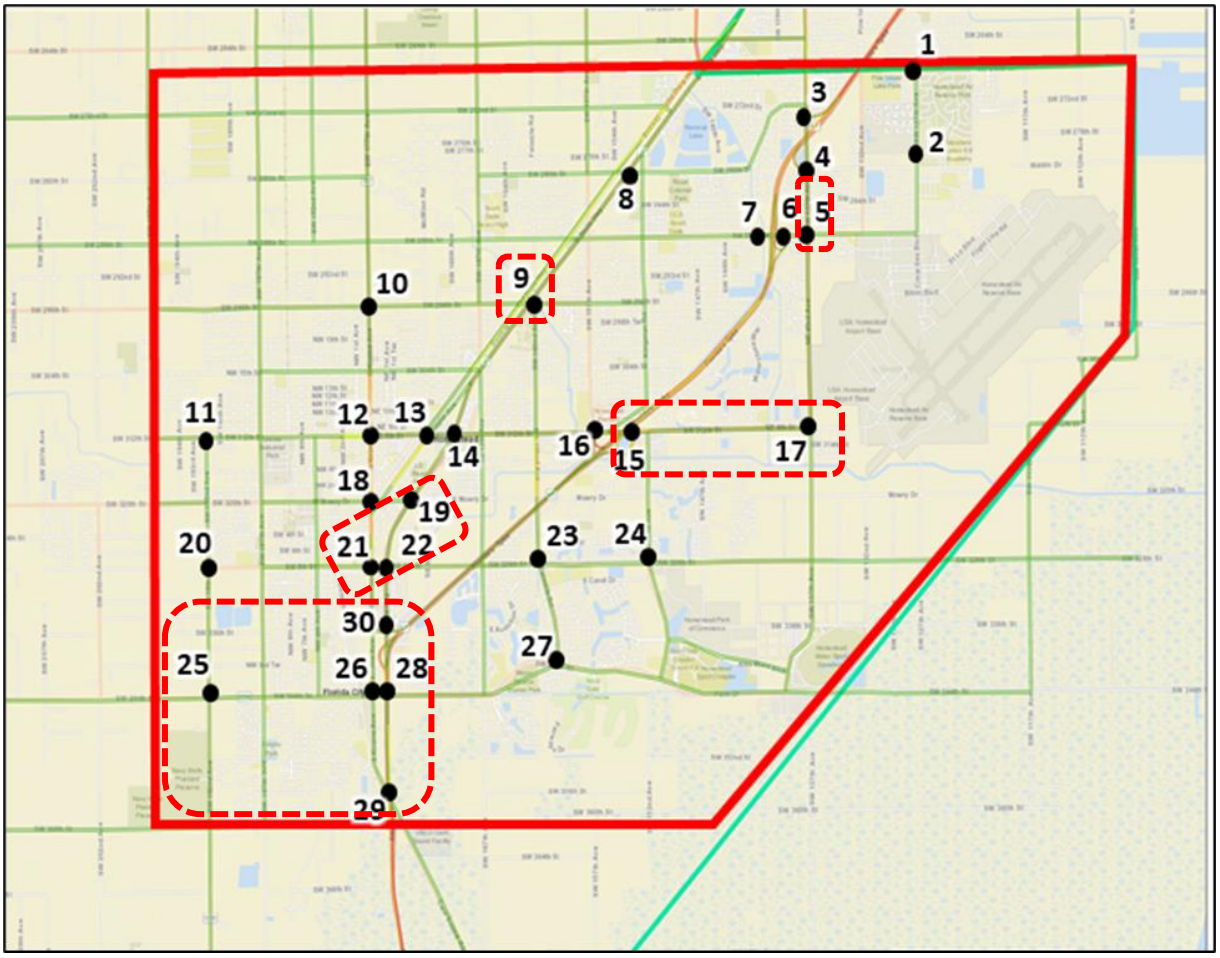


From **Figure 4-9,** the problematic intersections within dashed red boxes that have approaches with LOS "E" or "F" in the AM or PM peak periods include:

- Seven of eight intersections along US 1 (Intersections 9, 14, 19, 22, 28, 29 and 30). Intersections 28 and 30 were evaluated as part of the recently completed FTE PD&E Study.
- Three other intersections in Florida City (Intersections 25, 29 and 30).
- One other intersection in central Homestead (Intersection 21).
- Six intersections on SW 324th Street/Campbell Drive (intersections 12, 13, 14,15, 16 and 17).
- Intersections 5, 6, and 7 on SW 288th Street (Biscayne Drive).
- Intersections 1 and 2 on SW 112th Avenue.

Figure 4-10 illustrates those remaining intersections within the dashed red boxes, after deleting the intersections where signal timing and phasing changes would resolve the LOS deficiency, where one or more approaches function at LOS "E" or "F" in either the AM or PM peak hours.

Figure 4-10 Intersections Needing Additional Capacity



From **Figure 4-10**, after removing underperforming intersection approaches that can be remedied by signal timing and phasing adjustments, the remaining problematic intersections include:

- Six of eight intersections along US 1 (Intersections 9, 19, 22, 28, 29 and 30). Intersections 28 and 30 are being evaluated as part of the ongoing FTE PD&E Study.
- Three other intersections in Florida City (Intersections 25, 29 and 30).
- One other intersection in central Homestead (Intersection 21).
- Two intersections on SW 324th Street/Campbell Drive (intersections 15 and 17).
- Intersection 5 at SW 288th Street (Biscayne Drive)/SW 137th Avenue (Tallahassee Road).

4.2.5 Crash Data

Crash data for the study area was obtained through the *Signal Four Analytics* database for the five-year period from 2015 through 2019. *Signal Four Analytics* is a system developed by the GeoPlan Center at the University of Florida designed to support the crash mapping and analysis needs of law enforcement, traffic engineering, transportation planning agencies, and research institutes within the state of Florida. A summary of the crash data for the primary and secondary study areas is provided below with further details provided in this section.

- 22,972 total crashes
- Less than 1% of the crashes resulted in fatalities
- 8% of the crashes were reported to be drug, alcohol or distracted driving related
- 452 bicycle or pedestrian crashes with 35 resulting in fatalities
- 90% of the crashes occurred during daylight or dark – lighted conditions
- 80% of the crashes occurred during clear weather conditions

Total Crashes

From 2015 through 2019, there were 22,972 total crashes in the primary and secondary study areas. **Figure 4-11** shows a heat map depicting high and low areas of crash concentration. High crash locations include the HEFT, US 1, and Krome Avenue within the City of Homestead and the intersection of Krome Avenue and SW 200 Street in the Secondary Study Area.

A review was also made of three recent planning studies regarding their crash analyses:

- Florida Turnpike (SR 821) Widening (US 1 to Campbell Drive) 439545-1-22-01 – Preliminary Engineering Report (December 2020), Florida DOT.
- SR 997/Krome Avenue Truck Bypass PD&E Study (S. of Flagler Street to SW 296th Street) – PD&E Study (September 2015), Florida DOT.
- South Corridor Regional Transit Project – Preliminary Engineering and Environmental Report (August 27, 2018), Miami-Dade County Dept. of Transportation and Public Works.

From these sources, the following additional observations are made regarding truck crashes specifically:

- The Truck Bypass Study considered roadway segments along Krome Avenue and US 1. It found high crash rate segments on Krome Avenue (4th Street to Campbell Drive), US 1 (Davis Parkway to Lucy Street), and US 1 (Campbell Drive to Biscayne Drive). In these segments truck involvement ranged from 3% to 10% of crashes, at or below the proportion of trucks in the traffic stream.
- The Turnpike Widening Study identified three short segments of the mainline with high crash rates that were two to four times the average crash rate and the segment of US 1 from SW 344th Street to the Turnpike ramps where the southbound crash rate was about 2.9 times the average and the northbound crash rate was about 1.9 times the average. No overrepresentation of trucks in these segments was reported.

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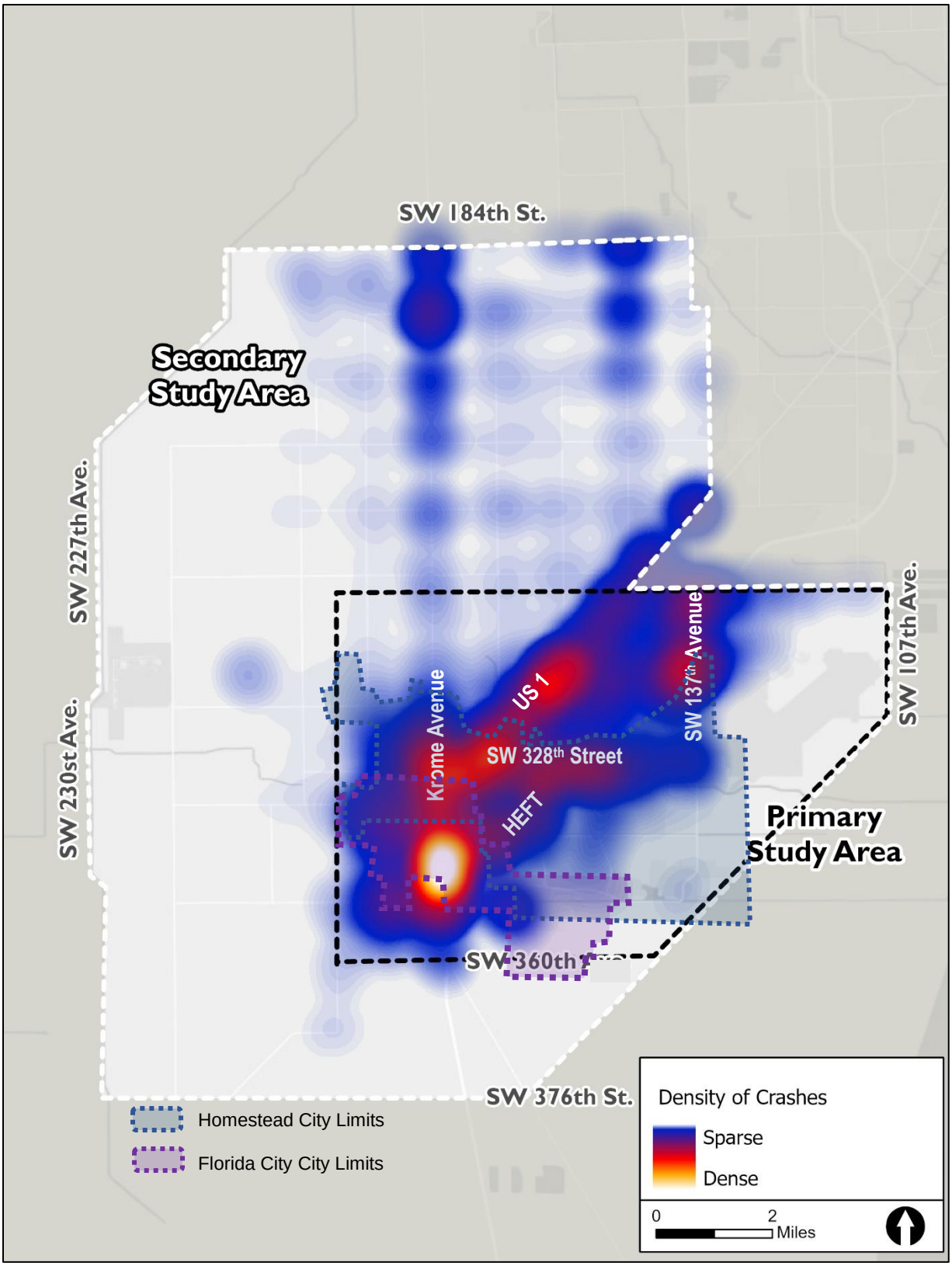
Figure 4-11 Crash Concentration



Crash Severity

A summary of the crash severity is displayed in **Table 4-7**. Approximately 0.5% of the crashes resulted in fatalities (114 total) and 22% resulted in injuries. The remaining 77.6% of the crashes resulted in property damage only. **Figure 4-12** displays the locations of the fatal crashes in "**red**". There are clusters of fatal crashes along US 1 between SW 344th Street and SW 336th Street in the vicinity of the HEFT terminus.

Table 4-7 Crash Severity

Crash Year	Crash Count	Percent
Fatality	114	0.5%
Injury	5,038	21.9%
Property Damage Only	17,820	77.6%
Total	22,972	100%

Bicycle and Pedestrian Crashes

There were a total of 452 bicycle or pedestrian crashes within the study areas. Of those crashes, 35 resulted in fatalities. **Figure 4-13** displays the bicycle (yellow) pedestrian (**blue**) crash locations within the study areas. The bicycle or pedestrian crashes resulting in a fatality are displayed in **red**. The higher concentrations of crashes were within the Homestead study area along South Dixie Highway, Campbell Drive/SW 312 Street, and Krome Avenue

Figure 4-12 Crash Fatalities

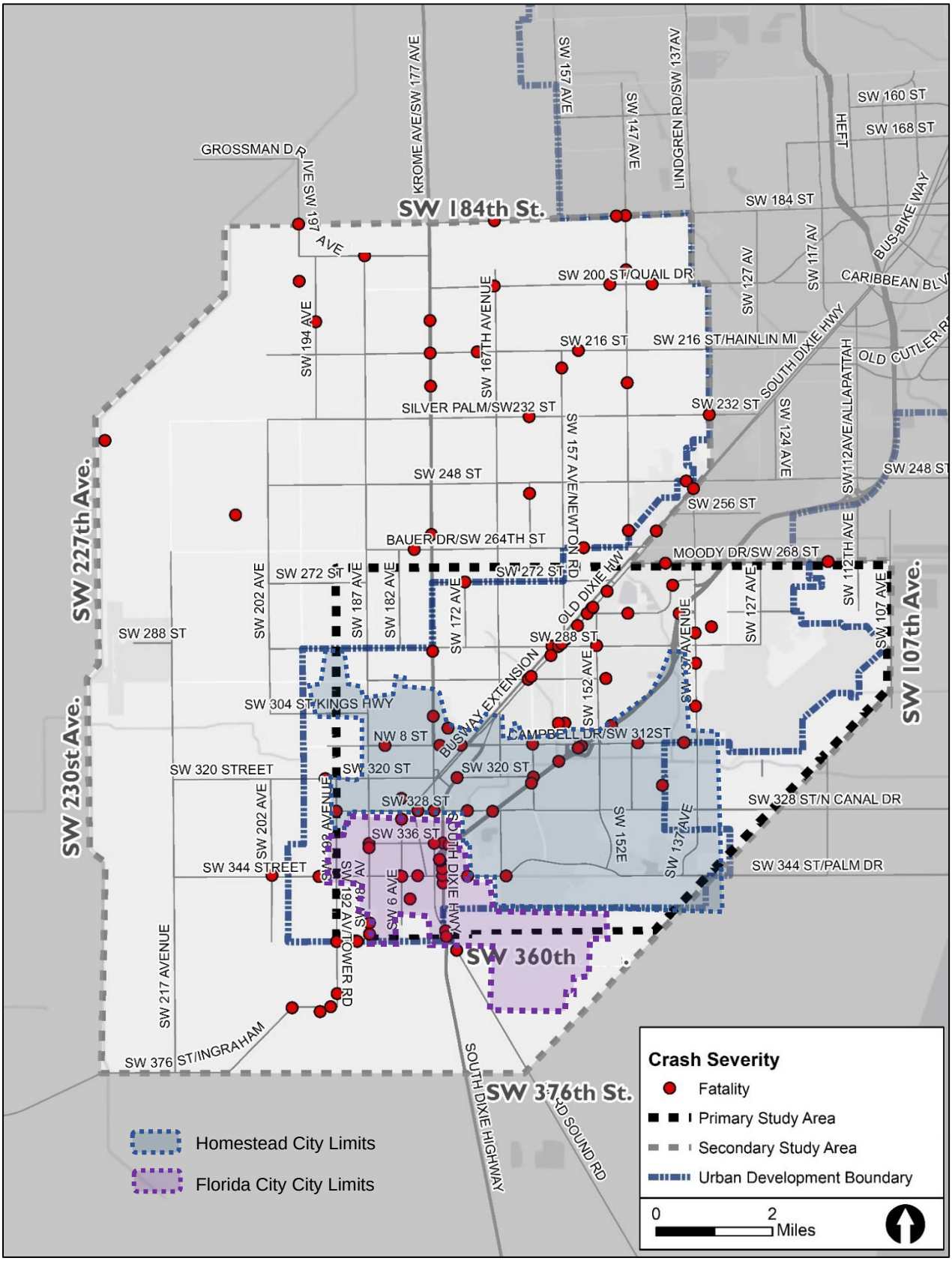
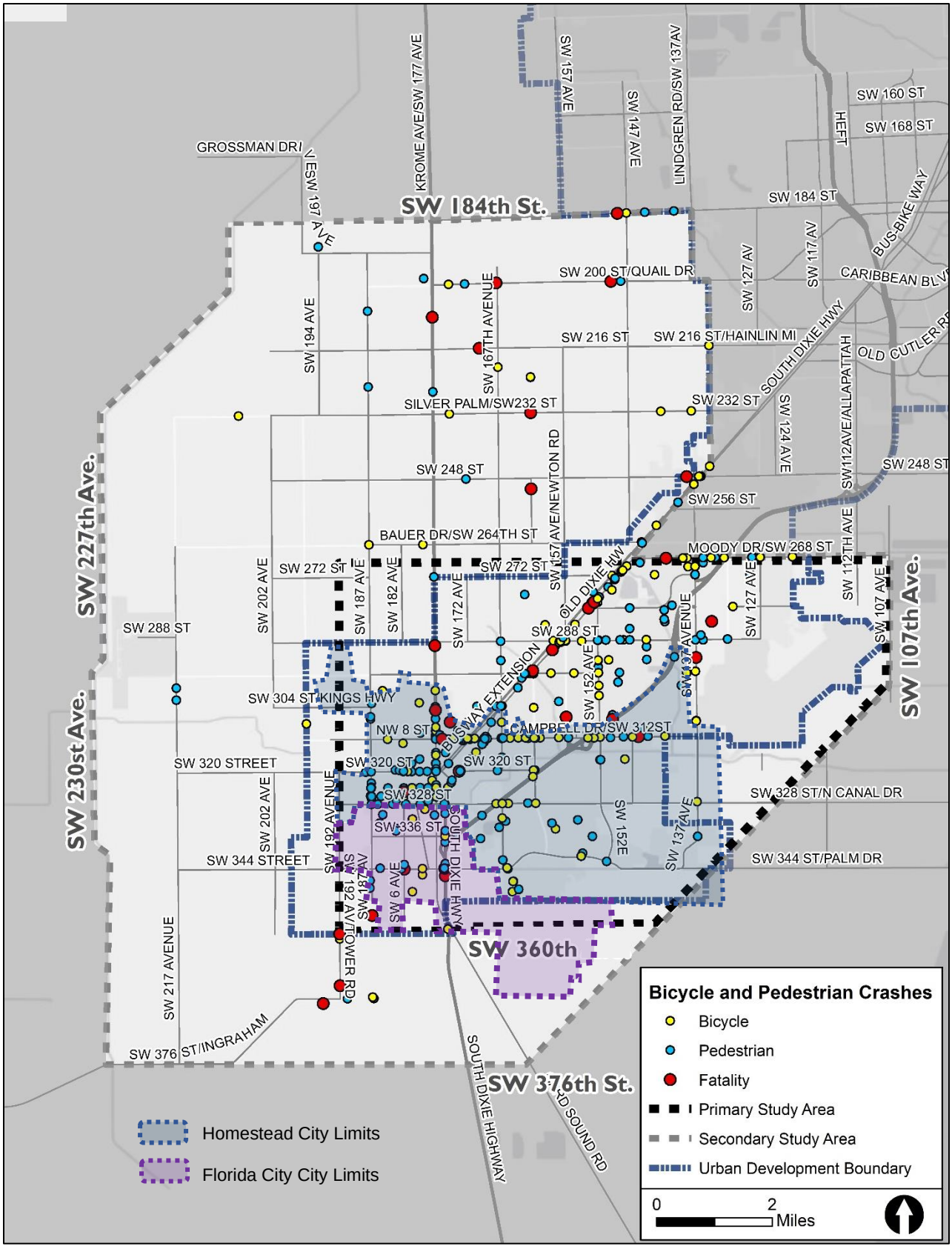


Figure 4-13 Bicycle and Pedestrian Crashes



Crashes Per Year

A breakdown of the number of crashes per year is displayed in **Table 4-8.** The number of crashes remained relatively constant throughout the five-year period, with an average of around 4,600 crashes per year. The year 2015 had the least number of crashes (4,038) and the year 2019 had the greatest number of crashes with 4,852.

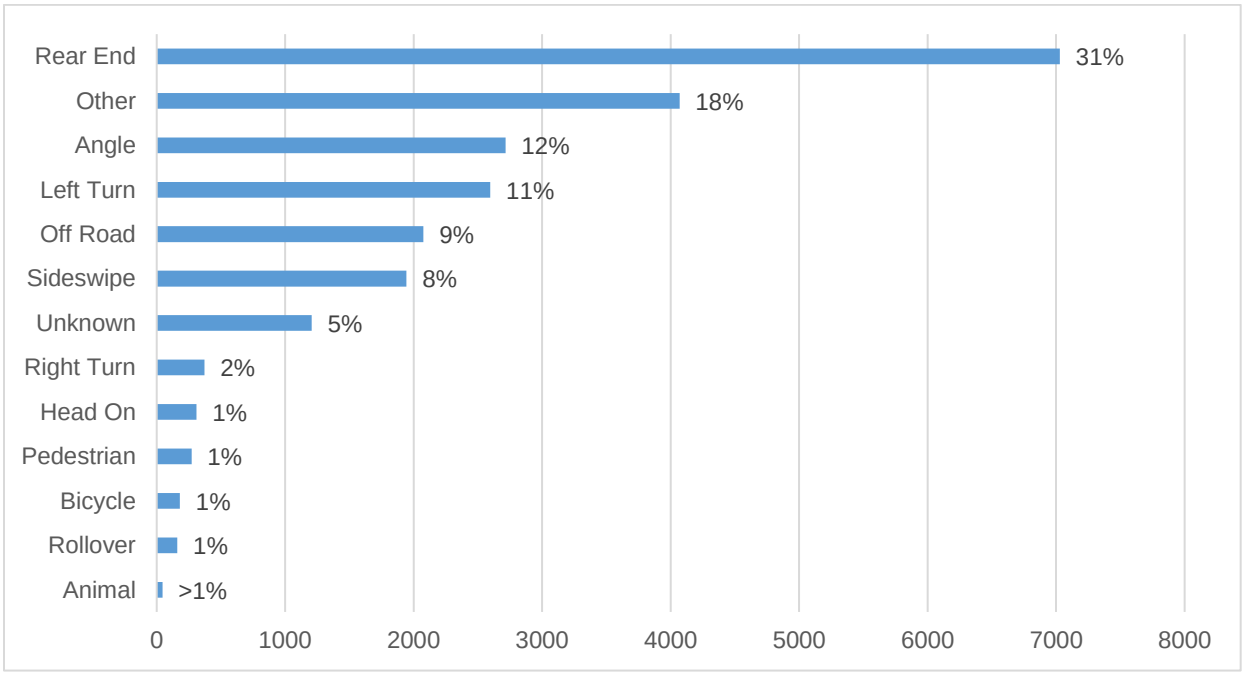
Table 4-8 Crashes Per Year

Crash Year	Crash Count	Percent
2015	4,038	18%
2016	4,646	20%
2017	4,685	20%
2018	4,751	21%
2019	4,852	21%
Total	22,972	100%

Crash Type

Figure 4-14 displays the crashes by type. Rear ends (31%), Other (18%), and Angle (12%) were the most frequent types of crashes. Rollover (1%) and Animal (>1%) were the two least common types of crashes.

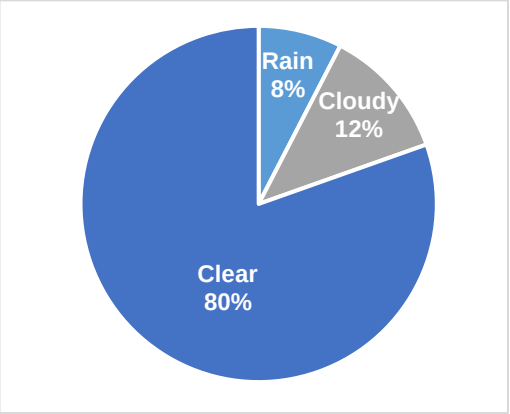
Figure 4-14 Crash Type



Weather Conditions

As displayed in **Figure 4-15** Weather Conditions**,** a majority of the crashes (80%) occurred during Clear weather conditions. Additionally, 12% of the crashes occurred during Cloudy weather conditions and 8% occurred during Rainy weather conditions.

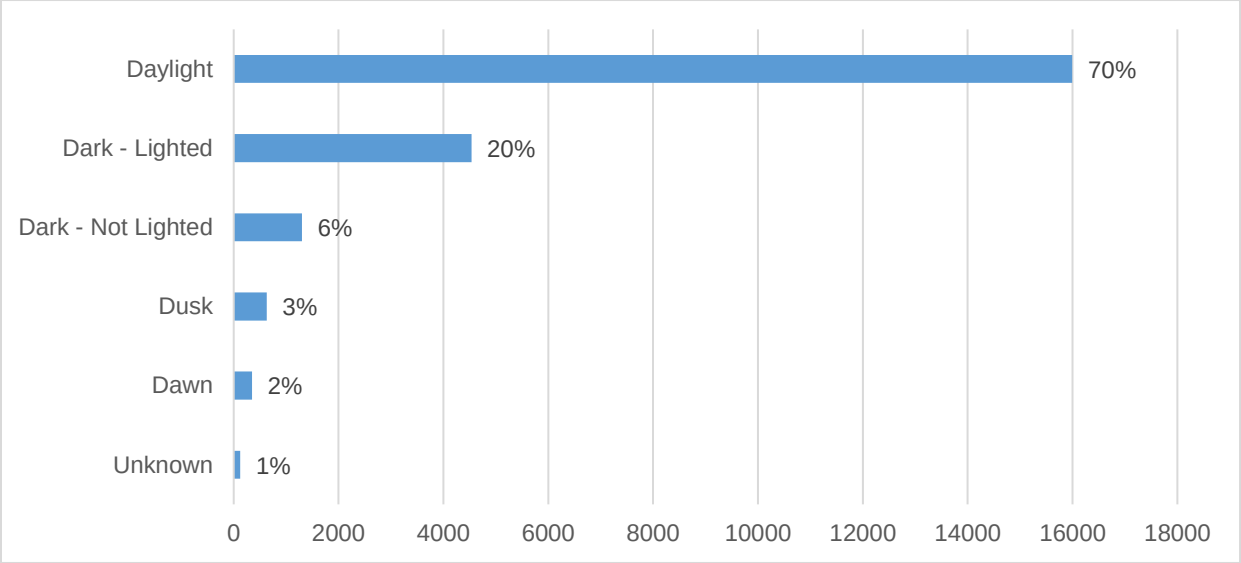
Figure 4-15 Weather Conditions



Lighting

As displayed in **Figure 4-16**, a majority of the crashes occurred during the Daylight (70%). Dark-Lighted conditions had the second highest concentration of crashes (20%). Dusk, Dawn, and Unknown had the three lowest concentrations of crashes ranging from 1% to 3%.

Figure 4-16 Lighting Conditions



Impairments

As shown in **Table 4-9**, approximately 1.2% of the crashes were reported to be drug or alcohol related. Roughly 7% of the crashes were reported to be the result of distracted driving.

Table 4-9 Crash Impairments

Impairment	Crash Count	Percent
Drug-Related	41	0.2%
Alcohol	326	1%
Distracted Driving	1,627	7%
Non-Impaired	20,978	91%
Total	22,972	100%

4.2.6 Origin – Destination

An Origin-Destination analysis was performed using Longitudinal Employer-Household Dynamics (LEHD) data from the US Census.

LEHD Analysis

LEHD Origin-Destination Employment Statistics (LODES) were utilized for the study area via the *OnTheMap* Version 7 enumerated by 2010 Census Blocks. A jobs origin-destination analysis was performed for 2017 for the study area based on private primary jobs.

Worker Origin

The top 10 origin locations by places (cities, Census Designated Places (CDPs), etc.) for workers within the project area are displayed in **Figure 4-17** and summarized in **Table 4-10** below. The highest concentration of worker origin for workers within the project area is the City of Homestead with 9% of the workers. The second highest concentration of worker origin is Miami with 5.7% of the workers.

Table 4-10 Top 10 Worker Origin, LEHD 2017

Place	Worker Count	Share
Homestead (City)	4,562	9.0%
Miami (City)	2,898	5.7%
Kendall (CDP)	2,209	4.4%
Doral (City)	2,046	4.0%
Coral Gables (City)	1,552	3.1%
Florida City (City)	1,384	2.7%
Cutler Bay (Town)	1,001	2.0%
Three Lakes (CDP)	949	1.9%
Hialeah (City)	920	1.8%
Fort Lauderdale (City)	906	1.8%
All Other Locations	32,263	63.6%

Worker Destination

The top 10 private primary job counts by places (cities, CDPs, etc.) from where workers live within the study area are displayed in **Figure 4-18** and summarized in **Table 4-11** below. The highest concentration of job locations for workers within the project is the City of Homestead with 17.3% of jobs. The second highest concentration of job location for workers within the project area is Leisure City, with 7.5%.

Table 4-11 Top 10 Worker Destination, LEHD 2017

Place	Worker Count	Share
Homestead (City)	4,876	17.3%
Leisure City (CDP)	2,115	7.5%
Florida City (City)	1,012	3.6%
Princeton (CDP)	930	3.3%
South Miami Heights (CDP)	816	2.9%
Miami (City)	770	2.7%
Cutler Bay (Town)	644	2.3%
Naranja (CDP)	468	1.7%
Richmond West (CDP)	466	1.7%
The Hammocks (CDP)	457	1.6%
All Other Locations	15,615	55.4%

Figure 4-17 Worker Origin, LEHD 2017

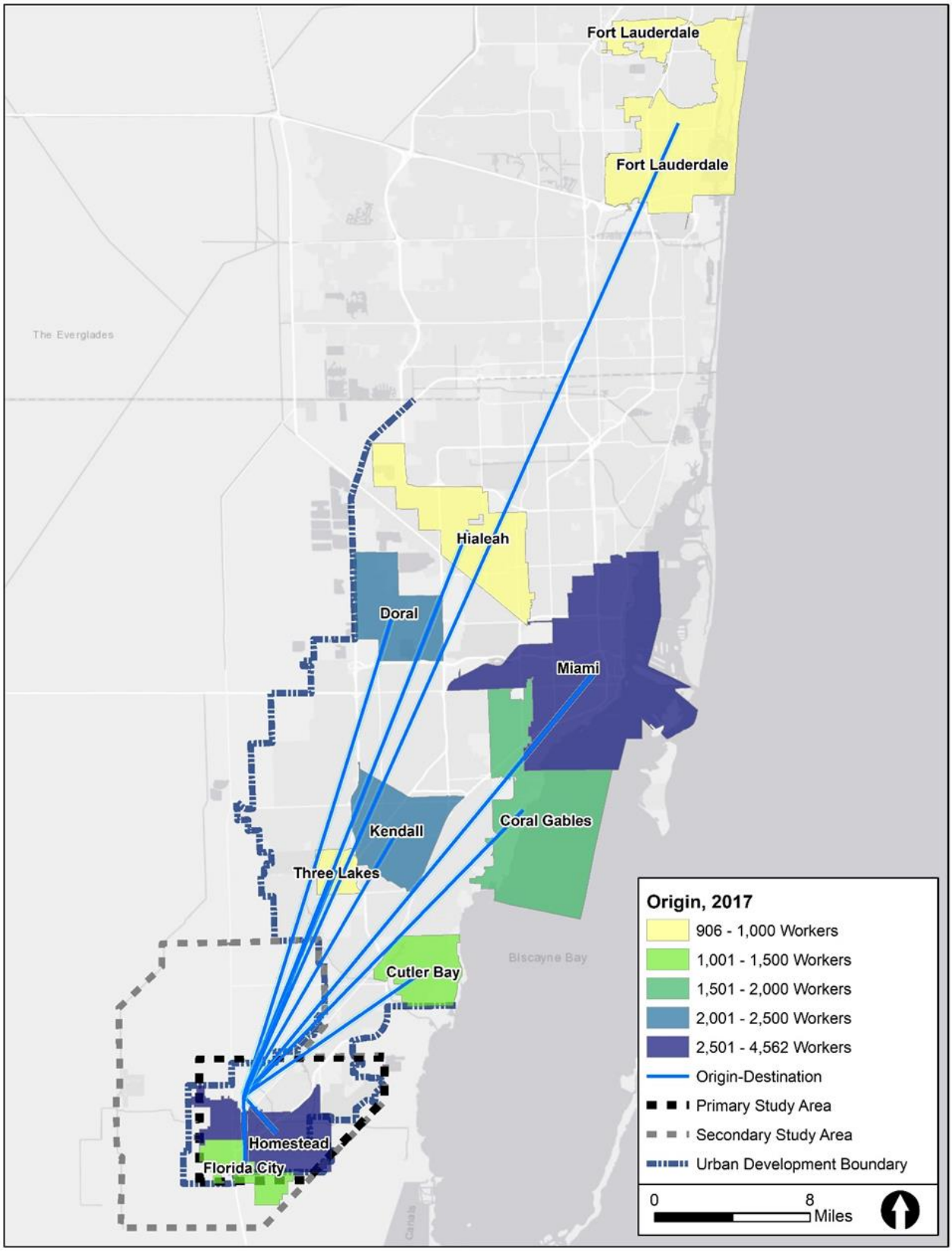
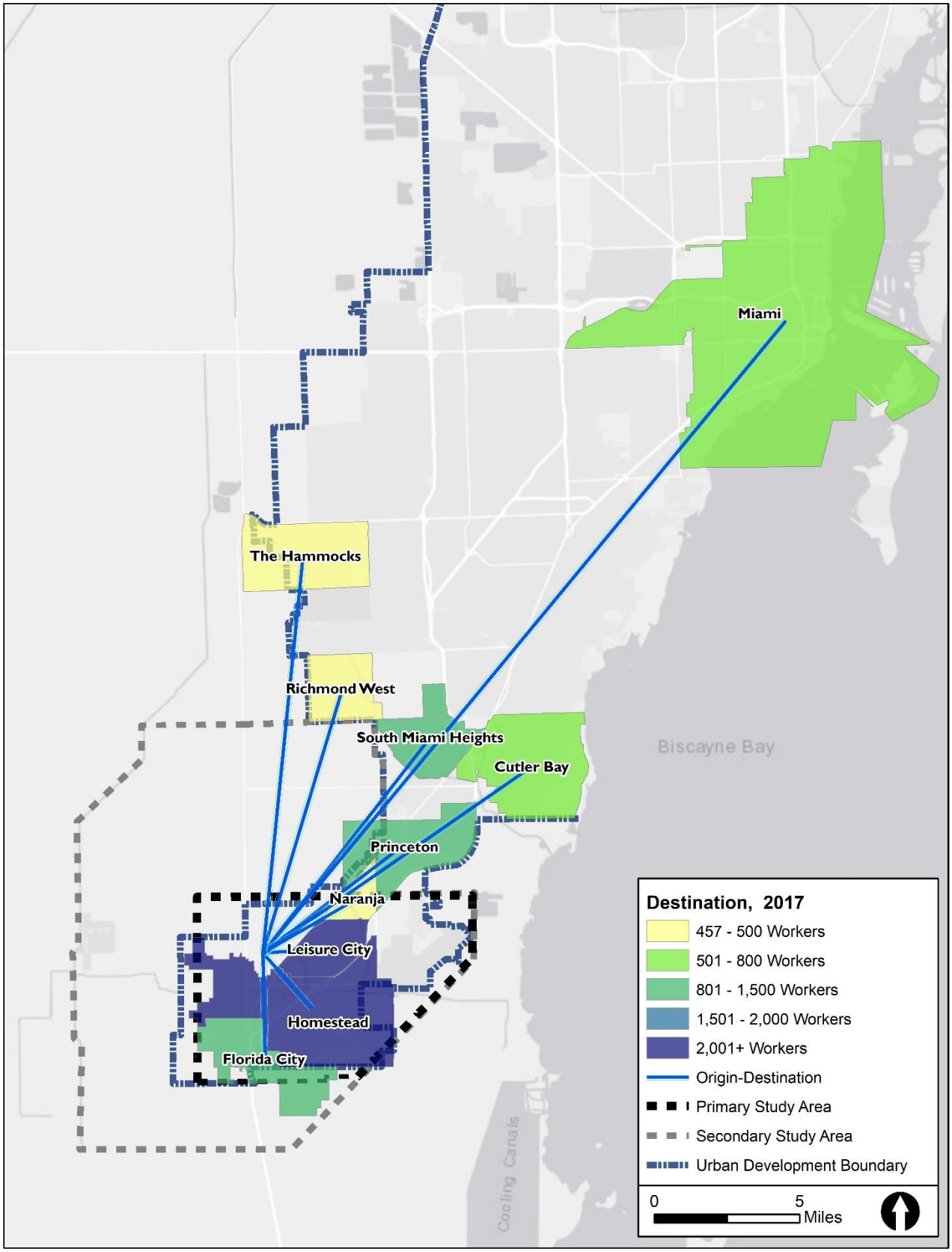


Figure 4-18 LEHD Worker Destination, 2017



4.2.7 Truck Trip Patterns

Additionally, truck trips were tabulated using the SERPM model for 2015 and 2045 for the Primary Study Area (PSA), Secondary Study Area (SSA), and Homestead Air Reserve Base (HARB). The types of trips captured include total truck trips and internal-external truck trips and include both medium and heavy trucks. The trips are reported by time of day according to the following codes:

- EA Early 10 pm to 6 am 8 hours long
- AM AM Peak 6 am to 9 am 3 hours long
- MD Midday 9 am to 3 pm 6 hours long
- PM PM Peak 3 pm to 7 pm 4 hours long
- EV Evening 7 pm to 10 pm 3 hours long

Total Truck Trips

The results of this analysis for total truck trips are displayed in **Tables 4-12** through **4-15**.

Table 4-12 Total Truck Trips, 2015

Area	Time of Day					Daily	Daily %
	EA	AM	MD	PM	EV		
Homestead Air Reserve	60	108	262	185	62	677	3.2%
Primary Study Area	1,288	2,286	5,476	3,883	1,314	14,247	66.9%
Secondary Study Area	576	1,022	2,452	1,738	587	6,375	29.9%
TOTAL	1,924	3,416	8,190	5,806	1,963	21,299	-

Table 4-13 Total Truck Trips, 2045

Area	Time of Day					Daily	Daily %
	EA	AM	MD	PM	EV		
Homestead Air Reserve Base	79	141	342	242	81	885	3.3%
Primary Study Area	1,597	2,840	6,816	4,834	1,629	17,716	66.1%
Secondary Study Area	738	1,312	3,152	2,235	752	8,189	30.6%
TOTAL	2,414	4,293	10,310	7,311	2,462	26,790	-

Table 4-14 Total Truck Trips, Change 2015-2045

Area	Time of Day					Daily	Daily %
	EA	AM	MD	PM	EV		
Homestead Air Reserve Base	19	33	80	57	19	208	3.8%
Primary Study Area	309	544	1,340	951	315	3,469	63.2%
Secondary Study Area	162	290	700	497	165	1,814	33%
TOTAL	490	877	2,120	1,505	499	5,491	-

Table 4-15 Total Truck Trips, Percent Change 2015-2045

Area	Time of Day					Daily
	EA	AM	MD	PM	EV	
Homestead Air Reserve Base	31%	31%	31%	31%	31%	31%
Primary Study Area	24%	24%	24%	24%	24%	24%
Secondary Study Area	28%	29%	29%	28%	28%	28%
TOTAL	26%	25%	25%	25%	26%	25%

From these tables, it is observed that:

- The mostly suburban PSA accounts for about 2/3 of all truck trips, while the larger HARB and SSA with agricultural and nursery functions requiring more space account for the 1/3 balance.
- The truck trips per daily period varies given the time of day and period duration, ranging from just over 300/hour in the overnight period to about 1,450/hour in the PM peak in 2015, and increasing to nearly 400/hour in the overnight period to over 1,800/hour in the PM peak in 2015,
- Overall, truck trips are forecast to increase approximately 26% over 2015-2045, with time-of-day patterns persisting. HARB and the SSA are anticipated to increase at a rate above the average while the PSA with a large existing base is forecast to increase just below the average.
- As a side note, truck trip growth of 25% over 2015-2045 is noticeably lower than overall growth within the total study area (PSA and SSA) in population and employment at about 70% each over the same period. This indicates the demographic forecasts do not compensate for the fact that the southern area of the county is "under-jobbed" compared to the rest of the county and has historically served as a bedroom community supporting jobs in central Miami-Dade County.

Truck Trip Density

Data derived from the SERPM enabled preparation of truck trip density maps (total truck trips in each traffic analysis zone divided by the area of the zone) for the study area, showing 2015, 2045, and change in truck trip density over 2015-2045 by, as presented in **Figures 4-19 to 4-21**.

Figure 4-19 Truck Trip Density 2015

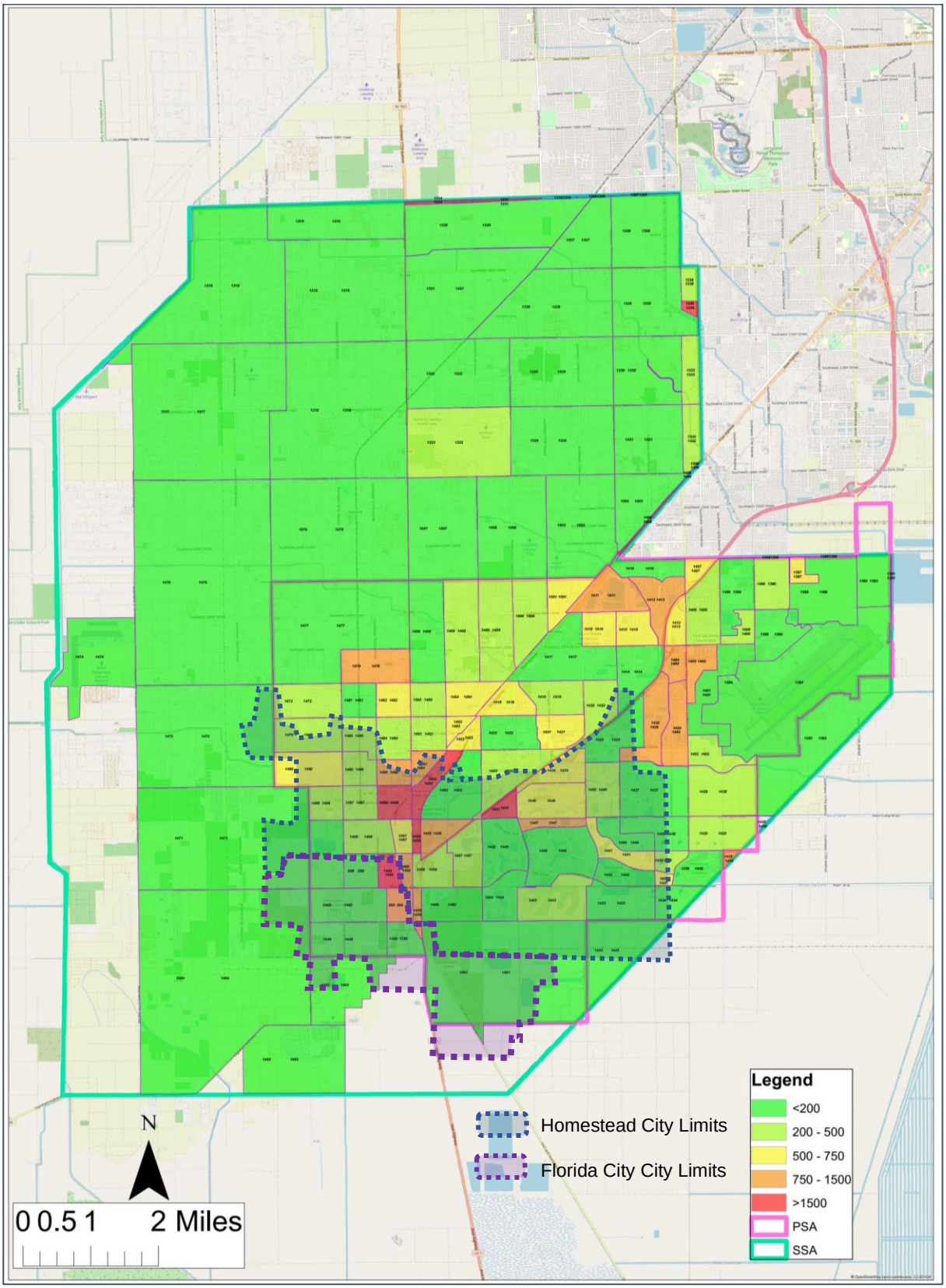


Figure 4-20 Truck Trip Density 2045

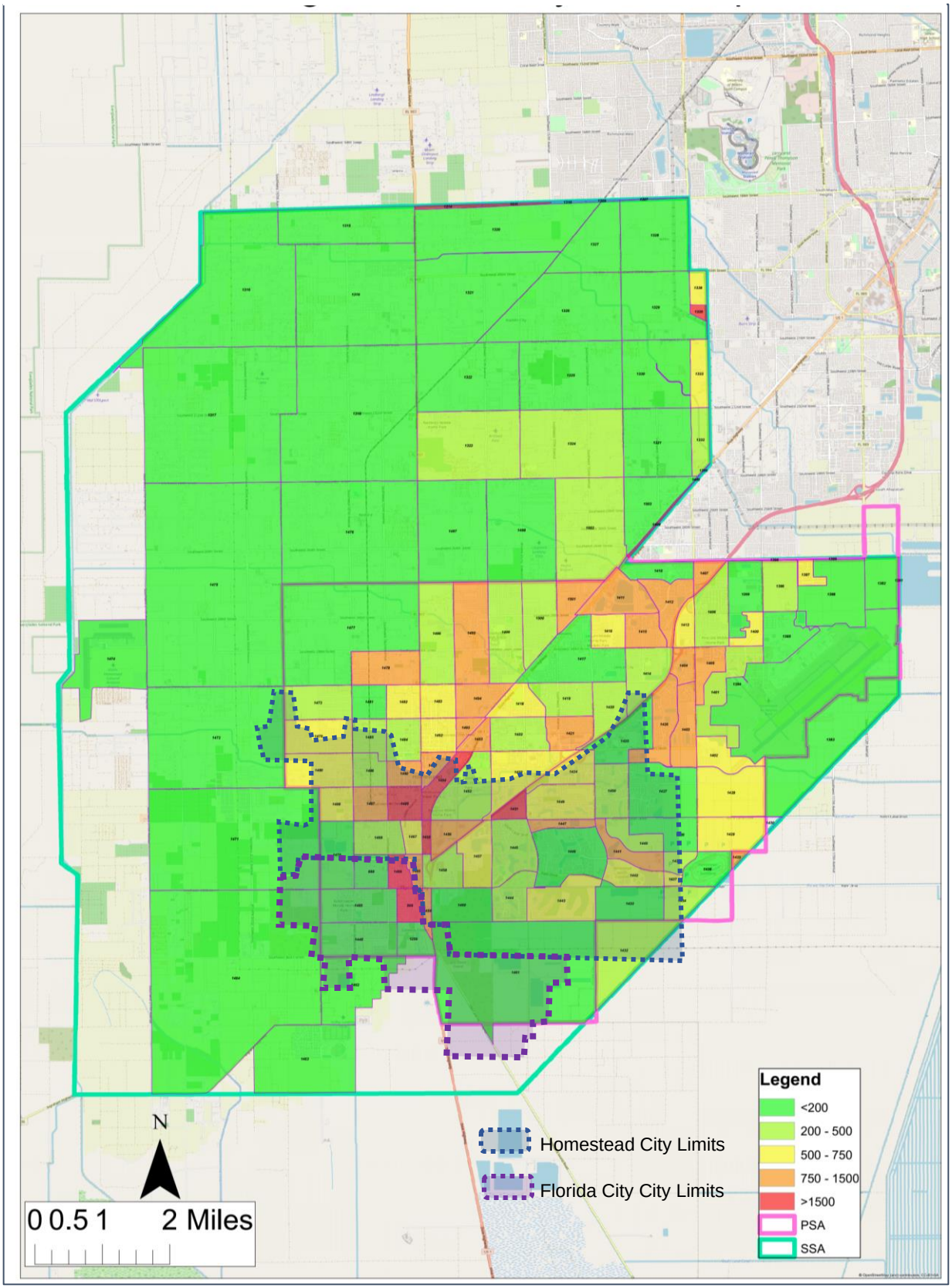
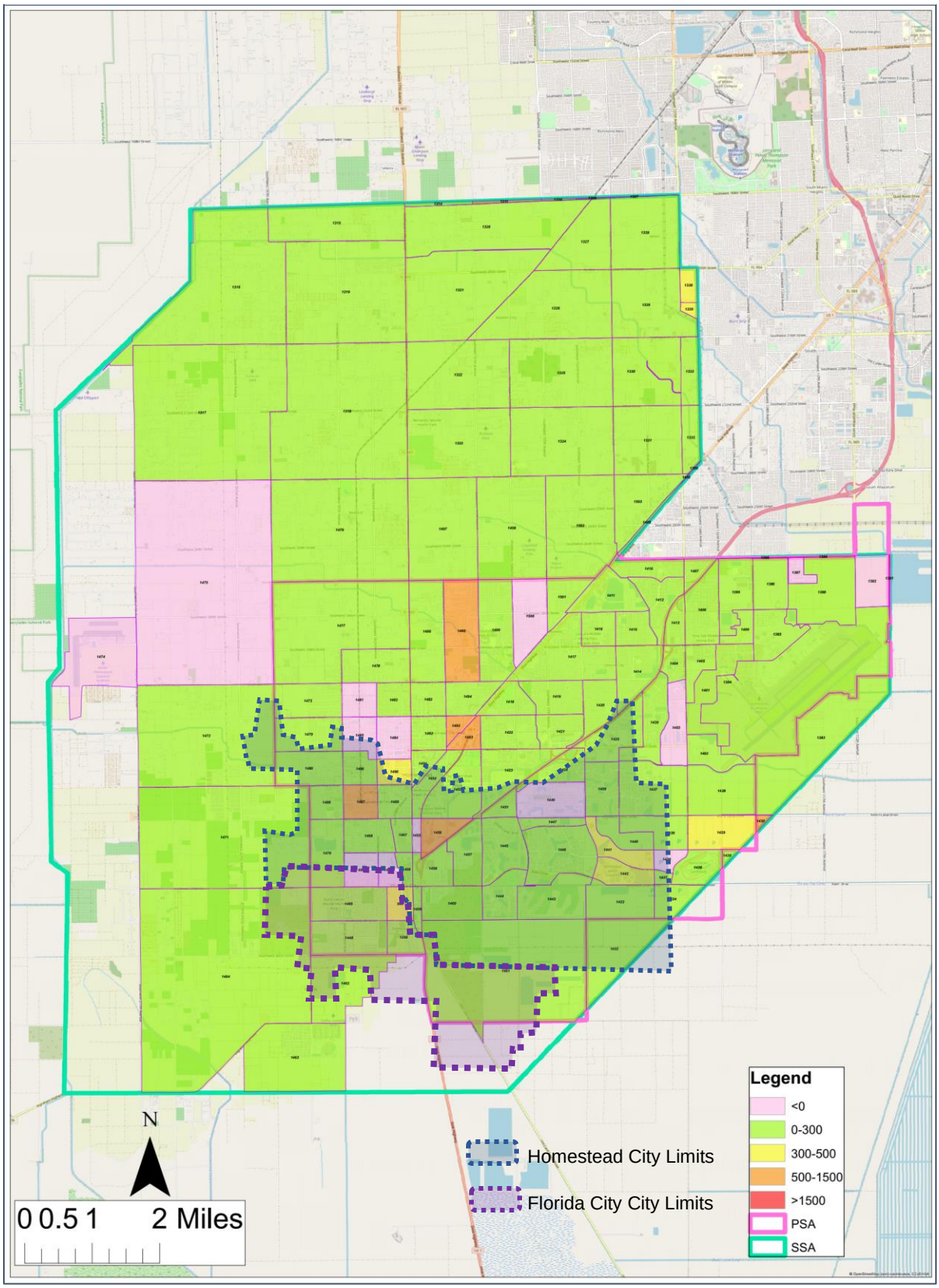


Figure 4-21 Change in Truck Trip Density 2015-2045



Analyzing these figures, it is apparent that higher truck trip density is l along the historic railroad and US 1 corridor and in some zones near the Turnpike corridor. In 2045, this pattern intensifies in zones and spreads over more zones along the US 1 and Turnpike corridors. The truck trip activity represents a combination of truck trips generated by industrial districts, commercial/retail areas, and residential concentrations receiving services and deliveries by trucking. The change in density figure shows areas of no growth in pink, broad areas of low growth in green, and areas of more concentrated truck trip density increase in zones shaded yellow and orange.

Internal-to-External Truck Trips

The results of this analysis for internal-to-external truck trips are displayed in **Tables 4-16** through **4-19**. The trips labeled as internal-external movements include both truck trips from within a designated area to outside that designated area and the reverse movements.

Table 4-16 Internal-to-External Truck Trips, 2015

Area	Time of Day					Daily	Daily %
	EA	AM	MD	PM	EV		
Homestead Air Reserve Base	30	54	132	93	31	340	3.1%
Primary Study Area	667	1,183	2,833	2,009	680	7,372	67.3%
Secondary Study Area	293	520	1,246	883	299	3,241	29.6%
TOTAL	990	1,757	4,211	2,985	1,010	10,953	100%

Table 4-17 Internal-to-External Truck Trips, 2045

Area	Time of Day					Daily	Daily %
	EA	AM	MD	PM	EV		
Homestead Air Reserve Base	40	71	172	122	40	445	3.2%
Primary Study Area	823	1,463	3,511	2,491	839	9,127	66.5%
Secondary Study Area	375	666	1,600	1,134	382	4,157	30.3%
TOTAL	1,238	2,200	5,283	3,747	1,261	13,729	100%

Table 4-18 Internal-to-External Truck Trips, Change 2015-2045

Area	Time of Day					Daily	Daily %
	EA	AM	MD	PM	EV		
Homestead Air Reserve Base	10	17	40	29	9	105	3.8%
Primary Study Area	156	280	678	482	159	1,755	63.2%
Secondary Study Area	82	146	354	251	83	916	33.0%
TOTAL	248	443	1,072	762	251	2,776	100%

Table 4-19 Internal-to-External Truck Trips, Percent Change 2015-2045

Area	Time of Day					Daily
	EA	AM	MD	PM	EV	
Homestead Air Reserve Base	33%	31%	30%	31%	29%	31%
Primary Study Area	23%	24%	24%	24%	23%	24%
Secondary Study Area	28%	28%	28%	28%	28%	28%
TOTAL	25%	25%	25%	26%	25%	25%

The following list summarizes the internal-to-external trips:

- Internal-to-external trips account for 51% of total trips, in both 2015 and 2045.
- The time of day and geographic distributions of internal-to-external trips mirrors those of the total trips, including growth from 2015 to 2045.
- The internal-to-external trips account for a greater share of the total truck trips because the study area has fewer jobs per resident than other parts of the county, and thus has fewer jobs and places of employment that contribute to truck trip generation from within the study area. Therefore, more truck trips are "imported" into the study area to support delivery of goods and services provided from locations further to the north in the county.

External-to-External Trips

External-to-external trips are those which originate and are destined to and from points outside the study area. Because of the general north-south flow of long-distance trips through the study area and only two access points on the south end at US 1 and Card Sound Rd. both connecting to Key Largo, identification of through truck trips was readily accomplished.

These figures can be determined from 2015 traffic counts on these two roadways, which yielded 1,145 daily trucks on US 1 and 425 on Card Sound Rd., a total of 1,560 daily trucks. Based on SERPM model data, approximately 51% of all truck trips are internal-to-external. Adjusting the truck counts downward to eliminate those trips destined for the study area yields 738 daily external-to-external truck trips using US 1 and Card Sound Rd.

The SERPM model for 2015 estimates 599 truck trips on US 1 and 96 truck trips on Card Sound Rd. for a total of 695 daily truck trips, about 6% less than the 764 daily trips figure, but reasonably close. Using the SERPM data, **Table 4-20** presents a summary of the daily truck trip geography within, to/from, and through the combined PSA/SSA boundaries.

Table 4-20 Summary of Daily Truck Trip Geography (2015)

Type	2015	2045	Change 2015-2045	% Change	Share of Total Trips, 2045
Internal-to-internal	9,651	12,247	2,596	26.9%	45.7%
Internal-to-external	10,953	13,729	2,776	25.3%	51.2%
External-external	695	819	124	17.9%	3.1%
TOTAL	21,299	26,790	5,496	25.8%	100.0%

With external-to-external truck trips accounting for approximately 3% of total trips, internal-to-internal trips account for approximately 46% of existing truck trips for the combined study area.

The pattern of external-to-external trips through the study area was identified by reviewing data from a set of Bluetooth recording stations located on major routes emanating from the PSA. The six (6) Bluetooth stations (B1 through B6) were located at:

- B1 US 1 south of SW 320th St.
- B2 US 1 south of Card Sound Rd.
- B3 Card Sound Rd. south of US 1
- B4 Turnpike north of SW 320th St.
- B5 SR 997/Krome Ave. south of SW 320th St.
- B6 SR 9336/SW 344th St./Palm Dr. east of SW 192nd Ave.

The Bluetooth stations sample total traffic via Bluetooth transmissions from cell phones, and through analysis of the data obtained, can identify electronic device signatures that pass through more than one Bluetooth station. This methodology does not discriminate by type of vehicle; it is presumed that truck trip patterns are similar to those of the larger auto population. Review of this data for the entire week of sampling over Nov. 15-22, 2020, yielded the following results per **Table 4-21**:

Table 4-21 Estimated External-to-External Truck Trip Patterns

External Point	Bidirectional Bluetooth Link Count	Share of Total	Estimated 2015 Truck Trips	Estimated 2045 Truck Trips
B5 - SR 997/Krome Ave.	2,647	18%	125	147
B1 - US 1 North	3,826	25%	174	205
B4 – Turnpike North	8,630	57%	396	467
B2 – US 1 South and B3 – Card Sound Rd.	15,103	100%	695	819

The results of this analysis yields these observations for trips through the study area:

- Of the trips passing completely through the study area and using either Card Sound Road or US 1 to the south of the study area, on the north side of the study area 18% utilized Krome Avenue, 25% used US 1 north, and 57% used the Turnpike.
- Clearly, the Turnpike – US 1 South connection is the dominant pathway for truck trips passing through the study area.

4.2.8 Select Link Truck Trip Mapping

Figures 4-22 through 4-29 display the results of a set of select link analyses using the regional travel demand model for truck trips in the base year of 2015 and the future year of 2045. The select link analysis shows the distribution of trips on either side of a selected point on the roadway network. The set of eight analyses are summarized as follows:

- Figure 4-22 2015 on SR 997/Krome Ave. at SW 112th St. (SR 997/Krome Ave.)
- Figure 4-23 2015 on Florida's Turnpike at SW 112th St. (Turnpike North)
- Figure 4-24 2015 on Florida's Turnpike at SW 284th St. (Turnpike South)
- Figure 4-25 2015 on US 1 at Card Sound Rd. (US 1 South)
- Figure 4-26 2045 on SR 997/Krome Ave. at SW 112th St. (SR 997/Krome Ave.)
- Figure 4-27 2045 on Florida's Turnpike at SW 112th St. (Turnpike North)
- Figure 4-28 2045 on US 1 at SW 284th St. (US 1 North)
- Figure 4-29 2045 on US 1 at Card Sound Rd. (US 1 South)

From **Figure 4-22,** 2015 on SR 997/Krome Ave. at SW 112th St., the following observations can be made:

- The volume of trucks at the select link location near the bottom of the figure is approximately 3,210 daily trucks.
- To the north, some truck trips dissipate into west-central Miami-Dade County, with a larger share of 1,350 trips continuing into Broward County.
- To the south, there are approximately 750 truck trips traveling on US 1 and Card Sound Road to the Keys. The majority of truck trips at the select link location dissipate into Homestead and Florida City.

From **Figure 4-23,** for 2015 on Florida's Turnpike at SW 112th St., the following observations can be made:

- The volume of trucks at the select link location near the middle of the figure is approximately 1,210 daily trucks. Most of the trucks from the prior location use SR 874 to and from south county and don't appear on the Turnpike at this location.

- To the north, truck trips dissipate enroute to northwest Miami-Dade County, with only two small threads of trips extending into Broward County.
- To the south, the majority of truck trips dissipate before reaching Homestead via the Turnpike and US 1, with very few continuing south to the Florida Keys.

From **Figure 4-24,** for 2015 on Florida's Turnpike at SW 284th St., the following observations can be made:

- The volume of trucks at the select link location near the bottom of the figure is approximately 1.900 daily trucks.
- To the north, truck trips dissipate enroute to west-central Miami-Dade County, with only a thread of 70 truck trips extending into Broward County.
- To the south, there are approximately 1,000 truck trips traveling on US 1 and Card Sound Road to the Keys. The majority of truck trips at the select link location dissipate into Homestead and Florida City.

From **Figure 4-25**, for 2015 on US 1 at Card Sound Rd., the following observations can be made:

- The volume of trucks at the select link location at the bottom of the figure is approximately 3,270 daily trucks, reflecting contributions from SR 997/Krome Ave., US 1 to the north, and the Turnpike.
- To the north, truck trips dissipate enroute to central Miami-Dade County, with a SR 997/Krome Ave. thread extending into Broward County.
- To the south, most of the trucks remain on US 1, but a small share use Card Sound Rd. for trips to a nearby quarry and deliveries to the Ocean Reef development at the north end of Key Largo.

From **Figure 4-26,** for 2045 on SR 997/Krome Ave. at SW 112th St., the following observations can be made:

- The volume of trucks at the select link location near the bottom of the figure is approximately 5,170 daily trucks. This is an increase of 60.9% over the 2015 figure.
- To the north, some truck trips dissipate into west-central Miami-Dade County, with a larger share of 1,350 trips continuing into Broward County.
- To the south, there are approximately 750 truck trips traveling on US 1 and Card Sound Road to the Keys. The majority of truck trips at the select link location dissipate into Homestead and Florida City.

From **Figure 4-27,** for 2045 on Florida's Turnpike at SW 112th St., the following observations can be made:

- The volume of trucks on the Turnpike at the select link location near the bottom of the figure is approximately 1,190 daily trucks, a slight decline from the 2015 figure.
- To the north, truck trips dissipate enroute to west-central Miami-Dade County, with only a thread of 150 truck trips extending into Broward County.
- To the south, there are approximately 1,000 truck trips traveling on US 1 and Card Sound Road to the Keys. The majority of truck trips at the select link location dissipate north of Homestead and Florida City.

From **Figure 4-28**, for 2045 on US 1 at SW 284th St., the following observations can be made:

- The volume of trucks on US 1 at the select link location near the bottom of the figure is approximately 4,870 daily trucks, substantially greater than for 2015 by 44.2%.
- To the north, truck trips dissipate enroute to west-central Miami-Dade County and downtown Miami.
- To the south, there are almost no truck trips traveling on US 1 and Card Sound Road to the Keys. The majority of truck trips at the select link location dissipate into Homestead and Florida City.

From **Figure 4-29,** 2045 on US 1 at Card Sound Rd., the following observations can be made:

- The volume of trucks on US 1 at the select link location near the bottom of the figure is approximately 3,850 daily trucks. This is an increase of 17.9% over the 2015 figure.

- To the north, most truck trips dissipate enroute along the Turnpike to west-central Miami-Dade County, with a thread of 400 truck trips extending into Broward County.
- To the south, most of the trucks remain on US 1, but a small share use Card Sound Rd.

Table 4-22 summarizes 2015 and 2045 truck trips at the select link stations by travel direction and shows the changes in truck volumes at these points over 30 years according to the travel demand model.

Table 4-22 Summary of Truck Traffic at Select Link Stations

Location	Direction	2015	2045	Percent Growth
Turnpike North at SW 112th St.	NB	698	618	**-2.0%**
	SB	516	565	
	Total	**1,214**	**1,193**	
Turnpike South at SW 284th St.	NB	1,022	2,258	**+132.4%**
	SB	883	2,169	
	Total	**1,905**	**4,427**	
SR 997/Krome Ave. at SW 184th St.	NB	1,622	2.708	**+60.9%**
	SB	1,591	2,462	
	Total	**3,213**	**5,170**	
US 1 at SW 248th St.	NB	1,705	2,368	**+44.2%**
	SB	1,671	2,501	
	Total	**3,376**	**4,869**	
US 1 at Card Sound Rd.	NB	1,506	1,810	**+17.9%**
	SB	1,761	2,040	
	Total	**3,267**	**3,850**	

Source: SERPM travel demand model. Note: Data covers medium and heavy trucks.

From these data, the following observations can be drawn:

- Growth rates in modeled truck traffic varies significantly depending upon the station location. These differences reflect the different roles of the corridors for each select link station in the freight mobility landscape of southern Miami-Dade County.
- Modest growth on US 1 at Card Sound Rd. reflects the limited growth potential of the Florida Keys.
- Further north in the study area on US 1 at SW 248th St., the moderate growth of 44.2% reflects the expected increase of 40% in jobs and 60% in population.
- The station at the Turnpike South location at SW 284th St. shows dramatic growth, reflecting the aggregation of longer distance truck trips to this primary connecting highway link to the rest of Miami-Dade County.
- Conversely, the station on the Turnpike at SW 112th St. shows no growth. Much of the truck traffic to and from points further south use the SR 874 to SR 836 and the central and northwest Miami-Dade County warehousing districts.
- Truck volumes on SR 997/Krome Ave. at SW 184th St. grow by over 60%. This reflects the role of this corridor as a "back door", toll-free route that avoids the urban congestion of more easterly north-south connections like the Turnpike and SR 836.The graphic plots of the various selection station trip pattern maps follow.

Figure 4-22 SR 997/Krome Avenue at Select Link, 2015

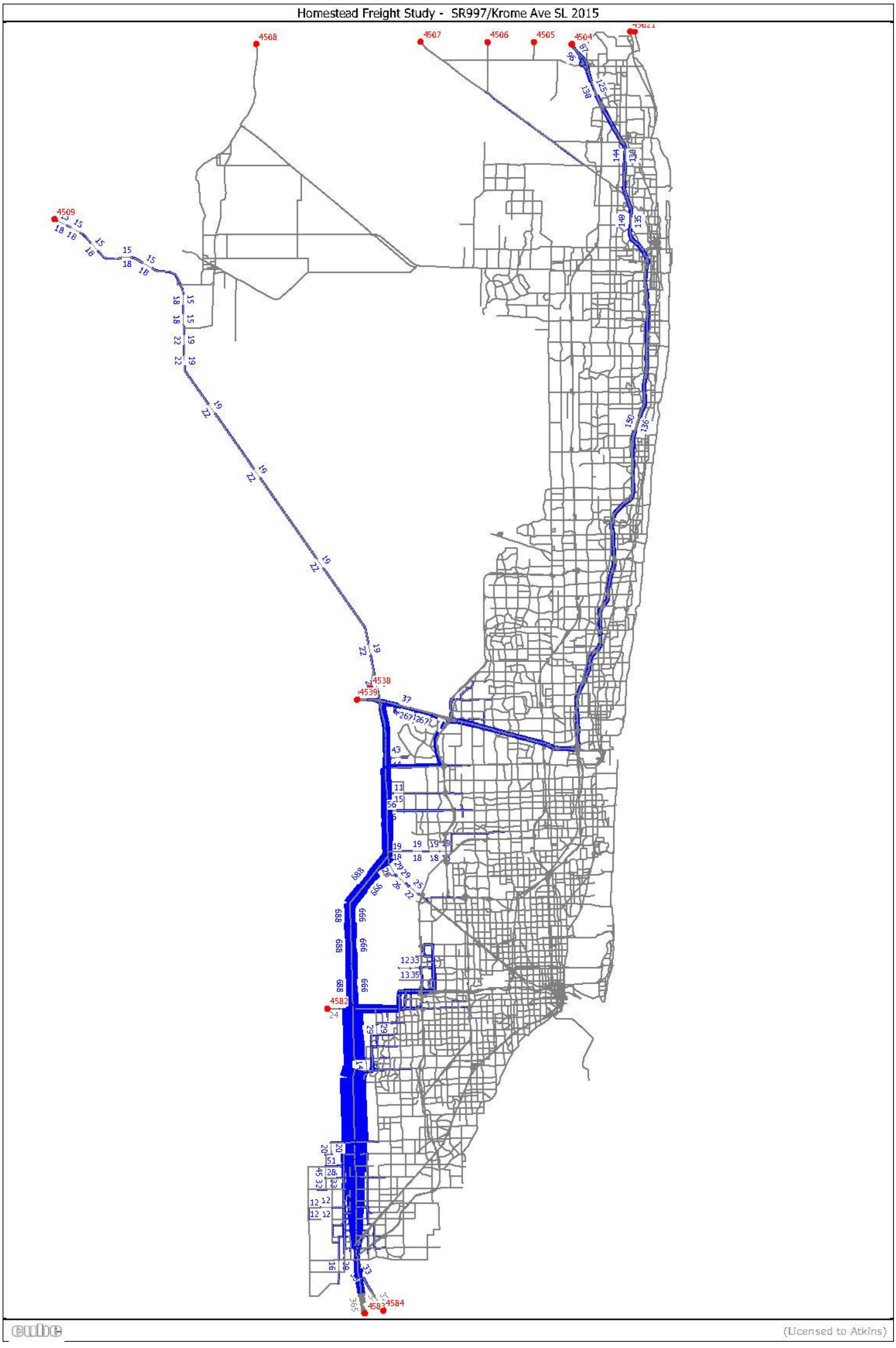


Figure 4-23 Florida Turnpike North Select Link, 2015

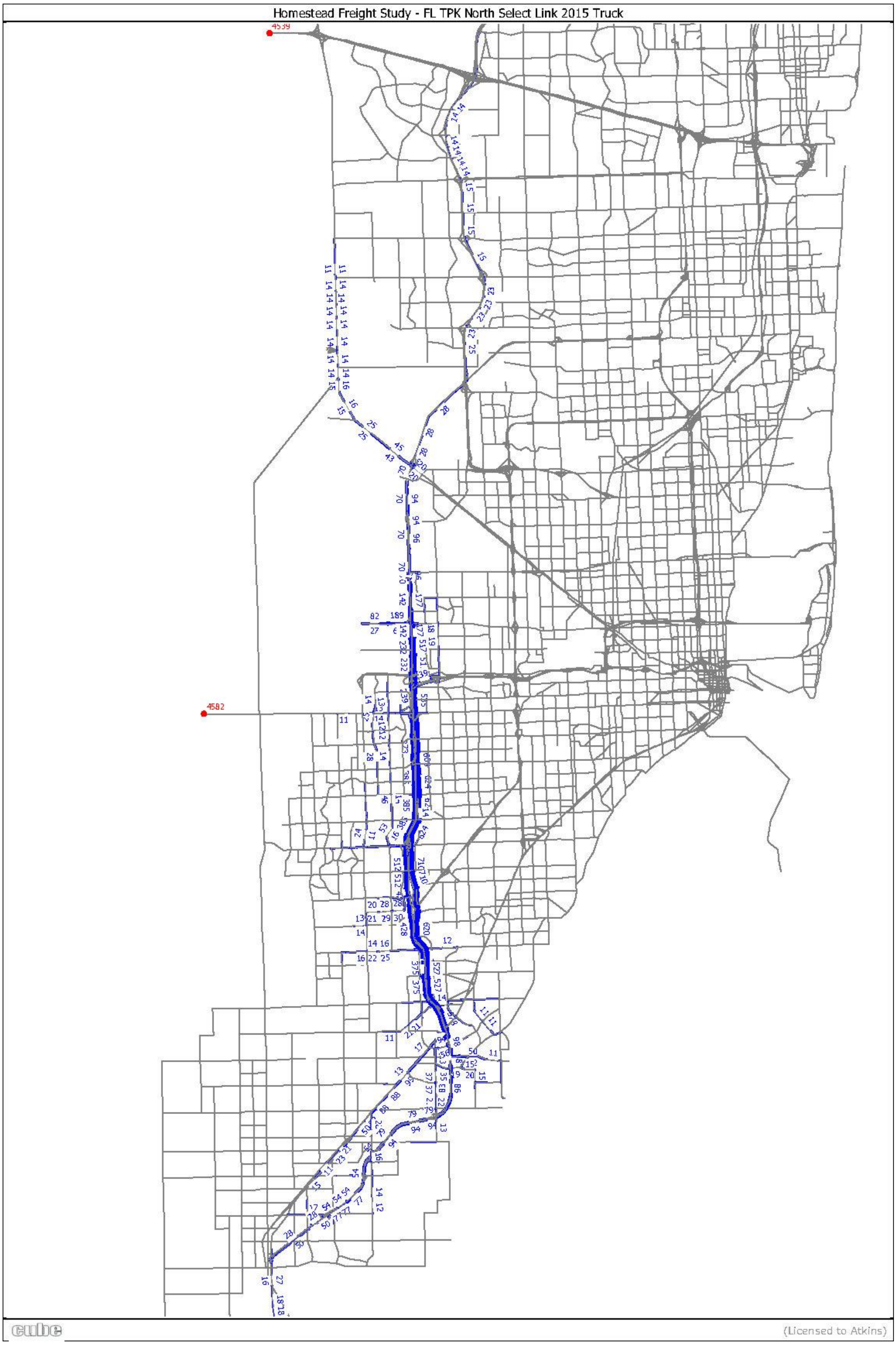


Figure 4-24 2015 Florida Turnpike South Select Link, 2015

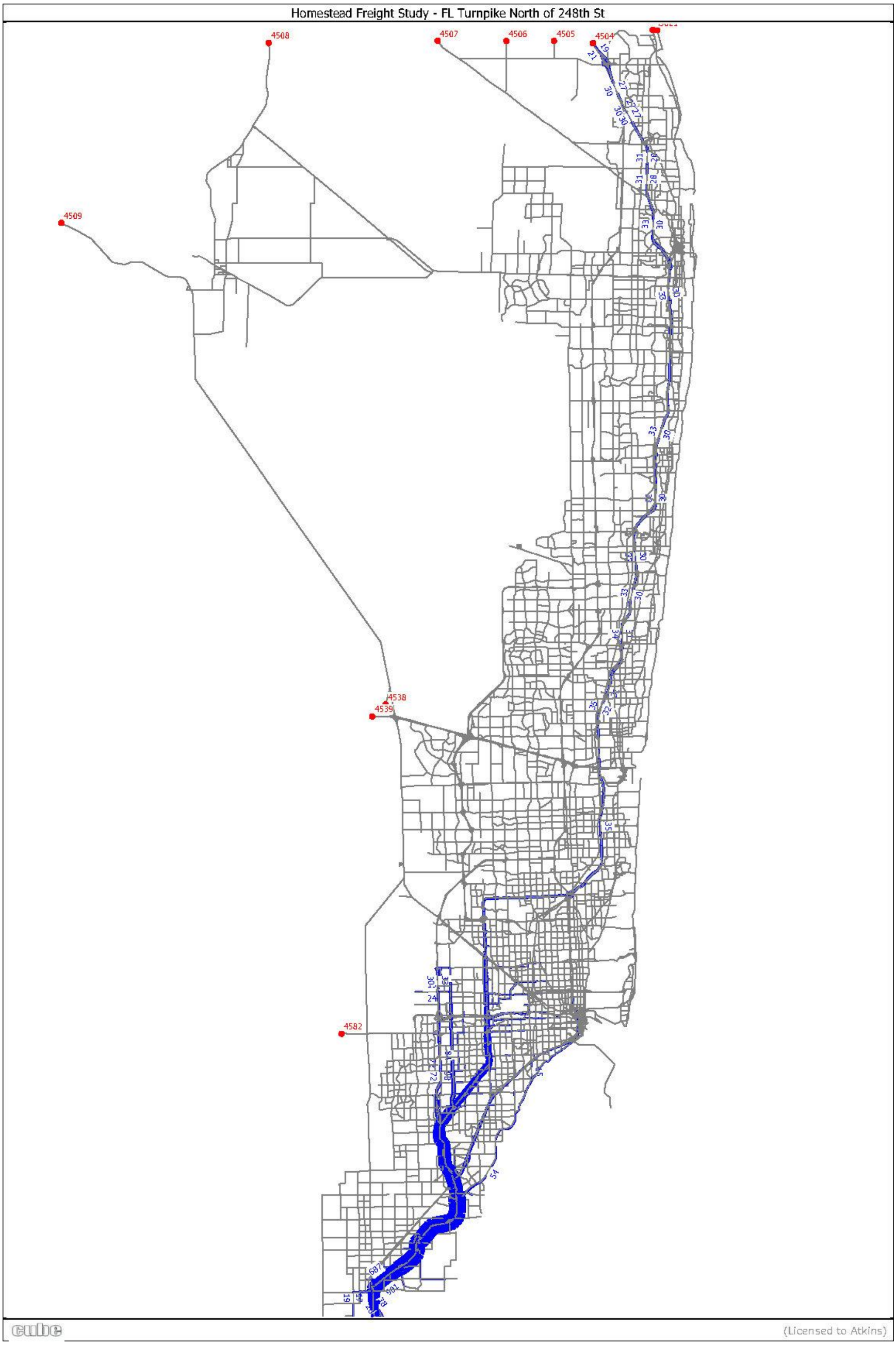


Figure 4-25 US 1 South Select Link, 2015

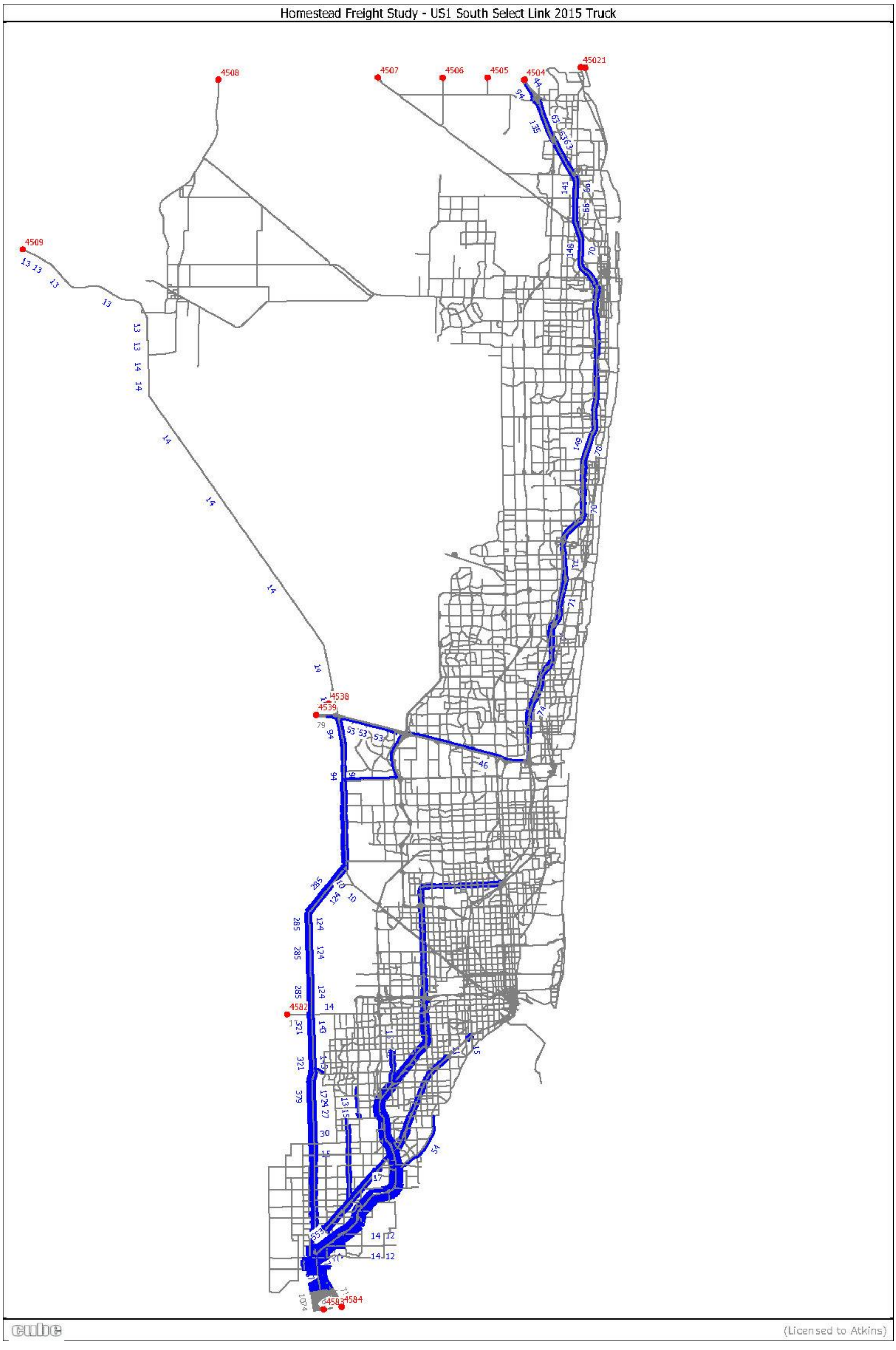


Figure 4-26 SR 997Krome Ave. Select Link, 2045

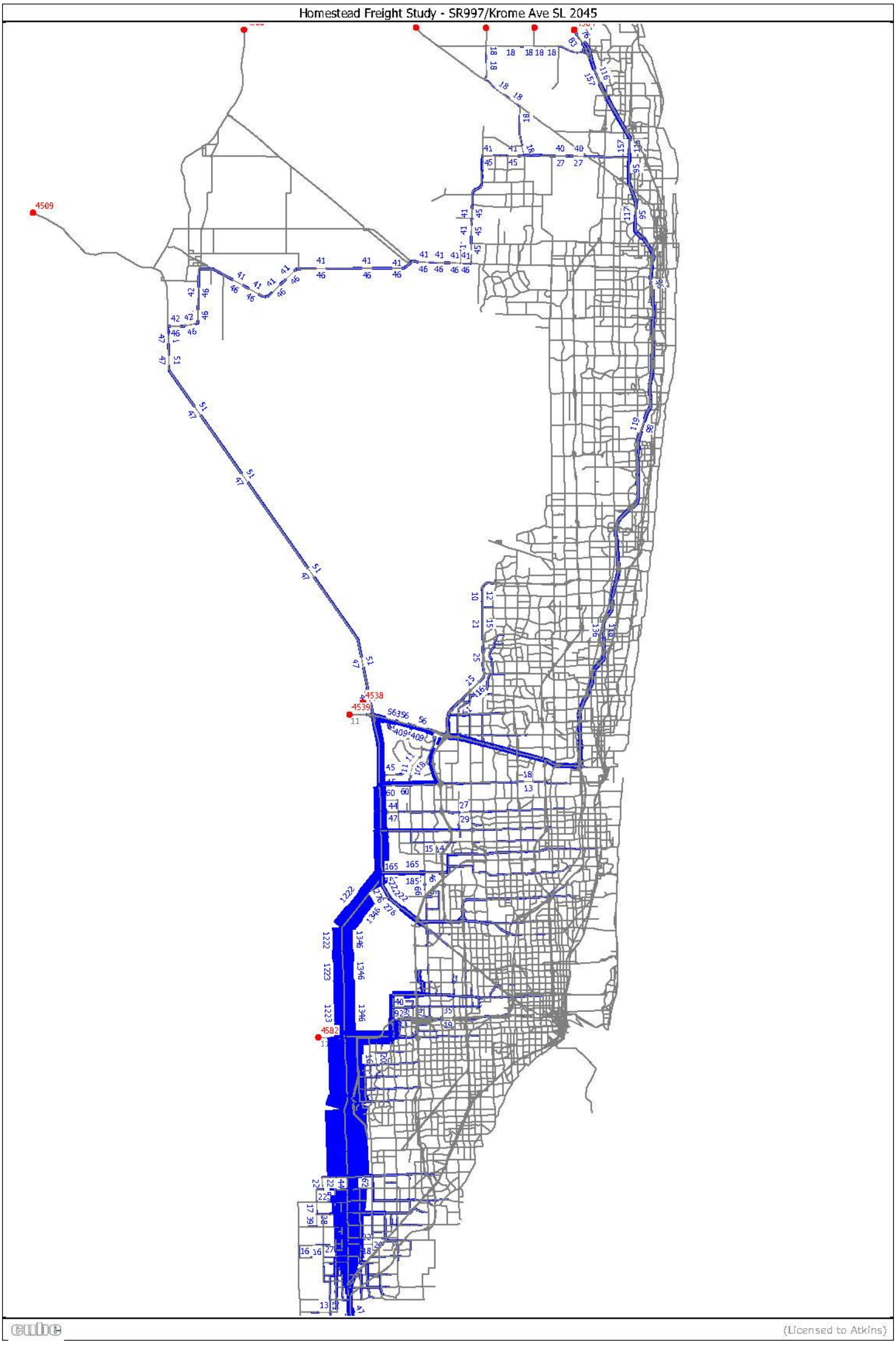


Figure 4-27 Florida Turnpike North Select Link, 2045

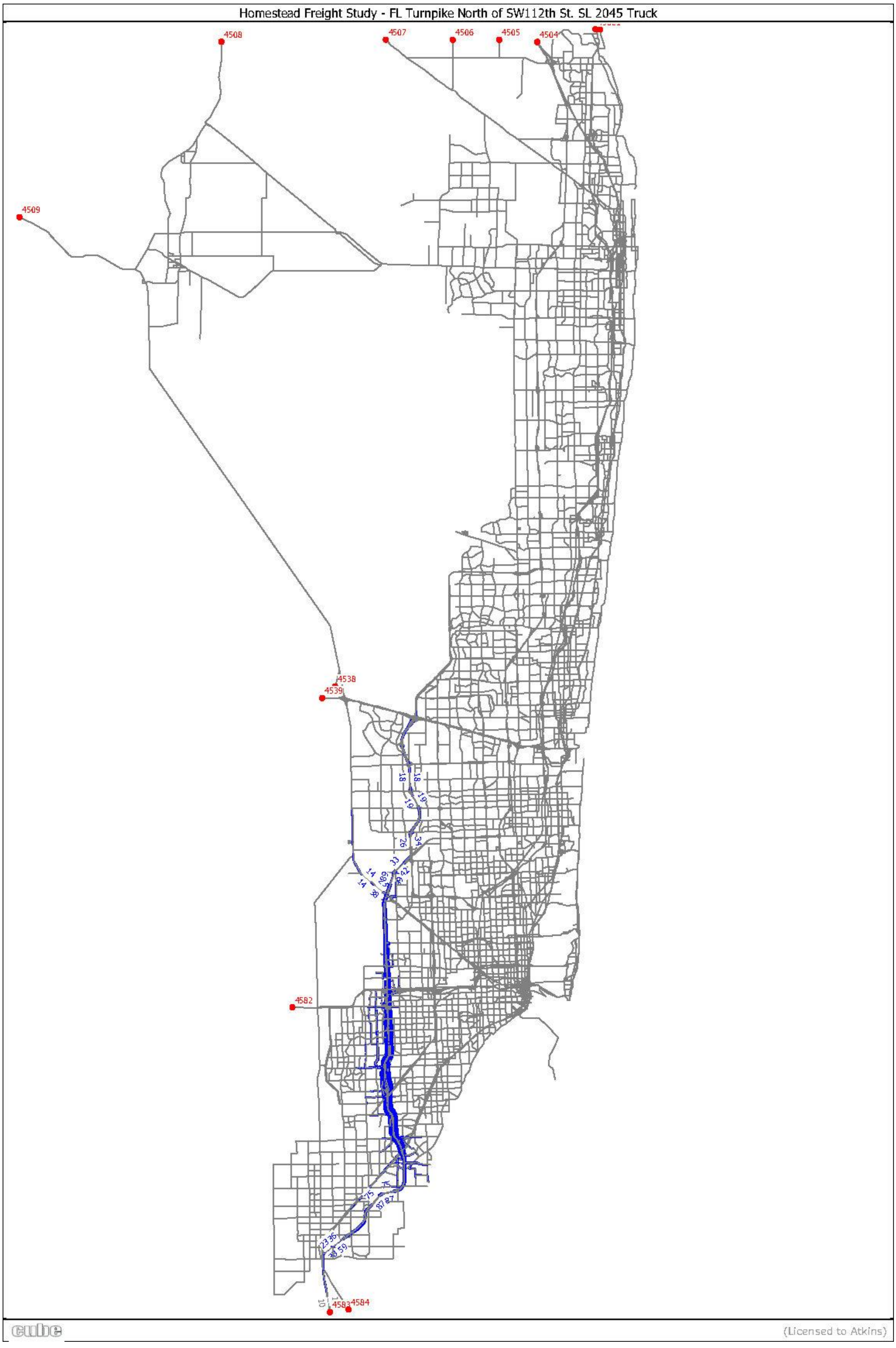


Figure 4-28 US 1 North Select Link, 2045

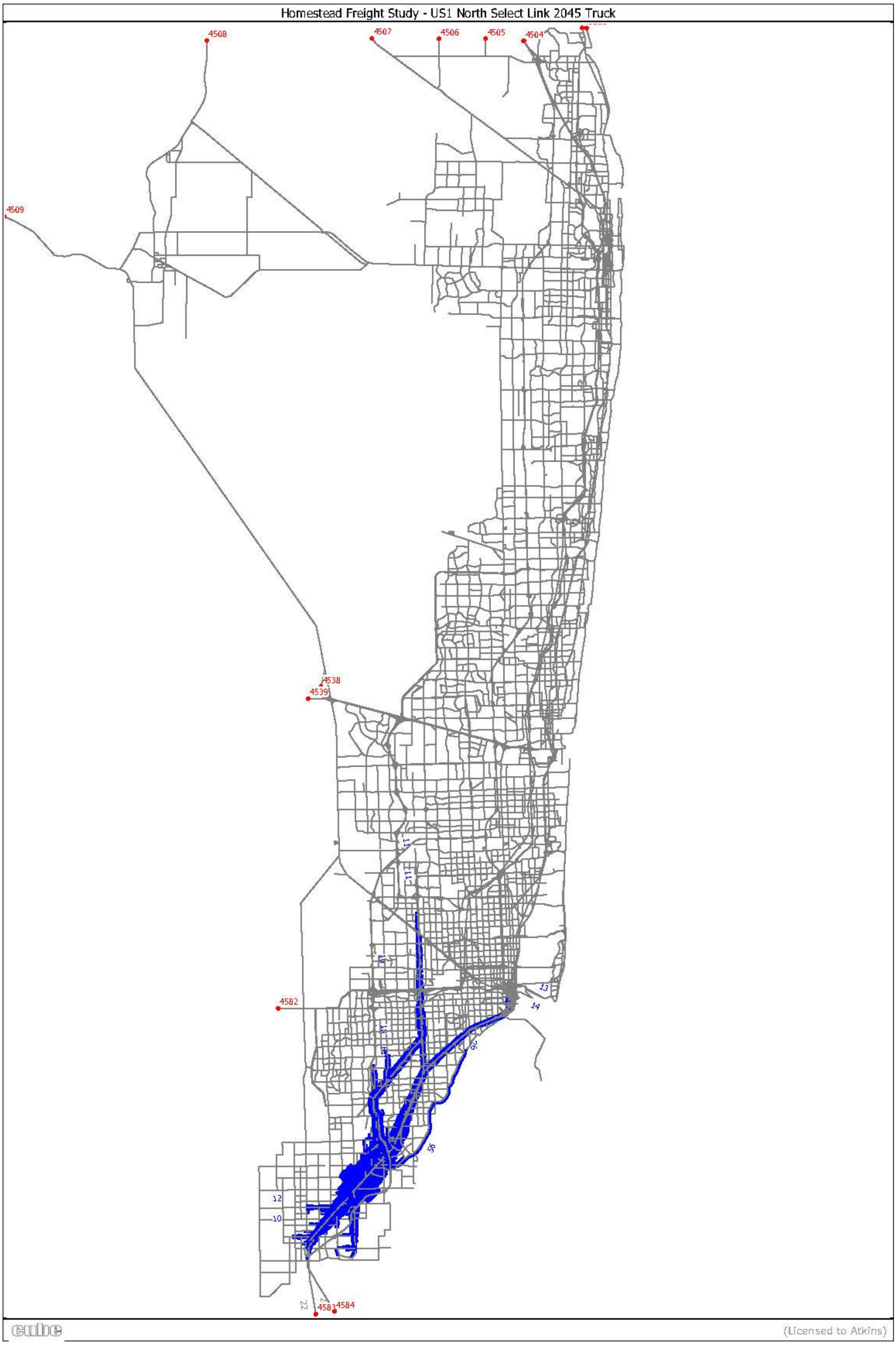
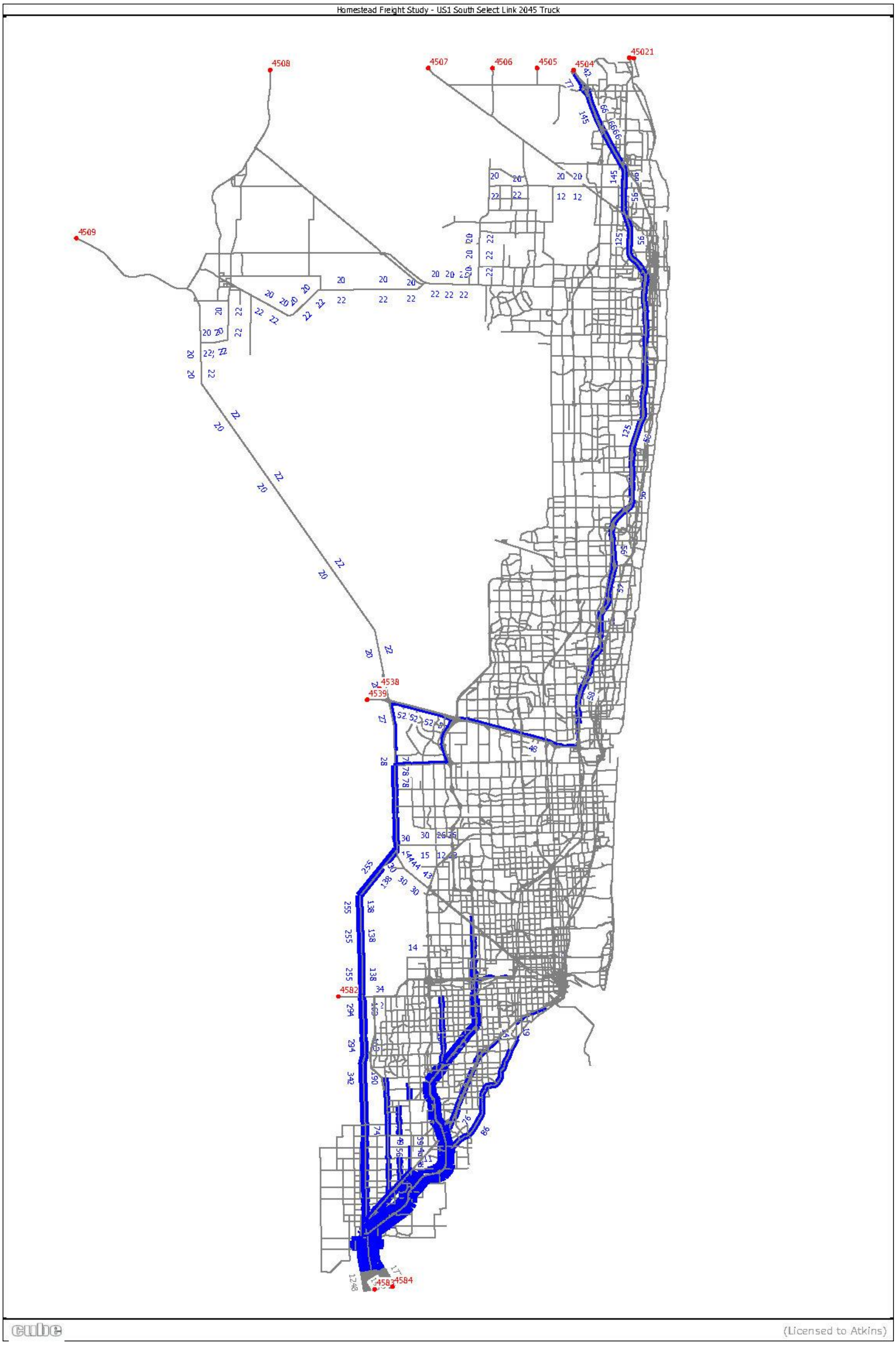


Figure 4-29 US 1 South Select Link, 2045



4.3 Future Transportation Improvements

4.3.1 2045 Long-Range Transportation Plan

The adopted 2045 Long-Range Transportation Plan (LRTP) was reviewed for transportation improvement projects programmed for implementation within the cost-feasible plan. Over the 25-year span of the LRTP from 2020 to 2045, there were 20 identified projects within the study area, summarized as follows:

- 1 project on Krome Ave. currently under construction.
- 7 capacity projects along the Turnpike Extension.
- 6 transit projects.
- South Transitway Bus Rapid Transit project currently under construction.
- Bus Express Rapid Transit project on Turnpike.
- 4 park-and-ride lots.
- 6 other roadway capacity projects.

By plan phases, the number of projects are:

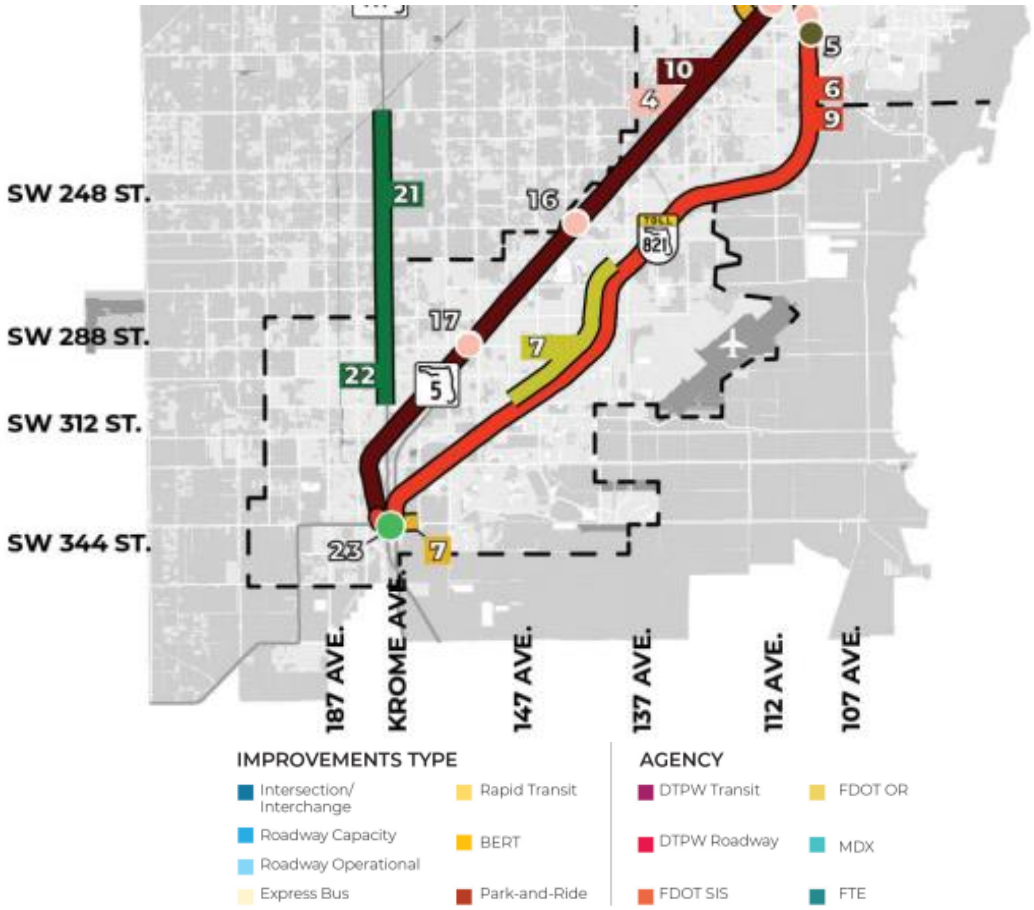
- 2020-2025 9 projects
- 2026-2030 8 projects
- 2031-2035 2 projects
- 2036-2045 1 project

The improvements are front-loaded with 17 of the 20 programmed for implementation by 2030. Increased use of transit by commuters will incrementally lessen demand on the Turnpike Extension and US 1 corridors. These projects collectively will bring needed transit and roadway capacity online sooner to improve the travel services supporting this growing sector of the county.

Regarding projects of particular and specific impact to freight activity, two were identified. The FDOT Homestead Truck Bypass project was recently completed and routes trucks off the Krome Avenue segment through downtown Homestead and Florida City via an upgraded Campbell Drive and US 1. The other project is the Krome Avenue project north of Homestead that is essentially complete and has widened the roadway from two to four divided lanes with other enhancements for safety and operations. Both these projects benefit the high truck traffic corridors which use Krome Avenue as a "back door" path to and from south county. Other projects such as the future Turnpike improvements are also of benefit to freight movements as they enhance capacity on roadways where trucks comprise a smaller share of general traffic.

Figures 4-30 to 4-33 graphically depict the location, mode and phasing of the 20 programmed projects. These figures are direct extracts from the LRTP.

Figure 4-30 Phase 1 (2020-2025) Improvements



Note: The colors for the two diagrams above, "Number of Projects" and "Funds Allocated," do not relate to the project colors displayed on the map or legend "Improvements by agency."

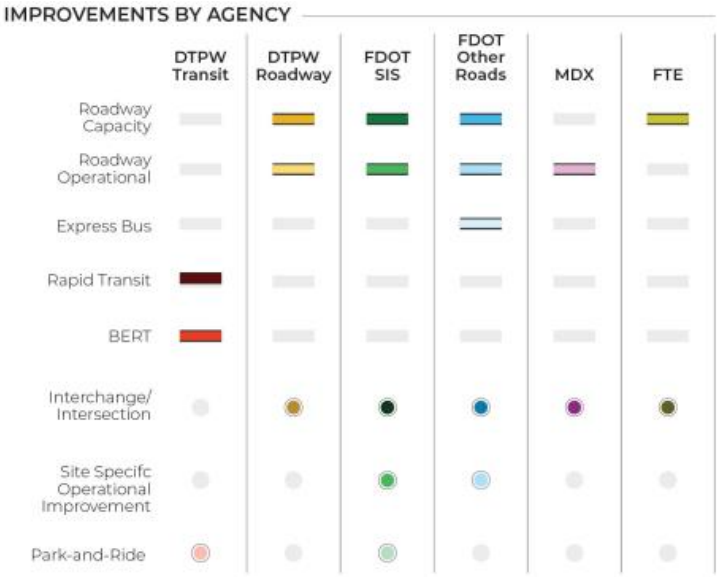
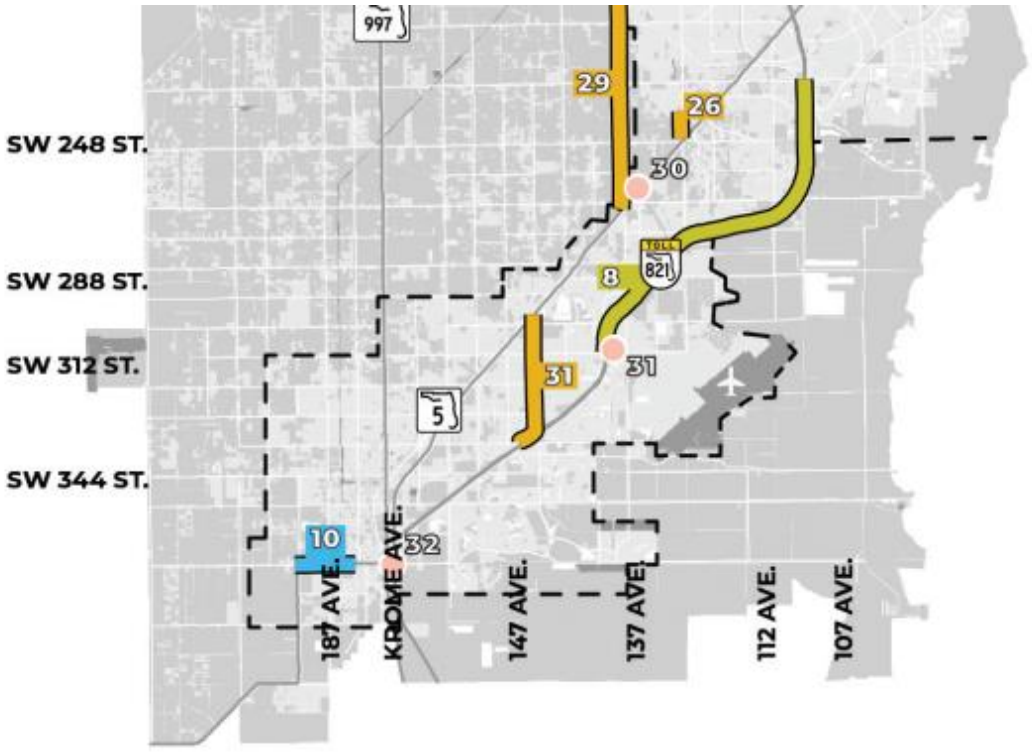


Figure 4-31 Phase 2 (2026-2030) Improvements



IMPROVEMENTS TYPE

- Intersection/ Interchange
- Roadway Capacity
- Roadway Operational
- Express Bus
- Rapid Transit
- BERT
- Park-and-Ride

AGENCY

- DTPW Transit
- DTPW Roadway
- FDOT SIS
- FDOT OR
- MDX
- FTE

Note: The colors for the two diagrams above, "Number of Projects" and "Funds Allocated," do not relate to the project colors displayed on the map or legend "Improvements by agency."

IMPROVEMENTS BY AGENCY

	DTPW Transit	DTPW Roadway	FDOT SIS	FDOT Other Roads	MDX	FTE
Roadway Capacity		■	■	■		■
Roadway Operational		■	■	■	■	
Express Bus				■		
Rapid Transit	■					
BERT	■					
Interchange/ Intersection		●	●	●	●	●
Site Specifc Operational Improvement			●	●		
Park-and-Ride	●		●			

Figure 4-32 Phase 3 (2032-2035) Improvements

IMPROVEMENTS TYPE

- Intersection/ Interchange
- Roadway Capacity
- Roadway Operational
- Express Bus
- Rapid Transit
- BERT
- Park-and-Ride

AGENCY

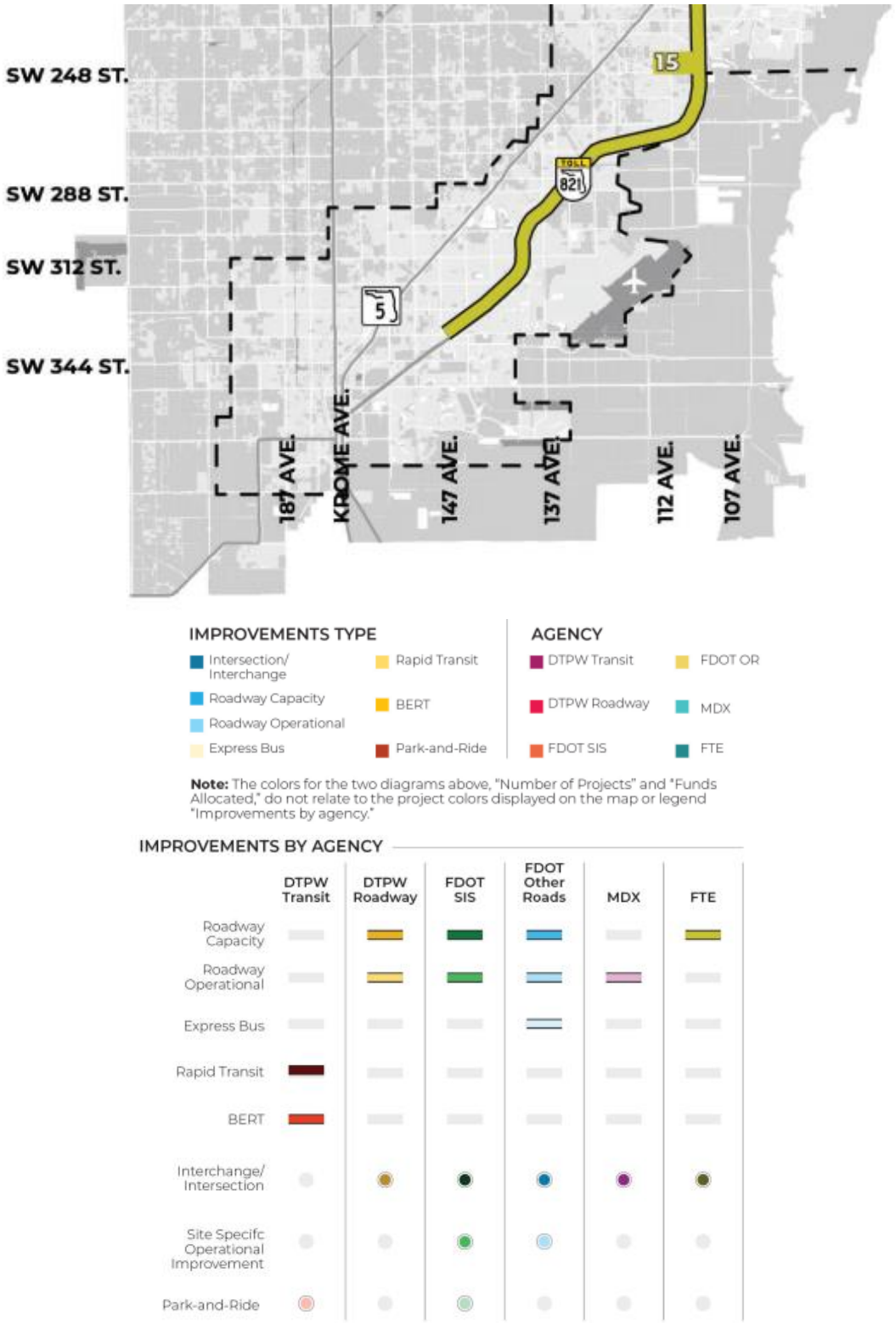
- DTPW Transit
- DTPW Roadway
- FDOT SIS
- FDOT OR
- MDX
- FTE

Note: The colors for the two diagrams above, "Number of Projects" and "Funds Allocated," do not relate to the project colors displayed on the map or legend "Improvements by agency."

IMPROVEMENTS BY AGENCY

	DTPW Transit	DTPW Roadway	FDOT SIS	FDOT Other Roads	MDX	FTE
Roadway Capacity		■	■	■		■
Roadway Operational		■	■	■	■	
Express Bus				■		
Rapid Transit	■					
BERT	■					
Interchange/ Intersection	●	●	●	●	●	●
Site Specifc Operational Improvement			●	●		
Park-and-Ride	●		●			

Figure 4-33 Phase 4 (2036-2045) Improvements



4.3.2 Florida's Turnpike PD&E Study

The Florida Turnpike Enterprise (FTE) recently conducted a Project Development & Environmental (PD&E) Study for the south end of the Homestead Extension from the SW 312th St./Campbell Drive interchange to US 1/State Route 5 at the SW 344th St./Palm Dr. intersection. The Homestead Freight Improvement Plan has reviewed various documents prepared as part of this PD&E Study and coordinated those with the network traffic analysis conducted as part of this subarea freight plan. This specific plan is discussed here in detail due to its connection to the Homestead Freight Improvement Plan.

The PD&E study conducted a Public Hearing on July 20, 2021, and presented a preferred alternative based on the options and analyses conducted during the study. The planning level estimated cost of the preferred alternative was a total of $224 million - $14 million for design, $16 million for right-of-way, $176 million for construction, and $18 million for other costs. The key features of the preferred alternative are listed below and presented in **Figure 4-34** and **Figure 4-35**:

- Turnpike mainline roadway would be widened from 4 to 6 lanes south to the US 1. terminus.
- Half-diamond interchange (to/from north) at Lucy St. would be constructed. This access point would divert some Miami-bound commuter traffic from the SW 312th St./Campbell Dr. interchange to the north.
- At the US 1 terminus and southward:
    - A tolled elevated center roadway (1 lane each way) would be constructed in the median from the Turnpike mainline to a point south of SW 344th St./Palm Dr.
    - Existing US 1 northbound and southbound roadways would be separated and widened and the east and west legs of the US 1 and SW 344th St./Palm Dr. intersection widened.
    - Southbound-to-westbound right turns from the Turnpike and US 1 to westbound SW 334th St./Palm Dr. would be segregated to the west side of the US 1 roadway by upstream connections to avoid weaving issues.

Based on adverse feedback received at the public hearing, particularly regarding the elevated express roadway along the US 1 leg of the project, the FTE revisited the PD&E study process and determined that the study should be concluded. The FTE planned to initiate a new study effort focused on alternative traffic operations and safety improvement strategies for along the US 1 section of the project limits to evaluate concerns addressed while still addressing traffic safety and capacity/mobility issues. There seemed to be community acceptance of the interchange access at Lucy St. and the widening of the mainline from four to six lanes. FDOT has just initiated further study of this area focusing on Transportation Management & Operations (TSM&O) to identify improvement strategies for safety and traffic operations.

Once confirmed, those improvements would be programmed into the Turnpike Enterprise 5-Year Work Program as one or more project elements, depending on funding availability and timing of implementation steps including design, permitting, right-of-way acquisition and related steps. Further, those improvements would be coordinated into the Miami-Dade TPO Long Range Transportation Plan and its 5-year Transportation Improvement Program. Given the focus by FTE on this system need, it is assumed for the purposes of this study that a workable set of transportation improvements will be identified, and this likely outcome will be acknowledged in the findings and recommendations of this study.

When implemented, these improvements would be expected to significantly improve traffic service and safety along the Turnpike Extension and the lower segment of US 1 as a truck access corridor through and within the study area. This project would be a centerpiece of continued freight mobility within the study area and for freight connectivity in this strategic corridor to and from the Florida Keys.

Figure 4-34 Turnpike PD&E Study – Preferred Alternative (South Segment)

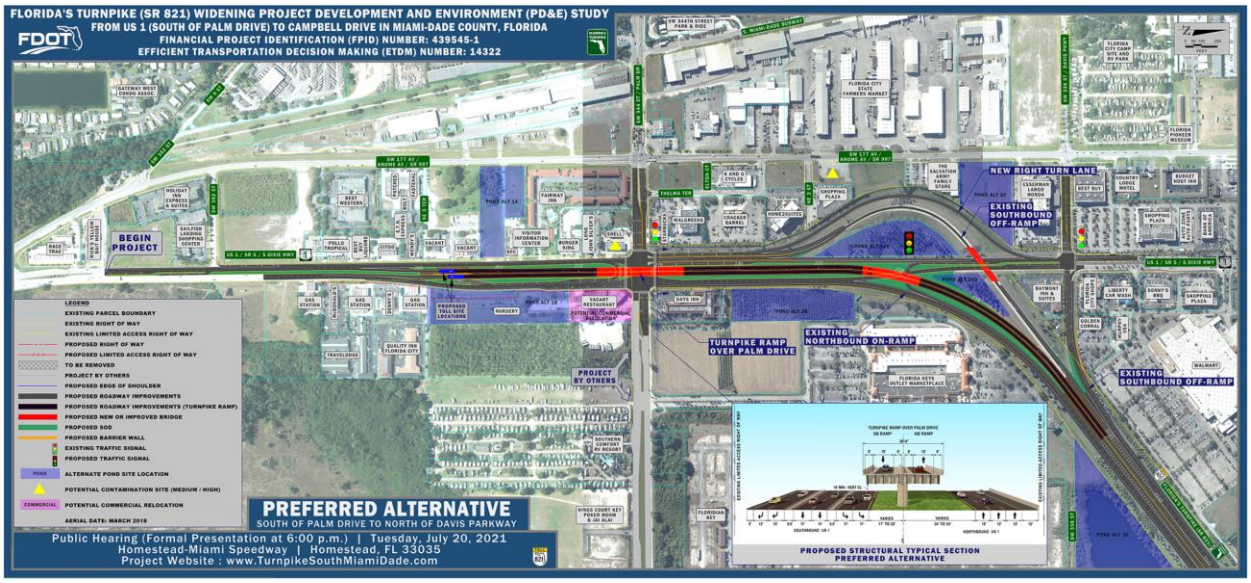


Figure 4-35 Turnpike PD&E Study – Preferred Alternative (North Segment)

Section 5.0 Purpose and Need

5.0 Purpose and Need

5.1 Background

The State of Florida has embraced the importance of freight and logistics to the economy of the State. This vision addresses the need for an improved freight infrastructure and logistics system that ensures the mobility of goods and enhancement the economic prosperity of the State.

The Florida Department of Transportation has led the pursuit of this opportunity with major investments in the first-ever statewide Freight Mobility and Trade Plan (FMTP) fully adopted in 2014 and its subsequent update, innovative programs for employer-driven training and company-specific export developments (Florida: Made for Trade – Florida Trade and Logistics Study 2.0, 2013), the Statewide Truck Parking Study, implementation of strategic transportation infrastructure projects, and multiple other efforts.

This subarea freight study is an important step in identifying specific needs and improvements that support the State's vision in elevating its role as a global transportation hub. Miami-Dade County is the most populous of Florida's 67 counties with an estimated population of 2.8 million people living in just over 2,400 square miles (approximately 13% of the total state population living on approximately 4.5% of the total area) and growing at a rate faster than the rest of the State. With increasing population comes increasing demands for goods movement. Recognizing the importance of planning for these impacts, FDOT District Six has developed a series of sub-area freight plans that cover freight intensive areas of the District. This freight plan focuses on the Homestead area, whose study area is illustrated in **Figure 5-1**.

The freight logistics in south Miami-Dade County (generally speaking, the area south of SW 120th Street) is admittedly a small part of the County's overall freight infrastructure. Based on warehousing/distribution center/industrial building square footage, that share would be under 5%. The south County is currently considered a "bedroom" community to central Miami-Dade County.

However, the Miami-Dade 2045 Long Range Transportation Plan (LRTP) has forecast that the southern portion of the county will grow 60% in population and 40% in employment. Per the LRTP, the City of Homestead is forecast to grow from 66,900 persons in 2015 to 118,900 persons in 2045, an increase of 77.6%, nearly a 2% compounded annual growth rate. The City of Florida City is forecast to grow from 12,400 person in 2015 to 27,500 persons in 2045, an increase of 121.8%, a compound annual growth rate of 2.4%. Employment in Homestead is forecast to grow from 16,100 in 2015 to 29,100 in 2045, an increase of 81.4%. In Florida City, the employment growth forecast is from 6,100 in 2015 to 9,300 in 2045, an increase of 52.4%. While the employment to population ratio in the Homestead study area is well below the county average, these increases show a positive trend.

With that growth, south County will achieve critical mass wherein many of its logistic needs will be met by internal facilities rather than by transport shipments from other parts of the County. South County may also become a logistics base center for parts of south-central Miami-Dade County that are currently supplied from areas in northern Miami-Dade County or Broward County.

A series of figures from the LRTP helps to illustrate the growing population of the southern portion of the county**. Figure 5-2** shows population growth as depicted in the LRTP with the primary study area and secondary study area of this study shown in red. **Figure 5-3** shows employment growth as depicted in the LRTP with the primary study area and secondary study area of this study shown in red. It is seen in both figures that a large share of growth in both cases is allocated to the south County area. **Figure 5-4** shows population growth as depicted in the LRTP, and **Figure 5-5** shows employment growth per the same plan. These figures display that a large concentration of anticipated growth is forecast for the southern portions of the county for both population and employment.

To guide the study efforts, a purpose and need statement was defined early in the study process. This statement was informed by review of relevant studies and findings, initial input from study area stakeholders, and the team familiarity of the study area.

Figure 5-1 Study Area

Figure 5-2 Population Growth (2050 LRTP)

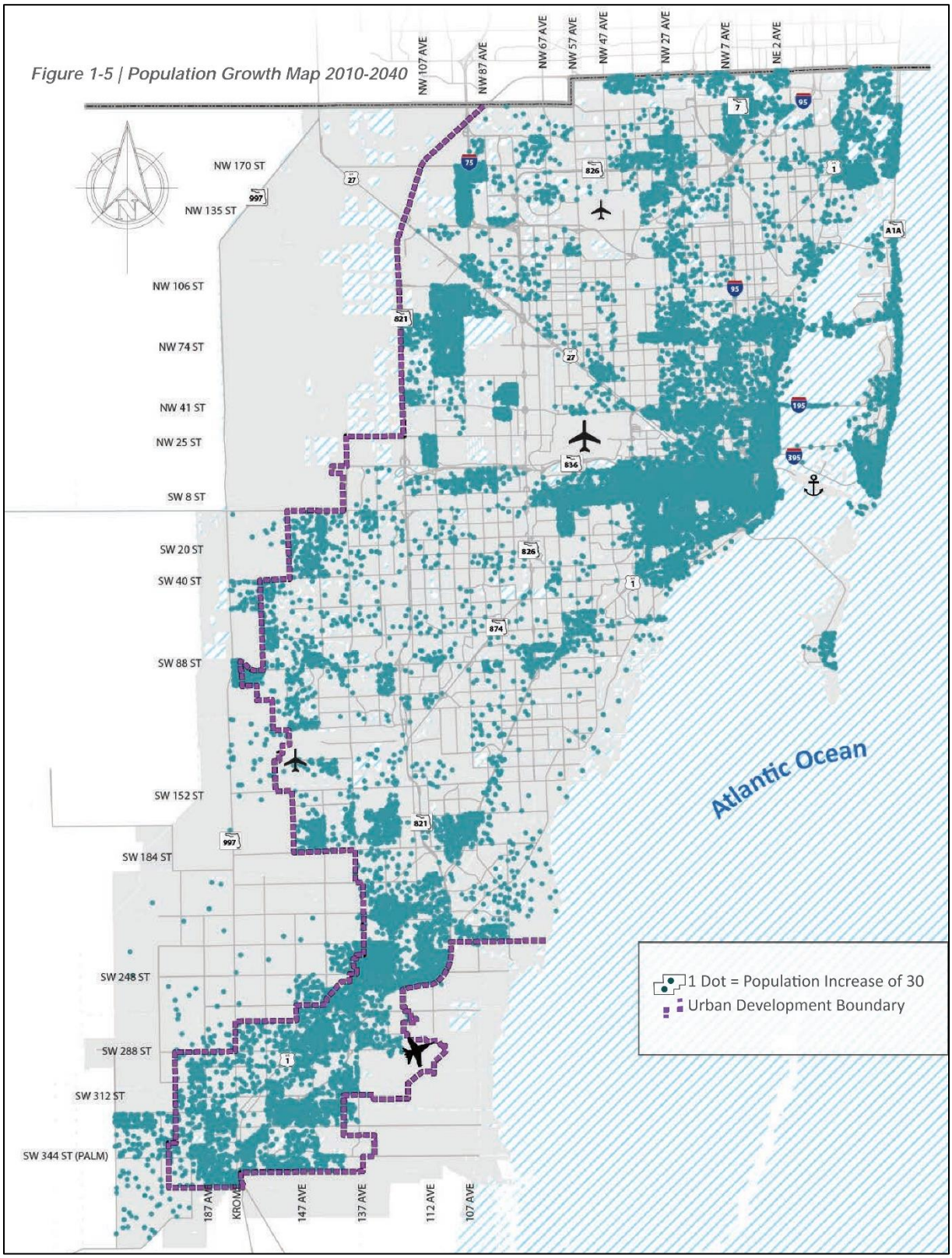


Figure 5-3 Employment Growth (2045 LRTP)

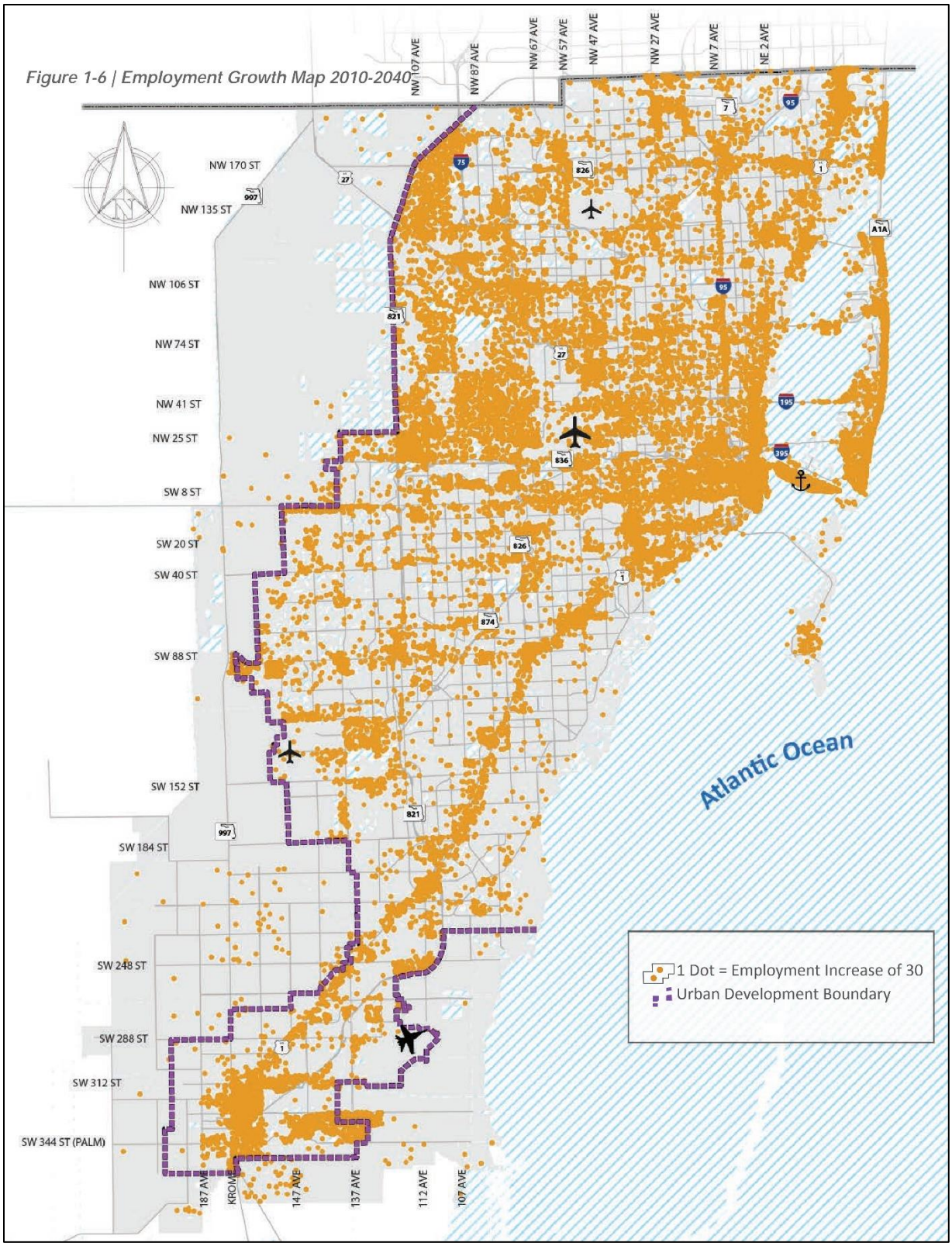
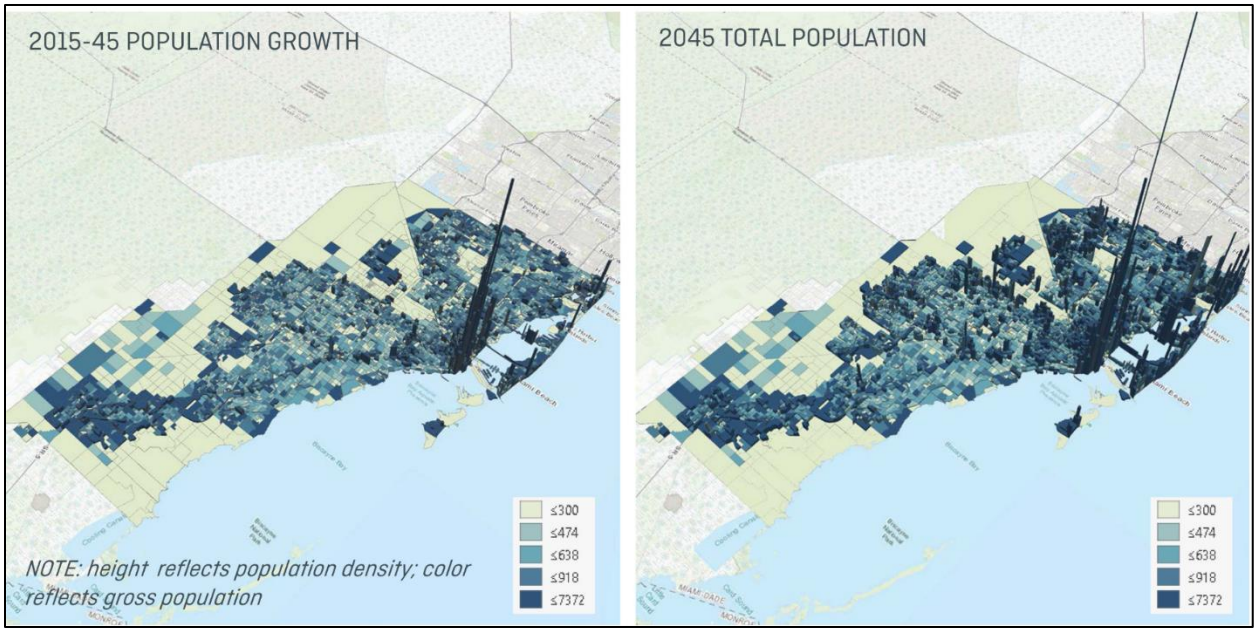


Figure 5-4 Population Growth (2045 LRTP)



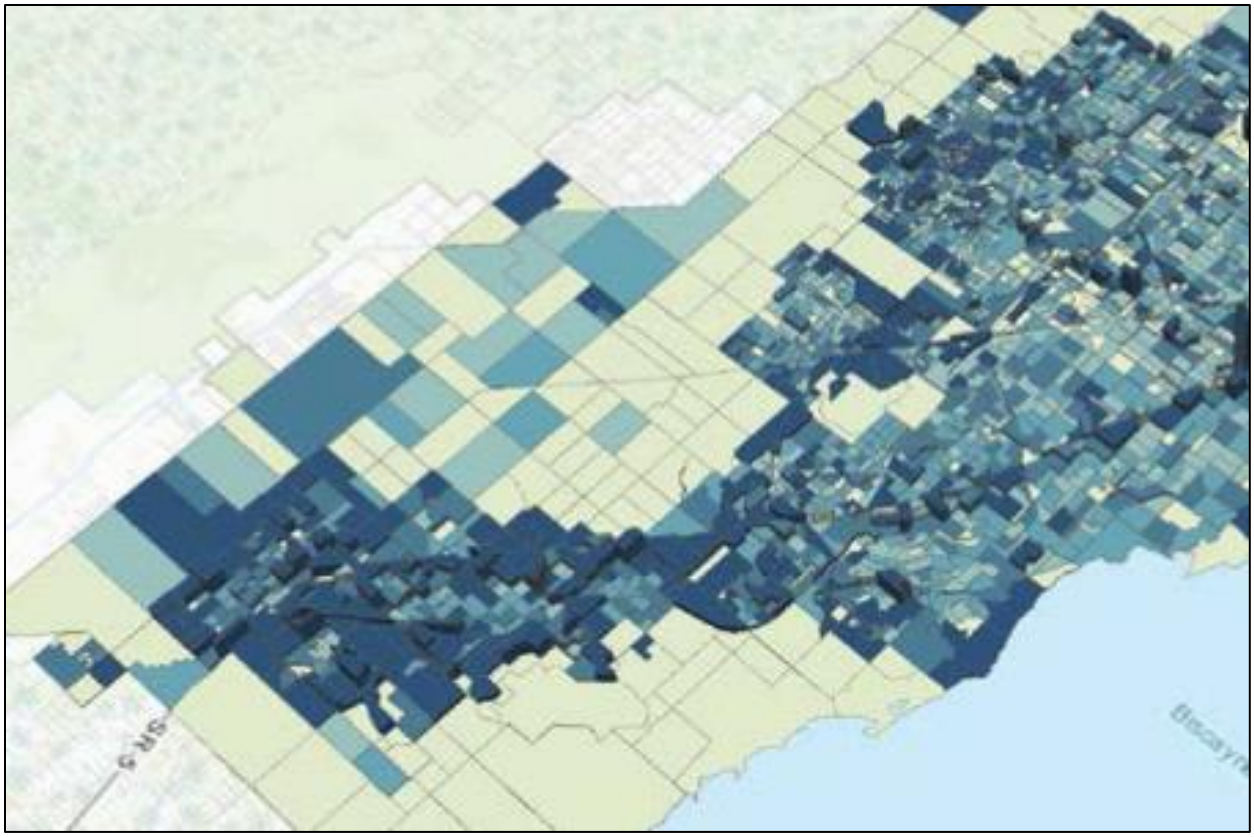
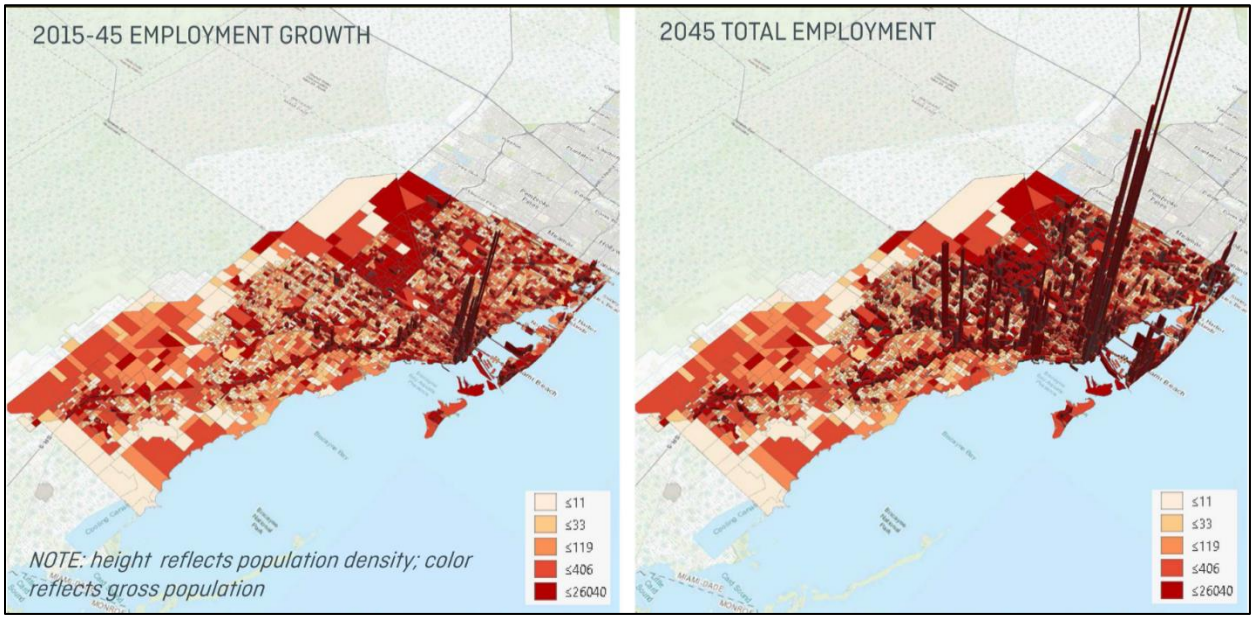
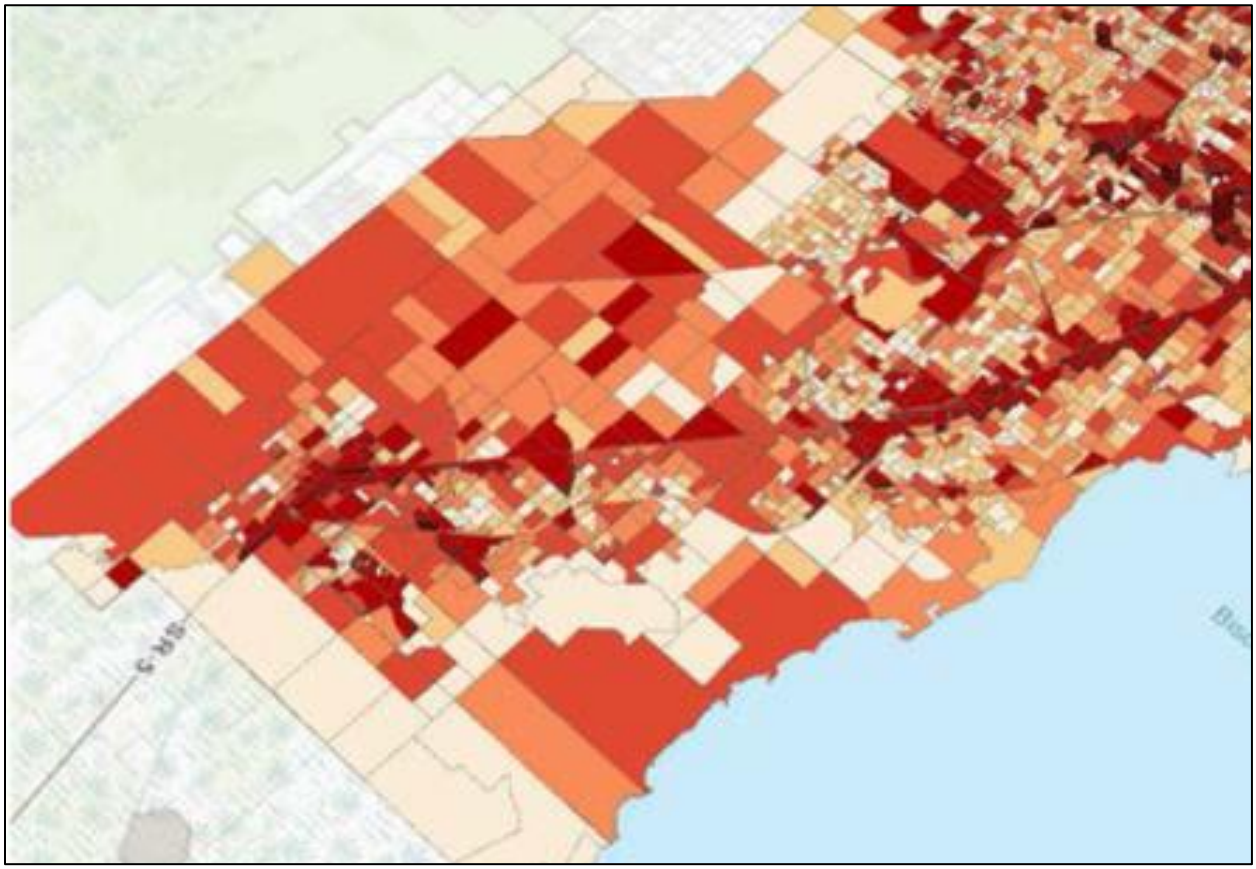


Figure 5-5 Employment Growth (2045 LRTP)





5.2 Purpose

The goal of this plan is to develop a set of viable improvement concepts to enhance freight connectivity and mobility. To accomplish that, the improvements to be proposed should broadly address these purposes:

- Examine freight movement patterns in the study area.
- Assess existing and future freight mobility needs.
- Identify opportunities for intermodal connectivity.
- Mitigate traffic congestion and safety risks.
- Investigate opportunities for truck parking sites.
- Develop a prioritized list of freight improvement projects.

5.3 Need

The study area is situated at the southern end of Miami-Dade County. This part of the county currently experiences some but not widespread peak congestion during the typical peak hours of the morning and evening, particularly along key commuter corridors. However, the 2045 Long Range Transportation Plan anticipates significant population and employment growth over the next 25 years. Transportation forecasts show that the background traffic volumes are also expected to continue to grow at a considerable rate, consuming latent capacity of the transportation network, and putting further stress on the transportation network in the long-term. Associated with this growth will be a proportionate growth in truck traffic volumes.

The primary freight mobility needs of the study area are to maintain and improve connectivity to the regional highway network and to improve the operational efficiency of the roadway network used by the marine shipping community and the adjacent industrial land uses. The following points expand upon this need statement:

- **Need to maintain and enhance connectivity to the regional highway system:** The principal portals for the study area to and from the balance of Miami-Dade County are Florida's Turnpike, SR 997/Krome Avenue, and US 1 both northward and southward from the study area. Both US 1 and Florida's Turnpike have experience chronic peak hour congestion due to commuter traffic of study area residents traveling to and from jobs to the north. Growing congestion on these portals threatens convenient access to and from the study area for both general traffic and truck traffic.

- **Heavy congestion is expected to begin to saturate the surface street and expressway network.** Continued growth in population, employment and visitors to the study area will lead to sizable increases in traffic volumes across the roadway network at a significant rate. However, its current status as a "bedroom" community for workers, as the focal point for County agricultural and nursery shipments, as a center for National Park tourism, and as the portal to the Florida Keys, as well as expected future growth portend growing congestion and negative impacts in the region.

- **Infrastructure condition needs to be upgraded with growing freight demands.** The study area roadway network can be considered as basic as most of it was configured around a relatively low population and employment base in a network with low through traffic demands. As forecast population and employment grow by 40-60%, roadway loads will accelerate. The existing railroad through the study area is in deteriorated condition. The large number of rail crossings along the CSX Railroad through the study area involves significant highway-railroad crossing maintenance costs.

- **Amenities for non-vehicular movements are lacking.** While the study focus is on improving freight mobility, the role of transit, bicycle infrastructure, and sidewalks is important in providing multi-modal commuting choices to workers in the study area. Sidewalk condition and discontinuities impairs mobility in some areas, and there are presently few designated bicycle facilities. The primary study area has some transit route coverage, but there are limited transit user amenities such as benches, shelters and lighting.

- **Potential for improved intermodal connectivity.** Opportunities existing within the study for enhanced intermodal connectivity. A small community of rail users exists, and expansion of this group would help to justify selective rail corridor improvements. The rail corridor also could become another commuter travel connection into the central County.

- **Need to address improved trucking operations.** The transportation network in the study area is in its initial phase of development and movement toward maturity. As the area develops, it is anticipated that the roadway network will become increasingly stressed. It is critical to plan for the companion freight network mobility requirements to avoid similar situations that occurred in the north of the County where freight movements are significantly compromised by congestion on the saturated network. The opportunity presents itself to identify strategic freight mobility projects that will preserve efficiency in trucking movements into the future. Similarly, there is no designated truck parking and servicing facility in the vicinity, which is a recognized county-wide issue. It will be critical to plan for freight mobility needs in the face of anticipated significant urban development across the southern portions of the county.

- **Need to support economic development and redevelopment.** The industrial uses within the corridor have come to rely nearly entirely on trucking for transport of products and supplies. The usage of rail transport has diminished greatly over the years as logistics strategies and transport economics have shifted nearly all movements to trucking. Rail operational strategies have become focused on longer transport of higher volume markets and commodities. However, the rail corridor remains an asset whose opportunities for development should be considered. Economic development will create jobs and by extension increased need for freight capacity. Projects recommended in this study will promote the necessary infrastructure for economic development and redevelopment.

Section 6.0 Transportation Network Analysis

6.0 Transportation Network Analysis

6.1 Methodology Overview

The purpose of this section is to present the approach to performing an analysis of the roadway network within the study area. Specifically, this methodology for roadway network analysis addresses the scope requirements in terms of travel demand analysis and identification of associated network deficiencies. Additionally, to identify network deficiencies, a scenario analysis was conducted. The scenario analysis process considers future freight growth forecast circumstances within the study area. Sources of background information for the scenario analysis include the traffic data collection report and the Southeast Florida Regional Planning Model (SERPM, Version 8.0), referred to herein as the Travel Demand Model (TDM). The TDM was the basis for the development of the Miami-Dade 2045 Long Range Transportation Plan (LRTP).

The background data will be used to assess traffic service conditions in the primary study area, in terms of existing and projected future peak period traffic volumes at 30 key intersections. The scenarios also incorporate transportation improvements that are financially committed and planned over the next twenty-five years. Performance measures are developed to test and compare each scenario. The intent of the analysis is to test the network with alternative freight-related demand conditions to identify the extent of capacity needs for the transportation roadway network. Additionally, the analysis tests prospective improvements that would address linkages that would enhance freight mobility or reduce congestion that would otherwise restrict the movement of goods.

Four freight planning scenarios have been developed to simulate the impacts of four growth concepts identified in the scope of services. These four scenarios are ordered in terms of increasing impact on the transportation network:

1. **No-Build Scenario:** No additional improvements are proposed beyond programmed improvements. Includes existing and committed projects per the Five-Year Transportation Improvement Program (TIP), and cost-feasible projects in the 2045 LRTP for trendline projected travel demand. Since the 2045 LRTP addresses the trendline projected travel demand and captures cost-feasible projects within its documentation, no further analysis of this scenario is needed.
2. **Trend Needs Scenario:** Same as the No-Build Scenario but includes needs beyond the 2045 LRTP cost-feasible plan.
3. **Low Freight Growth Scenario:** Defined as the Trend Needs Scenario, but with an additional 20% increase of truck traffic beyond what is included in the Trend Needs Scenario.
4. **High Freight Growth Scenario:** Defined as the Trend Needs Scenario, but with an additional 40% increase of truck traffic beyond what is included in the Trend Needs Scenario.

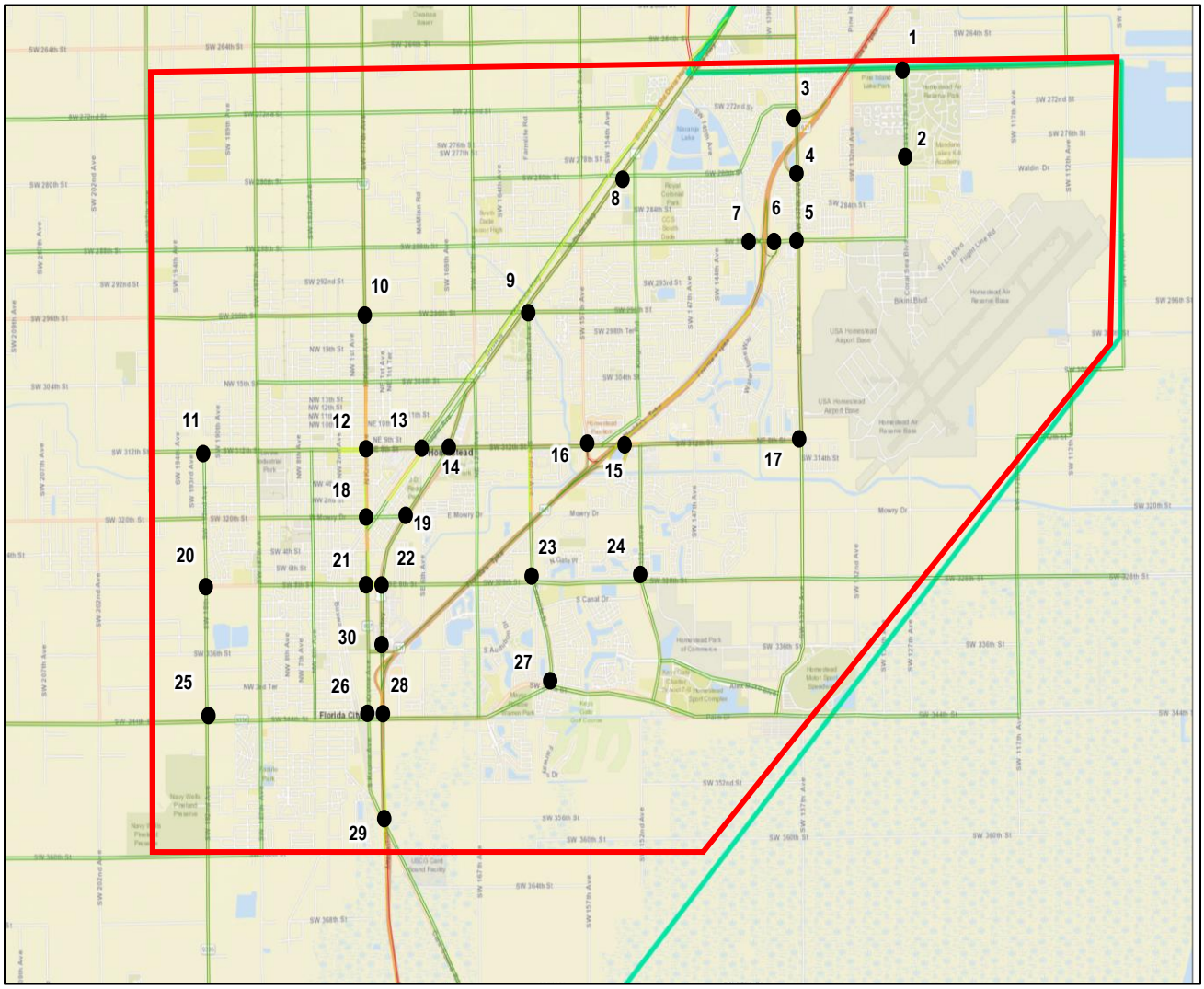
The latter two scenarios can be considered as “stress tests” of the network by placing additional truck trip demand on the roadway network to assess the impact of the added traffic. These conditions would represent cases where land uses generating truck trips, such as industrial and warehousing, may grow faster than reflected by the forecasts embedded in the 2045 TDM inputs. Further details on the network methodology are provided in **Appendix F**.

6.2 Traffic Service Analysis – Existing Conditions

Building on Section 4 of this report, the intersection LOS analysis consisted of analyzing 30 intersections using the Synchro 11 traffic analysis software. The locations were selected by the study team in consultation with FDOT to blanket the study area at key network intersections. This list includes the 24 signalized and six unsignalized intersections listed below and as shown in **Figure 6-1**. The unsignalized intersections include intersection numbers 2, 4, 11, 20, 25, and 29.

1. SW 127th Ave. & SW 268th St.
2. SW 127th Ave. & SW 280th St. (unsignalized)
3. SW 137th Ave. & Florida's Turnpike SB Off Ramp
4. SW 137th Ave. & Florida's Turnpike NB On Ramp (unsignalized)
5. SW 137th Ave & SW 288th St.
6. Florida's Turnpike NB Ramps & SW 288th St.
7. Florida's Turnpike SB Ramps & SW 288th St.
8. US 1/S. Dixie Hwy & SW 280th St.
9. US 1/S. Dixie Hwy & SW 296th St.
10. SW 177th Ave. & SW 296th St.
11. SW 192nd Ave. & SW 312th St. (unsignalized)
12. SW 177th Ave. & SW 312th St.
13. N. Flagler Ave./Dixie Hwy & SW 312th St.
14. US 1/S Dixie Hwy. & SW 312th St.
15. Florida's Turnpike NB Ramps & SW 312th St.
16. Florida's Turnpike SB Ramps & SW 312th St.
17. SW 137th Ave. & SW 312th St.
18. SW 177th Ave. & SW 320th St.
19. US 1 & SW 320th St.
20. SW 192nd Ave. & SW 328th St. (unsignalized)
21. SW 177th Ave. & SW 328th St.
22. US 1 & SW 328th St.
23. SW 162nd Ave. & SW 328th St.
24. Kingman Rd. & SW 328th St.
25. SW 192nd Ave. & SW 344th St (unsignalized)
26. SW 177th Ave. & SW 344th St.
27. SW 162nd Ave. & SW 344th St.
28. US 1 & SW 344th St.
29. US 1 & SW 177th Ave. (unsignalized)
30. US 1 & NE 7th St./Florida's Turnpike SB Off Ramp

Figure 6-1 Intersection Analysis Locations



The 2020 field traffic count input volumes were adjusted using a COVID and seasonal adjustment factor as detailed in **Appendix D**. The COVID adjustment factors were developed based on historical turning movement counts from intersection numbers 4, 19, 22, 24, and 28. A unique adjustment factor was developed for AM and PM peak period vehicles and trucks for three types of roadway classifications including Arterial, Collector-Mixed (Land Use), and Collector-Residential (Land Use) as shown in **Table 6-1**. The level of service (LOS) for each approach was based on the average delay and determined using the Highway Capacity Manual (HCM) 6th Edition Intersection Level of Service Criteria Table provided in **Appendix A.** **Table 6-2** presents the results of the existing (2020) intersection LOS analysis.

Table 6-1 2020 COVID Adjustment Factors

Destination Road Type	Arterial	Collector-Mixed	Collector-Residential	All Roads
AM Total	1.01	1.15	1.24	1.09
AM Trucks	1.04	1.27	1.23	1.14
PM Total	1.04	1.07	1.05	1.05
PM Trucks	1.07	1.55	1.49	1.21

Table 6-2 2020 Intersection Approach Level of Service

Inter-section Number	Intersection	Traffic Control	2020 AM Peak Hour LOS by Approach				2020 PM Peak Hour LOS by Approach			
			NB	SB	EB	WB	NB	SB	EB	WB
1	SW 127th Ave & SW 268th St	Signalized	F	C	A	C	C	B	A	B
2	SW 127th Ave & SW 280th St	Unsignalized	A	A	F	D	A	A	D	C
3	SW 137th Ave & Florida's Turnpike SB Off Ramp	Signalized	A	A	n/a	B	B	A	n/a	D
4	SW 137th Ave & Florida's Turnpike NB On Ramp	Unsignalized	A	A	n/a	n/a	A	A	n/a	n/a
5	SW 137th Ave & SW 288th St	Signalized	D	D	F	F	D	D	F	E
6	Florida's Turnpike NB Ramps & SW 288th St	Signalized	D	n/a	A	A	E	n/a	A	A
7	Florida's Turnpike SB Ramps & SW 288th St	Signalized	n/a	D	B	A	n/a	E	A	A
8	US 1/S Dixie Hwy & SW 280th St	Signalized	B	B	D	D	B	B	D	D
9	US 1/S Dixie Hwy & SW 296th St	Signalized	C	C	E	E	D	D	E	D
10	SW 177th Ave & SW 296th St	Signalized	C	C	C	C	C	B	C	C
11	SW 192nd Ave & SW 312th St	Unsignalized	A	A	A	A	A	A	A	A
12	SW 177th Ave & SW 312th St	Signalized	B	B	D	D	B	B	D	E
13	N Flagler Ave/Dixie Hwy & SW 312th St	Signalized	B	B	D	E	B	C	D	D
14	US 1/S Dixie Hwy & SW 312th St	Signalized	C	C	D	D	C	C	D	E
15	Florida's Turnpike NB Ramps & SW 312th St	Signalized	E	n/a	A	A	E	n/a	A	A
16	Florida's Turnpike SB Ramps & SW 312th St	Signalized	E	D	C	C	D	D	D	D
17	SW 137th Ave & SW 312th St	Signalized	C	E	D	E	C	C	D	D
18	SW 177th Ave & SW 320th St	Signalized	B	B	D	C	B	B	D	C
19	US 1 & SW 320th St	Signalized	B	B	C	E	C	B	D	E
20	SW 192nd Ave & SW 328th St	Unsignalized	A	A	n/a	B	A	A	n/a	B
21	SW 177th Ave & SW 328th St	Signalized	B	B	D	E	C	C	D	E
22	US 1 & SW 328th St	Signalized	B	C	E	D	C	C	E	D
23	SW 162nd Ave & SW 328th St	Signalized	B	B	B	C	B	B	B	C
24	Kingman Rd & SW 328th St	Signalized	B	B	B	B	B	B	B	B
25	SW 192nd Ave & SW 344th St	Unsignalized	E	C	C	F	F	C	D	E
26	SW 177th Ave & SW 344th St	Signalized	D	E	B	B	E	E	B	B
27	SW 162nd Ave & SW 344th St	Signalized	D	D	A	B	C	C	A	B
28	US 1 & SW 344th St	Signalized	D	D	E	E	D	D	E	F
29	US 1 & SW 177th Ave	Unsignalized	A	A	F	n/a	A	A	F	n/a
30	US 1 & NE 7th St/Florida's Turnpike SB Off Ramp	Signalized	B	B	E	E	B	B	E	E

Based on the level of service analysis for existing conditions, the following observations are provided covering both the AM and PM peak periods:

- Nine intersections (3, 4, 8, 10, 11, 18, 23, 24, and 27) have approach LOS values in both periods between LOS A and D, indicating minimal congestion.
- Ten intersections (1, 2, 6, 12, 13, 15, 16, 17, 19, 21, and 22) have approach LOS values in both periods that are mostly between LOS A and D, but with one or two that are at LOW E or F, indicating minimal congestion.
- Five intersections (9, 25, 26, 28, 29, and 30) have multiple legs experiencing LOS E or F congestion, but other legs performing satisfactorily, indicating moderate congestion.
- Two intersections (5 and 28) have approach LOS values of only LOS D, E, and F, indicating the intersection is experiencing significant congestion.
- Five of the worst performing intersections are in the southern part of the study area, with the other two towards the north.
- Of 224 approaches over the AM and PM peak periods, 32 (14%) have LOS E and nine (4%) have LOS F, nearly evenly spread between the two peaks.
- This performance profile is indicative of the generally acceptable existing peak hour conditions, but with several "hot spots" and others with borderline congestion. This is consistent with the perception of network performance being generally good with reserve capacity, but with areas of emerging concern.
- The position of the study area at the south end of the metropolitan region means that most of the trips are internal-internal and internal-external, other than through traffic between the Florida Keys and greater Miami which are concentrated in the US 1, Turnpike, and Krome Avenue corridors. There are no other significant external-external trips burdening the study area street network as is the case for Coral Gables, Doral, or the Kendall area.
- As a bedroom community to jobs elsewhere in Miami-Dade County, a good portion of peak hour travel demand is due to the concentration of work commute trips to and from the study area.

6.3 Traffic Service Analysis – Future Conditions

6.3.1 Intersection Analysis

The traffic volumes for all 30 intersections were projected for analysis of six future scenarios for the year 2045:

1. Scenario 1 – 2045 traffic with no improvements or signal timing changes.
2. Scenario 2a – 2045 traffic with signal optimization only (in a few cases, installing a signal).
3. Scenario 2b – 2045 traffic with signal optimization and geometric improvements.
4. Scenario 3 – 20% increase in the number of trucks in 2045 compared to Scenario 2; includes optimized signal timing and geometric improvements.
5. Scenario 4a – 40% increase in the number of trucks in 2045 compared to Scenario 2; includes optimized signal timing and no geometric improvements.
6. Scenario 4b – 40% increase in the number of trucks in 2045 compared to Scenario 2. includes optimized signal timing and geometric improvements.

The future scenarios with no improvements assumed no geometric or signal timing changes compared to the existing conditions except for three intersections including:

1. Intersection 26 – SW 177th Ave. & SW 344th St.
2. Intersection 28 – US 1 & SW 344th St.
3. Intersection 30 – US 1 & NE 7th St./Florida's Turnpike SB Off-Ramp

The geometry and signal timings for these intersections were based on the FDOT Turnpike Project Development and Environmental (PD&E) Study developed in December 2020.

The traffic volumes for the scenarios were projected to 2045 using growth rates which were estimated based on the SERPM travel demand model (TDM) and the FDOT Turnpike PD&E Study. Traffic volumes were then increased for each turning movement to account for the increase in trucks for Scenarios 3 and 4 and are shown for each scenario in **Appendix E**. Scenarios 3 and 4 with their additional truck trips are considered stress tests of the roadway network. In the course of performing the LOS analysis, it was decided for Scenarios 2 and 4 to first test the benefit of signal timing adjustments, and then examine geometric and capacity improvements. These are labeled as Scenarios 2a and 2b, and Scenarios 4a and 4b. For Scenario 3 it was found that signal timing adjustment and capacity improvements did not improve any LOS results. Moreover, the 20% added truck trips of Scenario 3 did not trigger any significant degradation in LOS from Scenario 2. The 2045 LOS results for each intersection approach for each scenario are presented in **Tables 6-3 to 6-8**. The types of geometric improvements considered included: extended left or right turn lanes, new or additional turn lanes, adjustment to through lane or turn movement assignments, and in some cases, additional through lane(s).

Table 6-3 2045 Scenario 1 Intersection Approach Level of Service

Inter-section Number	Intersection	Traffic Control	2045 AM Peak Hour LOS by Approach				2045 PM Peak Hour LOS by Approach			
			NB	SB	EB	WB	NB	SB	EB	WB
1	SW 127th Ave & SW 268th St	Signalized	F	D	A	F	F	C	A	B
2	SW 127th Ave & SW 280th St	Unsignalized	A	A	F	F	A	A	F	F
3	SW 137th Ave & Florida's Turnpike SB Off Ramp	Signalized	B	A	n/a	B	B	B	n/a	F
4	SW 137th Ave & Florida's Turnpike NB On Ramp	Unsignalized	F	A	n/a	n/a	F	A	n/a	n/a
5	SW 137th Ave & SW 288th St	Signalized	F	F	F	F	F	F	F	F
6	Florida's Turnpike NB Ramps & SW 288th St	Signalized	D	n/a	A	A	E	n/a	A	A
7	Florida's Turnpike SB Ramps & SW 288th St	Signalized	n/a	D	B	C	n/a	E	B	B
8	US 1/S Dixie Hwy & SW 280th St	Signalized	C	C	F	F	C	C	F	F
9	US 1/S Dixie Hwy & SW 296th St	Signalized	F	E	F	F	F	F	F	E
10	SW 177th Ave & SW 296th St	Signalized	C	C	D	D	C	C	C	D
11	SW 192nd Ave & SW 312th St	Unsignalized	A	A	A	A	A	A	A	A
12	SW 177th Ave & SW 312th St	Signalized	C	C	C	D	C	C	E	F
13	N Flagler Ave/Dixie Hwy & SW 312th St	Signalized	C	C	D	E	D	C	D	E
14	US 1/S Dixie Hwy & SW 312th St	Signalized	D	D	D	E	E	D	F	F
15	Florida's Turnpike NB Ramps & SW 312th St	Signalized	E	n/a	A	A	E	n/a	B	B
16	Florida's Turnpike SB Ramps & SW 312th St	Signalized	D	D	E	E	E	D	E	D
17	SW 137th Ave & SW 312th St	Signalized	D	F	D	F	C	F	D	E
18	SW 177th Ave & SW 320th St	Signalized	C	C	D	C	D	C	D	C
19	US 1 & SW 320th St	Signalized	D	B	C	F	D	C	D	F
20	SW 192nd Ave & SW 328th St	Unsignalized	A	A	n/a	C	A	A	n/a	C
21	SW 177th Ave & SW 328th St	Signalized	C	C	F	F	D	F	F	F
22	US 1 & SW 328th St	Signalized	D	D	F	F	F	F	F	F
23	SW 162nd Ave & SW 328th St	Signalized	D	D	E	F	D	C	F	F
24	Kingman Rd & SW 328th St	Signalized	D	F	F	F	C	C	F	F
25	SW 192nd Ave & SW 344th St	Unsignalized	F	E	C	F	F	F	F	F
26	SW 177th Ave & SW 344th St	Signalized	F	F	D	A	F	F	E	B
27	SW 162nd Ave & SW 344th St	Signalized	D	D	A	B	C	D	A	B
28	US 1 & SW 344th St	Signalized	E	D	E	F	F	E	E	E
29	US 1 & SW 177th Ave	Unsignalized	F	A	A	n/a	F	A	A	n/a
30	US 1 & NE 7th St/Florida's Turnpike SB Off Ramp	Signalized	C	C	F	E	C	C	F	F

Table 6-4 2045 Scenario 2a Intersection Approach Level of Service

Inter-section Number	Intersection	Traffic Control	2045 AM Peak Hour LOS by Approach				2045 PM Peak Hour LOS by Approach			
			NB	SB	EB	WB	NB	SB	EB	WB
1	SW 127th Ave & SW 268th St	Signalized	C	C	C	C	B	B	C	B
2	SW 127th Ave & SW 280th St	Unsignalized	A	A	B	B	A	A	B	B
3	SW 137th Ave & Florida's Turnpike SB Off Ramp	Signalized	B	A	n/a	B	D	B	n/a	D
4	SW 137th Ave & Florida's Turnpike NB On Ramp	Unsignalized	A	A	n/a	n/a	A	D	n/a	n/a
5	SW 137th Ave & SW 288th St	Signalized	E	E	F	E	E	E	F	F
6	Florida's Turnpike NB Ramps & SW 288th St	Signalized	D	n/a	A	A	E	n/a	A	A
7	Florida's Turnpike SB Ramps & SW 288th St	Signalized	n/a	D	C	C	n/a	D	B	A
8	US 1/S Dixie Hwy & SW 280th St	Signalized	D	C	D	D	C	C	D	D
9	US 1/S Dixie Hwy & SW 296th St	Signalized	D	D	E	F	D	C	E	E
10	SW 177th Ave & SW 296th St	Signalized	C	C	D	D	C	C	D	D
11	SW 192nd Ave & SW 312th St	Unsignalized	A	A	A	A	A	A	A	A
12	SW 177th Ave & SW 312th St	Signalized	C	C	D	D	D	C	D	D
13	N Flagler Ave/Dixie Hwy & SW 312th St	Signalized	C	C	D	D	D	C	D	D
14	US 1/S Dixie Hwy & SW 312th St	Signalized	D	D	D	D	E	D	E	F
15	Florida's Turnpike NB Ramps & SW 312th St	Signalized	E	n/a	A	A	E	n/a	B	B
16	Florida's Turnpike SB Ramps & SW 312th St	Signalized	E	E	D	D	D	D	D	D
17	SW 137th Ave & SW 312th St	Signalized	D	F	E	F	D	F	D	F
18	SW 177th Ave & SW 320th St	Signalized	C	C	D	C	C	C	E	D
19	US 1 & SW 320th St	Signalized	D	B	C	F	F	C	D	F
20	SW 192nd Ave & SW 328th St	Unsignalized	A	A	n/a	C	A	A	n/a	C
21	SW 177th Ave & SW 328th St	Signalized	D	F	E	F	F	F	F	F
22	US 1 & SW 328th St	Signalized	F	F	F	F	F	F	F	F
23	SW 162nd Ave & SW 328th St	Signalized	F	F	D	E	F	F	C	D
24	Kingman Rd & SW 328th St	Signalized	C	F	F	F	C	D	F	F
25	SW 192nd Ave & SW 344th St	Unsignalized	F	E	C	F	F	F	F	F
26	SW 177th Ave & SW 344th St	Signalized	E	F	E	E	F	F	E	F
27	SW 162nd Ave & SW 344th St	Signalized	D	D	A	B	D	D	A	B
28	US 1 & SW 344th St	Signalized	E	D	E	F	F	E	E	E
29	US 1 & SW 177th Ave	Unsignalized	F	A	A	n/a	F	A	A	n/a
30	US 1 & NE 7th St/Florida's Turnpike SB Off Ramp	Signalized	C	C	F	E	C	C	F	F

Table 6-5 2045 Scenario 2b Intersection Approach Level of Service

Inter-section Number	Intersection	Traffic Control	2045 AM Peak Hour LOS by Approach				2045 PM Peak Hour LOS by Approach			
			NB	SB	EB	WB	NB	SB	EB	WB
1	SW 127th Ave & SW 268th St	Signalized	C	C	C	B	B	B	C	B
2	SW 127th Ave & SW 280th St	Unsignalized	A	A	B	B	A	A	B	B
3	SW 137th Ave & Florida's Turnpike SB Off Ramp	Signalized	B	A	n/a	C	D	C	n/a	D
4	SW 137th Ave & Florida's Turnpike NB On Ramp	Unsignalized	B	B	n/a	n/a	C	D	n/a	n/a
5	SW 137th Ave & SW 288th St	Signalized	D	D	E	E	D	D	E	E
6	Florida's Turnpike NB Ramps & SW 288th St	Signalized	D	n/a	A	A	E	n/a	A	A
7	Florida's Turnpike SB Ramps & SW 288th St	Signalized	n/a	F	C	B	n/a	F	C	A
8	US 1/S Dixie Hwy & SW 280th St	Signalized	D	C	D	D	C	C	D	D
9	US 1/S Dixie Hwy & SW 296th St	Signalized	D	D	E	F	D	C	E	E
10	SW 177th Ave & SW 296th St	Signalized	C	C	D	D	C	C	D	D
11	SW 192nd Ave & SW 312th St	Unsignalized	A	A	A	A	A	A	A	A
12	SW 177th Ave & SW 312th St	Signalized	C	C	D	D	D	C	D	D
13	N Flagler Ave/Dixie Hwy & SW 312th St	Signalized	C	C	D	D	D	C	D	D
14	US 1/S Dixie Hwy & SW 312th St	Signalized	C	D	D	D	D	D	E	E
15	Florida's Turnpike NB Ramps & SW 312th St	Signalized	E	n/a	A	A	E	n/a	B	B
16	Florida's Turnpike SB Ramps & SW 312th St	Signalized	E	E	D	D	D	D	D	D
17	SW 137th Ave & SW 312th St	Signalized	D	C	D	E	C	B	D	D
18	SW 177th Ave & SW 320th St	Signalized	C	C	D	C	C	C	E	D
19	US 1 & SW 320th St	Signalized	B	C	D	E	C	C	E	D
20	SW 192nd Ave & SW 328th St	Unsignalized	A	A	n/a	C	A	A	n/a	C
21	SW 177th Ave & SW 328th St	Signalized	C	C	D	C	D	C	D	B
22	US 1 & SW 328th St	Signalized	D	D	C	D	D	D	D	E
23	SW 162nd Ave & SW 328th St	Signalized	D	E	D	D	D	F	D	D
24	Kingman Rd & SW 328th St	Signalized	E	D	F	D	C	C	C	C
25	SW 192nd Ave & SW 344th St	Unsignalized	C	C	A	B	C	B	B	B
26	SW 177th Ave & SW 344th St	Signalized	D	E	D	E	E	D	D	D
27	SW 162nd Ave & SW 344th St	Signalized	D	D	A	B	D	D	A	B
28	US 1 & SW 344th St	Signalized	E	D	E	E	F	E	E	E
29	US 1 & SW 177th Ave	Unsignalized	F	C	F	n/a	F	D	E	n/a
30	US 1 & NE 7th St/Florida's Turnpike SB Off Ramp	Signalized	B	C	E	E	C	C	E	F

Table 6-6 2045 Scenario 3 Intersection Approach Level of Service

Inter-section Number	Intersection	Traffic Control	2045 AM Peak Hour LOS by Approach				2045 PM Peak Hour LOS by Approach			
			NB	SB	EB	WB	NB	SB	EB	WB
1	SW 127th Ave & SW 268th St	Signalized	C	C	C	B	B	B	C	B
2	SW 127th Ave & SW 280th St	Unsignalized	A	A	C	B	A	A	C	C
3	SW 137th Ave & Florida's Turnpike SB Off Ramp	Signalized	B	A	n/a	C	D	C	n/a	D
4	SW 137th Ave & Florida's Turnpike NB On Ramp	Unsignalized	B	B	n/a	n/a	C	D	n/a	n/a
5	SW 137th Ave & SW 288th St	Signalized	D	D	E	E	D	D	E	E
6	Florida's Turnpike NB Ramps & SW 288th St	Signalized	D	n/a	A	A	E	n/a	A	A
7	Florida's Turnpike SB Ramps & SW 288th St	Signalized	n/a	F	C	C	n/a	F	C	A
8	US 1/S Dixie Hwy & SW 280th St	Signalized	D	C	D	D	C	C	D	D
9	US 1/S Dixie Hwy & SW 296th St	Signalized	D	D	E	F	D	C	E	E
10	SW 177th Ave & SW 296th St	Signalized	D	C	D	D	D	C	D	D
11	SW 192nd Ave & SW 312th St	Unsignalized	A	A	A	A	A	A	A	A
12	SW 177th Ave & SW 312th St	Signalized	C	C	D	D	D	C	D	D
13	N Flagler Ave/Dixie Hwy & SW 312th St	Signalized	C	C	D	D	D	C	D	D
14	US 1/S Dixie Hwy & SW 312th St	Signalized	D	D	D	D	D	D	E	E
15	Florida's Turnpike NB Ramps & SW 312th St	Signalized	E	n/a	A	A	E	n/a	B	B
16	Florida's Turnpike SB Ramps & SW 312th St	Signalized	E	E	D	D	D	D	D	D
17	SW 137th Ave & SW 312th St	Signalized	D	C	D	F	C	C	D	D
18	SW 177th Ave & SW 320th St	Signalized	C	C	D	C	D	C	E	D
19	US 1 & SW 320th St	Signalized	B	C	D	E	C	C	E	D
20	SW 192nd Ave & SW 328th St	Unsignalized	A	A	n/a	C	A	A	n/a	C
21	SW 177th Ave & SW 328th St	Signalized	C	C	D	C	D	C	D	B
22	US 1 & SW 328th St	Signalized	D	D	C	D	D	D	D	E
23	SW 162nd Ave & SW 328th St	Signalized	D	E	D	D	D	F	D	D
24	Kingman Rd & SW 328th St	Signalized	E	D	F	D	C	C	C	C
25	SW 192nd Ave & SW 344th St	Unsignalized	C	C	B	B	C	B	B	B
26	SW 177th Ave & SW 344th St	Signalized	D	E	D	E	E	D	D	D
27	SW 162nd Ave & SW 344th St	Signalized	D	D	A	B	D	D	A	B
28	US 1 & SW 344th St	Signalized	E	E	E	E	F	E	E	E
29	US 1 & SW 177th Ave	Unsignalized	B	C	F	n/a	B	D	E	n/a
30	US 1 & NE 7th St/Florida's Turnpike SB Off Ramp	Signalized	B	C	E	E	C	C	E	F

Table 6-7 2045 Scenario 4a Intersection Approach Level of Service

Inter-section Number	Intersection	Traffic Control	2045 AM Peak Hour LOS by Approach				2045 PM Peak Hour LOS by Approach			
			NB	SB	EB	WB	NB	SB	EB	WB
1	SW 127th Ave & SW 268th St	Signalized	C	C	C	B	B	B	C	B
2	SW 127th Ave & SW 280th St	Unsignalized	A	A	C	C	A	A	C	C
3	SW 137th Ave & Florida's Turnpike SB Off Ramp	Signalized	B	A	n/a	C	D	C	n/a	D
4	SW 137th Ave & Florida's Turnpike NB On Ramp	Unsignalized	B	C	n/a	n/a	C	D	n/a	n/a
5	SW 137th Ave & SW 288th St	Signalized	D	D	F	E	D	D	E	E
6	Florida's Turnpike NB Ramps & SW 288th St	Signalized	D	n/a	A	A	E	n/a	A	A
7	Florida's Turnpike SB Ramps & SW 288th St	Signalized	n/a	F	C	C	n/a	F	C	A
8	US 1/S Dixie Hwy & SW 280th St	Signalized	D	C	D	D	C	C	D	D
9	US 1/S Dixie Hwy & SW 296th St	Signalized	D	D	E	F	D	C	E	E
10	SW 177th Ave & SW 296th St	Signalized	D	C	D	D	D	C	D	D
11	SW 192nd Ave & SW 312th St	Unsignalized	A	A	A	A	A	A	A	A
12	SW 177th Ave & SW 312th St	Signalized	C	C	D	D	D	C	D	D
13	N Flagler Ave/Dixie Hwy & SW 312th St	Signalized	C	C	D	D	D	C	D	D
14	US 1/S Dixie Hwy & SW 312th St	Signalized	D	D	D	D	D	D	E	E
15	Florida's Turnpike NB Ramps & SW 312th St	Signalized	E	n/a	A	A	E	n/a	B	B
16	Florida's Turnpike SB Ramps & SW 312th St	Signalized	E	E	D	D	D	D	D	D
17	SW 137th Ave & SW 312th St	Signalized	D	C	D	F	C	C	D	D
18	SW 177th Ave & SW 320th St	Signalized	C	C	D	C	D	C	E	D
19	US 1 & SW 320th St	Signalized	B	C	D	E	C	C	E	D
20	SW 192nd Ave & SW 328th St	Unsignalized	A	A	n/a	C	A	A	n/a	C
21	SW 177th Ave & SW 328th St	Signalized	C	C	D	C	D	D	D	B
22	US 1 & SW 328th St	Signalized	D	D	C	E	D	D	D	E
23	SW 162nd Ave & SW 328th St	Signalized	D	E	D	D	D	F	D	E
24	Kingman Rd & SW 328th St	Signalized	E	D	F	D	C	C	C	C
25	SW 192nd Ave & SW 344th St	Unsignalized	C	C	B	C	C	B	B	B
26	SW 177th Ave & SW 344th St	Signalized	D	E	D	E	E	D	D	D
27	SW 162nd Ave & SW 344th St	Signalized	D	D	A	B	D	D	A	B
28	US 1 & SW 344th St	Signalized	E	E	E	E	F	E	E	E
29	US 1 & SW 177th Ave	Unsignalized	B	C	F	n/a	B	E	E	n/a
30	US 1 & NE 7th St/Florida's Turnpike SB Off Ramp	Signalized	B	C	E	E	C	C	E	F

Table 6-8 2045 Scenario 4b Intersection Approach Level of Service

Inter-section Number	Intersection	Traffic Control	2045 AM Peak Hour LOS by Approach				2045 PM Peak Hour LOS by Approach			
			NB	SB	EB	WB	NB	SB	EB	WB
1	SW 127th Ave & SW 268th St	Signalized	C	C	C	B	B	B	C	B
2	SW 127th Ave & SW 280th St	Unsignalized	A	A	C	C	A	A	C	C
3	SW 137th Ave & Florida's Turnpike SB Off Ramp	Signalized	B	A	n/a	C	D	C	n/a	D
4	SW 137th Ave & Florida's Turnpike NB On Ramp	Unsignalized	B	C	n/a	n/a	C	D	n/a	n/a
5	SW 137th Ave & SW 288th St	Signalized	D	D	E	E	D	D	D	E
6	Florida's Turnpike NB Ramps & SW 288th St	Signalized	D	n/a	A	A	E	n/a	A	A
7	Florida's Turnpike SB Ramps & SW 288th St	Signalized	n/a	F	C	B	n/a	E	C	A
8	US 1/S Dixie Hwy & SW 280th St	Signalized	D	C	D	D	C	C	D	D
9	US 1/S Dixie Hwy & SW 296th St	Signalized	D	D	E	F	D	C	E	E
10	SW 177th Ave & SW 296th St	Signalized	D	C	D	D	D	C	D	D
11	SW 192nd Ave & SW 312th St	Unsignalized	A	A	A	A	A	A	A	A
12	SW 177th Ave & SW 312th St	Signalized	C	C	D	D	D	C	D	D
13	N Flagler Ave/Dixie Hwy & SW 312th St	Signalized	C	C	D	D	D	C	D	D
14	US 1/S Dixie Hwy & SW 312th St	Signalized	D	D	D	D	D	D	E	E
15	Florida's Turnpike NB Ramps & SW 312th St	Signalized	E	n/a	A	A	E	n/a	B	B
16	Florida's Turnpike SB Ramps & SW 312th St	Signalized	E	E	D	D	D	D	D	D
17	SW 137th Ave & SW 312th St	Signalized	D	C	D	D	C	C	D	D
18	SW 177th Ave & SW 320th St	Signalized	B	C	D	E	D	C	C	E
19	US 1 & SW 320th St	Signalized	B	C	D	E	C	C	E	D
20	SW 192nd Ave & SW 328th St	Unsignalized	A	A	n/a	C	A	A	n/a	C
21	SW 177th Ave & SW 328th St	Signalized	C	C	D	C	D	D	D	B
22	US 1 & SW 328th St	Signalized	D	D	C	E	D	D	D	E
23	SW 162nd Ave & SW 328th St	Signalized	D	D	C	D	D	D	C	D
24	Kingman Rd & SW 328th St	Signalized	E	D	D	D	C	C	C	C
25	SW 192nd Ave & SW 344th St	Unsignalized	C	C	B	C	C	B	B	B
26	SW 177th Ave & SW 344th St	Signalized	D	E	D	E	E	D	D	D
27	SW 162nd Ave & SW 344th St	Signalized	D	D	A	B	D	D	A	B
28	US 1 & SW 344th St	Signalized	E	E	E	E	F	E	E	E
29	US 1 & SW 177th Ave	Unsignalized	A	B	F	n/a	A	C	E	n/a
30	US 1 & NE 7th St/Florida's Turnpike SB Off Ramp	Signalized	B	C	E	E	C	C	E	E

Based on the level of service analysis for the future scenarios, the following summary statistics are provided covering the results for both the AM and PM peak periods:

Scenario 1 – 2045 No Build

- AM Peak Period: LOS E – 10 approaches, LOS F – 32 approaches, Total – 42 approaches
- PM Peak Period: LOS E – 15 approaches, LOS F – 40 approaches, Total – 55 approaches
- Total Peak Periods: LOS E – 25 approaches, LOS F – 72 approaches, Total – 97 approaches

Scenario 2a – Trend Needs Scenario (Signal Timing Adjustments Only)

- AM Peak Period: LOS E – 17 approaches, LOS F – 22 approaches, Total – 39 approaches
- PM Peak Period: LOS E – 13 approaches, LOS F – 29 approaches, Total – 42 approaches
- Total Peak Periods: LOS E – 30 approaches, LOS F – 51 approaches, Total – 81 approaches

Scenario 2b – Trend Needs Scenario (Signal Timing and Capacity Improvements)

- AM Peak Period: LOS E – 17 approaches, LOS F – 4 approaches, Total – 21 approaches
- PM Peak Period: LOS E – 17 approaches, LOS F – 5 approaches, Total – 22 approaches
- Total Peak Periods: LOS E – 34 approaches, LOS F – 9 approaches, Total – 43 approaches

Scenario 3 - Low Freight Growth (Signal Timing Adjustments Only)

- AM Peak Period: LOS E – 17 approaches, LOS F – 5 approaches, Total – 22 approaches
- PM Peak Period: LOS E – 17 approaches, LOS F – 4 approaches, Total – 21 approaches
- Total Peak Periods: LOS E – 34 approaches, LOS F – 9 approaches, Total – 43 approaches

Scenario 4a - High Freight Growth (Signal Timing Adjustments Only)

- AM Peak Period: LOS E – 17 approaches, LOS F – 6 approaches, Total – 23 approaches
- PM Peak Period: LOS E – 18 approaches, LOS F – 4 approaches, Total – 22 approaches
- Total Peak Periods: LOS E – 35 approaches, LOS F – 10 approaches, Total – 45 approaches

Scenario 4b - High Freight Growth (Signal Timing and Capacity Improvements)

- AM Peak Period: LOS E – 18 approaches, LOS F – 3 approaches, Total – 21 approaches
- PM Peak Period: LOS E – 18 approaches, LOS F – 1 approach, Total – 19 approaches
- Total Peak Periods: LOS E – 36 approaches, LOS F – 4 approaches, Total – 40 approaches

Summary of Findings

The preceding summary statistics inform these observations on the network improvements.

- Compared to the 2020 existing condition which has 32 LOS E and 9 LOS F approaches for a total of 41, Scenario 1 – 2045 No Build has 25 LOS E and 72 LOS F approaches, for a total of 97. This is 43% of all analyzed approaches for two peak hours. The number of LOS E approaches diminishes somewhat, but LOS F approaches increase dramatically, in fact ten-fold. This result confirms that traffic conditions in the study area will dramatically worsen by 2045.
- For Scenario 2a compared to Scenario 1, the signal timing adjustments slightly increase the number of LOS E approaches but noticeably reduces LOS F approaches from 72 to 51. So rebalancing signal time

provides significant LOS improvement. However, there remain 81 (36%) poorly performing approaches, down from 97 in Scenario 1.

- For Scenario 2b compared to Scenario 2a, the introduction of capacity improvements increases LOS E approaches slightly (30 to 34) but significantly reduces LOS F approaches from 51 to 9. The total of LOS E and LOS F approaches is 43 (19%). It is important to note that for certain intersections, it was not possible to expand capacity sufficiently to eliminate all LOS E and LOS approaches.
- For Scenario 3 compared to Scenario 2b, there was no change in total LOS E and LOS F approaches. This means that the increment of 20% additional truck trips under Scenario 3 did not trigger the need for additional geometric improvements. It is noted again that under Scenario 3, neither signal timing adjustments nor geometric improvements were required to accommodate the additional modeled traffic.
- For Scenario 4a compared to Scenario 3, the number of LOS E approaches increased by 1 from 34 to 35, and the number of LOS F approaches increased by 1 from 9 to 10. The total of LOS E and LOS F approaches is 45 (20%). Thus, it can be concluded that the second increment of truck traffic increase (another 20% on top of the 20% added under Scenario 3) did not cause much LOS degradation.
- For Scenario 4b compared to Scenario 3, the number of LOS E approaches increased by 1 from 35 to 36, and the number of LOS F approaches decreased from 10 to 4. The total of LOS E and LOS F approaches is 40 (18%). The identified additional incremental geometric improvements afforded a reduction of 5 low-performing intersection approaches. However, 40 such approaches remain.
- The broader roadway network performance issues using the 2045 traffic forecast can be summarized as follows:
    - Comparing Scenario 4a and Scenario 4b and Scenario 3 to Scenario 2b, it is seen that 20% or 40% additional truck traffic, were it to occur, can be addressed with incremental signal timing and/or geometric improvements, and as a result maintain the approximate number of LOS E and LOS F approaches.
    - Across Scenarios 2b, 3, 4a, and 4b, there is a limit to reasonable intersection improvements that can be made, with 40-45 approaches restricted as to the further mitigation of traffic congestion.
    - More importantly, the primary challenge confronting the study area roadway network from 2020 to 2045 is the widespread congestion arising from the growth of traffic volumes in general due to forecast population and employment forecasts.

The intersection improvements proposed for Scenarios 2a, 2b, 3 and 4b aimed to bring all movements to a LOS E or better and an intersection LOS of D where practical. The intersection improvements identified in Scenario 2a, 2b, and 4b, as well as the maintaining agency for each leg of the intersections, are provided in **Tables 6-9 and 6-10**. The maintaining agency by leg is shown because only four of the intersections have single jurisdiction and is shaded in the table for the legs affected by the action. The improvements under Scenario 4b are incremental to those of Scenario 2b.

Table 6-9 2045 Scenario 2a and 2b Intersection Improvements

Low < $2m, Med $2m-$10m, High $10-20m, Very High $20m+

Int.	Scen.	Traffic Signal Improvements	Capacity Improvements	ROW Impact	Cost	Maintaining Agency: North Leg	South Leg	East Leg	West Leg
1	2a		Add 2nd 250' WB left-turn lane	None	Low	County ROW	County ROW	County ROW	County ROW
2	2a	Install traffic signal.	Add 200' EB/WB left-turn lanes, 200' WB right-turn lane.	None	Low	County ROW	County ROW	County ROW	County ROW
4	2a	Install traffic signal.	Add 2nd 250' NB left-turn lane.	None	Low	County ROW	County ROW		State maintained
5	2a		Add 2nd left-turn lane on all approaches, extend SB left to 250' and EB left to 300'. Add 350' WB, 450' NB, 200' SB right-turn lanes.	E-W Legs ok. N Leg may need ROW (100' ex) for 7 lanes+SW	Med	County ROW	Half County Half City	County ROW	Half County Half City
5	2b		Add 3rd NB/SB thru lanes. Add 200' EB right-turn lane	E-W Legs ok. S leg may be ok (130'ROW, 10 lanes+SW). N Leg will need ROW (100' ex) impacts transmission lines and may impact business parking/circ.	Very High	County ROW	Half County Half City	County ROW	Half County Half City
7	2b		Widen to three 500' SB right-turn lanes.	None	Low	State maintained	State maintained	County ROW	County ROW
8	2b		Extend WB left-turn lane to 350'.	None, will impact existing turn lane to driveways	Low	State maintained	State maintained	County ROW	County ROW
9	2a		Add 2nd left-turn and thru lanes EB and WB (as a part of this convert WB auxiliary lane west of intersection to thru lane). Extend EB left-turn lane to 250', WB left-turn lane to 200' and NB left-turn lane to 350'. Add 250' EB right-turn lane.	W Leg may require ROW west of Old Dixie Hwy. E Leg, may reqire ROW on SE corner.	High	State maintained	State maintained	County ROW	County ROW
12	2b		Extend SB left-turn lane to 350'.	None	Low	State maintained	City ROW	State maintained	County Maint. In Cities
14	2b		Add 300' NB and 100' WB right-turn lanes. Extend SB left-turn lane to 350'.	WBR ROW ok. NBR requires ROW. SBL will require closing median opening north of intersection	Med	State maintained	State maintained	County Maint. In Cities	State maintained
15	2b		Extend NB left-turn lane to 400'	None	Low		State maintained	City ROW	City ROW
16						City ROW	State maintained	City ROW	County Maint. In Cities
17	2b		Add 200' SB and 150' WB right-turn lanes.	SBR requires ROW	Low	County Maint. In Cities	County Maint. In Cities	City ROW	City ROW
18	2b		Extend NB and EB left-turn lanes to 250'.	None	Low	City ROW	City ROW	County Maint. In Cities	County Maint. In Cities
19	2b		Add 100' EB left-turn lane, 300' NB right-turn lane and 2nd 200' WB left-turn lane. Extend EB right-turn lane to 150'.	NBR may be ok, although tight. W Leg ok, E leg probably ok (ROW is shown in existing roadway, but sidewalk/wall on south side well away from road).	Low	State maintained	State maintained	County Maint. In Cities	City ROW
								Capacity Improvement Proposed:	

						Low < $2m, Med $2m-$10m, High $10-20m, Very High $20m+	Maintaining Agency			
Int.	**Scen.**	**Traffic Signal Improvements**	**Capacity Improvements**	**ROW Impact**	**Cost**		**North Leg**	**South Leg**	**East Leg**	**West Leg**
21	2b	Implement protected/permitted left-turn phasing on all approaches.	Add 150' right-turn lanes on SB, EB and WB approaches. Add 2nd through lane on all approaches. Extend NB left-turn lane to 150', SB left-turn lane to 200', and WB left-turn lane to 150'.	E & W Leg (66' ex) would require 10'-20' more and may impact some parking in adjacent lots. S Leg (110') ok, N Leg (55') needs at least 20' and will impact parking in adjacent lots and at least on building.	Very High		City ROW	County Maint. In Cities	City ROW	City ROW
22	2b	Implement protected left-turn phasing on all approaches.	Add 300' right-turn lanes and 2nd left-turn lane on all approaches, add 3rd NB thru lane, add 2nd NB thru lane. Extend NB left-turn lane to 200'.	W Leg (66' ex) and E Leg (75') would require 10'-20' more and may impact some parking in adjacent lots. N & S Legs (110') will require ~20' additional.	Very High		State maintained	State maintained	City ROW	City ROW
23	2b	Implement protected/permitted left-turn phasing for north/south approaches, protected left-turn phasing for east/west approaches.	Add 200' EB right-turn lane, 250' NB left-turn lane, 200' SB left-turn lane, 2nd EB left-turn lane. Change southbound approach to 1 left, 1 thru and 1 right turn lane with 200' SB left-turn lane.	E Leg ok, W Leg may require ROW, but N side is agricultural. N & S Legs ok.	Med		City ROW	City ROW	City ROW	City ROW
24	2b	Implement protected left-turn phasing on all approaches.	Add 2nd left turn lane on all approaches (150' NB, 300' SB, 230' EB and 350' WB), right-turn lanes on NB (300'), SB (200') and WB (200') approaches, and 2nd NB and SB thru lanes.	N Leg may require ROW for SBR. E&W Legs ok, but may impact adjacent drainage channel or ROW	Med		City ROW	City ROW	City ROW	City ROW
25	2b	Install traffic signal. Permitted left-turn phasing on all approaches.	Add 150' EB left-turn lane, 300' WB left-turn lane, 150' NB right-turn lane.	Existing ROW unclear on maps, but mostly rural area.	Low		City ROW	State maintained	State maintained	County ROW
26	2b	Implement protected/permitted left-turn phasing on north/south approaches and protected left-turn phasing on east/west approaches.	Add 350' 2nd EB left-turn lane. Add EB and WB thru lanes. Add 200' NB right-turn lane.	Will require ROW on all legs	Very High		County Maint. In Cities	County Maint. In Cities	State maintained	State maintained
28	2b		Add 500' NB right-turn lane. Add 300' WB right-turn lane and convert current right turn trap lane to through lane.	E Leg may require strip for WBR. S Leg unclear what is beign acquired for Turnpike project.	High		State maintained	State maintained	County Maint. In Cities	State maintained
29	2b	Install traffic signal. Implement protected left-turn phasing for north-south approaches.	Convert intersection to "Green T". Add 3rd SB through lane. Extend NB left-turn lane to 450'.	N Leg will require 10-20' ROW.	Very High		State maintained	State maintained		County Maint. In Cities
30	2b		Add 3rd NB and SB thru lanes.	N Leg (110' ex) will likely require 10-20' ROW. S Leg may impact bridge to south.	Very High		State maintained	State maintained	State maintained	City ROW
						Capacity Improvement Proposed:				

Table 6-10 2045 Scenario 4b Intersection Improvements

Int.	Scen.	Traffic Signal Improvements (splits reoptimized for all)	Capacity Improvements	Maintaining Agency: North Leg	South Leg	East Leg	West Leg
5	3/4		Widened 288th to 6 lanes.	County ROW	Half County Half City	County ROW	Half County Half City
7	4		Added 2nd WB left-turn lane	State maintained	State maintained	County ROW	County ROW
17	3/4	Add WBR right-turn overlap phase and signal head.		County Maint. In Cities	County Maint. In Cities	City ROW	City ROW
18	3/4	Add P/P left turn phasing for EBL and NBL (currently permissive). Also manually add ~5 sec to EBL split vs optimized in PM.		City ROW	City ROW	County Maint. In Cities	County Maint. In Cities
23	3/4		Add 2nd 150' SB right-turn lane (existing SBR is a drop lane).	City ROW	City ROW	City ROW	City ROW
24	3/4	Increase cycle length in AM to 140 sec.	Widen SW 328th St to 6 lanes.	City ROW	City ROW	City ROW	City ROW
26	4	Add right turn overlap phase for SBR and NBR.	Add 2nd NB thru lane (already 2 receiving lanes on north side).	County Maint. In Cities	County Maint. In Cities	State maintained	State maintained
28	4		None	State maintained	State maintained	County Maint. In Cities	State maintained
29	3/4		Add 2nd NBL lane. Also requires adding 2nd receiving lane on 117th for ~800 feet.	State maintained	State maintained		County Maint. In Cities
30	4	Manually adjusted splits to give WB more time		State maintained	State maintained	State maintained	City ROW
						Capacity Improvement Proposed:	

6.3.2 Segment Analysis

The road segments in the study area were observed using the regional TDM model and segments with capacity deficiency were identified where the traffic service in 2045 was LOS E or LOS F. Based on the LOS analysis 13 road segments were identified where additional capacity through roadway widening was required. These segments include:

0. **SW 127th Ave.** - from SW 224 St. to SW 184th St. (outside the study area)
1. **SW 147th Ave.** - from SW 184th St. to SW 232nd St.
2. **SW 137th Ave.** - from SW 288th St. to SW 312th St.
3. **SW 147th Ave.** - from US 1 to SW 248th St.
4. **SW 157th Ave.** - from SW 264th St. to SW 280th St.
5. **SW 167th Ave./NE 12th Ave.** - from SW 304th St. to SW 312th St.
6. **SW 162nd Ave./NE 18th Ave.** - from SW 296th St. to SW 312th St.
7. **SW 192nd Ave.** - from SW 344th St./Palm Dr. to SW 360th St.
8. **SW 187th Ave.** - from SW 344th St./Palm Dr. to SW 360th St.
9. **SW 344th St./Palm Dr.** - from SW 1822nd Ave. to SW 192nd Ave.
10. **US 1** - from SW 360th St. through SW 344th St./Palm Dr. to SW 137th Ave.
11. **SW 177th Ave./Krome Ave.** - from SW 312th St. to SW 328th St.
12. **SW 320th St./Mowry Dr.** - from SW 177th Ave. to N. Flagler Ave.

Figure 6-2 shows the location of each segment. The recommended intersection improvement locations from the intersection LOS analysis along with the maintaining agency for each segment is identified as shown in **Table 6-11**.

Segment 0 is so designated because it lies outside of the defined study area but was considered significant to note. The lower segment of the Florida Turnpike Extension was the subject of an FDOT PD&E Study, whose outcome was tabled due to community concerns. This segment is shown but not numbered and not included in the list as that segment and the portion of US 1 south of the Turnpike terminus is the subject of a follow-up FDOT Turnpike District study based on Transportation Systems Management & Operations techniques, looking at alternative strategies to improve traffic safety and capacity in this area. Finally, an extended segment of US 1 is shown on the list as Location 10 as the segment analysis showed numerous subsegments, but not the entire length, as exhibiting future level of service deficiencies.

It is recommended that FDOT monitor the segment of US 1 from SW 272nd St. to Krome Ave./Card Sound Rd. for traffic congestion. The Turnpike District is currently performing a Transportation Systems Management and Operations (TSM&O) Study focusing on traffic safety and level of service concerns from Krome Ave./Card Sound Rd. north to NE 7th St./Southbound Turnpike Exit Ramp. It is also recommended that a Project Development and Environmental (PD&E) Study be advanced by FDOT should prevailing and projected traffic conditions along US 1 trigger analysis of possible capacity and safety improvements.

Figure 6-2 illustrates that proposed roadway segment widenings, which are all widening from 2 existing travel lanes to 4 proposed travel lanes except for No. 2 – SW 137th Ave. (4 lanes to 6 lanes) and the section of US 1 described above. are generally located near US 1. The nature of these two-lane road widenings shows that the projected growth in the study area will consume the remaining latent capacity of certain roads, necessitating widening. It is also noted that roadway capacity across agricultural districts in the Secondary Study Area outside of the developed Primary Study Area appears to be adequate out to 2045.

Figure 6-2 Segment Deficiencies in 2045

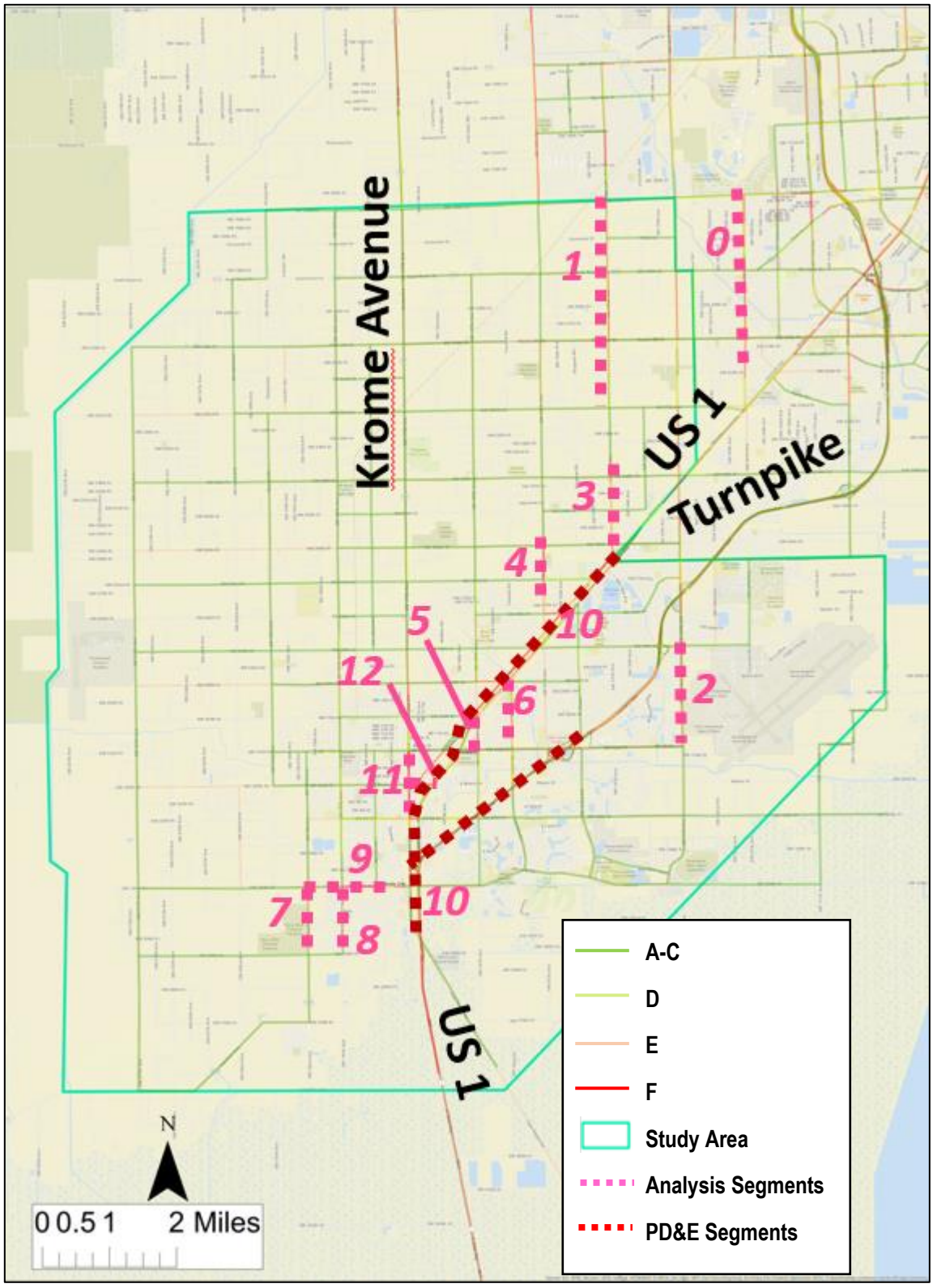


Table 6-11 Proposed Segment Improvements

No.	Street	Limit 1	Limit 2	Length (Miles)	Recommended Action	Notes	Intersections Impacted	Maintaining Agency	
0	SW 127th Ave.	SW 224 St	SW 184th St.	2.5	2 lanes to 4 lanes	Outside the study area		County ROW	
1	SW 147th Ave.	SW 184th St.	SW 232nd St.	3.0	2 lanes to 4 lanes			County ROW	
2	SW 137th Ave.	SW 288th ST.	SW 312th St.	1.5	4 lanes to 6 lanes		5, 17	Half County, Half City	County Maint. In Cities
3	SW 147th Ave.	US 1	SW 248th St.	1.2	2 lanes to 4 lanes			County ROW	
4	SW 157th Ave.	SW 264th St.	SW 280th St.	1.0	2 lanes to 4 lanes			County ROW	
5	SW 167th Ave. NE 12th Ave.	SW 304th St.	SW 312th St.	0.5	2 lanes to 4 lanes			County Maint. In Cities	City ROW
6	SW 162nd Ave. NE 18th Ave.	SW 296th St.	SW 312th St.	1.0	2 lanes to 4 lanes			County ROW	City ROW
7	SW 192nd Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes		25	State Maintained	
8	SW 187th Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes			Half County, Half City	County ROW
9	SW 344th St. Palm Dr.	SW 182nd Ave.	SW 192nd Ave.	1.0	2 lanes to 4 lanes		25	State Maintained	
10	US 1	SW 344th St. Palm Dr.	SW 360th St.	1.0	3 to 4 lanes (NB) and 2 to 3 lanes (SB)	NB is already 3 lanes and SB is already 2 lanes; action is pending current TSM&O Study by FDOT	28, 29	State Maintained	
11	SW 177th Ave. Krome Ave.	SW 312th St.	SW 328th St.	1.0	2 lanes to 4 lanes	Downtown - constrained	12, 18, 21	City ROW	
12	SW 320th St. Mowry Dr.	SW 177th Ave.	N. Flagler Ave.	0.1	2 lanes to 4 lanes	Downtown - constrained	18	County Maint. In Cities	

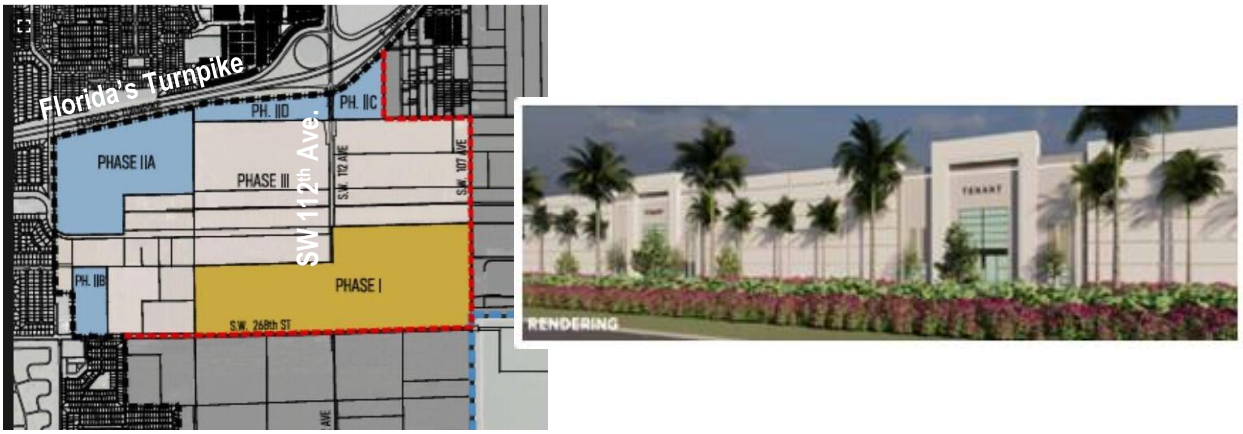
6.4 Urban Development Boundary Expansion Analysis

6.4.1 Project Background

A developer team proposed a 792.18-acre development project focused on industrial warehousing/distribution buildings expansion. This project was proposed for an assemblage of parcels located outside and adjacent to the Miami-Dade County Urban Development Boundary (UDB). The developer team assembled an extensive and detailed application package for an amendment to the Comprehensive Development Master Plan (CDMP) for expansion of the UDB to the County Board of Commissioners for approval. This package was submitted for review, processing, and consultation with other involved agencies, culminating in a staff report and presentation to the County Board of Commissioners charged with the public policy decision of approval or denial. The proposed project location, summary statistics, and a building rendering from the application submitted are shown in **Figure 6-3**.

Because the location of this project relative to the study area for this freight planning study, and because the project trip generation for a project of this size could affect the transportation network capacity being done, FDOT commissioned an analysis of the project using a methodology similar to that being used for this FDOT freight planning study. This section of the report documents the analysis work performed.

Figure 6-3 Proposed Development



At the time of application, the project was separated into multiple phases for development. Phases 1 and 2 were master-planned, while Phase 3 was included but not under developer ownership. This footprint lies outside the UDB, but within a UDB expansion area shown in the CDMP. Phase 1 consists of 203.60 acres and is proposed for 2.98 million square feet (MSF) of warehousing, Phase 2 consists of 175.23 acres and is proposed for 2.90 MSF of warehousing, and Phase 3 with 413.35 acres and is proposed for 3.42 MSF of warehousing. Summary statistics for the project include the following:

- 9.4 MSF of warehousing
- 100,000 SF of commercial and retail uses
- Hotel – 150 rooms
- 43,098 daily trips
  - 34% warehouse
  - 38% restaurant
  - 28% retail

The percentage of trips related to the restaurant and retail land uses are relatively high as these uses have a very high trip generation rate compared to warehousing. As part of its information for the project, the developer team prepared

information supporting their view on the project benefits. **Figure 6-4** presents travel pattern information developed by the developer. **Table 6-12** shows developer-generated project travel pattern information. **Table 6-13** shows the project land use and trip generation characteristics. Research from this study verify that the southern portion of the county has 50% fewer jobs per capita than the countywide average.

Figure 6-4 Developer-Generated Travel Information

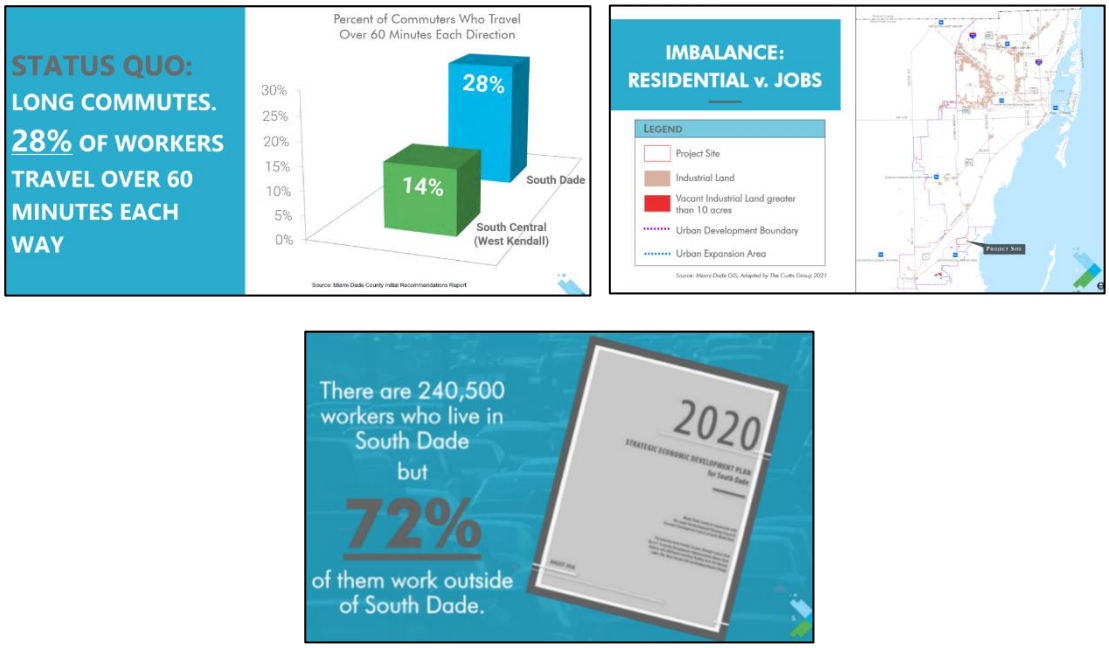


Table 6-12 Proposed Development Employment

Employment Categories	TAZ 4282	TAZ 4289	TOTAL
Warehousing	3,081	7,718	10,799
Retail	116	60	176
Professional Business	18	12	30
Personal Services - Office	18	12	30
Hotel	53	0	53
Restaurant/Bar	610	24	634
Personal Services - Retail	27	12	39
TOTAL	**3,924**	**7,838**	**11,762**

Table 6-13 Land Use and Trip Generation Summary

Land Use	Total SF	Daily Trips	Daily Trips per Unit
Warehouse	9,306,000	14,747	1.58/ 1,000 SF
Commercial	76,000	4,989	65.64/ 1,000 SF
Fast Food Restaurant	34,400	16,201	470.96/ 1,000 SF
Gas Station/ Convenience Store	6,600	5,528	837.58/ 1,000 SF
Bank	3,000	366	122.00/ 1,000 SF
Hotel	150	1,267	8.45/ Room
TOTAL		**43,098**	

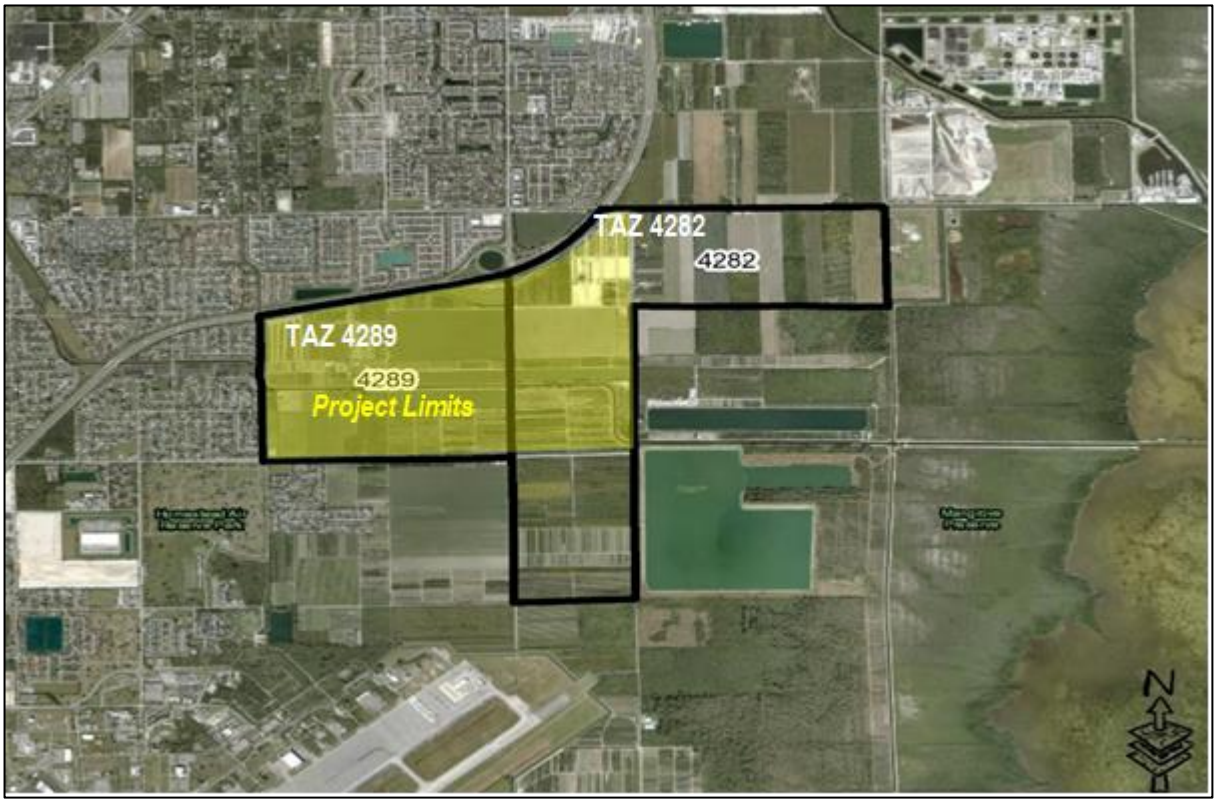
6.4.2 Travel Demand Modeling Approach

The primary analysis tool used for the Urban Development Boundary Expansion Analysis was SERPM 8.513 as the source travel demand model (TDM) for the region. For the No Build scenario, the cost-feasible 2045 scenario included with the TDM was utilized with no modifications to the model inputs related to socioeconomic (SE) data or the transportation network.

For the Build scenario, modifications to the input data were necessary to include the additional employment from the proposed development. The first involved adding the proposed employment for the two traffic analysis zones (TAZs) represented by the development as shown in **Figure 6-5**. SERPM uses numerous employment categories and after reviewing the proposed development, the employment was split into the two TAZs as shown in **Table 6-12.** It should be noted that the TAZs contain microanalysis zones (MAZs) and the data modification occurred at the MAZ level. TAZ 4282 contains three MAZs and the additional employment was split uniformly between the MAZs. As TAZ 4289 consists of only one MAZ, the full employment was included in the MAZ. The existing SE data included in the MAZs were maintained, that is the proposed development employment was added to the existing data.

As SERPM is an activity-based model, it includes a synthetic population as a model input. The synthetic population includes person-level attributes including whether or not a person is classified as a worker. As the proposed development only includes employment, the synthetic population was not modified, meaning that the total number of workers available between the No Build and Build scenarios is equal. However, during the work-location choice model, workers are matched to destinations based on a number of parameters. This includes a routine called shadow pricing which attempts to match the number of workers at the destination zone to the number of jobs within the zone. The scenarios included in the download of SERPM (base year and the cost feasible) include shadow prices as input. In a case where substantial employment is added to a TAZ, it can be necessary to develop new shadow prices to ensure the model appropriately responds. Initially, the employment was included in the TAZ/MAZ SE data input file without updating the shadow prices; however, after reviewing the results from this model run, it was evident the shadow pricing needed to be updated for the Build scenario. After developing new shadow pricing inputs, the model was rerun and the worker-to-jobs match for the development TAZs resulted in a much better match. The centroid connector for TAZ 4282 was modified to provide access to SW 112th Ave. The analysis was conducted for 2045 presuming full project build-out. The model was then run to produce a highway assignment with the factored development vehicle trips, generating output graphics to understand trip distribution.

Figure 6-5 Development Traffic Analysis Zones



6.4.3 UDB Analysis Results

The results of the development trip modeling were reviewed by way of interpretive graphics developed. In terms of the distribution of workers associated with the new development as reassigned by the TDM. The TDM reassigned project workers to these areas (**Figure 6-6**):

- Homestead/Florida City to the south.
- Naranja/Princeton/Goulds to the west.
- Goulds/Cutler Bay to the north.
- Many workers attracted from the north on a scattered basis from Kendall and beyond to mid-County.
- Resulting pattern is as expected and has an effect on work commute patterns.
- New jobs are primarily filled from nearby adjacent residential locations, most notably from the south; however, many workers are attracted from a large area to the north.

Figure 6-6 Worker Distribution for the Project

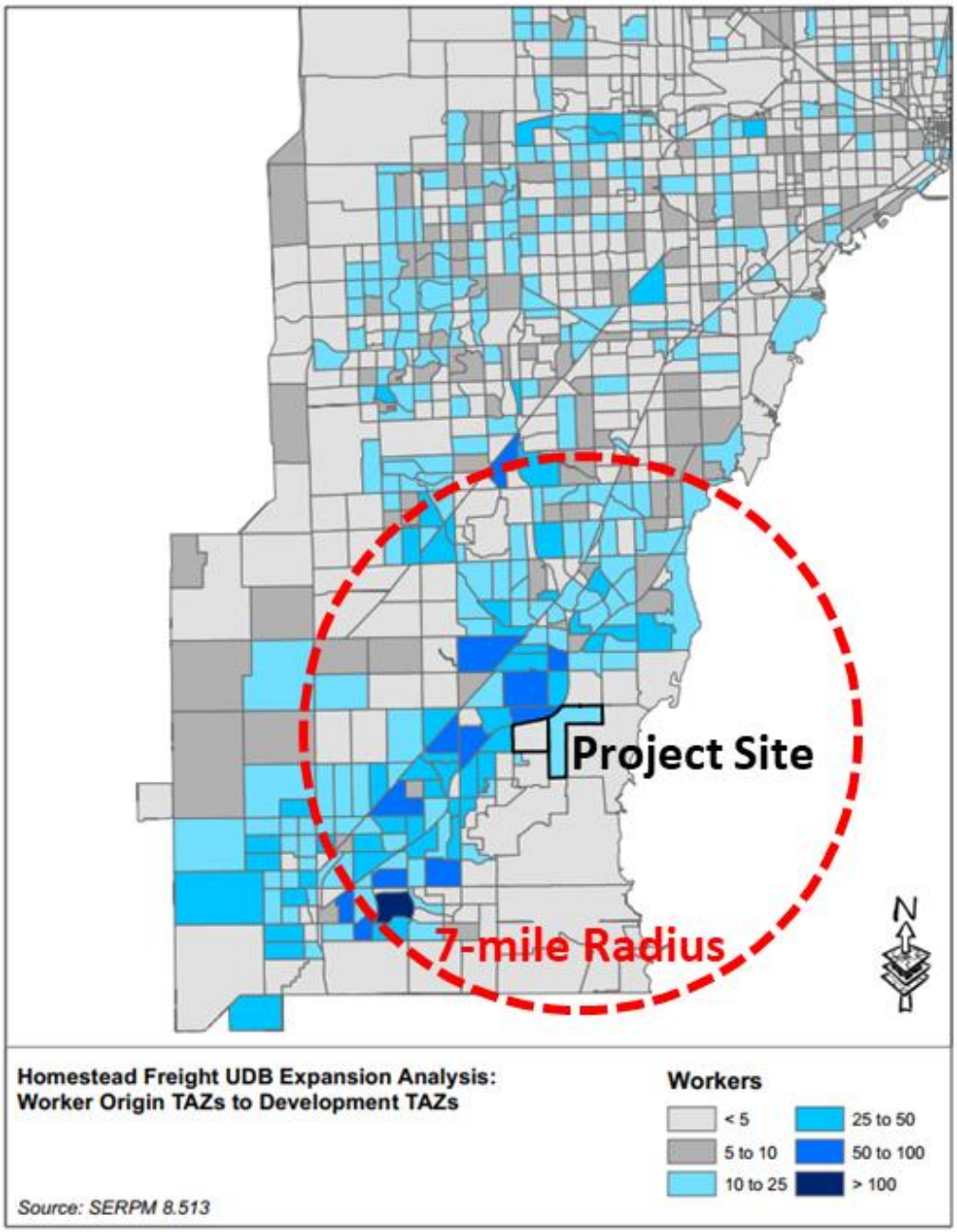


Figure 6-7 shows daily project traffic patterns. **Figure 6-8** shows the 2045 Build AM or PM peak period LOS for the worst conditions without the project, and with the project in **Figure 6-9**. **Figure 6-10** shows the change in 2045 daily traffic for the Build versus the No-Build condition. **Figure 6-11** shows the development's share of 2045 daily traffic on nearby roadways.

Figure 6-7 Daily 2045 Project Traffic Patterns

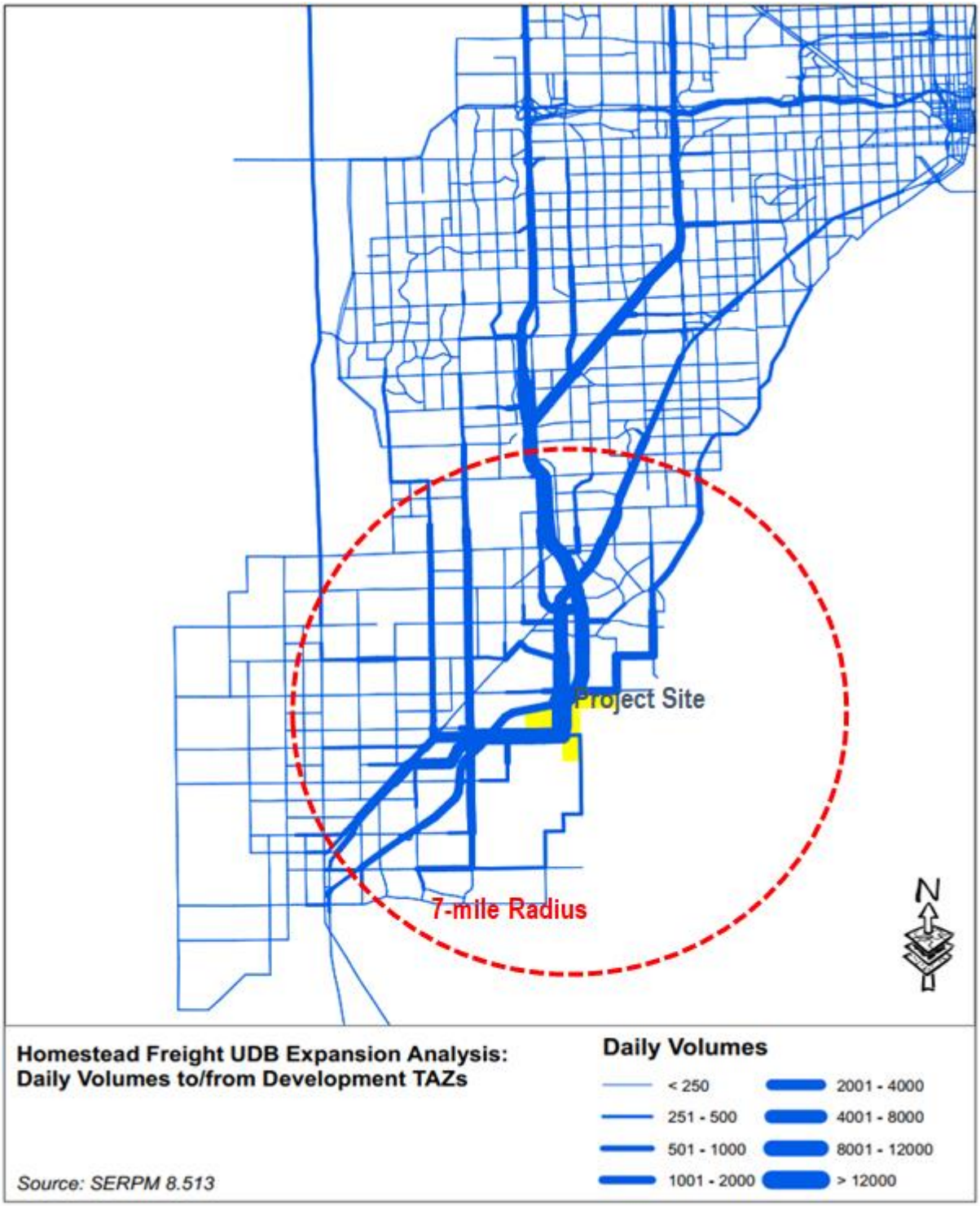


Figure 6-8 2045 No Build Worst AM / PM Peak Period LOS

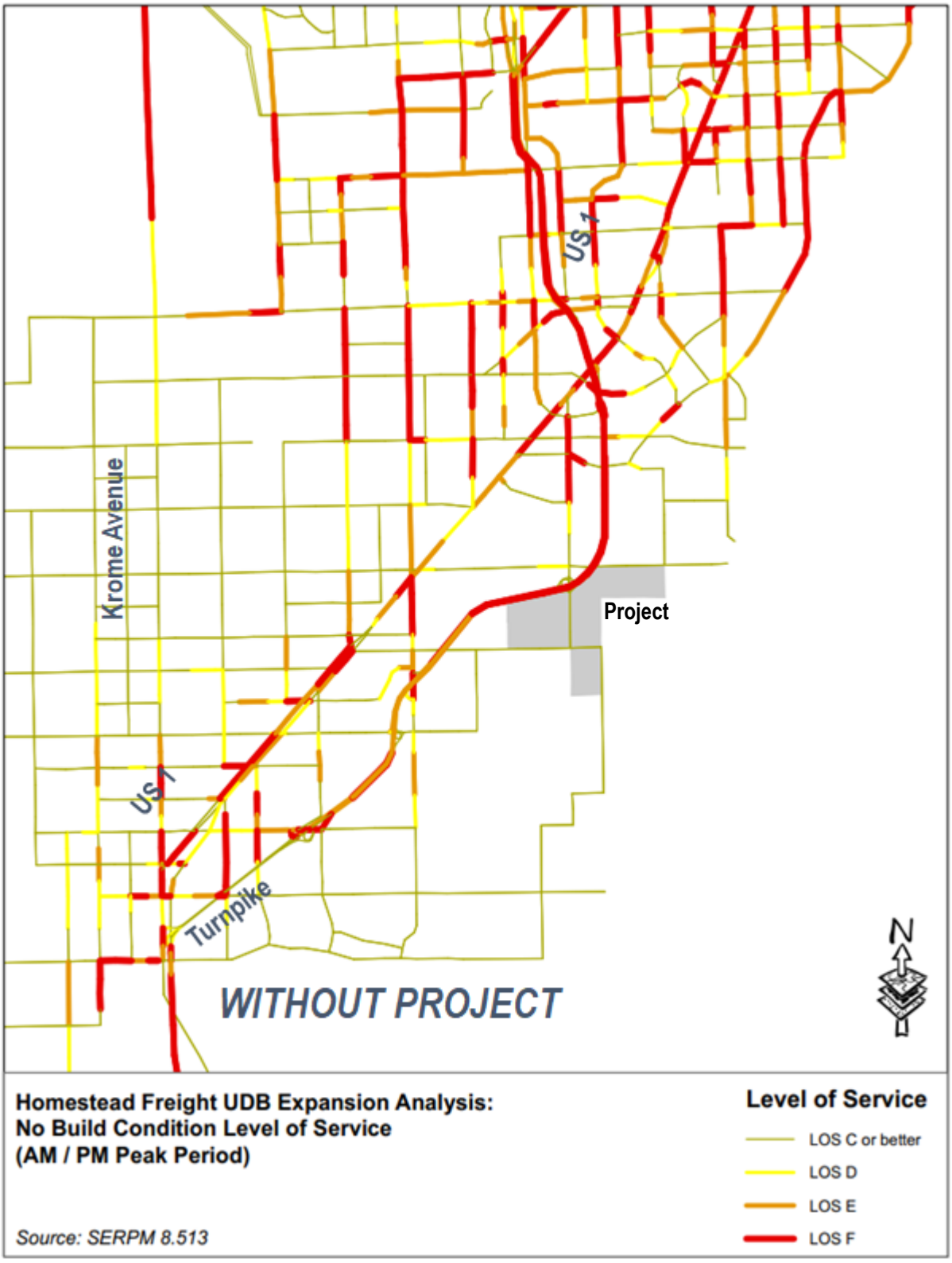


Figure 6-9 2045 Build Worst AM / PM Peak Period LOS

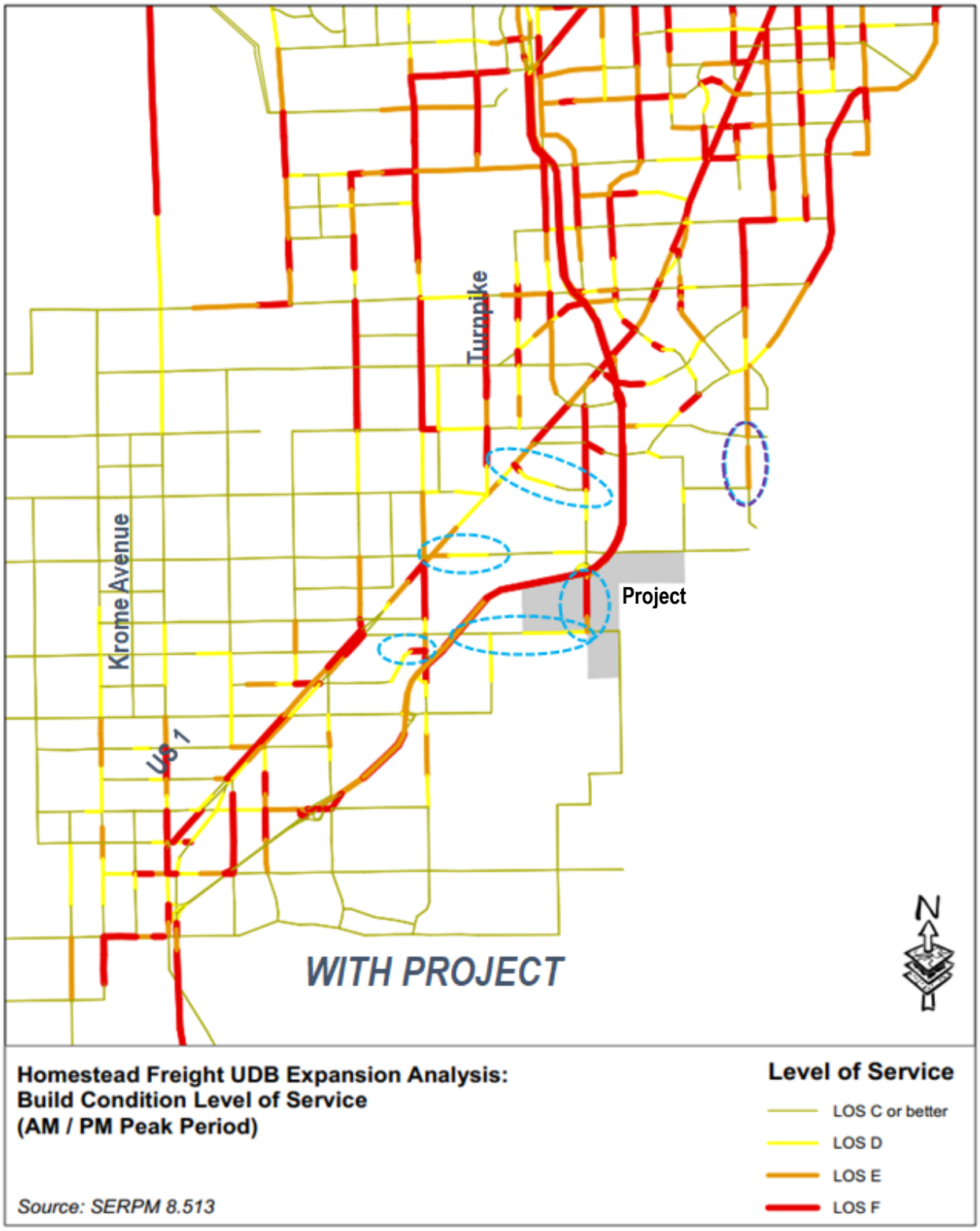


Figure 6-10 Change in 2045 Daily Traffic From the No Build to the Build Condition

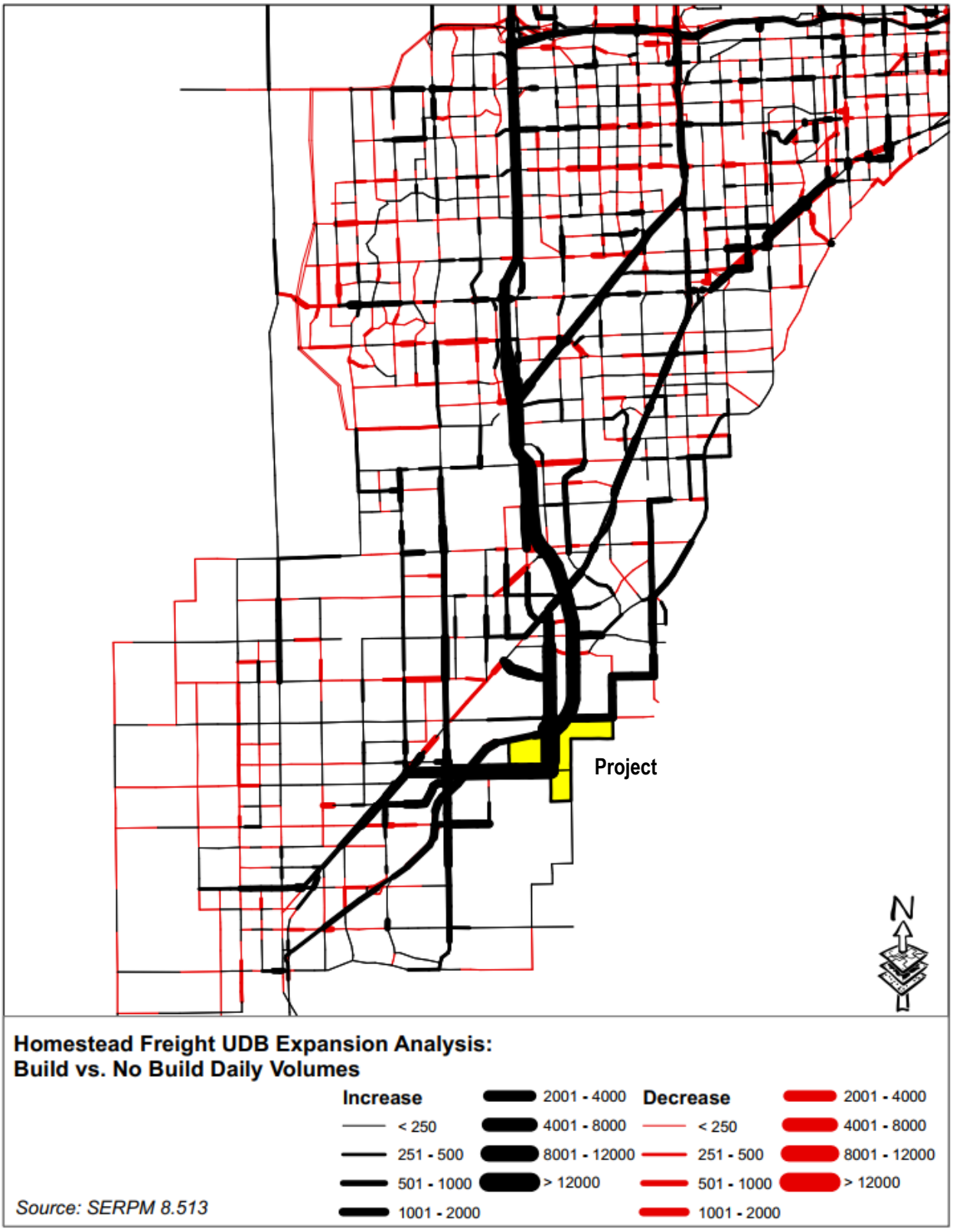
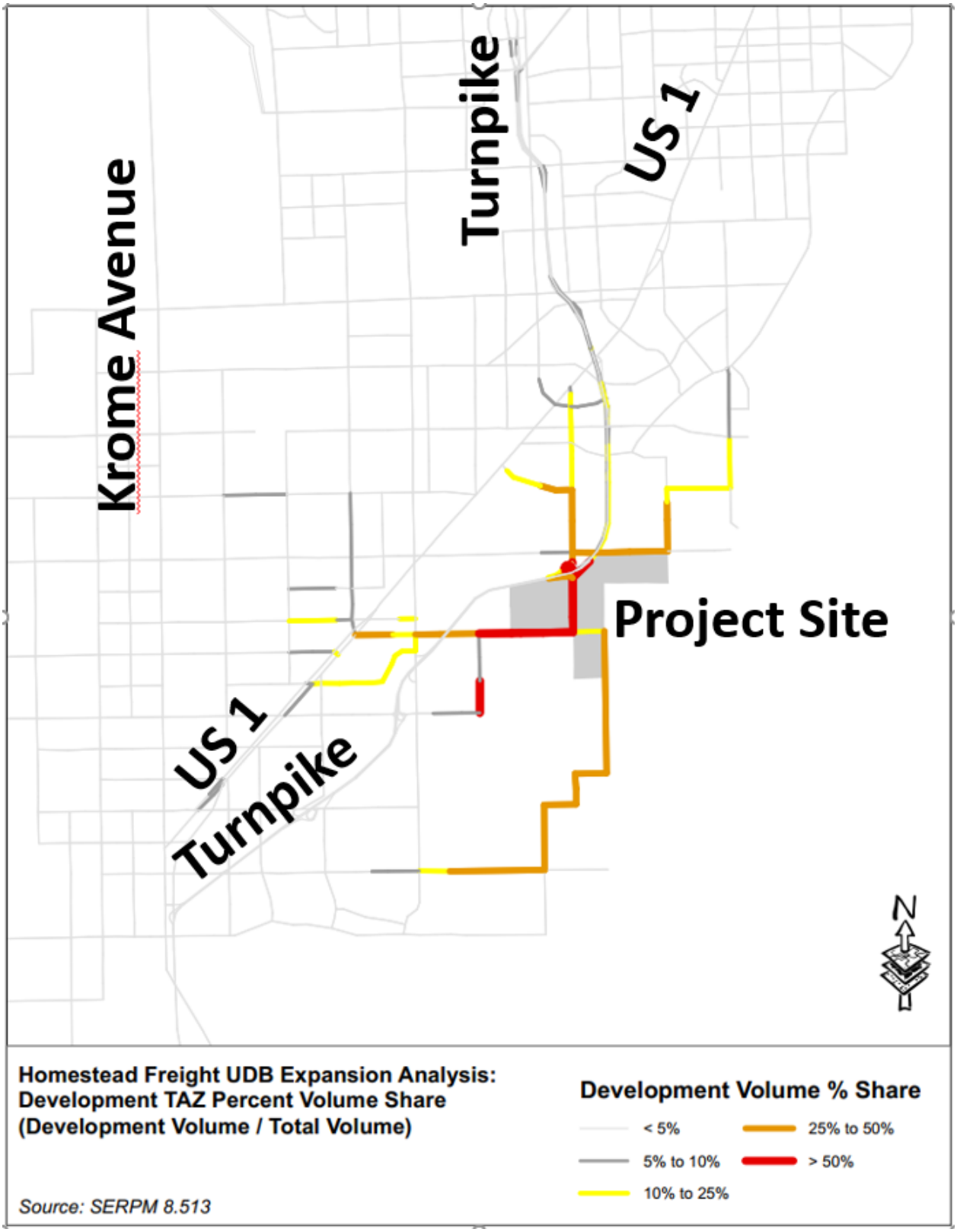


Figure 6-11 Development Percent Share of Total Traffic



These observations are drawn from the preceding figures:

- **Figure 6-7**: Project trip distribution is concentrated within 7 miles but extends over 10 miles further to the north for some trips.
- **Figure 6-7**: Project traffic tends to be contraflow to existing peak patterns north of the project site.
- **Figures 6-8 and 6-**9: Comparing the two LOS maps without and with the project, there are six road segments that show a reduced LOS with the project (ovals on **Figure 6-9**). However, only four of these are at LOS E or worse, requiring mitigation:
  - SW 112th Ave. adjacent to the project.
  - Moody Drive adjacent to the project.
  - Short segment of SW 272nd St. west of SW 137th Ave.
  - SW 87th Ave. (SW 216th St. – SW 232nd St.) – shown in the purple oval and also identified by the developer traffic study.
- **Figure 6-10**: This figure shows increases and decreases in segment traffic volumes with the project. Some segments show a small decrease due to the redistribution of worker residences by the TDM with the project.
- **Figure 6-11**: Development traffic dissipates to less than 5% of total road traffic within 7 miles of the site.
- Other developer information stated that the project generates a commuting pattern not consistent with traffic patterns identified in previous studies that of typical traffic in the vicinity. It stated that 63.8% of workers will travel to the site from the north using the southbound Turnpike, and that only 24.5% of workers will use the south leg of the Turnpike for access. Further, 11.7% will use local roads.
- In contrast, the TDM analysis show that roadway usage patterns are projected as follows:
  - Turnpike
    - North Leg 38%
    - South Leg 5%
    - Total 43%
  - Local Streets
    - North 30%
    - South/West 27%
    - Total 57%
  - This modeling effort conducted by the developer shows 45% more traffic on local streets than the analysis.
    - Developer: 88.3% Turnpike and 11.7% Local Streets
    - Travel Model: 43% Turnpike and 57% Local Streets

Other comments include:

- Proximity of the development to the Turnpike does direct a large share of project traffic from local streets.
- Impact on the Turnpike is moderated by the reverse commute pattern to the north of the site.
- SW 112th Avenue fronting the project may need widening for turning lanes given future truck volumes and possibly traffic signals on SW 112th Ave. on the east side of the project and Moody Dr. along the south side.
- The need for network roadway widening due to the project is limited given the existing latent capacity on those segments.
- There is essentially no LOS impact of the project on previously identified deficient roadways segments in 2045.
- Further traffic analysis of the proposed development, if approved, for needed mitigation from Figure 3 primarily using SW 112th Ave

6.4.4 Updated Project Outcome

The developer application process was extended due to deferrals of the Board of County Commissioners hearing after the initial presentation. The application was forwarded to the State of Florida and other agencies for review. Eventually the developer resubmitted a scaled-down version of the project. Approximately 372 acres in the original Phase 2 footprint located in the northwest corner of the project was resubmitted. Based on the reapplication, trip generation was reduced 65% from 42,000 trips to about 15,000 trips, due to reduced industrial area and removal of some of the high trip generation restaurant and retail uses. The commission voted to approve the application, but the County Mayor vetoed the action. Shortly thereafter, the commission voted to override the veto on Nov. 15, 2022, and the application was then approved. While not completely through the process, it appears the development went forward.

6.4.5 Analysis Results

A detailed re-analysis of this project was not included in the Homestead Freight Improvement Plan. However, with a 27,000 reduction in daily trips, a proportional reduction of site traffic on segments affected by the project would appear to render those issues as moot with reduction of the project, except perhaps SW 112th Ave. and Moody Dr. adjacent to the project, where suitable mitigation by the project would address any deficiencies.

As a result of reviewing the project downsizing in relation to identified capacity impacts of the original project, it is concluded that, based on the TDM analysis, **the UDB expansion project as redefined would have no local street network impacts** in terms of the need to mitigate affected segments at LOS E or F, except for the cited roadways adjacent to the project. This is a result of the reduced project trip generation and the location of the project next to a Florida's Turnpike interchange.

6.5 Conceptual Cost Estimates

6.5.1 Approach

For the intersection and roadway segment improvements identified previously in this section of the report, conceptual cost estimates were developed based on basic project parameters. The general approach to develop estimates for intersections and segments is described below and project cost estimates utilizing the FDOT Long Range Estimate (LRE) program to develop the estimates.

Intersection Estimates

1. Summarize the prescribed intersection improvements.
    a. For each affected leg of the intersection, it is assumed to mill and resurface for a length of 1,500 feet.
    b. For every leg of an intersection where widening is needed, 1,500 of widening at the desired width is included to account for changes in roadway alignments.
2. If ROW was needed to complete improvements, an additional 10% is added to overall cost as a ROW acquisition allowance.
3. Intersection conditions are checked to determine if curbs should be included in the improvements.
4. Intersection conditions are checked to determine if medians should be included in the improvements.
5. The number of signal poles involved is estimated.
6. Lighting was included in every improvement.
7. All estimates include 10% allowance for MOT and 10% allowance for Mobilization.
8. All estimates include 15% allowance for project unknowns.
9. For most categories within the LRE program, the program was allowed to determine final values (signing, pavement markings, drainage, earthwork).
10. The LRE program automatically programs 999-25 Contingency, and the generated amounts were retained in the estimate.

Segment Estimates

The study team's approach to segment estimates in the LRE were the following:

1. A check was performed to confirm if the segment interfaces with any of the intersections for which cost estimates were made. Allowances were made for the prescribed intersection improvements to avoid duplication.
2. Estimates included milling and resurfacing of existing pavement, as well as required lane widening for net length of the segments.
3. If ROW was needed to complete improvements, an additional 10% is added to overall cost as a ROW acquisition allowance.
4. Intersection conditions are checked to determine if curbs should be included in the improvements.
5. Intersection conditions are checked to determine if medians should be included in the improvements.
6. The number of signal poles involved is estimated.
7. Lighting was included in every improvement.
8. All estimates include 10% allowance for MOT and 10% allowance for Mobilization.
9. All estimates include 15% allowance for project unknowns.
10. For most categories within the LRE program, the program was allowed to determine final values (signing, pavement markings, drainage, earthwork).
11. The LRE program automatically programs 999-25 Contingency, and the generated amounts were retained in the estimate.

6.5.2 Project Costs

The results of the conceptual cost estimates for each intersection in Scenario 2b and each road segment are summarized in **Tables 6-14 and 6-15**. Detailed tabulations are provided in **Appendix G.**

Table 6-14 Conceptual Intersection Cost Estimates

Intersecion No.	Location	Capacity Improvements	Total Conceptual Cost
1	SW 127th Avenue & SW 268th Street	Add 2nd 250' WB left-turn lane	$ 2,148,036.87
2	SW 127th Avenue & SW 280th Street	Add 200' EB/WB left-turn lanes, 200' WB right-turn lane.	$ 2,358,466.79
4	SW 137th Avenue & Homestead Extension of Florida's Turnpike NB Ramp	Add 2nd 250' NB left-turn lane.	$ 2,050,286.01
5	SW 137th Avenue & SW 288th Street	Add 2nd left-turn lane on all approaches, extend SB left to 250' and EB left to 300'. Add 350' WB, 450' NB, 200' SB right-turn lanes.	$ 8,818,366.27
5	SW 137th Avenue & SW 288th Street	Add 3rd NB/SB thru lanes. Add 200' EB right-turn lane	$ 6,805,618.45
7	Florida Turnpike SB Ramps & SW 288th Street	Widen to three 500' SB right-turn lanes. (This will require an additional WB through lane to receive the three SB right-turn lanes.)	$ 4,735,870.35
8	US 1 (S Dixie Hwy) & SW 280th street	Extend WB left-turn lane to 350'.	$ 859,586.37
9	US 1 (S Dixie Hwy) & SW 296th street	Add 2nd left-turn and thru lanes EB and WB (as a part of this convert WB auxiliary lane west of intersection to thru lane). Extend EB left-turn lane to 250', WB left-turn lane to 200' and NB left-turn lane to 350'. Add 250' EB right-turn lane.	$ 7,366,409.79
12	SW 177th Avenue & SW 312th Street	Extend SB left-turn lane to 350'.	$ 456,000.19
14	US 1/ N Homestead Blvd & Campbell Drive	Add 300' NB and 100' WB right-turn lanes. Extend SB left-turn lane to 350'.	$ 6,436,997.33
15	Florida Turnpike NB Ramps & SW 312th Street	Extend NB left-turn lane to 400'	$ 216,066.56
17	SW 137th Avenue & SW 312th Street	Add 200' SB and 150' WB right-turn lanes.	$ 4,434,171.16
18	SW 177th Avenue & SW 320th Street	Extend NB and EB left-turn lanes to 250'.	$ 3,663,164.62
19	US 1/ S Homestead Blvd./ Dixie Hwy & E. Mowry Drive	Add 100' EB left-turn lane, 300' NB right-turn lane and 2nd 200' WB left-turn lane. Extend EB right-turn lane to 150'.	$ 5,830,377.18
21	SW 177th Avenue & SW 328th Street	Add 150' right-turn lanes on SB, EB and WB approaches. Add 2nd through lane on all approaches. Extend NB left-turn lane to 150', SB left-turn lane to 200', and WB left-turn lane to 150'.	$ 5,243,765.64
22	US 1/ S Homestead Blvd. & Lucy Street	Add 300' right-turn lanes and 2nd left-turn lane on all approaches, add 3rd NB thru lane, add 2nd EB thru lane. Extend NB left-turn lane to 200'.	$ 9,792,698.62
23	SW 162nd Avenue/ NE 18th Avenue & SW 328th Street	Add 200' EB right-turn lane, 250' NB left-turn lane, 200' SB left-turn lane, 2nd EB left-turn lane. Change southbound approach to 1 left, 1 thru and 1 right turn lane with 200' SB left-turn lane.	$ 6,488,799.75
24	SW 152nd Avenue/ Kingman Road & SW 328th Street	Add 2nd left turn lane on all approaches (150' NB, 300' SB, 230' EB and 350' WB), right-turn lanes on NB (300'), SB (200') and WB (200') approaches, and 2nd NB and SB thru lanes.	$ 5,568,580.48
25	SW 192nd Avenue & SW 344th Street	Add 150' EB left-turn lane, 300' WB left-turn lane, 150' NB right-turn lane.	$ 2,831,751.31
26	SW 177th Avenue & SW 344th Street	Add 350' 2nd EB left-turn lane. Add EB and WB thru lanes. Add 200' NB right-turn lane.	$ 6,463,448.77
28	US 1/ S Dixie Hwy & Palm Drive	Add 500' NB right-turn lane. Add 300' WB right-turn lane and convert current right turn trap lane to through lane.	$ 4,967,529.34
29	US 1 & SW 177th Avenue	Convert intersection to "Green T". Add 3rd SB through lane. Extend NB left-turn lane to 450'.	$ 4,781,078.60
30	US 1 & NE 7th Street (FL Turnpike SB Offramp	Add 3rd NB and SB thru lanes.	$ 4,434,171.16
		TOTAL	**$ 106,751,241.61**

Table 6-15 Conceptual Road Segment Cost Estimates

No.	Street	Start	End	Total Conceptual Cost
1	SW 147th Ave.	SW 184th St.	SW 232nd St.	$ 10,728,299.79
2	SW 137th Ave.	SW 288th ST.	SW 312th St.	$ 5,387,001.80
3	SW 147th Ave.	US 1	SW 248th St.	$ 4,157,874.50
4	SW 157th Ave.	SW 264th St.	SW 280th St.	$ 3,136,695.84
5	SW 167th Ave. NE 12th Ave.	SW 304th St.	SW 312th St.	$ 2,582,366.19
6	SW 162nd Ave. NE 18th Ave.	SW 296th St.	SW 312th St.	$ 3,857,664.35
7	SW 192nd Ave.	SW 344th St. Palm Dr.	SW 360th St.	$ 2,732,741.86
8	SW 187th Ave.	SW 344th St. Palm Dr.	SW 360th St.	$ 3,529,900.74
9	SW 344th St. Palm Dr.	SW 182nd Ave.	SW 192nd Ave.	$ 4,541,074.01
10	US 1	SW 344th St. Palm Dr.	SW 360th St.	$ 1,812,476.53
11	SW 177th Ave. Krome Ave.	SW 312th St.	SW 328th St.	$ 6,120,743.37
12	SW 320th St. Mowry Dr.	SW 177th Ave.	N. Flagler Ave.	$ 2,159,860.33
			TOTAL	**$50,746,699.31**

6.6 Prioritization Analysis

6.6.1 Introduction

This section summarizes the prioritization analysis that was completed for this study. The prioritization process was completed for the proposed intersection improvements and the proposed segment improvements. The methodology and results of these prioritization analyses are presented in this section.

6.6.2 Intersection Improvements for Scenario 2b

The proposed intersection improvements were divided into two groups. The first group was based on the 2045 Scenario 2b traffic operations analysis. Scenario 2b intersection improvements were developed to mitigate deficiencies that were identified in the 2045 peak hours of operations. Both traffic signal improvements and capacity improvements were proposed for Scenario 2.

Several categories of information were used to rate and then assign prioritization rankings for the proposed intersection improvements in Scenario 2b. The general categories are listed below along with the specific items included in each category.

- Traffic Volume
  - Total Volume 2045 – AM
  - Total Volume 2045 – PM
  - Truck Volume 2045 – AM
  - Truck Volume 2045 – PM

- Traffic Operations
  - Intersection Delay (s/veh) Before Capacity Improvements – AM
  - Change in Intersection Delay (s/veh) After Capacity Improvements – AM
  - Intersection Delay (s/veh) Before Capacity Improvements – PM
  - Change in Intersection Delay (s/veh) After Capacity Improvements – PM
  - Number of Movements LOS E-F Before Capacity Improvements – AM
  - Change in Number of Movements LOS E-F After Capacity Improvements – AM
  - Number of Movements LOS E-F Before Capacity Improvements – PM
  - Change in Number of Movements LOS E-F After Capacity Improvements – PM
  - Number of Movements with both v/c>1 and LOS E-F Before Capacity Improvements – AM
  - Change in Number of Movements with both v/c>1 and LOS E-F After Capacity Improvements – AM
  - Number of Movements with both v/c>1 and LOS E-F Before Capacity Improvements – PM
  - Change in Number of Movements with both v/c>1 and LOS E-F After Capacity Improvements – PM

- Cost
  - Construction Cost (using FDOT's Long Range Estimate cost tool)
  - ROW Needs Cost (10% of construction cost where indicated)
  - Total Estimated Cost

- Maintaining Agency
- Location
  - North Leg of Intersection

- South Leg of Intersection
- East Leg of Intersection
- West Leg of Intersection

For each item in the categories listed above, the values were grouped into four quartiles and given a rating of 1 through 4, with 1 being the least favorable rating and 4 being the most favorable rating. If an improvement had a value of zero for a specific item, then a rating of zero was given. This instance only occurred for some of the traffic operations items. It should be noted that for the maintaining agency category, a rating of 2 was given for all types of maintaining agency values for the purposes of this prioritization process. Also, for the cost category, the lower the cost for an improvement, the more favorable the rating.

Table 6-16 shows the ratings for the traffic volume, cost, and maintaining agency categories and **Table 6-17** shows the ratings for the traffic operations category. The quartile ratings are represented in **Table 6-16** and **Table 6-17** by pie-chart symbols with the corresponding rating (i.e., 0 through 4) shown for each item. **Table 6-18** shows the prioritization rankings for each category and also provides an overall ranking based on an equally weighted average of the category rankings. Each of these three tables are separated into two pages since there are 23 intersection improvements included in Scenario 2b and one page could not clearly show all the improvements. The prioritization rankings in **Table 6-18** are only in relation to the Scenario 2b intersection improvements and do not include the other improvements presented in the rest of this section.

Table 6-16 Intersection Improvements for Scenario 2b – Traffic Volume, Cost, and Maintaining Agency Ratings

Intersection	Location	Traffic Signal Improvement	Capacity Improvement	Total Volume 2045 (Scen. 2) AM	Total Volume 2045 (Scen. 2) PM	Truck Volume 2045 (Scen. 2) AM	Truck Volume 2045 (Scen. 2) PM	Construction Cost	ROW Needs Cost (10%)	Total LRE Cost	Maintaining Agency: North Leg	Maintaining Agency: South Leg	Maintaining Agency: East Leg	Maintaining Agency: West Leg
1	SW 127th Avenue & SW 268th Street	Add E/W Prot LT phasing, NBR overlap	Add 2nd 250' WB left-turn lane	◔	◔	◑	●	●	●	●	◑	◑	◑	◑
2	SW 127th Avenue & SW 280th Street	Install traffic signal.	Add 200' EB/WB left-turn lanes, 200' WB right-turn lane.	◔	◔	◔	◔	●	●	●	◑	◑	◑	◑
4	SW 137th Avenue & Homestead Extension of Florida's Turnpike NB Ramp	Install traffic signal.	Add 2nd 250' NB left-turn lane.	◕	◑	◑	◔	●	●	●	◑	◑	n/a	◑
5	SW 137th Avenue & SW 288th Street		Add 2nd left-turn lane on all approaches, extend SB left to 250' and EB left to 300'. Add 350' WB, 450' NB, 200' SB right-turn lanes.	●	●	●	◑	◔	◔	◔	◑	◑	◑	◑
5	SW 137th Avenue & SW 288th Street		Add 3rd NB/SB thru lanes. Add 200' EB right-turn lane	●	●	●	◑	◔	◔	◔	◑	◑	◑	◑
7	Florida Turnpike SB Ramps & SW 288th Street		Widen to three 500' SB right-turn lanes. (This will require an additional WB through lane to receive the three SB right-turn lanes.)	◑	◑	◕	◑	◕	◕	◕	◑	◑	◑	◑
8	US 1 (S Dixie Hwy) & SW 280th street		Extend WB left-turn lane to 350'.	◑	◕	◔	◔	●	●	●	◑	◑	◑	◑
9	US 1 (S Dixie Hwy) & SW 296th street		Add 2nd left-turn and thru lanes EB and WB (as a part of this convert WB auxiliary lane west of intersection to thru lane). Extend EB left-turn lane to 250', WB left-turn lane to 200' and NB left-turn lane to 350'. Add 250' EB right-turn lane.	◕	◕	◑	◑	◔	◔	◔	◑	◑	◑	◑
12	SW 177th Avenue & SW 312th Street		Extend SB left-turn lane to 350'.	◔	◔	◕	◕	●	●	●	◑	◑	◑	◑
14	US 1/ N Homestead Blvd & Campbell Drive		Add 300' NB and 100' WB right-turn lanes. Extend SB left-turn lane to 350'.	◕	●	◕	◕	◑	◑	◑	◑	◑	◑	◑
15	Florida Turnpike NB Ramps & SW 312th Street		Extend NB left-turn lane to 400'	◑	◕	◑	◔	●	●	●	n/a	◑	◑	◑
17	SW 137th Avenue & SW 312th Street		Add 200' SB and 150' WB right-turn lanes.	◑	◔	◔	◑	◕	◕	◕	◑	◑	◑	◑

Table 6-16– Intersection Improvements for Scenario 2b – Traffic Volume, Cost, and Maintaining Agency Ratings (Continued)

Intersection	Location	Traffic Signal Improvement	Capacity Improvement	Total Volume 2045 (Scen. 2) AM	Total Volume 2045 (Scen. 2) PM	Truck Volume 2045 (Scen. 2) AM	Truck Volume 2045 (Scen. 2) PM	Construction Cost	ROW Needs Cost (10%)	Total LRE Cost	Maintaining Agency: North Leg	Maintaining Agency: South Leg	Maintaining Agency: East Leg	Maintaining Agency: West Leg
18	SW 177th Avenue & SW 320th Street		Extend NB and EB left-turn lanes to 250'.											
19	US 1/ S Homestead Blvd./ Dixie Hwy & E. Mowry Drive		Add 100' EB left-turn lane, 300' NB right-turn lane and 2nd 200' WB left-turn lane. Extend EB right-turn lane to 150'.											
21	SW 177th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing on all approaches.	Add 150' right-turn lanes on SB, EB and WB approaches. Add 2nd through lane on all approaches. Extend NB left-turn lane to 150', SB left-turn lane to 200', and WB left-turn lane to 150'.											
22	US 1/ S Homestead Blvd. & Lucy Street	Implement protected left-turn phasing on all approaches.	Add 300' right-turn lanes and 2nd left-turn lane on all approaches, add 3rd NB thru lane, add 2nd NB thru lane. Extend NB left-turn lane to 200'.											
23	SW 162nd Avenue/ NE 18th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing for north/south approaches, protected left-turn phasing for east/west approaches.	Add 200' EB right-turn lane, 250' NB left-turn lane, 200' SB left-turn lane, 2nd EB left-turn lane. Change southbound approach to 1 left, 1 thru and 1 right turn lane with 200' SB left-turn lane.											
24	SW 152nd Avenue/ Kingman Road & SW 328th Street	Implement protected left-turn phasing on all approaches.	Add 2nd left turn lane on all approaches (150' NB, 300' SB, 230' EB and 350' WB), right-turn lanes on NB (300'), SB (200') and WB (200') approaches, and 2nd NB and SB thru lanes.											
25	SW 192nd Avenue & SW 344th Street	Install traffic signal. Permitted left-turn phasing on all approaches.	Add 150' EB left-turn lane, 300' WB left-turn lane, 150' NB right-turn lane.											
26	SW 177th Avenue & SW 344th Street	Implement protected/permitted left-turn phasing on north/south approaches and protected left-turn phasing on east/west approaches.	Add 350' 2nd EB left-turn lane. Add EB and WB thru lanes. Add 200' NB right-turn lane.											
28	US 1/ S Dixie Hwy & Palm Drive		Add 500' NB right-turn lane. Add 300' WB right-turn lane and convert current right turn trap lane to through lane.											
29	US 1 & SW 177th Avenue	Install traffic signal. Implement protected left-turn phasing for north-south approaches.	Convert intersection to "Green T". Add 3rd SB through lane. Extend NB left-turn lane to 450'.										n/a	
30	US 1 & NE 7th Street (FL Turnpike SB Offramp		Add 3rd NB and SB thru lanes.											

Table 6-17 Intersection Improvements for Scenario 2b – Traffic Operations Ratings

Intersection	Location	Traffic Signal Improvement	Capacity Improvement	Intersection Delay (s/veh) Before Improvements AM	Intersection Delay (s/veh) After Improvements AM - Change	Intersection Delay (s/veh) Before Improvements PM	Intersection Delay (s/veh) After Improvements PM - Change	# Movements LOS E-F Before Improvements AM	# Movements LOS E-F After Improvements AM - Change	# Movements LOS E-F Before Improvements PM	# Movements LOS E-F After Improvements PM - Change	# Movements with both v/c>1 and LOS E-F Before Improvements AM	# Movements with both v/c>1 and LOS E-F After Improvements AM - Change	# Movements with both v/c>1 and LOS E-F Before Improvements PM	# Movements with both v/c>1 and LOS E-F After Improvements PM - Change
1	SW 127th Avenue & SW 268th Street	Add E/W Prot LT phasing, NBR overlap	Add 2nd 250' WB left-turn lane	◔	◑	◔	○	○	○	○	○	○	○	○	○
2	SW 127th Avenue & SW 280th Street	Install traffic signal.	Add 200' EB/WB left-turn lanes, 200' WB right-turn lane.	●	●	◔	◑	◑	◕	◔	◑	◕	◕	◔	◔
4	SW 137th Avenue & Homestead Extension of Florida's Turnpike NB Ramp	Install traffic signal.	Add 2nd 250' NB left-turn lane.	◑	◕	◑	◕	◔	◑	◔	○	◑	◑	◔	◔
5	SW 137th Avenue & SW 288th Street		Add 2nd left-turn lane on all approaches, extend SB left to 250' and EB left to 300'. Add 350' WB, 450' NB, 200' SB right-turn lanes.	●	●	●	●	●	●	●	●	●	●	●	●
5	SW 137th Avenue & SW 288th Street		Add 3rd NB/SB thru lanes. Add 200' EB right-turn lane	◑	◑	◕	◑	●	◑	●	◕	○	○	●	●
7	Florida Turnpike SB Ramps & SW 288th Street		Widen to three 500' SB right-turn lanes. (This will require an additional WB through lane to receive the three SB right-turn lanes.)	●	●	●	●	◑	◑	◑	◑	◑	◑	◑	◑
8	US 1 (S Dixie Hwy) & SW 280th street		Extend WB left-turn lane to 350'.	◔	○	◔	○	◔	○	◔	○	○	○	○	○
9	US 1 (S Dixie Hwy) & SW 296th street		Add 2nd left-turn and thru lanes EB and WB (as a part of this convert WB auxiliary lane west of intersection to thru lane). Extend EB left-turn lane to 250', WB left-turn lane to 200' and NB left-turn lane to 350'. Add 250' EB right-turn lane.	◕	◕	◕	◕	●	●	◕	○	●	●	●	●
12	SW 177th Avenue & SW 312th Street		Extend SB left-turn lane to 350'.	◔	○	◔	○	○	○	◔	○	○	○	○	○
14	US 1/ N Homestead Blvd & Campbell Drive		Add 300' NB and 100' WB right-turn lanes. Extend SB left-turn lane to 350'.	◑	◑	◑	◑	◑	◕	●	●	○	○	●	●
15	Florida Turnpike NB Ramps & SW 312th Street		Extend NB left-turn lane to 400'	◔	○	◔	○	◔	○	◔	○	○	○	○	○
17	SW 137th Avenue & SW 312th Street		Add 200' SB and 150' WB right-turn lanes.	◕	◕	◑	◕	◕	●	◑	◕	◕	●	◔	◔

Table 6-17– Intersection Improvements for Scenario 2b – Traffic Operations Ratings (continued)

Intersection	Location	Traffic Signal Improvement	Capacity Improvement	Intersection Delay (s/veh) Before Improvements AM	Intersection Delay (s/veh) After Improvements AM - Change	Intersection Delay (s/veh) Before Improvements PM	Intersection Delay (s/veh) After Improvements PM - Change	# Movements LOS E-F Before Improvements AM	# Movements LOS E-F After Improvements AM - Change	# Movements LOS E-F Before Improvements PM	# Movements LOS E-F After Improvements PM - Change	# Movements with both v/c>1 and LOS E-F Before Improvements AM	# Movements with both v/c>1 and LOS E-F After Improvements AM - Change	# Movements with both v/c>1 and LOS E-F Before Improvements PM	# Movements with both v/c>1 and LOS E-F After Improvements PM - Change
18	SW 177th Avenue & SW 320th Street		Extend NB and EB left-turn lanes to 250'.												
19	US 1/ S Homestead Blvd./ Dixie Hwy & E. Mowry Drive		Add 100' EB left-turn lane, 300' NB right-turn lane and 2nd 200' WB left-turn lane. Extend EB right-turn lane to 150'.												
21	SW 177th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing on all approaches.	Add 150' right-turn lanes on SB, EB and WB approaches. Add 2nd through lane on all approaches. Extend NB left-turn lane to 150', SB left-turn lane to 200', and WB left-turn lane to 150'.												
22	US 1/ S Homestead Blvd. & Lucy Street	Implement protected left-turn phasing on all approaches.	Add 300' right-turn lanes and 2nd left-turn lane on all approaches, add 3rd NB thru lane, add 2nd NB thru lane. Extend NB left-turn lane to 200'.												
23	SW 162nd Avenue/ NE 18th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing for north/south approaches, protected left-turn phasing for east/west approaches.	Add 200' EB right-turn lane, 250' NB left-turn lane, 200' SB left-turn lane, 2nd EB left-turn lane. Change southbound approach to 1 left, 1 thru and 1 right turn lane with 200' SB left-turn lane.												
24	SW 152nd Avenue/ Kingman Road & SW 328th Street	Implement protected left-turn phasing on all approaches.	Add 2nd left turn lane on all approaches (150' NB, 300' SB, 230' EB and 350' WB), right-turn lanes on NB (300'), SB (200') and WB (200') approaches, and 2nd NB and SB thru lanes.												
25	SW 192nd Avenue & SW 344th Street	Install traffic signal. Permitted left-turn phasing on all approaches.	Add 150' EB left-turn lane, 300' WB left-turn lane, 150' NB right-turn lane.												
26	SW 177th Avenue & SW 344th Street	Implement protected/permitted left-turn phasing on north/south approaches and protected left-turn phasing on east/west approaches.	Add 350' 2nd EB left-turn lane. Add EB and WB thru lanes. Add 200' NB right-turn lane.												
28	US 1/ S Dixie Hwy & Palm Drive		Add 500' NB right-turn lane. Add 300' WB right-turn lane and convert current right turn trap lane to through lane.												
29	US 1 & SW 177th Avenue	Install traffic signal. Implement protected left-turn phasing for north-south approaches.	Convert intersection to "Green T". Add 3rd SB through lane. Extend NB left-turn lane to 450'.												
30	US 1 & NE 7th Street (FL Turnpike SB Offramp		Add 3rd NB and SB thru lanes.												

Table 6-18 Intersection Improvements for Scenario 2 – Prioritization Rankings

Intersection	Location	Traffic Signal Improvement	Capacity Improvement	Overall Rank 1-23 Scenario 2 Intersection Improvements	Scenario 2 Overall Average Rating	Traffic Volume Rank 1-23 Scenario 2 Intersection Improvements	Traffic Volume Average Rating	Traffic Operations Rank 1-23 Scenario 2 Intersection Improvements	Traffic Operations Average Rating	Cost Rank 1-23 Scenario 2 Intersection Improvements	Cost Average Rating	Maintaining Agency Rank 1-23 Scenario 2 Intersection Improvements	Maintaining Agency Average Rating
1	SW 127th Avenue & SW 268th Street	Add E/W Prot LT phasing, NBR overlap	Add 2nd 250' WB left-turn lane	**17**	**2.1**	13	2.0	20	0.3	1	4.0	1	2.0
2	SW 127th Avenue & SW 280th Street	Install traffic signal.	Add 200' EB/WB left-turn lanes, 200' WB right-turn lane.	**12**	**2.3**	22	1.0	15	2.3	1	4.0	1	2.0
4	SW 137th Avenue & Homestead Extension of Florida's Turnpike NB Ramp	Install traffic signal.	Add 2nd 250' NB left-turn lane.	**9**	**2.4**	13	2.0	17	1.7	1	4.0	1	2.0
5	SW 137th Avenue & SW 288th Street		Add 2nd left-turn lane on all approaches, extend SB left to 250' and EB left to 300'. Add 350' WB, 450' NB, 200' SB right-turn lanes.	**3**	**2.6**	4	3.5	1	4.0	18	1.0	1	2.0
5	SW 137th Avenue & SW 288th Street		Add 3rd NB/SB thru lanes. Add 200' EB right-turn lane	**15**	**2.3**	4	3.5	11	2.5	18	1.0	1	2.0
7	Florida Turnpike SB Ramps & SW 288th Street		Widen to three 500' SB right-turn lanes. (This will require an additional WB through lane to receive the three SB right-turn lanes.)	**7**	**2.5**	12	2.3	8	2.7	8	3.0	1	2.0
8	US 1 (S Dixie Hwy) & SW 280th street		Extend WB left-turn lane to 350'.	**20**	**2.0**	17	1.8	20	0.3	1	4.0	1	2.0
9	US 1 (S Dixie Hwy) & SW 296th street		Add 2nd left-turn and thru lanes EB and WB (as a part of this convert WB auxiliary lane west of intersection to thru lane). Extend EB left-turn lane to 250', WB left-turn lane to 200' and NB left-turn lane to 350'. Add 250' EB right-turn lane.	**16**	**2.2**	11	2.5	5	3.3	18	1.0	1	2.0
12	SW 177th Avenue & SW 312th Street		Extend SB left-turn lane to 350'.	**19**	**2.1**	13	2.0	23	0.3	1	4.0	1	2.0
14	US 1/ N Homestead Blvd & Campbell Drive		Add 300' NB and 100' WB right-turn lanes. Extend SB left-turn lane to 350'.	**11**	**2.4**	7	3.3	13	2.4	13	2.0	1	2.0
15	Florida Turnpike NB Ramps & SW 312th Street		Extend NB left-turn lane to 400'	**17**	**2.1**	13	2.0	20	0.3	1	4.0	1	2.0
17	SW 137th Avenue & SW 312th Street		Add 200' SB and 150' WB right-turn lanes.	**13**	**2.3**	20	1.5	8	2.7	8	3.0	1	2.0

Table 6-18 – Intersection Improvements for Scenario 2 – Prioritization Rankings (Continued)

Intersection	Location	Traffic Signal Improvement	Capacity Improvement	Overall Rank 1-23 Scenario 2 Intersection Improvements	Scenario 2 Overall Average Rating	Traffic Volume Rank 1-23 Scenario 2 Intersection Improvements	Traffic Volume Average Rating	Traffic Operations Rank 1-23 Scenario 2 Intersection Improvements	Traffic Operations Average Rating	Cost Rank 1-23 Scenario 2 Intersection Improvements	Cost Average Rating	Maintaining Agency Rank 1-23 Scenario 2 Intersection Improvements	Maintaining Agency Average Rating
18	SW 177th Avenue & SW 320th Street		Extend NB and EB left-turn lanes to 250'.	**23**	**1.8**	17	1.8	19	0.4	8	3.0	1	2.0
19	US 1/ S Homestead Blvd./ Dixie Hwy & E. Mowry Drive		Add 100' EB left-turn lane, 300' NB right-turn lane and 2nd 200' WB left-turn lane. Extend EB right-turn lane to 150'.	**21**	**2.0**	20	1.5	14	2.3	13	2.0	1	2.0
21	SW 177th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing on all approaches.	Add 150' right-turn lanes on SB, EB and WB approaches. Add 2nd through lane on all approaches. Extend NB left-turn lane to 150', SB left-turn lane to 200', and WB left-turn lane to 150'.	**2**	**2.7**	8	2.8	1	4.0	13	2.0	1	2.0
22	US 1/ S Homestead Blvd. & Lucy Street	Implement protected left-turn phasing on all approaches.	Add 300' right-turn lanes and 2nd left-turn lane on all approaches, add 3rd NB thru lane, add 2nd NB thru lane. Extend NB left-turn lane to 200'.	**1**	**2.8**	1	4.0	1	4.0	18	1.0	1	2.0
23	SW 162nd Avenue/ NE 18th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing for north/south approaches, protected left-turn phasing for east/west approaches.	Add 200' EB right-turn lane, 250' NB left-turn lane, 200' SB left-turn lane, 2nd EB left-turn lane. Change southbound approach to 1 left, 1 thru and 1 right turn lane with 200' SB left-turn lane.	**22**	**1.9**	17	1.8	7	2.8	18	1.0	1	2.0
24	SW 152nd Avenue/ Kingman Road & SW 328th Street	Implement protected left-turn phasing on all approaches.	Add 2nd left turn lane on all approaches (150' NB, 300' SB, 230' EB and 350' WB), right-turn lanes on NB (300'), SB (200') and WB (200') approaches, and 2nd NB and SB thru lanes.	**8**	**2.4**	8	2.8	6	3.0	13	2.0	1	2.0
25	SW 192nd Avenue & SW 344th Street	Install traffic signal. Permitted left-turn phasing on all approaches.	Add 150' EB left-turn lane, 300' WB left-turn lane, 150' NB right-turn lane.	**9**	**2.4**	22	1.0	4	3.3	7	3.3	1	2.0
26	SW 177th Avenue & SW 344th Street	Implement protected/permitted left-turn phasing on north/south approaches and protected left-turn phasing on east/west approaches.	Add 350' 2nd EB left-turn lane. Add EB and WB thru lanes. Add 200' NB right-turn lane.	**13**	**2.3**	4	3.5	8	2.7	18	1.0	1	2.0
28	US 1/ S Dixie Hwy & Palm Drive		Add 500' NB right-turn lane. Add 300' WB right-turn lane and convert current right turn trap lane to through lane.	**6**	**2.5**	1	4.0	16	2.1	13	2.0	1	2.0
29	US 1 & SW 177th Avenue	Install traffic signal. Implement protected left-turn phasing for north-south approaches.	Convert intersection to "Green T". Add 3rd SB through lane. Extend NB left-turn lane to 450'.	**5**	**2.5**	1	4.0	18	1.2	8	3.0	1	2.0
30	US 1 & NE 7th Street (FL Turnpike SB Offramp		Add 3rd NB and SB thru lanes.	**4**	**2.6**	8	2.8	11	2.5	8	3.0	1	2.0

6.6.3 Intersection Improvements for Scenario 4b

The second group of intersection improvements was based on the 2045 Scenario 4 traffic operations analysis. The Scenario 4 proposed intersection improvements were developed to mitigate deficiencies that were identified after 40% growth in truck traffic was applied to the Scenario 2 traffic. Similar to Scenario 2, both traffic signal improvements and capacity improvements were proposed for Scenario 4a and Scenario 4 b, respectively. However, not all intersections have traffic signal improvements or capacity improvements in Scenario 4. The exact same categories of information were used to rate and then assign prioritization rankings for the proposed intersection improvements in Scenario 4 as was completed for Scenario 2.

Table 6-17 shows the ratings for the traffic volume, cost, and maintaining agency categories and **Table 6-18** shows the ratings for the traffic operations category. **Table 6-19** shows the prioritization rankings for each category and also provides an overall ranking based on an equally weighted average of the category rankings. The prioritization rankings in **Table 6-19** are just in relation to the Scenario 4 intersection improvements and do not include the other improvements presented in the rest of this document.

It was determined that the incremental intersection improvements identified for Scenario 4b would not be advanced into formal recommendations. The LOS analysis showed a relatively low effect of the truck stress tests upon the network needs for Scenarios 3 and 4. However, these options were costed and are included in **Appendix G.** Under Scenario 2, 27 of the 30 analyzed intersections have improvement needs and there are also roadway segments identified with capacity deficiencies.

Table 6-19 Intersection Improvements for Scenario 4 – Traffic Volume, Cost, and Maintaining Agency Ratings

Intersection	Location	Traffic Signal Improvement	Capacity Improvement	Total Volume 2045 (Scen. 4) AM	Total Volume 2045 (Scen. 4) PM	Truck Volume 2045 (Scen. 4) AM	Truck Volume 2045 (Scen. 4) PM	Construction Cost	ROW Needs Cost (10%)	Total LRE Cost	Maintaining Agency: North Leg	Maintaining Agency: South Leg	Maintaining Agency: East Leg	Maintaining Agency: West Leg
5	SW 137th Avenue & SW 288th Street		Widened 288th to 6 lanes.	●	●	◕	◔	◔	◔	◔	◑	◑	◑	◑
7	Florida Turnpike SB Ramps & SW 288th Street		Added 2nd WB left-turn lane	◔	◑	◑	◑	◑	◑	◑	◑	◑	◑	◑
17	SW 137th Avenue & SW 312th Street	Add WBR right-turn overlap phase and signal head.		◔	◔	◔	◔	●	●	●	◑	◑	◑	◑
18	SW 177th Avenue & SW 320th Street	Add P/P left turn phasing for EBL and NBL (currently permissive). Also manually add ~5 sec to EBL split vs optimized in PM.		◔	◔	◔	◕	●	●	●	◑	◑	◑	◑
23	SW 162nd Avenue/ NE 18th Avenue & SW 328th Street		Add 2nd 150' SB right-turn lane (existing SBR is a drop lane).	◑	◔	◔	◔	◕	◕	◕	◑	◑	◑	◑
24	SW 152nd Avenue/ Kingman Road & SW 328th Street	Increase cycle length in AM to 140 sec.	Widen SW 328th St to 6 lanes.	●	◑	◑	◑	◔	◔	◔	◑	◑	◑	◑
26	SW 177th Avenue & SW 344th Street	Add right turn overlap phase for SBR and NBR.	Add 2nd NB thru lane (already 2 receiving lanes on north side).	◕	◕	●	●	◕	●	◕	◑	◑	◑	◑
29	US 1 & SW 177th Avenue		Add 2nd NBL lane. Also requires adding 2nd receiving lane on 117th for ~800 feet.	◕	●	●	●	◑	◑	◑	◑	◑	n/a	◑
30	US 1 & NE 7th Street (FL Turnpike SB Offramp	Manually adjusted splits to give WB more time		◑	◕	◕	◕	●	●	●	◑	◑	◑	◑

Table 6-20 Intersection Improvements for Scenario 4 – Traffic Operations Ratings

Intersection	Location	Traffic Signal Improvement	Capacity Improvement	Intersection Delay (s/veh) Before Improvements AM	Intersection Delay (s/veh) After Improvements AM - Change	Intersection Delay (s/veh) Before Improvements PM	Intersection Delay (s/veh) After Improvements PM - Change	# Movements LOS E-F Before Improvements AM	# Movements LOS E-F After Improvements AM - Change	# Movements LOS E-F Before Improvements PM	# Movements LOS E-F After Improvements PM - Change	# Movements with both v/c>1 and LOS E-F Before Improvements AM	# Movements with both v/c>1 and LOS E-F After Improvements AM - Change	# Movements with both v/c>1 and LOS E-F Before Improvements PM	# Movements with both v/c>1 and LOS E-F After Improvements PM - Change
5	SW 137th Avenue & SW 288th Street		Widened 288th to 6 lanes.												
7	Florida Turnpike SB Ramps & SW 288th Street		Added 2nd WB left-turn lane												
17	SW 137th Avenue & SW 312th Street	Add WBR right-turn overlap phase and signal head.													
18	SW 177th Avenue & SW 320th Street	Add P/P left turn phasing for EBL and NBL (currently permissive). Also manually add ~5 sec to EBL split vs optimized in PM.													
23	SW 162nd Avenue/ NE 18th Avenue & SW 328th Street		Add 2nd 150' SB right-turn lane (existing SBR is a drop lane).												
24	SW 152nd Avenue/ Kingman Road & SW 328th Street	Increase cycle length in AM to 140 sec.	Widen SW 328th St to 6 lanes.												
26	SW 177th Avenue & SW 344th Street	Add right turn overlap phase for SBR and NBR.	Add 2nd NB thru lane (already 2 receiving lanes on north side).												
29	US 1 & SW 177th Avenue		Add 2nd NBL lane. Also requires adding 2nd receiving lane on 117th for ~800 feet.												
30	US 1 & NE 7th Street (FL Turnpike SB Offramp	Manually adjusted splits to give WB more time													

Table 6-21 Intersection Improvements for Scenario 4 – Prioritization Rankings

Intersection	Location	Traffic Signal Improvement	Capacity Improvement	Overall Rank 1-9 Scenario 4 Intersection Improvements	Scenario 4 Overall Average Rating	Traffic Volume Rank 1-9 Scenario 4 Intersection Improvements	Traffic Volume Average Rating	Traffic Operations Rank 1-9 Scenario 4 Intersection Improvements	Traffic Operations Average Rating	Cost Rank 1-9 Scenario 4 Intersection Improvements	Cost Average Rating	Maintaining Agency Rank 1-9 Scenario 4 Intersection Improvements	Maintaining Agency Average Rating
5	SW 137th Avenue & SW 288th Street		Widened 288th to 6 lanes.	**7**	**2.0**	3	3.0	4	2.0	8	1.0	1	2.0
7	Florida Turnpike SB Ramps & SW 288th Street		Added 2nd WB left-turn lane	**5**	**2.1**	6	1.8	1	2.7	6	2.0	1	2.0
17	SW 137th Avenue & SW 312th Street	Add WBR right-turn overlap phase and signal head.		**8**	**2.0**	9	1.0	9	0.8	1	4.0	1	2.0
18	SW 177th Avenue & SW 320th Street	Add P/P left turn phasing for EBL and NBL (currently permissive). Also manually add ~5 sec to EBL split vs optimized in PM.		**4**	**2.1**	7	1.5	7	1.0	1	4.0	1	2.0
23	SW 162nd Avenue/ NE 18th Avenue & SW 328th Street		Add 2nd 150' SB right-turn lane (existing SBR is a drop lane).	**6**	**2.1**	8	1.3	4	2.0	5	3.0	1	2.0
24	SW 152nd Avenue/ Kingman Road & SW 328th Street	Increase cycle length in AM to 140 sec.	Widen SW 328th St to 6 lanes.	**9**	**1.9**	5	2.5	3	2.2	8	1.0	1	2.0
26	SW 177th Avenue & SW 344th Street	Add right turn overlap phase for SBR and NBR.	Add 2nd NB thru lane (already 2 receiving lanes on north side).	**1**	**2.6**	2	3.5	6	1.5	4	3.3	1	2.0
29	US 1 & SW 177th Avenue		Add 2nd NBL lane. Also requires adding 2nd receiving lane on 117th for ~800 feet.	**2**	**2.5**	1	3.8	2	2.3	6	2.0	1	2.0
30	US 1 & NE 7th Street (FL Turnpike SB Offramp	Manually adjusted splits to give WB more time		**3**	**2.4**	4	2.8	7	1.0	1	4.0	1	2.0

6.6.4 Segment Improvements

The segment improvements were identified to mitigate corridor-level deficiencies that were found under projected 2045 traffic conditions. Only capacity improvements consisting of additional lanes were proposed for the segment improvements.

Several categories of information were used to rate and then assign prioritization rankings for the proposed segment improvements. The general categories are similar to the intersection improvements but there are fewer specific items included in each category.

- Traffic Volume
  - Total Daily Volume 2045
  - Truck Daily Volume 2045
- Traffic Operations
  - Level of Service (LOS) before the proposed improvement
- Cost
  - Construction Cost
  - ROW Needs Cost (5%)
  - Total LRE Cost
- Maintaining Agency
- Overlap with Proposed Intersection Improvements

Similar to the intersection improvements, for each item in the categories listed above, the values were grouped into four quartiles and given a rating of 1 through 4, with 1 being the least favorable rating and 4 being the most favorable rating. It should be noted that for the maintaining agency category, a rating of 2 was given for all types of maintaining agency values for the purposes of this prioritization process. Also, for the cost category, the lower that the cost was for an improvement, the more favorable the rating. Finally, a new category that rates the overlap of the segment improvements with the proposed intersection improvements was added in order to capture the potential synergy between implementing the proposed segment improvements and the proposed intersection improvements presented earlier in this document.

Table 6-22 shows the ratings for the traffic volume, traffic operations, cost, maintaining agency, and overlap with proposed intersection improvement categories. The quartile ratings are represented in **Table 6-22** by pie-chart symbols with the corresponding rating (i.e., 1 through 4) shown for each item. **Table 6-23** shows the prioritization rankings for each category and also provides an overall ranking based on an equally weighted average of the category rankings. The prioritization rankings in **Table 6-23** are only in relation to the segment improvements and do not include the intersection improvements presented earlier in this document.

6.7 Summary

The traffic service analyses documented in this section of the report have provided a useful assessment of the future transportation network needs within the study area. It was determined that traffic service conditions can be expected to significantly worsen from 2020 to 2045, resulting from the sizable increase in forecast population and employment. That growth pattern began 5-10 years ago and has been accelerating. The analysis determined that this traffic growth can be significantly, but not completely mitigated by identified intersection and roadway segment upgrades.

Freight-related truck traffic is an important aspect to account for when forecasting, and there are some emerging freight-centric districts near the former airbase and near the speedway to the south. The Scenario 3 and Scenario 4 truck trip stress tests showed potential impacts of additional truck traffic by adding the increments of +20% and +40% truck trips. However, these scenarios demonstrated that potential additional truck trips will have relatively low impact compared to the impact of general traffic growth as forecasted from 2020 to 2045. Improvements at 27 of the 30 intersections analyzed and to 13 road segments mitigate the effect of the traffic growth.

Table 6-22 Segment Improvements – Volume, Traffic Operations, Cost, Maintaining Agency, and Overlap with Proposed Intersection Improvements Ratings

Segment	Street	Limit 1	Limit 2	Length (Miles)	Improvement	2045 Total Daily Volume	2045 Truck Daily Volume	LOS before Improvement	Construction Cost	ROW Needs Cost (5%)	Total LRE Cost	Maintaining Agency	Number of Overlapped Intersections with Proposed Improvements
1	SW 147th Ave.	SW 184th St.	SW 232nd St.	3.0	2 lanes to 4 lanes	◑	◑	●	◔	●	◔	◑	○
2	SW 137th Ave.	SW 288th ST.	SW 312th St.	1.5	4 lanes to 6 lanes	◕	◕	◕	◔	◔	◔	◑	●
3	SW 147th Ave.	US 1	SW 248th St.	1.2	2 lanes to 4 lanes	◑	◑	◕	◑	●	◑	◑	○
4	SW 157th Ave.	SW 264th St.	SW 280th St.	1.0	2 lanes to 4 lanes	◑	◑	●	◕	●	◕	◑	○
5	SW 167th Ave. NE 12th Ave.	SW 304th St.	SW 312th St.	0.5	2 lanes to 4 lanes	◑	◔	●	●	●	●	◑	○
6	SW 162nd Ave. NE 18th Ave.	SW 296th St.	SW 312th St.	1.0	2 lanes to 4 lanes	◑	◑	●	◑	●	◑	◑	○
7	SW 192nd Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes	◔	◔	◕	◕	●	◕	◑	◕
8	SW 187th Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes	◑	◔	◕	◕	●	◕	◑	○
9	SW 344th St. Palm Dr.	SW 177th Ave.	SW 187th Ave.	1.0	2 lanes to 4 lanes	◑	◑	●	◑	◔	◑	◑	◕
10	US 1	SW 344th St. Palm Dr.	SW 360th St.	1.0	3 to 4 lanes (NB) and	◕	◕	●	●	◑	●	◑	●
11	SW 177th Ave. Krome Ave.	SW 312th St.	SW 328th St.	1.0	2 lanes to 4 lanes	◑	◕	●	◔	◔	◔	◑	●
12	SW 320th St. Mowry Dr.	SW 177th Ave.	N. Flagler Ave.	0.1	2 lanes to 4 lanes	◑	◑	●	●	◑	●	◑	◕

Table 6-23 Segment Improvements – Prioritization Rankings

Segment	Street	Limit 1	Limit 2	Length (Miles)	Improvement	Overall Rank 1-12 Segment Improvements	Overall Average Rating	Traffic Volume Rank 1-12 Segment Improvements	Traffic Volume Average Rating	Traffic Operations Rank 1-12 Segment Improvements	Traffic Operations Average Rating	Cost Rank 1-12 Segment Improvements	Cost Average Rating	Maintaining Agency Rank 1-12 Segment Improvements	Maintaining Agency Average Rating	Overlap with Proposed Inter. Impr. Rank 1-12 Segment	Overlap with Proposed Intersection Improvements Average Rating
1	SW 147th Ave.	SW 184th St.	SW 232nd St.	3.0	2 lanes to 4 lanes	**10**	**2.0**	4	2.0	1	4.0	9	2.0	1	2.0	7	0.0
2	SW 137th Ave.	SW 288th ST.	SW 312th St.	1.5	4 lanes to 6 lanes	**6**	**2.2**	1	3.0	9	3.0	11	1.0	1	2.0	2	2.0
3	SW 147th Ave.	US 1	SW 248th St.	1.2	2 lanes to 4 lanes	**12**	**1.9**	4	2.0	9	3.0	7	2.7	1	2.0	7	0.0
4	SW 157th Ave.	SW 264th St.	SW 280th St.	1.0	2 lanes to 4 lanes	**5**	**2.3**	4	2.0	1	4.0	2	3.3	1	2.0	7	0.0
5	SW 167th Ave. NE 12th Ave.	SW 304th St.	SW 312th St.	0.5	2 lanes to 4 lanes	**4**	**2.3**	10	1.5	1	4.0	1	4.0	1	2.0	7	0.0
6	SW 162nd Ave. NE 18th Ave.	SW 296th St.	SW 312th St.	1.0	2 lanes to 4 lanes	**7**	**2.1**	4	2.0	1	4.0	7	2.7	1	2.0	7	0.0
7	SW 192nd Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes	**9**	**2.1**	12	1.0	9	3.0	2	3.3	1	2.0	4	1.0
8	SW 187th Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes	**11**	**2.0**	10	1.5	9	3.0	2	3.3	1	2.0	7	0.0
9	SW 344th St. Palm Dr.	SW 177th Ave.	SW 187th Ave.	1.0	2 lanes to 4 lanes	**7**	**2.1**	4	2.0	1	4.0	10	1.7	1	2.0	4	1.0
10	US 1	SW 344th St. Palm Dr.	SW 360th St.	1.0	3 to 4 lanes (NB) and	**1**	**2.9**	1	3.0	1	4.0	2	3.3	1	2.0	2	2.0
11	SW 177th Ave. Krome Ave.	SW 312th St.	SW 328th St.	1.0	2 lanes to 4 lanes	**2**	**2.5**	3	2.5	1	4.0	11	1.0	1	2.0	1	3.0
12	SW 320th St. Mowry Dr.	SW 177th Ave.	N. Flagler Ave.	0.1	2 lanes to 4 lanes	**3**	**2.5**	4	2.0	1	4.0	2	3.3	1	2.0	4	1.0

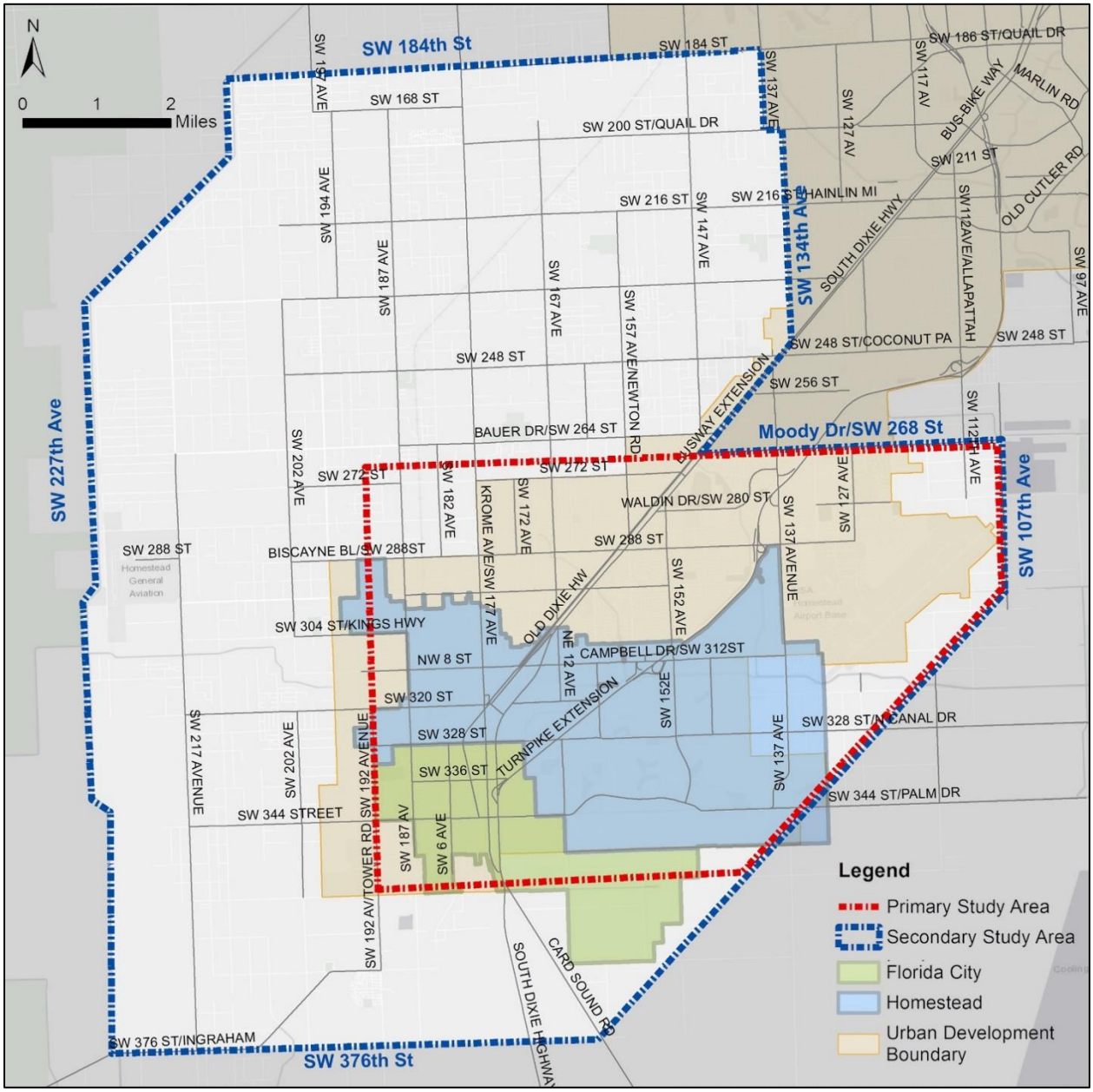
Section 7.0 Truck Parking Analysis

7.0 Truck Parking Analysis

7.1 Introduction

As an extension of a statewide effort to increase the supply of truck parking, Florida Department of Transportation (FDOT) District 6 has been screening potential truck parking sites through a series of subarea freight studies. Task 3 of the City of Homestead Freight Improvement Plan – conducting a Truck Parking Feasibility Assessment is a part of this district-wide effort. The purpose of this section is to identify candidate truck parking sites within or near the City of Homestead, which is an important freight community in Miami-Dade County. **Figure 7-1** illustrates the primary and secondary study areas where potential truck parking sites will be selected and evaluated.

Figure 7-1 Study Area for Truck Parking Analysis



This section identified and assessed potential truck parking sites and then proposed conceptual site layouts and estimated site development costs for the most promising sites. This site assessment aims to support both long-haul trucking operations (primary focus) and local drayage truck parking. Six tasks were carried out in this analysis:

- Task 1: Assembly of relevant data for analysis
- Task 2: Identification of candidate truck parking sites
- Task 3: Tier 1 screening of candidate sites
- Task 4: Tier 2 screening of candidate sites
- Task 5: Conceptual site layouts and cost estimates of the most feasible sites
- Task 6: Truck site analysis findings and documentation

The rest of this section consists of five sub-sections. Each sub-section documents the applied methodology, analysis results and findings.

7.2 Data Collection

In Task 1, data required for initial selection of candidate truck parking sites and two-tier assessments were gathered and documented. Relevant data was collected from the following data sources:

- CoStar (a commercial real estate data provider)
- The Florida Geographic Data Library
- FDOT Open Data Hub
- FDOT Geographic Information System
- Florida Traffic Online (2019)
- Miami-Dade County, the City of Homestead and the City of Florida City
- Miami-Dade County Open Data Hub
- Miami-Dade Land Management Tool
- Miami-Dade County Property Appraiser
- Miami-Dade Transportation Planning Organization
- Occupational Safety & Health Administration, the United States Department of Labor
- Socioeconomic Data and Applications Center (SEDAC)
- Southeast Florida Regional Planning Model, Version 8 (SERPM 8)
- Miami-Dade County Comprehensive Development Master Plan (CDMP)
- Code of Miami-Dade County, Florida

7.3 Candidate Truck Parking Sites

After reviewing relevant data, an initial list of parcels with the potential to be used for truck parking were identified in coordination with FDOT. More specifically, two types of parcels (not mutually exclusive) were included in the list of candidate truck parking sites:

- Candidate truck parking sites previously identified in a county-wide effort that fall within or adjacent to the study area.
- Parcels that are currently zoned for industrial uses and are at least 5 acres when combined with adjacent candidate parcel(s).

The initial list of candidate truck parking sites included eighty parcels (80), four of which were removed before entering Tier 1 screening process:

- Two parcels located south of SW 272nd Street/Epmore Drive and west of SW 127th Avenue/Burr Road (folio numbers 3069350000400 and 306935000006) were removed because they have been purchased by Amazon and are no longer available.
- Two public-owned parcels at Turnpike interchanges were removed because their adjacent land uses were mostly residential or commercial land uses. One of these two sites is located at the north side of the Turnpike interchange with SW 288th Street. The other site is located at the south side of Turnpike interchange with SW 312th Street/Campbell Drive.

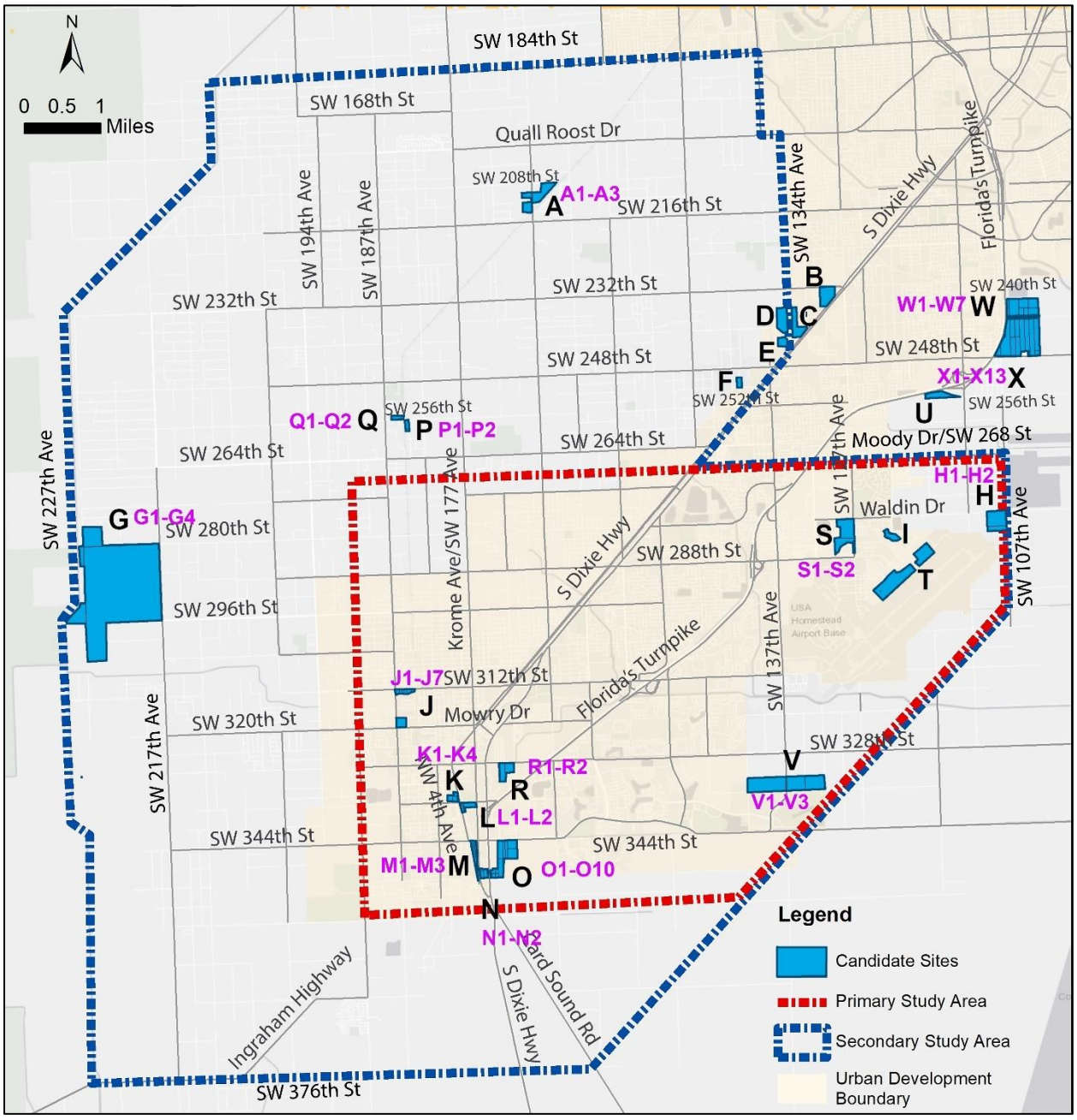
The remaining 76 parcels were assigned Subsite ID and assessed against Tier 1 screening criteria. **Table 7-1** lists the Site IDs, Subsite IDs and corresponding folio numbers of all the candidate truck parking sites. A site consists of one or more subsites which have the potential to form one truck parking facility. **Figure 7-2** illustrates the locations of all truck parking candidate sites.

Table 7-1 Candidate Truck Parking Sites

Site ID	Subsite ID	Folio Numbers
A	A-1	30-6908-028-0010
	A-2	30-6907-000-0320
	A-3	30-6907-000-0283
B	B-1	30-6923-000-0030
C	C-1	30-6923-000-0530
D	D-1	30-6923-000-0532
E	E-1	30-6923-000-0760
F	F-1	30-6927-000-0180
G	G-1	30-7805-000-0010
	G-2	30-7806-000-0070
	G-3	30-6832-000-0060
	G-4	30-780-6000-0010
H	H-1	30-7006-000-0010
	H-2	30-7006-000-0011
I	I-1	30-7901-001-0050
J	J-1	10-7813-059-0050
	J-2	10-7813-059-0060
	J-3	10-7813-059-0070
	J-4	10-7813-059-0080
	J-5	10-7813-059-0090
	J-6	10-7813-059-0100
	J-7	10-7813-000-0020
K	K-1	16-7824-000-0820
	K-2	16-7824-000-0825
	K-3	16-7824-000-0824
	K-4	16-7824-010-0010
L	L-1	16-7824-011-0030
	L-2	16-7824-028-0010
M	M-1	16-7825-003-0010
	M-2	16-7825-003-0020
	M-3	16-7825-003-0081
N	N-1	16-7930-001-0290
	N-2	16-7930-001-0294
O	O-1	16-7930-001-0210
	O-2	16-7930-001-0200
	O-3	16-7930-001-0190
	O-4	16-7930-001-0180
	O-5	16-7930-001-0360
	O-6	16-7930-001-0313
	O-7	16-7930-001-0314
	O-8	16-7930-001-0315
	O-9	16-7930-001-0311
	O-10	16-7930-001-0320
P	P-1	30-6825-000-0310
	P-2	30-6825-000-0315
	Q-1	30-6825-000-0223

Site ID	Subsite ID	Folio Numbers
Q	Q-2	30-6825-000-0221
R	R-1	16-7919-001-0200
	R-2	16-7919-001-0210
S	S-1	30-7902-000-0040
	S-2	30-7902-000-0021
T	T-1	30-7901-000-0090
U	U-1	30-6030-000-0100
V	V-1	10-7922-001-0071
	V-2	10-7923-001-0022
	V-3	10-7923-001-0023
W	W-1	30-6020-000-0070
	W-2	30-6020-000-0080
	W-3	30-6020-000-0011
	W-4	30-6020-000-0012
	W-5	30-6020-000-0320
	W-6	30-6020-000-0300
	W-7	30-6020-000-0040
X	X-1	30-6019-000-0200
	X-2	30-6020-000-0180
	X-3	30-6020-000-0170
	X-4	30-6020-000-0210
	X-5	30-6020-000-0160
	X-6	30-6020-000-0201
	X-7	30-6020-000-0200
	X-8	30-6020-000-0140
	X-9	30-6020-000-0130
	X-10	30-6020-000-0110
	X-11	30-6020-000-0150
	X-12	30-6020-000-0090
	X-13	30-6020-000-0120

Figure 7-2 Locations of Candidate Truck Parking Sites



7.4 Tier 1 Site Screening

In this step, identified candidate truck parking sites were screened against 17 "push" factors that can help screen out sites inappropriate for truck parking. These factors have been tested in a prior truck parking feasibility analysis for the Miami Gardens subarea. Each candidate subsite is evaluated against 17 criteria and assigned evaluation scores. All criteria have the same score range (0-2), which reflect their equal importance in Tier 1 screening. **Table 7-2** lists these criteria and how evaluation scores are assigned. The evaluation scores for all candidate subsites are presented in **Table 7-3**. Analysis maps are presented in **Appendix H**.

As an initial screening process, Tier 1 evaluation adopted a more conservative screening approach and kept all candidate sites that have the potential to pass Tier 2 screening.

First, subsites with a total evaluation score greater or equal to 20 were identified. A score of 20 was selected as threshold to identify approximately 50% of the candidate subsites that performed better than the rest. Thirty-two (32) of 76 subsites were identified as promising subsites.

Then, candidate sites with no promising subsite were marked as poorly performing sites. This selection approach was used because a subsite with lower evaluation score still has the potential to form a high score candidate site when merged with a promising subsite. For example, when a subsite with high accessibility is merged with an adjacent subsite with low accessibility, the overall accessibility score of the candidate site does not drop. All poorly performing candidate sites were reviewed by the project team in coordination with FDOT to determine if they should be removed from the candidate site list. The decision was made to eliminate all but one – Site W. Site W has good access to an interchange, low land value, is larger than most candidate sites, and does not have any "fatal flaw". Additionally, the latest version of Miami-Dade County Comprehensive Development Master Plan (CDMP) allows commercial truck parking on agriculture properties "ten acres or greater in the area east of the Urban Development Boundary, south of the theoretical extension of SW 236 Street, and north of SW 248 Street" under certain restrictions[1]. The recent amendment of the Code of Miami-Dade County, Florida (Ordinance No. 21-42) also revised regulations for commercial vehicle storage in the agricultural zoning district. Therefore, Site W was kept in the candidate site list for Tier 2 screening. The other 11 poorly performing candidate sites were removed.

Tier 1 screening results are presented in **Figure 7-3.**

[1] https://www.miamidade.gov/planning/library/reports/planning-documents/cdmp/land-use.pdf

Table 7-2 Evaluation Criteria for Tier 1 Screening

Criterion ID	Criterion	Required/Desired Outcome	Scores
1-1	Existing Zoning Code	Matches required zoning code per municipality/county regulations	2: > 90% area with industrial zoning 1: 50-90% area with industrial zoning 0: < 50% area with industrial zoning
1-2	Site Developed	No	2: no building on site (property appraiser) 0: building on site (property appraiser)
1-3	Located within the Urban Development Boundary (UDB)	Yes	2: Within UDB 0: Outside UDB
1-4	Existing Land Use Designation	Vacant, Industrial, Office, Commercial or Streets (other appropriate uses may apply)	2: > 90% area with compatible land use 1: 50-90% area with compatible land use 0: < 50% area with compatible land use
1-5	Adopted Future Land Use Designation	Vacant, Industrial, Office, Commercial or Streets (other appropriate uses may apply)	2: > 90% area with compatible land use 1: 50-90% area with compatible land use 0: < 50% area with compatible land use
1-6	Adjacent Existing Land Use Compatibility	Vacant, Industrial, Office, Commercial or Streets (other appropriate uses may apply)	2: > 50% area with compatible land use 1: 25-50% area with compatible land use 0: < 25% area with compatible land use
1-7	Adjacent Adopted Future Land Use Compatibility	Vacant, Industrial, Office, Commercial or Streets (other appropriate uses may apply)	2: > 50% area with compatible land use 1: 25-50% area with compatible land use 0: < 25% area with compatible land use
1-8	Usable Acreage	≥ 10 acres	2: >= 10 acres 1: 5 -10 acres 0: < 5 acres
1-9	Nearest Driving Distance to Freeways	Within 1 mile of interstate interchange	2: Within 1 mile 0: Not within 1 mile
1-10	Nearest Driving Distance to SIS Roadways	Within 1.5 miles of SIS interchange	2: Within 1.5 mile 0: Not within 1.5 mile

Table 7-2 Evaluation Criteria for Tier 1 Screening (continued)

Criterion ID	Criterion	Required/Desired Outcome	Scores
1-11	Nearest Driving Distance to Arterials	Within 0.5 mile of Arterial Intersection	2: Within 0.5 mile 0: Not within 0.5 mile
1-12	Access; based on the capacity of nearest arterial, distances to freeways, SIS roadways, and arterials as well as existing condition of the surrounding roadway network	Good, Moderate, or Poor	2: Good 1: Moderate 0: Poor
1-13	Visibility from Freeway	Yes	2: Visible 0: Not Visible
1-14	Existing Truck Percentage	≥ 5% of AADT	2: >= 5% 0: < 5%
1-15	Near Major Freight Activity Areas	Within ≤ 1.5 miles	2: Within 1.5 miles 0: Not within 1.5 miles
1-16	Estimated Future Truck Percentage	High (> 15%), Moderate (10% - 15%), Low (< 10%)	2: High 1: Moderate 0: Low
1-17	Land Value per Usable Acre	≤ $1,135,500 / Acre	2: ≤ $1,135,500 / Acre 0: > $1,135,500 / Acre

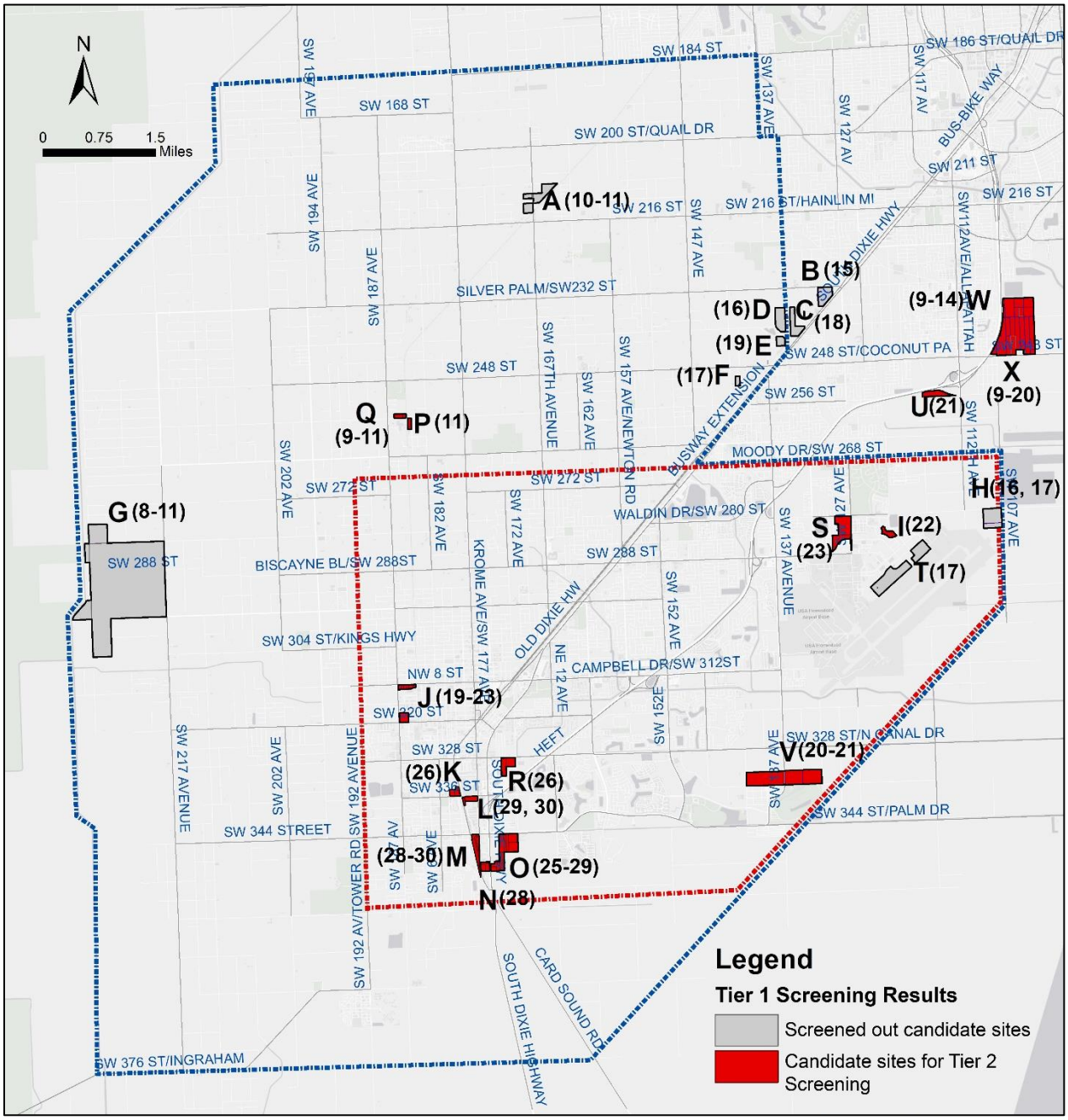
Table 7-3 Tier 1 Evaluation Scores of Candidate Truck Parking Sites

Criteria ID / Subset ID	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12	1-13	1-14	1-15	1-16	1-17	Total Score
A-1	2	0	0	0	0	0	0	2	0	0	0	0	0	2	0	2	2	10
A-2	2	0	0	2	0	0	0	1	0	0	0	0	0	2	0	2	2	11
A-3	2	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	10
B-1	0	2	2	0	0	1	0	2	0	0	0	1	0	2	2	1	2	15
C-1	0	2	2	0	2	1	1	2	0	0	0	1	0	2	2	1	2	18
D-1	1	0	2	0	1	1	1	2	0	0	0	1	0	2	2	1	2	16
E-1	0	2	2	0	2	1	1	1	0	0	2	1	0	2	2	1	2	19
F-1	2	2	0	2	0	1	1	1	0	0	0	1	0	2	2	1	2	17
G-1	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	2	2	8
G-2	0	2	0	0	0	2	1	2	0	0	0	0	0	0	0	2	2	11
G-3	0	2	0	0	2	1	0	2	0	0	0	0	0	0	0	2	2	11
G-4	0	2	0	0	0	2	1	1	0	0	0	0	0	0	0	2	2	10
H-1	2	2	0	2	0	1	0	2	0	0	0	0	0	2	2	2	2	17
H-2	1	2	0	2	0	1	1	1	0	0	0	0	0	2	2	2	2	16
I-1	2	2	2	2	2	1	2	1	0	0	0	1	0	2	2	1	2	22
J-1	2	2	2	0	2	1	0	0	0	0	2	1	0	2	2	1	2	19
J-2	2	2	2	0	2	1	0	0	0	0	2	1	0	2	2	1	2	19
J-3	2	2	2	0	2	1	0	0	0	0	2	1	0	2	2	1	2	19
J-4	2	2	2	0	2	1	0	0	0	0	2	1	0	2	2	1	2	19
J-5	2	2	2	2	2	1	0	2	0	0	2	1	0	2	2	1	2	23
J-6	2	0	2	2	2	1	0	0	0	0	2	1	0	2	2	1	2	19
J-7	2	2	2	0	2	1	1	1	0	0	0	1	0	2	2	1	2	19
K-1	2	0	2	2	2	2	1	0	2	2	2	2	0	2	2	1	2	26
K-2	2	2	2	0	2	2	1	0	2	2	2	2	0	2	2	1	2	26
K-3	2	0	2	2	2	2	1	0	2	2	2	2	0	2	2	1	2	26
K-4	2	2	2	0	2	2	1	0	2	2	2	2	0	2	2	1	2	26
L-1	2	2	2	2	2	2	2	0	2	2	2	2	0	2	2	1	2	29

Criteria ID / Subset ID	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12	1-13	1-14	1-15	1-16	1-17	Total Score
L-2	2	2	2	2	2	2	2	1	2	2	2	2	0	2	2	1	2	30
M-1	2	0	2	2	2	2	1	1	2	2	2	2	0	2	2	2	2	28
M-2	2	2	2	2	2	2	1	0	2	2	2	2	0	2	2	2	2	29
M-3	2	2	2	2	2	2	2	0	2	2	2	2	0	2	2	2	2	30
N-1	2	2	2	2	2	2	1	0	2	2	2	2	0	2	2	1	2	28
N-2	2	2	2	2	2	2	1	0	2	2	2	2	0	2	2	1	2	28
O-1	2	2	2	0	2	2	2	1	2	2	2	2	0	2	2	1	2	28
O-2	2	0	2	0	2	2	2	0	2	2	2	2	0	2	2	1	2	25
O-3	2	0	2	0	2	2	2	0	2	2	2	2	0	2	2	1	2	25
O-4	2	0	2	0	2	2	1	1	2	2	2	2	0	2	2	1	2	25
O-5	2	2	2	0	2	2	1	1	2	2	2	2	0	2	2	1	2	27
O-6	2	2	2	2	2	2	1	0	2	2	2	2	0	2	2	1	2	28
O-7	2	2	2	2	2	2	1	0	2	2	2	2	0	2	2	1	2	28
O-8	2	2	2	2	2	2	1	0	2	2	2	2	0	2	2	1	2	28
O-9	2	2	2	2	2	2	1	0	2	2	2	2	0	2	2	1	2	28
O-10	2	2	2	2	2	2	1	1	2	2	2	2	0	2	2	1	2	29
P-1	2	2	0	2	0	0	0	0	0	0	0	0	0	2	0	1	2	11
P-2	2	2	0	2	0	0	0	0	0	0	0	0	0	2	0	1	2	11
Q-1	2	2	0	2	0	0	0	0	0	0	0	0	0	2	0	1	2	11
Q-2	2	0	0	2	0	0	0	0	0	0	0	0	0	2	0	1	2	9
R-1	0	2	2	0	2	2	2	1	2	2	2	2	0	2	2	1	2	26
R-2	0	2	2	0	2	2	2	1	2	2	2	2	0	2	2	1	2	26
S-1	0	2	2	2	2	1	2	2	0	0	2	1	0	2	2	1	2	23
S-2	0	2	2	2	2	1	2	2	0	0	2	1	0	2	2	1	2	23
T-1	0	0	2	0	2	1	2	2	0	0	0	1	0	2	2	1	2	17
U-1	0	2	0	0	0	1	0	2	2	2	2	1	2	2	2	1	2	21
V-1	0	2	2	2	2	2	2	2	0	0	0	0	0	2	2	1	2	21
V-2	0	2	2	2	2	2	1	2	0	0	0	0	0	2	2	1	2	20
V-3	0	2	2	2	2	2	1	2	0	0	0	0	0	2	2	1	2	20

Criteria ID / Subset ID	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12	1-13	1-14	1-15	1-16	1-17	Total Score
W-1	0	2	0	0	0	1	0	0	0	2	0	1	2	2	0	2	2	14
W-2	0	2	0	0	0	1	0	2	0	2	0	1	0	2	0	2	2	14
W-3	0	2	0	0	0	1	0	0	0	2	0	1	0	2	0	2	2	12
W-4	0	0	0	0	0	0	0	0	0	2	0	1	0	2	0	2	2	9
W-5	0	2	0	0	0	0	0	1	0	2	0	1	0	2	0	2	2	12
W-6	0	2	0	0	0	1	0	1	0	2	0	1	0	2	0	2	2	13
W-7	0	2	0	0	0	1	0	1	0	2	0	1	0	2	0	2	2	13
X-1	0	2	0	0	0	1	0	0	2	2	2	1	2	2	0	2	2	18
X-2	0	2	0	0	0	1	0	2	2	2	2	1	2	2	0	2	2	20
X-3	0	2	0	0	0	0	0	0	2	2	2	1	2	2	0	2	2	17
X-4	0	0	0	0	0	0	0	1	2	2	0	1	0	2	0	2	2	12
X-5	0	2	0	0	0	0	0	1	2	2	0	1	0	2	0	2	2	14
X-6	0	0	0	0	0	0	0	1	2	2	0	1	0	2	0	2	2	12
X-7	0	0	0	0	0	0	0	1	0	2	0	1	0	2	0	2	2	10
X-8	0	2	0	0	0	0	0	2	2	2	0	1	0	2	0	2	2	15
X-9	0	2	0	0	0	0	0	2	0	2	0	1	0	2	0	2	2	13
X-10	0	0	0	0	0	0	0	0	0	2	0	1	0	2	0	2	2	9
X-11	0	0	0	0	0	0	0	2	0	2	0	1	0	2	0	2	2	11
X-12	0	2	0	0	0	0	0	2	0	2	0	1	0	2	0	2	2	13
X-13	0	2	0	0	0	0	0	0	0	2	0	1	0	2	0	2	2	11

Figure 7-3 Tier 1 Screening Results



[2] For each candidate site, the value/range of its subsite(s)' total score(s) is listed in parentheses.

7.5 Evaluation Criteria and Scores

Candidate truck parking sites that passed Tier 1 Screening (**Figure 7-3**) and two newly proposed candidate sites (Y and Z) were assessed against a second set of "pull" factors that accentuate candidate sites that best fit a truck parking function. **Table 7-4** lists these criteria and how evaluation scores are assigned in Tier 2 screening. Criterion 2-17 (Marketability) and Criterion 2-18 (Constructability) are composite criteria and therefore are each assigned a score range of 1-15 per **Tables 7-5 and 7-6**. Other Tier 2 criteria are assigned the same score range of 0-2. Due to previously discussed revisions in the Miami-Dade County CDMP and the Code of Miami-Dade County, agriculture is added to the list of compatible land uses in Tier 2 evaluation.

Three equally weighted factors were considered in the evaluation process of Criterion 2-17 (Marketability). First, each factor was evaluated separately following the scoring method presented in **Table 7-4**. The number of potential parking spaces were calculated per site since a single subsite is not able to accommodate a single parking facility. The two other Marketability factors were evaluated per subsite. After examining five (5) truck parking sites on I-75 and I-95 on Google map coverage (**Figure 7-4**), an average rate of 13 parking spaces per acre was used to estimate the number of potential parking spaces for each candidate site. Because the scores were calculated based on rankings instead of the absolute number of parking spaces, this estimated rate is deemed sufficient for the purpose of this analysis. To calculate the final scores for Criterion 2-17, the sum of the scores of all three factors were standardized to the range of 1-15. The final scores reflect the relative marketability of each subsite compared to the other candidate subsites in Tier 2 screening.

Figure 7-4 Truck Parking Sites on I-75 and I-95

Scores for Criterion 2-18 (Constructability) were calculated in a similar manner. The access factor was evaluated per site, whereas the other two factors were evaluated per subsite. **Table 7-5** presents the three factors in Criterion 2-18 (Constructability) and their scoring methods.

Tier 2 evaluation scores of all candidate subsites are presented in **Table 7-7**. Tier 2 analysis maps are presented in **Appendix H.** **Figure 7-5** presents the total Tier 2 evaluation scores/score ranges by site. **Figure 7-5** also highlights the top 30 (out of 59) subsites with the highest total scores, which belong to seven candidate sites: O, S, U, V, W, X, and Y. The number of selected sites was determined per request of the FDOT District 6. These candidate sites were considered the better performing sites based on Tier 2 scoring methodology and were recommended for further review.

Table 7-4 Tier 2 Evaluation Criteria

Criteria ID	Criteria	Required/Desired Outcome	Scores
2-1	Impacts wetlands?	No	2: No 0: Yes
2-2	Located within floodplain?	No or Yes (Zone X)	2: No 0: Yes (Zone X)
2-3	Located within a wellfield protection area?	No	2: No 0: Yes
2-4	Located within or near a contaminated site?	No	2: No 0: Yes
2-5	Located within a protected wildlife area?	No	2: No 0: Yes
2-6	Located within a protected habitat area?	No	2: No 0: Yes
2-7	Proximity to education facilities?	Least possible within 1-mile buffer	Normalized to 0 - 2
2-8	Proximity to religious institutions?	Least possible within 1-mile buffer	Normalized to 0 - 2
2-9	Proximity to medical facilities?	Least possible within 1-mile buffer	Normalized to 0 - 2
2-10	Proximity to emergency response facilities?	Least possible within 1-mile buffer	Normalized to 0 - 2
2-11	Proximity to civic facilities and institutions?[3]	Least possible within 1-mile buffer	Normalized to 0 - 2
2-12	Proximity to cemeteries?	Least possible within 1-mile buffer	Normalized to 0 - 2
2-13	Proximity to parks and public-use lands?	Least possible within 1-mile buffer	Normalized to 0 - 2
2-14	Proximity to historical/archeological districts and/or sites?	Least possible within 1-mile buffer	Normalized to 0 - 2
2-15	Near a railroad crossing?	No	2: No 0: Yes

[3] Homestead Miami Speedway is a civic facility but being adjacent to this specific civic facility is not considered a negative factor.

Criteria ID	Criteria	Required/Desired Outcome	Scores
2-16	Proximity to noise receptors?	Away from Category B noise receptors (residential land use)	2: Over 800 feet away 1.6: Within 400-800 feet 1.2: Within 200-400 feet 0.8: Within 100-200 feet 0.4: Within 100 feet
2-17	Marketability	• Maximum number of potential parking spaces • Visible from a nearby major highway • Convenient access from and to the closest interchange	Normalized to 1-15
2-18	Constructability	• Compatible adjacent land use (existing and future) • Good accessibility	Normalized to 1-15
2-19	Potential cost of site development per acre, including 2020 land value and the estimated development cost with truck electrification for 50 percent of parking spaces. Land values were acquired from Miami-Dade County Property Appraiser. Cost estimations are developed based on Miami-Dade TPO Phase II Study [Contract No. GPC IV-21])[4] – Table 12.	Least possible in US dollars in 2020	Normalized to 0 - 2

[4] http://miamidadetpo.org/library/studies/development-of-truck-parking-facilities-phase-ii-options-for-implementation-final-2012-08.pdf

Table 7-5 Factors in Criterion 2-17 (Marketability)

Factors	Scoring Methods	Score Ranges
Potential parking spaces	5: >800 parking spaces 4: 600-800 parking spaces 3: 400-600 parking spaces 2: 200-400 parking spaces 1: <200 parking spaces	1-5
Convenience of access to nearest interchange	Qualitative assessment based on truck maneuverability, number of turns and number of traffic signals	1-5
Visibility from a nearby major highway	5: visible 1: not visible	1-5

Table 7-6 Factors in Criterion 2-18 (Constructability)

Factors	Scoring Methods	Score Ranges
Access	5 for good access 2.5 for moderate access 0 for poor access	0-5
Compatibility of adjacent land – existing	First calculate the percentage of compatible land in adjacent area (0.5-mile buffer outside the candidate subsite), then normalize analysis results to score range. Compatible existing land use types in the study area include: • Agriculture • Airports, ports • Communications, utilities, terminals, plants • Industrial • Mobile home parks • Office • Streets, expressway r/w • Streets, roads, expressways, ramps • Vacant, government owned • Vacant, Protected, Privately Owned • Vacant, Unprotected • Water	0-5
Compatibility of adjacent land – future	First calculate the percentage of compatible land in adjacent area (0.5-mile buffer outside the site), then normalize to 0-15 Compatible future land use types in the study area include: • Agriculture • Industrial and office • Institutions, utilities, and communication • Terminals • Transportation (row, rail, Metrorail, etc.) • Water	0-5

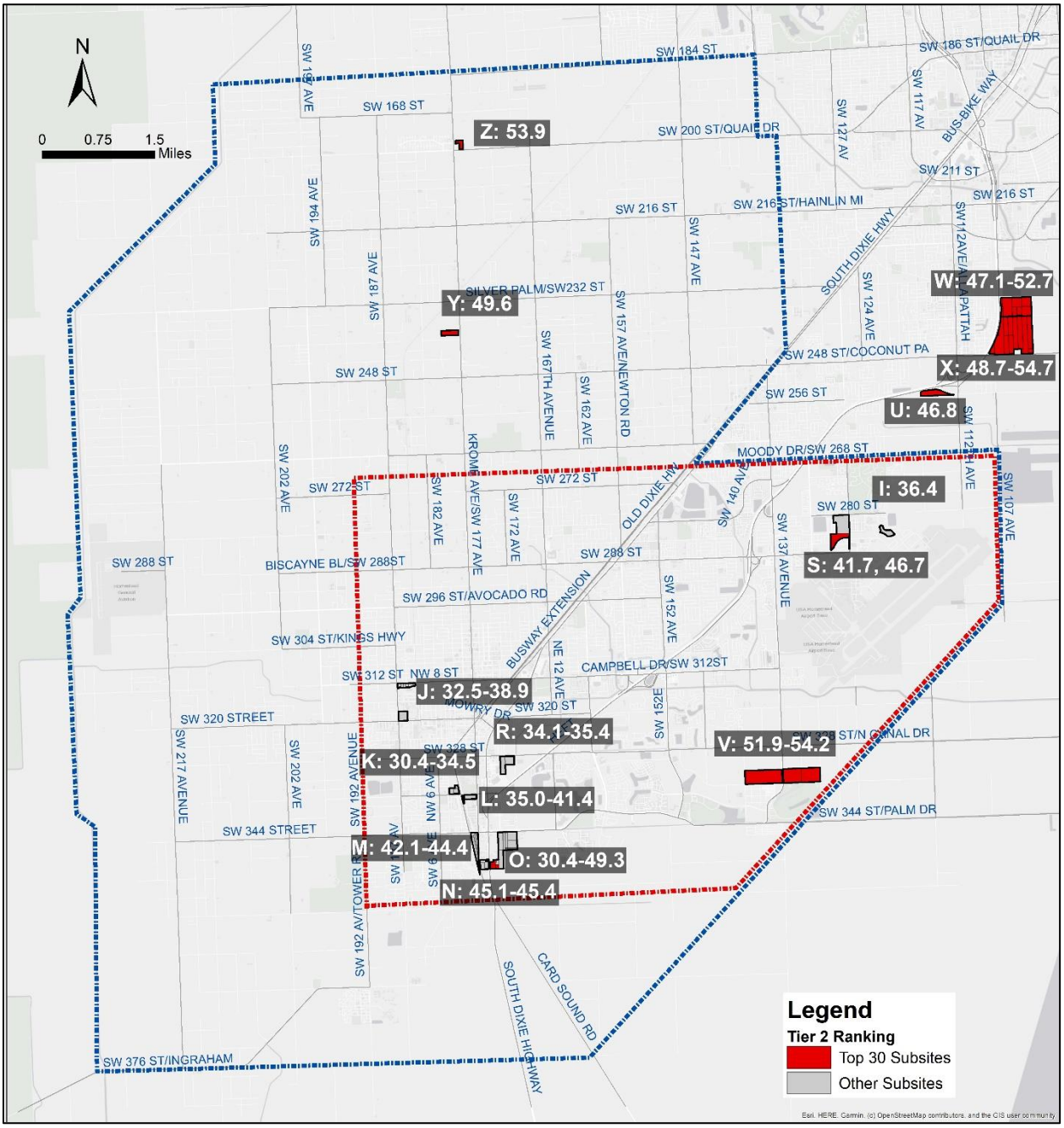
Table 7-7 Tier 2 Evaluation Scores of Candidate Truck Parking Sites

Criteria ID / Subset ID	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11	2-12	2-13	2-14	2-15	2-16	2-17	2-18	2-19	Total Score
I-1	0	2	2	0	2	2	1.6	2.0	2.0	2	2	2	1.6	2.0	2	2.0	1.0	7.2	0.9	36.4
J-1	2	2	2	2	2	2	0.8	0.7	0.0	2	2	2	1.1	1.6	2	0.4	12.2	1.3	0.9	38.9
J-2	2	2	2	2	2	2	0.8	0.7	0.0	2	2	2	0.9	1.6	2	0.4	12.2	1.2	0.8	38.6
J-3	2	2	2	2	2	2	0.6	0.6	0.0	2	2	2	0.9	1.6	2	0.4	12.2	1.2	0.8	38.3
J-4	2	2	2	2	2	2	0.4	0.6	0.0	2	2	2	0.9	1.6	2	0.4	12.2	1.2	0.8	38.1
J-5	2	2	0	2	2	2	0.3	0.5	0.0	2	2	2	0.7	1.6	2	0.4	12.2	1.0	1.9	36.6
J-6	2	2	0	2	2	2	0.3	0.5	0.0	2	2	2	0.4	1.6	0	0.4	12.2	1.1	0.0	32.5
J-7	2	2	2	2	2	2	0.3	0.1	0.0	2	2	2	0.4	1.6	2	0.4	6.6	1.9	1.4	32.7
K-1	2	2	0	2	2	2	0.4	0.0	0.0	2	2	2	0.0	0.0	2	0.4	5.2	5.5	0.9	30.4
K-2	2	2	0	2	2	2	0.4	0.0	0.0	2	2	2	0.2	0.0	2	0.8	5.2	5.8	1.0	31.4
K-3	2	2	0	2	2	2	0.3	0.0	0.0	2	2	2	0.2	0.0	2	1.6	5.2	5.8	1.0	32.1
K-4	2	2	2	2	2	2	0.4	0.0	0.5	2	2	2	0.2	0.0	2	1.2	5.2	5.9	1.0	34.5
L-1	2	0	2	2	2	2	0.6	0.2	1.0	2	2	2	0.2	0.0	2	1.2	6.6	6.3	1.0	35.0
L-2	2	0	2	2	2	2	0.5	0.2	1.0	2	2	2	0.4	0.0	2	1.6	12.2	6.3	1.2	41.4
M-1	2	0	2	2	2	2	1.0	1.7	1.0	2	2	2	1.3	0.0	2	1.2	12.2	6.4	1.2	44.0
M-2	0	0	2	2	2	2	1.2	1.7	1.0	2	2	2	1.3	0.0	2	0.8	12.2	6.9	1.1	42.1
M-3	2	0	2	2	2	2	1.3	1.7	1.0	2	2	2	1.3	0.0	2	1.6	12.2	6.3	1.1	44.4
N-1	2	0	2	2	2	2	1.4	1.7	1.5	2	2	2	1.6	0.4	2	1.2	10.8	7.4	1.1	45.1
N-2	2	0	2	2	2	2	1.3	1.7	1.5	2	2	2	1.6	0.4	2	1.6	10.8	7.5	0.9	45.4
O-1	0	0	2	2	2	2	1.2	1.8	1.0	2	2	2	1.6	0.0	2	1.2	9.4	7.3	1.4	40.8
O-2	2	0	2	2	2	2	1.2	1.9	1.0	2	2	2	1.6	0.4	2	1.2	9.4	7.4	0.5	42.4
O-3	0	0	2	2	2	2	1.2	1.9	1.0	2	2	2	1.6	0.4	2	1.2	9.4	7.4	0.4	40.4
O-4	2	0	2	2	2	2	1.2	1.9	1.0	2	2	2	1.3	0.4	2	0.4	9.4	6.9	0.9	41.4
O-5	0	0	2	2	2	0	1.4	1.9	1.5	2	2	2	1.6	0.4	2	0.4	9.4	7.5	1.6	39.6
O-6	0	0	2	2	2	2	1.4	1.9	1.5	2	2	2	1.8	0.4	2	2.0	15.0	7.6	1.0	48.5
O-7	0	0	2	2	2	2	1.5	1.9	2.0	2	2	2	1.6	0.8	2	2.0	9.4	7.8	1.5	44.4
O-8	0	0	2	2	2	2	1.5	1.9	1.5	2	2	2	1.8	0.4	2	2.0	15.0	8.2	1.1	49.3

Criteria ID / Subset ID	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11	2-12	2-13	2-14	2-15	2-16	2-17	2-18	2-19	Total Score
O-9	0	0	2	2	2	2	1.6	1.9	2.0	2	2	2	2.0	0.8	2	2.0	9.4	8.4	1.5	45.5
O-10	0	0	2	2	2	2	1.5	1.9	1.0	2	2	2	1.6	0.4	2	2.0	9.4	8.3	1.7	43.8
R-1	2	0	2	2	2	2	0.1	0.7	1.5	2	2	2	0.2	1.2	2	0.4	5.2	6.7	1.3	35.4
R-2	2	0	2	2	2	2	0.0	0.6	1.0	2	2	2	0.2	0.4	2	0.4	5.2	6.9	1.3	34.1
S-1	2	2	2	0	2	2	1.3	2.0	1.5	2	2	2	1.8	2.0	2	0.4	8.0	4.8	1.9	41.7
S-2	2	2	2	0	2	2	1.3	2.0	1.5	2	2	2	1.8	2.0	2	0.4	13.6	4.3	1.8	46.7
U-1	2	0	2	2	2	2	1.6	2.0	2.0	2	2	2	1.6	2.0	2	1.2	9.4	10.0	1.8	49.6
V-1	0	0	2	2	2	2	1.8	2.0	2.0	2	2	2	2.0	2.0	2	2.0	15.0	7.6	2.0	52.4
V-2	0	0	2	2	2	2	2.0	2.0	2.0	2	2	2	2.0	2.0	2	2.0	15.0	6.9	2.0	51.9
V-3	0	0	2	2	2	2	2.0	2.0	2.0	2	2	2	2.0	2.0	2	2.0	15.0	9.2	2.0	54.2
W-1	2	0	2	2	2	2	1.3	1.9	1.5	2	2	2	1.1	2.0	2	1.2	15.0	7.8	1.4	51.3
W-2	2	0	2	2	2	2	1.4	1.9	1.5	2	2	2	0.7	2.0	2	1.6	9.4	8.7	1.9	47.1
W-3	2	0	2	2	2	2	1.5	2.0	1.5	2	2	2	1.3	2.0	2	2.0	9.4	10.9	1.4	50.0
W-4	2	0	2	2	2	2	1.5	2.0	1.5	2	2	2	1.6	2.0	2	2.0	9.4	12.0	1.3	51.3
W-5	2	0	2	2	2	2	1.6	2.0	1.5	2	2	2	1.6	2.0	2	2.0	9.4	12.9	1.7	52.7
W-6	2	0	2	2	2	2	1.5	2.0	1.5	2	2	2	0.7	2.0	2	2.0	9.4	10.4	1.7	49.2
W-7	2	0	2	2	2	2	1.5	2.0	1.5	2	2	2	0.9	2.0	2	2.0	9.4	11.9	1.7	50.9
X-1	2	0	2	2	2	2	1.6	2.0	1.5	2	2	2	1.8	2.0	2	1.2	15.0	9.3	1.3	53.7
X-2	0	0	2	2	2	2	1.3	2.0	1.5	2	2	2	1.3	2.0	2	1.2	15.0	9.7	1.9	52.0
X-3	2	0	2	2	2	2	1.6	2.0	1.5	2	2	2	1.3	2.0	2	1.2	15.0	8.7	1.4	52.7
X-4	2	0	2	2	2	2	1.5	2.0	1.5	2	2	2	1.3	2.0	2	1.6	9.4	10.0	1.7	49.0
X-5	2	0	2	2	2	2	1.5	2.0	1.5	2	2	2	1.3	2.0	2	1.6	9.4	11.0	1.7	50.0
X-6	0	0	2	2	2	2	1.8	2.0	1.5	2	2	2	1.6	2.0	2	1.6	9.4	11.2	1.7	48.7
X-7	0	0	2	2	2	2	1.8	2.0	1.5	2	2	2	1.8	2.0	2	2.0	9.4	12.1	1.6	50.2
X-8	2	0	2	2	2	2	1.5	2.0	1.5	2	2	2	1.3	2.0	2	2.0	9.4	12.3	1.9	51.8
X-9	2	0	2	2	2	2	1.8	2.0	1.5	2	2	2	1.6	2.0	2	2.0	9.4	13.1	1.9	53.1
X-10	0	0	2	2	2	2	1.8	2.0	2.0	2	2	2	2.0	2.0	2	2.0	9.4	14.5	1.2	53.0
X-11	0	0	2	2	2	2	1.8	2.0	1.5	2	2	2	1.6	2.0	2	2.0	9.4	13.9	1.9	52.0
X-12	2	0	2	2	2	2	1.8	2.0	1.5	2	2	2	1.8	2.0	2	2.0	9.4	14.5	1.9	54.7

Criteria ID / Subset ID	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11	2-12	2-13	2-14	2-15	2-16	2-17	2-18	2-19	Total Score
X-13	0	0	2	2	2	2	1.8	2.0	2.0	2	2	2	2.0	2.0	2	2.0	9.4	15.0	1.4	53.6
Y-1	2	0	2	2	2	2	2.0	1.9	2.0	2	2	2	1.8	0.8	2	1.2	9.4	10.7	1.7	49.6
Z-1	2	0	2	2	2	2	2.0	2.0	2.0	2	2	2	2.0	2.0	2	1.2	9.4	13.9	1.4	53.9

Figure 7-5 Tier 2 Screening Results[5]



[5] For each candidate site, the value/range of its subsite(s)' total score(s) is listed.

7.6 Qualitative Review

The seven (7) better performing sites determined in the Tier 2 screening were reviewed qualitatively to identify the most viable locations for the implementation of a truck parking facility. The goal of this review was to identify a short list of subsites for conceptual site layout development and cost estimates. **Table 7-8** presents findings of this qualitative review. Four locations were recommended for developing conceptual site layouts.

Table 7-8 Recommendations of Qualitative Review

Site	Selected	Rejection Reason(s)	Recommended Usage	Recommended Location for Developing Site Layouts
O	Yes		Primarily for long-haul truck parking, with unused area available for local drayage parking	Subsites O-6, O-7, O-8, O-9, and O-10
S	No	Oddly shaped.		
U	No	Oddly shaped. Part of a proposed 568-acre industrial development seeking Miami-Dade County's approval		
V	No	Remote from main corridors. Property owner has already ceded a parcel for development of industrial warehouse project		
W	Yes		Long-haul truck parking and local drayage truck parking	Subsites X-4, X-5, X-6, and X-7 (as a prototype schematic for Site W and X)
X	Yes		Long-haul truck parking and local drayage truck parking	
Y	Yes		Local drayage truck parking only	Site Y
Z	Yes		Local drayage truck parking only	Site Z

7.7 Conceptual Site Layouts and Cost Estimates

Based on the findings of previous analyses, conceptual site layouts were developed for four recommended locations shown in **Table 7-8. Table 7-9** presents a summary of the key features and estimated total costs of the four sites. The details on the estimated total costs are provided in Section 7.9.

Table 7-9 Parking Spaces, Amenities and Costs at Recommended Locations

	Location 1	Location 2	Location 3	Location 4
Car Parking Spaces	9	10	14	31
Tractor Trailer Parking Spaces	33	13	116	280
Drayage/Tractor Parking Spaces	104	61	76	408
Drainage Detention Area (Acres)	1.96	0.87	3.63	7.99
Building for Office/Security, Maintenance Storage, Restrooms and Vending (Square Feet)	500	500	2,000	2,000
Streetlight and CCTV Camera Location	4	5	5	8
Security Perimeter Fence	Yes	Yes	Yes	Yes
Total Cost	$17,706,410	$9,785,126	$32,412,230	$69,236,746

7.8 Conceptual Site Layouts

The descriptions of each location and the assumptions used for site layout development are presented below. Prospective configurations are presented in **Figure 7-6 to Figure 7-9**.

- **Location 1 (Site Y)** is a 9.33-acre parcel located on the west side of Krome Avenue near SW 238th Street. The site can accommodate approximately 104 drayage / tractor parking spaces, 33 tractor trailer parking spaces, and 9 car parking spaces. In addition, approximately 20% (1.96 acres) is reserved for drainage. Amenities include lighting, CCTV cameras, security/perimeter fencing, and a 500-sf building for office / security / maintenance / restrooms / vending. Various ingress and egress points are available along Krome Avenue depending on the final site configuration.
  Assumptions included:
  - 15 ft. wide truck parking spaces to allow for ease of parking and potential future electrification
  - Approximately 20% of the site is reserved for drainage
  - Only standard site amenities
  - Site shows two potential access points as ingress/egress, but final site will likely have single / separate ingress and egress points for ease of security and control of site
  - Utility poles exists along the property frontage but should be avoidable

- **Location 2 (Site Z)** is a 5.09-acre parcel located on the east side of Krome Avenue and north side of SW 200th Street. The site can accommodate approximately 61 drayage / tractor parking spaces, 13 tractor trailer parking spaces, and 10 car parking spaces. In addition, approximately 17% (0.87 acres) is reserved for

drainage. Amenities include lighting, CCTV cameras, security/perimeter fencing, and a 500-sf building for office / security / maintenance / restrooms / vending. Various ingress and egress points are available depending on the final site configuration.
Assumptions included:

- 15 ft. wide truck parking spaces to allow for ease of parking and potential future electrification.
- Approximately 20% of the site is reserved for drainage.
- Only standard site amenities
- Site shows three potential access points as ingress/egress, but final site will likely have single / separate ingress and egress points for ease of security and control of site
- Utility poles exists along the property frontage and include low hanging utilities that will need adjusting.

- **Location 3 (subsites O-6, O-7, O-8, O-9, and O-10)** is 17.44 acres consisting of 5 parcels located on the east side of South Dixie Highway near SW 352nd Street. The site can accommodate approximately 76 drayage / tractor parking spaces, 76 tractor trailer parking spaces, and 14 car parking spaces. In addition, approximately 20% (3.63 acres) is reserved for drainage. Amenities include lighting, CCTV cameras, security/perimeter fencing, and a 2000 sf building for office / security / maintenance / restrooms / vending. Various ingress and egress points are available along Krome Avenue depending on the final site configuration. In addition, a NB right turn lane into the site may require R/W from the adjacent parcel.
  Assumptions included:
  - 15 ft. wide truck parking spaces to allow for ease of parking and potential future electrification.
  - Approximately 20% of the site is reserved for drainage.
  - Only standard site amenities
  - Site shows three potential access points (two as ingress/egress and one as ingress), but final site will likely have single / separate ingress and egress points for ease of security and control of site
  - Guardrail exists along the property frontage to the roadway, but can likely be removed once the site is built to match the roadway grade
  - There is an existing outdoor advertising sign that will need additional coordination
  - There is one power pole that may need relocation

- **Location 4 (subsites X-4, X-5, X-6, and X-7)** is 40-acre parcel located on the north side of SW 248th Street just east of the Turnpike. The site can accommodate approximately 408 drayage / tractor parking spaces, 280 tractor trailer parking spaces, and 31 car parking spaces. In addition, approximately 20% (7.99 acres) is reserved for drainage. Amenities include lighting, CCTV cameras, security/perimeter fencing, and a 2000 sf building for office / security / maintenance / restrooms / vending. Various ingress and egress points are available along SW 248th Street depending on the final site configuration. In addition, a WB right turn lane into the site may require R/W from the adjacent parcel.
  Assumptions included:
  - 15 ft. wide truck parking spaces to allow for ease of parking and potential future electrification.
  - Approximately 20% of the site is reserved for drainage.
  - Only standard site amenities
  - Site shows three potential ingress and egress access points, but final site will likely have single / separate ingress and egress points for ease of security and control of site
  - Existing frontage roadway is a 2-lane undivided roadway that will likely require modifications (i.e., left turn into site) to minimize traffic impacts and to increase safety
  - There is an existing tower that will need additional coordination

Figure 7-6 Truck Parking Site Concept and Configuration – Location 1

Figure 7-7 Truck Parking Site Concept and Configuration – Location 2

Figure 7-8 Truck Parking Site Concept and Configuration – Location 3

Figure 7-9 Truck Parking Site Concept and Configuration – Location 4

7.9 Cost Estimates

Cost estimates were developed for each concept plan and are presented in **Figure 7-10 to Figure 7-13**.

The concept plans for each site were developed utilizing Computer-Aided Design and Drafting (CADD) software. Therefore, quantities for clearing and grubbing, fencing, performance turf, and pavement are based on the quantity assessments from CADD. The pavement design was based on the 2020 FDOT Rigid Pavement Design Manual.

Due to the nature of the sites being undeveloped, it was assumed that 2 ft. of soil over the site will be removed for grading/organic material and 3 ft. of embankment will be added to bring the site to required grade. The unit costs for these items were based on 2021 FDOT historical cost data[6].

Items such as drainage, lighting, ITS/CCTV cameras, water/sewer/electrical, entrance / turn lane and facilities buildings were based on estimates for recent similar sites such as the Golden Glades Multimodal Transportation Facility (GGMTF) and the Golden Glades Truck Travel Center (GGTTC). For these items, assumptions included:

- Standard facility building (office, maintenance, restroom, vending) would be constructed with limited amenities.
- ITS would be limited to a camera system (CCTV) and other minor improvements such as conduit/fiber for future use (does not include truck park availability system or electrification).
- The drainage system would include a combination of French drains and on-site detention with unknown soil conditions.
- Entrance would include standard FDOT turn lanes (no signalization)

Percentage (%) cost items such as Design, Landscaping, Maintenance of Traffic, Construction Engineering and Inspection (CEI), Mobilization, and Contingency were based on FDOT typical estimating percentages and direct coordination with FDOT for this study.

[6] https://www.fdot.gov/programmanagement/estimates/historical-item-average-costs/historicalcost.shtm

Figure 7-10 Location 1 Truck Parking Concept Cost Estimate

Item description	Quantity	Cost	Unit	Total
Site Clearing and Grubbing	9.79	$12,098.36	AC	$118,432
Excavation - Assume 2 ft. over entire site	31586.19	$18.96	CY	$598,874
Fill - Assume 3 ft. over entire site	47379.29	$16.59	CY	$786,022
Drainage	9.79	$200,000.00	AC	$1,957,822
Paved parking lot area - Assume minimum concrete pavement design: Type B Stabilization (12") OBG 4 Type B-12.5 Only (4") Concrete Pavement Slab (8")	33547.71	$132.94	SY	$4,459,833
Edge drain for concrete pavement	4825.00	$28.62	LF	$138,092
Lighting	9.79	$80,000.00	AC	$783,200
CCTV Cameras / ITS	9.79	$80,000.00	AC	$783,200
Perimeter fence	2981.00	$25.00	LF	$74,525
Performace Turf	9476.72	$4.81	SY	$45,583
Concrete curb & gutter	4825.00	$25.17	LF	$121,445
Signing & Markings	9.79	$20,000.00	AC	$195,800
Turn Lane / Entrance Improvements	1.00	$350,000.00	LS	$350,000
Water/Sewer/Electric (for site/building)	1.00	$350,000.00	LS	$350,000
Facilities building	500.00	$200.00	SQ.FT.	$100,000

	SUBTOTAL	**$10,862,828.32**
20% Design		$2,172,565.66
Geotech - 15% of Design Total		$325,884.85
Survey - 15% of Design Total		$325,884.85
5% Landscaping		$543,141.42
10% Maintenance of Traffic		$1,086,282.83
5% CEI		$543,141.42
7% Mobilization		$760,397.98
10% Unknowns/Contingency		$1,086,283
	TOTAL	**$17,706,410**

Figure 7-11 Location 2 Truck Parking Concept Cost Estimate

Item description	Quantity	Cost	Unit	Total
Site Clearing and Grubbing	5.06	$12,098.36	AC	$61,199
Excavation - Assume 2 ft. over entire site	16321.83	$18.96	CY	$309,462
Fill - Assume 3 ft. over entire site	24482.74	$16.59	CY	$406,169
Drainage	5.06	$200,000.00	AC	$1,012,000
Paved parking lot area - Assume minimum concrete pavement design: Type B Stabilization (12") OBG 4 Type B-12.5 Only (4") Concrete Pavement Slab (8")	17710.55	$132.94	SY	$2,354,441
Edge drain for concrete pavement	3269.55	$28.62	LF	$93,575
Lighting	5.06	$75,000.00	AC	$379,500
CCTV Cameras / ITS	5.06	$75,000.00	AC	$379,500
Perimeter fence	2009.84	$25.00	LF	$50,246
Performace Turf	4898.08	$4.81	SY	$23,560
Concrete curb & gutter	3269.55	$25.17	LF	$82,295
Signing & Markings	5.06	$20,000.00	AC	$101,200
Turn Lane / Entrance Improvements	1.00	$300,000.00	LS	$300,000
Water/Sewer/Electric (for site/building)	1.00	$350,000.00	LS	$350,000
Facilities building	500.00	$200.00	SQ.FT.	$100,000

	SUBTOTAL	**$6,003,145.02**
20% Design		$1,200,629.00
Geotech - 15% of Design Total		$180,094.35
Survey - 15% of Design Total		$180,094.35
5% Landscaping		$300,157.25
10% Maintenance of Traffic		$600,314.50
5% CEI		$300,157.25
7% Mobilization		$420,220.15
10% Unknowns/Contingency		$600,315
	TOTAL	**$9,785,126**

Figure 7-12 Location 3 Truck Parking Concept Cost Estimate

Item description	Quantity	Cost	Unit	Total
Site Clearing and Grubbing	18.31	$12,098.36	AC	$221,514
Excavation - Assume 2 ft. over entire site	59078.33	$18.96	CY	$1,120,125
Fill - Assume 3 ft. over entire site	88617.50	$16.59	CY	$1,470,164
Drainage	18.31	$200,000.00	AC	$3,662,000
Paved parking lot area - Assume minimum concrete pavement design: Type B Stabilization (12") OBG 4 Type B-12.5 Only (4") Concrete Pavement Slab (8")	63024.91	$132.94	SY	$8,378,531
Edge drain for concrete pavement	2744.31	$28.62	LF	$78,542
Lighting	18.31	$80,000.00	AC	$1,464,800
CCTV Cameras / ITS	18.31	$80,000.00	AC	$1,464,800
Perimeter fence	4152.00	$25.00	LF	$103,800
Performace Turf	17724.08	$4.81	SY	$85,253
Concrete curb & gutter	2744.31	$25.17	LF	$69,074
Signing & Markings	18.31	$20,000.00	AC	$366,200
Turn Lane / Entrance Improvements	1.00	$400,000.00	LS	$400,000
Water/Sewer/Electric (for site/building)	1.00	$600,000.00	LS	$600,000
Facilities building	2000.00	$200.00	SQ.FT.	$400,000

	SUBTOTAL	**$19,884,803.69**
20% Design		$3,976,960.74
Geotech - 15% of Design Total		$596,544.11
Survey - 15% of Design Total		$596,544.11
5% Landscaping		$994,240.18
10% Maintenance of Traffic		$1,988,480.37
5% CEI		$994,240.18
7% Mobilization		$1,391,936.26
10% Unknown/Contingency		$1,988,480
	TOTAL	**$32,412,230**

Figure 7-13 Location 4 Truck Parking Concept Cost Estimate

Item description	Site Area	Cost	Unit	Total
Site Clearing and Grubbing	39.81	$12,098.36	AC	$481,594
Excavation - Assume 2 ft. over entire site	128442.50	$18.96	CY	$2,435,270
Fill - Assume 3 ft. over entire site	192663.75	$16.59	CY	$3,196,292
Drainage	39.81	$200,000.00	AC	$7,962,000
Paved parking lot area - Assume minimum concrete pavement design: Type B Stabilization (12") OBG 4 Type B-12.5 Only (4") Concrete Pavement Slab (8")	140313.78	$132.94	SY	$18,653,314
Edge drain for concrete pavement	10000.00	$28.62	LF	$286,200
Lighting	39.81	$80,000.00	AC	$3,184,800
CCTV Cameras / ITS	39.81	$80,000.00	AC	$3,184,800
Perimeter fence	6360.13	$25.00	LF	$159,003
Performace Turf	38536.08	$4.81	SY	$185,359
Concrete curb & gutter	10000.00	$25.17	LF	$251,700
Signing & Markings	39.81	$20,000.00	AC	$796,200
Turn Lane / Entrance Improvements	1.00	$500,000.00	LS	$500,000
Water/Sewer/Electric (for site/building)	1.00	$800,000.00	LS	$800,000
Facilities building	2000.00	$200.00	SQ.FT.	$400,000

	SUBTOTAL	**$42,476,531.46**
20% Design		$8,495,306.29
Geotech - 15% of Design Total		$1,274,295.94
Survey - 15% of Design Total		$1,274,295.94
5% Landscaping		$2,123,826.57
10% Maintenance of Traffic		$4,247,653.15
5% CEI		$2,123,826.57
7% Mobilization		$2,973,357.20
10% Unknowns/Contingency		$4,247,653
	TOTAL	**$69,236,746**

7.10 Summary

Florida's Freight Mobility and Trade Plan (FMTP) provides FDOT with an integrated and comprehensive approach for improving the movement of goods, commodities, and services throughout the State. FDOT District 6 adopted this assessment approach and has identified the City of Homestead as one important freight community in the district. FDOT seeks to develop a well-planned, efficient, and comprehensive subarea freight plan that ties Homestead with other freight communities around the Miami-Dade County to facilitate regional freight movement.

As part of the subarea freight plan, this study aims to determine potential locations for the development of truck parking facilities within the study area, which includes the City of Homestead, the City of Florida City, as well as the Homestead Air Reserve base. This study evaluated 76 parcels against 17 "push" factors that can help screen out sites unsuitable for truck parking (Tier 1 Screening). The candidate truck parking sites that passed Tier 1 Screening were then assessed against a set of "pull" factors that accentuate candidate sites that best fit a truck parking function (Tier 2 Screening). Finally, the study selected four recommended parking locations after a round of qualitative review. For each recommended location, this study proposed a conceptual site layout and prepared a construction cost estimate.

In sum, this analysis has identified a short list of feasible truck parking sites in the study area. For the four agreed upon high priority sites, the study highlights their potential and constraints for the development of truck parking by providing prospective conceptual layouts and cost estimates.

app

Section 8.0 Stakeholder Outreach and Feedback

8.0 Stakeholder Outreach and Feedback

This section of the report provides an overview of the stakeholder outreach and feedback process employed for this study to gain useful insight into freight-related issues and needs of southern Miami-Dade County. A Public Involvement Plan (PIP) was developed to define and guide the outreach program.

8.1 Overview

8.1.1 Approach

This outreach program was prepared to engage the private freight and logistics sector within the study area, as well as key stakeholders about FDOT's statewide, regional, and local freight initiatives and available resources. Previous subarea freight studies had used a conventional outreach method of publicizing meetings a specific time and place and encouraging attendance through targeted noticing and social media channels. While useful information was gained, attendance at such events was uneven and often disproportionate to the effort of the consultant and client to organize and produce the meeting. For this study, it was determined to "flip the strategy" and rather than have the targeted audience come to the meeting, the study team would reach out to contact targeted stakeholders to solicit their input. This required some investment to compile a list of contacts tailored to the study area. Several different groups were targeted to seek perspectives from various groups interested and/or involved with freight-related activities. Those stakeholders who participated were engaged in the interactive sessions and provided a range of feedback from their viewpoints as providers, users or observers of freight movement, with comments ranging from the system-level to small-scale problems.

The outreach program served as a channel to increase awareness and facilitate stakeholder/public input and share findings and recommendations. An "action plan" was developed as a checklist on event noticing with scripts, meeting content summaries, stakeholder interview form, general timing, and team responsibilities. A webpage on the FDOT District 6 projects site was prepared. One-on-one visits, meetings, and presentations with stakeholders, agencies and private sector organizations were conducted and are provided in **Appendix I**. Two project fact sheets (study overview and truck parking analysis) and a study area map were prepared and used in outreach efforts to provide a concise profile of the study effort. A master presentation was developed to capture the accumulated work during the study, and was used as a resource to create shorter, targeted presentations for use in the outreach efforts involving groups. At some of the group meetings, online polling was used to gain information on issues and priorities. All group meetings had agendas prepared and distributed with notices in advance of the actual sessions. The fact sheets were included with email blasts and with various meeting notices.

The specific dates and outreach formats were arranged accordingly and in view of COVID-19 public policies prevailing at the time and as they evolved. Most of the outreach was conducted virtually which attendees found very convenient. Some one-on-one interviews and briefings to elected officials were done in person. Every group session of any type was planned with an agenda, which was shared in the meeting notices so that participants could be prepared to productively participate in the conversations and make good use of their time contribution.

8.1.2 Stakeholder and Agency Contact List

A master list of freight stakeholders, community and business leaders, elected officials, agency staff, freight/logistics providers and users, and major activity centers, such as Homestead Air Reserve Base and the Homestead Miami Speedway was developed and maintained throughout the study and is located in **Appendix I**. The master list comprised over 250 contacts; this list was contacted using email blast with structured content about the study and seeking their input. The list was also reviewed to identify candidates, based on their employer/position, for the various specific individual outreach meeting interviews.

8.2 Outreach Components

8.2.1 One-on-One Targeted Outreach

Phone interviews or face to face meetings were conducted with, but not limited to, the representatives from the following pool of contacts:

- Municipal Officials, Community Redevelopment Agency, Development Services, Public Works Department, Engineering Departments and Building and Zoning Department

  - City of Homestead
  - Florida City
- Homestead Air Reserve Base Public Affairs
- Florida Turnpike Enterprise (FTE)
- Florida Department of Agriculture and Consumer Services
- CSX Transportation
- Miami Dade County
  - Department of Transportation and Public Works (DTPW)
  - Miami-Dade County Aviation Department (MDAD)
  - Miami-Dade County Real Estate Office
  - Miami-Dade County Agricultural Manager
- South Dade Chamber of Commerce
- Florida Trucking Association (FTA)
- Freight/Logistics Industry Representatives

Interviews occurred following completion of the project area existing conditions assessment so that information could be shared to serve as a foundation to obtain concerns and valuable feedback pertaining to the project.

8.2.2 TPO Freight Transportation Advisory Committee Briefings

The Miami-Dade TPO Freight Transportation Advisory Committee (FTAC) has been used as a sounding board for the prior FDOT District Six freight subarea studies, and the group has good insights into freight issues across the county. The FTAC committee members showed particular interest in the truck parking needs analysis conducted as part of the study scope. A total of three presentations were coordinated with the FTAC. The presentations were: Study Overview, Improvement Alternatives, and Study Findings.

8.2.3 Targeted Stakeholder Outreach Sessions

The study team coordinated workshops with subgroups whose members were drawn from the master contact list. The purpose of these sessions was to provide short briefings regarding the information and status, to solicit input on specific issues and topic areas on the agenda, and to have an open discussion on participant concerns or ideas. The following subgroups were convened:

- Session 1: Freight/Logistics Industry
- Session 2: South County Trade Groups
  - Chamber of Commerce
  - Farm Bureau
- Session 3: Governmental Staff
  - City of Homestead
  - City of Florida City
  - Miami-Dade County

8.2.4 Freight Study Advisory Committee

A Freight Study Advisory Committee (FSAC) was formed to interact with specific stakeholders and obtain their input throughout the study. The committee was drawn from the master contact list and was formed after conducting the one-on-one stakeholder visits. The committee consisted of a cross-section of key stakeholders and agency representatives, comprising approximately 8-10 people. The committee met three times during the study. All meetings were virtual and were documented in public involvement record. For each meeting a structured agenda with discussion talking points was prepared to guide the meeting.

8.2.5 Public Official Briefings

Towards the end of the study, briefings were held with the mayors of Homestead, Florida City, and Monroe County, and a high-level Miami-Dade County representative. Each briefing started with a short presentation recapping the study process and key findings and recommendations, followed by an open discussion on the general subject of freight mobility and truck parking needs.

8.3 Conclusions

The unconventional, multifaceted outreach approach employed as described informed the study with meaningful contact and information regarding freight mobility from multiple perspectives in the study area community. It can be argued that the level of engagement was better than the usual method, and that the organized group discussions led to an active interchange of observations and assessment of problems and possible solutions. Certain issues were acknowledged as beyond the scope of this study, but other useful information and ideas generated.

Section 9.0 Recommendations

9.0 Recommendations

9.1 Introduction

This section of the report presents the proposed improvement recommendations within the study area that would enhance freight mobility. This study has identified transportation improvements that if all implemented would contain congestion to current levels.

The following section presents the recommendations categorized into three implementation phases based on the prioritization analysis performed in Section 6 of the report. Those phases are: Short-Term Improvements (2023-2030), Intermediate-Term Improvements (2031-2040) and Long-Term Improvements (2041 and beyond). There is also a set of Other Project Recommendations focusing on planning and policy efforts that can be pursued.

9.2 Prioritized Improvement Actions

9.2.1 Immediate Action/Short Term (0-5 Years)

Proposed actions for the Immediate Action/Short Term Phase are listed in **Table 9-1**. Locations not found to require improvements are dropped from the priority listings. Two segments have their improvements into two packages that were each prioritized separately, so they appear twice across the priority rankings.

9.2.2 Intermediate Term (5-10 Years)

Proposed actions for the Intermediate Term Phase are listed in **Table 9-2**.

9.2.3 Long Term (10-20 Years)

Proposed actions for the Long-Term Phase are listed in **Table 9-3**.

Table 9-1 Phase 1 Intersection and Road Segment Priorities

Location	Location	Traffic Signal Improvements	Capacity Improvements	Overall Rank	Conceptual Cost
22	US 1/ S Homestead Blvd. & Lucy Street	Implement protected left-turn phasing on all approaches.	Add 300' right-turn lanes and 2nd left-turn lane on all approaches, add 3rd NB thru lane Extend NB left-turn lane to 200'.	1	$ 9,792,698.62
21	SW 177th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing on all approaches.	Add 150' right-turn lanes on SB, EB and WB approaches. Add 2nd through lane on all approaches. Extend NB left-turn lane to 150', SB left-turn lane to 200', and WB left-turn lane to 150'.	2	$ 5,243,765.64
5	SW 137th Avenue & SW 288th Street		Add 2nd left-turn lane on all approaches, extend SB left to 250' and EB left to 300'. Add 350' WB, 450' NB, 200' SB right-turn lanes.	3	$ 8,818,366.27
30	US 1 & NE 7th Street (FL Turnpike SB Offramp		Add 3rd NB and SB thru lanes.	4	$ 4,434,171.16
29	US 1 & SW 177th Avenue	Install traffic signal. Implement protected left-turn phasing for north-south approaches.	Convert intersection to "Green T". Add 3rd SB through lane. Extend NB left-turn lane to 450'.	5	$ 4,781,078.60
28	US 1/ S Dixie Hwy & Palm Drive		Add 500' NB right-turn lane. Add 300' WB right-turn lane and convert current right turn trap lane to through lane.	6	$ 4,967,529.34
7	Florida Turnpike SB Ramps & SW 288th Street		Widen to three 500' SB right-turn lanes. (This will require an additional WB through lane to receive the three SB right-turn lanes.)	7	$ 4,735,870.35
			PHASE 1 Total Cost		**$ 42,773,479.98**

Segment Location	Street	Segment Start	Segment End	Length (Miles)	Improvement	Overall Rank	Conceptual Cost
10	US 1	SW 344th St. Palm Dr.	SW 360th St.	1.0	3 to 4 lanes (NB) and 2 to 3 lanes (SB)	1	$ 1,812,476.53
11	SW 177th Ave. Krome Ave.	SW 312th St.	SW 328th St.	1.0	2 lanes to 4 lanes	2	$ 6,120,743.37
12	SW 320th St. Mowry Dr.	SW 177th Ave.	N. Flagler Ave.	0.1	2 lanes to 4 lanes	3	$ 2,159,860.33
5	SW 167th Ave. NE 12th Ave.	SW 304th St.	SW 312th St.	0.5	2 lanes to 4 lanes	4	$ 2,582,366.19
				PHASE 1 Total Cost			**$ 12,675,446.42**

Table 9-2 Phase 2 Intersection and Road Segment Priorities

Location	Location	Traffic Signal Improvements	Capacity Improvements	Overall Rank	Conceptual Cost
24	SW 152nd Avenue/ Kingman Road & SW 328th Street	Implement protected left-turn phasing on all approaches.	Add 2nd left turn lane on all approaches (150' NB, 300' SB, 230' EB and 350' WB), right-turn lanes on NB (300'), SB (200') and WB (200') approaches, and 2nd NB and SB thru lanes.	8	$ 5,568,580.48
4	SW 137th Avenue & Homestead Extension of Florida's Turnpike NB Ramp	Install traffic signal.	Add 2nd 250' NB left-turn lane.	9	$ 2,050,286.01
25	SW 192nd Avenue & SW 344th Street	Install traffic signal. Permitted left-turn phasing on all approaches.	Add 150' EB left-turn lane, 300' WB left-turn lane, 150' NB right-turn lane.	9	$ 2,831,751.31
14	US 1/ N Homestead Blvd & Campbell Drive		Add 300' NB and 100' WB right-turn lanes. Extend SB left-turn lane to 350'.	11	$ 6,436,997.33
2	SW 127th Avenue & SW 280th Street	Install traffic signal.	Add 200' EB/WB left-turn lanes, 200' WB right-turn lane.	12	$ 2,358,466.79
17	SW 137th Avenue & SW 312th Street		Add 200' SB and 150' WB right-turn lanes.	13	$ 4,434,171.16
26	SW 177th Avenue & SW 344th Street	Implement protected/permitted left-turn phasing on north/south approaches and protected left-turn phasing on east/west approaches.	Add 350' 2nd EB left-turn lane. Add EB and WB thru lanes. Add 200' NB right-turn lane.	13	$ 6,463,448.77
			PHASE 2 Total Cost		**$ 30,143,701.85**

Segment Location	Street	Segment Start	Segment End	Length (Miles)	Improvement	Overall Rank	Conceptual Cost
4	SW 157th Ave.	SW 264th St.	SW 280th St.	1.0	2 lanes to 4 lanes	5	$ 3,136,695.84
2	SW 137th Ave.	SW 288th ST.	SW 312th St.	1.5	4 lanes to 6 lanes	6	$ 5,387,001.80
6	SW 162nd Ave. NE 18th Ave.	SW 296th St.	SW 312th St.	1.0	2 lanes to 4 lanes	7	$ 3,857,664.35
9	SW 344th St. Palm Dr.	SW 182nd St.	SW 192nd St.	1.0	2 lanes to 4 lanes	7	$ 4,541,074.01
				PHASE 2 Total Cost			**$ 16,922,436.00**

Table 9-3 Phase 3 Intersection and Road Segment Priorities

Location	Location	Traffic Signal Improvements	Capacity Improvements	Overall Rank	Conceptual Cost
5	SW 137th Avenue & SW 288th Street		Add 3rd NB/SB thru lanes. Add 200' EB right-turn lane	15	$ 6,805,618.45
9	US 1 (S Dixie Hwy) & SW 296th street		Add 2nd left-turn and thru lanes EB and WB (as a part of this convert WB auxiliary lane west of intersection to thru lane). Extend EB left-turn lane to 250', WB left-turn lane to 200' and NB left-turn lane to 350'. Add 250' EB right-turn lane.	16	$ 7,366,409.79
1	SW 127th Avenue & SW 268th Street	Add E/W Prot LT phasing, NBR overlap	Add 2nd 250' WB left-turn lane	17	$ 2,148,036.87
15	Florida Turnpike NB Ramps & SW 312th Street		Extend NB left-turn lane to 400'	17	$ 216,066.56
12	SW 177th Avenue & SW 312th Street		Extend SB left-turn lane to 350'.	19	$ 456,000.19
8	US 1 (S Dixie Hwy) & SW 280th street		Extend WB left-turn lane to 350'.	20	$ 859,586.37
19	US 1/ S Homestead Blvd./ Dixie Hwy & E. Mowry Drive		Add 100' EB left-turn lane, 300' NB right-turn lane and 200' WB left-turn lane. Extend EB right-turn lane to 150'.	21	$ 5,830,377.18
23	SW 162nd Avenue/ NE 18th Avenue & SW 328th Street	Implement protected/permitted left-turn phasing for north/south approaches, protected left-turn phasing for east/west approaches.	Add 200' EB right-turn lane, 250' NB left-turn lane, 200' SB left-turn lane, 2nd EB left-turn lane. Change southbound approach to 1 left, 1 thru and 1 right turn lane with 200' SB left-turn lane.	22	$ 6,488,799.75
18	SW 177th Avenue & SW 320th Street		Extend NB and EB left-turn lanes to 250'.	23	$ 3,663,164.62
			PHASE 3 Total Cost		**$ 33,834,059.78**

Segment Location	Street	Segment Start	Segment End	Length (Miles)	Improvement	Overall Rank	Conceptual Cost
7	SW 192nd Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes	9	$ 2,732,741.86
1	SW 147th Ave.	SW 184th St.	SW 232nd St.	3.0	2 lanes to 4 lanes	10	$ 10,728,299.79
8	SW 187th Ave.	SW 344th St. Palm Dr.	SW 360th St.	1.0	2 lanes to 4 lanes	11	$ 3,529,900.74
3	SW 147th Ave.	US 1	SW 248th St.	1.2	2 lanes to 4 lanes	12	$ 4,157,874.50
				PHASE 3 Total Cost			**$ 21,148,816.89**

These proposed project costs are summarized as follows:

- Immediate Action/Short Term (0-5 Years)
  - Intersections $42.77 million
  - Segments $12.68 million
  - Subtotal $55.45 million
- Intermediate Term (5-10 Years)
  - Intersections $30.14 million
  - Segments $16.92 million
  - Subtotal $47.06 million
- Long Term (10-20 Years)
  - Intersections $33.83 million
  - Segments $21.15 million
  - Subtotal $54.98 million
- TOTAL of All Phases
  - Intersections $106.74 million
  - Segments $ 50.65 million
  - Subtotal $157.59 million

9.3 Other Project Recommendations

An important part of the study findings is the identification of other actions, specifically ongoing and follow-up activities relating to the advancement of freight mobility across the study, in both the urban and agricultural areas. The ownership of conducting these actions is across the hierarchy of agencies and entities with responsibility for transportation facilities and/or a governance role. These actions include:

- Monitor the ongoing Florida's Turnpike TSM&O Alternatives Study to track development of alternatives and to provide input.
- Coordinate findings of this study with the Miami-Dade County Transportation Plan through the Department of Transportation and Public Works, sharing the results of this study and advocating for inclusion of identified projects in the County transportation plan and roadway work program.
- Coordinate with the Miami-Dade TPO on the development of the 2050 LRTP regarding south County congestion needs and solutions.
- Coordinate with the Miami-Dade County Agricultural Manager and the Real Estate Office to pursue truck parking options in the Redlands and at Homestead Air Reserve Base.
  - Consider pursuing a version of the County ordinance with suitable restrictions allowing "unimproved" commercial truck parking outside the UDB.
  - Pursue the identified truck parking sites on Krome Ave.
  - Pursue truck parking sites in the recently approved commercial truck parking area adjacent to Turnpike at SW 248th St.
  - Investigate further truck parking options at Homestead Miami Speedway.
  - Investigate with U.S. Department of Defense sites at Homestead Air Reserve Base, including the former munitions storage area on the west side of the base, and other undeveloped sites at the former air base under Miami-Dade County control (Real Estate Office).
- Monitor the status of the CSX RR Homestead Subdivision ROW as a long-term transportation corridor some kind. While a return to robust rail service is unlikely, some other function could enhance general mobility.
- Explore expanding the role of the Homestead/Florida City area as a Florida Keys freight gateway and staging area.
- Monitor the ongoing Miami-Dade County traffic signal improvement program (Advanced Traffic Management System (ATMS) Project Fact Sheet (miamidade.gov)), scheduled to be complete in 2028. The County is installing a new state-of-the-art Advanced Traffic Management System (ATMS), including upgrade of the

traffic control software, replacement of approximately 3,000 controllers, and installation of additional detection systems at signalized intersections.

- Coordinate with Miami-Dade County on implementation of its Vision Zero Framework Plan (https://www.miamidade.gov/transit/library/vision-zero-framework-plan.pdf) regarding implementation of Commission Districts 8 and 9 priority safety improvement projects.

9.4 Funding

This freight subarea study examined freight mobility needs in the southern portion of Miami-Dade County encompassing the municipalities of Homestead and Florida City and the surrounding agricultural realms including the Redlands district. Recommendations are focused on county and municipal roadways given that there are few road segments under FDOT jurisdiction, including Florida's Turnpike, US 1, SR 997/Krome Ave. and a few others.

The roadway system can be categorized by governmental jurisdiction. On-system roads refer to those maintained by FDOT, and off-system refers to roads maintained by Miami-Dade County or the two municipalities. This study made both on-system and off-system improvement recommendations, with many intersection improvements involving legs of both classifications. However, FDOT is primarily focused on on-system roadway projects. FDOT is limited to apply State and Federal funds to on-system projects. In the case of Florida's Turnpike, the Florida Turnpike Enterprise funds that corridor with system toll road revenues. Considering the funding resources and programs of FDOT and the Federal Highway Administration, including the National Highway Freight Program (NHFP), there are a variety of potential funding sources for projects. Depending on the jurisdictional responsibilities for a given project, municipal funds can also be involved.

For on-system projects where FDOT would be the lead agency, projects would need to be recognized in the current Miami-Dade TPO Long Range Transportation Plan. Certain small near-term projects may be funded by discretionary funds or maintenance contracts that do not require the LRTP plan compliance requirement. In general, however, FDOT on-system projects would first be presented to and accepted by the FDOT District Six Scoping Committee for eventual inclusion on the FDOT Five Year Work Program, with committed funding, in coordination with listing in the LRTP in the appropriate implementation time frame. Off-system projects would generally require the involvement of Miami-Dade County and/or a municipality – or possibly both – depending upon the jurisdictions involved in the project.

FDOT District Six regularly coordinates administratively with the TPO on typical transportation projects and freight-related projects for recognition in the local Transportation Improvement Program (first five years) and the LRTP as required, by amendment of the existing adopted TIP and LRTP, or for longer-term projects in an LRTP update that may be in progress. In fact, the TPO has just initiated its two-year process to develop the 2050 LRTP. The TPO has a freight-set-aside account in the LRTP for specific, high-priority projects specifically benefitting projects. However, there are many such prospective projects, and gaining status as a freight-set-aside project is very competitive. Likewise, not all identified project needs gain entry into the FDOT, County, or City work programs as transportation improvement needs consistently outstrip the collective funding program capacity.

In addition to the TPO's 2050 LRTP in progress, Miami-Dade County has embarked on its own Transportation Plan. The findings of this study should be communicated to both the TPO and the Department of Transportation and Public Works, as well as the Cities of Homestead and Florida City, for consideration in their infrastructure planning efforts, towards funding of worthy projects.

9.5 Conclusions

The Homestead and Florida City study area possesses a diverse and extensive freight and logistics presence It supports the agricultural industry, manufacturing and industrial sites, construction firms and material suppliers, institutional and governmental facilities, and, of course, the consumer-based goods and foodstuff distribution chain. This freight and logistics presence is not as visible and dominant as it is in the freight-centric districts of the northern half of the county, but it is just as vital to the local economy on a proportional basis. There is not a large freight district present today, but legacy concentrations of industrial land lie along the south ends of the CSX Railroad and former FEC Railroad (now the South Busway) corridors. A new area is emerging in the southeastern sector of the study area near the Homestead Air Reserve Base and the Homestead Miami Speedway where there are larger tracts of land

inside the UDB with separation from residential areas. The newly approved UDB expansion for an industrial park adjacent to the Turnpike at the SW 112th Ave. interchange is another sign of industry recognition of this market and the opportunities it offers.

Freight logistics interests are clearly responding to the growing marketplace as they plan for efficiency in distribution of goods, materials, and food stuffs. Serving as a closer base for supplying the Florida Keys market also plays into this strategy. As the southern portion of the county grows with a forecasted increase in population and employment across the Primary and Secondary Study areas exceeding 70% by 2045, traffic congestion affecting both general and freight traffic increases dramatically. The implementation of the intersection and road segment improvements identified by the network analysis, if all constructed, should counteract future congestion, and keep the same levels experienced today. Pursuit of the other study recommendations will further complement the advancement of freight mobility and general community mobility into the future as the study area grows and matures.