

DISTRICT SIX

TRUCK PARKING

*Supply & Demand Study
FM No. 440877-1-12-01*

Master Plan Final Report

June 2022



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Executive Summary

In 2010, recognizing the importance of freight movement and truck parking, the Miami-Dade County Transportation Planning Organization (TPO) conducted a study¹ that identified estimated truck parking demand and available truck parking supply. This analysis reported a shortfall between the supply and demand resulting in a truck parking shortage. This report “laid the foundation” for future studies and launched the initiatives regarding freight movement and the need for additional truck parking. Over the next several years, the Florida Department of Transportation (FDOT) District Six developed various regional freight plans, truck parking initiatives, and other studies focusing on freight movement within the district.

FDOT District Six has continued to plan for current and future freight transportation needs in South Florida, including identifying and assessing potential sites for new truck parking facilities. It is estimated that trucks move about three quarters of the freight tonnage in Miami-Dade County. However, truck parking capacity is limited for several reasons including federal Hours-of-Service (HOS) regulations which limit how much time drivers can spend behind the wheel. In addition, increasing land values in the area, quality of life concerns from area communities, and competing/incompatible land uses are driving out freight-related activities. In 2010, The Miami-Dade TPO estimated the countywide truck parking shortfall, but more recent numbers are required to facilitate ongoing discussions regarding new truck parking capacity. Hence, District Six commissioned this study to update truck parking supply and demand estimates.

This Truck Parking Supply and Demand Analysis is part one of the 2022 District Six Freight Master Plan. The Freight Master Plan is intended to provide direction for the future of Miami-Dade County’s truck parking transportation system. The purpose of this Supply and Demand Analysis is to provide a holistic overview of the of truck parking in Miami-Dade County. including:

- The history of previous truck parking studies, plans and research efforts
- The analysis of feedback from key stakeholders in the region
- An overview of the executed Supply and Demand Assessment, including the methodology, key findings and conclusions
- A summary of the purpose and need for the study
- A description of potential truck parking solutions
- Suggestions for next steps

As for existing literature regarding truck parking, District Six has undertaken many truck parking studies with the understanding that there is unmet demand based on the analysis performed in 2010. To meet this demand, the studies identify and analyze parcels in areas of the county that could be used for truck parking. Truck parking is not just an issue in Miami-Dade County, but also a statewide and national issue. Other state and metro areas are creating their own truck parking plans that include determining the demand for truck parking and solutions to truck parking which include increasing capacity or employing technology.

¹ Comprehensive Parking Study for Freight Transport in Miami-Dade County, Miami-Dade TPO, September 2010

To better understand concerns regarding truck parking limitations in Miami-Dade County and the reasons for the parking supply shortfall, as well as to explore possible solutions, stakeholder outreach was conducted during this study in the form of interviews with key truck parking stakeholders. The outreach objectives were to validate existing - and identify previously unknown - parking supply locations ('known authorized' and 'additional informal'); and to identify policies, programs, and enforcement strategies to address truck parking issues.

The interviews confirmed that truck parking is a key freight issue and should remain a regional priority, as there continues to be a tremendous demand for parking near freight generators like PortMiami, Miami International Airport, railroad terminals, warehouses, and distribution centers. The area's continued population growth is also contributing to increasing freight demand without room for expansion. Truck parking is unwanted and/or prohibited in residential districts, and there is insufficient space for it even in industrial areas. Virtually all stakeholders agreed that regional parking capacity is inadequate, with impacts on safety, quality of life, and economic development.

There are distinct reasons for trucks to be parked, not all of which are related to hours-of-service regulations. In addition to getting required rest, truck drivers require parking to stage while waiting to pick up or drop off freight, and for dining or refueling. Finally, many drivers simply need a safe, secure place to put their truck while it is not in use.

As for updating the truck parking supply and demand estimates, truck parking supply was analyzed in this study using multiple data sources and methodology. Truck parking supply was developed beginning with data from prior studies, particularly the [2020 FDOT Statewide Truck Parking Plan](#) and the 2016 South Florida Truck Stop Market Analysis. The supply was expanded based on new data sources used which included [AllStays](#) and similar commercial truck travel information websites², fuel dealer websites³, truck parking facilities websites⁴, extensive aerial imagery review⁵, and field verification.

The study identified 112 truck parking supply facilities with 10,477 truck parking spaces in Miami-Dade County and classified them into two broad categories:

- **Known Authorized:** Formal truck stops or truck parking lots on commercial or industrial land uses both inside and outside the urban development boundary (UDB), OR informal truck parking lots on the recent (June 2, 2021) county designated commercial vehicle storage areas outside the UDB (through allowed conversions from former agricultural/natural resources land uses).
- **Additional Informal:** Informal truck parking lots outside the UDB, generally on agricultural land uses but not in the county designated commercial vehicle storage areas. Some of these sites may be unauthorized.

Truck parking demand was derived from *StreetLight* truck Global Positioning System (GPS) sample data and used methodologies ranging from truck sample to population expansion, as well as the conversion of stop duration-based truck parking events to daily demand in parking spaces. In contrast, the 2020 FDOT Statewide Truck Parking Study – which made the last known countywide truck parking demand estimate

² [TruckerPath](#), [DC Book Company's truck stop and services](#), [Trucking Zone](#), [Expreso](#)

³ [Pilot](#), [Shell](#), [Exxon](#), [Chevron](#), etc.

⁴ [F&M Parking and Truck Stop](#), [Miami Truck Parking and Truck Stop](#), [Golden Glades Truck Travel Center](#) and [Florida Turnpike Enterprise \(FTE\) Snapper Creek Truck Service Plaza](#)

⁵ Aerial images of Miami-Dade County available through Google and Microsoft map platforms were manually searched at an approximate scale of 2.5-mile by 2.5-mile grid to identify truck parking lots while distinguishing them from the lots operated by industrial and retail businesses whose primary activity is not truck parking/servicing.

used truck registrations and the Florida Intermodal Statewide Highway Freight Model (FISHFM) as primary data sources and associated methodologies.

The study estimated a daily total demand of about 12,190 truck parking spaces in Miami-Dade County and classified them into two broad categories:

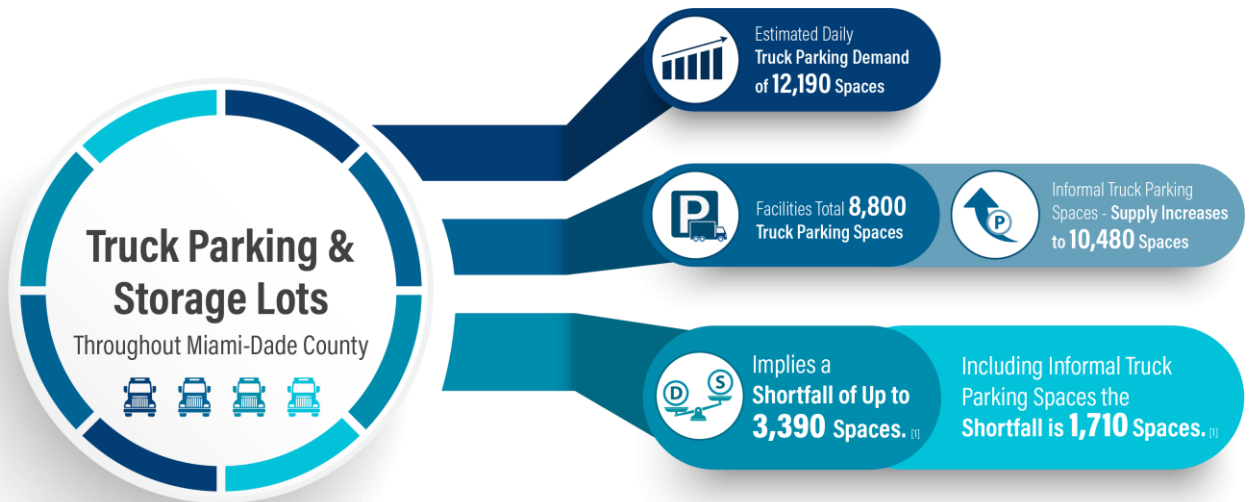
- **Short-Term Parking:** Truck parking events with stop duration less than or equal to 8 hours.
- **Overnight Parking:** Truck parking events with stop duration greater than 8 hours.

CoStar data, which was used in the supply validation, was also used to quickly analyze the impacts that changes in industrial and retail development activity would have on truck parking demand.

This truck parking analysis evaluates truck parking supply and needs for Miami-Dade County with a focus on the regional, short-haul truck flows that drive parking demand in South Florida. Such flows are not adequately captured in state or national level studies designed to model parking demand for long-haul trucks on Interstate trade corridors.

Findings, Conclusion and Next Steps

This study developed a comprehensive inventory of truck parking and storage lots throughout Miami-Dade County. All told, these facilities provide a total of 8,800 truck parking spaces. Most of the capacity is clustered in Medley, Hialeah, Opa-Locka, and unincorporated Miami-Dade County (especially the area bordered by US 27, the Homestead Extension of Florida’s Turnpike (HEFT), and Broward County). Only 8% of spaces are public; the rest are provided by private companies.



[1] Demand was estimated based on all stops longer than 30 minutes. Since some businesses may allow trucks to stop for longer than that, the shortfall may be smaller.

The study estimated daily truck parking demand of 12,190 spaces in Miami-Dade County. Comparing this to the known authorized supply of 8,800 spaces implies a shortfall of up to about 3,390 spaces.⁶ This shortfall has encouraged informal truck parking. If additional informal truck parking spaces are included,

⁶ Demand was estimated based on all stops longer than 30 minutes. Since some businesses may allow trucks to stop for longer than that, the shortfall may be smaller.

the supply increases to 10,480 spaces of total supply, thereby leaving a remaining shortfall of 1,710 spaces.

Demand is highest in Miami, Doral, Miami Gardens, Hialeah, and unincorporated Miami-Dade County. More than half (54%) of trucks arrive at parking locations between noon and 7 p.m., and three quarters of trucks need to park for longer than eight hours (i.e., overnight parking). The cities of Miami, Doral, and Miami Gardens have the highest shortfalls (approximately 1,050, 450, and 350 daily spaces respectively).

The study also looked at the relationship between truck parking demand and commercial real estate activity. Using rentable building area in industrial and retail buildings as a measure of commercial development growth, the study found a strong correlation between such growth and demand for truck parking. As an example, adding a one-million-square foot distribution center in Doral would generate demand for about 11 daily truck parking spaces.⁷ One recent news article noted that the Miami Airport West submarket (which includes Doral) added 469,000 square feet of industrial/commercial building space over a year in 2019/2020, with an additional 210,000 square feet under construction at the time.⁸

Regionally, there are other signs that freight demand, and consequently demand for truck parking, will continue to grow:

- Miami International Airport plans to double its cargo handling capacity by 2040 via strategic investments on the west side of the airport near the existing cargo facilities⁹
- According to PortMiami, container flows will reach almost 2.7 million twenty-foot equivalent units by 2035;¹⁰ in 2021, the port handled 1.3 million containers¹¹
- The Miami-Fort Lauderdale-Palm Beach region's population will probably reach nearly 7 million people by 2025,¹² up from 6.2 million in 2020;¹³ population growth is a key driver of freight demand

This suggests that continued regional freight growth will generate additional truck parking in a region that already struggles to meet such demand. It also implies that continued conversion of industrial land to high value uses like warehouses and distribution centers will put pressure on the land supply suitable for truck parking, especially within the Miami-Dade County Urban Development Boundary (UDB).

Addressing the truck parking shortage in South Florida will require a multi-pronged approach tailored to the region's unique geography and market dynamics. Since land use and development is a local process, it will require partnerships between FDOT District Six, local government agencies, and private partners. During the stakeholder outreach, interviewees were solicited to suggest potential solutions to truck parking.¹⁴ Most suggested solutions revolve around adding more capacity by developing new truck parking. Broadly

⁷ This figure assumes 100% occupancy for 24 hours a day; if the same spaces are shared by many trucks (i.e., higher turnover), the actual number of trucks using the spaces would be higher, or the required number of truck parking spaces would be lower.

⁸ Henseler, K. 'With online buys, Doral warehousing in prime position,' *Miami Today*, July 28, 2020. Retrieved January 12, 2022 from <https://www.miamitodaynews.com/2020/07/28/with-online-buys-doral-warehousing-in-prime-position/>.

⁹ Miami-Dade Aviation Department, 'Capital Improvement Program,' presentation dated May 15, 2019. Retrieved February 15, 2022 from <https://www.miami-airport.com/library/CIP%202019/MIA%20CIP%20Presentation.pdf>.

¹⁰ PortMiami, *2035 Master Plan Executive Summary*, retrieved February 15, 2022 from <https://www.miamidade.gov/portmiami/library/2035-master-plan/executive-summary.pdf>.

¹¹ PortMiami Historical Snapshot, retrieved February 15, 2022 from <https://www.miamidade.gov/portmiami/cargo.asp>.

¹² Miami-Dade Beacon Council, 'Forecast Population,' retrieved February 15, 2022 from <https://www.beaconcouncil.com/data/demographic-overview/forecast-population/>.

¹³ Federal Reserve Bank of St. Louis, based on US Census Bureau data. Retrieved February 15, 2022 from <https://fred.stlouisfed.org/series/MIMPOP>.

¹⁴ *Truck Parking Supply and Demand Stakeholder Outreach Technical Memorandum*, October 2021, FDOT District Six.

speaking, potential solutions can be grouped into two categories: policy and regulatory changes, and infrastructure-based solutions.

This study confirmed that truck parking remains a key freight need in South Florida. Continued cargo volume growth, intense development pressure, and land use change are increasing the demand for truck parking while reducing the supply of land that is suitably zoned and appropriately priced for new truck parking supply. If truck drivers do not have a safe place to park, the region risks losing more truck drivers to higher paying/more affordable markets at a time when there is a short supply of truck drivers. Finding solutions for truck parking is therefore important for continued regional economic development.

As a result, adding capacity does not necessarily mean permitting and developing a full-service truck stop. Truck drivers may be satisfied with a safe and secure place to park while they rest or wait for an appointment. Policy should therefore encourage developing new capacity wherever it is needed, without stipulating a certain level of amenities. This opens the door to creative solutions with local support.

Addressing the shortage in truck parking requires a portfolio of approaches that consider parking demand, truck driver preferences, and constraints. FDOT can lead some initiatives, such as identifying DOT-owned parcels in industrial areas that might be converted to truck staging areas, but developing new truck parking supply is often a local process, requiring coordination with individual jurisdictions who control the land development process. FDOT District Six and its local partners should look for appropriate ways to modify the development review processes and zoning designations to make it easier to create new truck parking, while minimizing land use conflicts. Local and subarea plans also need to consider what the community wants and how industrial uses including truck parking fit into the plans.

This Master Plan focused on “laying the foundation” for future trucking parking studies by updating the supply and demand analysis. As previously mentioned, there is a significant shortfall between the known authorized and safe truck parking supply and demand. This shortfall itself is leading to unapproved informal and unsafe truck parking in the region. It is recommended that additional studies aimed at developing a deeper understanding of truck parking issues, needs, and potential solutions are the next logical step.

There are several studies recommended for additional analysis in this study. One recommended is that District Six continues addressing the goal of the Freight Master Plan by conducting the second part of the study, the Site Feasibility Analysis. The Site Feasibility Analysis will determine and develop a project bank of feasible brownfields, industrial, and vacant parcels that could be developed as truck parking facilities.

1. Introduction

In 2010 recognizing the importance of freight movement and truck parking, the Miami-Dade County Transportation Planning Organization (TPO) conducted a study¹⁵ that identified an estimated truck parking demand and available truck parking supply. This analysis reported a shortfall between the supply and demand resulting in a truck parking shortage. This report “laid the foundation” for future studies and launched initiatives regarding freight movement and the need for additional truck parking. Over the next several years, the Florida Department of Transportation (FDOT) District Six developed various regional freight plans, truck parking initiatives, and other studies focusing on freight movement in the district.

FDOT District Six has continued to plan for current and future freight transportation needs in South Florida, including identifying and assessing potential sites for new truck parking facilities. It is estimated that trucks move about three quarters of the freight tonnage in Miami-Dade County. However, truck parking capacity is limited for several reasons including federal Hours-of-Service (HOS) regulations which limit how much time drivers can spend behind the wheel. In addition, increasing land values in the area, quality of life concerns from area communities, and competing/incompatible land uses are driving out freight-related activities. In 2010, The Miami-Dade TPO estimated the countywide truck parking shortfall, but more recent numbers are required to facilitate ongoing discussions regarding new truck parking capacity. Hence, District Six commissioned this study to update truck parking supply and demand estimates.

1.1 Background

The importance of freight movement in District Six cannot be overstated. Miami-Dade County is an economic engine for the State of Florida¹⁶ and serves as a “Gateway” to Latin America and the Caribbean.¹⁷ According to The Florida Legislature Office of Economic and Demographic Research’s *Florida: An Economic Overview* in August 2021, pre-pandemic South Florida represented one-third of the State’s real Gross Domestic Product (GDP) with Miami-Dade County leading the state with 15.74 percent followed by Broward County with 10.37 percent of Florida’s GDP.

Miami-Dade County is a key player in Florida’s freight network. Along with being the most populous county in the State, it is home to an extensive freight network which includes PortMiami, Miami International Airport (MIA), The Florida East Coast Railway (FEC), South Florida Rail Corridor (SRFC), and CSX Transportation railroad. Major roadways in the county include State Road (SR) 836, United States (US) 27, SR 112, I-95, SR 821/Homestead Extension of Florida’s Turnpike (HEFT), SR 826/Palmetto Expressway, and SR 992/Krome Avenue.

Goods movement is also critical to South Florida’s economy. With freight networks consisting of the major



Cargo Container Ships at PortMiami, 2021 Site Visit

¹⁵ *Comprehensive Parking Study for Freight Transport in Miami-Dade County, Miami-Dade TPO, September 2010*

¹⁶ http://edr.state.fl.us/Content/presentations/economic/FEconomicOverview_8-31-21.pdf

¹⁷ <https://www.uschamberfoundation.org/blog/post/miami-innovation-gateway-latin-america/33946>

freight generators, and warehouses/distribution centers in Doral and Medley, trucks move most of the region's cargo.

The importance of safe and accessible truck parking has been well-established. This subject has been ranked as a top critical issue in the truck industry for years, according to the American Transportation Research Institute (ATRI). In ATRI's *Critical Issues in the Trucking Industry - 2021*, the lack of available truck parking has made the top 10 list of industry concerns for the past 10 years. In addition, among commercial drivers, it has consistently ranked in their top three. There has been a persistent nationwide truck parking shortage that has gotten worse amid expansion of just-in-time deliveries, e-commerce, growing population, and a more competitive and growing freight industry. According to ATRI's *2021 Truck Parking Information Systems: Truck Driver Use and Perceptions*, drivers "...frequently report parking on shoulders, ramps or other undesignated locations when there is no available truck parking." In addition, research acknowledged that there is an economic impact from the lack of available parking. Because drivers "...will often park earlier to ensure they find safe parking prior to running out of hours-of-service. The lost wages associated with early exit from revenue trips averages over \$4,600 annually per driver."¹⁸

According to the Transportation Research Board's National Cooperative Freight Research Program (NCFRP) Project 49: *Understanding and Using New Data Sources to Address Urban and Metropolitan Freight Challenges*, truck parking shortages have several negative impacts "...to truck operations, infrastructure condition, and highway safety." The report highlights that "...drivers must either spend more time in search of parking spots or stop when they find a spot before the end of their hours-of-service, which reduces their productivity." In addition, drivers who cannot find adequate truck parking, or reach their hours-of-service limit may "...park in unauthorized or undesignated parking areas such as highway ramps and shoulders, or in vacant or abandoned lots." The report cites that these actions "...can increase the likelihood of collisions, damage to pavements not meant to accommodate parked trucks, and expose drivers to risks of theft and other crime."



Trucks parked along US 27, 2021 Site Visit

It is critical to study the current truck parking in the county along with future trends because trucks move approximately 75 percent of freight tonnage annually. Parking has become more difficult for truck drivers to find because of HOS regulations. These HOS Regulations are further monitored by Electronic Logging Devices (ELDs). If a trucker needs to stop, they may oftentimes stop in unauthorized truck parking locations to comply with HOS regulations.

Within FDOT District Six, and specifically within Miami-Dade County, the demand for truck

parking has not been met. Due to the passage of time since the last truck parking supply and demand estimates, and with the increased demand for truck parking since that time, there is need for an updated study with current supply and demand data to inform programming and policy making.

¹⁸ Boris, Caroline and Rebecca M. Brewster. "Managing Critical Truck Parking Case Study – Real World Insights from Truck Parking Diaries." American Transportation Research Institute. December 2016.

This Master Plan is intended to provide direction for the future of Miami-Dade County's truck parking transportation system. With trucks moving more than 75 percent of freight tonnage annually, the County's economy is enormously reliant on the trucking industry for the movement of goods. To comply with federally and state mandated HOS regulations and improve roadway safety for all motorists, truckers are required to park for periods of 30 minutes to 13 hours. These regulations have exacerbated a long-standing trend of inadequate truck parking supply. While the private sector has traditionally supplied truck parking facilities, it has not been able to keep up with the increased competitiveness in the freight and logistics industry which requires cost-effective and just-in-time deliveries to feed e-commerce, manufacturing, and distribution processes.



Truck Parking Lot near US 27, 2021 Site Visit

1.2 Document Overview

This Truck Parking Supply and Demand Analysis is part one of the 2022 District Six Freight Master Plan. The Freight Master Plan is intended to provide direction for the future of Miami-Dade County's truck parking transportation system. The purpose of this Supply and Demand Analysis is to provide a holistic overview of the of truck parking in Miami-Dade County. including:

- The history of previous truck parking studies, plans, and research efforts
- The analysis of feedback from key stakeholders in the region
- An overview of the executed Supply and Demand Assessment, including the methodology, key findings, and conclusions
- A summary of the purpose and need for the study
- A description of potential truck parking solutions
- Suggestions for next steps

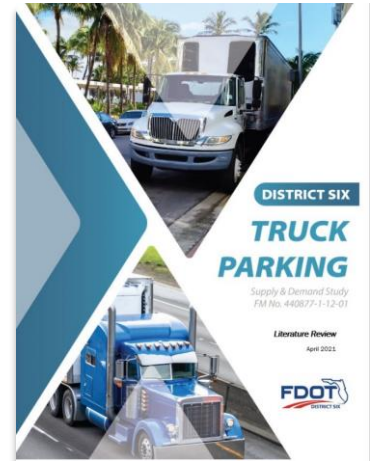
The major task of this project is to develop updated parking demand and supply estimates. Using the output from that task, as well as information gleaned from stakeholder outreach, the next steps are to develop a brief document for a wide audience that outlines the case for truck parking; document the technical parking supply and demand analysis and results; and produce a final report that summarizes the overall study process and outcomes. The report will also include a summary of possible next steps and further research to deepen the District's understanding of truck parking demand and needs.

1.3 Project Organization

The Truck Parking Supply and Demand Analysis project was separated into various work tasks. Each work task resulted in a separate technical memorandum. For additional information and details, it is recommended to review each specific technical memorandum. The following is a list and summary of each technical memorandums.

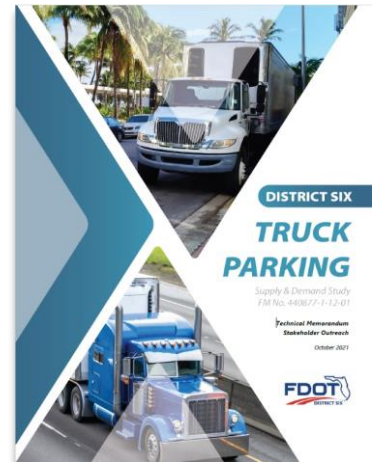
1.3.1 Literature Review Technical Memorandum

The purpose of this literature review is to understand how different initiatives by the FDOT District Six, which encompasses Miami-Dade County, along with other national and statewide studies have focused on increased supply for truck parking. This technical memorandum highlights these previous studies regarding truck parking.



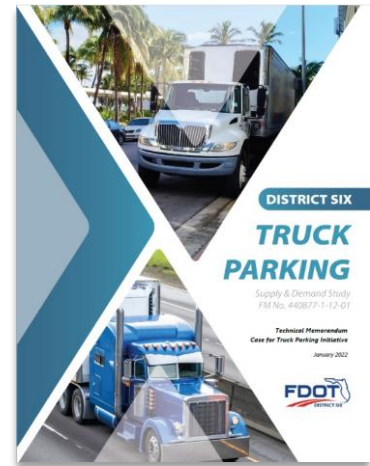
1.3.2 Stakeholder Outreach Technical Memorandum

This technical memorandum describes and summarizes stakeholder outreach in the form of interviews conducted for this work task. The outreach objectives were to validate existing and identify previously unknown parking supply locations (authorized and unauthorized); and identify policies, programs, and enforcement strategies to address truck parking issues.



1.3.3 Case for Truck Parking Initiative Technical Memorandum

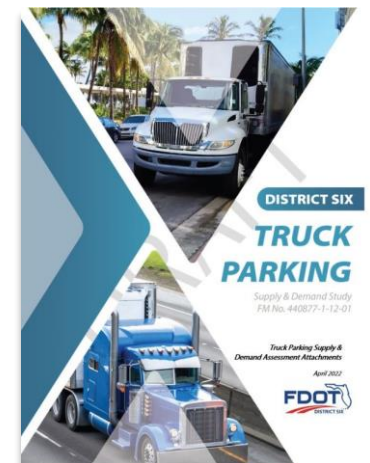
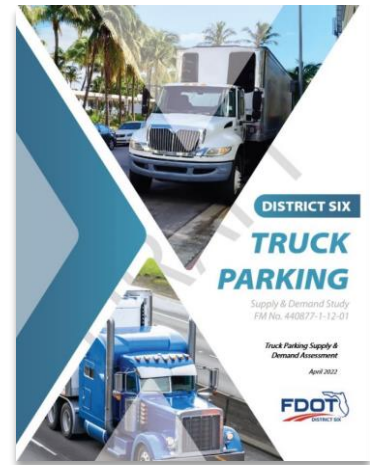
This technical memorandum documents the truck parking context in South Florida, including parking-related safety issues, trucker time lost locating parking, and the statewide/national scope of the problem. Utilizing this context, the technical memorandum concludes with a Purpose and Need Statement that explains the rationale and expresses the need for additional truck parking in South Florida.



1.3.4 Truck Parking Supply and Demand Assessment Technical Memorandum

This technical memorandum summarizes the updated truck parking supply and demand assessment. New supply and demand estimates are provided for 2019 (year 2020 is excluded to avoid potential data aberrations from COVID-19). The objectives in this technical memorandum are to:

- Validate and update the inventory of existing truck parking facilities in Miami-Dade County from prior studies, and compile profile sheets summarizing their characteristics.
- Assess existing truck parking facilities utilization and demand or shortfalls in truck parking supply within Miami-Dade County, as feasible using *StreetLight* truck GPS data.
- Coordinate efforts with a concurrent FDOT District Six truck parking site feasibility assessment study, corroborate the truck parking supply, and correlate demand information with commercially available industrial and retail real-estate data (namely, CoStar¹⁹ data) used in the concurrent study.
- Articulate FDOT District Six’s business case for continued development of truck parking in Miami-Dade County.

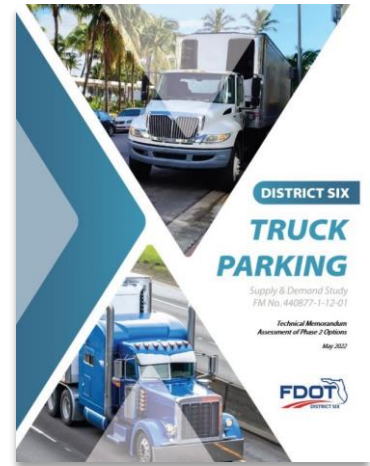


In addition, there is a companion technical memorandum for attachments that includes cut sheets for the known authorized and additional informal supply locations.

¹⁹ Based on CoStar Group’s 2020 Form 10-K Annual Report, CoStar is a provider of information, analytics and marketing services to the commercial property industry in the United States and a few other countries around the world. Available at: https://www.annualreports.com/HostedData/AnnualReports/PDF/NASDAQ_CSGP_2020.pdf (last accessed on March 15, 2022)

1.3.5 Assessment of Phase 2 Options Technical Memorandum

This technical memorandum briefly outlines options for potential further research aimed at achieving a deeper understanding of truck parking issues, needs, and potential solutions. If pursued, such efforts can better inform future policy making, project selection, and implementation. It can also help integrate truck parking with the District's ongoing transportation program. Study options are summarized with a high-level approach and a description of the benefits they would provide.




2. Overview of Truck Parking in District Six


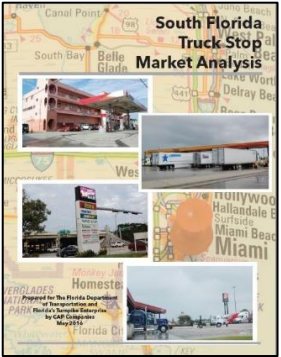
Key to understanding truck parking supply and demand in Miami-Dade County is investigating how different initiatives by the Florida Department of Transportation (FDOT) District Six along with other national and statewide studies have addressed the issue of truck parking. FDOT District Six has been proactive in assessing current truck parking needs and providing feasible solutions where there is a demand for more truck parking. The following tables summarize the key findings (**Table 1**) and truck parking data (**Table 2**) from District Six regional and subregional plans.

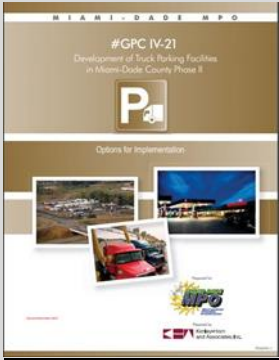
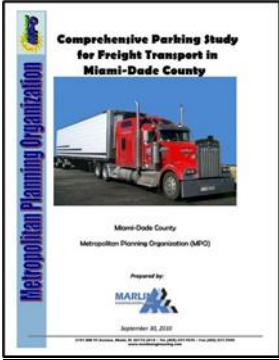
2.1 Regional and Subregional Plans



FDOT District Six has been proactive in assessing current truck parking needs and where there is a demand for more truck parking. The following tables summarize the key findings (**Table 1**) and truck parking data (**Table 2**) from District Six regional and subregional plans.

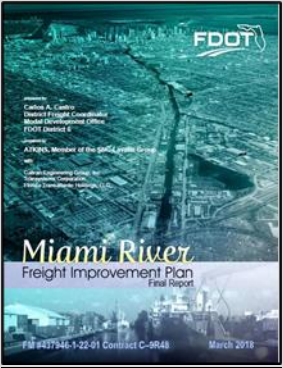


Table 1: Summary of Key Findings in District Six Plans

Plan	Cover	Key Findings	Info on Unique Nature of Truck Parking in D6
<p>Miami-Dade County Preliminary Truck Parking Assessment 3/12/2019</p>		<p>Expands upon the <i>FDOT'S Assessment for Potential Truck Parking Locations within Miami-Dade County</i> (August 2018). From that study, all 5 truck parking locations underwent a three-tiered approach analysis (P 3).</p> <p>From the analysis results, only two parcels are suitable for truck parking (Parcels 2 and 3), but the future land use designations for those parcels do not allow for truck parking (P 62).</p>	<p>Future Land use codes should be altered to allow for more truck parking.</p>

Plan	Cover	Key Findings	Info on Unique Nature of Truck Parking in D6
<p><i>Miami-Dade County Freight Plan Update prepared for the Miami-Dade TPO in June 2018</i></p>		<p>Miami-Dade County is the most populated county in the State of Florida. It also has significant freight infrastructure including the Miami International Airport, PortMiami, Miami Water Riverway, Florida East Coast Railway, South Florida Rail Corridor, and CSX Transportation Railroad (P 11).</p> <p>10% of the county's land use is for freight-related uses (P 58).</p>	<p>Truck parking availability in Broward and Palm Beach can help offset the lack of truck parking but there is still an issue of a lack of truck parking in Miami-Dade County (P 79).</p> <p>In 2013, the main freight bottlenecks in the Miami-Dade area were from I-95 from SR 112 to the Golden Glades Interchange, US 27 from the HEFT to SR 826, the HEFT from NW 41st Street to NW 106th Street, and SR 826 from NW 25th Street to US 27 (P 85).</p> <p>This can be attributed to the fact that there is a lack of truck parking and trucks are driving around to find parking causing these bottlenecks.</p>
<p><i>South Florida Truck Stop Market Analysis prepared for FDOT District Six in May 2016</i></p>		<p>Looked at the feasibility of operating a truck parking facility at two parcels owned by the state of Florida (P 1).</p>	<p>Trucks do not fuel as much in D6 compared to other Districts so there may be some barriers to implementing a successful truck parking location in Miami because of a lack of revenue from fuel sales (P 1).</p> <p>A national truck stop chain would be the most feasible in Miami cost-wise instead of a publicly owned truck parking facility (P 2).</p>

Plan	Cover	Key Findings	Info on Unique Nature of Truck Parking in D6
<p><i>Development of Truck Parking Facilities in Miami-Dade County Phase II: Options for Implementation prepared for the Miami-Dade TPO in August 2012</i></p>		<p>Twenty-one sites underwent a three-tiered evaluation to understand the feasibility of truck parking in those parcels.</p> <p>The parcels are owned by public and private entities and the supply was looked at preliminarily as possible locations for overnight long-haul truck parking (P 8-10).</p>	<p>Several publicly owned parcels could be used as truck parking. However, this may be an issue as truckers may prefer to park at private truck parking locations. The report stressed the importance of public and private partnerships.</p>
<p><i>Comprehensive Parking Study for Freight Transport in Miami-Dade County prepared for the Miami-Dade TPO in September 2010</i></p>		<p>There is a truck parking shortage in Miami-Dade County. There are only enough spaces to meet 3% of the truck parking demand (P 4). Several parcels were identified that met the zoning and density requirements for truck parking.</p>	<p>There is a parking demand of 12,000 spaces in Miami Dade County, there are currently 293 truck parking spaces. To meet this demand 1,177 acres of property would be needed under the assumption of 10 vehicles per acre (P 4).</p>

Plan	Cover	Key Findings	Info on Unique Nature of Truck Parking in D6
<p><i>Town of Medley Freight Plan prepared for the FDOT District Six in 2017</i></p>		<p>This plan looks at the existing and planned recommended transportation infrastructure in Medley. It looked at freight corridors within the study area, analyzed alternatives through evaluations of existing conditions from a literature review, and current studies developed alternatives to support freight in the area (P 6).</p>	<p>Miami-Dade is expected to increase the tonnage of imports and exports from Miami International Airport, PortMiami, and Miami River (P 43). Freight operations may have to go through Medley to reach those hubs, the potential for more truck parking spots in Medley.</p>
<p><i>City of Opa-Locka Freight Plan prepared for the FDOT District Six in 2017</i></p>		<p>The city of Opa-Locka is surrounded by major hubs in Miami-Dade County such as PortMiami, Miami International Airport, and more. This plan looks at existing conditions, opportunities, possible freight growth scenarios, and recommendations to support the scenarios (P 6).</p> <p>Short-term projects are to increase circulation in the area of the Opa-Locka Area due to the new Amazon warehouse.</p> <p>Medium-term projects focus on access to the western areas of the city.</p> <p>Long-term projects are for adding capacity at major corridors (P 56-58).</p>	<p>Key issues that Opa-Locka faces include rehabbing and expanding industrial infrastructure, upgrading local roadway for connectivity, and balancing the current markets. There is no mention of the lack of truck parking as being one of the key issues the city faces (P 12).</p>

Plan	Cover	Key Findings	Info on Unique Nature of Truck Parking in D6
<p><i>Miami River Freight Plan prepared for the FDOT District Six in 2017</i></p>		<p>This plan focuses on the Miami River between NW 22nd Avenue and NW 36th Street. This plan specifically looks at the existing and future infrastructure on the Miami River along with the potential impact it will have on both the river and roads (P 9).</p>	<p>Importance of connectivity between the Miami River and the roads in the overall freight network</p>
<p><i>City of Doral Freight Plan prepared for the FDOT District Six in 2018</i></p>		<p>The city of Doral Plan looks at the city of Doral and the results of the study included a priority project list and purpose and needs reports for future freight projects (P 17).</p>	<p>162,000 people work in the study area (P 85). This can have implications for the movement of freight by adding cars to the road.</p>
<p><i>City of Miami Gardens Freight Plan prepared for the FDOT District Six in 2019</i></p>		<p>Looked at truck parking in the study area and possible truck parking sites by determining push and pull factors along with undertaking a qualitative analysis.</p>	<p>There are several vacant parcels in the study areas that can be used for truck parking.</p>


Plan	Cover	Key Findings	Info on Unique Nature of Truck Parking in D6
<p>City of Hialeah Freight Plan prepared for the FDOT District Six in 2019</p>		<p>The city of Hialeah is in the vicinity of many different freight hubs in Miami-Dade County such as two Florida seaports and Miami-Dade International Airport (P 7). The purpose of this study is to develop freight alternatives to support freight connectivity in the area and the region (P 8). It does this by looking at potential truck parking sites through a three-tiered screening process (P 17). Note that as of this writing, this plan is ongoing.</p>	<p>There are several vacant parcels in the study areas that can be used for truck parking.</p>

Table 2: Summary of Truck Parking Data in District Six Plans

Plan	Truck Parking Supply Data	Truck Parking Demand Data	Potential Truck Parking Sites (Location, Feasibility, Capacity)	Geographical Zones for Analyzing Truck Parking	Truck Volume Data
<p>Miami-Dade County Preliminary Truck Parking Assessment 3/12/2019</p>	<p>Not Provided</p>	<p>Not Provided</p>	<p>Expands upon the FDOT'S Assessment for Potential Truck Parking Locations within Miami-Dade County (August 2018). From that study, all 5 truck parking locations underwent a three-tiered approach analysis (P 3). From the analysis results, only two parcels are suitable for truck parking (Parcels 2 and 3), but the future land use designations for those parcels do not allow for truck parking (P 62). Both parcels are in the southern portion of the county and near the turnpike (P 4).</p>	<p>6 subregions: North-West, North-East, Central-West, Central-East, South-West, and South-East.</p>	<p>Not Provided</p>

Plan	Truck Parking Supply Data	Truck Parking Demand Data	Potential Truck Parking Sites (Location, Feasibility, Capacity)	Geographical Zones for Analyzing Truck Parking	Truck Volume Data
<i>Downtown Miami-Dade County Freight Plan Update prepared for the Miami-Dade TPO in June 2018</i>	Provides a map of current private truck parking locations (referred previously in the report).	Mentions the demand of 12,000 parking spots (P 77).	Mentions that developers are not likely to build truck parking because of the low return on investment (P 79). Also discusses the FDOT District Six Funds from the National Highway Freight Program that can possibly be used for truck parking (P 79). The truck parking locations are concentrated on US 27 and SR 997. No truck parking locations in the county on I-75, I-95, and I-195 (P 79).	Miami-Dade County	Not Provided
<i>South Florida Truck Stop Market Analysis prepared for FDOT District Six in May 2016</i>	Not Provided	Not Provided	Looks at the feasibility of truck parking a site in Golden Glades at the intersection of I-95 and Florida's Turnpike along with another site at NW 12 th St (Dolphin Mall area) near the intersection of SR 836 and SR 821 (P 5).	Miami-Dade County	Uses Annual Average Daily Truck Traffic Volumes to justify the location of the two sites that can be used as truck parking (P 7).
<i>Development of Truck Parking Facilities in Miami-Dade County Phase II: Options for Implementation prepared for the Miami-Dade TPO in August 2012</i>	Not Provided	Not Provided	Looks at vacant parcels throughout the entire county to determine if they are suitable for truck parking based on a variety of factors (P 10).	Miami-Dade County	Not Provided

Plan	Truck Parking Supply Data	Truck Parking Demand Data	Potential Truck Parking Sites (Location, Feasibility, Capacity)	Geographical Zones for Analyzing Truck Parking	Truck Volume Data
<i>Comprehensive Parking Study for Freight Transport in Miami-Dade County prepared for the Miami-Dade TPO in September 2010</i>	Not Provided	Briefly mentions that 1,177 acres of property are needed to meet the unmet demand of 12,000 parking spaces in the County (P 4). Provides truck parking demand data for each of the six subregions in the county and the deficit (P 42).	Identified 124 vacant parcels that can be used for truck parking in the County (P 73-79). These parcels are also mapped out and further analysis was completed to determine the distance from major highway corridors (P 73-79).	Miami-Dade County	Uses the data for where trucks are traveling to and from - along with how many - to determine the surplus and deficit of truck parking in the six-county subregions (P 30-45).
<i>Town of Medley Freight Plan prepared for the FDOT District Six in 2017</i>	Provides a map of existing and proposed truck parking facilities in or near Medley (P 50-51).	Mentions how many tons of cargo are moved from Miami International Airport, PortMiami, and Miami River. Can be assumed that this has a direct relation with the demand for truck parking (P 43).	Mentions a project to create a truck parking improvement on US27/ Okeechobee Road (P 18).	Town of Medley	Not Provided
<i>City of Opa-Locka Freight Plan prepared for the FDOT District Six in 2017</i>	Not Provided	Not Provided	Not Provided	City of Opa-Locka	Provides a map of truck volumes and high-volume truck intersections (P 20). Also developed scenarios low, medium, and high growth scenarios to see how average annual daily traffic (AADT) can be impacted and how that will determine overall freight patterns in the area (p 25).

Plan	Truck Parking Supply Data	Truck Parking Demand Data	Potential Truck Parking Sites (Location, Feasibility, Capacity)	Geographical Zones for Analyzing Truck Parking	Truck Volume Data
<i>Miami River Freight Plan prepared for the FDOT District Six in 2017</i>	Lists out nine truck parking facilities in Miami-Dade County and the number of spaces along with the distance (in miles) from the study area (P 48).	Not Provided	Not Provided	Section of Miami River between NW 22 nd Avenue and NW 36 th Street (P 12).	Provides AADT and AADT for trucks in 2016 (P 58-60). Used Bluetooth data to determine origin and destination information for NW 36 th St/Okeechobee Rd./LeJeune Road Intersections to learn more about travel patterns (P 67-75).
<i>City of Doral Freight Plan prepared for the FDOT District Six in 2018</i>	Not Provided	Has freight growth scenarios where truck parking demand can be inferred (95-113). Provides information on the projected number of trucks on the road.	Has a priority project of truck parking facility adjacent to the Dolphin Station Transit Terminal (P 24). Truck Parking Facility Site V Project which is from Turnpike to NW 74 th St (P 30). Truck Parking Facility Site X at Dolphin/Palmetto Expressway Int (P 30).	City of Doral	Provides AADT data for each roadway for 2015 along with historic growth rates between 2015 and 2011 (P 65-66). Provides 2015 Truck AADT (P 74).
<i>City of Miami Gardens Freight Plan prepared for the FDOT District Six in 2019</i>	Not Provided	Provides data on how overall truck demand can increase in Florida along with freight facilities in Miami such as PortMiami (P 6).	Looked at 9 candidate truck parking sites within the area (P 14).	City of Miami Gardens	Not Provided
<i>City of Hialeah Freight Plan prepared for the FDOT District Six in 2019</i>	Discusses need for truck parking in the County (P 10).	Discusses the current need for truck parking in the County along with future cargo projections which will increase the need for truck parking (P 10).	Looked at eight sites that could be used as truck parking in further analysis (P 25).	City of Hialeah	Provides the percentage of trucks by freeway for each parcel (P 30).

2.2 Local Ordinances and Regulations

In addition to reviewing regional plans, current local laws and zoning codes within Miami-Dade County that may impede freight movements were identified and reviewed. The findings are summarized in the following **Table 3**.

Table 3: Summary of Municipal Laws and Regulations Related to Truck Parking

Municipality	Applicable Laws and Ordinances	Summary
<i>Miami Dade County</i>	<i>Local Regulatory Requirements</i>	<p>For sites to be considered for truck parking, the following criteria must be met:</p> <ul style="list-style-type: none"> • Located within Urban Development Boundary (UDB) Industrial and Office or Business and Office land use designations on 2015 and 2025 Land Use Plan Map. • Furthermore, for locations within unincorporated Miami-Dade County, sites must be zoned Industrial (IU-1, IU-2, IU-3, or BU-3). For sites within incorporated areas of Miami-County, regulation is carried out on a local level. (Development of Truck Parking Facilities in Miami-Dade County Phase II Final Report, August 2012 page 11).
<i>City of Miami</i>	<p>Off-Street Freight and Commercial Delivery hours: Ord. No. 13616, § 2, 7-14-16; Ord. No. 13671, § 2, 3-23-17; Ord. No. 13677, § 2, 4-27-17; Ord. No. 13775, § 2, 7-26-18</p> <p>Truck Parking in Residential Districts: Ord. No. 12467, § 2, 12-18-03</p>	<p>Freight or commercial deliveries cannot be staged within 100 feet of a T-3 zone between certain hours (8:00 am to 8:00 pm on weekdays and 7:00 am-11:00 pm during weekends). Those who break this rule will be fined.</p> <p>Parking Trucks in residential Districts is prohibited²⁰.</p>

²⁰ Source: https://librarystage.municode.com/fl/coral_gables/codes/code_of_ordinances?nodeId=PTIICOOR_CH74TRVE_ARTIIISTSTPA

Municipality	Applicable Laws and Ordinances	Summary
<i>City of Coral Gables</i>	74-59. - Freight curb loading zones; time limit; passenger use. Ord. No. 2018-17, § 2(Att. A), 5-8-2017	<p>“No person shall stop, stand or park a vehicle for any purpose or length of time other than the expeditious unloading and delivery or pickup and loading of materials in any place marked as a freight curb loading zone during the hours when the provisions applicable to such zones are in effect. The stop for loading and unloading materials shall not exceed 20 minutes except in specially marked "parcel truck" loading zones where the stop shall not exceed one hour.”</p> <p>“The driver of a vehicle may stop temporarily at a place marked as a freight curb loading zone for the purpose of and while actually engaged in loading or unloading passengers, when such stopping does not interfere with any vehicle used for transportation of materials which is waiting to enter or about to enter such zone.²¹”</p>
<i>City of Hialeah</i>	Zoning Requirements/Land use for truck parking	Light Industrial (IN-1), Heavy Industrial (IN-2), Commercial Business (B-3). (Development of Truck Parking Facilities in Miami-Dade County Phase II Final Report, August 2012 page 12)

²¹ Source: https://librarystage.municode.com/fl/coral_gables/codes/code_of_ordinances?nodeId=PTIICOOR_CH74TRVE_ARTIIISTSTPA

Municipality	Applicable Laws and Ordinances	Summary
<i>City of Miami Springs</i>	<p>Municipal Zoning Codes that allow for truck parking²²:</p> <p>BU-3 (unincorporated) IU-1 (unincorporated) IU-2 (unincorporated) IU-3 (unincorporated) IU-C (unincorporated)</p> <p>NW 36th Street District (Miami Springs City Limits)</p> <p>Abraham Tract District (Miami Springs City Limits)</p> <p>Airport/Golf District (Miami Springs City Limits)</p> <p>Hotels/Motels (Miami Springs City Limits)</p>	<p>Liberal Business District Industrial, Light Manufacturing Industrial, Heavy Manufacturing Industrial, Unlimited Manufacturing Industrial District</p> <p>Roughly bounded by NW 57th Avenue on the west, the Miami Canal (C-6) on the east, NW 36th Street on the south, and Fairway Drive/Oakwood Drive on the north</p> <p>Roughly bounded by SR 953/LeJeune Road on the west, NW South River Drive on the east, NW 31st Street on the south, and SR 112/Airport Expressway on the north</p> <p>Roughly bounded by NW 57th Avenue on the west, Deer Run on the east, Fairway Drive on the south, and the Miami Springs Golf and Country Club on the north</p> <p>Parking allowed on an overnight basis so long as such vehicles have vacated the parking areas by nine o'clock of the morning following the overnight parking</p>
<i>Town of Medley</i>	Zoning Requirements/Land use for truck parking	Industrial District (M-1) and Industrial District (M-3) (Development of Truck Parking Facilities in Miami-Dade County Phase II Final Report, August 2012, P 12).
<i>City of Miami Gardens</i>	Zoning Requirements/Land use for truck parking	Special Industrial (I-1). (Development of Truck Parking Facilities in Miami-Dade County Phase II Final Report, August 2012, P 12).
<i>City of Miami Beach</i>	Defined Freight Loading Zone	"A posted on-street parking area, typically 100' long, for the use of commercial vehicles with a gross vehicle weight (GVW) exceeding 10,000 lbs. Posted signs provide permitted hours, days, time limits, payment options, and prohibitions" to reduce congestion in the area. (City of Miami Beach Freight and Alley Loading Frequently Asked Questions, P 1). ²³

²² Source: *Truck Parking Analysis Miami-Dade County-Owned Land (Secured) (P 30) Sections 150-015 Miami Springs Code of Ordinances*
https://library.municode.com/fl/miami_springs/codes/code_of_ordinances?nodeId=TITXVLAUS_CH150ZOCO_ARTIINGE_S150-015PACOVELI

²³ Source: <https://www.miamibeachfl.gov/wp-content/uploads/2017/08/FreightFAQs.pdf>

2.3 Other Pertinent Documents

To understand more about truck parking in the State of Florida and the challenges that the State itself or other Districts are facing the following documents were also reviewed. Additionally, plans from other states and metro areas were reviewed to provide comparisons and to investigate best practices.

2.3.1 Federal and Statewide Plans

- Jason's Law Truck Parking Survey Results and Comparative Analysis prepared for the Federal Highway Administration (FHWA) in August 2015
- 2020 FDOT Statewide Truck Parking Plan
- FDOT Statewide Truck GPS Data Analysis
- FDOT Truck Parking Availability System (TPAS)- brochure

2.3.2 Other FDOT District Freight Plans

- Districtwide Freight Truck Parking Inventory prepared for FDOT District One in July 2017
- Truck Parking Supply and Demand prepared for the FDOT District Four in April 2017
- Freight and Multimodal Operations Truck Parking Heat Map White Paper October 2017
- D5 Truck Parking Spatial Desktop Scan Tech Memo
- D5 Truck Safety Analysis Tech Memo

2.3.3 Other State Plans

- Minnesota Statewide Truck Parking Study 2019
- Virginia Truck Parking Study July 2015
- Washington State Truck Parking Study December 2016
- Texas Statewide Truck Parking Study April 2020

2.3.4 Other State Metro Area Plans

- Truck Parking Study: A Freight North Texas Study April 2018
- Atlanta Regional Truck Parking Assessment Study March 2018

2.4 Summary and Key Takeaways

District Six has undertaken many truck parking studies with the understanding that there is unmet demand based on the analysis performed in 2010. To meet this demand, the studies identify and analyze parcels in areas of the county that could be used for truck parking. Truck parking is not just an issue in Miami-Dade County, but it is a statewide and national issue. Other state and metro areas are creating their truck parking plans that include determining the demand for truck parking and solutions to truck parking which include increasing capacity or employing technology.

Since the issue of truck parking is something recently explored, there are few unique solutions on how to combat the issue. In terms of how other areas are performing, District Six is far ahead by already having identified and analyzing potential locations for truck parking in many areas. The next step of the process

would be to obtain the necessary parcels, if needed, and to incentivize the construction of truck parking for developers as standalone development or incorporated with larger developments.

2.5 Additional Information

For a more in-depth analysis and summary of plans and documents reviewed for the study, reference the *Truck Parking Supply and Demand Study Literature Review*, published April 2021 by FDOT District Six.

3. Stakeholder Outreach

Stakeholder outreach was conducted in the form of interviews with key truck parking stakeholders in order to better understand concerns regarding truck parking limitations, reasons for the parking supply shortfall, and to explore possible solutions. The outreach objectives were to validate existing and identify previously unknown parking supply locations (authorized and informal); and to identify policies, programs, and enforcement strategies to address truck parking issues.

3.1 Approach

Truck parking stakeholders in District Six include local and state government agencies, police and fire departments, large freight generators, the Florida Turnpike, industrial developers and commercial real estate brokers, industry associations, trucking companies, and truck stops. Stakeholders were contacted via phone and email with a brief background on the study and a request for an interview. A total of 30 stakeholders were interviewed during the outreach process. A breakdown of the stakeholder types (affiliated industries and organizations) is provided in **Figure 1** Error! Reference source not found..

Figure 1: Stakeholder Breakdown by Organization Type



* Miami River area business owner

3.2 Summary of Interview Findings

The interviews confirmed that truck parking is a key freight issue and should remain a regional priority, as there continues to be a tremendous demand for parking near freight generators like PortMiami, Miami International Airport, railroad terminals, warehouses, and distribution centers. The area’s continued population growth is also contributing to increasing freight demand without room for expansion. Truck parking is unwanted and/or prohibited in residential districts, and there is insufficient space for it even in industrial areas. Virtually all stakeholders agreed that regional parking capacity is inadequate, with impacts on safety, quality of life, and economic development.

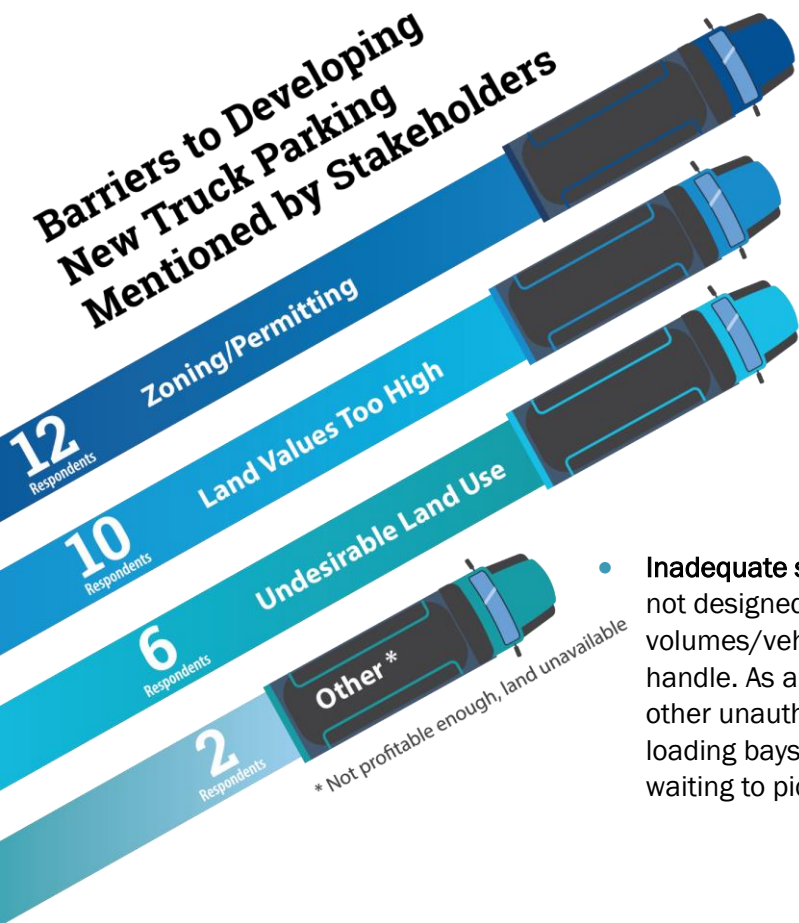
There are distinct reasons for trucks to be parked, not all of which are related to hours-of-service regulations. In addition to getting required rest, truck drivers require parking to stage while waiting to pick up or drop off freight, and for dining or refueling. Finally, many drivers simply need a safe, secure place to put their truck while it is not in use.

The following sections summarize input received through the interviews, including probable causes for the parking shortfall, where unauthorized parking occurs and its impacts on the region, and potential solutions suggested by stakeholders.

3.2.1 Reasons for Parking Shortfall

Stakeholders mentioned the following reasons for insufficient truck parking capacity:

- **Land value** – With prices approaching \$2 million per acre in Miami Dade County, truck parking does not generate enough revenue to justify the financial investment.
- **Geography and market dynamics** – The Miami region’s southern location in the Florida peninsula, limited by the Atlantic Ocean to the east and the Everglades to the west, limit the land available for new truck parking facilities. Miami’s continued population growth is increasing the truck traffic required to supply the market.
- **Zoning restrictions** – Truck parking is only allowed on industrially zoned land. Increasing land values combined with population growth have fueled the conversion of low-density industrial land to warehousing, commercial, and residential uses, further limiting the acreage available for truck parking.



- **Community resistance** – There is a general distaste for truck parking within many communities in the region, as truck parking is perceived to be a safety and noise concern, which would impact the quality of life. These sentiments have prevented the development of needed truck parking facilities.
- **Land development regulations** – Planning for wetlands, drainage, water service, and wildlife impacts makes permitting for new truck parking difficult. These regulations further raise costs in an already expensive market, increasing the return necessary for worthwhile investment.
- **Inadequate site design** – Older developments in the region were not designed with truck movements in mind, or current volumes/vehicle sizes have overtaken what they were designed to handle. As a result, drivers must stage on the side of the road or in other unauthorized places, blocking roads when backed into loading bays or parked along the street or travel lanes when waiting to pick up or deliver freight.

- **Seasonal patterns** – Seasonal variations impact demand. For example, fresh flower shipments via MIA peak before Valentine’s Day and Christmas, increasing truck traffic (and parking demand) around the airport.

3.2.2 Truck Storage Lots

According to stakeholder interviews, not all parking demand is driven by the need to rest, eat, or refuel. Many drivers simply need a place to store their trucks and trailers when they are not in use. This is driving the proliferation of truck lots on the outskirts of Miami-Dade County. These lots, some of which are allowed by a regulatory change enacted by the county,²⁴ provide little or no services other than restrooms, lighting, and security. The ordinance allows for commercial vehicle storage in the county’s agricultural district under certain conditions such as a 10-acre minimum lot size. **Figure 2** displays one example of a commercial vehicle storage area from the Department of Regulatory and Economic Resources. This area is west of US 27/Okeechobee Road and north of the Homestead Extension of Florida’s Turnpike. Parking demand has led to clandestine, unauthorized parking facilities.

It is important to note that customers at these lots are not allowed to wash or repair their trucks or, in some cases, sleep in them (at least one lot does not permit customers to stay on site more than 30 minutes at a time). Hence, drivers seeking a more full-service experience or who need to obtain required rest must park elsewhere. Even demand for this basic type of truck storage exceeds available supply. Operators of such lots interviewed for this project have had to turn people away, and one has a wait list of 300 to 400 drivers.

Figure 2: Northwest Miami-Dade Truck Storage Area



²⁴ Section 33-279, Code of Miami-Dade County, Florida.

3.2.3 Unauthorized Parking

When drivers are unable to find suitable legal parking, they resort to parking illegally in neighborhoods, along roadsides, in drainage swales, and on agricultural land in western Miami-Dade County (e.g., the Redlands) where some landowners have created informal truck lots not permitted by the recent ordinance. Law enforcement and code compliance staff interviewed noted several examples of significant barriers to legal truck parking.

Key Examples from Stakeholder Interviews:

- Miami River** remains a working industrial waterfront (although the eastern portion of the river is changing to residential mixed use), but its shipping terminals are small and lack the space to accommodate all the trucks that need to access them. Therefore, trucks park on side streets and in the median along North River Drive to access riverfront businesses. Some area residents also park trucks near their homes, for example under the NW 22nd Avenue bridge on North River Drive and on the south shore of the river west of the NW 27th Avenue bridge.
- Doral** is the fastest-growing city in Florida, with much of its land transitioning to residential uses. Parallel parking in the city is unregulated and poorly marked, so truck drivers sometimes use it to park their trucks overnight or make repairs. Overall, the city needs more authorized spaces for trucks to park for loading and unloading. One truck parking operator said the industrial areas along NW 137th Avenue and NW 25th Street in Doral are in “dire need” of more truck parking.
- Miami International Airport** has a few places on airport property where trucks can stage for air cargo pickup or delivery, but airport officials report it is not enough, and none of those spots have amenities. The airport used to allow truckers to park overnight but they do not have sufficient real estate for that anymore. Loaded trucks coming from out of state will unload at the airport, then try to get a load for the return trip. While waiting for a return load, they need to wait somewhere in the community around the airport.



Many drivers choose to park at home because they cannot find legal parking, they do not want to pay for it, or they simply want the convenience of parking at home. This practice is more common in working class communities (e.g., Opa-Locka, Medley) where many residents drive trucks for a living.

Additionally, persistent unauthorized parking negatively impacts the community in many ways:

- Parking on the road shoulder or in the travel lanes increases pavement and road marking wear and tear.
- Parking on unpaved ground compacts the soil which can lead to drainage issues and street flooding.
- Idling trucks emit pollutants that affect regional air quality.
- Parked trucks reduce visibility for other drivers, contributing to safety concerns. In Medley, for example, trucks parked in the travel lane can cause head-on collisions when cars try to go around the trucks. Trucks parked on the side of the road can block sight lines for drivers accessing driveways or sometimes block sidewalks and bike lanes.
- When trucks are parked in neighborhoods, they can block sidewalks, hit power lines and trees, and create quality of life concerns (e.g., dead grass, noise, vibrations, etc.). They may also be considered a nuisance, therefore impacting neighborhood property values.
- Truck drivers sometimes dump trash where they park, and public works departments must constantly pick it up. Unauthorized burn piles have been found at some non-permitted truck lots, potentially creating environmental or safety hazards.
- Some trucking firms and drivers avoid the Miami-Dade area because of congestion and parking concerns. One truck storage operator stated that some of their customers used to live in the area but moved to other states because they could make more money and not have to deal with South Florida traffic. This could reduce options for regional shippers and receivers and may have economic development impacts.
- Truck drivers and trucking firms are often financially penalized for unauthorized parking, even if the drivers have no legal place to park. In Miami Beach for instance, some trucking companies have had citations totaling around \$100,000. As a practical matter, trucking companies must pay these fines or negotiate them down, if possible, but this impacts their profitability.

3.3 Additional Information

For a more in-depth account of the performed stakeholder outreach including interview guides, reference the *Truck Parking Supply and Demand Stakeholder Outreach Technical Memorandum*, published October 2021 by FDOT District Six.

4. Truck Parking Supply and Demand

4.1 Data and Methodology

Truck parking supply was analyzed in this study using multiple data sources and methodology as shown in **Figure 3**. Truck parking supply was developed beginning with data from prior studies, particularly the [2020 FDOT Statewide Truck Parking Plan](#) and the 2016 South Florida Truck Stop Market Analysis. The supply was expanded based on new data sources used in this study, which include [AllStays](#) and similar commercial truck travel information websites²⁵, fuel dealer websites²⁶, truck parking facilities websites²⁷, an extensive aerial imagery review²⁸, and field verification.

The study identified 112 truck parking supply facilities with 10,477 truck parking spaces in Miami-Dade County and classified them into two broad categories:

- **Known Authorized:** Formal truck stops or truck parking lots on commercial or industrial land uses both inside and outside the UDB, OR informal truck parking lots on the recent (June 2, 2021) county designated commercial vehicle storage areas outside the UDB (through allowed conversions from former agricultural/natural resources land uses, see **Figure 4**).
- **Additional Informal:** Informal truck parking lots outside the UDB, generally on agricultural land uses but not in the county designated commercial vehicle storage areas. Some of these sites may be unauthorized.

The classification helps FDOT District Six to assess the range of the county's truck parking supply, that is, **known authorized** versus **total**. Aside from the two supply categories, law enforcement representatives in some cities provided **a list of 10 on-street unauthorized parking locations**, which is not exhaustive. Unlike the known authorized and additional informal truck parking facilities, truck parking supply is harder to quantify for the unauthorized parking locations in terms of spaces. The supply analysis added the newly identified unauthorized parking locations to the locations previously identified by the [2020 FDOT Statewide Truck Parking Plan](#).

For the supply locations identified using aerial imagery, the study made estimations of the built-up area for truck parking and number of truck parking spaces by facility using the aerial images and linear measurement tools in Google Earth, and by making reasonable parking density assumptions (spaces per linear unit) based on the angle of parking.²⁹ The study collected lot area (which may be the same or larger than the built-up area for truck parking) and land use type information for all supply locations from Miami-Dade county's GIS based land information viewer website.³⁰ Amenities information was filled out as available. At a minimum, toilets were assumed to be present at all facilities.

²⁵ [TruckerPath](#), [DC Book Company's truck stop and services](#), [Trucking Zone](#), [Expreso](#)

²⁶ [Pilot](#), [Shell](#), [Exxon](#), [Chevron](#), etc.

²⁷ [F&M Parking and Truck Stop](#), [Miami Truck Parking and Truck Stop](#), [Golden Glades Truck Travel Center](#) and [Florida Turnpike Enterprise \(FTE\) Snapper Creek Truck Service Plaza](#)

²⁸ Aerial images of Miami-Dade County available through Google and Microsoft map platforms were manually searched at an approximate scale of 2.5-mile by 2.5-mile grid to identify truck parking lots while distinguishing them from the lots operated by industrial and retail businesses whose primary activity is not truck parking/servicing.

²⁹ The consultant estimated the truck parking spaces count by measuring the number, length and angle of rows/columns available for truck parking. Based on a sample of locations, for each row/column and along its length, a width of 12 feet was assumed for 90 degree parking, approximately 14 feet for 60 degree parking ($= 12/\sin 60$), and approximately 17 feet for 45 degree parking ($= 12/\sin 45$) and 24 feet for 30 degree parking ($= 12/\sin 30$). The parking density, that is, estimated parking spaces per acre of paved/built-up portion of the parking lot by site type (rest area or travel center plaza, truck stop with fueling station or truck parking lot) were checked for reasonableness.

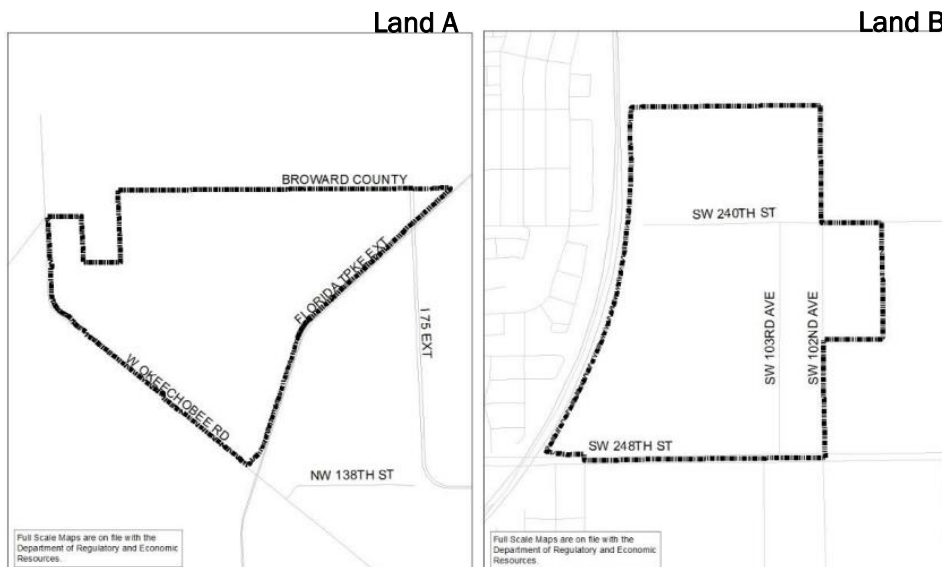
³⁰ <https://gisweb.miamidade.gov/landinformation/> (last accessed on March 15, 2022)

Figure 3: Data and Methodology Flowchart for Truck Parking Supply



Figure 4: County Designated Commercial Vehicle Storage Areas

On June 2, 2021, the Board of County Commissioners adopted an ordinance modifying existing terms and conditions for some truck parking land uses and adding more acreage that can potentially be approved for such uses in unincorporated Miami-Dade County outside the UDB. This figure shows the land areas covered by the ordinance. Within Land A (area east of Okeechobee Road/US 27 and west of the Homestead Extension of Florida’s Turnpike, excluding the former Opa-locka West airport), the ordinance modified existing rules related to truck storage and parking. Land B (area east of the UDB, south of the theoretical extension of SW 236 Street and north of SW 248 Street) was added as an area where truck storage/parking is potentially permitted. The ordinance (which is provided in **Attachment F** of the Truck Parking Supply and Demand Assessment Attachments Technical Memorandum published April 2022 by FDOT District Six) expanded allowable areas for truck parking by about 6,800 acres in Miami-Dade County’s agricultural district outside the UDB. **Land A** is an expansion of a prior approved truck parking area, and much of the expanded area within it is consumed by numerous rock mining pits, both completed and in progress, and thus not available for truck parking. Certain conditions apply to the developments on the allowed sites, e.g., 10-acre minimum lot size, annual operating permit is needed, and mechanical repair or maintenance of any kind including truck washing is not permitted unless special conditions are met. **Land A** has 21 truck parking facilities as per this study, and **Land B** has none, although there is some landowner interest in developing truck parking.



Source: Miami-Dade County Attorney’s Memorandum to the Board of County Commissioners dated June 2, 2021, Available at: <https://www.miamidade.gov/govaction/legistarfiles/Matters/Y2021/211305.pdf> (last accessed on March 15, 2022)

The truck parking supply information was compiled into cut sheets and included the following attributes: the name of facility, ownership type (public/private), location data (coordinates, street address, inside or outside urban development boundary), lot size (in acres), number of parking spaces, short land use zoning description (agricultural, industrial or commercial) and key amenities (fuel, toilet, shower, restaurant/food, overnight, and other). The data did not support classification of the truck parking spaces into single-, double- and triple-tractor truck parking spaces. An example cut sheet for Miami Truck Parking and Truck Stop (Site ID #1) is shown in **Figure 5**.

CoStar³¹ data, which is in use by FDOT District Six for a concurrent study to identify potential truck parking sites in Miami-Dade County, was used to validate 24 of the 112 identified truck parking supply locations. The remaining 88 were verified using aerial imagery and field visits.

³¹ Based on CoStar Group’s 2020 Form 10-K Annual Report, CoStar is a provider of information, analytics and marketing services to the commercial property industry in the United States and a few other countries around the world. Available at: https://www.annualreports.com/HostedData/AnnualReports/PDF/NASDAQ_CSGP_2020.pdf (last accessed on May 23, 2022)

Figure 5: Site ID #1 - Miami Truck Parking and Truck Stop (Example) Cut Sheet

LOCATION 1

Miami Truck Parking and Truck Stop

17707 NW Miami Ct • Miami, FL • 33169

[25.93712, -80.19991](#) (Inside Urban Development Boundary)




315

Spaces













ZONING: Industrial

ACRES: 11.90

Known Authorized



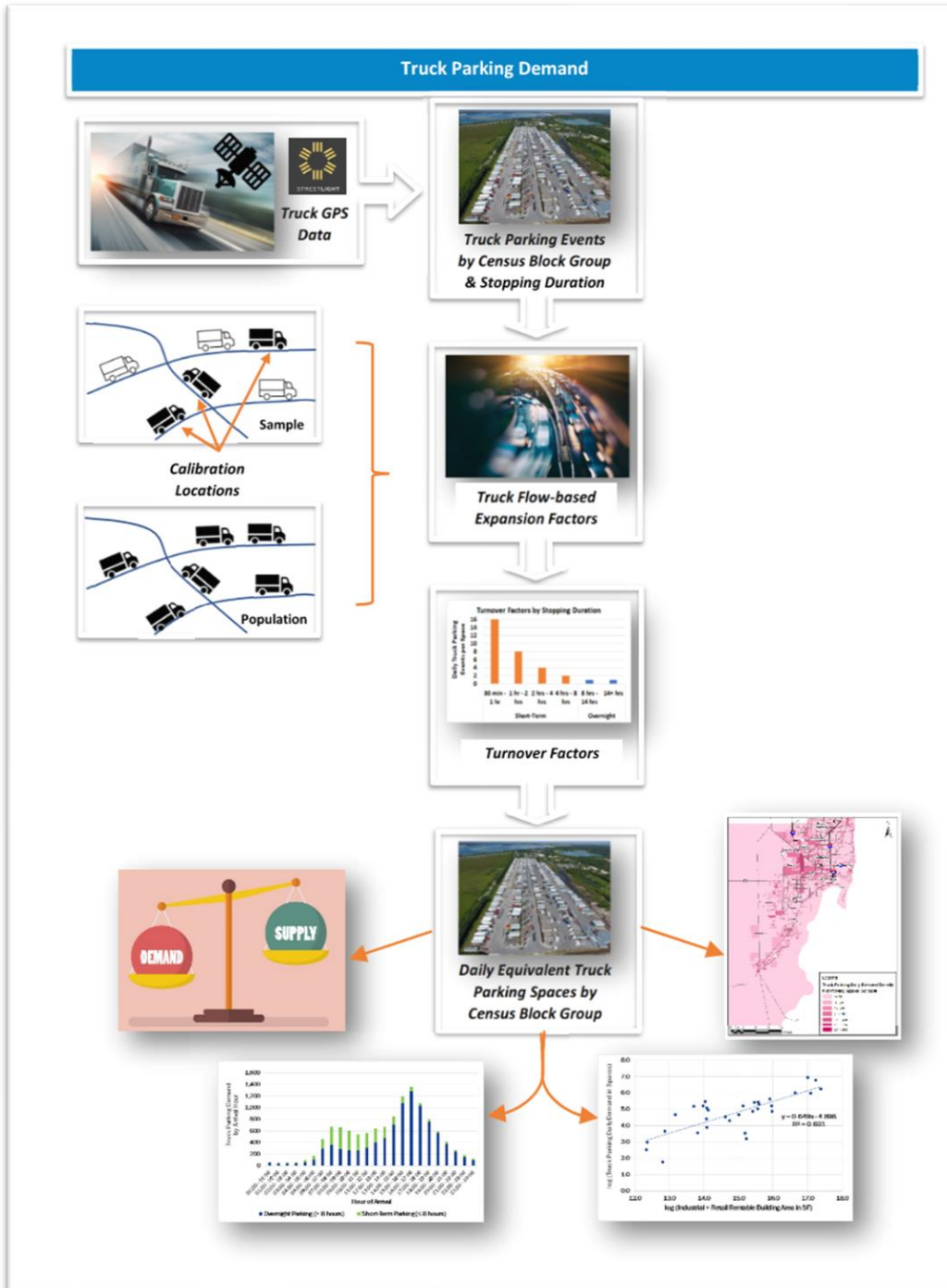


4.1.1 Truck Parking Demand

Truck parking demand was derived from *StreetLight* truck Global Positioning System (GPS) sample data and used methodologies for truck sample to population expansion, as well as the conversion of stop duration-based truck parking events to daily demand in parking spaces (See **Figure 6**). In contrast, the [2020 FDOT Statewide Truck Parking Study](#) – which made the last known countywide truck parking demand estimate used truck registrations and the Florida Intermodal Statewide Highway Freight Model (FISHFM) as primary data sources and associated methodologies.

Figure 6: Data and Methodology Flowchart for Truck Parking Demand



The truck parking demand for Miami-Dade County is an estimate based on weekday and non-holiday truck parking events in *StreetLight* data for the year 2019 (that is, pre- COVID-19 pandemic conditions) and accounts for a large sample of medium-duty trucks (typically used in regional trucking) and heavy-duty trucks (used in both regional and interstate trucking)³² and a minimum stopping duration of 30 minutes.^{33,34} An off-street truck parking facility is an ideal and safe location for meeting this type of truck parking demand. Hence, the truck parking supply and demand estimates made in this assessment were deemed to be comparable to each other.

StreetLight data is an aggregated sample, where the data is summed up to census block groups (CBGs) and to stopping duration classes as follows: 30 minutes – 1 hour, 1 hour – 2 hours, 2 hours – 4 hours, 4 hours – 8 hours, 8 hours – 14 hours and 14+ hours. The aggregated *StreetLight* data did not support identification of the exact truck stopping location within a CBG and as a result utilization by truck parking facility was not estimated.

The study expanded *StreetLight*'s truck GPS sample to the population of medium- and heavy-duty trucks using manually identified 100 calibration locations³⁵ across the county. At each of the calibration locations, FDOT's 2019 truck AADT (after adjustment for a weekday using a factor of 1.05³⁶) was compared to *StreetLight* sample's 2019 weekday daily average truck flow to determine a sample to population expansion factor. Either the expansion factor at individual calibration location, or area wide average (city or county level), as deemed appropriate by the study team, was assigned to each CBG.

To convert truck parking events with different stop durations to daily equivalent demand in parking spaces, the study assumed turnover factors for the stop duration classes as follows: 16 daily truck parking events/space for 30 minutes – 1 hour, 8 daily truck parking events/space for 1 hour – 2 hours, 4 daily truck parking events/space for 2 hours – 4 hours, and 2 daily truck parking events/space for 4 hours – 8 hours. For both 8 hours – 14 hours and 14+ hours class (that is, overnight type of parking), the turnover factor was assumed as 1 daily parking event/space. In other words, an overnight parking event would result in one parking space being used for the full day. On the other hand, a 30 minute – 1 hour class parking event would result in one parking space being used only 1/16th of a full day.

This study used the demand estimates in many ways – developed demand by census block group maps, performed daily equivalent supply shortfall/surplus analysis, understood truck arrival patterns, and built macroeconomic relationships with industrial and retail activity.

The study estimated a daily total demand of about 12,190 truck parking spaces in Miami-Dade County and classified them into two broad categories:

- **Short-Term Parking:** Truck parking events with stop duration less than or equal to 8 hours.
- **Overnight Parking:** Truck parking events with stop duration greater than 8 hours.

CoStar data, which was used in the supply validation, was also used to quickly analyze the impacts that changes in industrial and retail development activity would have on truck parking demand. The study built

³² *StreetLight* data defines heavy-duty commercial trucks as those with gross vehicle weight greater than 26,000 pounds and medium-duty commercial trucks as those with gross vehicle weight between 14,000 and 26,000 pounds.

³³ A truck stop in *StreetLight* data was defined as a truck parking event or stop with a duration exceeding 30 minutes. Truck stops for fuel and general merchandise store purchases, and short-term truck parking while staging for pickup or delivery that may have a typical duration of less than 30 minutes are avoided in the data.

³⁴ As per Federal Motor Carrier Safety Administration (FMCSA) hours-of-service regulations (available at: <https://www.fmcsa.dot.gov/regulations/hours-service/summary-hours-service-regulations>, last accessed on March 15, 2022), commercial vehicle drivers must take a 30-minute break when they have driven for a period of 8 cumulative hours without at least a 30-minute interruption.

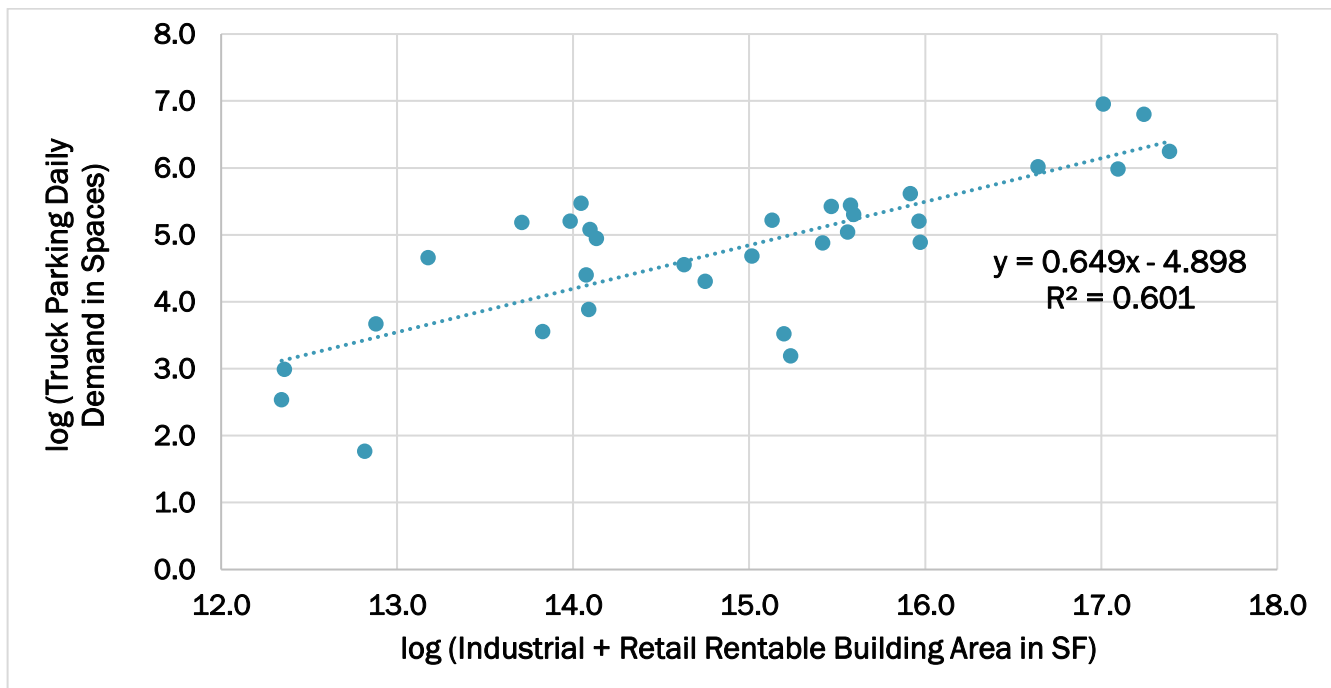
³⁵ The highway links acting as freight access routes to the CBGs with the highest truck parking events were identified as calibration locations.

³⁶ Derived from FDOT, Source Book Calculations Documentation, September 2014. <https://www.fdot.gov/docs/default-source/planning/fto/mobility/Task4-Documentation.pdf> (last accessed on March 15, 2022)

preliminary macroeconomic models for groups of cities between existing industrial and retail rentable building area (RBA)³⁷ derived from CoStar data as an independent variable and estimated 2019 weekday daily truck parking demand derived from *StreetLight* data as a dependent variable. The modeling used CoStar data for industrial and retail properties that exceeded 20,000 square feet in lot size. Retail properties were also filtered to include the secondary types³⁸ of regional mall, department store, drug store, supermarket, truck stop, service station and specialty property (self-storage lot, parking lot, parking garage, auto salvage facility, shipyard, airport, or container storage yard). The models developed for two groups of places within Miami-Dade County are shown in **Figure 7** and **Figure 8**. An effort was made to include additional variables from CoStar data such as estimated floor area ratio (building area per floor divided by lot size) and average ceiling height but these exhibited poor statistical significance (high p-values).

The model for Group #1 places / cities can be interpreted as: For a place / city with 100,000 existing square feet of industrial and retail rentable building area, every additional 100,000 square feet would add a demand for about 3.7 daily truck parking spaces. The model for Group #2 places / cities can be interpreted as: For a place / city with 100,000 existing square feet of industrial and retail rentable building area, every additional 100,000 square feet would add a demand for about 4.2 daily truck parking spaces. No models were developed for cities / places³⁹ with industrial and retail RBAs ≤ 100,000 SF and unincorporated county at this time due to lack of suitable explanatory variables.

Figure 7: Scatter Plot between Group #1 Regression Model Variables



Source: 2019 StreetLight data; *FDOT 2019 Truck AADT data*; February 2021 CoStar data.

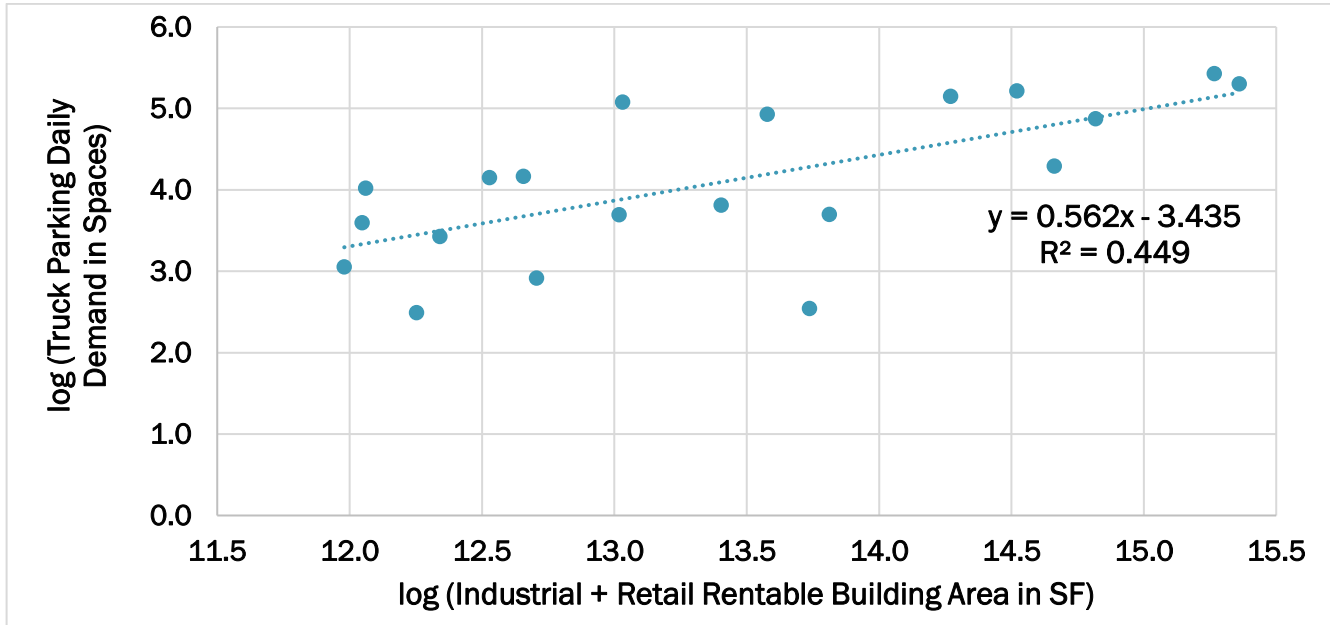
Note: Applicable to Cities / Places with Industrial RBA > 100,000 SF; 32 places including: Cities - Doral, Florida City, Hialeah, Hialeah Gardens, Homestead, Miami, Miami Gardens, North Miami, North Miami Beach, Opa-locka, Sweetwater; Towns - Medley, Miami Lakes; Villages - Virginia Gardens; and CDPs - Brownsville, Coral Terrace, Country Walk, County Club, Gladeview, Glenvar Heights, Golden Glades, Goulds, Ives Estates, Kendall, Ojus, Princeton, South Miami Heights, The Hammocks, Three Lakes, West Little River, West Perrine, Westview.

³⁷ CoStar data contains rentable building area (RBA) as a property attribute, which is the total square footage of a building that can be occupied by or assigned to a tenant. This is typically used to determine the tenant’s rental obligation.

³⁸ CoStar data contains secondary type as a property attribute that is defined based on the property’s configuration and use.

³⁹ Include 18 places: Cities - West Miami; Towns - Bay Harbour Islands, Golden Beach, Surfside; Villages - Biscayne Park, El Portal, Indian Creek, Key Biscayne, Miami Shores; CDPs - Homestead Base, Kendall West, Leisure City, Olympia Heights, Palm Springs North, Palmetto Estates, Richmond Heights, Westwood Lakes; and Unincorporated Miami-Dade County

Figure 8: Scatter Plot between Group #2 Regression Model Variables



Source: 2019 StreetLight data; [FDOT 2019 Truck AADT data](#); February 2021 CoStar data.

Note: Applicable to Cities / Places with Industrial RBA ≤ 100,000 square feet but with Retail RBA > 100,000 SF; 20 places including: Cities - Aventura, Coral Gables, Miami Beach, Miami Springs, North Bay Village, South Miami, Sunny Isles Beach; Towns - Cutler Bay Villages - Bal Harbour, Palmetto Bay, Pinecrest; and CDPs - Fountainebleau, Kendale Lakes, Naranja, Pinewood, Richmond West, Sunset, Tamiami, The Crossings, Westchester.

4.2 Key Findings

4.2.1 Truck Parking Supply

The truck parking supply inventory for Miami-Dade County was enhanced in this study from 20 facilities identified in the Statewide studies⁴⁰ to 112 facilities and increased the estimated number of truck parking spaces nearly four-fold from 2,758 to 10,477. The reasons for these large changes are as follows:

- Facilities identified in the Statewide studies:
 - Among the inventory of 20 facilities in the Statewide studies, only 18 facilities were retained in this supply inventory. The eliminated facilities include *Plantation Key US-1 Static Station* located in Islamorada and *Wal-Mart with Truck Parking* in Miami Gardens, which were eliminated based on the county location and field verification.
 - An existing World Property Services property in the City of Hialeah that was identified as one truck parking facility in the Statewide studies actually consisted of two (2) adjacent facilities (Site IDs #16 and #18).
 - The attributes for the truck parking facilities included in the Statewide studies were also updated in a few cases, for example, the number of truck parking spaces in the F & M truck

⁴⁰ 2020 FDOT Statewide Truck Parking Study and 2019 Statewide Truck GPS Data Analysis, available at: <https://www.fdot.gov/rail/studies/truck-parking> (last accessed on March 15, 2022). As per the Statewide Truck GPS Data Analysis, there are 17 private facilities with 2,690 parking spaces and 3 public facilities with 68 parking spaces.

parking lot (Site ID #15) was increased from 950 spaces (in Statewide studies) to 1,300 spaces (in this study) based on the facility website⁴¹.

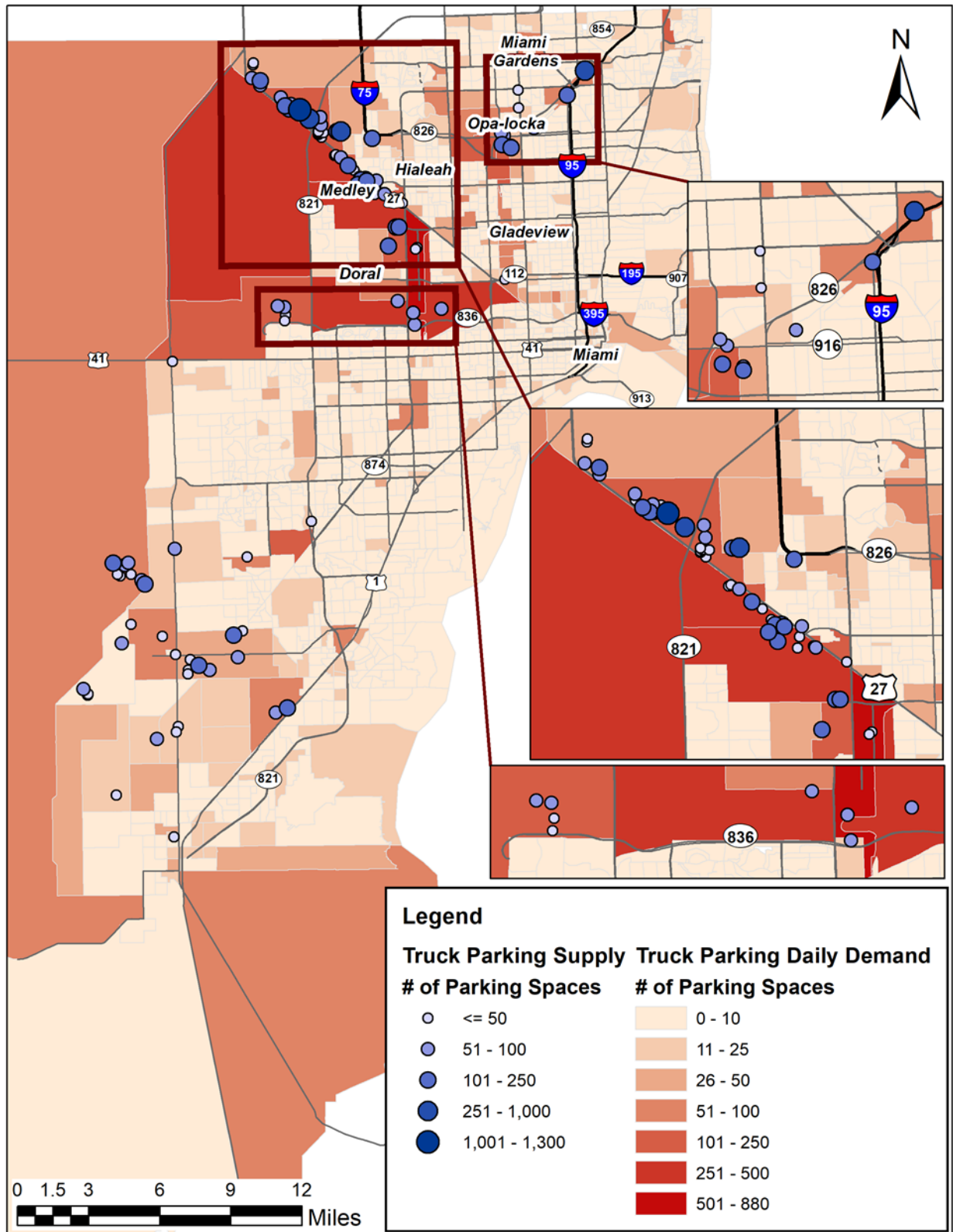
- Golden Glades Truck Travel Center (Site ID #2, @25.92222, -80.21228), a planned public truck parking facility, is also included in the inventory but the number of parking spaces was adjusted from 68 to 135 based on the project website⁴².
- The total count of facilities identified based on the Statewide studies as a result changed to 19 and the associated supply in terms of parking spaces changed to 3,412.
- New facilities identified in this study:
 - An interview with Miami International Airport (MIA), as documented in the “Stakeholder Outreach” technical memorandum for this study, indicated 2 truck parking facilities (one existing and one planned) in the vicinity of the airport (Site IDs #42 and 43). As per MIA, the existing facility is an empty lot and the only place for staging on airport.
 - This study added a few large and new truck parking/storage lots that include Miami Truck Parking and Truck Stop (Site ID#1), Velieto Truck Parking (Site ID #24), and DGD truck parking lot (Site ID #33), all of which are inside the urban development boundary. This study also added other smaller truck parking/storage lots that are not truck stops or service stations. These totaled to 46 locations.
 - This study found 21 facilities, which are recent conversions from agricultural land use to truck parking land use, that are located outside the urban development boundary but within the Miami-Dade County designated lands for commercial vehicle storage near the City of Hialeah. The Statewide studies already included 2 among these 21 facilities, so this study resulted in a net addition of 19 facilities.
 - Field verification also found 26 informal truck parking lots operating outside the urban development boundary but not on county designated lands for commercial vehicle storage.
 - The total count of new facilities identified in this study is 93 and the associated supply in terms of parking spaces is 7,065 spaces.

Figure 9 shows a map of the truck parking facilities (and the CBG level summary of truck parking demand, which is discussed later). Parking supply appears to cluster around major demand locations. Most of the truck parking supply is in the northwest parts of the county. The F & M truck parking lot (Site ID #15) with 1,300 truck parking spaces is the largest truck parking facility and contributes 12 percent of the county’s total truck parking supply.

⁴¹ <https://nationaltruckparking.com/miami-truck-parking/> (last accessed on March 15, 2022)

⁴² Golden Glades Truck Travel Center Project Description, Available at: <http://www.fdotmiamidade.com/GGTTC> (last accessed on March 15, 2022)

Figure 9: Truck Parking Supply by Facility and Daily Demand by Census Block Group



Source: [2020 FDOT Statewide Truck Parking Study](#); 2016 South Florida Truck Stop Market Analysis; [AllStays Application](#) and Other Trucker Websites; Aerial Images from Google and Microsoft Maps Applications; 2019 StreetLight data; [FDOT 2019 Truck AADT data](#); [County Roadway Network GIS Layer](#).

Table 4 shows a summary of the characteristics for the 112 truck parking supply facilities in Miami-Dade County.

Table 4: Characteristics of Truck Parking Facilities in Miami-Dade County Summary

Characteristic	# of Locations		Lot Size (in acres)		Built-Up Area (in acres)		# of Spaces	
	Value	% of Total	Value	% of Total	Value	% of Total	Value	% of Total
Supply Category								
- Known Authorized	86	77%	1,432.1	84%	433.0	81%	8,797	84%
- Additional Informal	26	23%	268.6	16%	103.2	19%	1,680	16%
Geographical Limits								
- Inside UDB	61	54%	1,225.8	72%	285.2	53%	5,588	53%
- Outside UDB	51	46%	474.9	28%	251.0	47%	4,889	47%
Land Use Type								
- Industrial	53	47%	1,177.6	69%	243.9	45%	5,085	49%
- Commercial	13	12%	56.3	3%	51.3	10%	619	6%
- Agricultural	44	39%	456.9	27%	235.4	44%	4,683	45%
- Residential	2	2%	9.9	1%	5.6	1%	90	1%
Ownership Type								
- Public	4	4%	614.0	36%	26.9	5%	300	3%
- Private	108	96%	1,086.7	64%	509.3	95%	10,177	97%
Facility Type								
- Truck Stop	11	10%	51.9	3%	50.4	9%	699	7%
- Truck Parking Lot	101	90%	1,648.8	97%	485.8	91%	9,778	93%
Amenities								
- Fuel	11	10%	51.9	3%	50.4	9%	699	7%
- Toilet	112	100%	1,700.7	100%	536.2	100%	10,477	100%
- Shower	6	5%	36.2	2%	34.7	6%	636	6%
- Restaurant/Food	12	11%	50.3	3%	48.7	9%	579	6%
- Overnight	60	54%	533.2	31%	306.6	57%	5,947	57%
TOTAL	112	100%	1,700.7	100%	536.2	100%	10,477	100%

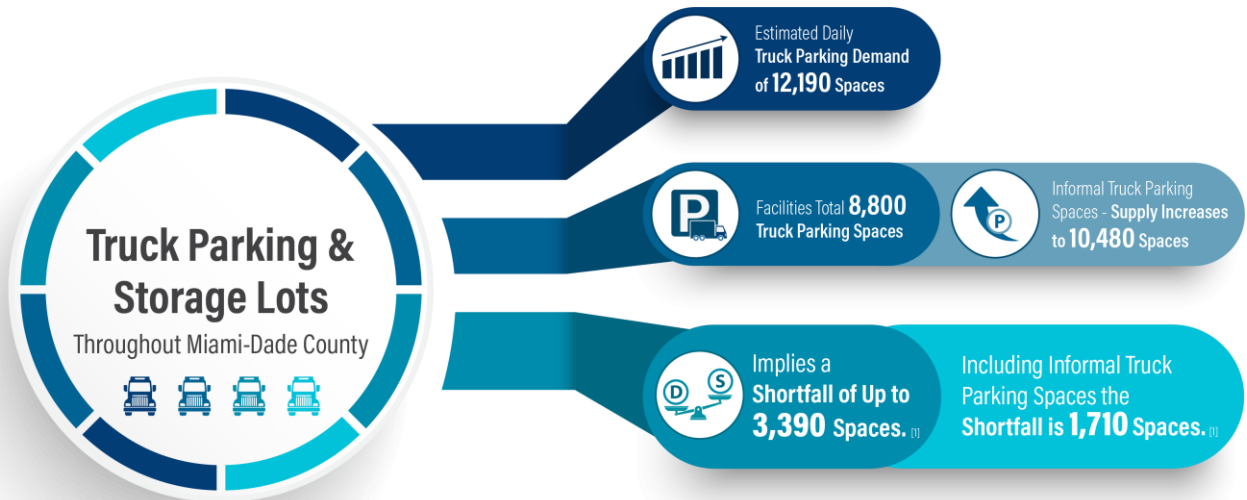
Note: UDB = urban development boundary; Truck stop – truck parking facility with diesel fuel and other amenities (shower, restroom, restaurant/food, overnight parking, truck wash/repair, laundry, ATM, etc.), others are referred as truck parking lots.

Source: [2020 FDOT Statewide Truck Parking Study](#); 2016 South Florida Truck Stop Market Analysis; [AllStays Application](#) and Other Trucker Websites; Aerial Images from Google and Microsoft Maps Applications.

4.3 Supply and Demand Analysis Conclusions

This study developed a comprehensive inventory of truck parking and storage lots throughout Miami-Dade County. All told, these facilities total 8,800 truck parking spaces. Most of the capacity is clustered in Medley, Hialeah, Opa-Locka, and unincorporated Miami-Dade County (especially the area bordered by US 27, the Homestead Extension Florida’s Turnpike, and Broward County). Only 8% of spaces are public; the rest are provided by private companies.

The study estimated daily truck parking demand of 12,190 spaces in Miami-Dade County. Comparing this to the known authorized supply of 8,800 spaces implies a shortfall of up to about 3,390 spaces.⁴³ This shortfall has encouraged informal truck parking. If additional informal truck parking spaces are included the supply increases to 10,480 spaces of total supply, implying a shortfall of up to 1,710 spaces. Demand is highest in Miami, Doral, Miami Gardens, Hialeah, and unincorporated Miami-Dade County. More than half (54%) of trucks arrive at parking locations between noon and 7 p.m., and three quarters of trucks need to park for longer than eight hours (i.e., overnight parking). The cities of Miami, Doral, and Miami Gardens have the highest shortfalls (approximately 1,050, 450, and 350 daily spaces respectively).



[1] Demand was estimated based on all stops longer than 30 minutes. Since some businesses may allow trucks to stop for longer than that, the shortfall may be smaller.

The study also looked at the relationship between truck parking demand and commercial real estate activity. Using rentable building area in industrial and retail buildings as a measure of commercial development growth, the study found a strong correlation between such growth and demand for truck parking. As an example, adding a one-million-square foot distribution center in Doral would generate demand for about 11 daily truck parking spaces.⁴⁴ One recent news article noted that the Miami Airport West submarket (which includes Doral) added 469,000 square feet of industrial/commercial building space over a year in 2019/2020, with an additional 210,000 square feet under construction at the time.⁴⁵

⁴³ Demand was estimated based on all stops longer than 30 minutes. Since some businesses may allow trucks to stop for longer than that, the shortfall may be smaller.

⁴⁴ This figure assumes 100% occupancy for 24 hours a day; if the same spaces are shared by many trucks (i.e., higher turnover), the actual number of trucks using the spaces would be higher, or the required number of truck parking spaces would be lower.

⁴⁵ Henseler, K. 'With online buys, Doral warehousing in prime position,' *Miami Today*, July 28, 2020. Retrieved January 12, 2022 from <https://www.miamitodaynews.com/2020/07/28/with-online-buys-doral-warehousing-in-prime-position/>.

Regionally, there are other signs that freight demand, and consequently demand for truck parking, will continue to grow:

- Miami International Airport plans to double its cargo handling capacity by 2040 via strategic investments on the west side of the airport near the existing cargo facilities⁴⁶
- According to PortMiami, container flows will reach almost 2.7 million twenty-foot equivalent units by 2035;⁴⁷ in 2021, the port handled 1.3 million containers⁴⁸
- The Miami-Fort Lauderdale-Palm Beach region's population will probably reach nearly 7 million people by 2025,⁴⁹ up from 6.2 million in 2020;⁵⁰ population growth is a key driver of freight demand

This suggests that continued regional freight growth will generate additional truck parking in a region that already struggles to meet such demand. It also implies that continued conversion of industrial land to high value uses like warehouses and distribution centers will put pressure on the land supply suitable for truck parking, especially within the Miami-Dade County Urban Development Boundary (UDB).

4.4 Additional Information

For a more in-depth account of the supply and demand analysis including the methodology and cut sheets for the known authorized and additional informal supply locations, reference the *Truck Parking Supply and Demand Assessment Technical Memorandum*, and the *Truck Parking Supply and Demand Assessment Attachments Technical Memorandum* published April 2022 by FDOT District Six.

⁴⁶ Miami-Dade Aviation Department, 'Capital Improvement Program,' presentation dated May 15, 2019. Retrieved February 15, 2022 from <https://www.miami-airport.com/library/CIP%202019/MIA%20CIP%20Presentation.pdf>.

⁴⁷ PortMiami, *2035 Master Plan Executive Summary*, retrieved February 15, 2022 from <https://www.miamidade.gov/portmiami/library/2035-master-plan/executive-summary.pdf>.

⁴⁸ PortMiami Historical Snapshot, retrieved February 15, 2022 from <https://www.miamidade.gov/portmiami/cargo.asp>.

⁴⁹ Miami-Dade Beacon Council, 'Forecast Population,' retrieved February 15, 2022 from <https://www.beaconcouncil.com/data/demographic-overview/forecast-population/>.

⁵⁰ Federal Reserve Bank of St. Louis, based on US Census Bureau data. Retrieved February 15, 2022 from <https://fred.stlouisfed.org/series/MIMPOP>.

5. Purpose and Need

Purpose and need statements provide the basis for developing and analyzing alternatives to solve transportation problems. These statements provide a framework against which reasonable alternatives can be judged. This section defines the purpose and need for additional truck parking in South Florida.

5.1 Purpose

The purpose of this project is to evaluate, design, and construct truck parking facilities in Miami-Dade County to reduce the estimated shortfall in supply based on existing and future truck parking demand throughout the County. The objectives of this project are to:

- **Provide for spillover parking around freight-intensive areas** – Provide at least 5,100 truck parking spaces in high-demand areas such as the cities of Miami, Doral, Miami Gardens, and Hialeah as well as in key industrial locations across unincorporated Miami-Dade County.
- **Implement operational and technology improvements** – Implement Intelligent Transportation Systems (ITS) such as the Truck Parking Availability System (TPAS) to increase the utility and maximize the supply of existing facilities without disregarding the safety and security of facility workers and users.
- **Provide access to amenities** – Consider developing amenities that drivers need such as food services and showers on a case-by-case basis for identified parcels.
- **Preserve suitable land for truck parking development** – Consider creating a land use development program to preserve and promote truck parking facilities.
- **Improve enforcement** – Consider coordinating with local, County, and State law enforcement to prevent illegal truck parking activity and educate truck drivers about available legal facilities.

5.2 Need

Miami-Dade County has a documented existing and future need for truck parking based on capacity, safety, transportation demand, economic development, and modal interrelationships.

5.2.1 Capacity

Since 2010, transportation agencies in Miami-Dade County have documented a capacity shortfall in available truck parking spaces around the county. This study completed a comprehensive supply and demand assessment of Miami-Dade County and determined that a shortfall of up to about 3,390 daily truck parking spaces exists in the County. The shortfall for overnight truck parking is probably higher given that three quarters of trucks in the County need overnight parking.



Truck Parking Storage Lot, 2021 Site Visit

The cities of Miami, Doral, and Miami Gardens have the highest shortfalls in truck parking with shortfalls of approximately 1,050, 450, and 350 daily spaces, respectively. Parking capacity is insufficient around some of the region's largest freight generators like MIA, PortMiami, and Doral. While surplus parking elsewhere in the county may partially address this need, it cannot meet all the demand. Therefore, there is a need to identify and advance suitable sites for truck parking in these high-demand areas.

Adding new truck parking is clearly difficult, so there is a need to make better use of the region's existing capacity. Unauthorized parking in places that appear to have a supply surplus (e.g., Medley) suggests that drivers may be unaware of available parking. Improved signage and wayfinding could mitigate this issue. Technology applications like real-time parking availability information and reservation systems will also optimize available truck parking supply. New technology deployments need to be coordinated and integrated with FDOT's Truck Parking Availability System currently under development.

5.2.2 Safety

The 2020 Truck Parking Plan developed by FDOT Central Office determined that Miami-Dade County has only 3% of the statewide truck parking capacity but 62% of trucks are parking illegally. Drivers that cannot find legal parking often resort to parking in neighborhoods, drainage swales, or unsanctioned truck lots creating safety issues for motorists due to reduced sight distances, obstacles on shoulders and clear



Unauthorized Truck Parking, 2021 Site Visit

paths, and reduced visibility on roads and near driveways. Illegal truck parking also creates security concerns for truck driver lives and property in transport.

Persistent unauthorized parking (e.g., in Medley, Opa-Locka, and Hialeah Gardens) may only be addressable via increased enforcement. Much of this parking is related to staging while drivers wait to pick up or drop off shipments. Enforcement should be coupled with education to inform drivers of available authorized parking where possible, rather than ticketing them.

5.2.3 Transportation Demand

This study analyzed the relationship between truck parking demand and commercial real estate activity. Results suggest that every one-million square feet of new warehousing development generates demand for about 11 daily truck parking spaces. Recent real estate reports document that in the Miami Airport West submarket alone, approximately 679,000 square feet of new warehousing was built or was under development between 2019 and 2020. As shown by various truck parking studies since 2010, Miami-Dade County is not generating sufficient truck parking supply to keep pace with such demand.

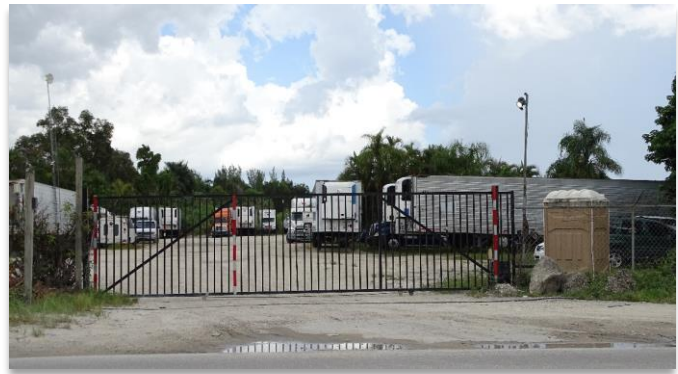
This study found that high land values and development pressure are accelerating conversion of properties to commercial uses with little or no provision for truck parking. Population growth is also leading to new residential development where truck parking is usually not wanted. Even in industrial areas like the Miami River corridor, older developments often cannot handle parking requirements for modern trucks. There is therefore a need to identify and preserve suitable land for truck parking in Miami-Dade County where appropriate. This includes the areas outside the UDB that have been identified by the county for truck storage and parking.

5.2.4 Economic Development

In 2020, nearly \$97 billion in international trade flowed through the Miami Customs District.⁵¹ Key trade infrastructure in the region includes MIA, PortMiami, the Interstate and State highway networks, the Florida East Coast (FEC) rail ramp, and warehouses and industrial areas in Doral, Medley, Hialeah, and elsewhere. MIA was the fifth busiest cargo airport in the United States in 2020.⁵² On a twenty-foot equivalent unit basis, PortMiami was the 12th busiest port in the country in 2019, and the second busiest in Florida.⁵³ South Florida is clearly an important link in local, state, national, and global supply chains.

Keeping goods moving requires consideration of multimodal freight needs including truck parking. Continued trade growth coupled with population growth will lead to more freight demand. Since most of the region's freight is carried by trucks, this will generate more truck parking demand. Furthermore, truck operators and drivers today are reporting economic impacts due to anticipated delays in finding legal truck parking in the County.

Many truck parking locations lack amenities such as dining options, convenience stores, and showers. This is especially true for the areas outside the UDB where most new capacity is being added and where these amenities are not permitted. There is a need to plan and build parking capacity with access to such amenities. Access can be provided on or adjacent to a truck parking lot, or offsite with suitable connections to services. Development of such amenities create economic growth opportunities in industrial land uses, such as truck parking facilities, that would not otherwise exist.



Truck Parking Facility with Minimal Amenities, 2021 Site Visit

Keeping goods moving requires consideration of multimodal freight needs including truck parking. Continued trade growth coupled with population growth will lead to more freight demand. Since 75% of the region's freight is carried by trucks, this will generate more truck parking demand. This study found a shortfall of up to about 3,390 daily truck parking spaces in Miami-Dade County. The shortfall for overnight parking could be higher.

5.3 Additional Information

For additional information on the purpose and need for truck parking, reference the *Case for Truck Parking Technical Memorandum*, published January 2022 by FDOT District Six.

⁵¹ US Census Bureau, USA Trade Online, retrieved December 21, 2021 from <https://usatrade.census.gov>.

⁵² Federal Aviation Administration, 'CY20 All-Cargo Landed Weight,' retrieved February 15, 2022 from https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/media/cy20-cargo-airports.pdf.

⁵³ American Association of Port Authorities, 'CY 2019 Western Hemisphere Port Cargo and Passenger Counts,' retrieved February 15, 2022 from <https://www.aapa-ports.org/unifying/content.aspx?ItemNumber=21048>.

6. Potential Solutions

Addressing the truck parking shortage in South Florida will require a multi-pronged approach tailored to the region’s unique geography and market dynamics. Since land use and development is a local process, it will require partnerships between FDOT District Six, local government agencies, and private partners.

During the stakeholder outreach, interviewees were solicited to suggest potential solutions to truck parking.⁵⁴ As shown in **Figure 10**, most suggested solutions revolve around adding more capacity by developing new truck parking.

Figure 10: Potential Truck Parking Solutions Suggested by Stakeholders



Broadly speaking, potential solutions can be grouped into two categories: policy and regulatory changes, and infrastructure-based solutions. The following sections outline solutions in each category suggested by stakeholders.

6.1 Policy and Regulatory Approaches

Policy and regulatory solutions typically revolve around modifying existing regulations to make it easier to create new truck parking or finding candidate locations that might represent “easy wins.” Policy also includes setting a long-term strategic direction for the region and its subareas and defining how truck parking fits into that vision.

⁵⁴ Truck Parking Supply and Demand Stakeholder Outreach Technical Memorandum, October 2021, FDOT District Six.

6.1.1 Modify Allowable Uses in Existing Zoning Designations

Traditional truck parking (e.g., a truck stop with amenities and services) is often only allowed in industrial zoning designations. However, such truck stops are not a heavy industrial use and can be developed to minimize community impacts. Jurisdictions should control how new parking is developed such that it fits into the existing urban fabric without creating conflicts with other land uses. Example approaches include requiring walls, vegetative buffers, and setbacks.

6.1.2 Expedite Development Review for New Truck Parking

FDOT District Six and its partner jurisdictions should see what can be done to expedite development review for new truck parking and storage lots, especially for the operators who are following the rules. Of the truck parking providers interviewed, two are planning additional capacity and one would like to add more parking. Miami Truck Parking, for instance, would like to develop up to 1,500 new spaces. Ace Transportation, which operates a truck storage yard off US 27 in northwestern Miami-Dade County, has a wait list of nearly 400 drivers. Partnering with jurisdictions would help facilitate solutions at the local level, with appropriate consideration for adjacent land uses.

6.1.3 Convert Existing or Proposed Government-Owned Parcels to Truck Parking

While land development pressure and rising prices have certainly reduced the land available for new truck parking, there are properties in the area that may be suitable for truck parking. In many cases, these parcels are unused or underused and located in industrial areas such as the Miami River. Specific examples cited by stakeholders include:

- The City of Doral suggested purchasing property on the western fringe of the city and renting spaces to truckers monthly.
- Miami International Airport officials suggested using vacant land west of the airport between NW 12th Street and NW 25th Street as a fueling and overnight rest facility via a private concessionaire.
- FDOT owns a parcel near the Miami River that was acquired as a staging area for a Tri-Rail bridge reconstruction project. The parcel is unused but is in an industrial area with a distinct truck parking shortage.

General guidelines to identify sites include:

- They should be in industrial or commercial areas
- Trucks should not have to traverse residential districts to access the sites
- Sites should be located on or very close to key truck routes

From an implementation standpoint, sites should be reserved for trucks and provide adequate lighting and security. Truckers should pay a rate comparable to lots with similar amenities; fees could be collected either by a government operator or a private concessionaire. Demonstrating a small but successful project could showcase a workable solution that might be replicated elsewhere.

6.1.4 Enhanced Enforcement

Law enforcement staff interviewed for this project suggested that truck drivers will continue parking illegally unless discouraged from doing so by a regular enforcement presence. Local jurisdictions should therefore maintain routine enforcement of existing truck parking restrictions, especially in residential areas. The City of Miami Gardens, for example, conducts nightly sweeps to try and remove or cite illegally parked trucks. Enforcement can also target unauthorized truck storage lots since they undercut the legitimate operators on price. Miami-Dade County police recently worked with the Florida Highway Patrol on 'Operation Lot Lizard,' which focused on shutting down unauthorized truck parking lots in the Redlands.⁵⁵

6.1.5 Encourage Sharing of Existing Large Parking Lots

Warehouses, distribution centers, and big box retailers often have large parking lots that are underused at certain times of days especially overnight. Encouraging such businesses to allow trucks to park in their lots during off-peak times may provide relief for drivers who are out of their hours of service but cannot find a safe and legal place to park. Many businesses do not want drivers to park for extended periods due to space, safety, or liability concerns. Hence, this practice would need to be voluntarily negotiated between private entities.

Miami River stakeholders noted a specific potential candidate for this type of sharing. The Miami River Subarea Freight Plan identified a big county-owned parking lot near Casino Miami. The lot was used for staging for the Miami River dredge project. The plan recommended using it for truck parking once the dredge project was complete, but the county sold it to Casino Miami. However, the south portion of the lot is empty. The Miami River Commission noted there may be an opportunity to rent the property back for truck parking during the day, which is when the need is greatest.

Other potential candidate sites mentioned by interviewees include the Miami-Dade College North Campus, Hard Rock Stadium, and the FLA Live Arena in Broward County. These facilities have large parking lots that are not usually full unless there is an event. FLA Live Arena and Miami-Dade College have been used in the past to stage vehicles and supplies for hurricane recovery, so there is a precedent.

6.1.6 Decide on Future Direction for Subareas Within the Region

Some of the interview responses suggest a longer-term need to decide on land use and design priorities for the region and its subareas. Many parts of Miami-Dade County are transitioning from industrial and agricultural uses to commercial, residential, and mixed-use developments. For example, parts of western Miami-Dade County are already transitioning away from agricultural uses with landowners selling their land for development, but the current zoning does not allow for full-service truck stops. The Miami



Trucks Heading to a Parking Facility, 2021 Site Visit

⁵⁵ <https://wsvn.com/news/investigations/lot-lizard-police-crack-down-on-redlands-illegal-big-rig-parking-lots/?fbclid=IwAR1yDYNgVFYeXILVaODcQMkgv9DzCQEG1ApvXQhCtGve-ncyu1leZYzrEO>

River corridor, which has historically been industrial, is seeing more residential, hotel, and mixed-use development.

Such development pressure sometimes drives out truck parking, but the trucks still need to go somewhere. Future policy should consider where industrial and logistics uses (including truck parking) should be allowed and the appropriate intensity of such activities. Plans need to consider all uses including freight, passenger, and transit in areas where the community wishes to maintain industrial uses. If not, continued commercial operation may become infeasible in some areas, with potential negative impacts on the regional economy and industrial base. Cities within Miami-Dade County can consider land use regulations that require truck parking with new industrial developments, like those adopted by Doral.

6.1.7 Consider Mode Shifting Strategies

One stakeholder noted that cargo moving from South America and the Caribbean through South Florida could be imported via air, with the last shipment leg made via barge traffic. In addition, there is an opportunity for shifting truck traffic to rail. There is the possibility of drayage movements between PortMiami and Hialeah and Medley Rail Yards to reduce trucks. If such freight could be taken off trucks, it might reduce the total demand for truck parking in South Florida.

6.1.8 Continue Advocating for Truck Parking

District Six should continue to advocate about the importance of truck parking for safety and economic development to keep the issue in front of state and regional decision makers. For instance, District Six can work with FDOT Central Office to ensure the state rest area program is maintained and sufficiently funded. According to Owner-Operator Independent Drivers Association (OOIDA), some states are cutting back on rest area programs or forbidding trucks from using them, but they are important to truck drivers. This is especially important since there is no federal funding set-aside for truck parking. Instead, truck parking must compete with other priorities, so it often falls to the bottom of the list.

6.2 Infrastructure Projects

Infrastructure-based solutions aim to mitigate truck parking issues by constructing new supply. Ideally, a variety of public and private solutions should be provided since truckers have different reasons to park and/or store their trucks including rest, staging, and long-term storage.

6.2.1 Planned and Programmed Projects

Known projects that would increase truck parking supply include:

- The planned Golden Glades Truck Travel Center improvements will provide about 135 truck parking spaces.
- RaceTrac recently purchased an 8.3-acre property in Medley that is currently a junkyard; the site will probably be converted to a fueling station, convenience store, and truck rest stop.
- Miami International Airport's master plan contains a project to develop 75 truck parking spaces off Milam Dairy Road as parking for trucks accessing the airport; the lot would be developed and operated by a concessionaire with amenities for truck drivers.

- Two projects that would address truck parking in the Miami River area were identified in the Miami-Dade Transportation Improvement Program and the 2040 Long-range Transportation Plan: providing a truck parking/staging area near NW 36th Street and NW 37th Avenue and improving NW North River Drive from SR 112 to NW 27th Avenue to allow for truck staging in the center lane and widening where possible to permit truck parking on the sides of the road. Neither project was assigned priority funding status in those documents, but both were carried forward into the Miami River Freight Study.
 - Miami-Dade County recently appropriated \$9 million for improvements to South River Drive but later scrapped the project; one stakeholder suggested these funds could be directed towards improving parking conditions on North River Drive.

In the longer term, the stakeholders noted the following strategies that could lead to additional supply, change where and when trucks park in the region, or reduce overall parking demand.

6.2.2 Leverage SIS Funding for Key Freight Corridors

FDOT District Six could identify freight corridors eligible for Strategic Intermodal System (SIS) funding and program truck parking improvements on them. District Six is already doing this to some extent with ongoing efforts related to the Golden Glades interchange, but a more systematic approach could uncover additional sites to consider for truck parking.

6.2.3 Inland Port

PortMiami is considering options to develop an inland port to facilitate container movements via truck between the port and an inland terminal, where they could be stored until ready for pickup. Several locations have been considered in prior studies, but none were settled upon. The port is reconsidering the issue given recent disruptions at the PortMiami container terminals related to truck wait times. If such a facility is developed, it should provide adequate truck parking and staging areas.

6.2.4 Convert Weigh Stations to Truck Parking

Representatives from the Owner-Operator Independent Drivers Association (OOIDA) suggested converting unused weigh stations into truck parking. Missouri has done this with some of its unused weigh and inspection stations. There are no FDOT weigh stations in Miami-Dade County, but a few exist elsewhere in South Florida including I-95 in Martin County, I-75 in Punta Gorda, and US 1 in Islamorada. If any of those facilities become redundant in the future, District Six could work with nearby Districts and FDOT Central Office to convert them to truck parking.

6.2.5 Local Public-Private Partnerships

Local jurisdictions with illegal truck parking problems can experiment with providing small, basic lots for residents who are truckers to use. Elmira, NY and Weed, CA have implemented successful projects that include paving and marking spots. In Elmira, truck drivers pay a nominal fee for parking which is enforced via the town's parking staff. In Weed, the city paved a site next to a fueling station, which agreed to clean and maintain the site in exchange for the increased business associated with trucks parking there.

6.2.6 Truck Parking Availability Systems

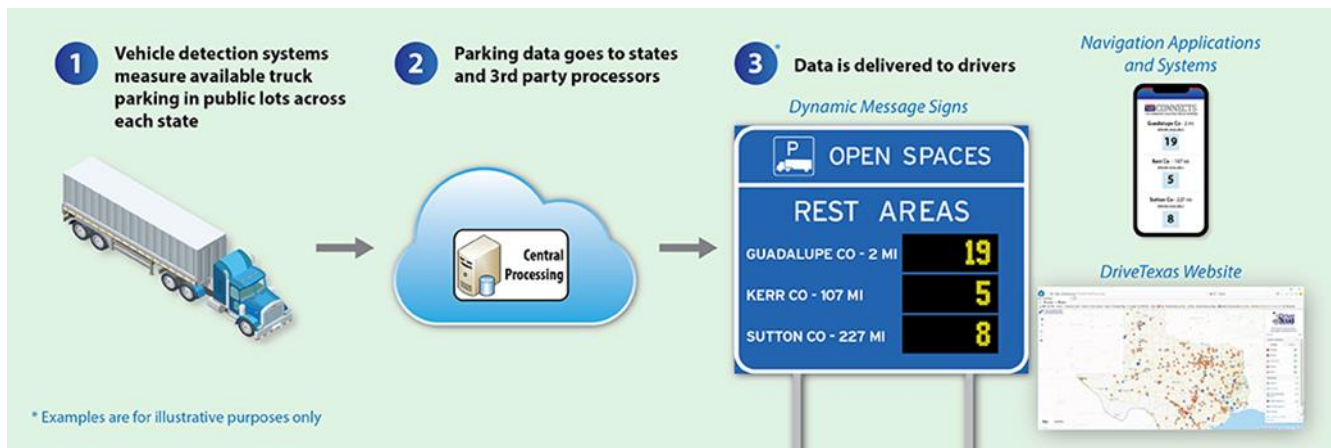
Truck parking availability systems are intelligent transportation systems designed to gather, fuse, and disseminate real-time information on truck parking availability at connected sites. Information can be distributed to drivers via multiple means including dynamic message signs, mobile apps, and traveler information web portals. FDOT is currently developing such a system in three stages:

- Implementing technology at state-owned truck parking facilities to gather/disseminate truck parking availability
- Developing predictive analytics to forecast future parking availability
- Integrating private parking locations to achieve comprehensive systemwide coverage⁵⁶

Figure 11 shows how such a system might work.

District Six should work with FDOT Central Office to fully integrate South Florida’s public truck parking capacity in the system, and with private operators to encourage participation as the system is more fully developed. One drawback of truck parking availability systems (mentioned by OOIDA) is that while they provide information that is useful to truckers searching for parking, they don’t address the underlying supply shortfall.

Figure 11: Example Truck Parking Availability System



Source: I-10 Corridor Coalition

6.3 Recommendation Summary

The interviews confirmed that truck parking remains a key freight need in South Florida. Continued cargo volume growth, intense development pressure, and land use changes are increasing the demand for truck parking while reducing the supply of land that is suitably zoned and appropriately priced for new truck parking supply. If truck drivers do not have a safe place to park, the region risks losing more truck drivers to higher paying/more affordable markets at a time when there is a short supply of truck drivers. Finding solutions for truck parking is therefore important for continued regional economic development.

As a result, adding capacity does not necessarily mean permitting and developing a full-service truck stop. Truck drivers may be satisfied with a safe and secure place to park while they rest or wait for an

⁵⁶ <https://www.fdot.gov/traffic/traf-incident/tpas#>

appointment. Policy should therefore encourage developing new capacity wherever it is needed, without stipulating a certain level of amenities. This opens the door to creative solutions with local support.

Addressing the shortage in truck parking requires a portfolio of approaches that consider parking demand, truck driver preferences, and constraints. FDOT can lead some initiatives, such as identifying DOT-owned parcels in industrial areas that might be converted to truck staging areas but developing new truck parking supply is often a local process, requiring coordination with individual jurisdictions who control the land development process. FDOT District Six and its local partners should look for appropriate ways to modify the development review processes and zoning designations to make it easier to create new truck parking, while minimizing land use conflicts. Local and subarea plans also need to consider what the community wants and how industrial uses including truck parking fit into the plans.

7. Next Steps

This Master Plan focused on “laying the foundation” for future truck parking studies by updating the supply and demand analysis. As previously mentioned, there is a significant shortfall between the known authorized and safe truck parking supply and demand. This shortfall is leading to unapproved informal and unsafe truck parking in the region. It is recommended that the next logical step is to perform additional studies aimed at developing a deeper understanding of truck parking issues, truck parking needs, and provide potential solutions.

7.1 Potential Future Studies

This section briefly outlines options for potential further research. If pursued, such efforts can better inform future policy making, project selection, and implementation. It can also help integrate truck parking with the District’s ongoing transportation program.

For a more in-depth account of the potential options for a Phase 2 Study, reference the *Truck Parking Supply and Demand Assessment of Phase 2 Options Technical Memorandum*, published May 2022 by FDOT District Six.

7.1.1 Estimate Latent Parking Demand

In 2002, the Federal Highway Administration (FHWA) published a methodology for forecasting truck parking demand, using empirical data gathered from several locations around the United States.⁵⁷ Since then, several contributors have enhanced the model, including updates to accommodate revised hours of service rules.⁵⁸ The model can be used to estimate truck parking requirements in current and future year scenarios. It can be tailored with parameters specific to the area under analysis.

The model is typically used to understand corridor-level truck parking needs, often within state or regional freight plans. As such, the model focuses on parking demand arising from long-haul truck movements. But a significant share of total parking demand in District Six derives from short-haul truck movements which are not well-represented in the model.

This option would modify the FHWA truck parking demand model to account for the regional nature of many District Six truck trips. For a more in-depth account of this potential option for a Phase 2 Study, reference the *Truck Parking Supply and Demand Assessment of Phase 2 Options Technical Memorandum*, published May 2022 by FDOT District Six.

7.1.2 Develop a Truck Parking Implementation Plan

FDOT Central Office and District Six have both been leaders in truck parking planning. Nationally, FHWA has been studying truck parking needs and issues for nearly two decades. Hence, there is a body of prior work which can inform state and District truck parking implementation. The findings from these studies could be compared to the interview findings from Task 3, the Statewide Truck Parking Study, FHWA’s recent Workshop on the Draft Truck Parking Development Handbook, and other literature to develop potential improvements.

⁵⁷ Study of Adequacy of Commercial Truck Parking Facilities, FHWA, 2002.

⁵⁸ Pennsylvania State Transportation Advisory Committee’s Truck Parking in Pennsylvania Report, December 2007.

The Statewide Truck Parking Study and interviews for this project both found that while District Six has several truck parking sites that are at or above capacity, others are consistently underused. For example, this study found that there is excess capacity in Medley, but truckers continue to park illegally on the side of the road. This suggests an opportunity for technology or wayfinding solutions to help drivers find available parking.

This effort could also identify truck parking goals and objectives with weights to help define a prioritized list of truck parking improvements for District Six. For a more in-depth account of this potential option for a Phase 2 Study, reference the *Truck Parking Supply and Demand Assessment of Phase 2 Options Technical Memorandum*, published May 2022 by FDOT District Six.

7.1.3 Estimate Freight Demand via SERPM

The Southeast Florida Regional Planning Model (SERPM 8.521) is an Activity-Based Model (ABM) for internal household, work and school related travel across all modes of travel, and is integrated with non-activity based model (non-ABM) components for air passengers, cruise passengers, external travel, and truck travel. The model covers the more populous areas of Broward, Miami-Dade, and Palm Beach Counties and can describe travel patterns at three nesting levels of spatial resolution: Traffic Analysis Districts, Traffic Analysis Zones, and Micro-Analysis Zones. For a more in-depth account of this potential option for a Phase 2 Study, reference the *Truck Parking Supply and Demand Assessment of Phase 2 Options Technical Memorandum*, published May 2022 by FDOT District Six.

7.1.4 Site Feasibility Analysis

In addition to this truck parking supply and demand analysis, it is recommended that District Six continues addressing the goal of the Master Plan by conducting Part 2, the Site Feasibility Analysis. The Site Feasibility Analysis will determine and develop a project bank of feasible brownfields, industrial, and vacant parcels that could be developed as truck parking facilities.