

I-95 Corridor Coalition National Coalition on Truck Parking Synthesis

Final Report – April 2019



I-95 Corridor Coalition

Contents

Introduction.....	1
Parking Capacity Working Group.....	2
<i>Public Sector Approaches</i>	<i>2</i>
<i>Private Sector Approaches</i>	<i>4</i>
<i>Operations and Maintenance Strategies.....</i>	<i>4</i>
Technology and Data Working Group	6
Funding, Finance, and Regulations Working Group	11
State, Regional, and Local Government Coordination Working Group.....	14
National Coalition on Truck Parking Webinar – Comments	18
Appendix A: Acronym List	20

Table of Figures

Figure 1 - Schodack, NY Truck Parking (I-90).	2
Figure 2 - Truck Parking at Big Springs, NE (I-80).....	3
Figure 3 - FDOT Parking Expansion.	4
Figure 4 – ATRI Survey Results.	7
Figure 5 - Smart parking system components.	8
Figure 6 – Brainerd Lake Welcome Center (MN).....	11
Figure 7 - Truck ShorePower.....	13
Figure 8 - Truck Parking and Servicing Facilities in Massachusetts and Neighboring States.	15
Figure 9- City of Carson, CA Truck Routes and Parking Areas.	16

Table of Tables

Table 1 – Truck Parking Information/Availability Systems Summary.	9
Table 2 - Truck Stop Electrification Projects.	13



Introduction

The National Coalition on Truck Parking (NCTP) is a group comprised of several agencies and associations, including three U.S. Department of Transportation (DOT) agencies – Federal Motor Carrier Safety Administration (FMCSA), Federal Highway Administration (FHWA), and the Maritime Administration (MARAD) – the National Association of Truck Stop Operators (NATSO), American Trucking Association (ATA), American Association of State Highway and Transportation Officials (AASHTO), Owner-Operator Independent Drivers Association (OOIDA), and Commercial Vehicle Safety Alliance (CVSA). Stakeholders engaged in the Coalition represent the trucking industry, commercial vehicle safety officials, state DOTs, and commercial truck stop owners and operators. The NCTP was formed to respond to needs identified in a truck parking survey conducted by the FHWA as part of Section 1401, also known as “Jason’s Law,” a provision in the Moving Ahead for Progress in the 21st Century (MAP-21) Act, enacted in July 2012. The goal of the NCTP is to raise the level of dialogue, coordination, and response of the public and private sectors on issues surrounding truck parking. On December 6, 2018, the NCTP released findings and documents associated with four working groups during a national webinar.¹

This document developed by the Corridor Coalition draws on the extensive NCTP work conducted thus far and serves as a quick reference guide to the findings, summarizes questions and comments discussed during the December 6th webinar, and highlights NCTP references to best practices already occurring in the Corridor or where a best practice from other municipalities, states, and organizations may be applicable to Corridor Coalition members.

Corridor Coalition states are encouraged to continue to work with key stakeholders including the NCTP, FHWA, other states, and metropolitan regions to share best practices, research, and implement solutions to truck parking issues in the Corridor that improve safety, mobility, and economic opportunities for all users.

The remainder of this document discusses highlights from the four working groups and includes a final section summarizing comments/questions received during the webinar. The working groups include:

- Parking capacity;
- Technology and data;
- Funding, finance, and regulations; and
- State, regional, and local government coordination.

¹ Working group meeting notes and final documents can be found on the FHWA Freight Management and Operations website at: https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/workinggroups/index.htm

Parking Capacity Working Group

The purpose of the Parking Capacity working group is to develop innovative and low-cost methods to increase the supply of short-term and overnight truck parking. The group developed three products for the December 2018 workshop: (1) creative use of right-of-way and adjacent areas; (2) involvement of shippers/receivers to address truck parking capacity; and (3) considerations for maintaining low-cost truck parking facilities.

The public sector can create successful, low-cost solutions for creating more truck parking by using existing facilities in the right-of-way (ROW) or adjacent to the ROW. The working group identified case studies from across the country that are divided into categories by facility types.

Public Sector Approaches

Rest area conversions: Both South Dakota DOT and Missouri DOT converted rest areas and weigh stations to truck parking facilities to meet the demand for commercial vehicle parking, which helped save operations costs and provided additional parking to drivers. These facilities offer limited amenities (trash bins, lighting, portable toilets) but provide needed parking spaces. New York recently converted a closed rest area on I-90 near Schodack to include truck parking spaces (see **Figure 1**). The Atlanta Regional Commission's Truck Parking Study cites the Missouri DOT conversion as a potential approach in the region.

Figure 1 - Schodack, NY Truck Parking (I-90). Source: Cambridge Systematics



Parking at weigh stations: Florida DOT installed 24-hour rest rooms and vending machines at weigh stations in Tampa to accommodate overnight truck parking. Kentucky has turned four weigh stations into “Rest Havens”, which provide long-term parking, restrooms, telephones, and vending machines for truck drivers. Maryland permits parking at eight weigh stations when the station is closed, and allows trucks to

park in park-and-ride lots during inclement weather. North Carolina also permits parking at weigh stations, though there is limited space to accommodate overnight truck parking.

Parking at tourism centers: The Butte La Rose Rest Area and Tourist Information Center in St. Martin Parish Louisiana is the only truck parking location on I-10 between Texas and Baton Rouge, LA and has the largest capacity for public truck parking in all of Louisiana's rest areas. The welcome center provides 12-hour security, vending, and wireless internet for up to 50 parked automobiles and 47 trucks. A tourism center in Crow Wing County Minnesota that featured a partnership between the Minnesota DOT, the Brainerd Lakes Chamber of Commerce, Crow Wing County, the Minnesota Department of Natural Resources, and the Minnesota State Patrol was also featured. This facility was discussed in detail during the May Truck Parking Workshop and additional details are available in that report and presentation.

Other creative uses: Featured case studies in Nebraska, Florida, and Wyoming.

- Nebraska DOT created truck parking inside a half cloverleaf interchange where I-80 and US-138 merge (see **Figure 2**). Between 100-200 trucks park in this interchange each night, although there are no facilities or services except garbage bins which keeps operations and maintenance costs low. This approach may offer a template for I-95 Corridor Coalition States where land values often make acquiring property difficult. Property inside a half cloverleaf is typically already owned by the DOT and has limited commercial potential for other uses. This project utilized asphalt millings for a surface which reduces cost and allows for re-use of the material if the parking facility was not used. The project's location in a rural area limited community opposition—something that may be a concern in the more dense I-95 Corridor.

Figure 2 - Truck Parking at Big Springs, NE (I-80). Source: NCTP Working Group Products



- Wyoming DOT has 17 truck turnout areas intended to be used for truck parking, each accommodating 10 to 15 trucks. These facilities provide space for parking off the roadway without restrooms or other amenities. Maintenance is conducted by crews maintaining the adjacent roadway section, keeping costs low. This layout is possible in rural areas, where the adjacent land uses are

compatible with truck parking in the ROW. It works well in lower volume corridors with large spacing between interchanges and good visibility of deceleration and acceleration lanes.

- Florida DOT is considering redeveloping several parcels at a Golden Gates Truck Travel Center (see **Figure 3**) to build a multimodal transportation facility and truck travel center. The truck travel center would feature truck parking, truck wash & maintenance, fueling areas, convenience center with showers, and a truck scale. Florida also offers paid parking for truck drivers at 8 of the 12 farmers' markets owned by the Dept. of Agriculture.

Figure 3 - FDOT Parking Expansion. Source: NCTP Working Group Products



Private Sector Approaches

The private sector, which includes shippers/receivers, motor carriers, and truck stop owners, can also play a role in developing and maintaining truck parking. Two examples of public sector actions are:

Meijer Grocery Stores, a Michigan-based company, allows drivers who recently completed a delivery or will soon make a delivery to park in a designated “bullpen” area outside the distribution center. A bullpen is a fenced area that’s on the property of a business but not inside the gated area of the distribution facility. Being outside the actual distribution center limits liability for the company by separating parked trucks from trucks in the delivery area. Meijer usually provides Wi-Fi, a Port-o-John, and trash collection in the parking area.

Unilever partnered with Kriska Transportation Group to create the Safe Haven Program, which allows drivers to park onsite or immediately adjacent to their distribution centers both for staging purposes and overnight. Kriska’s dispatch assigns drivers to parking spots at the distribution centers. Drivers must follow specific safety measures, such as wearing safety vests at all times and carrying a flashlight at night. Both of these approaches were in part due to the need to attract drivers to an unpopular route. With the existing driver shortage, drivers in some areas are able to be more selective in the loads that they carry. Adding on-site parking makes these facilities more attractive to drivers and decreases the chances that a load will not be delivered (or will be delivered a higher cost).

Operations and Maintenance Strategies

There are a number of options that truck parking operators can choose to minimize maintenance responsibilities and costs at truck parking facilities:

- Trash removal:** Using dumpsters to collect trash requires less frequent emptying, which will reduce maintenance costs and

Operating costs at a truck-only parking facility are approximately 10% of those

responsibilities. Dumpsters need to be emptied approximately once a week at truck-only facilities.

- **Surface materials:** Areas with warm and dry climates should consider using soil-cement, a highly compacted mixture of soil/aggregate, cement, and water. Gravel is another low-cost paving material that could be considered. Consider which materials would work best for the climate and amount of use of the facility. Nebraska DOT's parking area on I-80 uses asphalt millings.
- **Toilets:** Vault toilets (non-flush toilets with a sealed container, or vault, buried in the ground to collect waste) are an option for low-cost and lower-use truck parking facilities. High-use facilities would require more frequent emptying of the vault, increasing operating costs. The cost of maintenance is less than portable toilets.
- **Safety and Security:** Safety measures include emergency phones, fire extinguishers, and access to a defibrillator. Security measures include fencing and/or other barriers, security cameras, and lighting. While implementing all of these ideas may not be low-cost, it is something operators should consider when adding parking capacity. Safety and security options are likely different depending on the parking location—a large parking area in a rural part of Corridor may require a different approach than a small lot in an urban area.

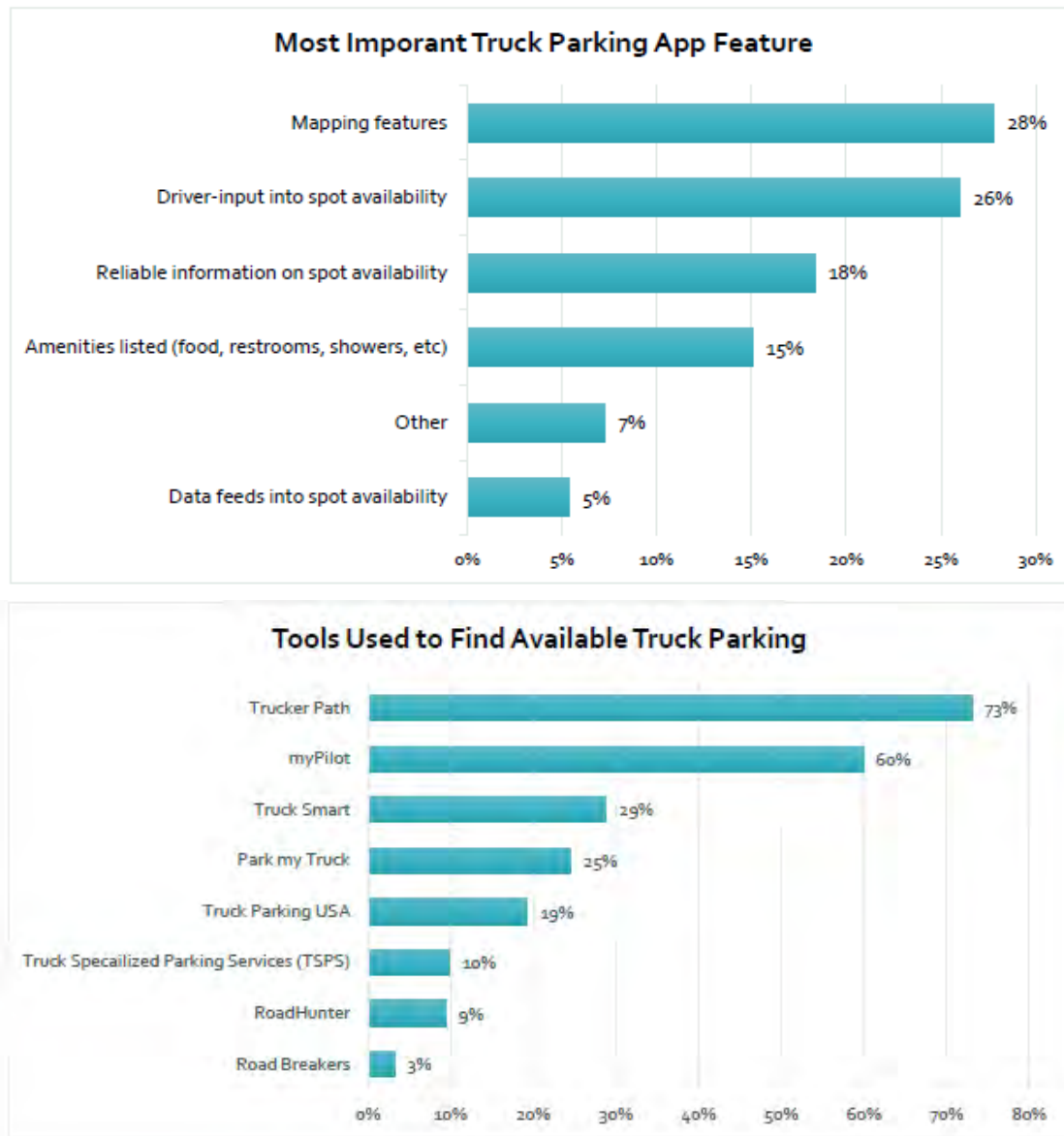
Technology and Data Working Group

The purpose of the Technology and Data working group is to develop innovative ideas for increasing the supply of truck parking by utilizing existing technology and data. The group produced three products for the December 2018 workshop: (1) truck parking app survey results; (2) best practices for truck parking availability detection and information dissemination; and (3) technology and data research needs webinar.

The working group examined American Transportation Research Institute (ATRI) data to determine which tools and resources are most often used by truck drivers to locate available truck parking. The survey results indicate that drivers consider mapping features and driver-input into spot availability to be the most important truck parking app features. Drivers prefer the Trucker Path application as it has a comprehensive database of parking locations (both public and private) and provides some utilization information through crowd sourcing. Drivers also use company-specific application such as myPilot (Pilot Flying J) and Truck Smart (TA/Petro). Drivers value accuracy and reliability from their application—information is only valuable if it is correct and up-to-date. **Figure 4** shows results from two survey questions.

The working group also highlighted examples of states implementing Truck Parking Information Management Systems (TPIMS) or Truck Parking Availability Systems (TPAS), which are intended to convey real-time information to truck drivers about available parking, thereby maximizing utilization of existing truck parking capacity. TPIMS/TPAS can use a wide variety of technology to identify truck parking availability and disseminate that information to users.. In general, these systems collect real-time parking information using sensors in the parking facility. This data is then sent to an information processing center to be converted into parking availability information, which is then disseminated via different streams (application, roadside message signs, website/511 systems) to drivers to inform them of parking availability.

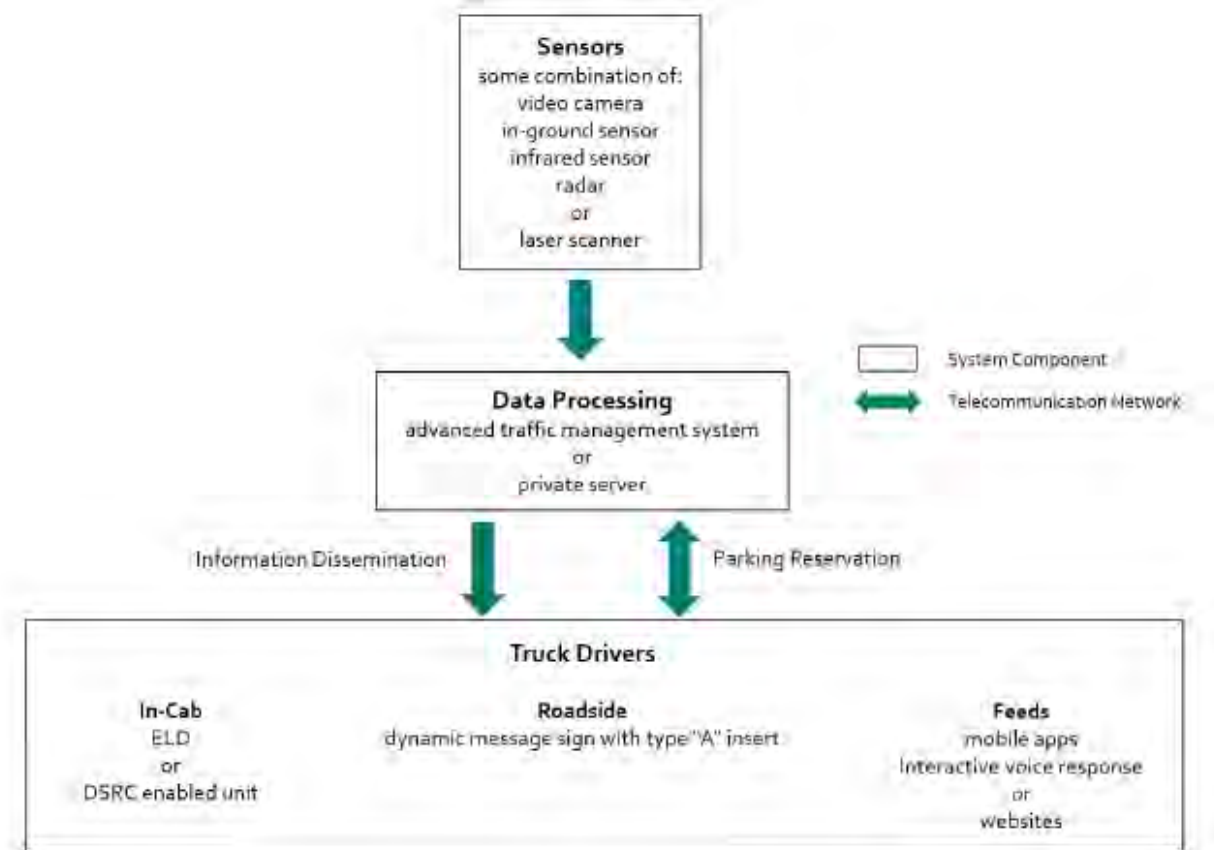
Figure 4 – ATRI Survey Results. Source: NCTP Working Group Products



There are two main technological approaches to determine parking space availability: (1) sensing a vehicle parked in an assigned location; and (2) counting vehicles as they enter/exit a facility. The methods for counting vehicles include close circuit television, camera vision systems that use software to identify and analyze objects in a video image at high speeds, in-ground sensors, infrared sensors, above-ground radar, and side laser scanners, among others.²

² Multiple studies conducted by I-95 Corridor Coalition members include a detailed review of technology options. The North Carolina Truck Parking Study offers one example. For more details see: https://connect.ncdot.gov/projects/planning/Statewide-Freight-Plan/Documents/Truck_Parking_Study_Final.pdf The Florida DOT also completed an evaluation of truck parking detection technology in 2016, available at: http://www.fdot.gov/research/Completed_Proj/Summary_TE/FDOT-BDV31-977-56-rpt.pdf

Figure 5 - Smart parking system components. Source: NCTP Working Group Products



The report focused on details from the Mid-America Association of State Transportation Officials (MAASTO) TPIMS project. This collaborative approach to truck parking availability is outlined in the table on the following page. Initial deployment will include public rest areas and welcome centers in eight states with the potential to include additional states or private-sector parking locations in the future.

The working group also briefly reviewed state initiatives in California (Smart Truck Parking and the americantruckparking.com website), Colorado (TPIMS on I-25, I-70, and I-76), Florida (TPAS deploying at 68 locations by Fall 2019), Maryland, the I-95 Corridor Coalition Truck 'N Park deployment in Maryland and Virginia (now operated and maintained by the Virginia DOT), SmartPark in Tennessee (including a reservation system), and a Concept of Operations for the I-10 Western Connected Corridor Freight Project. Information from the projects with the exception of the I-10 Western Connected Corridor are shown in **Table 1**.

The I-10 Western Connected Corridor Freight Project and the MAASTO TPIMS both provide potential guidance for a multi-state corridor effort that could be replicated by I-95 Corridor Coalition members and build off prior work completed through the Truck 'N Park program.

Table 1 – Truck Parking Information/Availability Systems Summary. Source: NCTP Working Group Products

Project	Caltrans	Colorado DOT	Florida DOT	I-95 Corridor Coalition	MAASTO	Michigan DOT	Minnesota DOT	Tennessee DOT	Wisconsin DOT
Funding Agency	FHWA & Caltrans	Federal funding & Colorado DOT	FHWA & Florida DOT	FHWA	USDOT (TIGER grant)	FHWA & Michigan DOT	MnDOT & FHWA	FMCSA & Tennessee DOT	Was funded by FHWA, now part of MAASTO TIGER grant
Partners	Caltrans, UC Berkely, Transportation Sustainability Research Center, ParkingCarma, and NAVTEQ	Colorado DOT	Florida DOT	Maryland DOT, Virginia DOT (VDOT)	MAASTO States: IN, IA, KS, MI, MN, OH, and WI	Michigan DOT	MnDOT, University of Minnesota's Center for Transportation Studies, ATRI	FMCSA and State of TN	Wisconsin DOT and Traffic and Parking Control Products and Solutions
Location	1 privately owned site on I-5	6 locations during 1 st phase, final goal of deploying across the State on I-25, I-70, and I-76.	68 locations will be active by April 2019.	5 public rest areas on I-95.	System will be deployed in major corridors in members states.	7 private truck stops and five public rest areas.	3 public rest areas along I-94. It will also integrate with Wisconsin I-94 system.	Two rest areas.	4 rest areas along I-94 corridor. Will integrate with Minnesota I-94 system.
Sensing Technology	Multi-camera system, inductive loops, GPS-based system (ConOps).	Static cameras and sensors.	In-pavement sensors and closed circuit television (CCTV) cameras in rest areas and weigh stations. Microwave systems in weigh stations.	In-pavement radar and magnetometer units.	Each state will select technology that best fits its needs.	CCTV and in-ground magnetometers in public rest stops. Elevated camera sensors in private truck stops.	Multi-camera system.	Doppler radar and side laser scanner.	Multi-camera system in 1 rest area and a count in/out microwave system with CCTV cameras in 3 rest areas.

Project	Caltrans	Colorado DOT	Florida DOT	I-95 Corridor Coalition	MAASTO	Michigan DOT	Minnesota DOT	Tennessee DOT	Wisconsin DOT
Information Dissemination	Website, mobile apps, and IVR.	DMS with type "A" inserts, website, mobile apps, and XML feeds for 3 rd party use.	DMS, website, mobile apps, DSRC-enabled in-cab devices, and XML feeds for 3 rd party use.	TruckNPark website, interactive voice response system, VDOT operated DMS, VDOT 511, and VDOT SmarterRoads Data Portal.	Website, DMS with type "A" inserts, mobile apps, and in-cab devices.	DMS with type "A" inserts, DSRC-enabled in-cab devices, websites, and mobile apps.	Dynamic messaging signs (DMS), website, in-cab geo-location application device integrated with existing electronic logging device and XML feeds for 3 rd party use.	DMS, website, interactive voice response, and mobile apps.	Website, DMS with type "A" inserts, in-cab devices, mobile apps, and XML feeds for 3 rd party use.
Other features	Reservations part of plan, not yet implemented.	Parking reservations and parking forecasting service will be implemented.	Reservations part of plan, not yet implement-ed. Parking forecasting a feature to be added in future.	Full operation and maintenance of TruckNPark transferred to VDOT in March 2018.	N/A	N/A	N/A	Parking reservations implemented.	N/A
Project Cost	N/A	\$9M	N/A	N/A	\$94M	Estimated \$115K per rest area and \$65K per private site.	\$2.04M	N/A	N/A

Funding, Finance, and Regulations Working Group

The purpose of the Funding, Finance, and Regulations working group is to identify innovative ways to fund truck parking that can be an alternative to or leverage limited Federal-aid funding. It also seeks to investigate regulatory flexibilities for truck parking funding. The group developed two products for the December 2018 workshop: (1) public-private partnership examples and considerations; and (2) emissions reduction grant programs fact sheet.

Public-Private Partnerships (P3s) can be an innovative way for states, cities, and municipalities to share the development costs of truck parking facilities. Some states are converting existing property or constructing new truck parking adjacent to truck stops. This allows drivers to take advantage of the services offered by truck stops (i.e., restrooms, food), without the state having to construct these amenities. Examples of successful P3s for creating additional truck parking include:

- Wyoming DOT constructed 43 dedicated long-term truck spaces in Wamsutter, WY using a Truck Parking Facilities Program grant.³ The project was constructed at a cost of approximately, \$916,000, with FHWA contributing approximately \$829,000.
- The City of Weed, CA constructed a municipal parking lot of about 30 spaces for truck-only parking, catty-corner to a Pilot truck parking facility. This location is near an existing Pilot facility and provides drivers access to amenities at the Pilot facility.
- The Brainerd Lakes Area Welcome Center in Minnesota (see **Figure 6**) was funded through a P3 and is sited in the middle of the highway right of way. A gift shop featuring local products helps financially support the operating costs of the facility. The site provides separated, short-term truck parking that is accessible from both sides of the highway, bathrooms and vending machines. The site is operated as a rest area and has 30 truck parking spaces.
- Virginia DOT will enter into an agreement with private sector sponsors whereby private sector sponsors may sponsor any of the 43 Virginia rest areas and welcome centers to help defray the costs of operation. Private sector sponsors provide sponsorship and advertising to rest areas located on I-64, I-81, I-85 and I-95. Florida DOT is pursuing a similar sponsorship program for its TPAS message signs.

Figure 6 – Brainerd Lake Welcome Center (MN). Source: NCTP Working Group Products



³ This discretionary grant program was discontinued following the enactment of Moving Ahead for Progress in the 21st Century (MAP-21) in 2012.

- The City of Decatur, IL leveraged revenue from a local fuel tax to help lure a Love's truck stop into the community. Decatur will spend about five months' worth of revenue generated, up to \$750,000, to update roads in the area to accommodate trucks. The city levied a 5 cent per gallon surcharge at gas stations in the city and charges 1 cent per gallon for diesel. The 18,000 square-foot truck stop is estimated to employ 60 people, and will generate retail sales tax, property tax, and motor fuel taxes for the city. Under the agreement, Love's would repay the city's investment in road improvements if the truck stop isn't built there by May 2019.

P3s in general and truck parking-related P3s are discussed in further detail in the accompanying technical memorandum on Recent State Activities developed as part of Task 2.2 of this project.

Another opportunity for states to form P3s is the Interstate Oasis Program, which was created under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). An Interstate Oasis is a facility near an Interstate highway but not within the right-of-way that provides products and services to the public, 24-hour access to public restrooms, and parking for automobiles and heavy trucks. Interstate Oases have designated signing, are located no more than three miles from an interchange with an Interstate, and allow parking for trucks with a maximum duration limit of 10 hours or more.

FHWA's Interstate Oasis program benefits both businesses and DOTs. However, in Utah, agreements between the rest stop owners and the DOT had to be rewritten to include no pressuring of sales, as solicitation at some locations became problematic. This is a potential issue to be aware of should other states want to adopt this model.

The Interstate Oasis Program allows states to partner with private operators who meet the minimum criteria to provide basic rest area services in exchange for online highway signing and official designation as an Interstate Oasis. This results in expanded free parking and restroom services to supplement the services available at existing rest areas without having to construct and maintain new rest area facilities. Each state may enact its own Interstate Oasis program with specific signing, and may name the program differently. There are Oases in Connecticut, Illinois, Idaho, Pennsylvania, Ohio, and Utah.

The Funding, Finance, and Regulations working group also included a discussion about emissions reduction grant programs, including the Congestion Mitigation and Air Quality (CMAQ) and, Diesel Emissions Reduction Act (DERA), which is described in detail in the Recent State Activities technical memorandum developed in Task 2.2 of this project. Two idle-reduction technologies that are eligible for this funding include:

- **Verified onboard idle reduction technologies**, which are installed on the vehicle to reduce unnecessary main engine idling and include auxiliary power units and generator sets, fuel operated heaters, battery air conditioning systems, and thermal storage systems.
- **Truck stop electrification (TSE) and electrified parking spaces (EPS)**, refer to a technology that uses electricity-powered components to provide the operator with climate control and auxiliary power without having the idle the main engine. This can be on-board equipment (e.g., power inverters, plugs), off-board equipment (e.g., electrified parking spaces or systems that directly provide heating, cooling or other needs), or a combination of the two.

Figure 7 - Truck ShorePower. Source: truckinginfo.com



The EPS system provides off-board electrical power to operate the following: independent heating, cooling, and electrical power system; truck-integrated heating and cooling system; plug-in refrigeration system that would otherwise be powered by an engine. Examples of TSE projects funded through these sources are shown in **Table 2**.

Table 2 - Truck Stop Electrification Projects. Source: NCTP Working Group Products

Program	Year	State	Recipient	Description
DERA	2017	MO	Metropolitan Energy Center	Replace 21 diesel long haul and work trucks with compressed natural gas trucks; Install 41 electrified parking spaces at two locations
DERA	2016	OR	Columbia Corridor Association	Replace 10 diesel trucks; Electrify 43 parking spaces.
<i>DERA</i>	<i>2015</i>	<i>VA</i>	<i>James Madison University</i>	<i>Replace one diesel truck with CNG truck; Install electrified parking spaces for 143 reefer trucks.</i>
DERA	2013	TN	Eastern Tennessee Clean Fuels Commission	Installed 20 IdleAir spaces at Covenant Transport Services in Chattanooga TN
Ohio Diesel Emissions Reduction	2012	OH	Ohio Clean Fuels	Installed 120 IdleAir spaces at four truck stops (Seville Pilot, Hubbard Flying J, Lebanon Flying J, and Beaverdam Flying J).
CMAQ	2011	GA	Atlanta Regional Commission	Installed electrification technology as an alternative to idling of diesel-powered vehicles
CMAQ	2010	OH	Ashtabula County IRgo Truck Stop Electrification	Rest Area Truck Stop Electrification project to install wind generator and truck stop electrification anti-idle infrastructure

Note: *italics* indicates an I-95 Corridor Coalition member

State, Regional, and Local Government Coordination Working Group

The purpose of the State, Regional, and Local Government Coordination working group is to identify innovative ways to influence state, regional, and local governments to increase the supply of truck parking through zoning, public participation, and inclusion in planning documents. This group produced a series of products for the December 2018 workshop: (1) examples of truck parking in state and Metropolitan Planning Organization (MPO) freight plans; (2) brochures titled “How to Improve Truck Parking in Your Region” and “The Importance of Considering Truck Parking in Local Zoning Codes”; (3) local zoning parking and staging requirements; and (4) Taking Freight Webinar titled “Best Practices in Industry and Government Coordination for Developing Truck Parking Solutions”.

Coordination between the various levels of government and between government and other impacted stakeholders is critical to solving the truck parking issue. State DOTs do not have land-use authority and so are often limited in their ability to develop new truck parking capacity projects by local municipalities. One key recommendation from the working group was to work through Metropolitan Planning Organizations (MPOs) which are regional transportation agencies made up of representatives from local governments and transportation authorities. These groups provide an opportunity for state DOTs to interact with and educate local elected officials who often drive land use and economic development activity. An example message of why truck parking is important was developed by the working group.

Why is truck parking important?

Trucks play a vital role in our economy. They are essential for delivery supplies to manufacturing and delivery products to our retail establishments. With trucks comes the need for truck parking.

Truck parking shortages are a national safety concern. Lack of truck parking supply can lead to fatigued truck drivers on the road and force them to park at unsafe locations, such as on the shoulder of the road, exit ramps, or vacant lots, if they are unable to locate official, available parking.

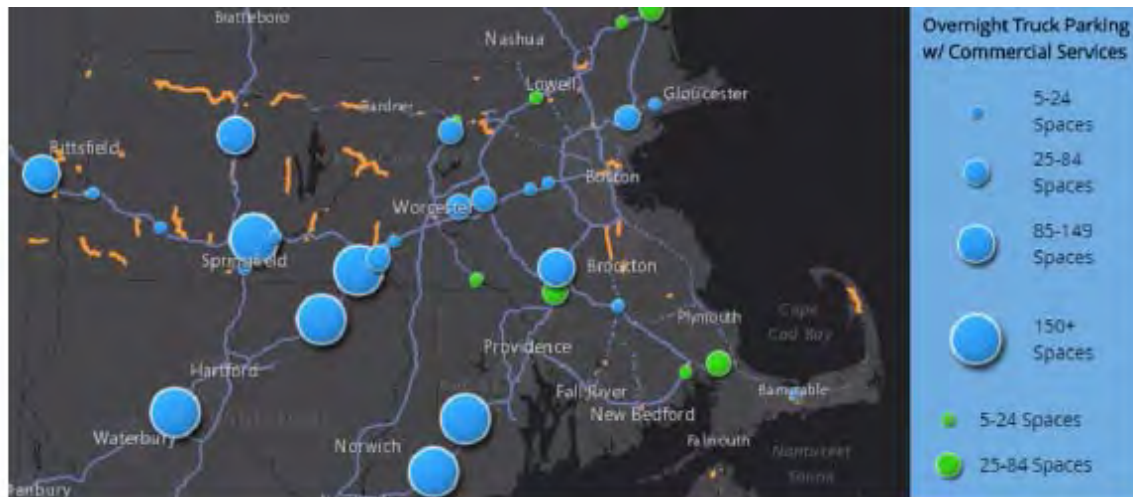
Also, in the I-95 Corridor where truck trips routinely span multiple states and truck parking needs and issues impact multiple jurisdictions, increasing communication and coordination between members through meetings such as the I-95 Corridor Coalition Truck Parking Workshop held in May 2018 are a critical way to enhance cooperation throughout the corridor.

This section highlighted examples of truck parking plans developed by states and MPOs. Notable examples include:

- **Boston Region MPO** completed “Rest Locations for Long-Distance Truck Drivers in Massachusetts” (2016). The study reviewed existing conditions, including availability, configuration, and the physical condition of truck parking locations serving Massachusetts and highlighted safety, efficiency, and environmental issues associated with providing appropriate truck parking opportunities. Some notable findings of the study include: (1) A specific need for a major rest location that serves trucks traveling on the northwest arc of I-495; and (2) a discussion of the available strategies and opportunities that would expand and improve truck parking locations in Massachusetts, both at commercial truck stops and at public rest areas. MassDOT incorporated these findings into its State

Freight Plan, and identified next steps to incorporate additional truck parking in the State, including collaboration, P3s, and technology strategies.

Figure 8 - Truck Parking and Servicing Facilities in Massachusetts and Neighboring States. Source: NCTP Working Group Products

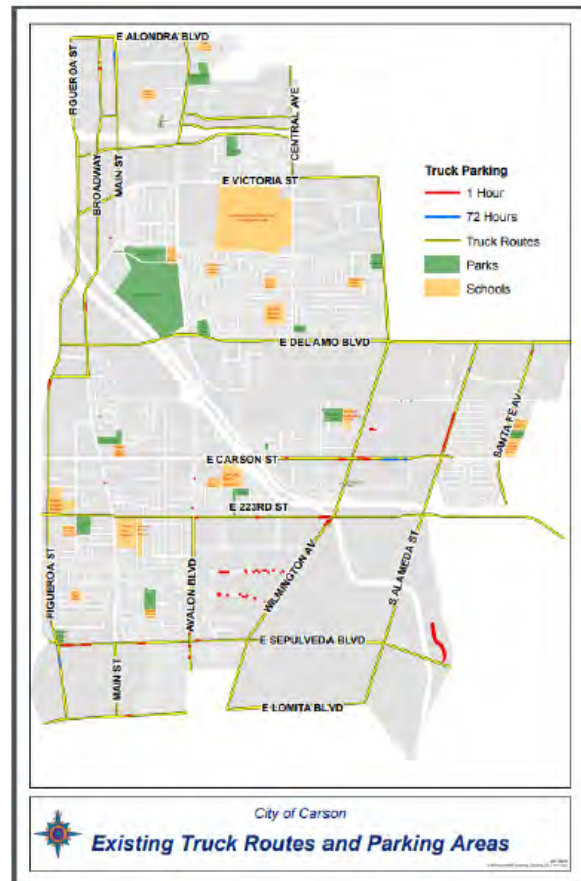


- **Memphis MPO** in Tennessee identified truck parking as a top issue in its Freight Plan (2017) through truck driver surveys. The plan presented the following solutions to issue in its plan: (1) increasing spaces at existing public rest areas; (2) constructing new public rest areas; (3) engaging private truck stop owners to increase spaces; and (4) improving parking information with intelligent transportation systems (ITS). The MPO also plans to inventory existing truck parking facilities as part of the Greater Memphis Regional Freight Plan.
- **Atlanta Regional Commission** in Georgia released the “Atlanta Regional Truck Parking Assessment Study” in 2018, which builds upon the recommendations from the 2016 *Atlanta Regional Freight Mobility Plan*. The study found that there is a parking deficit on most Interstate highways in the Atlanta Region, and that ongoing effort is needed to raise awareness about this issue, particularly with elected officials. Further, zoning restrictions, high land prices, and land use conflicts make building new truck stops difficult, and requiring truck parking as part of new industrial developments was identified as a potential solution.
- **Arizona DOT and Maricopa Association of Governments** jointly a truck parking study to evaluate truck parking issues statewide. The study was highly collaborative between private and public sector stakeholders, and use ATRI data to determine where truck parking occurs and if a shortage exists. After evaluating the survey results, Arizona DOT is considering adding variable message signs and mobile apps (such as Park My Truck) to better communicate parking availability.
- **North Central Texas Council of Governments** completed a Truck Parking Study as a follow-up to its 2013 North Central Texas Regional Freight System Inventory. The Truck Parking Study identified the locations and adequacy of short- and long-term parking in the North Central Texas Region. Nine data sets were used to inform the study, and a commercial motor vehicle driver survey was conducted to gauge what amenities might be needed at existing and additional locations. Recommended strategies to provide solutions for truck parking concerns include: state and regional strategic partnerships; public-private partnerships; technology enhancements and applications; and corridor-specific recommendations.

The group also presented examples of local governments including provisions for truck parking and staging in their local planning and zoning, specifically for overnight parking and staging and loading. By planning for truck parking, communities help address safety and traffic congestion concerns, and support commerce for local businesses that rely on trucks to move goods.

Four cities were acknowledged for their efforts to develop overnight parking facilities. From an I-95 Corridor Coalition member state, the City of Elmira, NY created a municipal truck parking area from an existing industrial-zoned lot adjacent to a carpool parking lot. The City notes that complaints from residents about truck parking in the community decreased following the development of this parking area. The City of Weed, CA created municipal truck parking for about 30 trucks on two pieces of city-owned land zoned for industrial use. In Moreno Valley, CA, commercial trucks are directed to and allowed to park on certain roadways in the city. Some areas are designated exclusively for overnight parking, and other areas allow truck parking at all times of the day. The City of Carson, CA designated specific areas of the City where trucks can park for up to 72 hours, and where trucks can load and unload goods (see **Figure 9**). The city also designated specific truck routes to provide a link between the state highways and commercial zones in the City. Creating synergy between truck parking and truck routing allows trucks to know with certainty where they are allowed to travel and where infrastructure is sufficient to allow easy transit or access to businesses. If a municipality has a truck route network, routes to and from any new parking facilities should be included.

Figure 9 - City of Carson, CA Truck Routes and Parking Areas. Source: NCTP Working Group Products



Two cities were acknowledged for their efforts to provide staging and loading areas for trucks. The City of Chicago, IL converted all business-paid commercial curbside loading zones into user-paid curbside loading zones in the central business district, as part of the Downtown Loading Zone Reform Pilot in 2017. The intention of the program was to help balance parking supply and demand, improve traffic flow, and increase availability of parking. After the pilot program proved successful, the initiative expanded to other congested areas and was added to the Municipal Code of Chicago. The City of Philadelphia, PA issued a Request for Information (RFI) in 2018 about options to provide long-haul and local-serving tractor trailer truck parking in the City. The goals of the RFI are to: identify opportunities and interest in establishing a full-service truck stop in Philadelphia, primarily for the use of long-haul truck drivers; identify opportunities to establish safe, affordable, and convenient parking options for locally based tractor trailer

drivers to park their vehicles when not in use, such as in a secured lot that leases spaces; and identify short-term parking options for any trucker who needs to wait before making a pick up or drop off.

National Coalition on Truck Parking Webinar – Comments

During the NCTP webinar on December 6th, 2018, a number of listeners posted comments about truck parking needs/issues and topics that the NCTP should consider next. Key comments are summarized in the following paragraphs.

Several participants commented about land use. One listener from Minnesota DOT suggested that the Coalition include outreach to the American Planning Association to identify and encourage creative ways to integrate truck parking into future land use plans and zoning ordinances. These efforts could make future development of truck stops and truck parking less difficult. Another listener from New Mexico DOT also suggested developing guidance for new warehousing and industrial facilities to ensure that there is sufficient on-site or adjacent truck parking, similar to the Meijer Grocery Store distribution center example and efforts underway by various municipalities in the Lehigh Valley area of Pennsylvania. A third listener from Florida asked whether there are any precedent or preference given by states and the U.S. government to utilizing publically owned land for truck parking in light of high industrial land costs in that region.

APA Policy Recommendations

The American Planning Association (APA) has agreed on certain policy recommendations for increasing truck parking supply in municipalities:

“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.”

Several listeners commented on outreach and education, including potentially running a public campaign on the importance of truck parking and the service that truck drivers provide to the public by moving goods. Another listener agreed that more information for the general public on these issues is needed and that a campaign showing the industry in a positive light could be a good approach. They specifically recommended using TV ads and radio in addition to state DOT websites. One example that another listener mentioned was the use of educational vignettes describing the need for goods movement to help reduce freight NIMBY-ism.

One webinar listener asked the Coalition to consider whether its current efforts (or the efforts of others) will result in significant increases to truck parking capacity where it is needed, and whether the obstacles come from local indifferences, resistance, or public process to change zoning regulations or issue permits. The listener felt it may be time to consider the challenge of making truck parking affirmatively attractive as opposed to trying to appeal to locals’ altruism in solving a problem that’s both part of a system and involves players with interests/concerns that extend beyond local boundaries. She noted that local tax revenue is most likely part of getting to a “Yes”, but also that reusing neglected or contaminated industrial/commercial properties, building in amenities (i.e. service facilities that could be sources of

employment or training), and minimizing engine-on time to reduce emissions and noise would help. Further, the listener believes that trying to expand truck parking “on the cheap” may perpetuate the image of truck parking being an unwanted and marginal land use, keeping drivers feeling like “outcasts”. Building on this comment, another listener from Florida DOT asked whether the Coalition could develop a concept for an “ideal” 21st century parking facility to challenge what planners, engineers, and the public think of as truck parking. Creating a more appealing, more inclusive truck parking facility that provides other services to the community could help overcome some of the resistance new truck parking typically receives.

The last key comments from the webinar addressed security and technology concerns. A listener from New Mexico DOT asked the Coalition to consider capacity for secure truck parking, particularly for high-value loads that cannot be parked in most public lots or private facilities lacking proper security. Cargo theft is a serious concern, with data from 2016 showing more than 1,300 reported thefts of tractors or trailers with New Jersey among the top three states nationwide in incidents. Georgia was a top state for theft activity for many years but tougher cargo theft laws and increased enforcement contributed to a 64% drop in thefts from 2015.⁴ South Dakota DOT asked what the impacts of autonomous and platooning freight vehicles will be on truck parking, and another member suggested adding the topic “autonomous vehicles and platooning impacts on truck parking” to the Technology and Data working group. Although the two topics were not linked in the discussion group there is a connection between growing use of automation and security due to the potential ability of hackers to take over control of an autonomous vehicle that also needs to be considered, though it is related to many issues outside of truck parking.

⁴ CargoNet’s 2016 Cargo Theft Trend Analysis. January 31, 2017. Online at: <https://www.ajot.com/news/cargonets-2016-cargo-theft-trend-analysis>

Appendix A: Acronym List

Term	Definition
AASHTO	American Association of State Highway Transportation Officials
ATA	American Trucking Associations
ATRI	American Transportation Research Institute
CCTV	closed-circuit television
CMAQ	Congestion Mitigation and Air Quality
CVSA	Commercial Vehicle Safety Alliance
DERA	Diesel Emissions Reduction Program
DOT	Department of Transportation
DMS	dynamic message signs
EPS	electrified parking spaces
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
ITS	intelligent transportation systems
MAASTO	Mid-America Association of State Transportation Officials
MARAD	U.S. Maritime Administration
MPO	Metropolitan Planning Organization
NATSO	National Association of Truck Stop Operators
NCTP	National Coalition on Truck Parking
OOIDA	Owner-Operator Independent Drivers Association
P3	public-private partnership
RFI	request for information
ROW	right-of-way
SAFETEA-LU	The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
TPAS	truck parking availability system
TPMS	truck parking information management system
TSE	truck stop electrification
U.S. DOT	United States Department of Transportation
XML	eXtensible Markup Language