

Florida Department of Transportation

Truck Parking Implementation Study



JANUARY 2023

Truck Parking Implementation Study

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Executive Summary

Truck parking has consistently been identified as one of the major issues affecting truck drivers and the freight industry in the United States, with the Federal Highway Administration (FHWA) identifying truck parking shortages as a national safety concern that will only grow in the coming years with projected increases in truck activity. Jason's Law established truck parking as a national transportation priority in 2012, outlining programs, strategies, and resources for governments to address the truck parking need. Hours of service (HOS) rules are Federal Motor Carrier Safety Administration (FMCSA) regulations that govern the amount of time a commercial driver can be "on duty" and requires rest periods to ensure drivers remain awake and alert while driving. This makes safe and available truck parking a critical aspect of their jobs as they balance delivery schedules and truck parking availability.

The Florida Department of Transportation (FDOT) plays an important role in providing truck parking capacity at state-owned rest areas and weigh station facilities, development of new truck parking facilities and spaces through project development and implementation activities, a source for truck parking utilization and availability data, and a leader in statewide and regional planning efforts. In response to the growing need for additional truck parking capacity in the state and as a follow-up to the Statewide Truck Parking Study (March 2020), FDOT initiated the **Truck Parking Implementation Study (Study)** in the Spring of 2022. This study is focused on improving truck parking utilization at Motor Carrier Size and Weight (MCSAW) weigh station facilities; increasing truck parking capacity at state-owned rest areas, welcome centers, and weigh stations; and identifying innovative uses of FDOT right-of-way for truck parking.

The **Document Review** section provides a summary of the truck parking documents and plans reviewed, which included the review of national initiatives and literature; statewide FDOT studies and plans; and FDOT District plans, studies, and projects. The results of these studies were used to explore opportunities to increase truck parking across the state by upgrading facility technology, capacity, and amenities through short and long-term implementation strategies.

FDOT Districts have initiated more than **30** separate truck parking studies and projects that have looked at the issue from the district, region, corridor, and facility levels. The efforts have focused on identifying the existing supply and demand of public and private truck parking spaces, identification of potential sites that can be expanded or converted to truck-only parking facilities, and the development of concepts and projects to increase parking capacity. Common project types and initiatives identified during discussions with each District included:

- ↻ Re-purposing closed rest areas for truck parking (D1)
- ↻ Rest area redesigns to accommodate additional parking (D1, D2, D5, D7)
- ↻ Add parking or re-purpose existing FDOT-owned facilities/ROW (D2, D4, D7)
- ↻ Truck-only facilities (D2, D5, D6, D7)
- ↻ Local government coordination for sites and policy (D1, D5, D6)
- ↻ Truck parking studies to identify sites (D1, D5, D6)

An overview of the stakeholder outreach and engagement efforts undertaken during the study is highlighted in the **Stakeholder Engagement** section. Outreach included engagement with trucking industry associations and FDOT Districts through meetings and coordination calls to discuss truck parking-related issues, needs, and projects. Common themes identified during meetings with industry stakeholders include:

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- ↻ Additional truck parking capacity is needed to meet current and future demand
- ↻ Parking should be deployed where additional spaces are needed most, including near major freight generators and along corridors with high truck traffic
- ↻ Accurate and consistent data displayed via Digital Messaging Signs (DMS) or Truck Parking Availability System (TPAS) signs are the preferred methods of displaying availability to drivers
- ↻ The safety and security at truck parking facilities are major considerations for drivers, with cameras and adequate lighting noted as priorities
- ↻ An increase in recreational vehicle parking in truck parking spaces
- ↻ Wi-Fi, vending machines, and showers were consistently identified as preferred amenities

District needs included additional funding support to implement or advance truck parking projects, dedicated maintenance support, and policy and design guidance to streamline the project delivery process.

The State of Florida has 20 weigh stations, 53 rest areas, and 4 welcome centers that support truck parking with a total of 2,539 monitored TPAS spaces. Due to an overall shortage of available truck parking along Florida's interstates, trucks can be forced to park along ramps and shoulders or in non-designated parking areas at FDOT rest areas, weigh stations, and other locations, including interchange ramps. This overflow can create safety issues for motorists and commercial vehicle operators that include reduced visibility, roadway obstructions, and speed differentials that can result in increased conflict points, while also causing maintenance issues by driving and parking off paved infrastructure.

The **Data Collection and Utilization Analysis** section provides a general overview of efforts undertaken to collect and analyze authorized and unauthorized truck parking utilization data at weigh stations, welcome centers, and rest areas during one-week periods in February and March of 2022. Once data collection was complete, the recordings were incorporated into a comprehensive utilization spreadsheet tool and an interactive GIS dashboard. These tools allow for streamlined graphical and visual approaches to facility utilization analysis by day of the week and time of the day

Based on the results of the data collection, it was noted that most state-owned parking facilities experienced overutilization of truck parking at some point during the observation period. Facilities in North and Central Florida along the I-4, I-10, I-75, and I-95 corridors in Districts 2, 3, and 5 experienced the highest instances of overutilization.

The Office of Maintenance's (OOM) MCSAW division operates and maintains ten bi-directional interstate weigh station facilities that are used to enforce federal and state size and weight regulations, perform inspections, and provide safe and accessible truck parking. The weigh station facilities include truck parking accommodations and rest rooms for drivers whose trucks require additional inspection, are placed out of service, or for HOS mandated rest breaks. Although many rest areas along the interstate in Florida experience overutilization and parking in unauthorized areas, some weigh stations go underutilized with truck parking available throughout the day.

The **MCSAW Facility Utilization Strategies** section provides an overview of specific strategies that can be implemented at FDOT-owned weigh stations to increase truck parking at underutilized facilities. Enhanced amenities including the addition of Wi-Fi, vending machines, and signage are among the low-cost solutions that would improve parking utilization and encourage drivers to stop at these facilities. Additional

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communications and outreach strategies were also identified to target drivers through FDOT and industry-specific media.

The **Alternative Parking Solutions** section provides an overview of proposed alternative parking solutions that were identified during the development of the *Study*. Alternative parking solutions were identified based on the review of Federal, State, and District truck parking studies including strategies identified in the FHWA National Coalition on Truck Parking Working Groups, FDOT Statewide Truck Parking Study, and various District studies and plans developed to address the truck parking shortage in Florida. Additionally, input from trucking industry associations including the American Trucking Association (ATA), Florida Trucking Association (FTA), and Owner-Operator Independent Drivers Association (OOIDA) was leveraged to refine and update the proposed alternative parking solutions and strategies.

Alternative parking solutions were generally organized into two groups: strategies that can be implemented at existing rest areas, welcome centers, and weigh stations; and strategies that can be implemented through alternative uses of FDOT right-of-way (ROW) or in coordination with partner agencies. While all state-owned parking facilities provide some amount of truck parking, reviews performed during this study indicate expansion opportunities that can be implemented within the existing ROW using the following alternative parking strategies:

- ↻ Designing for back-in parking
- ↻ Allowing parallel parking on shoulders and ramps
- ↻ Re-purposing amenities
- ↻ Converting greenspace

A review of FDOT-owned parcels and ROW indicates that there are opportunities for truck parking capacity expansion along Florida's interstates that could provide similar access for drivers that existing rest areas and weigh stations provide. Partner agency assets were also reviewed, identifying numerous state-owned facilities that could be leveraged for or converted to accommodate truck parking using the following alternative parking strategies:

- ↻ Rehabilitating closed or abandoned rest areas
- ↻ Converting Interchange infields and medians
- ↻ Utilizing parcels adjacent to private parking facilities
- ↻ Partnering with other state or local agencies

Additionally, a high-level review of FDOT planning and design guidance documents was performed to identify existing specifications and guidance related to truck parking. Specific engineering and implementation considerations that should be incorporated into the planning and design of future alternative truck parking concepts and solutions are outlined further in this document. Detailed concepts for Alternative Parking Solution were developed for select facilities based on an analysis of the truck parking utilization data collected during the *Study*.

Discussions with trucking industry associations indicated that most truckers have access to third-party mobile applications that identify parking locations and some availability information at private facilities. The **TPAS Policy and 3rd Party Agreements** section provides a high-level evaluation of strategies to integrate existing TPAS data with third-party applications and through in-cab dissemination were identified as opportunities to be explored further. Providing TPAS availability and utilization data to third-party applications and other in-cab hardware and software providers, like Electronic Logging Devices (ELD)

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and truck telematics systems, would allow FDOT to provide truck parking availability information directly to drivers using methods already familiar to them.

The **Truck Parking in Local Planning and Zoning** section provides an overview of the roles that local governments play in truck parking, as well strategies that public agencies can implement to ensure truck parking is considered in local planning and zoning.

Recognizing the national importance of truck parking, several FHWA and other federal funding programs allow for truck parking implementation projects to be considered for funding. The **Funding and Next Steps** section provides a summary of funding opportunities available for truck parking as well as next steps FDOT should initiate to continue momentum around truck parking implementation activities.

Truck parking facilities are eligible for funding under section 1401 (Jason’s Law). The following table highlights formula funding and discretionary grant programs that can be used to fund truck parking projects.

Formula Funding Programs	Discretionary and Competitive Grant Programs
Surface Transportation Block Grant (STBG)	Infrastructure for Rebuilding America (INFRA)
National Highway Freight Program (NHFP)	Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
Highway Safety Improvement Program (HSIP)	Rural Surface Transportation Grants
National Highway Performance Program (NHPP)	National Infrastructure Project Assistance (MEGA)
Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT)	Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT)
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	Advanced Transportation Technologies and Innovative Mobility Deployment (ATTIMD)
	Reduction of Truck Emissions at Port Facilities
	FMCSA High Priority Innovative Technology Deployment (HP-ITD)

Source: FHWA Memorandum on Eligibility of Title 23 and Title 49 Federal Funds for Commercial Vehicle Parking

Based on the results of this *Study*, it is evident that FDOT has made substantial statewide progress in addressing the truck parking shortage since FHWA identified it as a national priority under Jason’s Law in the MAP-21 transportation bill. In an effort to build on this foundation, the following actions are recommended as next steps by FDOT and its public and private partners to continue addressing the truck parking shortage throughout the state:

- 🔗 Formalize a statewide truck parking working group
- 🔗 Develop a statewide truck parking master project list and schedule
- 🔗 Deploy enhanced amenities at underutilized weigh stations
- 🔗 Incorporate alternative parking solutions
- 🔗 Initiate a statewide communications and outreach campaign

Introduction

REST AREA
TRUCK PARKING

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SPACES
AVAILABLE



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Introduction

The need for safe and accessible commercial parking is consistently identified as one of the major issues affecting truck drivers and the freight industry in the United States. The American Transportation Research Institute (ATRI) ranked truck parking as the number one concern for drivers in 2020 and the fifth most critical industry issue in 2021.¹ Truck parking facilities provide drivers with safe locations for mandated rest breaks or staging before upcoming pickup and delivery windows.

The Federal Highway Administration (FHWA) considers truck parking shortages a national safety concern that will only grow in the coming years with projected increases in truck activity. MAP-21 enacted “Jason’s Law” (PL 112-141), establishing a “national priority on addressing the shortage of long-term parking for commercial motor vehicles on the National Highway System to improve the safety of motorized and non-motorized users and for commercial motor vehicle operators.” The impact of this law has been to establish truck parking as a national transportation priority and outline programs, strategies, and resources for State DOTs, MPOs, and local governments to assess truck parking needs and identify improvements and investments.²

Hours of service (HOS) regulations are federal rules managed by the Federal Motor Carrier Safety Administration (FMCSA) that govern the amount of time a commercial driver can be “on duty”, required rest periods, and exemptions developed to ensure drivers remain awake and alert while driving. HOS regulations restrict drivers to a maximum of 14 hours on duty after which a ten hour off-duty rest is required before coming back on duty. Additionally, drivers are required to have at least 30-minutes of rest after eight consecutive hours on duty.³ For long-haul truck drivers, these regulations make safe and available truck parking one of the most critical aspects of their jobs as they balance delivery schedules and rest requirements with finding truck parking in constantly changing locations.

FDOT Role in Truck Parking

The Florida Department of Transportation (FDOT) plays an important role in providing truck parking capacity at state-owned rest areas and weigh station facilities, development of new truck parking facilities and spaces through project development and implementation activities, a source for truck parking utilization and availability data, and a leader in statewide and regional planning efforts. FDOT completed the Florida Statewide Truck Parking Study in March 2020 to provide a comprehensive overview of the existing truck parking projects and efforts across the state while also providing planning-level recommendations for implementation activities in the short, medium, and long-term horizons.

Additionally, FDOT has been at the forefront of truck parking availability and utilization information through the successful implementation and deployment of the Truck Parking Availability System (TPAS), which provides real-time truck parking availability to drivers at state-owned facilities along the interstate system. FDOT began deployment of its statewide TPAS system in 2017 at state-owned rest areas, welcome centers, and weigh stations. TPAS provides real-time truck parking availability information through roadside dynamic messaging signs (DMS) located upstream from each facility exit ramp and

¹ (American Transportation Research Institute, 2021)

² (FHWA Freight Management and Operations, 2022)

³ (Federal Motor Carrier Safety Administration, 2022)

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online through the 511 website and mobile application. The system has allowed drivers to efficiently plan and locate safe, convenient parking to meet their HOS requirements.

Purpose and Approach

In response to the growing need for additional truck parking capacity in the state and as a follow-up to the Statewide Truck Parking Study, FDOT initiated the **Truck Parking Implementation Study (Study)** in the Spring of 2022. The *Study* was developed as a comprehensive statewide effort led by the Commercial Vehicle Operations (CVO) and Motor Carrier Size and Weight (MCSAW) Offices in coordination with numerous FDOT offices, Districts, partner agencies, and industry stakeholders and is generally focused on the identification and development of strategies to improve truck parking utilization at MCSAW weigh station facilities and increase truck parking capacity at state-owned rest areas, welcome centers, and weigh stations.

The *Truck Parking Implementation Study* document provides a detailed overview of the results of these collaborative efforts and is organized as follows:

- ↻ **Document Review** – provides a summary of the national, state, and district truck parking documents, plans, and initiatives reviewed to aid in the identification of truck parking needs and guide the development of the strategies and recommendations outlined throughout this document.
- ↻ **Stakeholder Engagement** – provides a summary of the outreach efforts, including engagement with trucking industry associations and FDOT Districts to discuss truck parking-related issues, needs, and projects.
- ↻ **Data Collection and Utilization Analysis** – provides an overview of the data collection efforts undertaken to identify state-owned truck parking facilities that experience over or under-utilization and the analysis of that data to inform prioritization of recommendations at those facilities.
- ↻ **MCSAW Facilities Utilization Strategies** – provides an overview of low-cost strategies that can be implemented to increase truck parking at underutilized weigh stations including enhanced amenities like Wi-Fi, vending machines, and signage.
- ↻ **Alternative Parking Solutions** – provides an overview of proposed alternative parking solutions that were identified including strategies that can be implemented at existing state-owned parking facilities and those that can be implemented through alternative uses of FDOT right-of-way (ROW) or in coordination with partner agencies.
- ↻ **TPAS Policy and 3rd Party Agreements** – provides a high-level evaluation of strategies to integrate existing TPAS data with third-party applications and other in-cab hardware and software providers, like Electronic Logging Devices (ELD) and truck telematics systems.
- ↻ **Truck Parking in Local Planning and Zoning** – provides an overview of local governments' role in truck parking, along with strategies that can be implemented to ensure truck parking is considered in local planning and zoning.
- ↻ **Funding and Next Steps** – provides a summary of funding opportunities available for truck parking as well as next steps to continue momentum around truck parking implementation activities.

Document Review

REST AREA
TRUCK PARKING

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SPACES
AVAILABLE



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Document Review

The **Document Review** section provides a summary of the truck parking documents and plans reviewed during the development of the *Truck Parking Implementation Study*. This effort includes the review of national initiatives and literature; statewide FDOT studies and plans; and FDOT District plans, studies, and projects.

National Initiatives and Literature

FHWA acknowledges truck parking as a national safety concern and has led multiple efforts to address the issue and identify implementable solutions that can be used by state, regional, and local public agencies in their truck parking improvement programs.

Jason's Law

Jason's Law, first enacted in the MAP-21 transportation bill, established truck parking as a national transportation priority and outlined programs, strategies, and resources for State Departments of Transportations (DOTs), Metropolitan Planning Organizations (MPOs), and local governments to assess truck parking needs and identify improvements and investments to address those needs. Additionally, Jason's Law requires FHWA to periodically perform a nationwide Truck Parking Survey and Assessment in coordination with State DOTs and motor carrier representatives to:

- ☞ Evaluate each State's capability to provide adequate truck parking on the interstate
- ☞ Assess commercial vehicle volumes and traffic
- ☞ Develop metrics to measure truck parking adequacy

Jason's Law surveys were performed in 2015 and 2019. Previous results of these surveys are available online.⁴

National Coalition on Truck Parking

The National Coalition on Truck Parking was created to bring public and private sector stakeholders together to discuss and identify strategies to improve truck parking nationwide. Four working groups were created to share best practices and develop informational products that can be used as guides in advancing truck parking initiatives.⁵ An overview of each working group is outlined below.

The **Parking Capacity Working Group** covered topics and strategies related to the expansion of truck parking capacity at the state and local levels. Highlights from the Parking Capacity Working Group include the development of three white papers:

- ☞ Involving Shippers/Receivers to Address Truck Parking Capacity White Paper
- ☞ Creative Uses of the Right-of-way and Adjacent Areas White Paper
- ☞ Considerations for Maintaining Low-cost Truck Parking Facilities White Paper

⁴ (FHWA Freight Management and Operations, 2022)

⁵ (FHWA - National Coalition on Truck Parking, 2022)

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The **Technology and Data Working Group** covered topics and strategies related to the development and deployment of truck parking detection and information dissemination systems. Highlights from the Technology and Data Working Group include:

- ↻ Truck Parking Availability Detection and Information Dissemination White Paper
- ↻ Truck Parking Application Survey

The **Funding, Finance, and Regulation Working Group** covered topics and strategies related to innovative funding mechanisms for truck parking facilities that can be employed at the state and local levels. Highlights from the Funding, Finance, and Regulation Working Group include:

- ↻ Four working group meetings between November 2017 and August 2018
- ↻ Emissions Reduction Grant Programs fact sheet
- ↻ Public-Private Partnerships (P3) Examples and Considerations white paper

The **State, Regional and Local Government Coordination Working Group** covered topics and strategies related to coordination, rulemaking, and planning activities that can be undertaken by state, regional, and local governments to address truck parking. Highlights from the State, Regional and Local Government Coordination Working Group include:

- ↻ Four working group meetings were held between November 2017 and August 2018
- ↻ Best Practices in Industry and Government Coordination for Developing Truck Parking Solutions Talking Freight seminar
- ↻ How to Improve Truck Parking in Your Region White Paper
- ↻ Importance of Considering Truck Parking in Local Planning and Zoning White Paper
- ↻ Parking and Staging Requirements in Local Zoning and Planning White Paper
- ↻ Including Truck Parking in State and Metropolitan Planning Organization (MPO) Freight Plans White Paper

Statewide Studies and Plans

The truck parking shortage has been identified as a critical freight issue by FDOT, resulting in the development and completion of multiple statewide studies to analyze utilization at both private and public facilities as well as identify locations that experience consistent unauthorized parking. The results of these studies were used to explore opportunities to increase truck parking across the state by upgrading facility technology, capacity, and amenities through short and long-term implementation strategies.

The Statewide Truck GPS Data Analysis

The Statewide Truck GPS Data Analysis (April 2019) utilized ATRI GPS truck data to identify existing authorized and unauthorized truck parking supplies in Florida and analyze the utilization of those facilities. Florida has approximately 300 truck parking locations, with roughly 30% provided by the public sector and 70% provided by private facilities and truck stops. Florida has a significantly higher ratio of public to private parking spaces when compared to other states.

The study established that private parking locations had a higher utilization rate (of nearly 50%) during the peak hours of 7 pm to 9 am when compared to public parking locations in all Districts across the State. In addition, drivers parked for longer periods at private parking locations, which can be attributed to the lack of amenities at public parking locations, reservation systems in some private locations, as well as other factors. It was noted that capacity is available within the system but there is a lack of awareness of

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the truck parking locations which has caused specific facilities to operate at or over capacity. It was found that in locations with higher utilization trucks would park in unauthorized locations, typically along on-ramps and off-ramps.

The results of this analysis were used in the development of the Statewide Truck Parking Study that provided recommendations to alleviate the truck parking issue at a regional and facility level.

The Statewide Truck Parking Study

The Statewide Truck Parking Study (March 2020) was developed by the Freight and Rail Office (FRO) with input from District Freight Coordinators (DFCs), FDOT Offices, partner agencies, and freight stakeholders. The study was initiated to provide a comprehensive overview of the existing truck parking projects and efforts across the State while also providing planning-level recommendations for implementation activities in the short, medium, and long-term horizons.

The study first identified the top 20 areas of concern within the state that showed a consistent combination of unauthorized and over-utilized truck parking locations. From the identified areas, five locations were established as “hot spots” based on a volume-to-capacity index calculation of truck parking demand by the number of available truck parking spaces. The “hot spots” include areas in Districts 2, 5, 6, and 7. These locations were individually analyzed to appropriately match a solution to the truck parking issue. Potential short, medium, and long-term recommendations and implementation plans were developed based on this analysis and stakeholder input.

- ↻ **Short-term** recommendations included focusing on immediate needs such as continued support of existing truck parking projects and development of new initiatives such as the Truck Parking Improvement Program (TPIP).
- ↻ **Medium-term** recommendations involved leveraging the TPIP and Public-Private Partnerships (P3s) to identify and implement truck parking opportunities. It was recommended that after four years, FDOT should revisit the statewide truck parking needs to assess the implementation progress of the short and medium-term action plans.
- ↻ **Long-term** recommendations included monitoring the development of technologies and trends that can impact freight like connected and autonomous vehicles (CV/AV) or truck electrification.

Statewide Truck Parking Availability System (TPAS) Deployment

The TPAS deployment project was developed to provide truck drivers with real-time information on the availability of parking spaces at FDOT-owned rest areas, welcome centers, and weigh stations through roadside signs, the Florida 511 application, and third-party data feeds. Full implementation of the system is broken down into three stages:

- ↻ **Stage 1** was comprised of installing embedded sensors into individual parking spaces as well as vehicle detection counters at the on and off-ramps. The collected information from the sensors and counters is aggregated through the existing Intelligent Transportation System (ITS) fiber optic network at each of the District Regional Transportation Management Centers (DRTMC) and then displayed to the public through the roadside signs and Florida 511 application. As of June 2022, the TPAS system has been deployed in all state-owned welcome centers, rest areas, and weigh stations.
- ↻ **Stage 2** will be developed once stabilization of parking occurs and adequate data is available. Predictive analysis for future parking availability based on trends in parking utilization will become

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available to the public to allow for data-driven logistics planning to optimize safe and efficient freight movement and truck parking throughout Florida.

- ↻ **Stage 3** is anticipated to incorporate private parking facilities into TPAS by leveraging P3s to provide full system availability and predictive analysis to drivers and dispatchers, maximizing the use of the public and private truck parking network.

Florida Statewide Rest Area Long-Range Plan

The 2020 Statewide Rest Area Long-Range Plan was developed to provide a comprehensive overview of the Florida rest area program including rest areas, welcome centers, and weigh station comfort stations. Specifically, the study evaluated the long-term needs, functionality, and opportunities for modernizing the state's rest area facilities to address increasing travel demands due to population, tourism, and commercial growth.

An existing conditions analysis was performed for all state-owned rest area facilities which included 4 welcome centers, 52 rest areas, and 21 weigh station comfort stations. The analysis evaluated the number, location, and usage of rest areas while focusing on three key areas that will support the state's transportation needs over the next 25-years including rest area spacing, service consideration (repurposing/conversion of facilities), and truck parking considerations.

The analysis determined that rest area facilities are well spaced throughout Florida, recommended none for closure, identified three areas in Southwest and Central Florida as having a potential need for additional facilities, and ranked ten facilities as the highest priority for further evaluation to increase truck parking capacity.

Based on peer state analysis and evaluation of FDOT's rest area program, short and long-term recommendations were established. Recommendations included

- ↻ Upgrading the facilities with a sustainable design at a 50-year life cycle with amenities that are efficient and attractive to tourists and residents
- ↻ Implementation of TPAS at all facilities
- ↻ Truck parking-only conversions
- ↻ Increasing security personnel and technology

FDOT District Studies and Projects

FDOT Districts have initiated more than **30** separate truck parking studies and projects that have looked at the issue from the district, region, corridor, and facility levels. The efforts have focused on identifying the existing supply and demand of public and private truck parking spaces, identification of potential sites that can be expanded or converted to truck-only parking facilities, and the development of concepts and projects to increase parking capacity. An overview of the completed, ongoing, and planned truck parking initiatives for each District is outlined below:

District 1

The following District 1 truck parking initiatives were identified through an online literature review and discussions with key District 1 staff:

Truck Parking Implementation Study

- ↻ **Truck Parking Inventory Study (July 2017)** – study to identify existing public and private truck parking sites throughout District 1; the study also identified potential sites that could be utilized for truck parking in the future (complete).
- ↻ **Truck Parking Study Phase 2** – study to identify implementable solutions to address truck parking capacity in District 1; builds off the previous study to identify actionable activities that can be undertaken by FDOT, local governments/partner agencies, or the private sector (complete).
- ↻ **Charlotte and Sarasota County Closed Rest Areas (I-75)** – concepts to convert closed rest areas to truck parking facilities utilizing existing footprint/infrastructure (complete).
- ↻ **Polk County Rest Area (I-4)** – redesign of existing rest area to accommodate additional truck parking capacity; project will roughly double the number of truck parking spaces at each directional rest area (ongoing).

District 2

The following District 2 truck parking initiatives were identified through an online literature review and discussions with key District 2 staff:

- ↻ **Northeast Florida Truck Parking Study (November 2019)** – study to inventory public and private truck parking spaces, determine areas with insufficient truck parking and identify short, mid, and long-term solutions to improve truck parking at strategic locations throughout District 2 (complete).
- ↻ **Weigh Station Truck Parking Concept (April 2017)** – concept for Northeast Florida/District 2 weigh stations to promote and enhance truck parking opportunities at these facilities; concept identified signage and design concepts that would encourage truck parking (complete).
- ↻ **St. Johns County Rest Areas (I-95)** – concepts to expand truck parking capacity at the north St. Johns County I-95 rest areas within the existing footprint and will add approximately 30 additional truck parking spaces; currently exploring opportunities for funding; south St. Johns County I-95 rest area is currently under design and will add approximately 100 truck parking spaces between both facilities; construction funded for FY 25 (complete)
- ↻ **Columbia County Rest Area (I-75)** – concept to expand truck parking capacity at the I-75 Columbia County rest area (northbound) within the existing footprint (complete).
- ↻ **Truck Parking and Commercial Vehicle Innovation Hub (I-10)** – concept for a potential truck parking facility off I-10 within the interchange footprint at US 90 and the First Coast Expressway; the facility would add approximately 120 truck parking spaces; the project was submitted to Central Office for INFRA grant consideration (complete).

District 3

The following District 3 truck parking initiatives were identified through an online literature review and discussions with key District 3 staff:

- ↻ **TPAS Deployment** – deployment of TPAS technology at all rest areas and weigh stations in District 3 (complete).

Truck Parking Implementation Study

District 4

The following District 4 truck parking initiatives were identified through an online literature review and discussions with key District 4 staff:

- ↻ **Truck Parking Supply and Demand Study (April 2017)** – study to document existing public and private truck parking supply, calculate truck parking demand, gather stakeholder input, and make recommendations to improve truck parking in District 4 (complete).
- ↻ **Truck Parking Implementation Concepts** – study to identify and develop concepts for FDOT-owned parcels and facilities in coordination with statewide truck parking concepts; District 4 will develop concepts for park-and-ride lots and coordinate with the Turnpike for service plaza and tandem lots while Central Office will develop rest area and weigh station concepts (ongoing).

District 5

The following District 5 truck parking initiatives were identified through an online literature review and discussions with key District 5 staff:

- ↻ **Truck Parking Study Phase 1** – study to gather stakeholder and public input, document existing public and private truck parking inventory, estimate truck parking demand, assess truck parking needs, and identify key action items and next steps to address truck parking throughout District 5 (complete).
- ↻ **I-4 Truck and Freight Alternative Site Analysis PD&E** – corridor study to evaluate and recommend potential truck parking solutions and alternative concepts along the I-4 corridor from Volusia County to Osceola County; the project will include public engagement, engineering analysis, environmental assessment, and recommendations for viable truck parking concepts along the corridor (ongoing).

District 6

The following District 6 truck parking initiatives were identified through an online literature review and discussions with key District 6 staff:

- ↻ **Miami-Dade County Preliminary Truck Parking Assessment (2019)** – study to assess the viability of truck parking development for five potential truck parking locations countywide; two parcels, designated as Homestead Vases census-designated areas were determined to be suitable for such use (complete).
- ↻ **Assessment for Potential Truck Parking Location within Miami-Dade County (2018)** – study to identify 21 potential truck parking locations in addition to three FDOT surplus ROW sites and assess the feasibility of developing one or more truck parking facilities through a three-tiered process (complete).
- ↻ **South Florida Truck Stop Market Analysis (2016)** – study to survey 65 truck stops within 150 miles of Miami, including the number of fuel pumps, available parking, square footage, and condition of the property, fuel sale volume estimates, and convenience store/food sales estimate; the study also included interviews with truck drivers, fleet operators, and other transportation stakeholders (complete).
- ↻ **Site Feasibility Study for Truck Parking and Park and Ride (2015)** – study to develop and evaluate design alternatives and recommend a layout for the construction of a new truck parking facility and a park-and-ride facility in Miami-Dade County (complete).

Truck Parking Implementation Study

- ↻ **Development of Truck Parking Facilities in Miami Dade County, Phase II (2012)** – continuation study of the 2012 Miami Dade County truck parking study; identified amenities, order of magnitude of costs, business models, and parcels that could be viable options for truck parking facilities (complete).
- ↻ **Comprehensive Parking Study for Freight Transport in Miami Dade County (2010)** – study to estimate the demand for truck parking based on truck registration data provided by the State. The study used intrastate truck registrations and IRP adjusted by the type of truck, fleet size, zip code, and length of haul based on the Florida Intermodal Statewide Highway Freight Mode to identify local and long-haul truck parking demand; the study identified an overall truck parking demand of over 12,000 spaces, but the county (at the time) only had 293 truck parking spaces (complete).
- ↻ **Golden Glades Truck Travel Center** – design for a truck-only facility at the Golden Glades interchange with construction funded in FY 2023-2024 (ongoing).
- ↻ **Districtwide Supply and Demand Analysis** – study to determine the number of needed truck parking spaces compared to the current supply; the study is focusing on resident Miami-Dade County drivers to address local overnight parking in addition to HOS requirements (ongoing).
- ↻ **Countywide Site Analysis** – study to identify suitable parcels throughout Miami-Dade County that could meet truck parking needs and requirements (planned).

District 7

The following District 7 truck parking initiatives were identified through an online literature review and discussions with key District 7 staff:

- ↻ **Regional Truck Parking and Service Issues (2014)** – regionally-based study to identify the supply of public and private truck parking at rest areas, weigh stations, and truck stops within and surrounding the Tampa Bay region; study identifies opportunities to address truck parking needs, specifically identifying future considerations for freight planning (complete).
- ↻ **Public Rest Area Truck Parking Tech Memo (2017)** – corridor-based study to assess truck parking at public rest areas along the I-75; the study used Bluetooth, video, and tube counts to collect count data for trucks entering and exiting rest areas; using the count data, truck parking utilization was assessed to identify the availability and over-capacity of truck parking spaces (complete).
- ↻ **Hillsborough County Rest Areas (I-75)** – construction to add 115 new truck parking sites for a total of 191 spaces between the two facilities (ongoing).
- ↻ **Pasco County Rest Areas (I-75)** – construction was completed eight years ago, but there is an opportunity to identify alternative solutions for existing ROW and facilities; concepts to be identified (planned).
- ↻ **County Line Road Interchange Truck-Only Facility (I-4)** – design funded for FY 2023 and construction funding for FY 2027 to develop 113 new truck parking spaces; funding is through NHFP (planned).
- ↻ **Site Identification Analysis** – Districtwide study to identify potential sites for truck-only parking facilities, parcels that will need to go through the ROW phase, and other FDOT-owned parcels that can be repurposed or redesigned to accommodate alternative truck parking strategies (ongoing).
- ↻ **USF Truck Staging Study** – study to identify and analyze sites in urban areas (Tampa) that could be used for daytime freight staging and possible overnight truck parking (ongoing).

Truck Parking Implementation Study

Florida's Turnpike Enterprise

The following Turnpike truck parking initiatives were identified through an online literature review and discussions with key Turnpike staff:

- ↻ **Service Plazas and Tandem Truck Staging Lot Truck Parking Utilization (2015)** – study along the Turnpike system to analyze truck parking availability and utilization; study identified peak parking demand and parking deficiencies (complete).
- ↻ **Orlando Tandem Truck Staging Lot, Update to 2008 Preliminary Study (2017)** – study to analyze the four sites identified in the preliminary study and identify additional potential sites; included consultations with companies that operate tandem trucks, analysis of truck traffic and crash data, and a drainage impact analysis (complete).

Stakeholder Engagement

REST AREA
TRUCK PARKING

21

SPACES
AVAILABLE



Truck Parking Implementation Study

Stakeholder Engagement

The **Stakeholder Engagement** section provides an overview of the outreach efforts undertaken during the development of the *Truck Parking Implementation Study*. Outreach efforts included engagement with trucking industry associations and FDOT Districts through meetings to discuss truck parking-related issues, needs, and projects. Meeting agendas and detailed notes can be found in **Appendix A**.

Industry Associations

Associations play a key role in advocating for the trucking industry at various levels of government. These organizations work at both the state and national levels to promote policies and initiatives that positively impact the trucking industry and its membership. Trucking industry associations also provide research and education to policymakers and government leaders on the importance of the trucking industry and its impacts on the economy.

The following sections highlight trucking industry issues and needs related to truck parking identified with key industry associations. Common themes identified during meetings with stakeholders include:

- ↻ Additional truck parking capacity is needed to meet current and future demand
- ↻ Parking should be deployed where additional spaces are needed most, including near major freight generators and along corridors with high truck traffic
- ↻ Accurate and consistent data displayed via Digital Messaging Signs (DMS), or Truck Parking Availability System (TPAS) signs are the preferred methods of displaying availability to drivers
- ↻ The safety and security at truck parking facilities are major considerations for drivers, with cameras and adequate lighting noted as priorities
- ↻ An increase in recreational vehicle parking in truck parking spaces
- ↻ Wi-Fi, vending machines, and showers were consistently identified as preferred amenities

Florida Trucking Association (FTA)

FTA is an industry association in Florida that represents the interests of the trucking sector and its members, which include companies from all areas of the freight, transportation, and warehousing industries. FTA advocates for its members on topics including policy, regulatory reform, safety practices, and technological developments within the trucking industry through strong relationships with state and federal leaders.⁶ A coordination meeting was held with FTA on December 14, 2021. Key takeaways from that meeting include:

- ↻ Additional truck parking capacity is needed throughout the state
- ↻ Truck parking capacity expansion should consider need based on truck volumes and freight flows
- ↻ “Comfort Station” terminology at weigh stations can cause some confusion on whether truck parking is allowed at the facility
- ↻ Safety and security at facilities is a major need
- ↻ Truck parking information included on DMS signs would be beneficial to drivers
- ↻ Accurate TPAS information and additional information for upstream facilities are needed
- ↻ Vending machines, showers, and lounge areas are wanted, but not necessarily needed

⁶ (Florida Trucking Association, 2022)

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American Trucking Association (ATA)

ATA is a national industry association that represents the interests of the trucking sector and its members and is “the largest and most comprehensive national trade association for the trucking industry.” ATA advocates for the industry and its members with research-based policy recommendations focused on safety, security, and sustainability while educating policymakers throughout all levels of government on trucking’s role in the economy.⁷

A coordination meeting was held with ATA on December 14, 2021. Key takeaways from that meeting include:

- ↻ The greatest need identified by ATA members and policy research is the need for additional truck parking capacity
- ↻ Drivers prefer parking that is closer to pickup and delivery locations due to delays/detention times
- ↻ Focus should be on increasing capacity in the “right” locations where truck parking is needed
- ↻ Around 89% of all drivers have a smartphone device, but drivers are not allowed to view parking apps on their phones while driving
- ↻ Accurate signage and DMS signs are the preferred methods of communicating parking availability
- ↻ Safety and security at facilities are major needs
- ↻ Parking time limits and restrictions can be an issue
- ↻ Weigh station parking creates concerns for drivers of potential questioning by enforcement personnel; Highway Patrol and FDOT need to provide uniform messaging to drivers that additional compliance inspections are not allowable once parked
- ↻ The needs of female drivers should be considered
- ↻ Integration of truck parking data into the telematic systems and electronic logging device (ELDs) should be explored
- ↻ There has been an increase in recreational vehicles using truck parking spaces
- ↻ Consideration should be given to truck parking for oversize and overweight vehicles
- ↻ Wi-Fi, vending machines, and showers are wanted, but not necessarily needed

Owner Operator Independent Driver Association (OOIDA)

OOIDA is an international industry association that represents the interests of independent owner-operators and commercial drivers in the trucking industry. OOIDA advocates for small fleets and independent drivers to ensure that they are treated fairly while promoting highway safety and efficiency for truck drivers through participation and input in rule and policymaking at all levels of government.⁸

A coordination meeting was held with OOIDA on December 14, 2021. Key takeaways from that meeting include:

- ↻ There is a national shortage of truck parking, which includes Florida
- ↻ Inconsistent information or unreliable TPAS signs can be frustrating for drivers
 - Accuracy of information is important when drivers make decisions on where to park
- ↻ Increasing parking spaces across the State should be a focus, not just the technology/information system component
- ↻ Most members do not use truck parking apps as they feel the information can be unreliable

⁷ (American Trucking Association, 2022).

⁸ (Owner-Operator Independent Drivers Association, 2022)

Truck Parking Implementation Study

- ↻ Many members have dedicated routes and know the locations where they need to stop for parking before and after a delivery
- ↻ At private facilities (truck stops), it can be frustrating for drivers to pay for parking when they have also paid for fuel, showers, food, and other services
- ↻ Many drivers park at locations where they have discount cards for gas or other services
- ↻ Drivers have seen an uptick in recreational vehicles using truck parking spaces
- ↻ The safety and security of truck parking facilities is a top priority for drivers
 - Sufficient lighting in the truck parking areas and the restroom areas are also identified as a consistent need by drivers
- ↻ Wi-Fi, vending machines, and showers are wanted, but not necessarily needed

FDOT District Freight Coordinators

Florida has seven FDOT District Freight Coordinators (DFCs) that are the primary contacts for freight-related transportation initiatives, projects, and coordination within their respective Districts. The DFCs regularly engage with freight industry partners to identify issues, needs, and solutions to enhance intermodal freight transportation in their region. Addressing the truck parking shortage in Florida has been a consistent focus for FDOT at the Statewide and District levels, with numerous studies, projects, and plans in various stages of development.

The following sections highlight ongoing and planned truck parking projects and general needs related to truck parking implementation identified in one-on-one meetings with each DFC. Common project types and initiatives identified during discussions with each District included:

- ↻ Re-purposing closed rest areas for truck parking (D1)
- ↻ Rest area redesigns to accommodate additional parking (D1, D2, D5, D7)
- ↻ Add parking or re-purpose existing FDOT-owned facilities/ROW (D2, D4, D7)
- ↻ Truck-only facilities (D2, D5, D6, D7)
- ↻ Local government coordination for sites and policy (D1, D5, D6)
- ↻ Truck parking studies to identify sites (D1, D5, D6)

District needs included additional funding support to implement or advance truck parking projects, dedicated maintenance support, and policy and design guidance to streamline the project delivery process.

District 1

A coordination meeting was held with District 1 on December 7, 2021. Key takeaways from that meeting include:

- ↻ Districtwide truck parking study to identify sites in rural areas and provide implementable solutions to address truck parking capacity needs in D1
- ↻ Developing concepts to repurpose and rehabilitate the I-75 Charlotte County rest area and convert it to a truck-only parking facility; the location has existing pavement and some lighting infrastructure
- ↻ Developing concepts for a closed rest area along I-75 in Sarasota County at the River Road interchange; the site is currently being utilized for maintenance storage and staging; River Road dead ends near the interchange and has the ROW to accommodate “herringbone” style angled truck parking (linear along the roadway).

Truck Parking Implementation Study

- ↻ I-4 Polk County rest areas are planned for re-design to accommodate additional trucking parking that will roughly double the total amount of current spaces
- ↻ The Cities of Winter Haven and Lakeland have enacted truck parking-related initiatives at the local level that include working with developers to identify sites for long-term truck parking and adding formula-based requirements for truck parking into development code
- ↻ Design and Construction funding is needed to implement new truck parking projects
- ↻ Updates to current policy and legislation may be needed to streamline the project development process and allow for more options in project delivery, maintenance, and operations

District 2

A coordination meeting was held with District 2 on February 9, 2022. Key takeaways from that meeting include:

- ↻ Developed concepts to expand the I-95 St Johns County (north) rest area in coordination with the widening of I-95 from the 1st Coast Expressway to the Duval County line; approximately 30 additional spaces could be added between both rest areas
- ↻ The I-95 St Johns County (south) rest area is currently under design to add approximately 100 new truck parking spaces with Construction funding for the fiscal year 2025 through the rest area program
- ↻ Identified a location along I-10 in west Duval County for a potential truck parking facility at the US 90 and First Coast Expressway interchange; this project would include 120 new truck parking spaces
- ↻ Developed concepts for the I-75 Lake City/Ellisville rest area to add truck parking spaces within the existing rest area footprint and increase the size of some spaces to accommodate larger trucks/trailers
- ↻ Industry engagement has indicated that much of the private sector development for truck parking in District 2 is focused on basic facilities with minimal amenities that accommodate staging and long-term parking
- ↻ For full-service truck stops, much of the demand is driven by fuel contracts, discounts, and other driver-related efficiencies that can cause inconsistent locational demand
- ↻ RV's parking in dedicated truck spaces at public parking facilities can create challenges for drivers searching for available parking
- ↻ Dedicated maintenance funding and clear policy guidance is needed for future truck-only parking facilities that would not be covered by existing rest area or District maintenance programs
- ↻ Updates to current policy and legislation may be needed to streamline the project development process and allow for more options in project delivery, maintenance, and operations

District 3

A coordination meeting was held with District 3 on December 9, 2021. Key takeaways from that meeting include:

- ↻ Advised that there are no current or planned truck parking projects or studies in District 3 at this time
- ↻ Generally seeing truck parking at private facilities in District 3 and
- ↻ Observations have indicated that some rest areas are not operating at or over capacity, while others are experiencing significant truck parking overutilization during peak hours in the evening

Truck Parking Implementation Study

- ↻ Opportunities to expand existing rest areas, welcome centers, and weigh stations should be explored to meet existing demand as well as future demand that may be induced by growth in population and the freight industry throughout District 3

District 4

A coordination meeting was held with District 4 on December 9, 2021. Key takeaways from that meeting include:

- ↻ Districtwide analysis and assessment of existing FDOT parking facilities to identify excess or alternative uses of ROW that can be quickly converted to truck parking spaces to increase and optimize truck parking capacity in District 4
- ↻ Coordination with CO and other Districts is needed to avoid duplication of efforts and ensure that industry best practices are identified for future District 4 truck parking capacity expansion

District 5

A coordination meeting was held with District 5 on December 7, 2021. Key takeaways from that meeting include:

- ↻ Truck Parking PD&E focused along the I-4 corridor to identify potential sites; PD&E is in progress and various phases have been funded through National Highway Freight Program (NHFP) (approximately \$26 million), but there will be a need to identify and program Design phase funds as bundled or individual projects once sites have been determined
- ↻ Multiple rest area redesign projects are ongoing in Marion, Sumter, and Brevard; most designs have incorporated additional truck parking spaces; the Marion County rest area redesign will add 70 truck parking spaces
- ↻ Construction funding is needed to implement alternative design concept at the Marion County rest area that will increase total number of truck parking spaces at the facility
- ↻ Design funding may be needed to support further project development of sites identified in the ongoing I-4 Truck Parking PD&E Study

District 6

A coordination meeting was held with District 6 on December 7, 2021. Key takeaways from that meeting include:

- ↻ Districtwide supply and demand analysis to determine the number of needed truck parking spaces compared to the current supply
- ↻ Golden Glades Truck Travel Center delivery model updated to develop/build a state-owned truck parking facility with similar amenities as rest areas; once constructed, District will issue a separate RFP for the industry to operate and make recommended changes to the site, including additional amenities
- ↻ Countywide site analysis planned to identify suitable parcels to meet truck parking needs
- ↻ Miami-Dade County Comprehensive Development Master Plan (CDMP) amendment under review that would expand certain agricultural land uses outside the Urban Development Boundary (UDB) to be designated for industrial uses including truck parking
- ↻ Dedicated maintenance funding and clear policy guidance is needed for future truck-only parking facilities that would not be covered by existing rest area or District maintenance programs

Truck Parking Implementation Study

District 7

A coordination meeting was held with District 7 on December 9, 2021. Key takeaways from that meeting include:

- ↻ Redesign of I-75 Hillsborough County rest areas along I-75 added 115 new truck parking spaces for a total of 191 spaces between both facilities; construction began in Fall 2020
- ↻ I-75 Pasco County rest areas expanded 8 years ago providing a total of 50 truck parking spaces at each directional facility; ROW is limited/built out, but there is an opportunity to look at alternative solutions like parallel parking which could add up to 15 spots
- ↻ I-4 at County Line Rd truck parking facility is under development with ROW purchased, design funded in FY 2023, and construction funded in FY 27 at approximately \$18M (combined) using NHFP funds; the facility is approximately 50 acres, located off the interstate with access from S. Frontage Rd; the project will add 113 truck parking spaces
- ↻ Additional truck parking locations have been identified in Pasco County based on the needs assessment completed in the statewide truck parking study; funding is needed for ROW acquisition at identified sites
- ↻ USF study is underway to analyze and identify sites in urban areas (Tampa region) for daytime freight staging and possibly nighttime parking; these would be smaller lots with no amenities
- ↻ Design and construction funding are needed to advance the I-4 truck-only parking facility
- ↻ Right-of-way funding is needed to implement additional truck parking locations in Pasco County

Florida's Turnpike Enterprise

A coordination meeting was held with Florida's Turnpike Enterprise on March 8, 2022. Key takeaways from that meeting include:

- ↻ The Turnpike was not involved in the initial TPAS deployment but would be interested in exploring new detection technology including the use of cameras as well as DMS messaging options
- ↻ Truck parking utilization study was completed in 2015 and has been used to identify and develop capacity improvement projects at key service plazas; utilization remains high even at service plazas that have added capacity
- ↻ West Palm Beach and Canoe Creek service plazas have projects in the Work Program to expand truck parking capacity
- ↻ Conceptual plans have been developed for additional service plazas to add truck parking capacity and convert some tandem parking spaces to general truck parking; working to add projects to the Work Program as funding becomes available
- ↻ Interested in the application of parallel/ramp parking and back-in parking at service plazas with design and operations guidance from FDOT Central Office

Data Collection and Utilization Analysis



Truck Parking Implementation Study

Data Collection and Utilization Analysis

The following section provides a general overview of *Data Collection and Utilization Analysis* efforts undertaken at weigh stations, welcome centers, and rest areas during the development of the *Truck Parking Implementation Study*. Due to an overall shortage of available truck parking along Florida's interstates, trucks can be forced to park along ramps and shoulders or in non-designated parking areas at FDOT rest areas, weigh stations, and other locations, including interchange ramps. This overflow can create safety issues for motorists and commercial vehicle operators that include reduced visibility, roadway obstructions, and speed differentials that can result in increased conflict points, while also causing maintenance issues by driving and parking off paved infrastructure.

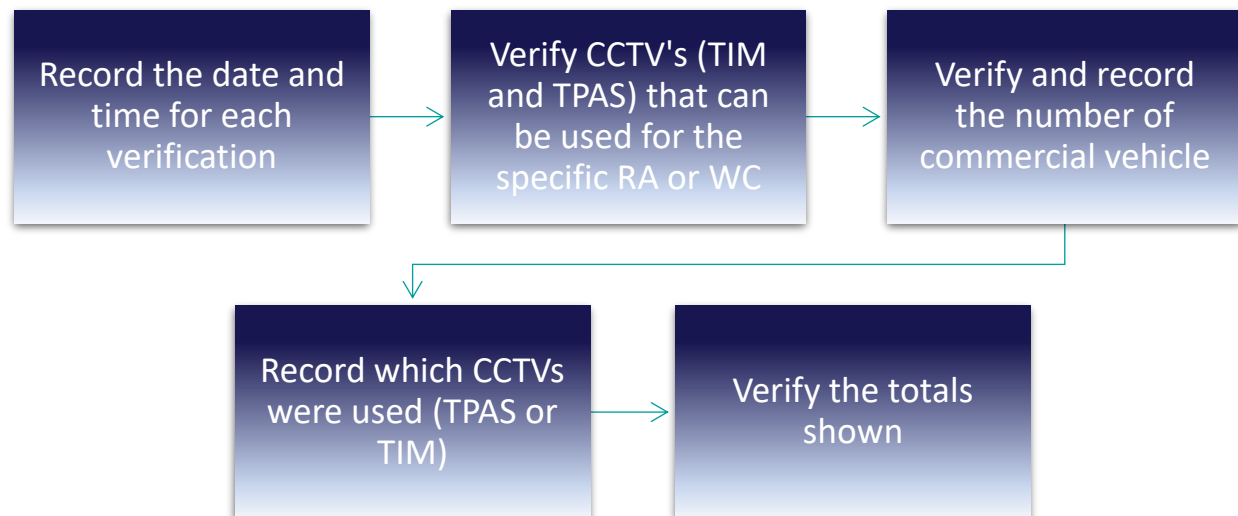
Data Collection

A baseline assessment of current truck parking utilization, including under and overutilization at FDOT weigh station, welcome center, and rest area parking facilities was required to understand statewide truck parking trends, issues, and needs at each facility. The data collection results were used to develop strategies to increase parking at underutilized facilities and concepts to expand parking capacity at overutilized facilities. This data acquisition effort was undertaken to complement previous studies undertaken by FDOT to address the truck parking issues.

Standard Operating Guidelines

A truck parking utilization observation procedure was developed to evaluate which FDOT facilities experience overutilization of commercial truck parking. This procedure was documented in the Standard Operating Guidelines that can be found in **Appendix B**. Utilizing existing Closed-Circuit Television (CCTV) cameras, the Regional Transportation Management Center (RTMC) operator for each District recorded the number of commercial vehicles found parking in designated and undesignated parking locations within each rest area or welcome center facility within the district. **Figure 1** provides an overview of the data collection procedure:

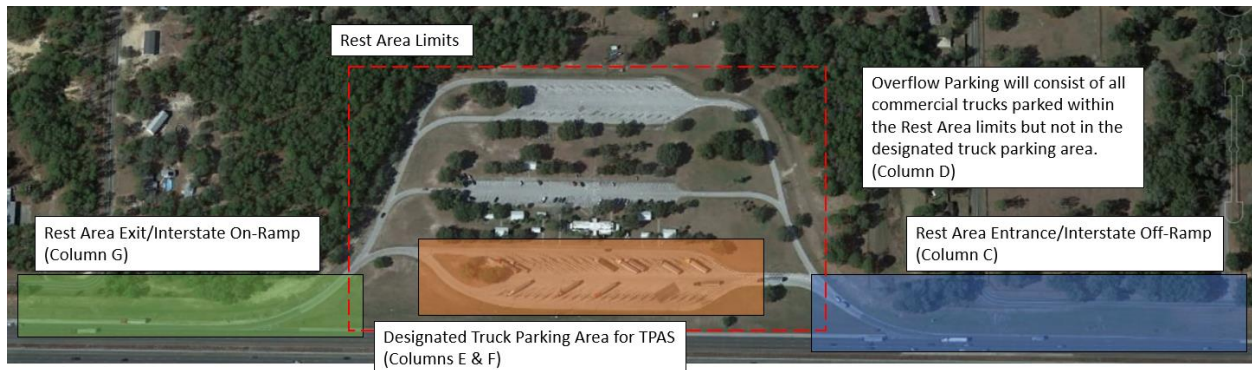
Figure 1: Overview of Data Collection Procedure



Truck Parking Implementation Study

RTMC operators for each District were provided an excel spreadsheet with designated sheets for each rest area, and welcome center found within their District to consistently record their truck parking observations. As shown in **Figure 2**, parking counts were categorized based on where commercial vehicles were parked, which included authorized parking spaces, on/off ramps, and unauthorized locations within the facility. At the weigh stations, Motor Carrier Size and Weigh (MCSAW) staff provided in-person visual utilization counts. Utilization counts were collected for a total of seven days between the hours of 7 P.M. and 7 A.M. during January (weigh stations) and March (rest areas and welcome centers) of 2022.

Figure 2: Parking Count Location Guidance



Source: *Parking Count Standard Operating Guidelines*

Utilization Analysis Tools

Once data collection was complete, the recordings were incorporated into a comprehensive utilization spreadsheet tool and an interactive GIS dashboard. These tools allow for streamlined graphical and visual approaches to facility utilization analysis by day of the week and time of the day.

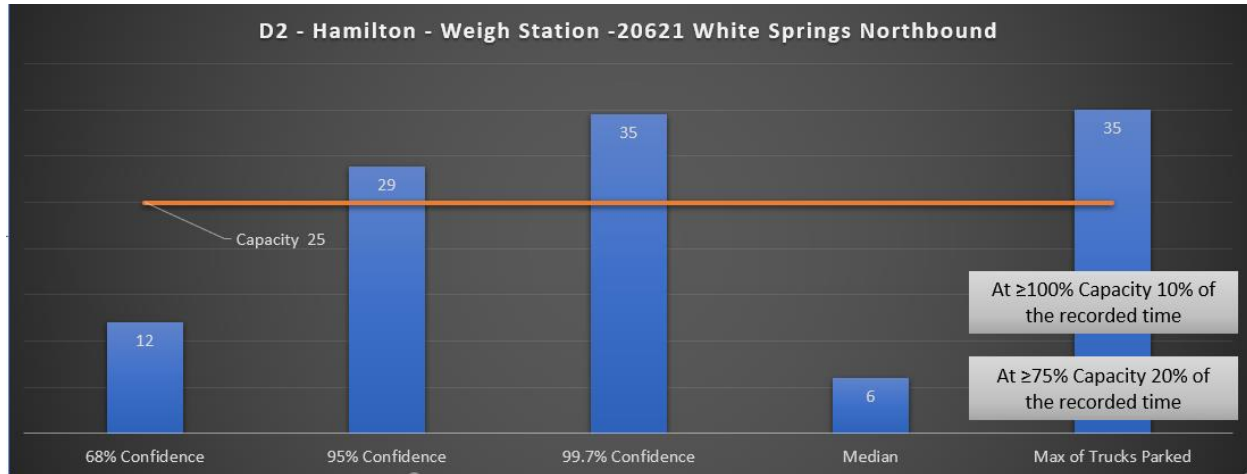
Spreadsheet Tool

Field data was consolidated, applying statistical methods, to graphically represent the parking utilization at each facility. The tool allows users to define inputs (District, County, Facility Type, and Facility number) to calculate summary statistics of utilization rates at each parking facility.

Figure 3 shows the utilization dashboard that summarizes 84 data collection observations recorded at the Interstate 75 (I-75) Hamilton County Weigh Station in District 2. Summary statistics include the median and max number of trucks parked, and the number of trucks parked explained by confidence intervals. At the 95th percentile, 80 out of the 84 observations showed 29 or fewer trucks parked at the facility, which exceeds the facility capacity of 25.

Truck Parking Implementation Study

Figure 3: Utilization Dashboard Example Output



Source: Utilization Dashboard developed for Truck Parking Implementation Study

GIS Dashboard

In addition to the spreadsheet tool, an ArcGIS Online reporting tool was developed using utilization data collected during this effort. The reporting tool provides a scalable statewide map view and summary utilization statistics for each state-owned truck parking facility.

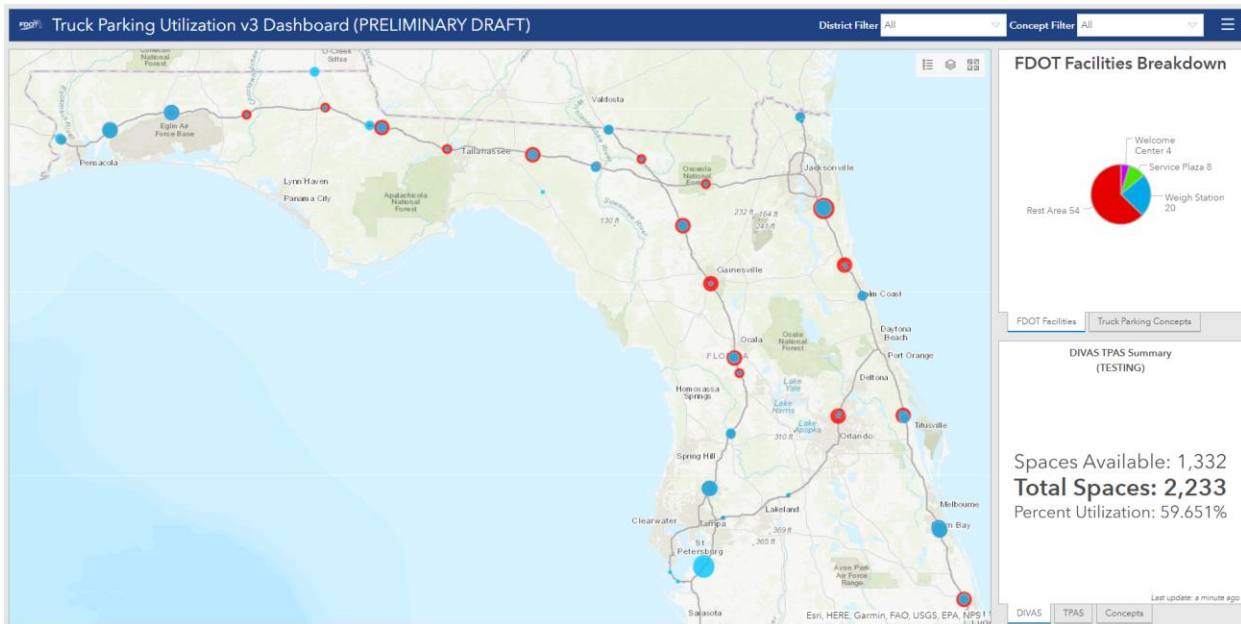
Key utilization statistics taken during the observation period, in the form of map layers, can be overlaid on top of one another to easily visualize areas or facilities that experience overutilization of truck parking. These statistics include:

- Number of TPAS spaces
- Maximum number of trucks parked
- Maximum number of trucks parked over capacity
- Truck Parking utilization rate

Figure 4 provides a screenshot of the reporting tool, illustrating available spaces, as monitored by TPAS, in blue overlaid on the maximum number of observed trucks parked in red. A red circle surrounding a blue circle indicates the overutilization of truck parking at a facility.

Truck Parking Implementation Study

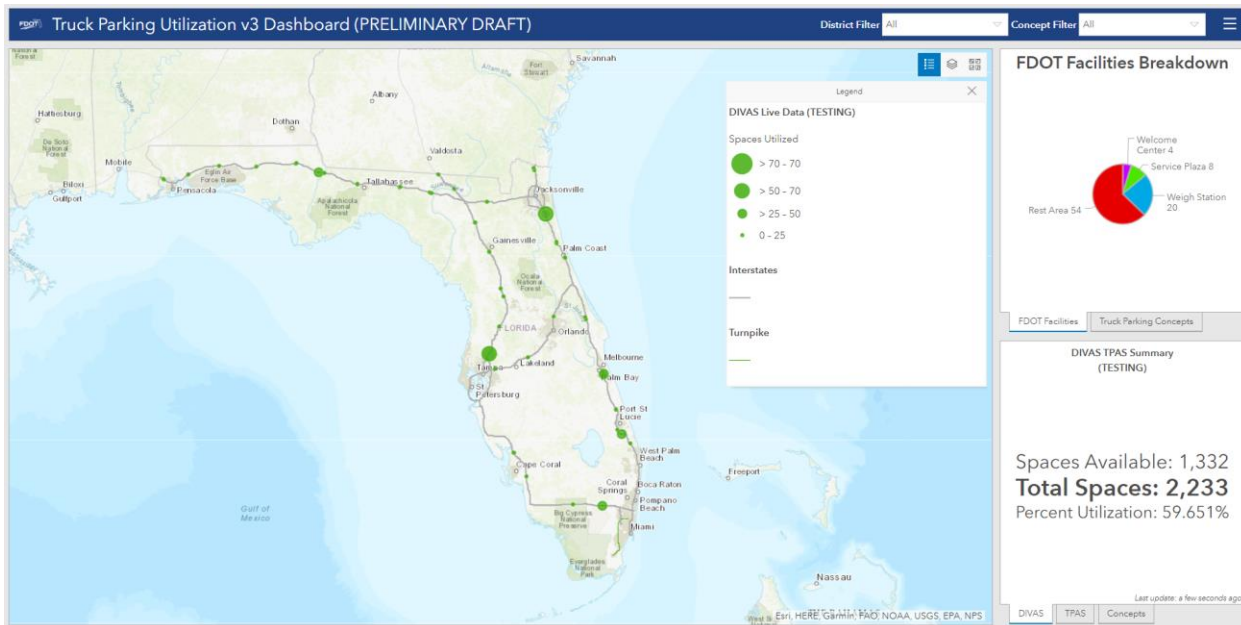
Figure 4: Statewide Truck Parking Utilization by Facility



Source: Utilization GIS Reporting Tool developed for Truck Parking Implementation Study

A live TPAS data feed from the Data Integration and Video Aggregation Service (DIVAS) was also included in the tool as a proof of concept to visually show real-time TPAS availability and utilization at each truck parking facility. **Figure 5** provides a screenshot highlighting the live TPAS utilization data for each facility.

Figure 5: Statewide TPAS Utilization by Facility



Source: Utilization GIS Reporting Tool developed for Truck Parking Implementation Study

Truck Parking Implementation Study

The utilization reporting tool also includes accessory data layers for additional user analysis including:

- ↻ Truck parking projects and concepts
- ↻ Truck AADT volume and percent
- ↻ SIS Facilities
- ↻ FDOT and other FL State Agency facilities

Utilization Analysis Results

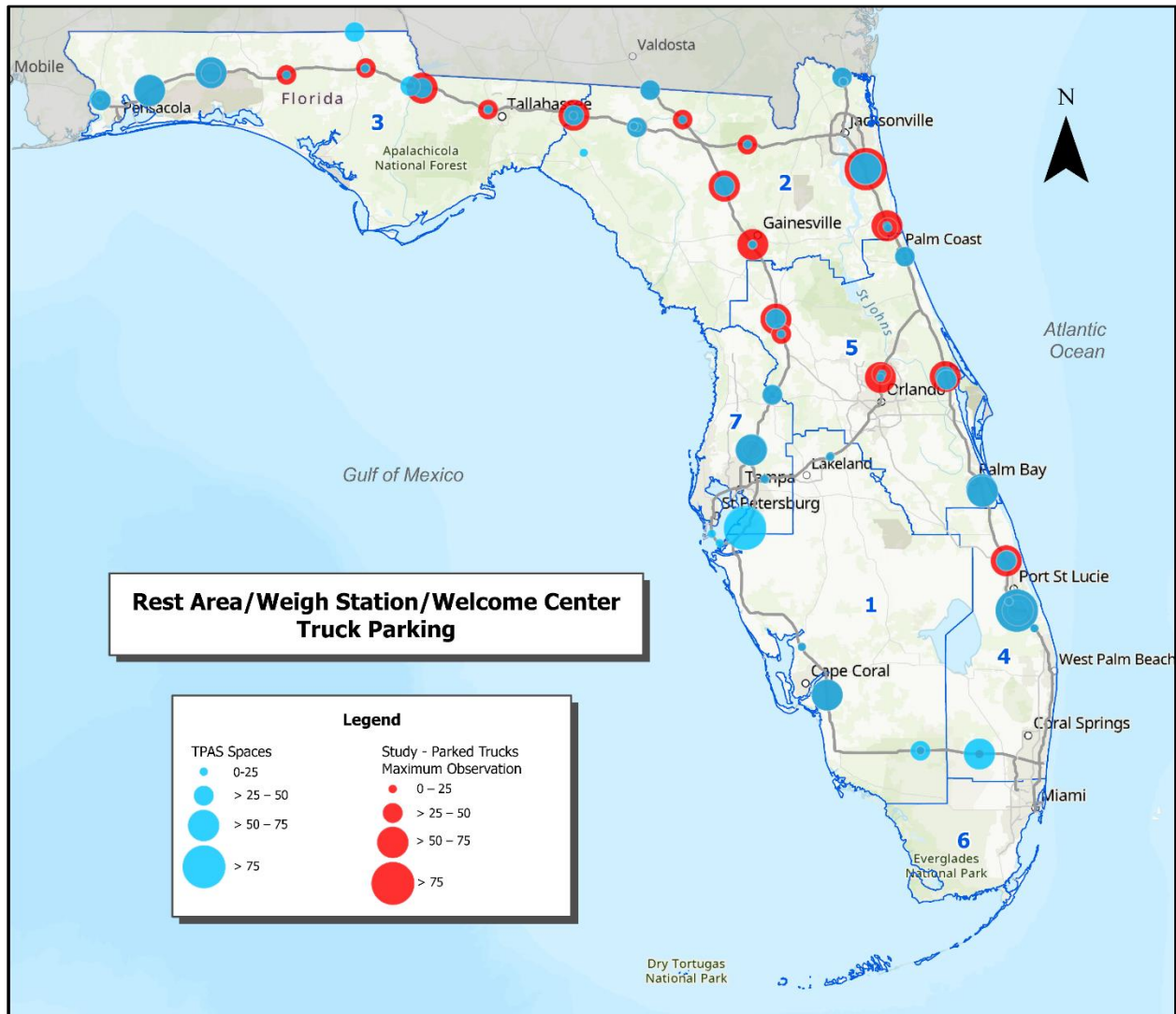
Results of the data collection effort were analyzed to determine truck parking utilization trends at the statewide, District, and facility levels. The following sections provide additional detail on statewide and District truck parking utilization trends. Individual facility parking counts and utilization analysis can be found in **Appendix C**.

Statewide

The State of Florida has 20 weigh stations, 53 rest areas, and 4 welcome centers that support truck parking with a total of 2,539 monitored TPAS spaces. Based on the results of the data collection, most state-owned parking facilities experienced overutilization of truck parking at some point during the observation period. Facilities in North and Central Florida along the I-4, I-10, I-75, and I-95 corridors in Districts 2, 3, and 5 experienced the highest instances of overutilization. **Figure 6** provides a map-based visualization of peak utilization rates compared to monitored TPAS parking spaces at state-owned rest areas, welcome centers, and weigh stations statewide.

Truck Parking Implementation Study

Figure 6: Statewide Truck Parking Utilization Map

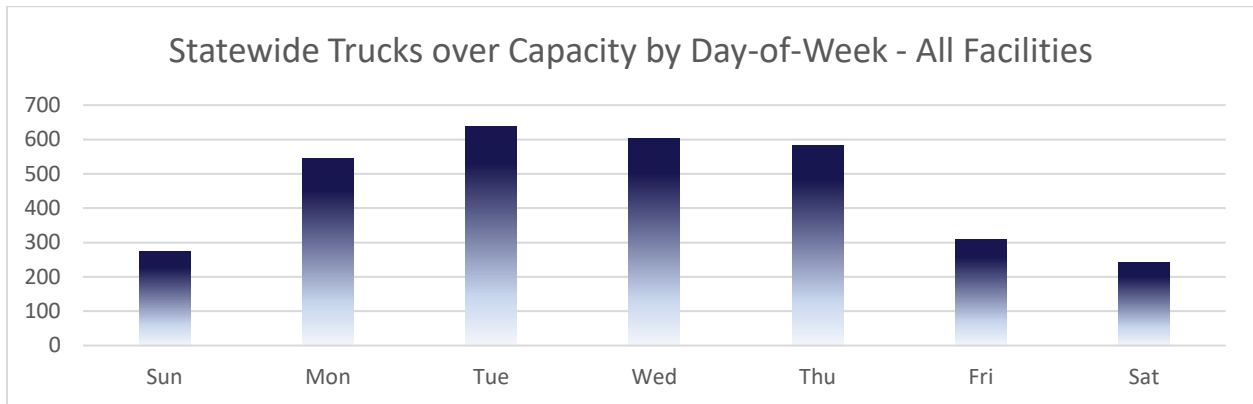


Source: Utilization GIS Reporting Tool developed for Truck Parking Implementation Study

Statewide truck parking utilization data indicates that Tuesday, Wednesday, and Thursday generally experienced the highest rates of overutilization at all state-owned parking facilities. **Figure 7** highlights the total number of trucks over capacity at all statewide FDOT parking facilities broken down by day of the week.

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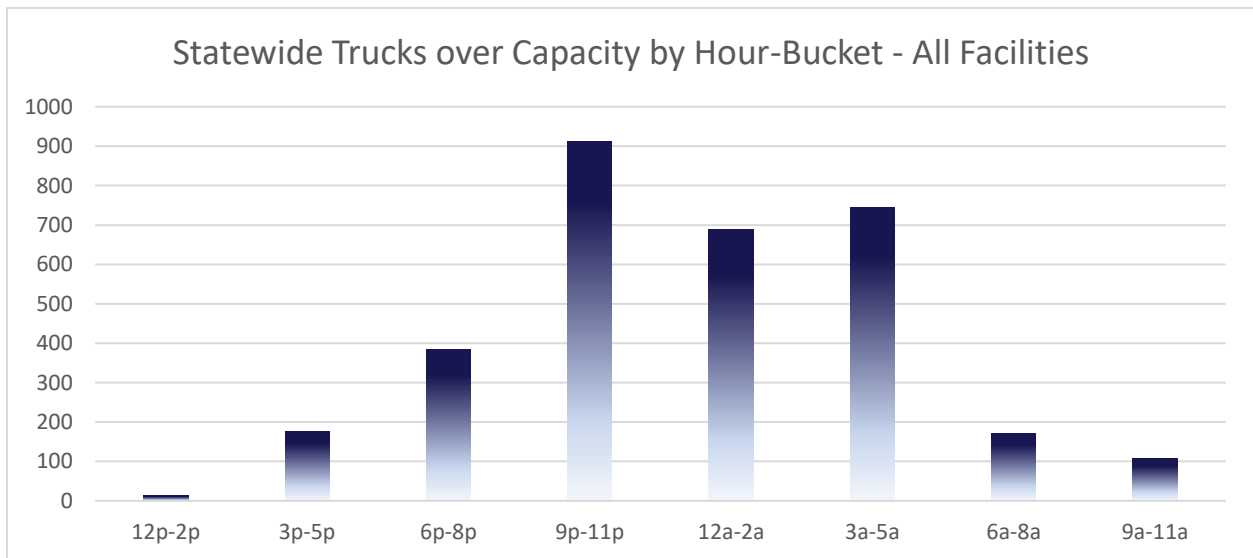
Figure 7: Statewide Trucks over Capacity by Day-of-Week - All Facilities



Source: Utilization Dashboard developed for Truck Parking Implementation Study

Peak overutilization for all facilities generally occurred during the hours of 9 PM to 5 AM. **Figure 8** highlights the total number of trucks over capacity at all statewide FDOT parking facilities broken down by two-hour timeframes.

Figure 8: Statewide Trucks over Capacity by Hour-Bucket - All Facilities



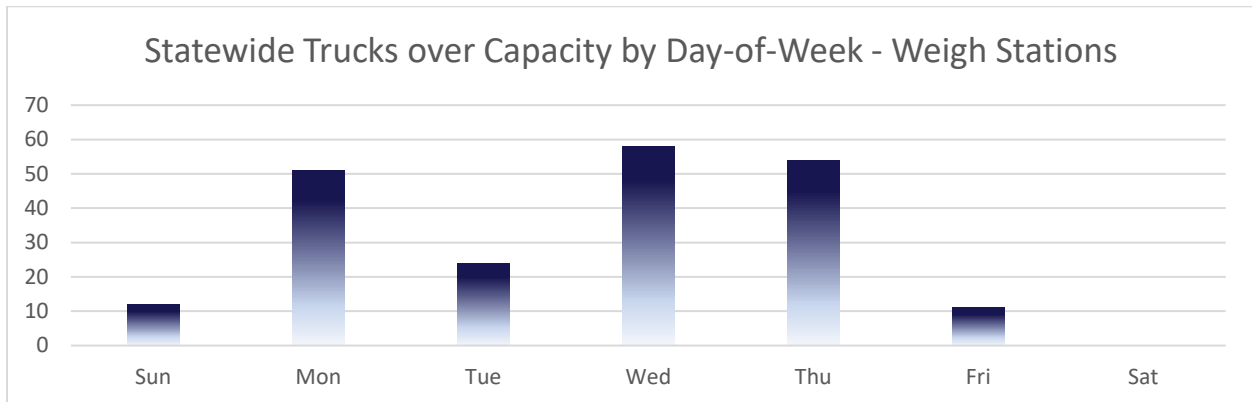
Source: Utilization Dashboard developed for Truck Parking Implementation Study

Weigh Stations

Statewide truck parking utilization data indicates that Monday, Wednesday, and Thursday generally experienced the highest rates of overutilization at all weigh station facilities. **Figure 9** highlights the total number of trucks over capacity at all FDOT weigh station facilities broken down by day of the week.

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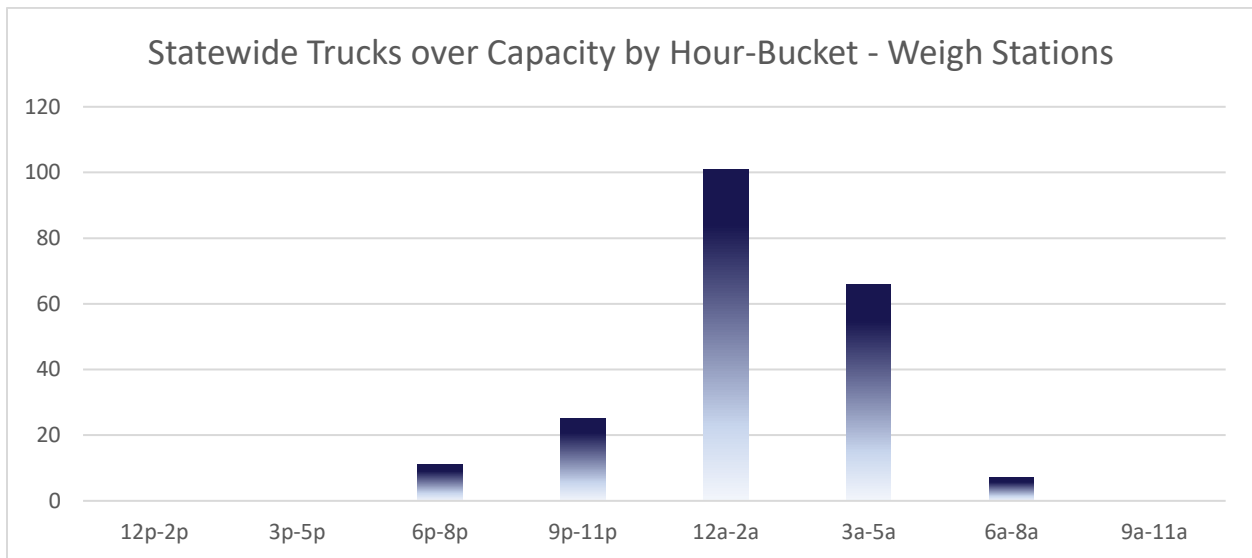
Figure 9: Statewide Trucks over Capacity by Day-of-Week - Weigh Stations



Source: Utilization Dashboard developed for Truck Parking Implementation Study

Peak overutilization for all weigh station facilities generally occurred during the hours of 12 AM to 5 AM. **Figure 10** highlights the total number of trucks over capacity at all FDOT weigh station facilities broken down by two-hour timeframes.

Figure 10: Statewide Trucks over Capacity by Hour-Bucket - Weigh Stations



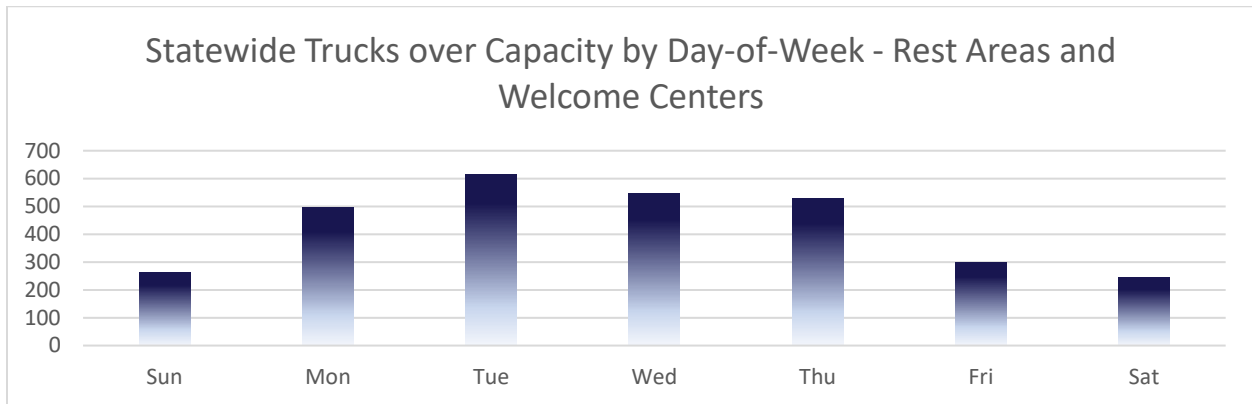
Source: Utilization Dashboard developed for Truck Parking Implementation Study

Rest Areas and Welcome Centers

Statewide truck parking utilization data indicates that Tuesday, Wednesday, and Thursday generally experienced the highest rates of overutilization at all rest area and welcome center facilities. **Figure 11** highlights the total number of trucks over capacity at all FDOT rest area and welcome center facilities broken down by day of the week.

Truck Parking Implementation Study

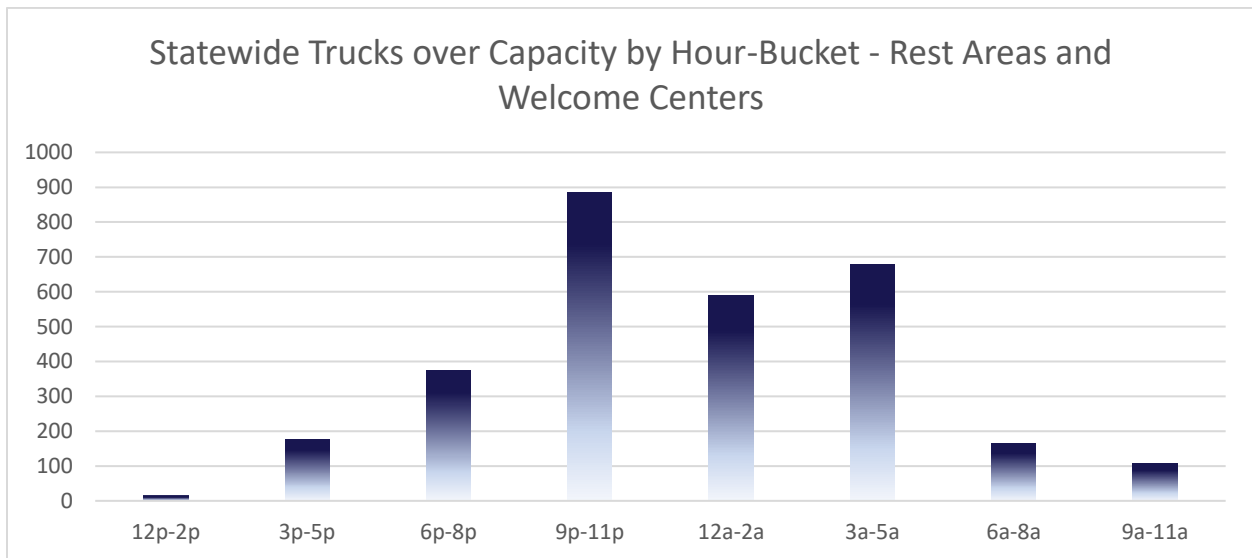
Figure 11: Statewide Trucks over Capacity by Day-of-Week - Rest Areas and Welcome Centers



Source: Utilization Dashboard developed for Truck Parking Implementation Study

Peak overutilization for all rest areas and welcome centers generally occurred during the hours of 9 PM to 5 AM. **Figure 12** highlights the total number of trucks over capacity at all FDOT rest areas and welcome centers broken down by two-hour timeframes.

Figure 12: Statewide Trucks over Capacity by Hour-Bucket - Rest Areas and Welcome Centers



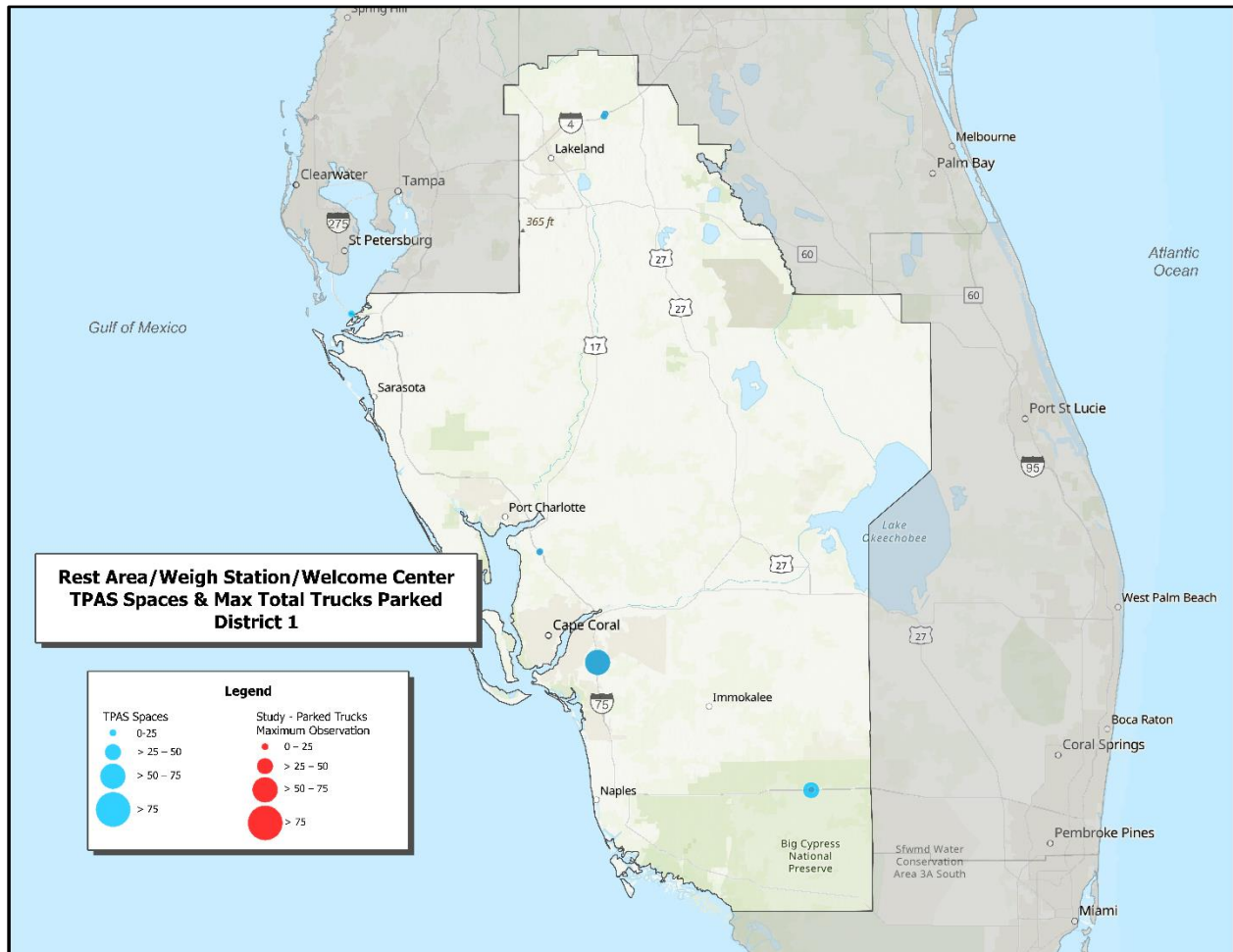
Source: Utilization Dashboard developed for Truck Parking Implementation Study

District 1

District 1 includes 2 weigh stations and 6 rest areas that support truck parking with a total of 225 monitored TPAS spaces. **Figure 13** provides a map of peak utilization rates compared to monitored TPAS parking spaces at state-owned rest areas and weigh stations in District 1.

Truck Parking Implementation Study

Figure 13: District 1 Truck Parking Utilization Map



Source: Utilization GIS Reporting Tool developed for Truck Parking Implementation Study

Weigh Stations

District 1 weigh stations experienced an average utilization rate over 48% but did not experience overutilization during the observation period. A summary of the peak utilization for each weigh station in District 1 is provided in **Table 1**.

Table 1: District 1 Weigh Station Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-75 Charlotte	10602 SB	23	19	83%
I-75 Charlotte	10601 NB	23	11	48%

Source: Analysis of Data collected for Truck Parking Implementation Study

Rest Areas

District 1 did not experience significant issues with overutilization or unauthorized parking at rest areas where data was collected during the observation period. The I-75 southbound rest area (Facility # 10290) in Collier County was the only facility that experienced overutilization. The highest rates occurred on Friday during the hours of 9 P.M. and 11 P.M. Counts were not conducted at the I-4 eastbound (Facility # 10201) and westbound (Facility # 10202) rest areas in Polk County or I-275 north/south (Facility # 10370)

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rest area in Manatee County. A summary of the peak utilization for each rest area in District 1 is provided in **Table 2**.

Table 2: District 1 Rest Area Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-75 Collier	10290 SB	15	17	113%
I-75 Lee	10280 N/S	64	62	97%
I-75 Collier	10291 NB	37	11	30%
I-4 Polk ⁹	10201 EB	23	0	0%
I-4 Polk ⁹	10202 WB	24	0	0%
I-275 Manatee ⁹	10370 N/S	16	0	0%

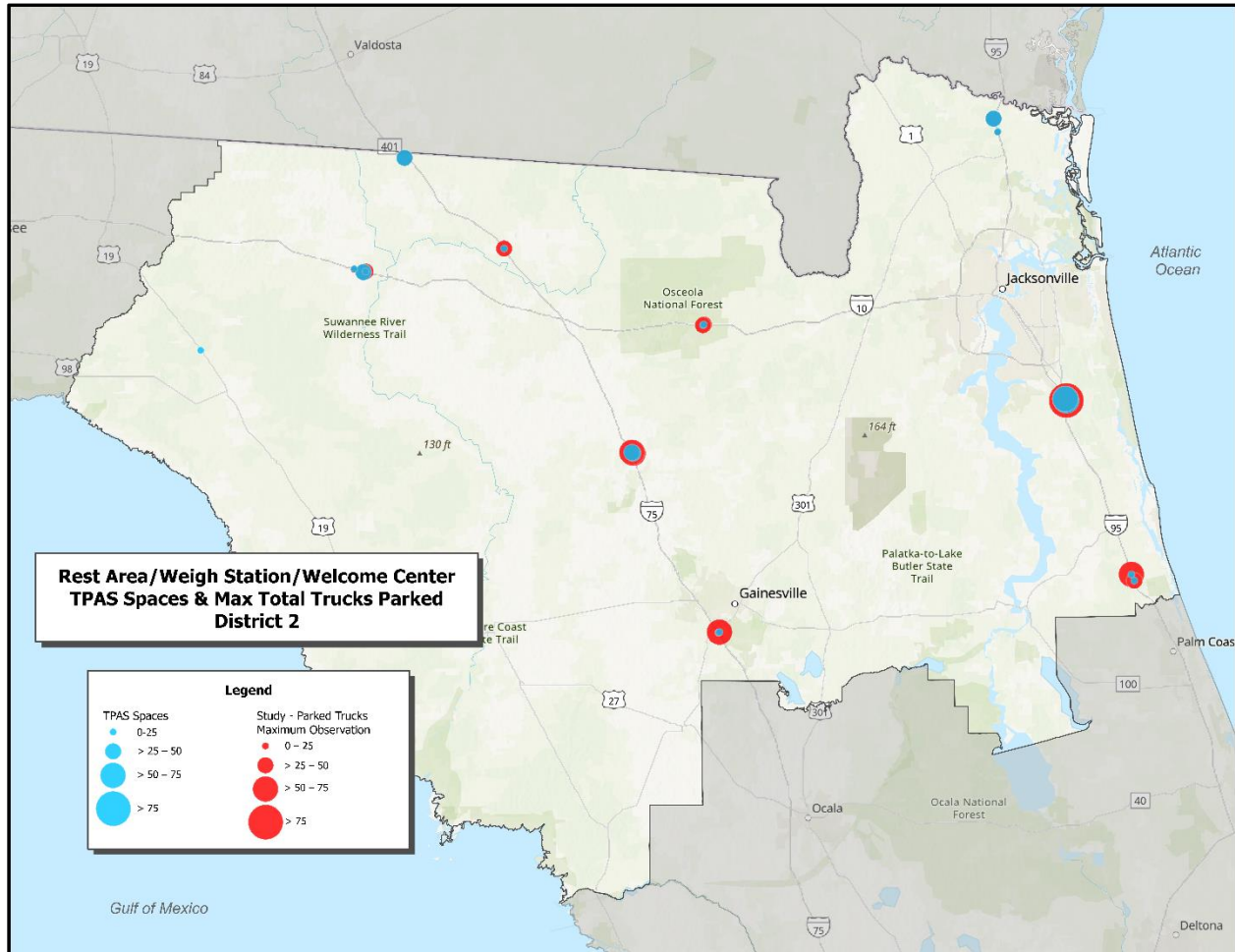
Source: Analysis of Data collected for Truck Parking Implementation Study

District 2

District 2 includes 6 weigh stations, 15 rest areas, and 2 welcome centers that support truck parking with a total of 566 monitored spaces. Based on the results of the data collection and engagement with District staff, most state-owned parking facilities currently experience significant truck parking overutilization. **Figure 14** provides a map of peak utilization rates compared to monitored TPAS parking spaces at state-owned rest areas and weigh stations in District 2.

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Figure 14: District 2 Truck Parking Utilization Map



Source: Utilization GIS Reporting Tool developed for Truck Parking Implementation Study

Weigh Stations

District 2 weigh stations generally did not experience significant issues with overutilization or unauthorized parking during the observation period. The I-75 northbound weigh station (Facility # 20621) in Hamilton County was the only facility that experienced overutilization. The highest rates occurred on Wednesday and Thursday between the hours of 12 A.M. and 5 A.M. Counts were not conducted at the I-75 southbound (Facility # 20622) weigh station in Hamilton County, the I-10 eastbound (Facility # 20631) weigh station in Madison County, and the I-95 northbound (Facility # 20611) weigh station in Nassau County due to the facilities being temporarily closed. A summary of the peak utilization for each weigh station in District 2 is provided in **Table 3**.

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Table 3: District 2 Weigh Station Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-75 Hamilton	20621 NB	25	35	140%
I-95 Nassau	20612 SB	25	24	96%
I-10 Madison	20632 WB	20	10	50%
I-75 Hamilton ⁹	20622 SB	29	0	0%
I-10 Madison ⁹	20631 EB	20	0	0%
I-95 Nassau ⁹	20611 NB	25	0	0%

Source: Analysis of Data collected for Truck Parking Implementation Study

Rest Areas

District 2 rest areas experienced overutilization each day of the week during the observation period. The highest rates occurred on Monday, Tuesday, and Thursday during the hours of 9 P.M. and 5 A.M. Unauthorized parking was also observed for at least 12 hours of the day at some facilities. Counts were not conducted at the US 27 north/south (Facility # 20150) rest area in Taylor County, the I-10 westbound (Facility # 20112) rest area in Columbia County, and the I-10 eastbound (Facility # 20111) rest area in Suwannee County due to the facilities being temporarily closed. A summary of the peak utilization for each rest area in District 2 is provided in **Table 4**:

Table 4: District 2 Rest Area Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-75 Alachua	20171 NB	6	51	850%
I-95 St. Johns	20332 SB	16	56	350%
I-95 St. Johns	20331 NB	14	37	264%
I-10 Madison	20102 WB	23	27	193%
I-75 Columbia	20161 NB	49	75	153%
I-10 Baker	20122 WB	25	38	152%
I-75 Columbia	20162 SB	48	64	133%
I-75 Alachua	20172 SB	13	17	131%
I-10 Baker	20121 EB	25	31	124%
I-10 Madison	20101 EB	26	27	104%
I-95 St. Johns	20321 NB	73	76	104%
I-95 St. Johns	20322 SB	61	62	102%
US 27 Taylor ⁹	20150 N/S	10	0	0%
I-10 Columbia ⁹	20112 WB	15	0	0%
I-10 Suwannee ⁹	20111 EB		0	0%

Source: Analysis of Data collected for Truck Parking Implementation Study

Welcome Centers

District 2 welcome centers experienced utilization rates at or just over 100% during the observation period. The I-75 southbound (Facility # 20140) welcome center in Hamilton County experienced overutilization. The highest rates occurred on Tuesday and Friday between the hours of 9 P.M. and 11 P.M. A summary of the peak utilization for each welcome center in District 2 is provided in **Table 5**.

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Table 5: District 2 Welcome Center Peak Utilization

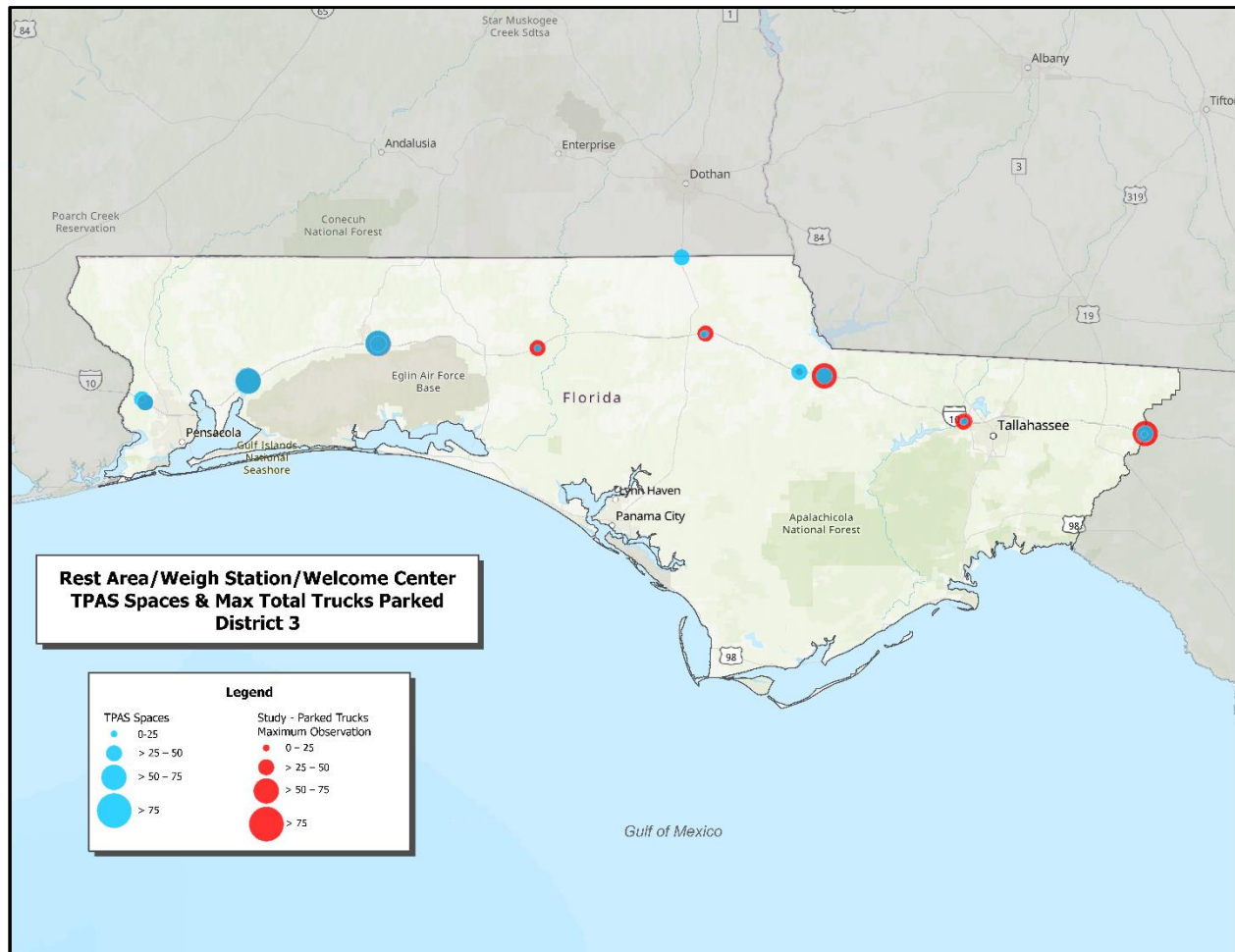
Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-75 Hamilton	20140 SB	39	42	108%
I-95 Nassau	20310 SB	43	43	100%

Source: Analysis of Data collected for Truck Parking Implementation Study

District 3

District 3 includes 4 weigh stations, 12 rest areas, and 2 welcome centers that support truck parking with a total of 597 monitored TPAS spaces. Based on the results of the data collection and engagement with District staff, most rest areas and welcome centers currently experience significant truck parking overutilization. **Figure 15** provides a map of peak utilization rates compared to monitored TPAS parking spaces at state-owned rest areas and weigh stations in District 3.

Figure 15: District 3 Truck Parking Utilization Map



Source: Utilization GIS Reporting Tool developed for Truck Parking Implementation Study

Weigh Stations

District 3 weigh stations experienced utilization rates less than 50% during the observation period. Counts were not conducted at the I-10 westbound (Facility # 30642) weigh station in Jackson County due to the facility being temporarily closed. A summary of the peak utilization for each weight station in District 3 is provided in **Table 6**.

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Table 6: District 3 Weigh Station Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-10 Escambia	30651 EB	38	12	32%
I-10 Jackson	30641 EB	37	11	30%
I-10 Escambia	30652 WB	37	9	24%
I-10 Jackson ⁹	30642 WB	36	0	0%

Source: Source: Analysis of Data collected for Truck Parking Implementation Study

Rest Areas

District 3 rest areas generally experienced overutilization each day during the observation period. The highest rates occurred on Monday, Tuesday, and Wednesday between the hours of 9 PM and 2 A.M. A summary of the peak utilization for each rest area in District 3 is provided in **Table 7**.

Table 7: District 3 Rest Area Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-10 Holmes	30050 E/W	14	33	236%
I-10 Jackson	30061 EB	8	16	200%
I-10 Jefferson	30092 WB	29	52	179%
I-10 Leon	30082 WB	25	43	172%
I-10 Leon	30081 EB	25	42	168%
I-10 Jefferson	30091 EB	25	41	164%
I-10 Jackson	30062 WB	23	34	148%
I-10 Okaloosa	30042 WB	52	70	135%
I-10 Gadsden	30070 E/W	42	52	124%
I-10 Okaloosa	30041 EB	48	56	117%
I-10 Santa Rosa	30031 EB	65	73	112%
I-10 Santa Rosa	30032 WB	67	75	112%

Source: Source: Analysis of Data collected for Truck Parking Implementation Study

Welcome Centers

The District 3 I-10 eastbound welcome center (Facility # 30010) in Escambia County experienced overutilization during the observation period. The highest rates occurred on Monday and Thursday between the hours of 12 A.M. to 2 A.M. Counts were not conducted at the US 231 southbound (Facility # 30020) welcome center in Jackson County. A summary of the peak utilization for each welcome center in District 3 is provided in **Table 8**.

Table 8: District 3 Welcome Center Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-10 Escambia	30010 EB	26	44	169%
US 231 Jackson ⁹	30020 SB	36	0	0%

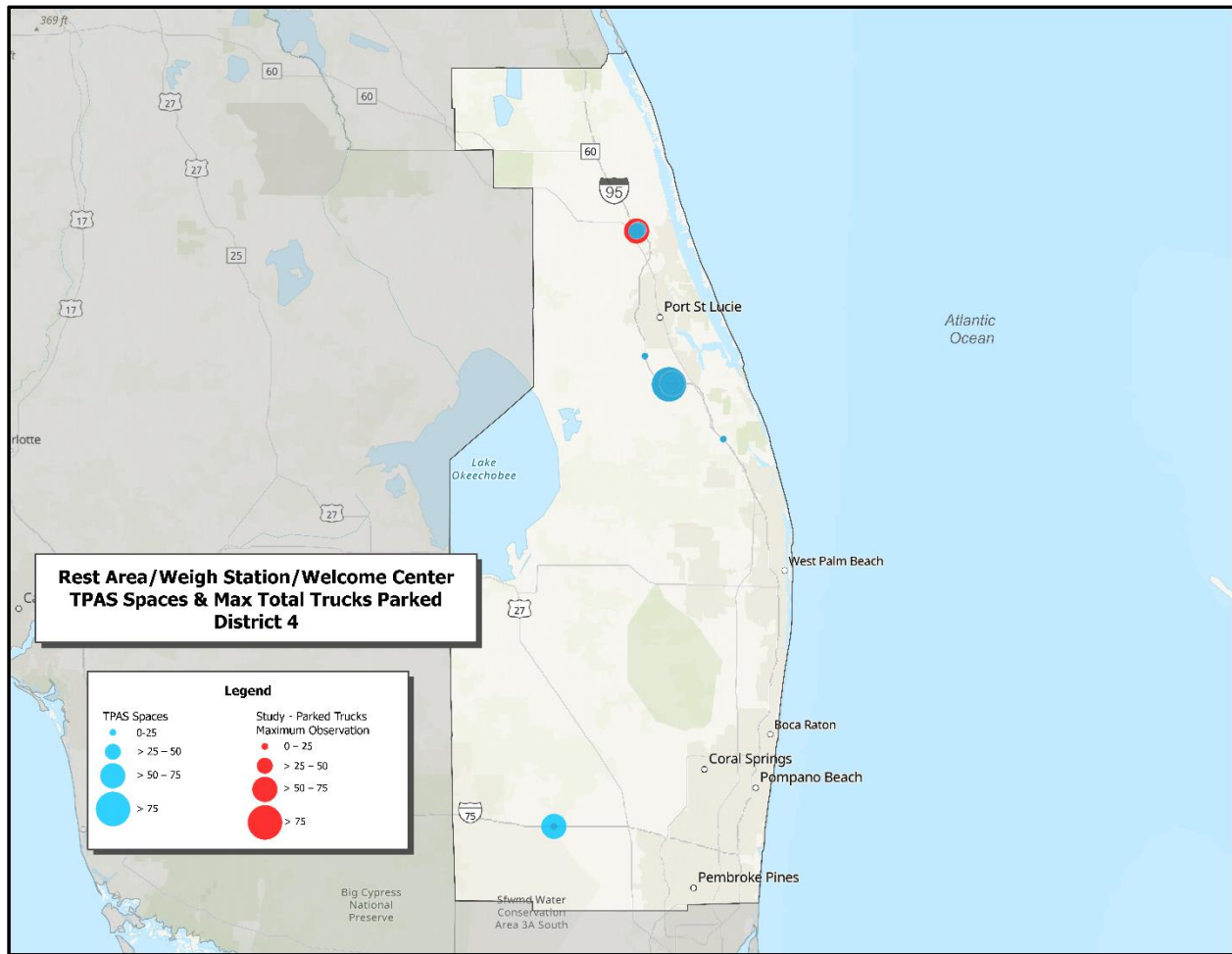
Source: Source: Analysis of Data collected for Truck Parking Implementation Study

District 4

District 4 includes 2 weigh stations and 5 rest areas that support truck parking with a total of 327 monitored TPAS spaces. Based on the results of the data collection and engagement with District staff, some state-owned parking facilities currently experience truck parking overutilization. **Figure 16** provides a map of peak utilization rates compared to monitored TPAS parking spaces at state-owned rest areas and weigh stations in District 4.

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Figure 16: District 4 Truck Parking Utilization Map



Source: Utilization GIS Reporting Tool developed for Truck Parking Implementation Study

Weigh Stations

District 4 weigh stations experienced utilization rates over 75% during the observation period, with the northbound facility experiencing some overutilization. A summary of the peak utilization for each weigh station in District 4 is provided in **Table 9**.

Table 9: District 4 Weigh Station Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-95 Martin	40679 NB	13	16	123%
I-95 Martin	40680 SB	22	19	86%

Source: Source: Analysis of Data collected for Truck Parking Implementation Study

Rest Areas

District 4 rest areas generally experienced utilization rates over 50% during the observation period. The I-95 southbound facilities in Martin (Facility # 40402) and St. Lucie (Facility # 40392) County were the only facilities that experienced overutilization. The highest rates occurred on Tuesday and Friday between the hours of 9 PM and 2 AM. A summary of the peak utilization for each of the rest area in District 4 is provided in **Table 10**.

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Table 10: District 4 Rest Area Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-95 St. Lucie	40392 SB	43	53	123%
I-95 Martin	40402 SB	85	95	112%
I-95 St. Lucie	40391 NB	44	41	93%
I-95 Martin	40401 NB	61	46	75%
I-75 Broward	40490 N/S	59	15	25%

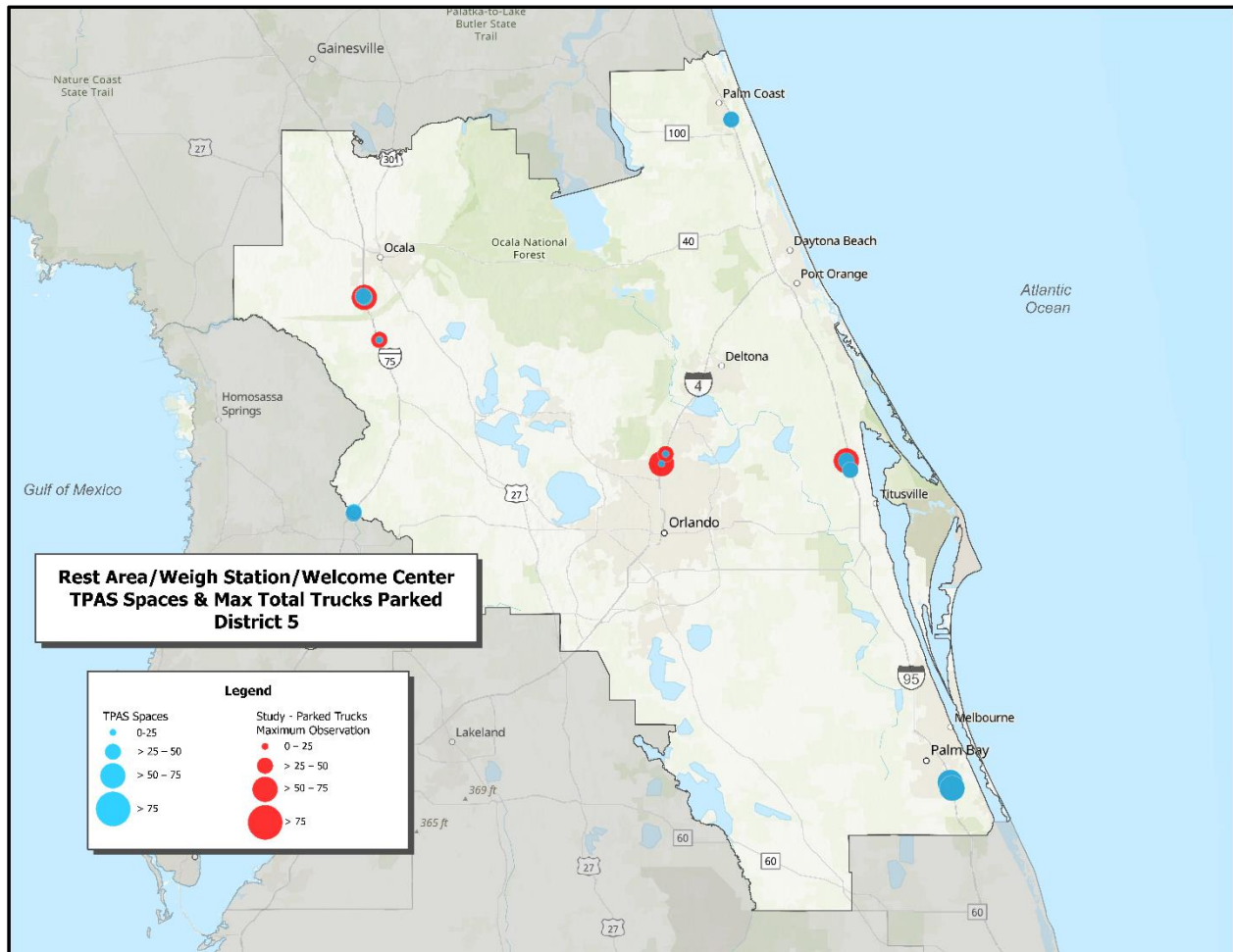
Source: Source: Analysis of Data collected for Truck Parking Implementation Study

District 5

District 5 includes 4 weigh stations and 10 rest areas that support truck parking with a total of 478 monitored TPAS spaces. Based on the results of the data collection and engagement with District staff, most state-owned parking facilities currently experience significant truck parking overutilization **Figure 17** provides a map of peak utilization rates compared to monitored TPAS parking spaces at state-owned rest areas and weigh stations in District 5.

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Figure 17: District 5 Truck Parking Utilization Map



Source: Utilization GIS Reporting Tool developed for Truck Parking Implementation Study

Weigh Stations

District 5 weigh stations experienced overutilization every day during the observation period except for Saturday. The highest rates occurred on Wednesday and Thursday between the hours of 12 AM and 5 AM. Counts were not conducted at the I-95 northbound (Facility # 50671) weigh station in Flagler County due to the facility being temporarily closed for construction. A summary of the peak utilization for each weigh station in District 5 is provided in **Table 11**.

Table 11: District 5 Weigh Station Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-75 Marion	50662 SB	19	35	184%
I-75 Marion	50661 NB	19	30	158%
I-95 Flagler	50672 SB	33	48	145%
I-95 Flagler ⁹	50671 NB	33	0	0%

Source: Source: Analysis of Data collected for Truck Parking Implementation Study

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Rest Areas

District 5 rest areas experienced overcapacity every day during the observation period. The highest rates occurred on Tuesday, Wednesday, and Thursday between the hours of 9 PM and 11 PM and between 3 AM and 5 AM. Counts were not conducted at the I-75 southbound (Facility # 50192) rest area due to the facility being temporarily closed. A summary of the peak utilization for each rest area in District 5 is provided in **Table 12**.

Table 12: District 5 Rest Area Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-4 Seminole	50222 WB	16	53	331%
I-4 Seminole	50221 EB	17	50	294%
I-95 Brevard	50342 SB	34	55	162%
I-95 Brevard	50341 NB	33	46	139%
I-75 Marion	50181 NB	46	54	117%
I-75 Marion	50182 SB	45	49	109%
I-95 Brevard	50382 SB	68	73	107%
I-75 Sumter	50191 NB	44	44	100%
I-95 Brevard	50381 NB	61	60	98%
I-75 Sumter ⁹	50192 SB	43	0	0%

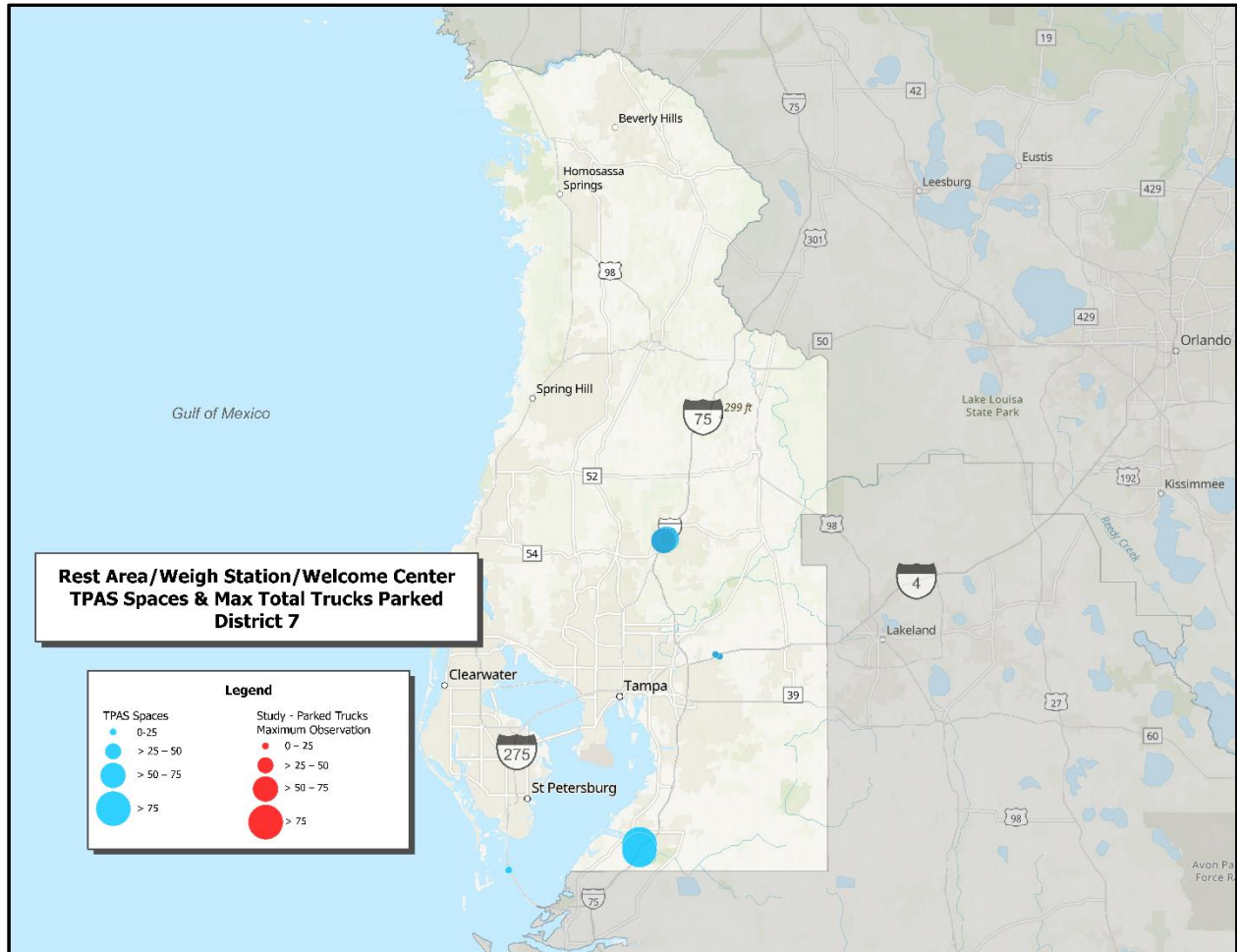
Source: Source: Analysis of Data collected for Truck Parking Implementation Study

District 7

District 7 includes 2 weigh stations and 5 rest areas that support truck parking with a total of 346 monitored TPAS spaces. Based on the results of the data collection and engagement with District staff, some state-owned parking facilities currently experience truck parking overutilization. **Figure 18** provides a map of peak utilization rates compared to monitored TPAS parking spaces at state-owned rest areas and weigh stations in District 7.

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Figure 18: District 7 Truck Parking Utilization Map



Source: Utilization GIS Reporting Tool developed for Truck Parking Implementation Study

Weigh Stations

District 7 weigh stations experienced near capacity or overutilization every day except for Friday and Saturday during the observation. The highest rates occurred on Monday. The I-4 eastbound weigh station (Facility # 70691) in Hillsborough County experienced overutilization between the hours of 12 AM and 5 AM. A summary of the peak utilization for each weigh station in District 7 is provided in **Table 13**.

Table 13: District 7 Weigh Station Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-4 Hillsborough	70691 EB	16	19	119%
I-4 Hillsborough	70692 WB	16	15	94%

Source: Analysis of Data collected for Truck Parking Implementation Study

Rest Areas

District 7 rest areas did not experience significant issues with overutilization during the observation period. The I-75 southbound rest area (Facility # 70242) in Pasco County experienced some overutilization during the observation period. The highest rates occurred on Sunday between the hours of 6 P.M. and 8 P.M. Counts were not conducted at the I-75 northbound (Facility # 70251) and southbound (Facility #

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70252) rest areas in Hillsborough County and I-275 north/south (Facility # 70360) rest area in Pinellas County. A summary of the peak utilization for each rest area in District 7 is provided in **Table 14**.

Table 14: District 7 Rest Area Peak Utilization

Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
I-75 Pasco	70242 SB	53	71	134%
I-75 Pasco	70241 NB	57	39	68%
I-75 Hillsborough ⁹	70251 NB	81	0	0%
I-75 Hillsborough ⁹	70252 SB	110	0	0%
I-275 Pinellas ⁹	70360 N/S	13	0	0%

Source: Analysis of Data collected for Truck Parking Implementation Study

⁹ Counts were not conducted due to temporary closure of facility

MCSAW Facilities Utilization Strategies



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MCSAW Facilities Utilization Strategies

The Office of Maintenance's (OOM) MCSAW division operates and maintains ten bi-directional interstate weigh station facilities that are used to enforce federal and state size and weight regulations, perform inspections, and provide safe and accessible truck parking. The weigh station facilities include truck parking accommodations and rest rooms for drivers whose trucks require additional inspection, are placed out of service, or for HOS mandated rest breaks.

The *MCSAW Facilities Utilization Strategies* section provides an overview of specific strategies that can be implemented at FDOT-owned weigh stations to increase truck parking at underutilized facilities. Enhanced amenities including the addition of Wi-Fi, vending machines, and signage were identified as low-cost solutions to improve parking utilization and encourage drivers to stop at these facilities. Additional communications and outreach strategies were identified to specifically target drivers through FDOT and industry-specific media.

Utilization Assessment

Although many rest areas along the interstate in Florida experience overutilization and parking in unauthorized areas, some weigh stations go underutilized with truck parking available throughout the day. A detailed assessment and analysis of truck parking utilization at all state-owned parking facilities including weigh stations, rest areas, and welcome centers was conducted in January and March of 2022 as part of this effort. This assessment included a review of Truck Parking Availability System (TPAS) data and observational counts of trucks parked in authorized and unauthorized locations at each parking facility using Closed-Circuit Television (CCTV) cameras and weigh station inspection staff. The results were then aggregated and analyzed at the Statewide, District, and facility levels to identify over and underutilized facilities.

Truck parking utilization data collected during the observation period indicates that many weigh stations statewide experienced peak utilization rates near or over capacity; however, facilities located along the I-10 corridor generally experienced peak utilization rates under 50%. A summary of the peak utilization rates for each weigh station during the observation period is provided in **Table 15**.

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Table 15: Summary of Statewide Weigh Station Peak Utilization

District	Corridor	Facility	TPAS Spaces	Trucks Parked	Peak Utilization
3	I-10 Pensacola	30652 WB	37	9	24%
3	I-10 Sneads	30641 EB	37	11	30%
3	I-10 Pensacola	30651 EB	38	12	32%
2	I-10 Madison	20632 WB	20	10	50%
1	I-75 Punta Gorda	10601 NB	23	19	83%
1	I-75 Punta Gorda	10602 SB	23	19	83%
4	I-95 Martin	40680 SB	22	19	86%
7	I-4 Seffner	70692 WB	16	15	94%
2	I-95 Yulee	20612 SB	25	24	96%
7	I-4 Seffner	70691 EB	16	19	119%
4	I-95 Martin	40679 NB	13	16	123%
2	I-75 White Springs	20621 NB	25	35	140%
5	I-75 Flagler	50672 SB	33	48	145%
5	I-75 Wildwood	50661 NB	19	30	158%
5	I-75 Wildwood	50662 SB	19	35	184%

Source: Analysis of Data collected for Truck Parking Implementation Study

Strategies to Increase Utilization

Stakeholder outreach with key trucking industry associations performed during this study indicated that offering certain amenities like Wi-Fi, vending machines, and showers could increase truck parking at weigh stations by making them more appealing to drivers. Additional strategies identified to increase truck parking utilization at weigh stations include enhanced roadside signage that identifies facilities with truck parking and specific amenities as well as improved communication and outreach to the trucking industry on the availability of truck parking at weigh stations through mixed media marketing.

Enhanced Amenities

Currently, all interstate weigh station facilities offer basic amenities like bathrooms, but often lack additional comforts such as soda and vending services as summarized in

Table 16. Facilities along the I-10 corridor (highlighted in green) were identified as initial pilot locations to receive Wi-Fi and vending machines to increase utilization at the weigh stations. This evaluation was based on the high utilization of nearby rest areas along the corridor which currently offer soda and vending machines in addition to restrooms.

Truck Parking Implementation Study

Table 16: Summary of Amenities Offered at Weigh Station Facilities

Amenities					
District	Corridor	Facility	Restrooms	Soda Machine	Vending Machine
1	I-75 Punta Gorda	10601 NB	✓	✓	
1	I-75 Punta Gorda	10602 SB	✓	✓	✓
2	I-95 Yulee	20611 NB	✓		
2	I-95 Yulee	20612 SB	✓		
2	I-10 Madison	20631 EB	✓		
2	I-10 Madison	20632 WB	✓		
2	I-95 White Springs	20621 NB	✓		
2	I-95 White Springs	20622 SB	✓		
3	I-10 Pensacola	30651 EB	✓		
3	I-10 Pensacola	30652 WB	✓		
3	I-10 Sneads	30641 EB	✓	✓	
3	I-10 Sneads	30642 WB	✓	✓	
4	I-95 Martin	40679 NB	✓		
4	I-95 Martin	40680 SB	✓		
5	I-95 Flagler	50671 NB	✓	✓	✓
5	I-95 Flagler	50672 SB	✓	✓	✓
5	I-75 Wildwood	50661 NB	✓	✓	☞
5	I-75 Wildwood	50662 SB	✓	✓	✓
7	I-4 Sefner	70691 EB	✓		✓
7	I-4 Sefner	70692 WB	✓		✓

Source: FDOT Motor Carrier Size and Weight

Wi-Fi

Wi-Fi is a wireless internet connection, generally to cellular phones, tablets, or computers, that provides users with access to internet services. Wi-Fi is often considered a basic amenity for the traveling public, with many public and private rest stops, gas stations, and restaurants offering free wireless internet connections to attract customers. Interviews with trucking industry associations indicate that truckers are no different, with many of their driver members highlighting Wi-Fi as one of the amenities that they consider when determining where to park to meet HOS requirements. Failure to provide a complimentary Wi-Fi service can put public parking facilities, like weigh stations, at a disadvantage when trying to attract drivers. The addition of Wi-Fi services at underutilized MCSAW weigh station facilities will provide an additional amenity that could attract truck drivers that may otherwise not stop.

Overview of Services/Process

FDOT currently provides public Wi-Fi access services at select rest areas and welcome centers throughout the state. These wireless internet connections are intended to allow for data transmission that can accommodate internet browsing and some audio and video streaming, especially in rural areas that lack sufficient cellular data service. This service is provided through a statewide vendor contract to manage the operations, maintenance, and expansion of Wi-Fi at public parking facilities.

The current statewide vendor contract is scheduled to expire in January 2023 and a new contract will be advertised for procurement to avoid any gaps in Wi-Fi coverage. The new contract will include scope language that provides for Wi-Fi deployment at select weigh stations in addition to Welcome Center and

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rest areas. Once the contractual mechanism is in place, Wi-Fi services can be deployed at underutilized weigh stations as an added amenity to attract drivers and increase truck parking utilization. Wi-Fi services will utilize a separate device at each directional weigh station to provide coverage comprehensive coverage for drivers at each facility.

In response to communications and connectivity challenges during the Hurricane Ian emergency management and relief efforts, satellite internet services were utilized by FDOT as an alternative to existing Wi-Fi telecommunications services. Although this service is relatively new to FDOT, initial results have indicated satellite internet as a viable alternative to fiber or cellular-based services and should be explored for future deployment at weigh stations and rest areas.

Cost Estimates

To estimate potential costs for Wi-Fi deployment at individual weigh stations, a review of the existing Wi-Fi contract installation, maintenance, and service charge costs associated with an individual welcome center or rest area was performed. Based on that review, an initial cost of **\$25,000** would be incurred at each bi-directional weigh station facility for installation and hardware with a monthly internet service fee of **\$750** per site. The total annual WI-FI cost for each weigh station facility is estimated to be approximately **\$34,000**. For Wi-Fi service at all 20 interstate weigh station facilities, the estimated annual cost would be approximately **\$680,000**.

Vending Services

Vending machines including soda and snacks were consistently noted as preferred amenities at public parking facilities like rest areas, welcome centers, and weigh stations during interviews with industry stakeholders. Although vending services are not a replacement for meals, they can provide an alternative food and drink option for drivers using state-owned parking facilities for their mandated rest breaks.

Overview of Services/Process

FDOT vending services are currently provided and maintained by the Florida Department of Education Division of Blind Services under the Business Enterprise Program (BEP) at state-owned rest areas, welcome centers, and weigh stations that offer to vend. The BPE program provides training, licensing, and vending machines to program participants at sites across the state.

The Division of Blind Services has the first right to offer expanded services at state-owned locations. A third party may be used if the Division declines to offer service at a location. The BEP has a clearly defined procurement processes to acquire services that have been examined for potential expansion of vending services at currently unserved weigh station facilities. Requests for new vending services at MCSAW weigh stations will be coordinated with the Division of Blind Services and implemented as determined by BEP.

Enhanced Signage

During outreach with trucking industry associations, it was noted that the existing weigh station signage may be unclear to drivers as to whether truck parking is available at a facility and what amenities are offered. Specifically, the term “Comfort Station” currently used on weigh station roadside signs was identified as not providing a clear message that truck parking is available at that location. To enhance weigh station truck parking and amenities messaging, updated roadside signage was developed to replace or supplement existing signage including new signs for Wi-Fi, Vending, and Truck Parking.

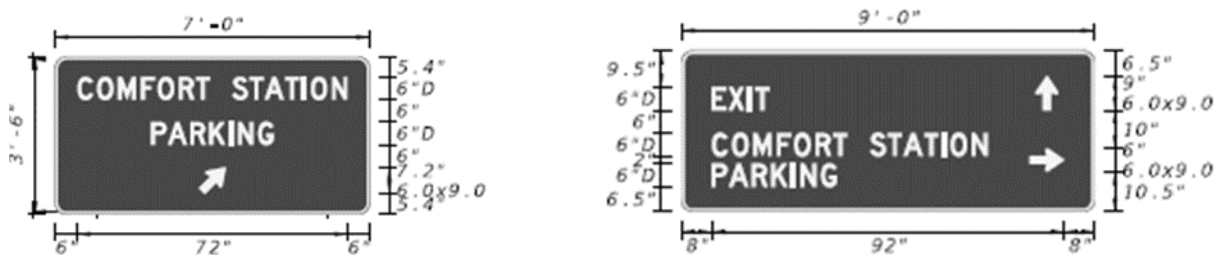
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FDOT highway signage is regulated by the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) and the Standard Highway Signs supplement, which provide national standards and criteria for interstate and highway signs. The MUTCD Section 2I.03 allows up to six general road user services to be attached below an interchange guide sign.

Existing Signage

Existing weigh station signage is currently provided along interstate rights of way upstream from each weigh station to alert truck drivers of the weigh station ahead and just before the ramp to highlight the availability of a comfort station, which includes truck parking and limited amenities. **Figure 19** highlights the existing weigh station highway signage.

Figure 19: Existing Weigh Station Highway Signs



Source: FDOT Highway Signing Program

Proposed Signage

Proposed weigh station signage was developed with input from industry stakeholders and in coordination with MCSAW staff and the FDOT Highway Signs Program to ensure that sign concepts met the MUTCD requirements and could be implemented according to FDOT policies and procedures.

The existing “Comfort Station Parking” and “Exit, Comfort Station Parking” signs currently located along the highway or ramp at each facility are recommended for replacement with new signs highlighting truck parking and the inclusion of supplemental signage identifying available amenities like Wi-Fi, restrooms, and vending machines. A supplemental sign to the existing “Weigh Station, 1 Mile” sign is also recommended to include signage for truck parking and amenities. **Table 17** provides an overview of the proposed weigh station signage.

Table 17 Proposed Weigh Station Signage

Existing Sign	Supplemental Sign	Placement and Color	Replacement /Overlay Sign
“Weigh Station 1 Mile”	“Vending – Wi-Fi – Truck Parking”	Below main sign, Blue	
“Truck Parking Sign”	“Vending – Wi-Fi”	Below main sign, Blue	“Comfort Station Parking”
“Exit, Truck Parking”			“Exit, Comfort Station Parking”

Source: Concepts developed for Truck Parking Implementation Study

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Weigh Station 1 Mile

Supplementing the existing “Weigh Station 1 Mile” sign with additional signage highlighting available truck parking and amenities at each weigh station provides advance notice to truck drivers to assist in making truck parking and rest break decisions when approaching a weigh station. **Figure 20** provides a conceptual design of the proposed “Weigh Station, 1 Mile” sign.

Figure 20: Proposed Weigh Station 1 Mile Sign



Figure 21: Proposed Truck Parking Sign

Truck Parking Sign

Replacement or overlay of the existing “Comfort Station Parking” sign with a “Truck Parking” sign that includes supplemental signage for amenities will provide a clear message to truck drivers regarding the availability of truck parking at each interstate weigh station. **Figure 21** provides a conceptual design of the proposed “Truck Parking” sign.



Exit, Truck Parking

Replacement or overlay of the existing “Exit, Comfort Station” signage with an “Exit, Truck Parking” sign will further enforce clear messaging that truck parking is available at weigh stations along with certain amenities. **Figure 22** provides a conceptual design of the “Exit, Truck Parking” sign.



Figure 22: Proposed “Exit, Truck Parking Sign

Cost Estimates

Estimated costs for the replacement and supplemental signage are summarized in **Table 18**. The total estimated combined costs for the process include acquisition and installation which is estimated to be completed for approximately \$2,500 per weigh station facility.

Table 18: Enhanced Signage Cost Estimates

Sign	Square Feet	Acquisition Cost	Installation Cost	Total
“Weigh Station 1 Mile”	16	\$318	\$550	\$868
“Truck Parking Sign”	24.5	\$460	\$550	\$1,010
“Exit, Truck Parking”	3.5	\$66	\$550	\$616
Total		\$844	\$1,650	\$2,494

Source: Cost Estimates developed for Truck Parking Implementation Study in coordination with FDOT

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Outreach Strategies

To effectively communicate the availability of truck parking provided at weigh stations, a range of outreach and communication strategies must be utilized to ensure drivers are aware of truck parking locations, available amenities, and FDOT parking policies in advance of and during their trips. Existing and proposed highway signage including advance notification and exit signs, TPAS availability signs, and dynamic messaging signs provide drivers with parking location and availability information for specific facilities as they approach while driving on the interstate but do not always have easy and reliable access to this information when planning for parking.

Communication strategies that utilize a variety of media types and platforms should be implemented to increase awareness of truck parking at weigh stations in addition to the existing highway signage and the Florida 511 application. Mixed media marketing strategies like news releases, public service announcements, social media, online advertisements, national radio shows, and online video or television commercials can reach much wider geographic and demographic audiences than current communication methods. These strategies also provide innovative opportunities for enhanced messaging that can be quickly updated with current information or tailored to meet the needs of specific driver groups or locations. The following sections identify specific communication and outreach strategies to increase truck parking at underutilized FDOT interstate weigh stations.

Online News Releases and Public Service Announcements (PSAs)

The FDOT Communications Office provides news releases and PSAs on the official FDOT website under the Newsroom page for numerous topics including emergency management activities, safety campaigns, project updates, construction and traffic operations notifications, funding programs, grant awards, etc. This existing online platform should be leveraged as an easily implementable communication and outreach strategy to raise awareness of truck parking and available amenities at FDOT weigh stations. News releases and announcements published on the FDOT Newsroom site can also provide a useful link for social media posts, partner agencies and third-party organizations, and would appear in online search engine results.

Florida Highway Safety and Motor Vehicles (FLHSMV) maintains a similar Newsroom page on its official website that provides news and press releases, videos, social media feeds, a campaign calendar, and community outreach events. As the lead commercial vehicle safety and enforcement agency in Florida, FLHSMV plays a critical role in safety and operations enforcement at weigh stations and has been a key partner with FDOT in identifying solutions to address the statewide truck parking shortage. Similar to the FDOT Newsroom page, the FLHSMV website provides an existing online platform that can be utilized to increase messaging and awareness related to truck parking at interstate weigh stations.

Social Media and Email

Online social media and communication platforms are an easily accessible and well-established communications strategy that can be leveraged by FDOT and its partners to bring awareness to truck parking availability at interstate weigh stations. In addition to social media posts about truck parking, email newsletters can be utilized for direct communication and targeted outreach to members of the trucking industry.

Owned media provides a fast and simple method to disseminate truck parking messaging and information utilizing existing FDOT-owned and operated social media accounts including Twitter, Instagram, Facebook,

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and LinkedIn. The FDOT Facebook account currently has around 52,000 followers and has separate accounts for each District, while FDOT's Twitter account has approximately 32,000 followers. Posting information, messaging, news releases, and project updates related to truck parking at weigh stations on these accounts is the easiest and most inexpensive way to increase awareness through media outreach, allowing FDOT to reach an expanded and more diverse group of stakeholders than other strategies.

Earned media can work in conjunction with existing FDOT social media accounts by leveraging partner agencies and industry stakeholders to “share” weigh station and other truck parking information on their social media accounts, which will allow FDOT to reach an even broader group of truck parking stakeholders. Sharing or re-posting messaging and links from FDOT-owned social media accounts can happen by chance or can be influenced through coordination with key partner agencies, industry associations, and other trucking stakeholders that have an interest in amplifying posts about safe and available truck parking along Florida's interstates.

FDOT operates and maintains an extensive “self-service” email distribution list through its Contact Management System that provides automatically generated emails with relevant FDOT notices, updates, and information to subscribers. This system also allows for correspondence with targeted groups through the Contact Mailer function. This system could be used to provide truck parking-related email newsletters, updates, and other relevant information. These email notifications can also be forwarded and sent out by partner agencies and private industry, like the Florida Truck Association, to their email distribution and member lists, further expanding the audience and stakeholders these messages can reach.

Video

FDOT uses video media as a key communication and outreach strategy to highlight informational and safety campaigns like Alert Today Alive Tomorrow, public involvement activities, project updates, training and conferences, and other transportation initiatives. Many of these videos are produced in-house through the Communications Office or utilizing available contract resources. The FDOT YouTube channel provides an existing online video platform that can be used to post video messaging related to the availability of truck parking at weigh stations. This outreach strategy allows for dynamic visual messaging that can show truck drivers what the facilities look like, available amenities, security, and other relevant facility and operations information.

Industry Radio Shows and Blogs

Truck drivers spend the majority of their working and off-duty time in the cab of their trucks, making radio media a critical communication and outreach strategy to reach drivers without requiring them to use a handheld device or computer. Satellite radio services like SiriusXM provide uninterrupted national coverage, making them a preferred service for long-haul truck drivers.

Additionally, there are several SiriusXM radio shows focused on the trucking industry like Road Dog Trucking, Land Line now, and Radio Nemo that are popular among truck drivers and provide important industry, operations, and traffic information to their listeners. National trucking radio shows present an opportunity for FDOT and its partner agencies to provide coordinated messaging on the availability of truck parking at weigh stations and other state-owned facilities through interviews, news releases, and public service announcements.

Trucking industry blogs are another communications and outreach strategy that can be leveraged to highlight FDOT truck parking initiatives and increase utilization at weigh stations and other underutilized

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state-owned parking facilities. Although not as readily accessible to truck drivers as national radio shows, these industry blogs provide critical industry information to their readers and are often associated with a publication, magazine, radio show, or industry expert, allowing each to reach specific audiences that can be targeted by FDOT for truck parking messaging and news.

Alternative Parking Solutions



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Alternative Parking Solutions

The *Alternative Parking Solutions* section provides an overview of proposed alternative parking solutions that were identified during the development of the *Truck Parking Implementation Study*. Alternative parking solutions were identified based on a comprehensive review of Federal, State, and District truck parking studies including strategies identified in the FHWA National Coalition on Truck Parking Working Groups, FDOT Statewide Truck Parking Study, and various FDOT District studies and plans developed to address the truck parking shortage in Florida. Additionally, input from trucking industry associations including ATA, FTA, and OOIDA was leveraged to refine and update the proposed alternative parking solutions and strategies.

Alternative parking solutions were generally organized into two groups: strategies that can be implemented at existing rest areas, welcome centers, and weigh stations; and strategies that can be implemented through alternative uses of FDOT ROW or in coordination with partner agencies. While all state-owned parking facilities provide some amount of truck parking, reviews performed during this study indicate expansion opportunities that can be implemented within the existing ROW using the following alternative parking strategies:

- ↻ Designing for back-in parking
- ↻ Allowing parallel parking on shoulders and ramps
- ↻ Re-purposing amenities
- ↻ Converting greenspace

A review of FDOT-owned parcels and ROW indicate that there are opportunities for truck parking capacity expansion along Florida's interstates that could provide similar access for drivers that existing rest areas and weigh stations provide. Partner agency assets were also reviewed, identifying numerous state-owned facilities that could be leveraged for or converted to accommodate truck parking using the following alternative parking strategies:

- ↻ Rehabilitating closed or abandoned rest areas
- ↻ Converting Interchange infields and medians
- ↻ Utilizing parcels adjacent to private parking facilities
- ↻ Partnering with other state or local agencies

Additionally, a high-level review of FDOT planning and design guidance documents was performed to identify existing specifications and guidance related to truck parking. Specific engineering and implementation considerations that should be incorporated into the planning and design of future alternative truck parking concepts and solutions are outlined further in this document. Detailed concepts for Alternative Parking Solution can be found in **Appendix D**.

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Strategies

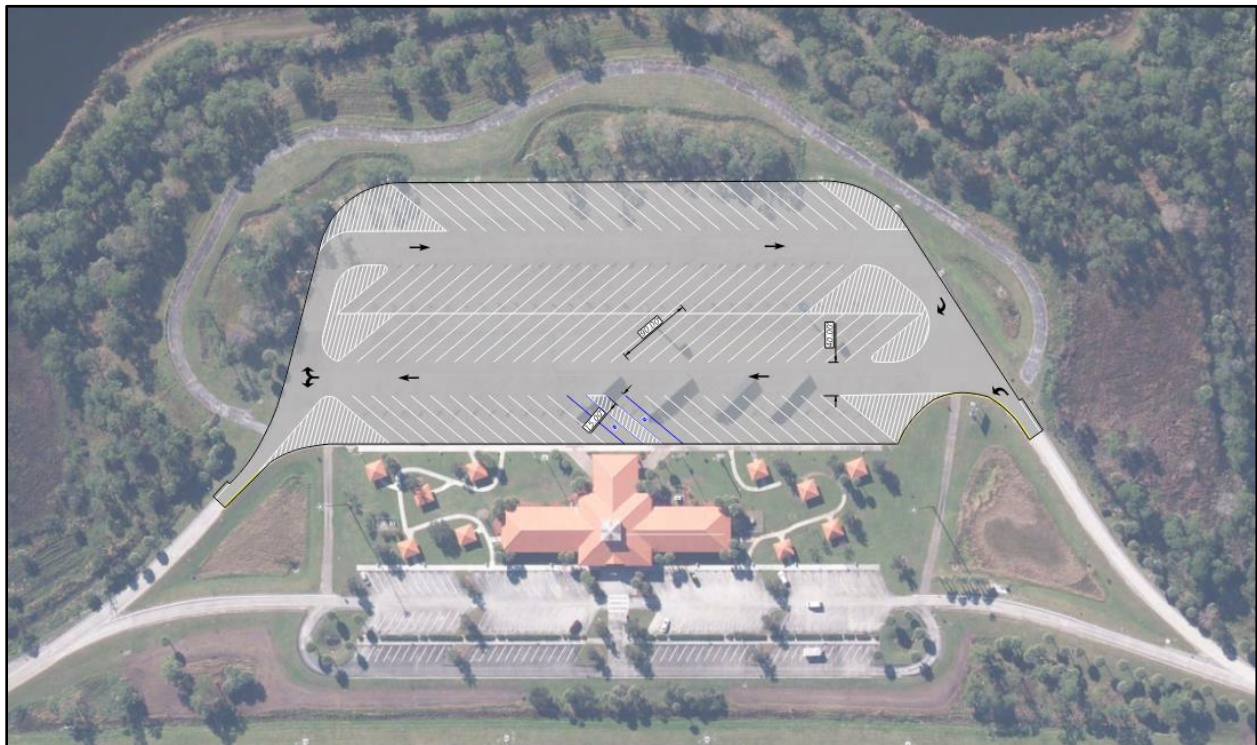
Specific strategies to maximize the existing layout and available ROW at state-owned rest areas, welcome centers, and weigh stations were developed including the use of back-in parking, parallel parking along ramps and shoulders, re-purposing amenities like picnic area loop roads to accommodate additional truck parking, and the conversion of existing green space into additional parking capacity.

Back-In Parking

FDOT has traditionally accommodated truck parking at state-owned rest areas, welcome centers, and weigh stations using a “pull-through” design strategy that requires both an entrance and exit lane wide enough to accommodate the through truck movements. Many private truck parking facilities, however, utilize a “back-in” design strategy to maximize the number of truck parking spaces that can be accommodated. A back-in parking layout only requires a central travel lane to accommodate trucks backing into and pulling out of a designated space.

Analysis performed during this effort showed that the use of back-in versus pull-through parking can result in significant increases in truck parking within the same area due to reduced travel lanes associated with pull-through parking. **Figure 23** highlights a back-in parking concept that was developed for an existing FDOT rest area which resulted in approximately 30% more parking spaces within the same pavement square footage as the existing pull-through design.

Figure 23: Back-In Parking Concept



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Parallel Parking on Shoulders and Ramps

The national truck parking shortage, along with recent changes to HOS rules requiring drivers to take mandatory rest periods have resulted in unauthorized parking at rest areas, welcome centers, weight stations, and interchanges along entrance and exit ramps. This often results in trucks parked within the clear zone, causing a fixed object safety hazard, while increasing the maintenance and repair of shoulders, light poles, signs, and delineators.

Rest areas and weigh stations were analyzed to determine if additional parallel parking spaces are feasible within the existing ROW. This strategy would allow Districts to construct parallel parking along the rest area ramps if they do not extend beyond the Interstate gore area, subject to engineering judgment and individual site constraints. At a minimum, sight distances must be considered, and the parking spaces cannot encroach into the Interstate clear zone. Driver safety for access to facility amenities should also be considered when determining parking area dimensions. **Figure 24** highlights a parallel parking concept that was developed for an existing FDOT rest area which resulted in an additional 18 truck parking spaces along the shoulder.

Figure 24: Parallel Parking Concept



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Repurposing Amenities

Picnic loops have been a long-standing amenity provided at FDOT rest areas, allowing drivers and families a safe and secure area for rest, dining, and physical activity set apart from designated passenger vehicle and truck parking areas. Increased commercial development of most interstate interchanges in Florida has reduced the need and demand for travelers to utilize these picnic areas, resulting in the removal of picnic loops at many recently reconstructed rest areas throughout the state. Additionally, picnic loops are generally open only during daytime hours and are closed from dusk to dawn as a security precaution, which has resulted in these areas being underutilized when truck parking demand is at its peak.

Reduced demand and limited hours of operation of existing picnic loops present an opportunity to accommodate increased truck parking at existing facilities with minimal construction activities. Picnic loops at select rest areas were analyzed to determine if the existing pavement can provide an adequate turning radius for trucks to safely park and maneuver as they enter and exit a parking space. Although not all picnic loops will provide adequate pavement width, it was determined that some can be repurposed with existing pavement to accommodate 10 or more truck parking spaces, while others would require minimal shoulder width expansion for similar results. **Figure 25** highlights a repurposed picnic loop concept that was developed for an existing FDOT rest area, resulting in an additional 23 truck parking spaces along the roadway and shoulder. This approach should also consider necessary upgrades to safety accommodations including lighting and the expansion of security to patrol the picnic loop during the initial evaluation.

Figure 25: Repurposed Picnic Loop Concept



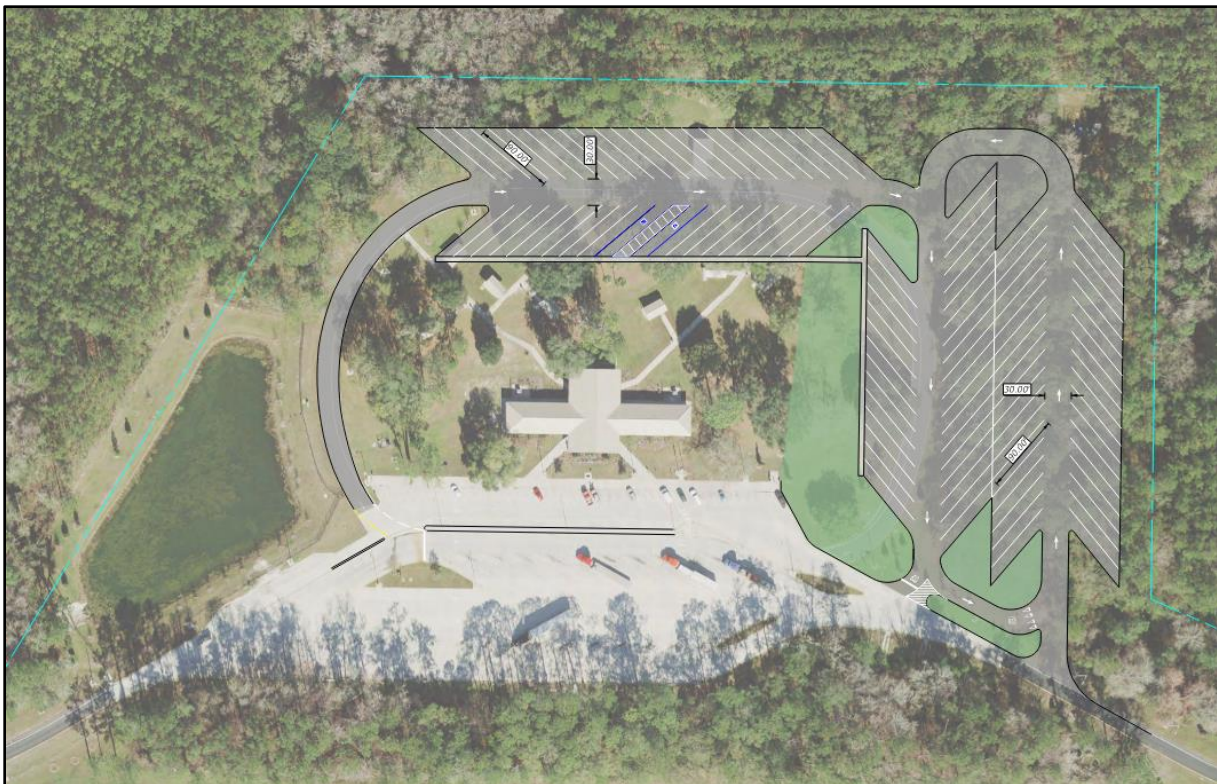
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Convert Green Space

FDOT rest areas and welcome centers have often prioritized green space for picnic pavilions, walking trails, and natural landscaping to enhance the user experience by providing additional amenities outside of parking, restrooms, and vending machines. Although these open spaces have historically been considered a hallmark of Florida rest areas, they are often underutilized or unused today. This assessment was confirmed during site visits completed as part of the 2020 FDOT Rest Area Long Range Plan, in which ten facilities were selected for field reviews to better understand rest area operations and collect data on the use of amenities. During the field reviews, it was observed that most visitors ate in their cars, while the picnic areas were primarily used by smokers or individuals using mobile phones. Significant underutilization of the picnic areas was observed during each field review.¹⁰

Converting existing picnic areas and excess green space into truck parking would leverage readily available land within the existing ROW for additional truck parking capacity with minimal impacts to existing parking facilities. This strategy can be implemented into future rest area design and reconstruction efforts or incorporated as standalone projects at facilities that have recently been updated, but experience overutilization of their current truck parking configuration. When exploring opportunities to convert existing rest area green space to truck parking, care should be taken to identify existing drainage facilities; utilities like septic tanks, spray fields, pump stations, and pipes; and wetlands or other environmental features that should be taken into consideration or avoided during the concept development and design process. **Figure 26** highlights a converted green space concept that was developed for an existing FDOT rest area which resulted in an additional 115 truck parking spaces utilizing a back-in parking strategy.

Figure 26: Converted Green Space Concept



¹⁰ (FDOT Office of Maintenance, 2022)

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Alternative ROW

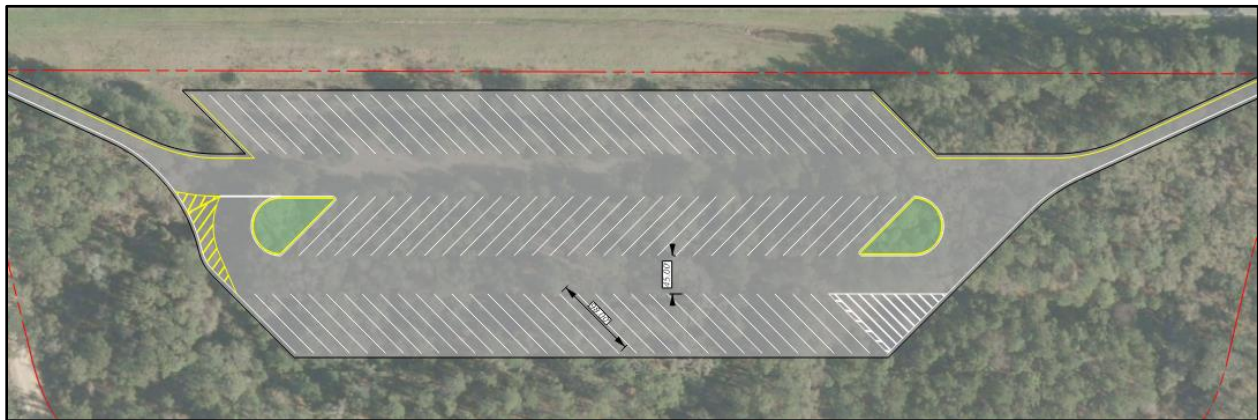
Alternative uses of FDOT ROW for truck parking were also analyzed during this effort. These strategies include repurposing closed or abandoned rest areas, utilizing interchange infields and medians, developing adjacent parcels to existing private facilities, and the use of existing partner agency parking facilities like agriculture inspection stations or Florida's seaports.

Closed/Abandoned Rest Areas

Population growth and changing travel patterns due to increased development along Florida's interstates resulted in some aging FDOT rest areas being closed or moved to a location that is more suitable for rest area and parking needs, often leaving state-owned parcels within the limited access ROW that could be rehabilitated to support truck parking capacity. Abandoned interstate rest area sites across the state were identified with no buildings, amenities, or pavement that could be re-purposed into truck-only parking facilities that utilize a combination of pull-through, back-in, and parallel parking strategies to maximize parking within the available ROW.

Further traffic and environmental analysis may be recommended to assess weaving impacts to upstream and downstream interchanges and ensure that sufficient entrance and exit ramp length can be accommodated within the existing ROW. **Figure 27** highlights a truck parking concept that was developed for a closed FDOT rest area which resulted in 103 new truck parking spaces.

Figure 27: Closed Rest Area Concept



Interchange Infields

The use of interchange infields, and in some cases large medians, for truck parking has been identified by FHWA as a potential low-cost strategy for states to increase parking capacity within existing ROW. Under certain conditions, these state-owned parcels can provide convenient capacity for truck parking, while reducing the need for parking in unauthorized locations like entrance and exit ramps. Preferred sites should typically be located in rural areas away from major residential developments, with large infield areas that can accommodate the movement of trucks into and out of the facility.

Potential interchange infield locations may also serve as staging areas on freight-heavy corridors or during emergency management activities. Minimal amenities would be required such as portable or vault toilets

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with the existing high mast lighting within the interchange being sufficient in most cases. **Figure 28** highlights a median concept that resulted in 40 new truck parking spaces.

Figure 28: Interchange Infield Concept



Private Parking Adjacent

With much of the truck parking capacity being provided by private truck stops that offer full-service amenities including fuel, food, and showers, some states and FDOT Districts have begun to explore opportunities to convert existing state-owned property or purchase ROW for new truck parking facilities adjacent to existing truck stops. This strategy would allow drivers to take advantage of the services offered by the private facility while minimizing the costs to FDOT associated with the construction and maintenance of basic amenities like bathrooms and vending. An agreement in the form of a long-term lease or maintenance contract between FDOT and the private facility operator would be required for this strategy to be fully implemented.

Partner Agency Opportunities

Partner agencies like the Florida Department of Agriculture and Consumer Services (FDACS) offer an opportunity to expand truck parking at state-owned facilities that often have existing pavement areas that can accommodate truck parking with minimal to no improvements. FDACS supports multiple State Farmers Markets and inspection sites throughout the state, often located along critical truck routes or in areas with heavy freight and agricultural uses.

Florida has approximately two dozen State Farmers Market and Agricultural Inspection sites operated by FDACS. Many of these sites provide an opportunity for additional truck parking but may require FDOT to fund improvements or expansion of existing facilities and routine operations and maintenance including

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garbage collection and additional lighting. State Farmers Markets are self-supporting operations, often open 24 hours a day, that generate operating revenue and income through various fees, rentals, and other services.¹¹ The Pompano State Farmers Market currently provides truck parking services to local and long-haul truck drivers, which can be used as an example for other State Farmers Markets to help address the truck parking shortage, especially in underserved areas, and generate income for facility operations.

Some Districts are also actively working with local governments to identify potential sites and partnership opportunities to develop and deploy truck parking facilities that would be operated and maintained by the local government or a third-party provider. Additionally, Florida's seaports may provide an opportunity to accommodate truck parking at existing facilities during overnight or off-peak hours that would not disrupt existing port operations. This strategy would also meet the needs of truck drivers by providing parking and staging near their destination, minimizing potential delays caused by traffic during peak hours.

Engineering and Implementation Considerations

While FDOT provides manuals, standards and specifications for planning, design, and construction, no one publication lists all requirements for new truck parking facilities and reconstructed areas at weigh stations, rest areas, and welcome centers. A review of existing FDOT-approved design guidance documents was performed to identify applicable current design standards for truck parking. This review included the following documents:

- ↻ Building Facilities Design Manual (2020)
- ↻ FDOT Design Manual (FDM) (2022)
- ↻ Standard Plans for Road Construction (2022)
- ↻ Flexible and Rigid Pavement Design Manuals (FPDM and RPDM) (2022)
- ↻ Drainage Design Guide (2022)
- ↻ Florida Greenbook (2018)

Additional engineering and design considerations specific to truck parking facilities are proposed and described in the following sections.

Engineering and Design Considerations

Engineering considerations include specifications and guidelines specific to the design of truck parking facilities which include geometry, pavement, and drainage design.

Geometry

Department parking facilities should be designed for the Florida Interstate Semitrailer WB-62FL, according to Chapter 201 of the *FDOT Design Manual*. The AASHTO WB-109D should be used as the design vehicle for facilities that permit the use of tandem trucks. AUTOTURN, a CADD-based vehicle turning path program, can be used to determine the swept path of the design vehicle to ensure a design will function properly.

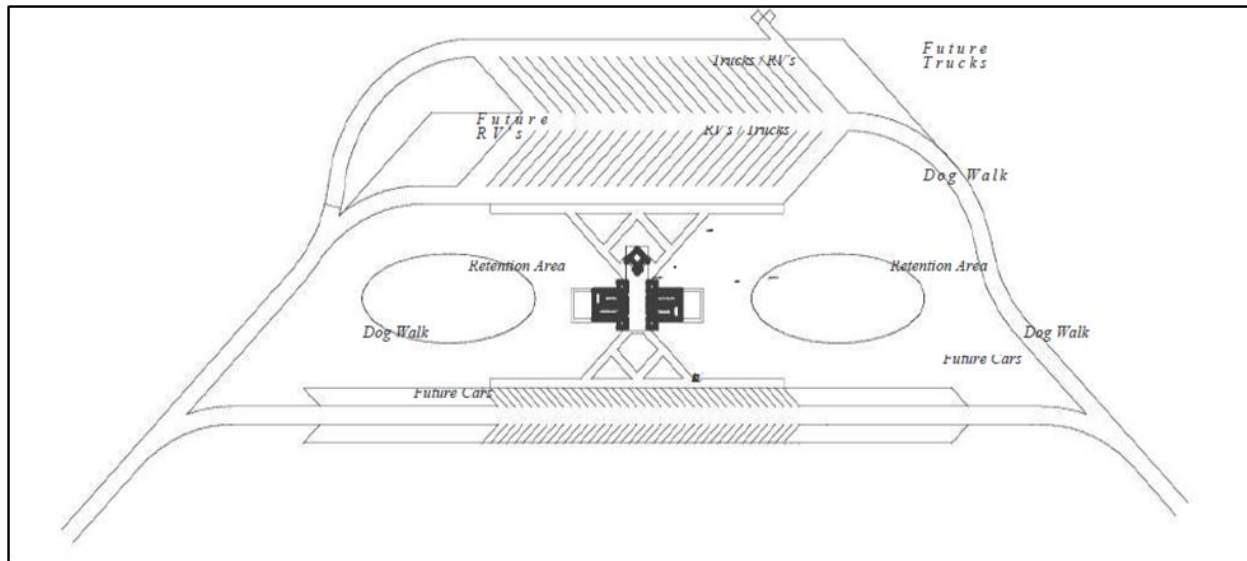
FDOT facilities have traditionally been designed for pull-through truck parking, as detailed in the *FDOT Building Facilities Design Manual, Topic No. 625-020-016e*. This design necessitates both an entrance and exit lane, each 20'-30' wide, to fully accommodate a WB-62FL Design Vehicle as shown in **Figure 29**.

¹¹ (Florida Department of Agriculture and Consumer Services, 2022)

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Tighter angled parking allows for narrower travel lanes due to a reduced swept path of the truck. Pull-through design layouts may be either an outside-in or inside-out approach, both requiring three lanes of travel.

Figure 29: Existing Design Guide for Pull-Through Parking



Source: Building Facilities Design Manual (2020)

Back-in truck parking concepts should be implemented in facilities where the proposed design allows for the separation of auto and truck parking areas and can be designed using an angled herring bone or 90-degree layout. The angled back-in parking spaces should be designed at 30-45 degrees to allow for the minimum width requirement of the driving lane. To fully accommodate the WB-62FL truck with an overall length of 73.5 feet, the standard dimensions of each angled stall should be a minimum of 15 feet by 90 feet. For 90-degree back-in layouts, standard dimensions of each stall should be a minimum of 15 feet by 77 feet.

Conceptual design guide standards for angled and 90-degree back-in parking, shown in **Figure 30** and **Figure 31**, were developed for future consideration within FDOT's manuals including the *FDOT Design Manual, Standard Plans*, and the *Building Facilities Design Guide*. If recreational vehicles are anticipated to park in the same area as commercial vehicles, pull through areas should be made available.

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Figure 30: Proposed Design Guide for Angled Back-In Parking

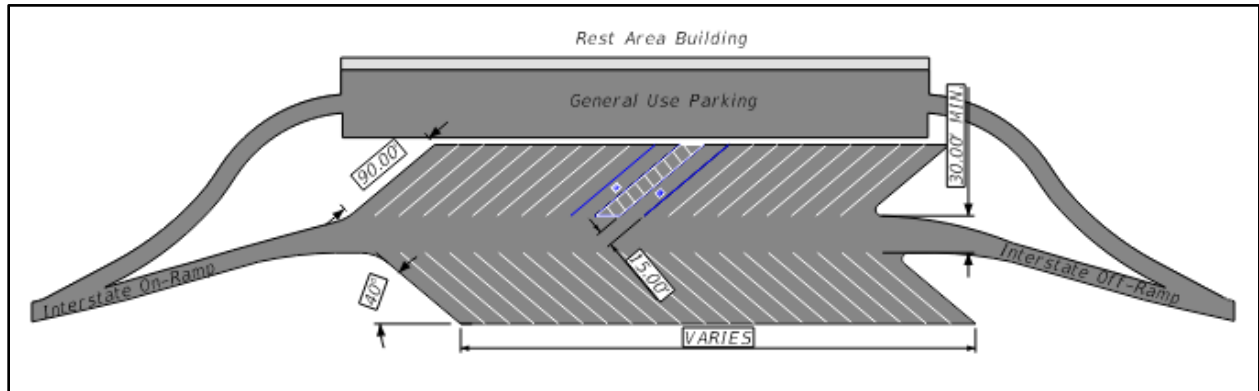
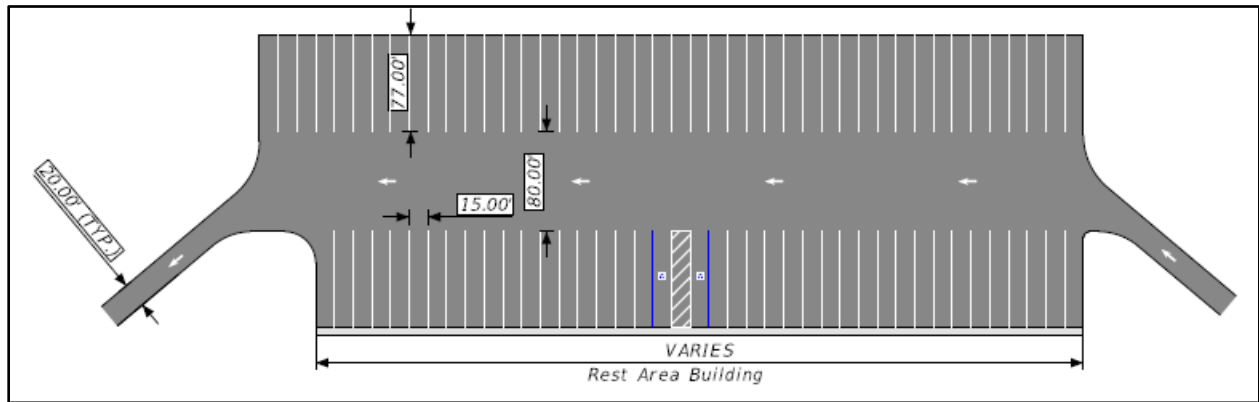
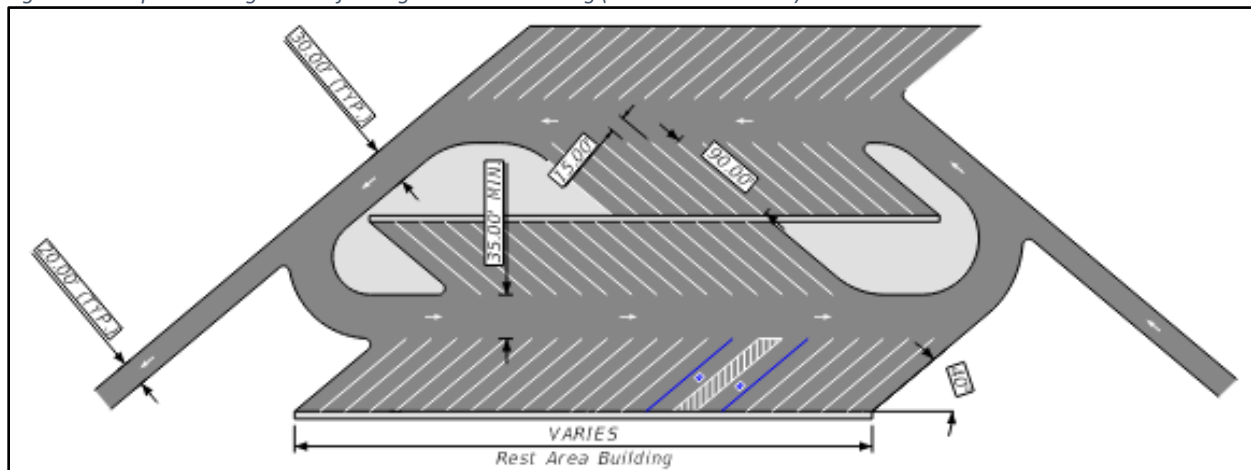


Figure 31: Proposed Design Guide for 90-Degree Back-In Parking



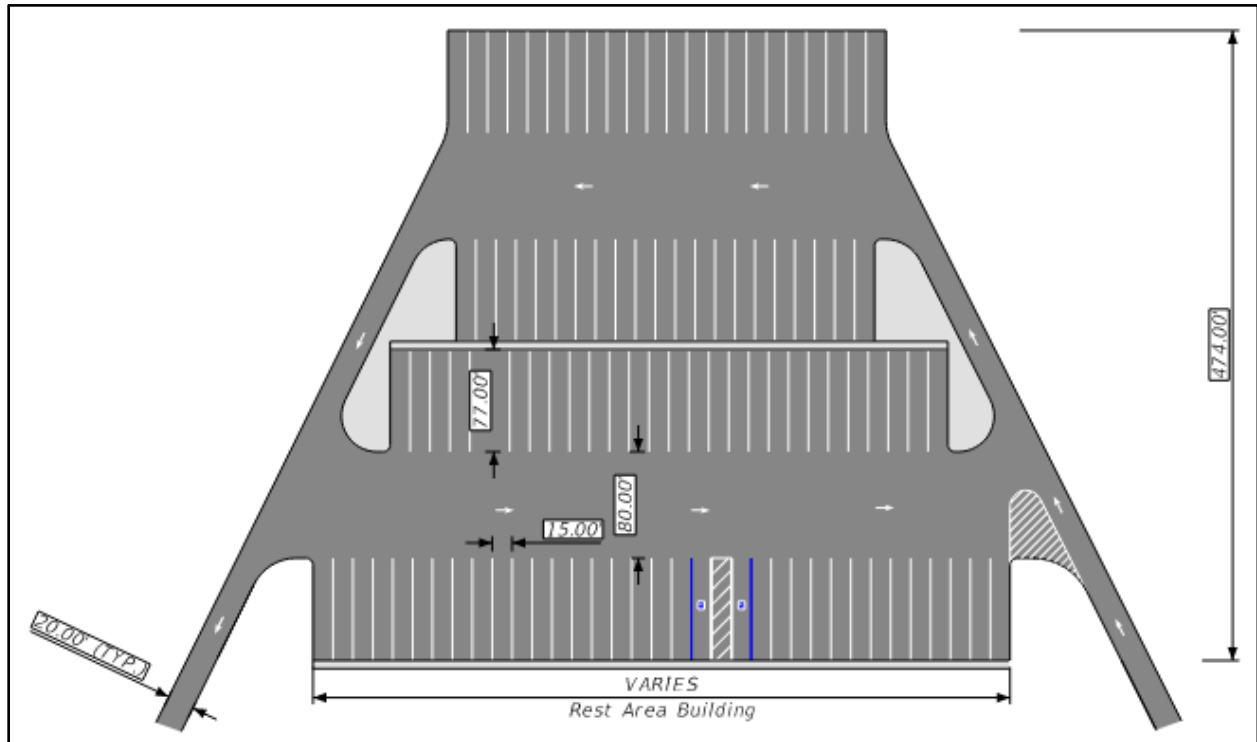
For facilities that include multiple rows of truck parking spaces, design considerations should be made that permit internal circulation within the facility to find parking, as shown in **Figure 32** and **Figure 33**.

Figure 32: Proposed Design Guide for Angled Back-In Parking (Internal Circulation)



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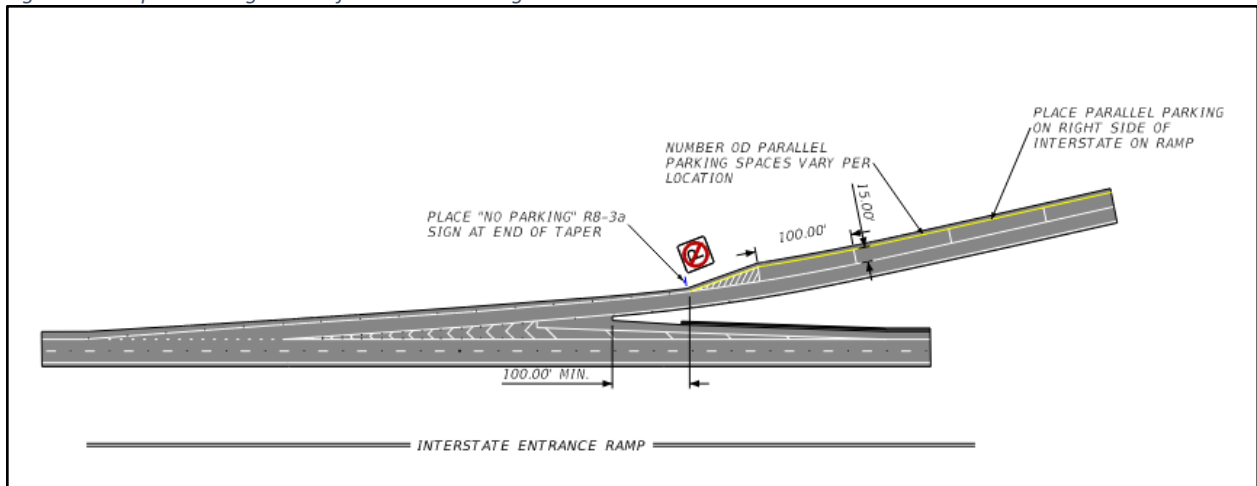
Figure 33: Proposed Design Guide for 90-Degree Back-In Parking (Internal Circulation)



Parallel parking locations along shoulders and ramps should only be considered for rest area exit ramps back onto the interstate and take into account the existing features, including signing, lighting and utilities and provide for required geometric conditions such as sight distance. Driver safety for access to facility amenities should also be considered in determination of the parking area dimensions when developing parking concepts. To fully accommodate the WB-62FL truck with an overall length of 73.5 feet, the standard dimensions of each parallel parking stall should be a minimum of 15 feet by 100 feet.

A standard exhibit, shown in **Figure 34**, has been developed for parallel parking that could be included within the FDOT manuals.

Figure 34: Proposed Design Guide for Parallel Parking



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Pavement

The *FDOT Pavement Type Selection Manual* states: “By Executive Committee decision on June 18th, 2003, new and reconstructed weigh stations, rest areas and welcome stations are to use concrete paving for both access to and internal traffic flow and parking within the facility, so pavement type selection reports are not required.” Concrete pavement is preferred in areas with high heavy truck traffic. Slow-moving or standing truck traffic has a greater potential to cause rutting, cracking, and potholes in regular flexible pavement design. Concrete’s rigidity and high tensile strength allows it to have a heavier loading capacity. Additional benefits of concrete pavement at these facilities are lower long-term maintenance costs, reduction of the heat-island effect due to its higher reflectivity, and lower environmental impacts from stormwater runoff than asphalt surfaces.

Other new and innovative pavements should be considered experimental and be assessed with the State Materials Office for opportunities to provide a pavement design that facilitates drainage and other environmental requirements while preserving the integrity of the asset and minimizing maintenance activities.

Drainage

Following the *FDOT Drainage Manual*, the facilities should be designed to retain stormwater like the requirements for the adjoining interstate roadway. Impacts to existing stormwater systems and the need for additional stormwater treatment should be determined following the manual. When expanding the facilities’ pavement footprint, additional pond storage will likely be needed.

In the case that a new stormwater system needs to be implemented at the facility, it is preferred for the pond sites to be within the existing ROW to avoid acquiring the additional ROW needed to convey the runoff to and from the pond. Stormwater treatment methods are dependent on the seasonal high-water table (SHWT) and the type of soil found within the facilities.

Wet detention ponds are appropriate when the SHWT is near the surface or when the SHWT is far from the surface and clay soils exist. These ponds are permanently wet and are designed to slowly release the treatment volume through the outlet control structure, discharging to surface water. Retention ponds are appropriate when the SHWT is far from the surface and sandy soils exist. These ponds are designed to store the treatment volume, allowing it to infiltrate into the soil. This pond design is normally dry as the treatment volume discharges into the ground within a specified time following a storm event.

Filtration systems are appropriate when the SHWT is far from the surface and clay soils exist. The soil type does not allow for the treatment volume to be infiltrated into the ground, but instead passes through a sand filter and discharges to surface water.

Implementation Considerations

Implementation considerations include requirements from the National Environmental Policy Act (NEPA), permitting approvals, and planning considerations needed to move identified concepts through the project development process into implementation.

Environmental and NEPA

Environmental reviews for proposed strategies for these facilities must be analyzed to achieve compliance with the NEPA of 1969, Title 42 United States Code (U.S.C) 4321 and associated federal and state laws and regulations. If using federal funds, the project is considered a federal action, and therefore must comply

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with NEPA. There are three classes of action defined in the Code of Federal Regulations (CFR) which establish the level of documentation required in the NEPA process.

A project can qualify as a Type I Categorical Exclusion (CE) if the proposed action is listed in the CFR and does not individually or cumulatively have a significant environmental effect. The Federal Highway Administration (FHWA) has classified improvements to new (within existing ROW) and existing weigh stations and rest areas as a Type I “C-listed” CE. Improvements within existing ROW are listed in 23 CFR 771.117(c)(22) and improvements to existing weigh stations and rest areas are listed in 23 CFR 771.117(c)(12).

A Type I CE determination is made using a Type I CE Checklist that determines if the projects meet the criteria for assessing cultural, natural, social, and physical resources. Considerations for each resource include:

- ↪ **Cultural Resources** including Historic and/or Archaeological sites protected under Section 106 of the National Historic Preservation Act and any property is protected by Section 4(f) pursuant to 23 CFR 774.
- ↪ **Natural Resources** including wetlands, floodplains, Wild and Scenic Rivers, and any river listed on the Nationwide Rivers Inventory as well as any species listed under Section 7 of the Endangered Species Act (ESA) of 1973, and/or Magnuson-Steven Fishery Conservation and Management Act (MSFCMA).
- ↪ **Social Resources** (for a COA Determination) including ROW acquisition with or without relocations and/or displacements
- ↪ **Physical Resources** including noise and contamination

If the project does meet the criteria, the checklist constitutes the NEPA clearance document following District approval. If the project does not meet Type I CE criteria, coordination occurs with FDOT’s Office of Environmental Management (OEM) as appropriate.

A District Environmental Screening Report was completed for the facilities included in the deployment of the Truck Parking Availability System (TPAS) project as part of the Type I CE Class of Action (COA) determination. These screenings were used as a baseline of existing resources found at the facilities for the development of the identified strategies and concept plans.

Permitting

The permitting process ensures a project complies with federal and state code requirements and is usually completed during the Design phase. Based on the identified concepts, the anticipated required permits are described below.

Wetlands and Other Surface Waters

Projects within state-assumed waters require state and federal authorization prior to construction. The Environmental Resource Permit (ERP) Program is the state permitting program that regulates activities in, on or over surface waters or wetlands and is processed by either the Florida Department of Environmental Protection (FDEP) or one of the state’s Water Management Districts (WMDs). The type of ERP is dependent on the anticipated project activity. The Florida Administrative Code (F.A.C.) Rule 62-330.020 describes both activities that do not require a permit and that are also regulated through the ERP. Exemptions and types of permits available are described below:

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- ↻ **Exemptions** are activities that are further listed under Section 373.406, 373.4145(3), or 403.813 Florida Statutes (F.S.), Rule 62-330.051 or 62-330.0511 F.A.C., or Section 1.3 (WMD-specific exemptions) of the applicable Applicant's Handbook Volume II and do not require a permit
- ↻ **General Permits** authorize activities specified in Rules 62-330.410 through 62-330.635, F.A.C., that if conducted consistent with the permit requirements, will cause minimal individual and cumulative adverse impacts to the water resources of the Agencies (FDEP or WMDs). Mitigation is neither necessary nor required to offset those impacts except when provided for in the general permit.
- ↻ **Individual Permits** is required for activities that are not exempt in accordance with Rule 62-330.051 or 62-330.0511, F.A.C., exceed the permitting thresholds in 62-330.020(2), F.A.C., and do not qualify for a general permit under Rules 62-330.410 through 62-330.635, F.A.C., and Section 403.814(12), F.S. Mitigation and stormwater management is required to offset adverse impacts due to regulated activities.

The State 404 Program is the federal permitting program that oversees any project proposing dredge and fill activities within state assumed waters. As of December 2020, FDEP now has the authority to approve both state and federal permits on behalf of the United States Army Corps of Engineers (USACE).

Stormwater Discharge

If stormwater discharge is anticipated for the project, a National Pollutant Discharge Elimination System (NPDES) Permit processed by FDEP is required. The NPDES Stormwater Program regulates point source discharges from: Municipal Separate Storm Sewer Systems (MS4s), construction activities, and industrial activities. The Generic Permit authorizes the discharge of stormwater associated with large and small construction activities to surface waters of the State.

Utilities

As defined in the *FDOT 2017 Utility Accommodation Manual (UAM)*, utilities are physical lines owned by others such as: pipes, wires, pole lines, and appurtenances used to transport or transmit, electricity, steam, gas, water, waste, voice, or data communication, radio signals, or storm water not discharged into the FDOT ROW. Utility coordination between FDOT and the Utility Agency/Owner (UAO) is performed during the design phase, with the UAO reviewing the project plans for potential conflicts with existing or proposed utility work. Any identified conflicts should be provided in a Utility Conflict Matrix format when available.

Coordination should be held throughout the project development process to discuss alternatives that may minimize or avoid conflicts and evaluate recommended mitigation or avoidance strategies. Timelines for new installations or relocations that are anticipated to be unavoidable, potential relocation costs, and a schedule of impacts for relocations should also be discussed.

FDOT will process, and issue permits for the construction, alteration, operation, relocation, removal, and maintenance of utilities upon the ROW in conformity with the UAM. Many of the utilities located within the rest areas, welcome centers, and weigh stations are owned and maintained by FDOT and a utility investigation should be conducted during the planning and design phases.

Planning

If a proposed strategy or project anticipates the use of Federal funds, the project must be included in the Statewide Transportation Improvement Plan (STIP), which is a federally mandated document showing all

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Federal projects planned in the next four fiscal years. If the facility is located within a Metropolitan Planning Organization's (MPO) boundary, the project would also need to be listed within the MPO's approved Transportation Improvement Plan (TIP).

TPAS Policy and 3rd Party Agreements



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TPAS Policy and 3rd Party Agreements

With the statewide deployment of TPAS at all FDOT parking facilities complete and data analysis for the development of predictive parking analytics underway, the incorporation of private facility data into TPAS were evaluated for implementation opportunities and policy recommendations. The **TPAS Policy and 3rd Party Agreements** section provides a high-level evaluation of strategies to integrate existing TPAS data with third-party applications and through in-cab dissemination, but it is noted that these strategies should be explored further outside of this study to ensure new technology and evolving policy can be considered in greater detail. FDOT can also support private truck parking investment through coordination with private developers in the form of information and document sharing, site location and plans reviews, traffic studies, and access management assessments.

Private Parking Integration

Integration of private truck parking facility data into the TPAS system will require an innovative procurement and deployment strategy that differs from the District-led design-build process that was utilized for the initial deployment of TPAS at state-owned parking facilities. Since the initial deployment of TPAS in 2017, numerous other states and regional authorities have implemented truck parking availability systems that have been deployed at both public and private truck stops. The Michigan Department of Transportation (MDOT) was one of the first state agencies to utilize Federal funding at private facilities when they deployed video detection systems at ten private truck stops in addition to five public rest areas along I-94. After the success of the Michigan project, additional states like Iowa and Kentucky deployed similar systems at public and private truck parking facilities to form a connected Midwestern Region Truck Parking System.

FDOT roadway signs are generally governed by the Highway Signing Program, Logo Sign Program, and Outdoor Advertising. The Highway Signing Program regulates traffic control devices and signs on public roadways and rights of way, complying with national FHWA standards outlined in the MUTCD and the Standard Highway Signs supplement.¹² The FDOT Logo Sign Program provides travelers with information on available services and specific businesses at interstate interchanges including gas, food, lodging, camping, and attractions.¹³ FDOT is also responsible for regulating the location, size, height, spacing, and lighting of Outdoor Advertising signs located on the National and State highway systems in coordination with federal, state, and local laws, statutes, and ordinances.¹⁴

Based on a review of existing FDOT policies and procedures related to FDOT interstate highway signage and discussions with FDOT staff, it was determined that integration of private parking availability data into the existing TPAS infrastructure was not feasible at this time. Although direct integration of private facility data into the TPAS system is not recommended, additional opportunities for private facility integration should be further evaluated. These strategies include the potential integration of private facility utilization data into the Florida 511 online system and mobile application through established API protocols and interface as well as the use of physical signs located at overutilized rest areas directing drivers to interstate exits where known private truck parking is located.

¹² (FDOT Highway Signing Program, 2022)

¹³ (FDOT Logo Sign Program, 2022)

¹⁴ (FDOT Outdoor Advertising Program, 2022)

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3rd Party Apps and In-Cab Dissemination

Discussions with trucking industry associations including the Florida Trucking Association (FTA), American Trucking Association (ATA), and the Owner-Operator Independent Driver Association (OOIDA) indicated that most truckers have access to third-party mobile applications that identify parking locations and some availability information at private facilities. FDOT has established processes, procedures, and agreements for data sharing with private companies, including third-party mobile applications.

Providing TPAS availability and utilization data to third-party applications and other in-cab hardware and software providers, like Electronic Logging Devices (ELD) and truck telematics systems, would allow FDOT to provide truck parking availability information directly to drivers using methods already familiar to them.

Agreements

A review of existing FDOT data-sharing agreements was performed and identified specific best practices and language that should be included in future truck parking data-sharing agreements with third-party applications or other in-cab software and hardware providers.

- ↻ *Develop agreements with existing applications to provide TPAS data to them for integration with private parking data*
- ↻ *Identify opportunities for TPAS data sharing with 3rd party applications and ELD/Telematics providers*
- ↻ *Provide in-cab data dissemination that meets hands-free requirements*
- ↻ *Integrate with existing in-cab hardware/devices*
- ↻ *Coordinate with private industry including ELD providers and 3rd party applications*
- ↻ *Review existing FDOT 3rd party data-sharing agreements (Waze)*
- ↻ *Develop 3rd party data sharing agreement template for truck parking availability and utilization data*

As a result of the evaluation of best practices, a draft data-sharing agreement was developed for use in direct data dissemination to in-cab devices and service providers and can be found in **Appendix E**.

Private Investment Support

A derived benefit of the TPAS deployment is the heightened visibility of the need for additional truck parking capacity in Florida. As a result, private investment in truck parking facilities to address the shortage has advanced as an opportunity. Through open communication and sharing of data on the utilization of existing public facilities as well as the numerous studies and other documents regarding truck parking with the private sector, coordination on the expansion of facilities can occur.

The use of existing FDOT-owned right-of-way adjacent to existing truck parking facilities for expanded parking opportunities should be investigated. This would allow for increased parking availability without the need for supplemental services or amenities, as the private facility already provides. Investigation into agreements to support routine maintenance activities, such as garbage collection and lighting, should be carried forward.

Truck Parking in Local Planning and Zoning



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Truck Parking in Local Planning and Zoning

The *Truck Parking in Local Planning and Zoning* section provides an overview of the roles that local governments play in truck parking, as well strategies that public agencies can implement to ensure truck parking is considered in local planning and zoning.

Local Government Role in Truck Parking

At the regional and local level, the movement of goods by commercial motor vehicles touches nearly every aspect of the economy but the need for truck parking can often be overlooked. Trucks are responsible for delivering raw materials to manufacturing plants, transporting goods between ports and regional distribution facilities, and delivering finished products to local businesses and consumers. Each link in the “ports to porch” supply chain is supported by the trucking industry, making the need for safe and reliable truck parking a critical consideration for local and regional governments. In addition to reducing illegal truck parking, proactive planning by local governments also supports improved safety, enhanced roadway operations, and economic competitiveness.

Improved Safety

Providing increased truck parking across Florida improves both roadway safety and the efficiency of the freight and logistics industry. The lack of strategically located truck parking facilities contributes to illegal parking, creating safety issues for truck drivers and the public. Illegal parking, such as along shoulders, can obstruct travel and bicycle lanes, contributes to sightline obstructions at intersections and driveways, and can cause damage resulting in increased maintenance when shoulders are not hardened. Additionally, the lack of safe and secure parking facilities may encourage drivers to operate when tired or beyond their regulated hours of driving time.

Enhanced Roadway Operations

An increase in truck parking can reduce congestion on local roadways. When drivers must search for parking, the extra time required to find parking can increase delays for drivers and other roadway users. Additionally, this searching increase truck miles traveled and the associated fuel consumption and emissions. Searching for parking may also force drivers into residential areas creating a nuisance for residents, and potentially creating safety issues. Finally, drivers searching for safe parking create conflict points when entering and exiting roadway systems.

Economic Competitiveness

Most businesses rely on freight movement by trucks as a part of the overall supply chain. Business reliance on pickups and drop-offs for freight increases the need to properly address shipping and delivery, parking, and staging. Adequate truck parking helps to lower overall industry costs through lower operating costs. Economic competitiveness is enhanced when truck parking is strategically planned and implemented to serve the transportation function within regional and national supply chains.

Local Planning for Truck Parking

One of the most influential roles local governments can have in addressing the truck parking shortage is through land use regulation. Local governments in Florida are responsible for comprehensive planning (future land use) and zoning and may contribute to other planning activities. Additionally, local

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government planners can influence the co-location of freight uses through geographically targeted industrial development and consistency with local economic development planning.

Land Use

The local government's responsibility for regulating land use provides a unique opportunity to proactively address the need for truck parking as new and in-fill development occurs. Truck parking should be addressed at multiple levels of the planning process.

Long-term freight and industrial needs can be planned for in the context of Future Land Use Planning. Comprehensive plans in the State of Florida are required to ensure the orderly growth of a community. Local governments can, over the long term, help direct growth in specific areas of their communities. Governments may co-locate industrial and freight-intensive industries together as part of the comprehensive planning process. Locating both industrial uses and truck parking in similar areas reduces the negative externalities on surrounding communities and reduces the possibility of community conflict.

Zoning

At a more granular level, local zoning and zoning ordinances can be used to require truck parking to be incorporated into future development and help guide facility design. Local governments can require a specific quantity of onsite truck parking based on facility square footage or projected truck trip generation. Additionally, requiring site and parking design standards can ensure that truck parking is consistently implemented by site developers within a municipality or region.

Planning Studies

Freight planning elements are also important to address in other planning activities such as corridor studies and small or sub-area plans. Incorporating freight data and an understanding of freight operations helps inform relevant planning documents. A context-sensitive approach to the application of truck parking needs can reduce conflict between trucks and the surrounding community, especially in areas transitioning to or from industrial uses.

Example Guidance

The American Planning Association (APA) provides policy guidance on freight and has developed policy recommendations for increasing the truck parking supply in local municipalities. The APA policy states in part *"That traffic and parking regulations accommodate local freight demand: Municipalities should require loading zones to be incorporated in new developments and set standards for them as well as for loading docks as a part of certain land uses. Providing appropriate locations for truck lay-by parking to accommodate required driver rest periods should also be considered."*¹⁵ Additional guidance includes:

- ↻ Undertaking a context-sensitive approach to freight planning to incorporate strategies sensitive to local needs.
- ↻ Incorporating freight data in the planning process as well as community plans and policies.
- ↻ Considering freight in comprehensive planning practices to fully consider the impacts of freight on the community's economic and land use policies.

¹⁵ (American Planning Association, 2016)

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Local Truck Parking Strategies

With local government support, truck parking needs can be addressed in coordination with regional and national parking needs. When planning for truck parking, local governments should consider the three main parking activities which include staging, loading/unloading, and overnight truck parking. Each activity has special requirements and can be influenced by local land use policy.

Truck Staging

Freight facilities, including warehouses and distribution centers, generally have defined pick-up and drop-off windows for truck drivers. In preparation for a specified window, drivers may choose to position or “stage” their truck near the location to wait for their appointment time. Many of these facilities do not allow or provide on-site parking for this truck staging. Without appropriately designated truck parking locations in or near major industrial centers, truck drivers may choose to park illegally in abandoned lots or along roadway rights of way including medians and shoulders as they wait for their appointment time. In some cases, this may even cause truck parking and staging activities to encroach into neighboring residential areas.

Truck Loading/Unloading

Upon arrival at their destination trucks are required to park for loading and unloading of freight. Depending on the nature of the trip, this type of parking may occur at a defined loading dock or potentially on-street in urban and suburban areas when a truck is delivering to or from certain businesses. Obstructions of roadways due to illegal truck parking can pose a safety risk and may affect overall roadway operations by blocking traffic and creating additional congestion along a corridor.

Addressing pick-up/drop-off parking remains an important aspect to examine during truck parking planning and should include strategies that include the designation of parking spaces for truck loading/unloading, apply off-hours delivery windows, and require new developments to include off-street loading docks in their site or building plans. Providing loading zones for groups of business can consolidate parking needs and leverage smaller vehicles from the truck to the destination.

Overnight Truck Parking

Although overnight truck parking may not seem like a local government issue in the same way as truck staging and delivery, which require solutions located closer to the origin or destination, it should still be considered in local planning efforts. Overnight parking to meet HOS regulations is not constrained geographically, but in major urban areas where congestion can increase driving times and reduce travel time reliability, it can be difficult for trucks to reach the suburban and rural areas along interstates where a majority of public and private facilities are located.

Additionally, some municipalities restrict the parking of trucks in certain residential and commercial land uses, which can impact the business operations of local truck drivers when they are off-duty or at their domicile. This overnight parking issue is most often found in larger cities or metropolitan areas where there is more restrictive zoning related to truck parking but impacts the residents of those communities.

Local governments can help support overnight truck parking by applying parking strategies in locations along the interstate or near the urban development boundary where land availability and cost are more in line with the needs of truck parking facilities. In more urban areas, local governments can utilize existing

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parking facilities like park-and-ride lots or underutilized and vacant commercial properties to provide truck parking both for HOS requirements and residents that drive trucks.

Example Strategies

The National Coalition on Truck Parking was created to bring together public and private sector stakeholders to discuss and identify strategies to improve safe truck parking nationwide. Four working groups were created to share best practices and develop informational products that can be used as guides in advancing truck parking initiatives. **The State, Regional and Local Government Coordination** working group was developed to cover topics and strategies related to coordination, rulemaking, and planning activities that can be undertaken by state, regional, and local governments to address truck parking.¹⁶ Examples of local government strategies to address truck parking include:

- ↪ The City of Weed, CA, created municipal parking spaces for 30 trucks on municipally owned land.
- ↪ The City of Elmira, NY created a municipal truck parking area from existing industrial-zoned lots. Space for 25 trucks was developed at the site and trucks can stay for up to thirty days.
- ↪ The City of Chicago implemented the Downtown Loading Zone Reform Pilot in 2017. The pilot converted business-paid commercial curbside loading zones to user-paid curbside loading zones.

Additional Resources

The following links provide additional resources that can be referenced by local governments when developing policies, solutions, or strategies to address the unique truck parking issues in their community:

- ↪ FHWA Truck Parking Development Handbook
- ↪ Federal Freight Funding Opportunities
- ↪ Talking Freight Webinar: Best Practices in Industry and Government Coordination for Developing Truck Parking Solutions
- ↪ FHWA Freight and Land Use Handbook
- ↪ FHWA Freight Management and Operations
- ↪ APA Policy Guidance on Freight
- ↪ National Cooperative Highway Research Program (NCHRP) Synthesis 320: Integrating Freight Facilities and Operations with Community Goals
- ↪ NCHRP 08-141 A Guidebook for Local Truck Parking Regulations (research in progress)

¹⁶ (FHWA - National Coalition on Truck Parking, 2022)

Funding and Next Steps

REST AREA
TRUCK PARKING

21

SPACES
AVAILABLE



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Funding and Next Steps

The **Funding and Next Steps** section provides a summary of funding opportunities available for truck parking, current funding strategies being used by FDOT to fund truck parking projects, and next steps FDOT should initiate to continue momentum around truck parking implementation activities.

Funding Opportunities

Recognizing the national importance of truck parking, several FHWA and other federal funding programs allow for truck parking implementation projects to be considered for funding. Truck parking facilities are eligible for funding under section 1401 (Jason’s Law).

Table 19 highlights formula funding and discretionary grant programs that can be used to fund truck parking projects.¹⁷

Table 19: Federal Funding Opportunities for Truck Parking

Formula Funding Programs	Discretionary and Competitive Grant Programs
Surface Transportation Block Grant (STBG)	Infrastructure for Rebuilding America (INFRA)
National Highway Freight Program (NHFP)	Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
Highway Safety Improvement Program (HSIP)	Rural Surface Transportation Grants
National Highway Performance Program (NHPP)	National Infrastructure Project Assistance (MEGA)
Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT)	Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT)
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	Advanced Transportation Technologies and Innovative Mobility Deployment (ATTIMD)
	Reduction of Truck Emissions at Port Facilities
	FMCSA High Priority Innovative Technology Deployment (HP-ITD)

Source: FHWA Memorandum on Eligibility of Title 23 and Title 49 Federal Funds for Commercial Vehicle Parking

Current Funding Strategies

FDOT currently utilizes a range of funding mechanisms to support the planning, design, and construction of truck parking projects statewide. The following Federal funding programs have provided support for the implementation of TPAS, adding truck parking capacity at state-owned parking facilities, and for the implementation of new truck-only parking facilities:

- **National Highway Freight Program** – is a Federal formula funding program that allows state DOTs to fund eligible projects, including truck parking, to improve freight mobility and operations on

¹⁷ (FHWA Freight Management and Operations, 2022)

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the National Highway Freight Network. These funds have been utilized by FDOT to fund truck parking expansion projects at strategic rest areas throughout the state.

- ↻ **INFRA (Formerly FASTLANE) Discretionary Grants** – is a Federal discretionary grant program that provides funding for eligible freight and multimodal projects, including truck parking, on a competitive basis each year. FDOT has been awarded a previous FASTLANE grant for the statewide deployment of TPAS and most recently a \$15M award for construction of the I-4 West Central Florida Truck Parking Facility.

In addition to Federal funding opportunities, FDOT has several state-funding programs that can be leveraged to support the strategic implementation of truck parking capacity across Florida. These programs include:

- ↻ Rest Area Program Funds
- ↻ Strategic Intermodal System Funds
- ↻ Economic Development Transportation Fund
- ↻ Intermodal Development Program
- ↻ District Discretionary Funding

Next Steps

Based on the results of this *Study*, it is evident that FDOT has made substantial progress in addressing the truck parking shortage since FHWA identified it as a national priority under Jason’s Law in the MAP-21 transportation bill. To build on this foundation, the following actions are recommended as by FDOT and its public and private partners to continue addressing the truck parking shortage throughout the state:

- ↻ **Formalize a statewide truck parking working group** that can meet bi-annually to discuss ongoing and planned truck parking projects or initiatives, identify funding needs and programs that can be leveraged, ensure a consistent statewide approach to truck parking implementation, and provide a mechanism for statewide collaboration.
- ↻ **Develop a statewide truck parking master project list and schedule** that provides visibility of all current and planned truck parking projects broken down by phase and funding source to ensure future capacity is implemented in areas of critical need.
- ↻ **Deploy enhanced amenities at underutilized weigh stations** along the I-10 corridor in north Florida to increase utilization by improving the perception among truck drivers that weigh stations are safe, secure parking facilities with available amenities that meet their needs.
- ↻ **Incorporate alternative parking solutions** like back-in and parallel parking into applicable FDOT design manuals, including the FDM, to ensure a consistent and repeatable approach to truck parking design that maximizes available space.
- ↻ **Initiate a statewide communications and outreach campaign** to increase awareness of available truck parking at state-owned rest areas, welcome centers, and weigh stations.

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