



District Five Truck Parking Study

Phase 1



Executive Summary

March 2019

Background

Safe, secure, and legal truck parking has been a historic challenge for motor carriers and commercial vehicle operators with availability issues and heightened awareness having reached a critical point. Freight and modal dependence on commercial trucks, evolving supply chains, and consumer purchasing patterns have impacted commercial vehicle operations, and have pushed freight transportation infrastructure needs into many urban areas.

In addition to current capacity issues, changes in regulatory policy are predicted to intensify existing truck parking challenges. The recent implementation of the electronic logging device (ELD) mandate will impact driver operations and generate the need for additional truck parking capacity. If drive time is exhausted where there is no nearby truck parking, drivers may park in unsafe or unauthorized locations to meet these requirements.

Prior to passage of the Fixing America's Surface Transportation (FAST) Act, Congress focused its attention on the lack of available safe truck parking with the Jason's Law survey requirement in the Moving Ahead for Progress in the 21st Century Act (MAP-21). The addition of Jason's Law required the United States Department of Transportation (USDOT) to conduct a survey of each state's capability to provide truck parking, an assessment of truck volumes in each state and the development of a system of metrics to evaluate parking.

Jason's Law Survey Findings

The Federal Highway Administration (FHWA) surveyed states to obtain information on the number of public facilities and public spaces as well as information on problems and locations of problems. The survey found that most truck parking locations report being at full capacity during peak hours and unable to expand due to economic constraints and public opposition. The survey also found there is a need to understand the key industries and commodity supply chains in order to better anticipate and plan for parking needs. FHWA listed Florida as one of the states with the most severe truck parking challenges. One comparison analysis conducted showed 41 states provide more truck parking spaces per 100,000 daily truck vehicle miles traveled than Florida; in addition, 20 states provide more spaces per 100 miles on the National Highway System (NHS) than Florida. Currently, FHWA is in the process of updating this national inventory.

American Transportation Research Institute (ATRI) Survey Findings

ATRI, a member of the American Trucking Associations (ATA) Federation, administers an annual survey of trucking industry professionals. For the past five years, respondents listed truck parking availability as a top driver concern. The reports state that "the growing scarcity of available truck parking creates a dangerous situation for truck drivers who are often forced to drive beyond allowable Hours of Service (HOS) rules or park in undesignated and, in many cases, unsafe locations."

ATRI offers three strategies to address truck parking issues:

- Support and encourage investment in truck parking facilities;
- Educate the public about safety consequences of inadequate parking; and
- Research the role and value of real-time parking availability and parking reservation systems.

Nationally, the estimated economic cost of 83 percent of drivers requiring 30 minutes to find parking is \$7 billion annually - Mid America Association of State Transportation Officials (MAASTO)

Jason's Law

Jason Rivenburg was a truck driver who was murdered in 2009. Unable to locate parking, he was forced to park his vehicle in an abandoned lot to meet federal Hours of Service requirements. While asleep, he was robbed and murdered.

Jason's Law was passed three years after this tragic incident in order to bring attention to the national truck parking shortage, the associated safety and security implications, and to provide funding to support parking facility maintenance and construction.



Introduction

As Florida’s population continues to grow and freight movement responds to commercial and consumer demands, truck parking needs must be addressed to ensure the trucking industry has the necessary infrastructure to serve global trade while complying with trucking regulations and the quality of life of nearby communities. The Florida Department of Transportation (FDOT) District Five Truck Parking Study builds upon the Jason’s Law truck parking survey, studies by the National Coalition of Truck parking, and incorporates recent events and federal activities. Truck parking is a national and statewide issue that is predicted to increase over time along with the projected growth in truck traffic on the highway system. The shortage of convenient and available truck parking in District Five is a concern for safety and economic competitiveness.

District Five is a predominantly consumer-based economy that relies on the safe and efficient movement of goods, making trucks essential to the region’s economy and overall quality of life. The region is transected by nearly all of the major truck routes and interstate highways that serve the State of Florida’s trade and commerce needs. Each year, trucks move more freight than other modes such as rail, marine, pipelines and aviation. When measured by tonnage, trucks moved 87 percent of all freight into, out of, within and through District Five; by value, trucks move 85 percent of all freight. Without trucks, freight and goods would not be able to be transported from rail yards, ports, pipeline terminals and airports to their final destinations – our homes and businesses. It is therefore important that the trucking industry has the infrastructure to operate safely within District Five, which includes access to adequate and safe truck parking.

Study Approach

While recognizing that new technologies, such as vehicle automation, are being explored, the study focuses on traditional truck movements and provides recommendations to address the shortage of available truck parking. The study focused on the nine counties (Brevard, Flagler, Lake, Marion, Orange, Osceola, Seminole, Sumter, and Volusia) that comprise District Five with the objective of understanding existing parking facilities, the unmet parking demand and needs for truck movements in today’s economy, and the regulations and policies in order to provide adequate truck parking capacity. These efforts support District Five’s continued population and employment, and the associated demand for freight and goods movement in District Five.



STAKEHOLDER ENGAGEMENT

Work collaboratively with the public, planning partners and private industry to better understand truck parking demands and to develop constructive solutions



TRUCK PARKING INVENTORY

Develop a comprehensive list of available public and private truck parking locations and prepare individual profile details, facility characteristics, amenities, and constraints.



EXISTING SUPPLY AND DEMAND

Identify the various factors influencing truck parking demand such as regional consumption, supply chain and logistics, and federal Hours of Service (HOS) regulations.



SITE OBSERVATIONS

Observe truck parking demand at multiple locations throughout the study area, and document location specific findings and comparison of sample locations.



FORECAST FUTURE DEMAND

Forecast current and future truck parking demand based on estimation, best practices, and report findings using a probabilistic approach.



OPPORTUNITIES & NEXT STEPS

Document objective findings and identify needs, and opportunities for improving truck parking.



Stakeholder Engagement

The District engaged stakeholders and truck parking users to gain a holistic understanding of truck parking needs in the region. Outreach included industry consultation, planning partner coordination, public meetings and forums, and an online survey.

Industry Consultation

To inform the outreach strategy, consultation from key industry organizations was pursued. This took the form of one-on-one discussions with representatives from the Florida Trucking Association (FTA) and the Owner-Operator Independent Drivers Association (OOIDA). Input was provided relating to major challenges facing the industry, operational insights, and commercial vehicle operator parking concerns. Feedback provided was consistent with national survey findings while concerns pertaining to the impacts of Electronic Logging Device (ELD) regulations on the existing truck parking challenges were expressed.

Planning Partner Coordination

In addition to working collaboratively with Metropolitan Planning Organizations (MPO) / Transportation Planning Organizations (TPOs) and local government planning partners, FDOT also reached out internally to other FDOT Districts about their experiences. Much like the industry discussions and public meeting feedback described later in the section, each District had concerns specific to their geography while acknowledging that truck parking adequacy is a statewide and cross-sectorial issue, and must be addressed accordingly.

Stakeholder Forums

A series of public and industry forums were organized to provide a “round table” opportunity for industry stakeholders and planning partners to discuss challenges and potential solutions. Truck drivers and other freight industry representatives were invited to participate and share their truck parking experiences and insights. The goal

of these roundtable discussions was to provide FDOT with a comprehensive view of truck parking concerns in the region and to better understand the unique needs of different geographic locations and stakeholder perspectives.

Online Survey

FHWA’s Jason’s Law Survey, and other recent state surveys, influenced the development of FDOT District Five’s Online Stakeholder Survey questions. FDOT sent the survey link to local and regional transportation planning partners and industry stakeholders. FDOT also coordinated with FTA and OOIDA, and encouraged truck drivers, company owners, and others familiar with the region’s parking issues to participate.

Findings

The results of the survey echo what has been demonstrated through engagement efforts during the District Five Study, which is that current truck parking conditions are inadequate.

When asked about the factors that guide overnight parking location choice, drivers noted the top two decision making factors:

1. Safe Location
2. Proximity to Corridor

Other behavioral insights were gleaned from the survey as one driver stated:

“I drive around the truck stop in circles until a spot opens up. Rest areas are a one-time through, so if no spot is available, you have to park on the entry ramp to highway or keep driving.”



Existing Truck Parking Inventory

The inventory of existing truck parking locations within the District Five study area utilized the Jason's Law Truck Parking Survey database. The Jason's Law Survey database served as the primary source for public and private locations while additional research was conducted to supplement the existing dataset. Online databases such as Trucker's Friend, Truck Smart Parking Services, and Diesel Boss were reviewed and cross-referenced against the Jason's Law Survey locations. This research provided additional detail and refinement relating to the previously recognized sites while also identifying locations and attributes not captured as part of the 2015 survey.

Public Truck Parking Locations

Commercial vehicle operators take advantage of parking legally at available publicly provided spaces. These locations typically include Rest Areas, Service Plazas and Weigh-in-Motion (WIM) Stations, also known as Truck Comfort Stations, operated by FDOT.

FDOT owns and operates 13 interstate rest areas and turnpike service plazas within District Five. These locations are typically open 24 hours a day, seven days a week. Rest areas and service plazas provide multiple benefits to truck drivers including restrooms, vending machines, picnic areas, and ultimately a safe resting area.

There are four weigh/inspection stations in District Five that provide 139 designated truck parking spaces. Based on observations at these locations, parking capacity is not a challenge. Although, based on stakeholder input, some truck drivers choose to avoid long-term parking at these locations perhaps due to perceived privacy and vehicle enforcement concerns.

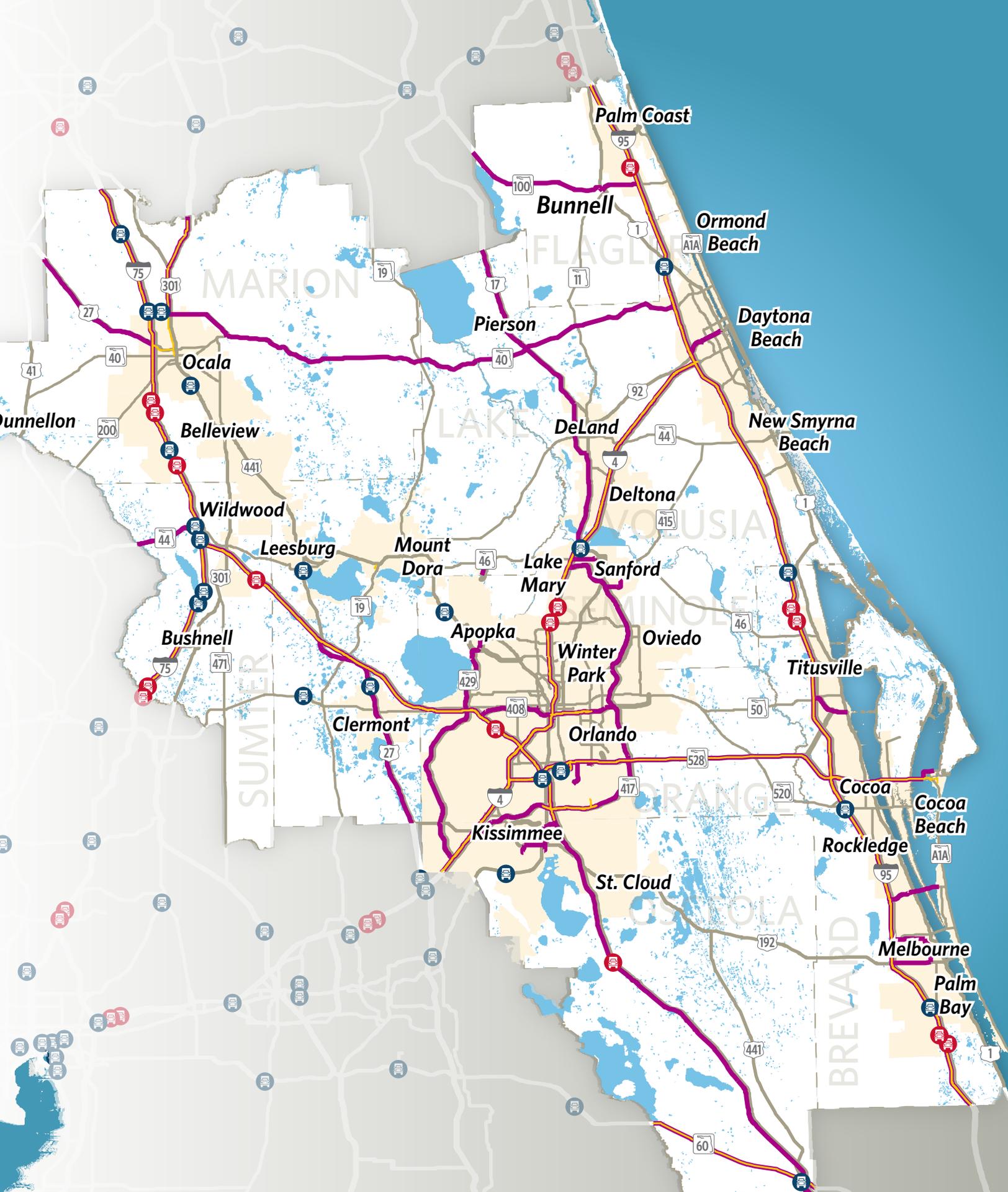
Private Truck Parking Locations

Commercial vehicle operators park both legally and unofficially on privately owned land. Private truck stops are generally located off of major interstate roads near the entrance and exit ramps. According to the Jason's Law Survey, most of the available truck parking is provided by these privately owned facilities. The survey estimates there are more than 300,000 truck parking spaces in the United States, with more than 272,000 of those at private truck stops.

These facilities provide a range of amenities and space for parking. Truck stops are the private sector's response to demand for parking. Most truck stops have comfort amenities such as ready-made food or restaurants, showers and lounges/game rooms. Some larger truck stops also provide truck maintenance, such as lube and oil changes, tire replacements and truck wash stations. Major truck stop chains have begun to offer reservation services for their parking spaces and customer loyalty programs.

Within District Five, there are:

- 17** *public truck parking locations with 652 designated truck parking spaces*
- 26** *private truck parking locations with 1,268 designated truck parking spaces*



LEGEND



Public Truck Parking



Private Truck Parking

National Highway Freight Network

Strategic Intermodal System Roadway





Demand Observations

The availability of adequate truck parking is important for commercial vehicle operators to obtain the rest required by federal law. Lack of available truck parking is a safety problem that affects all highway users, not just the commercial trucking industry. Trucks parked in unofficial locations such as exit and entrance ramps and on highway shoulders pose a safety risk to other motorists. According to the FHWA truck parking survey, 90 percent of drivers have struggled to find safe parking at night.

Purpose & Locations

Determine utilization at a sample-set of rest areas to identify commercial vehicle parking demand, parking availability throughout the day, and time and duration of parking deficiencies at each of the following five observation locations:

- I-4 Eastbound Longwood Rest Area
- I-4 Westbound Longwood Rest Area
- I-75 Northbound Ocala Rest Area
- I-75 Southbound Ocala Rest Area
- I-95 Northbound Palm Bay Rest Area

Approach

These observation locations were evaluated to determine the commercial vehicle parking demand and need. Truck activity at the I-4 Longwood rest areas was collected and evaluated continuously using seven day/24-hour video surveillance. Video cameras were used at both the eastbound and westbound I-4 rest areas to capture freight movement at the entrance of each location. Truck activity at the I-75 Ocala rest areas and the I-95 Palm Bay rest area were collected using seven day/24-hour pneumatic tube counts.

Summary of Findings

Although the five interstate rest areas observed provide comparable amenities for commercial vehicle operators, they offer a varying number of parking spaces. The I-4 Rest Area locations provide 16 to 17 truck parking spaces, compared to the 43 parking spaces provided at the I-75 eastbound and westbound locations or to the 60 parking spaces offered at the I-95 rest area. Relating to daily truck volumes, I-75 has the greatest truck AADT and provides the second highest capacity of truck parking spaces, while I-4 has the second highest truck AADT and provides the fewest parking spaces for commercial vehicle operators.

The number of commercial vehicles entering through the rest areas was observed to be significantly higher during the week than on the weekend. The weekday average observed at the I-4 rest areas was analyzed to be between 4 and 24 commercial vehicles. The average recorded at the I-75 rest areas ranged from 8 to 41 commercial vehicles, and at the I-95 rest area, an average of 9 to 17 commercial vehicles entered the rest area during the data collection period.

Following the analysis of the commercial vehicle data collected at each of the five rest areas, it was observed that the rest areas experience truck parking demand exceeding truck parking availability. The greatest demand was observed during the mid-day period, peaking after 10:00 a.m. and reducing at 3:00 p.m. before the evening/nighttime peak period.

Demand Estimation

Freight demand is directly and positively related with the type and amount of economic activity in a region. The amount and type of goods production and consumption in an area and the relationship between producers, consumers, and intermediate suppliers impact the volume and distribution of freight flows. The following components of the economy have the greatest influence on freight demand: types of industries, personal consumption, trade patterns, and economic geography / land use.

Freight Activity & Volume

Freight transportation demand is growing steadily in the United States. In 2040, 96-percent of regional freight and goods are expected to be moved by trucks. In this same time period, truck-driven commodities are expected to grow by 50-percent. Projections of steady economic growth (the economy doubling in size by 2040) and population growth (an additional 51 million people by 2040) will drive this increase in freight transportation demand.

Estimating Truck Parking Demand

Methods and best practices used in truck parking studies completed throughout the country to calculate the existing and future demand for truck parking were applied in District Five. Four unique estimation approaches were evaluated, along with one recent study by FDOT District Four. The methodology developed by FHWA in Model Development for National Assessment of Commercial Vehicle Parking was selected as the primary approach for this Study. This FHWA study utilized a comprehensive, multifaceted evaluation of truck parking demand. Key estimation input variables included: length of roadway segments, annual average daily traffic, truck percentage, and speed limit.

Demand Estimation Findings

Demand estimation ranges are provided to represent the breadth of truck parking demand in a growing consumer market. In summary, the minimum to average range of truck parking space demand for 2016 is 843 to 3,253, while in 2025 the range increases from 1,133 to 4,118, and in 2040 the range increases from 1,360 to 4,943.

Average Corridor Based Findings

Corridor	EXISTING		FUTURE	
	2016	2025	2025	2040
Interstate 4	481	750	750	883
Interstate 75	518	571	571	583
Interstate 95	472	553	553	606
Florida's Turnpike	584	659	659	804

Key Freight Corridors

The highway network and supportive infrastructure are vital to District Five's freight transportation system; providing access and connectivity for both long- and short-haul shipments. Two state and federally designated roadway networks were identified for the demand estimation based on their interregional connectivity and freight carrying significance. These networks are Florida's Strategic Intermodal System Corridors and segments designated on the National Highway Freight Network. To ensure full regional network coverage, additional roadway segments were included to provide comprehensive east-west and north-south connectivity.

Needs Assessment

Truck parking needs are diverse and can vary greatly based on location, demand, time of day, road and weather conditions, and other factors. The need also varies for long-haul drivers and short-haul drivers. A needs assessment is important to help improve the quality of policy or program decisions that will lead to targeted investment. Infrastructure needs were assessed following the demand estimation process to determine and address the gaps between current conditions and future conditions. This assessment included developing an estimate of truck parking needs in District Five by comparing and analyzing the existing available supply with estimated demand and insights from industry stakeholders.

Identifying Needs: Multiple Approaches with Common Findings



WHAT WE
HEARD



WHAT WE
OBSERVED



WHAT WE
FORECASTED

District Five's Interstate Highways (I-4, I-75, and I-95) and Florida's Turnpike (SR 91) are critical facilities for both the movement of people and goods; and serve as strategic intermodal corridors for the State of Florida.

Each of these facilities experiences truck parking availability challenges although the Study has identified Interstate 4 as the corridor with the greatest need for additional truck parking.

This conclusion is formulated based on the estimation approach as well as observation data at the I-4 Longwood rest areas, feedback received from public meetings, and survey findings from industry stakeholders.

District Five Highways



AVERAGE DEMAND:
481

AVERAGE SPACES:
89



AVERAGE DEMAND:
518

AVERAGE SPACES:
728



AVERAGE DEMAND:
472

AVERAGE SPACES:
424

Opportunities & Best Practices

Opportunities identified within the Study can be implemented to address corridor and districtwide truck parking availability challenges, with particular focus on identified high-priority areas. The opportunities and best practices can be grouped into three core categories: right-of-way, technology, investment, and policy and partnership.



RIGHT-OF-WAY

Both public agencies and private businesses have an interest in ensuring sufficient truck parking in order to promote and safeguard public safety, the economy and the environment. This Study considers opportunities to expand parking capacity where demand exceeds supply. Basic needs of truck drivers, such as bathrooms and overnight amenities, should be considered in conjunction with truck parking expansion opportunities.

As outlined in detail in the Final Report, multiple infrastructure and capacity improvement opportunities were identified as part of the Study including: weigh station amenities, joint use park-and-ride lots, industrial site parking, retrofit partnerships, rest area redesign, truck parking turnout areas, and off-interstate public-private truck parking facilities.



TECHNOLOGY

Leveraging technology is a relatively low cost and high impact opportunity to improve truck parking availability, and to reduce truck parking effects on communities. Truck parking technology is developing rapidly in order to meet the growing demand with cost-effective and innovative responses. Information technology allows truck drivers to make better use of existing truck parking facilities rather than expanding capacity.

These opportunities include: real-time parking availability via FDOT's Truck Parking Availability System (TPAS), mobile device applications, FHWA's Freight Advanced Traveler Information Systems (FRATIS) program, and FDOT's own online planning tools - all present informational opportunities for truck drivers to utilize parking more efficiently.



INVESTMENT

Investment and funding are the means to an end in implementing infrastructure and informational initiatives. Various federal, state, and private investment mechanisms are available to address truck parking challenges. Nationally, the FAST Act has provided multiple formula-based and discretionary programs. One major funding program includes the National Highway Freight Program which was established with the objective of improving the condition and performance of key freight and goods movement infrastructure. Funds apportioned to Florida under this program may be obligated for many types of freight projects, including truck parking facilities and real-time truck parking information systems.



POLICY & PARTNERSHIP

In addition, focused stakeholder coordination and partnership is a best practice in moving forward with infrastructure improvements. Continued discussions allowing a variety of stakeholders to discuss common truck parking issues and opportunities are the first step toward fostering greater understanding of truck parking needs and coordinating essential implementation partnerships.



Next Steps

It is clear that additional truck parking capacity is needed in areas where demand regularly surpasses supply. This study identifies the I-4 corridor in Orange, Seminole, and Volusia Counties, as well as stretches of Florida's Turnpike as the most difficult areas to find truck parking. Although it is important to note, industry stakeholders expressed truck parking challenges along the Interstate Highway Facilities, especially in urbanized areas.

There are opportunities to maximize existing truck parking sites and also identify locations needing more parking - though both will require further evaluation and consideration. Innovative technologies can also improve existing parking facility efficiency. Additional funding would help to address increasing truck parking demand. Outreach, including education and coordination, is also recommended. Better coordination between partners and a better understanding of the truck parking issues will help to address this growing statewide concern.

FDOT has numerous opportunities to coordinate with partners in addressing truck parking issues, and several next steps have been developed working with those partners. Specific roles and responsibilities for involved stakeholders will be determined through additional coordination and communication. Developing partnerships with public and private entities will be essential for the successful implementation of these next steps. FDOT will incorporate findings from this study into future updates of the District's and State's Freight System Plans; and suggests MPOs/TPOs integrate truck parking needs and freight implications into future updates of LRTPs and other regional planning studies.

Key Next Steps:

- Build consensus on truck parking infrastructure solutions
- Develop project(s) and mitigate community impacts
- Identify and secure funding to implement project(s) and mitigation solutions
- Implement truck parking capacity solutions and monitor impacts
- Continue information sharing (TPAS, Community and Local Government)

FDOT will work with partners to develop and implement these next steps. FDOT is committed to continuing support for activities that enhance truck parking capacity and will look for ways to improve conditions for the trucking industry and community stakeholders in District Five.



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