

REGIONAL TRUCK PARKING STUDY

April 2011



A COMPREHENSIVE ANALYSIS OF THE SUPPLY AND DEMAND OF TRUCK PARKING IN THE PHILADELPHIA-CAMDEN-TRENTON REGION



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The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.



The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of

the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

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Executive Summary

The Delaware Valley Regional Planning Commission's (DVRPC's) Regional Truck Parking Study was undertaken due to the important economic, environmental, and safety implications of a sufficient regional truck parking network. Truck drivers must work within the bounds of the federally mandated hours-of-service (HOS) rules and regulations. The combination of limited hours of driving, complex supply chains, and narrow delivery windows leads to a need for safe and secure overnight parking.

Truck parking is usually provided by three different types of facilities: privately owned truck stops, service plazas, and welcome centers. This report contains details about each type of facility in the Delaware Valley region, including the amenities offered to drivers, the number of spaces, and proximity to other facilities. At present, the region possesses a total of 1,122 spaces, 879 of which are located at privately owned truck stops.

The report estimates parking demand using two different methods. Overnight site visits were done to determine the utilization of authorized facilities and the location and utilization of unauthorized parking locations. The region's authorized facilities were found to be operating over capacity by 134 trucks during the site visits, with the Valley Forge and Woodrow Wilson Service Plazas accounting for 91 of those surplus trucks. Additional unauthorized parking was found on highway shoulders, around toll plazas, and in local industrial areas. Truck parking demand was also determined by adopting the Federal Highway Administration (FHWA) Truck Parking Demand Model to the region. The model determined that the region had a shortfall of 247 spaces in 2009.

Throughout the report, blue call-out boxes will be presented; they contain related information and interesting anecdotes pertinent to the topic under discussion.

Finally, the report offers a set of multi-regional and regional actions intended to improve the regional truck parking network:

- 🌀 **Action 1:** Fully utilize available public funding that directly supports the creation of additional overnight truck parking spaces
- 🌀 **Action 2:** Advance the use of the latest Intelligent Transportation Systems (ITS) technologies to optimize existing parking locations
- 🌀 **Action 3:** Reduce emissions that are caused by idling parked trucks

- ☞ **Action 4:** Promote the need for additional truck parking spaces and amenities to both DVRPC partners and the public
- ☞ **Action 5:** Improve access to existing truck parking facilities
- ☞ **Action 6:** Maintain existing facilities and create additional regional capacity where possible

As with all work from DVRPC's Office of Freight Planning, this report was made possible by the continued support of the Delaware Valley Goods Movement Task Force.

Introduction

The Greater Philadelphia area has a rich history of freight transportation. From the 1950s through the end of the twentieth century, the trucking industry has played an increasing role in the movement of goods for the Delaware Valley Regional Planning Commission (DVRPC) region. A study of freight flows and forecasts, conducted by DVRPC, found that trucks are responsible for 75% of freight moving to, from, and within the region.

While there are many different types of truck movements, some of the most visible are long haul operations, which require overnight truck parking spaces. Some trucking operations, such as drayage and less-than-truckload, have more defined hours and their drivers return home at night. On the other hand, some drivers are on the road for long distances and may not see home for months at a time. Some drivers of these trucks, especially those who are employed by private fleets, are able to use company terminals instead of dedicated truck parking facilities. However, many drivers, especially owner-operators, need truck parking spaces in convenient locations along their routes.

Many large tractor-trailers are outfitted with sleeper berths behind the driver seating area. Average-size berths offer space sufficient for a pull-down twin bed, a small television, and some small storage compartments for clothes and belongings. More elaborate berths are much larger in size and provide all the amenities of a small apartment, such as a seating area, stove, sink, and shower.

Hours-of-service

In order to ensure safety on the highways, the number of hours a trucker (and any commercial vehicle operator) may drive is controlled by the United States Department of Transportation. Once drivers have reached their driving limit, they must stop their trucks and go off-duty. This is the most direct determinant as to when a driver needs a parking facility. Every truck driver must carry a log book to record when they are “off-duty,” in the “sleeper berth,” “driving,” or “on duty (not driving).” A trucker must use the log book to account for

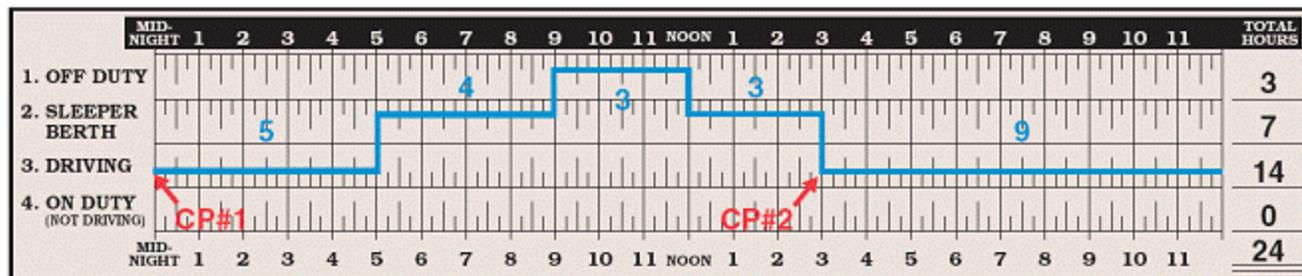
every 15-minute interval of the day and, if requested, show the log to enforcement officers (see Figures 1 and 2).

The hours-of-service requirements are based on scientific research and are intended to ensure that truckers get sufficient rest. The current hours-of-service rules contain two basic rules for property-carrying Commercial Motor Vehicles (CMV) drivers to abide by:

- ☞ 11-Hour-Limit: A driver may drive a maximum of 11 consecutive hours after 10 consecutive hours off duty.
- ☞ 14-Hour Limit: A driver may not drive beyond the 14th consecutive hour after coming on duty, following 10 consecutive hours off duty.

Modifications to these rules were last made in 2005, based on changes in road and vehicle design as well as research on driver fatigue and sleep disorder research. To the uninitiated observer, the schedule of a trucker may seem fairly straightforward, but, in reality, it can be highly irregular. To demonstrate the impact that federal rules have on truckers, it is helpful to consider some examples from the Federal Motor Carrier Safety Administration (FMCSA). Below are shown two examples of a driver's log book entries. In Figure 1, the driver has met the conditions of the federal guidelines. In Figure 2, the log book example demonstrates how a driver may be out of compliance with the regulations.

Figure 1: Log Book Example – No Violations



Source: Federal Motor Carrier Safety Administration

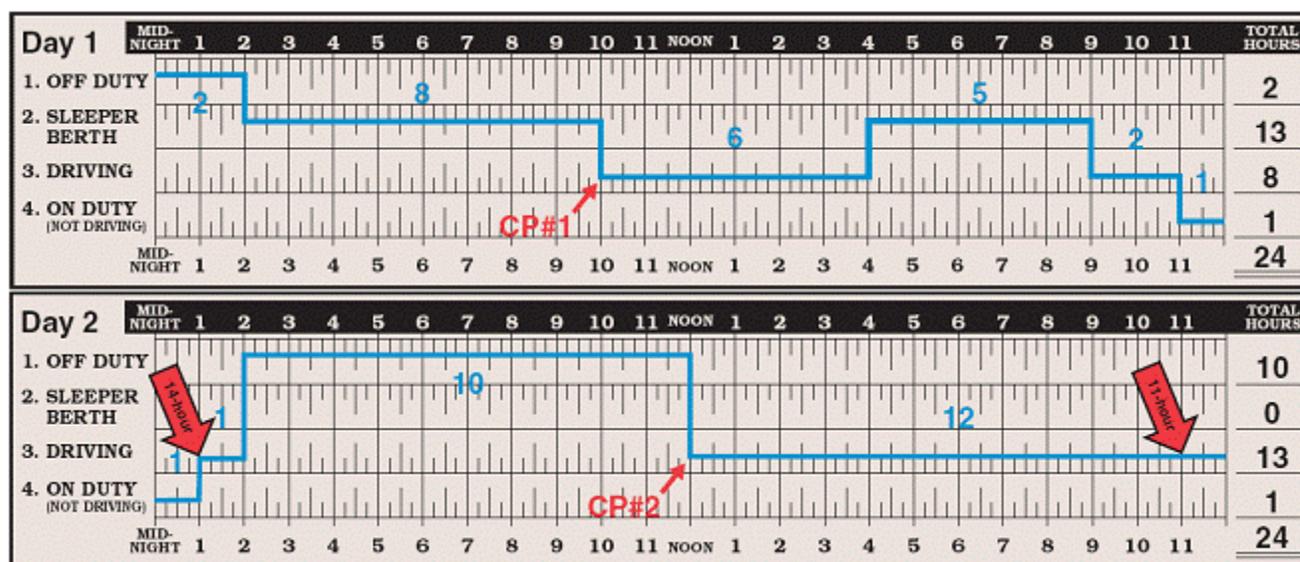
Explanation — 11-Hour Limit: In Figure 1, after 10 consecutive hours off duty on the prior day, the driver was eligible to drive for up to 11 hours beginning at midnight (CP#1; CP stands for calculation point). In this case, the driver drove for 5 hours (12 a.m. to 5 a.m.) and then compiled 10 consecutive hours off duty (5 a.m. to 3

p.m., using a combination of off-duty and sleeper-berth time). At this point, the driver's clock reset, and he or she is eligible for another 11 hours of driving. Because the driver then drove for only 9 hours (3 p.m. to 12 a.m.), he or she is in compliance and there are no violations.

Explanation — 14-Hour Limit: After 10 consecutive hours off duty on the prior day, the driver had 14 hours available beginning at midnight (CP#1). The driver accumulated just 5 on-duty hours before going off duty for another 10 consecutive hours. The calculation point then moves to 3:00 p.m. (CP#2), and after that point, the driver accumulated 9 hours on duty, which are within the acceptable limits.

Note: A driver may accumulate 10 consecutive hours of rest using any combination of sleeper-berth and off-duty time, as long as all the time is consecutive.

Figure 2: Log Book Example - Violations



Source: Federal Motor Carrier Safety Administration

Explanation — 11-Hour Limit: In Figure 2, After 10 consecutive hours off duty using a combination of off-duty and sleeper-berth time, the driver was eligible to drive for up to 11 hours at 10:00 a.m. on Day 1 (CP#1). By 2:00 a.m. on Day 2, the driver had driven 9 hours. By obtaining 10 consecutive hours off duty on Day 2, the 11-

hour calculation point moved to noon on Day 2 (CP#2), at which point the driver had 11 hours of driving time available again. The driver violated the 11-hour rule by driving beyond the 11-hour limit at 11:00 p.m.

Explanation — 14-Hour Limit: After 10 consecutive hours off duty, the driver had 14 hours available at 10:00 a.m. on Day 1 (CP#1). The driver reached the 14-hour limit at midnight (the 5-hour sleeper-berth period is included in the 14-hour calculation because it was less than 8 hours). Though the driver was not eligible to drive a CMV after midnight, he or she was able to continue working (on-duty (not driving)) without violation, which was done for 1 hour. The driver violated the 14-hour rule by driving a CMV at 1:00 a.m.

Governmental agencies are responsible for enforcing hours-of-service rules. Such agencies include state and local law enforcement, state Departments of Transportation, and the FMCSA. The state Department of Transportation and the FMCSA are responsible for conducting truck inspections. In addition, the FMCSA is responsible for routine investigations of businesses that employ truckers. Both inspections and investigations include review of drivers' log books.

Like the length of vehicles, the size of the fuel tanks and miles per gallon can fluctuate between trucks. Most large trucks use two fuel tanks, which may carry 50–250 gallons a piece, depending on the purpose of the truck. Also, mileage varies greatly depending on the weight of the load to be hauled and the geographic terrain the truck is traversing. (Hilly terrain greatly reduces fuel efficiency.) In the U.S., fully loaded large trucks get between 5.5 and 6.75 miles per gallon, while a truck with a completely empty trailer would get roughly 7 to 8.25 miles per gallon (source: truckersreport.com). Because of the size of their fuel tanks, truckers rarely have to stop because they are running low on fuel; instead they are able to plan where they get fuel based on convenience and price.

Short-Term Truck Parking

While this study focuses on overnight truck parking, short-term truck parking is also an important issue. In the DVRPC region, the main short-term truck parking challenge occurs in cities and town centers as trucks, of all sizes, attempt to make deliveries to local businesses. These businesses rely on these deliveries, so finding convenient, safe, and efficient short-term parking for these trucks is vitally important for economic viability and growth. When parking is not available, these trucks will often double park in the street, causing traffic congestion. A recent study determined that double-parked trucks were the number one cause of delays along

Chestnut and Walnut streets in Philadelphia.¹ In response, the City of Philadelphia confronted the problem by creating exclusive truck parking hours on Chestnut and Walnut streets from 6 to 10 a.m., Monday through Friday, and is working with local companies to ensure deliveries are made in that time. By ensuring parking is available, the City hopes to greatly relieve congestion in its prime business district.

Another area where short-term truck parking is sometimes needed is in the vicinity of major freight generators. Trucks may need a short-term parking spot for numerous reasons, such as a truck driver arrives shortly before the facility opens; there is a delay at the facility (e.g., a container clearing Customs), so the load is not ready; a driver needs to call a dispatcher to get instructions for their next job; or a driver wants to eat lunch before getting back to work. By providing short-term parking spaces in strategic locations, truck drivers have a place to park. There are two good examples in the region where short-term parking is being provided, both at port facilities. One is the Gloucester City Marine Terminal in Camden County. This marine terminal on King Street in Gloucester City has a designated large, off-street storage area for trucks. Another facility, the Delaware Avenue Truck Staging Facility, operated by Holt Logistics, provides truck queuing capacity in South Philadelphia. This facility is located on Piers 96–98 at Oregon Avenue and Old Delaware Avenue and is only open during the day. The facility is controlled by an on-duty gate attendant; trucks wait inside the facility, well removed from the more congested areas of the marine terminal, until their loads are identified.

Commercial vehicle size is limited by the federal and state governments. On the National Highway System, large trucks are restricted to be a maximum of 102 inches wide. The length of a truck can fluctuate depending on both the size of the tractor and trailer. The most common trailer is a 53-foot trailer. When combined with an average tractor that includes a sleeping cab, the entire truck is somewhere between 70 and 80 feet in length.

Related Truck Parking Initiatives

This section provides background information on truck parking legislation and studies recently undertaken at the federal level and at the state and local levels in close proximity to the Delaware Valley. While these initiatives range in scope, all of them conclude that there is a lack of truck parking spaces in their respective regions.

¹ Managing Success in the Center City: Reducing Congestion, Enhancing Public Space. Center City District/Central Philadelphia Development Corporation. February 2008.

Federal Legislation

The Transportation Equity Act for the 21st Century (TEA-21), Section 4027, called for “a study to determine the location and quantity of parking facilities at commercial truck stops and travel plazas and public rest areas that could be used by motor carriers to comply with Federal hours-of-service rules.” A 2002 FHWA study of truck parking found that there were about 315,850 parking spaces at public and private truck parking facilities (roughly 10% of spaces were found to be in public rest areas and travel plazas and 90% of spaces in private truck stops). The FHWA report found that 21% of truck parking occurs informally (for example, loading docks, company terminals, and shoulders of roadways). This report also stated that “parking shortages are concentrated and solutions thereto should be targeted at a corridor or regional level; therefore, the analysis of shortages and development of solution should be performed at the corridor, state, or sub-state rather than the national level.”²

Baltimore Metropolitan Council

The Baltimore Metropolitan Council, the Metropolitan Planning Organization (MPO) for the Baltimore region, was the first sub-state agency in the mid-Atlantic to study the availability of overnight truck parking. The study focused on two corridors in which trucks were known to park on the shoulders of highways, I-83 in Hunt Valley, Maryland and I-95 in Jessup, Maryland. The study identified issues such as the existing truck parking facilities operating over capacity and the public perception of truck parking facilities as undesirable. The study went on to develop a list of potential strategies to overcome some of the identified issues. A selection of the recommendations includes:

- ☞ Advance a public–private partnership initiative for regional truck parking
- ☞ Explore tax incentives for private investment in truck parking and/or the provision of land for parking
- ☞ Advance a pilot/demonstration project with public and private partners
- ☞ Advance a multi-state truck parking strategy with contiguous regions and corridor states
- ☞ Advance truck parking Intelligent Transportation Systems (ITS)
- ☞ Determine feasibility for expanding existing facilities

² Study of Adequacy of Commercial Truck Parking Facilities – Technical Report. FHWA. Page vii. 2002.

- ☞ Incorporate truck parking improvements in project planning and design

Commonwealth of Pennsylvania

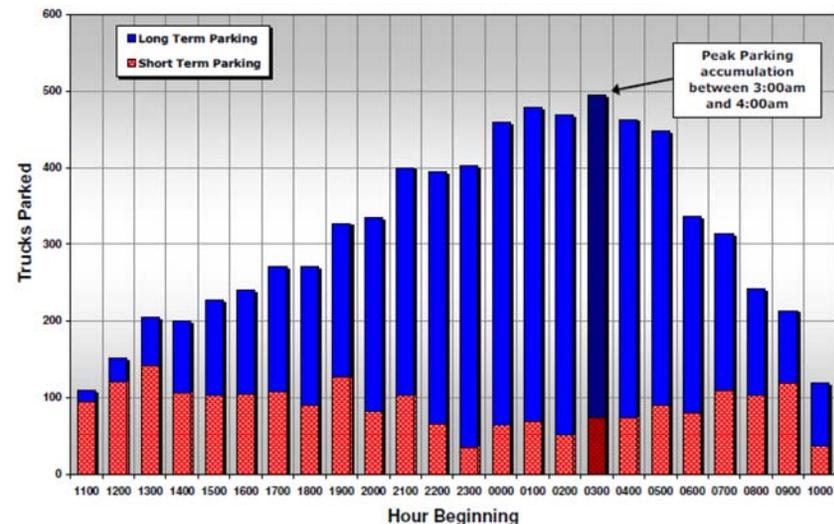
The Pennsylvania State Transportation Advisory Committee released a study, in December of 2007, entitled *Truck Parking in Pennsylvania*, meant to determine the supply and demand of truck parking. The study determined that there was a supply of 11,500 truck parking spaces throughout the Commonwealth of Pennsylvania.

The study used two different methods of determining demand for truck parking spaces. Site visits done for the study found approximately 13,000 trucks that required parking accommodations on a typical night, a shortfall of 1,500 spaces. Also, a supply and demand model was created and determined a 4,400 space parking shortfall. Both methods demonstrate that there is a significant shortfall of truck parking spaces within the Commonwealth of Pennsylvania.

Some other key findings from the study included:

- ☞ Safety concerns due to the shortage of truck parking. The study focused on the concern over shoulder parking and estimated that 1,100 trucks park along shoulders and ramps on an average night in the Commonwealth.
- ☞ Federal hour-of-service laws and Pennsylvania's proximity to consumer markets make the causes of the truck parking issue more complex.

Figure 3: 24-Hour Parking Accumulation Profile for Pennsylvania
Source: Gannett Fleming



- ☞ The demand for truck parking will continue to grow due to a projected 50% increase in truck traffic by the year 2030.
- ☞ The problem is enhanced by the lack of a clear champion for the issue and the fact that any resolution to the problem must involve both public and private sector involvement.

Based on surveys of six different sites throughout the state, the study team built a 24-hour profile of truck parking in Pennsylvania. Figure 3 shows that truck parking reaches its highest levels between 3 and 4 a.m. Short-term parking, which is defined as any parking under 3 hours is shown in red and remains relatively constant while long-term parking, which is defined as any parking over 3 hours, is shown in blue. Long-term parking is minimal during the day and swells at night.

The study broke the state into 27 different corridors to determine what roadways had unmet demand for truck parking. It was determined that four of the top five corridors of total parking shortfall were associated with the DVRPC region. The eastbound Pennsylvania Turnpike from Harrisburg to Philadelphia was found to have the greatest shortfall of truck parking, with demand for an additional 435 spaces. The westbound Pennsylvania Turnpike from Philadelphia to Harrisburg was second in parking shortfall, with a need for an additional 419 spaces. I-95 in the Philadelphia region was found to have a shortfall of 291 spaces northbound and 282 spaces southbound.

North Jersey Transportation Planning Authority

Released in January of 2008 was the North Jersey Transportation Planning Authority's (NJTPA's) study on truck parking entitled *North Jersey Truck Rest Stop Study: An Assessment of Potential Locations for Truck Rest Areas in Northern New Jersey and the Port District*. The beginning steps of the study were similar to the Pennsylvania study. It was determined that roughly 300 trucks were parked in unauthorized locations, such as highway shoulders, local roads in port areas, near rail yards, or adjacent to warehouses and distribution centers. An inventory of existing spaces found roughly 1,400 spaces in rest areas, New Jersey Turnpike Service Plazas, and Private Truck Stops. In total, there were 34 different facilities, and 28 of them were found to be operating over capacity. A complete supply and demand analysis showed that on an average night in North Jersey, there is demand for an additional 1,300 spaces.

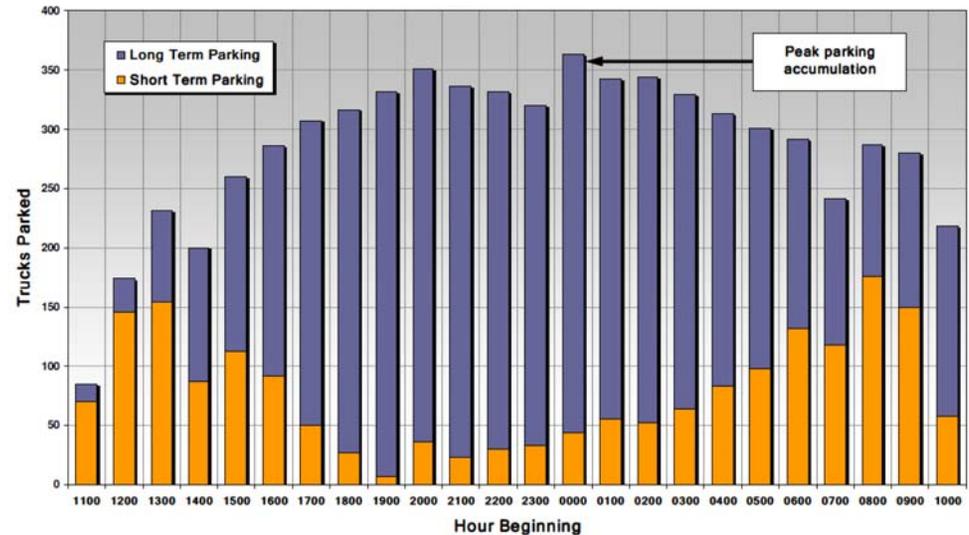
The 24-hour utilization profile for North Jersey shows less of a peak in overnight parking than was shown for the state of Pennsylvania. While the peak occurs around a similar time (1 a.m. to 2 a.m. as compared to 3 a.m. to 4 a.m.), the buildup in North Jersey starts much earlier and the utilization stays relatively constant from roughly 6 p.m. through 5 a.m. Short-term parking peaks around noon and is a small percentage of space consumption overnight.

The North Jersey study went beyond the Pennsylvania study and actually identified locations where additional truck parking capacity could be created. The work to identify sites included an assessment of how twenty possible sites satisfied the following set of criteria:

- ❧ Parcel Size
- ❧ Ownership
- ❧ Proximity to the Interstate System
- ❧ Compatible Land Use
- ❧ Nearest Alternate Parking Site
- ❧ Utilization of Nearest Alternate Parking Site
- ❧ Anticipated Level of Demand Satisfaction

The study recommended that two sites expand on the truck parking facilities already in existence—the Vince Lombardi Service Plaza and the Molly Pitcher Service Plaza, both located on the New Jersey Turnpike. Phase II of this study was completed in January 2010. It focused on an analysis of what a truck stop can mean economically to the host municipality and surrounding area.

Figure 4: 24-Hour Parking Accumulation Profile for NJTPA Region
Source: Gannett Fleming



State of Connecticut

The Connecticut Department of Transportation released a study of truck parking, entitled *Connecticut Statewide Rest Area and Service Plaza Study: Volume 1 – Administrative Report—Recommended Improvement Program*, in September of 2008. This study went beyond the issue of truck parking and looked at the statewide system of service plazas from both a passenger and freight standpoint. It recommended that it was not ideal to have thirty unique facilities, each with its own size and layout, but that there should be an effort to have four different-sized facilities, each of which would look the same. In essence, the report recommended that the public rest areas and service plazas create a Connecticut brand.

The State of Connecticut's report briefly discussed truck parking deficits in the state. The study findings included the following:

- ☞ On an average night, there was a need for an additional 1,400 spaces for trucks.
- ☞ Approximately 2,000 additional spaces would need to be created by 2025 to match the projected growth in truck traffic.

The study focused more on rebuilding existing facilities and reconfiguring them than it did on attempting to find sites to create new truck parking facilities or expand an existing site footprint. The study did not deal with private sector truck parking directly.

New York Metropolitan Transportation Council (NYMTC)

In a report released in January 2009, NYMTC attempted to coordinate their own work on truck parking with the work done by the adjacent agencies, the State of Connecticut, and NJTPA. The report, entitled *Multi-State Truck Stop Inventory & Assessment Study: Tri-State Regional Summary of Truck Stop & Rest Area Activities*, proposes five techniques to expand truck parking in the tri-state region:

- ☞ Create new facilities on land near the region's main shipping routes
- ☞ Redesign facilities to yield additional parking spaces
- ☞ Assess if parking is available at the shipping point of origin or destination such as warehouses and distribution centers

- ☞ Explore non-freight parking facilities such as office parks and park-and-rides
- ☞ Use technology such as ITS to enhance the use of spaces already in existence

For the study, NYMTC determined the supply and demand of truck parking in their region. It was found that 1,756 spaces existed in 2007 and that they were used at a peak utilization rate of 118%. The peak demand was determined to be 2,009 spaces, which created a 2007 shortfall of 253 spaces. Projecting out to the year 2030, and assuming no additional spaces are created, the study suggests that there will be a shortfall of 2,155 spaces.

I-95 Corridor Coalition

In an attempt to construct an overarching truck parking strategy, the I-95 Corridor Coalition (which serves the entire eastern coast from Maine to Florida) is currently undertaking a comprehensive look at truck parking across the I-95 corridor. The study will look at two main issues: first, it will analyze a real-time truck parking availability system, and second, it will look for places to expand capacity throughout the corridor. The work plan for the study includes a plan to develop, test, and install a real-time truck parking availability system in the I-95 corridor. It would also identify in what order the system should be installed. In terms of adding capacity, the study will focus on adding state-sponsored expansions of truck parking facilities and determine conditions under which truck parking may become possible at facilities such as warehouses, industrial parks, and weigh stations.

Steering Committee

Integral to the completion of this report was the steering committee that met to discuss the report's progress and review completed materials. Members of the steering committee also assisted by sharing data and lessons learned. The following is a list of organizations that were invited to participate in the steering committee and made invaluable contributions to the contents of the report:

- ☞ Pennsylvania Department of Transportation
- ☞ New Jersey Department of Transportation
- ☞ Delaware Department of Transportation

- ☞ Wilmington Area Planning Council
- ☞ North Jersey Transportation Planning Authority
- ☞ New Jersey Turnpike Authority
- ☞ Pennsylvania Turnpike Commission
- ☞ Pennsylvania State Police
- ☞ Philadelphia City Planning Commission
- ☞ Pennsylvania Motor Truck Association
- ☞ New Jersey Motor Truck Association
- ☞ Owner-Operator Independent Drivers Association
- ☞ Federal Highway Administration

The Owner-Operator Independent Drivers Association (OOIDA) is an interest group that represents over 160,000 independent professional drivers. Founded in 1973, the Association advocates for all issues that are important to truck drivers, such as safety, promoting responsibility among highway users, and promoting a better business climate for the trucking industry. OOIDA advocates these views through local, state, and federal government agencies, legislature, and the courts.

Existing Truck Parking Facilities

This chapter contains a summary of the existing truck parking facilities within the DVRPC region. The existing facilities fall into three different categories: privately owned truck stops, service plazas, and welcome centers. An overview of the regional facilities is followed by detailed maps, information sheets, and photographs of each facility. Lastly, the chapter includes a section on the region's former truck parking facilities.

Types of Facilities

The three types of facilities found in the Delaware Valley combine to create a regional network of truck parking. Each serves a role in providing truck parking in the DVRPC region.

Private Truck Stops

The concept of a truck stop predates the Interstate Highway System, the containerization of freight, and the boom of the trucking industry. In the 1940s, truck stops started to appear on the American landscape as a reliable source of diesel fuel (which was not found at many fueling stations). The truck stop has grown from a small gas station that reliably sold diesel gas to an industry that mainly falls into two categories. Smaller truck stops typically provide a place to park, fuel, and eat. Larger truck stops provide fuel and food, as well other amenities such as convenience stores, showers, laundry facilities, lounges, and a truck repair shop.

Private truck stops generate most of their income through the sale of diesel fuel. The DVRPC region has a rich history in the production of diesel fuel, and it continues to be a strong economic driver for the region. The region hosts an array of refineries, which in 2009 received 951 ships laden with crude petroleum. In terms of economic output, among manufacturing sectors, petroleum and coal products is the largest in the region with over \$26 billion worth of output in 2008. These local industries produce family-sustaining jobs and help support the DVRPC region's truck stops.

Truck stops are privately owned and operated, and usually located in close proximity to an Interstate Highway interchange. In the past, many truck stops were independently owned. However, many have been folded into

one of the four major truck stop companies in the United States (i.e., TravelCenters of America, Pilot, Flying J, and Love's). Truck stops can come in many different sizes, anywhere from a small gas station with a handful of spaces, to large truck stops with many hundreds of spaces.

In the DVRPC region, five truck stops provide roughly 79% of total truck parking spaces. There are also a number of privately owned truck stops just to the south of the region in Salem County, New Jersey and Cecil County, Maryland. In general, these facilities have amenities geared toward truckers, such as showers, laundry, a large restaurant, a game room, and a lounge. Some have extra features such as truck repair, a truck accessories store, and truck parking electrification equipment such as IdleAire or CabAire. In recent years, truck stops have also tried to attract more passenger auto traffic to their stores, by rebranding themselves as "travel centers" instead of truck stops.

Private truck stops have differing price structures. Many truck stops were historically gas retailers and they still focus the majority of their business on the sale of diesel fuel. Many truck stops do not charge for a driver to park in their facility, and the ones that do will normally waive the charge if the driver buys a nominal amount of merchandise from their store or a certain amount of diesel fuel. Additionally, purchase of a certain number of gallons of diesel usually allows the driver to use amenities such as showers and laundry free of charge. The business model for these facilities is to use amenities to attract the drivers and to make most of their profit on the sale of diesel fuel.

A partial list of the extensive amenities available at the famed Iowa 80 Truck Stop (pictured below):

- ❖ 50-Foot Salad Bar
- ❖ Fast Food Court
- ❖ Super Truck Showroom
- ❖ Driver's Lounge
- ❖ Laundry Facilities
- ❖ Barber Shop
- ❖ Dental Office
- ❖ 24 Private Showers
- ❖ Service Center with 7 Bays
- ❖ Truck Wash
- ❖ CAT Scale
- ❖ Iowa 80 Truck Museum
- ❖ Annual Trucker Jamboree



Service Plazas

Service plazas are public facilities located along a major highway or thoroughfare (in other regions, they may have another name such as a service area or travel plaza). In the DVRPC region, service plazas are located along both the Pennsylvania and New Jersey Turnpikes. The land the service plazas occupy is owned by the Turnpike Authority but leased out for private management. The Turnpike Authorities have contracted with Host Marriott Services Corporation (HMS Host) to provide food and with Sunoco to provide fuel. The service plazas offer franchise options such as Starbucks, Burger King, Pizza Hut, Sbarro, and others. HMS Host also operates travel marts (which function as small convenience stores) as well as maintains the bathroom and seating areas.

Rest Areas/Welcome Centers

Rest areas and welcome centers are publicly owned and managed facilities that have access directly from state-owned freeways. They differ from service plazas in that they are small and offer little in the way of amenities. Despite having different names, rest areas and welcome centers represent essentially the same thing to a truck driver. They usually include a public bathroom and a kiosk area that may contain vending machines and tourist information. These facilities can be used for multiple purposes, such as to take a break from driving, make a trip to the bathroom, or eat a pre-packed lunch. The only significant difference is location; welcome centers are always located near the entrance of a state, while rest areas can be located anywhere within a state. The DVRPC region has two welcome centers and no rest areas. Since there are no rest areas in the DVRPC region (rest areas are far more common in other areas of the country), the remainder of the report will simply refer to welcome centers.



*Posted signs at the Yardley Welcome Center.
Photo taken by DVRPC.*

Regional Truck Parking Facilities

Table 1 displays the parking capacity for each of the region's truck parking facilities. New Jersey provides the majority of the parking, with 82% of the region's capacity. Private truck stops provide 79% of the region's capacity, which is under the 90% they provide for the nation, according to FHWA.

When looking at the regional truck parking facilities, it is important to think of them as making up a system. Each facility has a role in providing services to truck drivers, and each facility that provides safe and secure authorized spaces is a major asset to the system, whether it is an 8-space welcome center or a 500-space truck stop.

Callowhill Bus Center

In order to provide dedicated parking for buses and because bus parking on Philadelphia streets is prohibited, the Callowhill Bus Center (CBC) was created in 2003. The CBC is uniquely situated amid the 1-95/I-676 interchange and ramp complex on Callowhill Street between Second and Third streets.

Operated by DLC Parking Services, the CBC offers a secure and convenient location for bus drivers to wait for their groups (e.g., those visiting the Liberty Bell and Independence Hall historic area). It is equipped with 43 spaces and an air-conditioned waiting area that features bathrooms, showers, televisions, sleeping lounges, and vending machines. Drivers are not permitted to stay in the facility overnight.

Table 1: Overnight Truck Parking Facilities in the DVRPC Region

Name of Facility	County Located	Type of Facility	Roadway	Direction Served	Number of Truck Parking Spaces
Pennsylvania					
Valley Forge Service Plaza	Chester	Service Plaza	I-76 (PA Turnpike)	Eastbound	9
Peter J. Camiel Service Plaza	Chester	Service Plaza	I-76 (PA Turnpike)	Westbound	27
King of Prussia Service Plaza	Montgomery	Service Plaza	I-76 (PA Turnpike)	Westbound	28
Linwood Welcome Center	Delaware	Welcome Center	I-95	Northbound	10
Yardley Welcome Center	Bucks	Welcome Center	I-95	Southbound	8
Bensalem Travel Plaza	Bucks	Private Truck Stop	I-95	Northbound / Southbound	100
Route 309 Truck Stop	Bucks	Private Truck Stop	PA 309	Northbound / Southbound	25
New Jersey					
Woodrow Wilson Service Plaza	Mercer	Service Plaza	I-95 (NJ Turnpike)	Northbound	42
Richard Stockton Service Plaza	Mercer	Service Plaza	I-95 (NJ Turnpike)	Southbound	42
James Fenimore Cooper Service Plaza	Burlington	Service Plaza	NJ Turnpike	Northbound	46
Walt Whitman Service Plaza	Camden	Service Plaza	NJ Turnpike	Southbound	31
Petro Bordentown	Burlington	Private Truck Stop	I-295 and I-95 (NJ Turnpike)	Northbound / Southbound	490
Love's Travel Stop Bordentown	Burlington	Private Truck Stop	I-295 and I-95 (NJ Turnpike)	Northbound / Southbound	79
TravelCenters of America Paulsboro	Gloucester	Private Truck Stop	I-295	Northbound / Southbound	185
Total Number of Spaces in Region:					1122

Source: DVRPC, 2010

Truck Parking Facility Profiles

Figure 5 depicts each truck parking facility in the region on a map, as well as those facilities immediately outside the region, in order to give a sense of parking supply. Each dot on the map indicates the type of facility and the size of facility, and the arrows indicate which direction of traffic that facility serves. From the map it is clear that the majority of the region's facilities are oriented in the north–south transportation corridor. Outside the DVRPC region, there is a large amount of spaces south of the region, but limited spaces when headed in any other direction.

On the pages following the map are a series of aerial photographs and information sheets for each of the truck parking facilities in the DVRPC region. The information consists of the name of the facility, the township where it is located, the number of truck spaces, the number of car spaces, the nearest truck parking facility, and the amenities. The aerial photograph distinguishes the truck parking, car parking, commercial building, fueling area, and truck scale (if present). The information sheets are presented by state, with all the Pennsylvania truck parking facilities preceding all the New Jersey truck parking facilities. Within each state, service plazas are presented first, then welcome centers (if present), and finally private truck stops.

Valley Forge Service Plaza

Location and Capacity

- 📍 Roadway Served: I-76 (PA Turnpike)
- 📍 Direction Served: Eastbound
- 📍 Access: Direct from Highway at Milepost 324.6
- 📍 Nearest Truck Parking Facility:
 - ❖ To next facility: last facility on Eastbound PA Turnpike
 - ❖ From last facility: 40 miles
- 📍 Location: Tredyffrin Township, Chester County
- 📍 Number of Car Spaces: 76
- 📍 Number of Truck Spaces: 9

Amenities (yes/no)

- 📍 Food: Yes
- 📍 Idle Free Technology: No
- 📍 Truck Wash: No
- 📍 Truck Repair: No
- 📍 Lounge Area: No
- 📍 Laundry Facilities: No
- 📍 Showers: No
- 📍 Truck Scale: No
- 📍 Number of Diesel Pumps: 2

The Valley Forge Turnpike Service Plaza is adjacent to the Valley Forge National Historical Park. The park is the original site upon which the Continental Army spent the winter of 1777–1778. The National Historical Park contains historical buildings, recreated encampment structures, memorials, museums, and recreation facilities. The park encompasses 3,500 acres and is visited by about 1.2 million people every year.

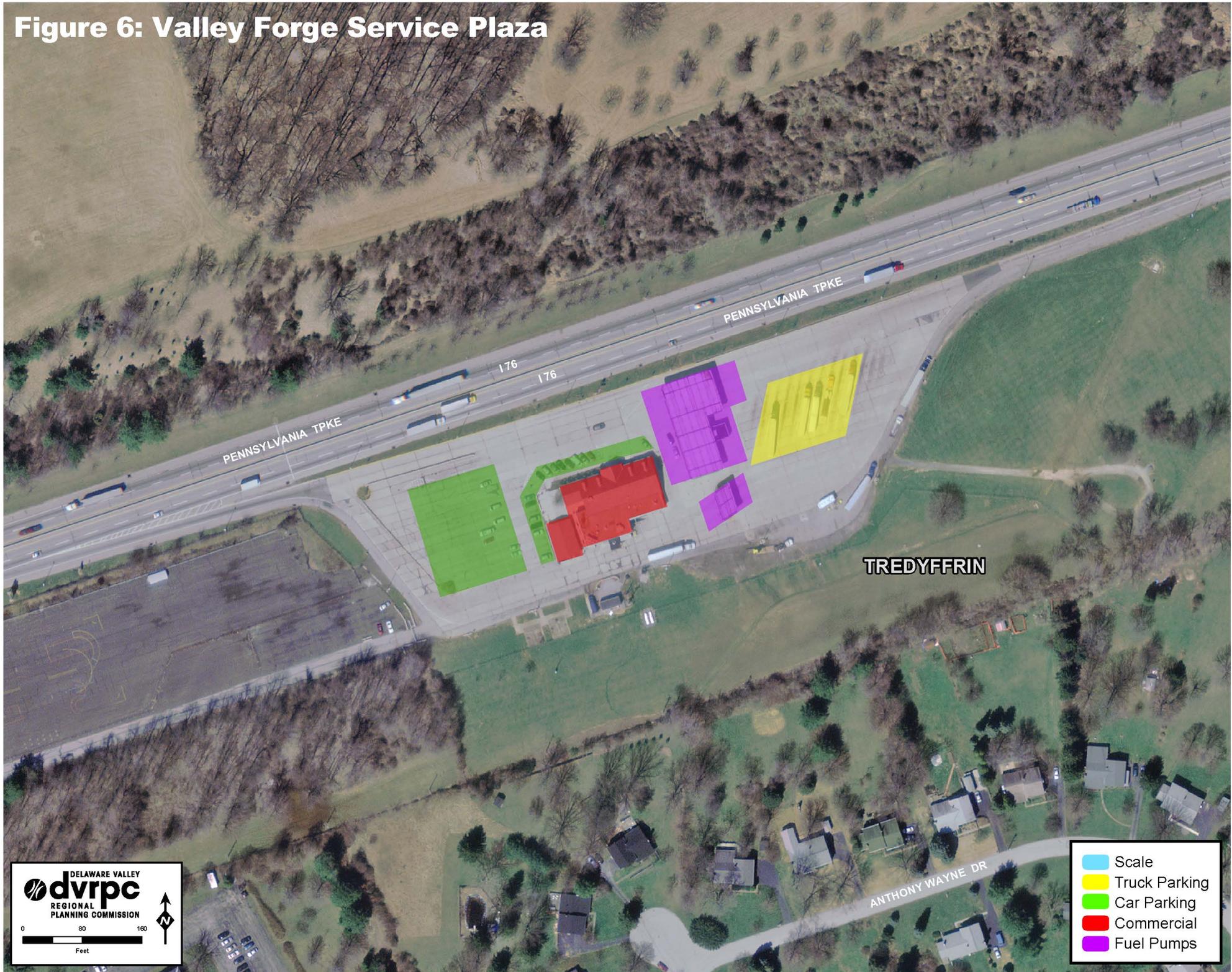


Trucks parked at Valley Forge Service Plaza. Photo taken by DVRPC.



The travel pavilion at Valley Forge Service Plaza. Photo taken by DVRPC.

Figure 6: Valley Forge Service Plaza



DELAWARE VALLEY
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REGIONAL
PLANNING
COMMISSION

0 80 160
Feet

- Scale
- Truck Parking
- Car Parking
- Commercial
- Fuel Pumps

Peter J. Camiel Service Plaza

Location and Capacity

- ☞ Roadway Served: I-76 (PA Turnpike)
- ☞ Direction Served: Westbound
- ☞ Access: Direct from Highway at Milepost 304.8
- ☞ Nearest Truck Parking Facility:
 - ❖ To next facility: 24 miles
 - ❖ From last facility: 21 miles
- ☞ Location: Wallace Township, Chester County
- ☞ Number of Car Spaces: 165
- ☞ Number of Truck Spaces: 27

Amenities (yes/no)

- ☞ Food: Yes
- ☞ Idle Free Technology: No
- ☞ Truck Wash: No
- ☞ Truck Repair: No
- ☞ Lounge Area: No
- ☞ Laundry Facilities: No
- ☞ Showers: No
- ☞ Truck Scale: No
- ☞ Number of Diesel Pumps: 2

Peter J. Camiel began his political career in Philadelphia in 1936 as a Democratic leader of the 5th ward, also known as Center City, a position he held for over 40 years. He was a businessman running a highly successful beer wholesale distributor. In 1952, he won a Pennsylvania State Senate seat and served 3 terms. Mr. Camiel was chairman of the Philadelphia Democratic City Committee from 1970 to 1976.

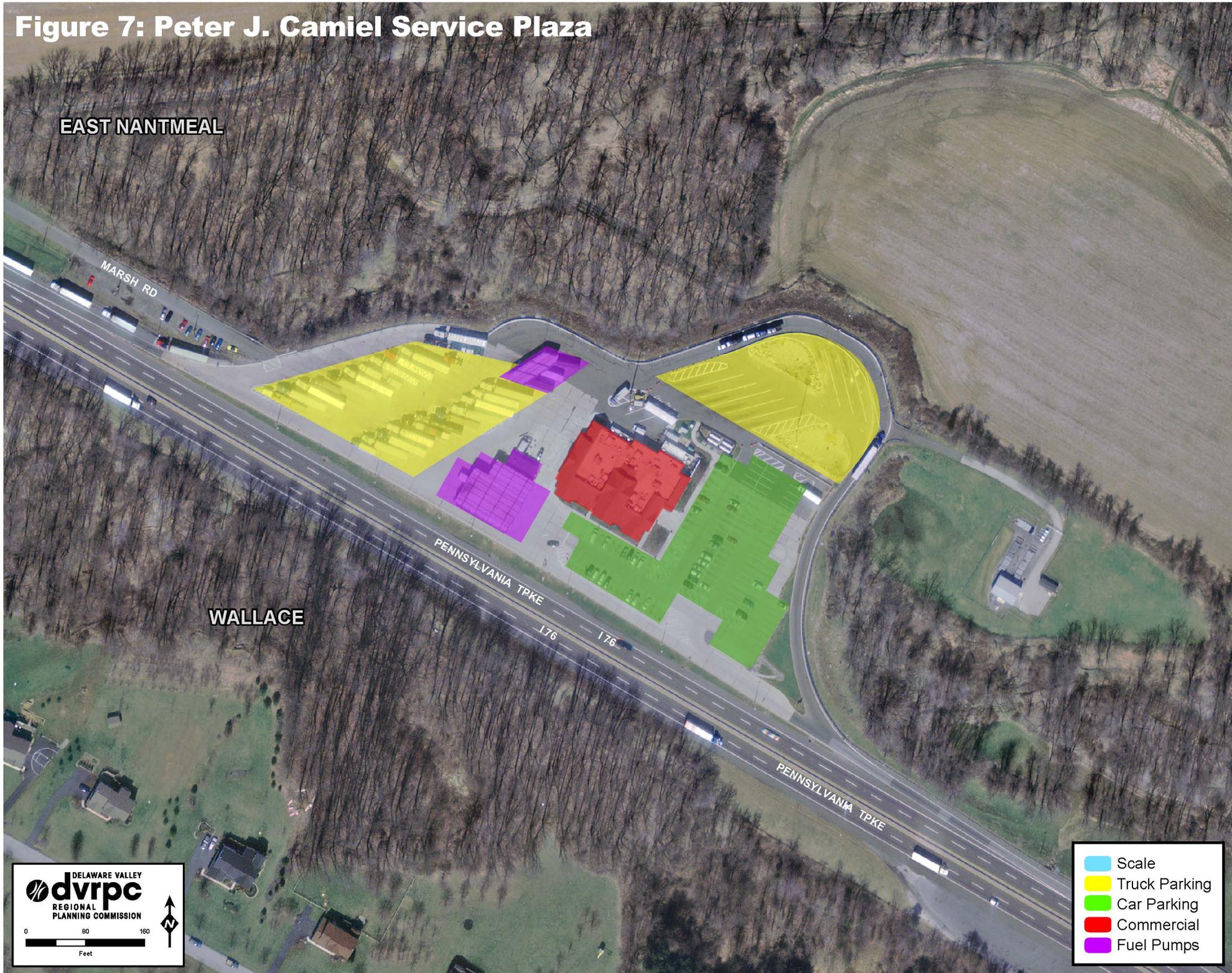


The travel pavilion at Peter J. Camiel Service Plaza. Photo taken by DVRPC.



Sign of available food options at Peter J. Camiel Service Plaza. Photo taken by DVRPC.

Figure 7: Peter J. Camiel Service Plaza



King of Prussia Service Plaza

Location and Capacity

- 📍 Roadway Served: I-76 (PA Turnpike)
- 📍 Direction Served: Westbound
- 📍 Access: Direct from Highway at Milepost 328.4
- 📍 Nearest Truck Parking Facility:
 - ❖ To next facility: 21 miles
 - ❖ From last facility: first facility on westbound PA Turnpike
- 📍 Location: Upper Merion Township, Montgomery County
- 📍 Number of Car Spaces: 165
- 📍 Number of Truck Spaces: 28

Amenities (yes/no)

- 📍 Food: Yes
- 📍 Idle Free Technology: No
- 📍 Truck Wash: No
- 📍 Truck Repair: No
- 📍 Lounge Area: No
- 📍 Laundry Facilities: No
- 📍 Showers: No
- 📍 Truck Scale: No
- 📍 Number of Diesel Pumps: 2

King of Prussia took its name in the 18th century from a local tavern named "The King of Prussia Inn," which was named for Frederick II, King of Prussia. The original inn was constructed initially as a cottage in 1719 and was converted to an inn in 1769. It was important in colonial times as it was approximately a day's travel by horse from Philadelphia.

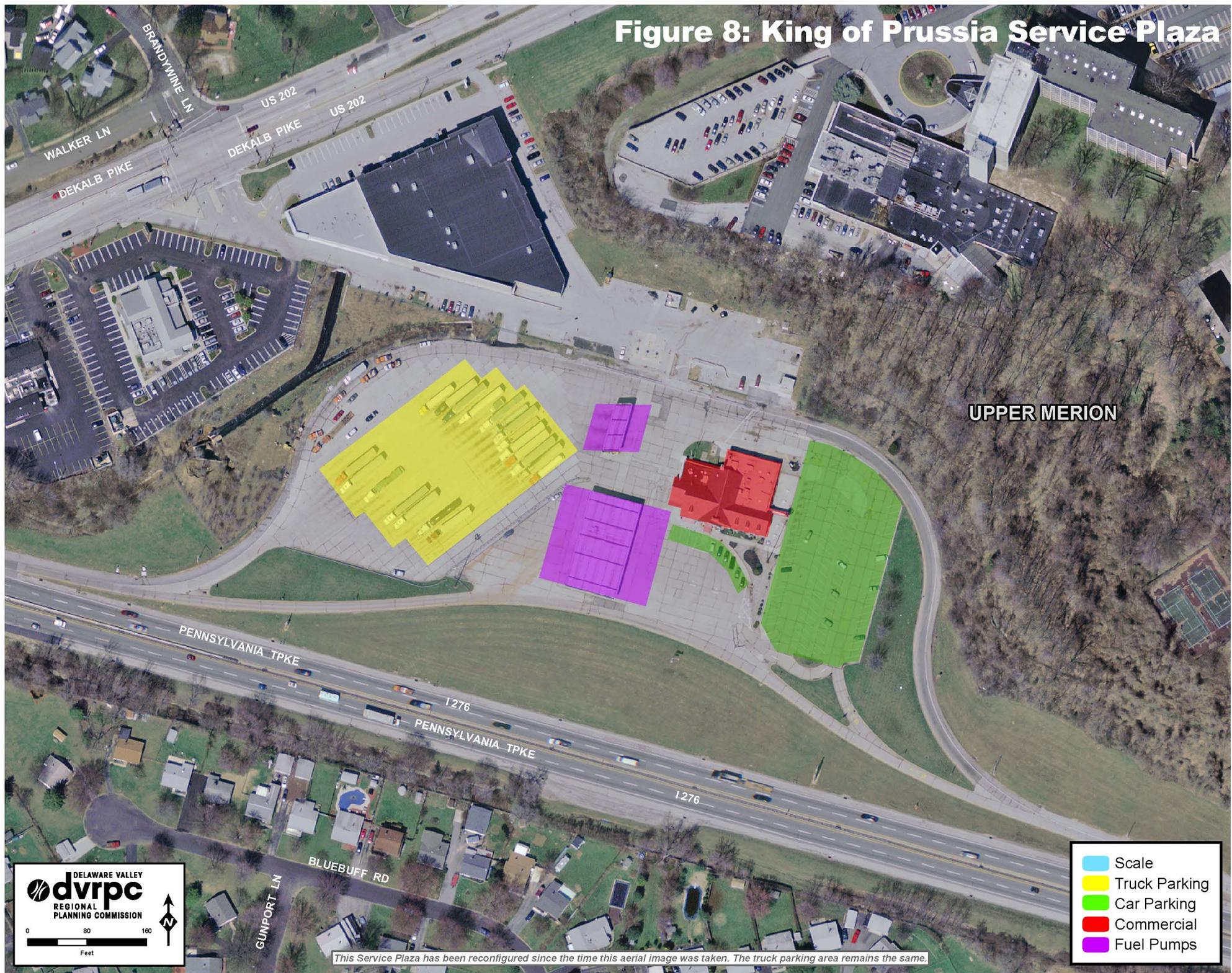


A sign indicating the reconstruction of the King of Prussia Service Plaza. Photo taken by DVRPC.



The under-construction travel pavilion at the King of Prussia Service Plaza. Photo taken by DVRPC.

Figure 8: King of Prussia Service Plaza



UPPER MERION

DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

0 80 160
Feet

- Scale
- Truck Parking
- Car Parking
- Commercial
- Fuel Pumps

This Service Plaza has been reconfigured since the time this aerial image was taken. The truck parking area remains the same.

Linwood Welcome Center

Location and Capacity

- 📍 Roadway Served: I-95
- 📍 Direction Served: Northbound
- 📍 Access: Direct from Highway at Milepost 0.5
- 📍 Nearest Truck Parking Facility:
 - ❖ To next facility: 36 miles
 - ❖ From last facility: 18 miles
- 📍 Location: Lower Chichester Township, Delaware County
- 📍 Number of Car Spaces: 45
- 📍 Number of Truck Spaces: 10

Amenities (yes/no)

- 📍 Food: Vending Machines Only
- 📍 Idle Free Technology: No
- 📍 Truck Wash: No
- 📍 Truck Repair: No
- 📍 Lounge Area: No
- 📍 Laundry Facilities: No
- 📍 Showers: No
- 📍 Truck Scale: No
- 📍 Number of Diesel Pumps: 0

Linwood is a popular American town name, with 23 different states having a town named Linwood. It is most likely that they originally got their name from the presence of the linden tree. The linden tree is also known in England as the lime or basswood tree.



The travel pavilion at Linwood Welcome Center. Service Plaza. Photo taken by DVRPC.

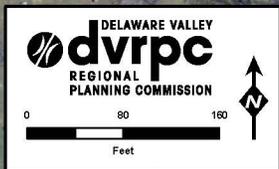


Truck parked on shoulder of exit from Linwood Welcome Center. Photo taken by DVRPC.

Figure 9: Linwood Welcome Center

UPPER CHICHESTER

LOWER CHICHESTER



This Service Plaza was in the process of being reconstructed at the time this report was released. The amount of truck parking will remain the same.

- Scale
- Truck Parking
- Car Parking
- Commercial
- Fuel Pumps

Yardley Welcome Center

Location and Capacity

- 📍 Roadway Served: I-95
- 📍 Direction Served: Southbound
- 📍 Access: Direct from Highway at Milepost 51
- 📍 Nearest Truck Parking Facility:
 - ❖ To next facility: 15 miles
 - ❖ From last facility: First facility on Southbound I-95
- 📍 Location: Lower Makefield Township, Bucks County
- 📍 Number of Car Spaces: 33
- 📍 Number of Truck Spaces: 8

Amenities (yes/no)

- 📍 Food: Vending Machines Only
- 📍 Idle Free Technology: No
- 📍 Truck Wash: No
- 📍 Truck Repair: No
- 📍 Lounge Area: No
- 📍 Laundry Facilities: No
- 📍 Showers: No
- 📍 Truck Scale: No
- 📍 Number of Diesel Pumps: 0

Yardley was founded by William Yardley, who immigrated to America in July 1682 with his family. He bought the 500 acres of land from William Penn for ten pounds. A nephew, Thomas Yardley, opened a ferry line, which was an important link between West Jersey and the three roads leading to Philadelphia. The Yardley family occupied nearby land for more than 150 years.

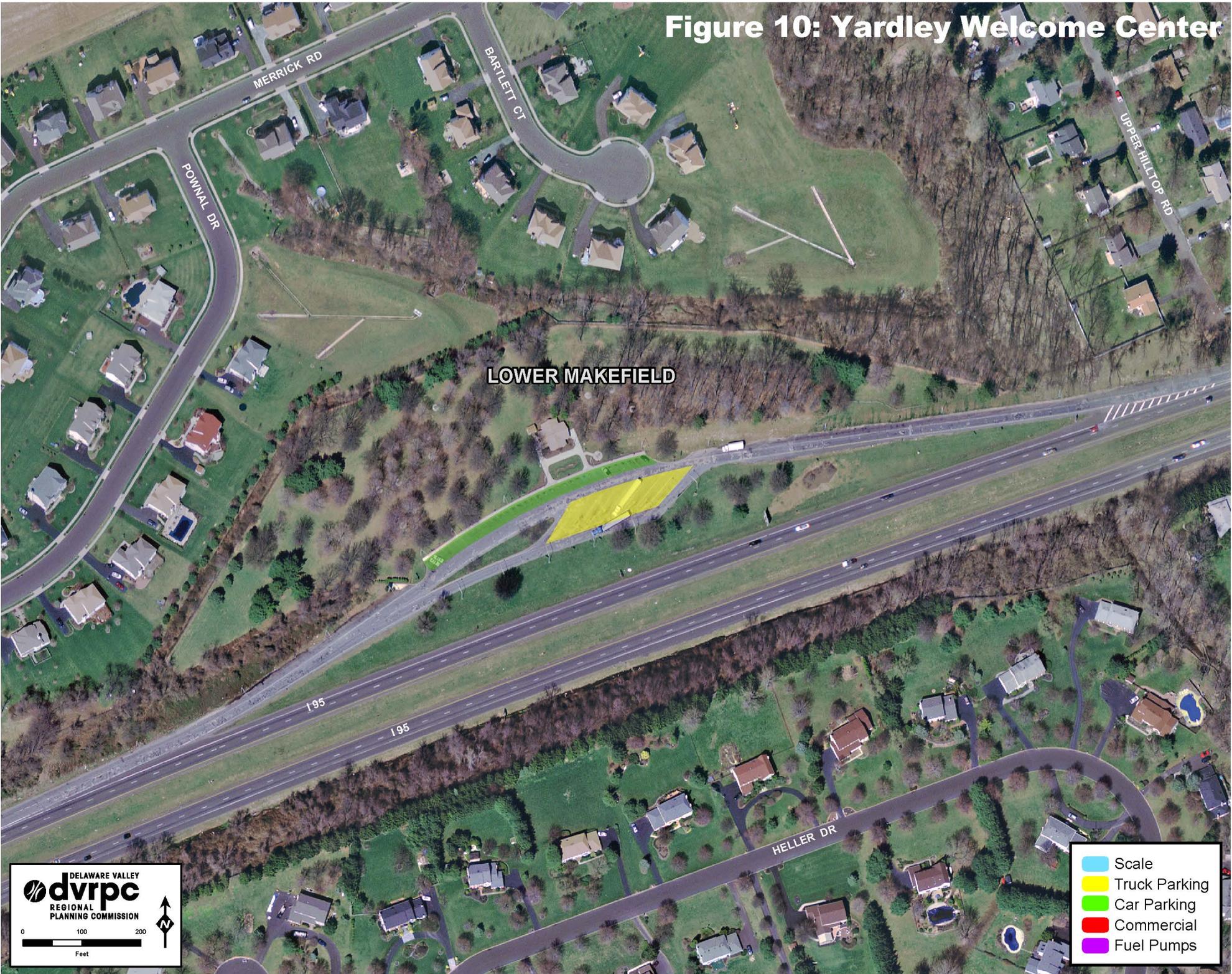


*The travel pavilion at Yardley Welcome Center.
Photo taken by DVRPC.*



*Trucks parked in the Yardley Welcome Center.
Photo taken by DVRPC.*

Figure 10: Yardley Welcome Center



LOWER MAKEFIELD

DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

0 100 200
Feet

- Scale
- Truck Parking
- Car Parking
- Commercial
- Fuel Pumps

Bensalem Travel Plaza

Location and Capacity

- ☞ Roadway Served: I-95
- ☞ Direction Served: Northbound and Southbound
- ☞ Access: From I-95 via Street Road to 2950 State Road, Bensalem, PA
- ☞ Nearest Truck Parking Facility:
 - ❖ To next facility NB: last facility on Northbound I-95
 - ❖ From last facility NB: 15 miles
 - ❖ To next facility SB: 54 miles
 - ❖ From last facility SB: 36 miles
- ☞ Location: Bensalem Township, Bucks County
- ☞ Number of Car Spaces: 0
- ☞ Number of Truck Spaces: 100

Amenities (yes/no)

- ☞ Food: Vending Machines Only
- ☞ Idle Free Technology: No
- ☞ Truck Wash: No
- ☞ Truck Repair: Yes
- ☞ Lounge Area: No
- ☞ Laundry Facilities: No
- ☞ Showers: No
- ☞ Truck Scale: Yes
- ☞ Number of Diesel Pumps: 2

The Bensalem Travel Plaza shares spaces and services with Atkinson Freight Lines. Atkinson Freight Lines is a fourth-generation family-owned company that has been in existence for over 125 years. The company serves as a truckload carrier in the Northeast United States.

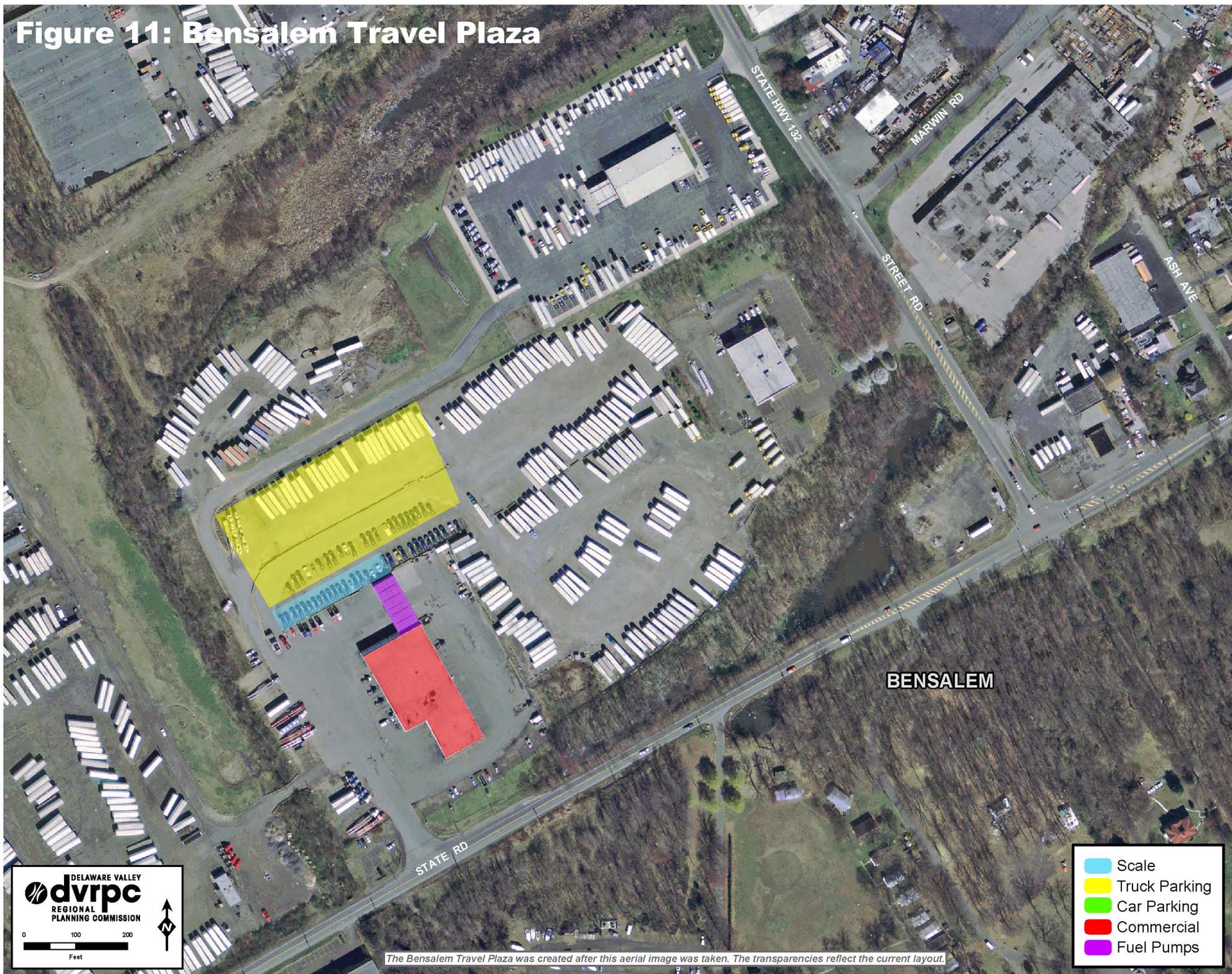


The sign at the entrance to the Bensalem Travel Plaza. Photo taken by DVRPC.



Trucks parked at the Bensalem Travel Plaza. Photo taken by DVRPC.

Figure 11: Bensalem Travel Plaza



Route 309 Truck Stop

Location and Capacity

- ☞ Roadway Served: Route 309
- ☞ Direction Served: Northbound and Southbound
- ☞ Access: Direct from Pennsylvania 309 at 1720 PA 309
- ☞ Nearest Truck Parking Facility:
 - ❖ No other facilities on Route 309
- ☞ Location: Springfield Township, Bucks County
- ☞ Number of Car Spaces: 18
- ☞ Number of Truck Spaces: 20-25

Amenities (yes/no)

- ☞ Food: Yes
- ☞ Idle Free Technology: No
- ☞ Truck Wash: No
- ☞ Truck Repair: No
- ☞ Lounge Area: No
- ☞ Laundry Facilities: No
- ☞ Showers: No
- ☞ Truck Scale: Yes
- ☞ Number of Diesel Pumps: 2

Route 309, which serves as a major route connecting Philadelphia with the Lehigh Valley, was formerly known as the Bethlehem Pike. In 1928, the entire Bethlehem Pike was designated Pennsylvania Route 309. The Bethlehem Pike was formed out of a old Native American Trail, referred to as the "Minsi Trail."

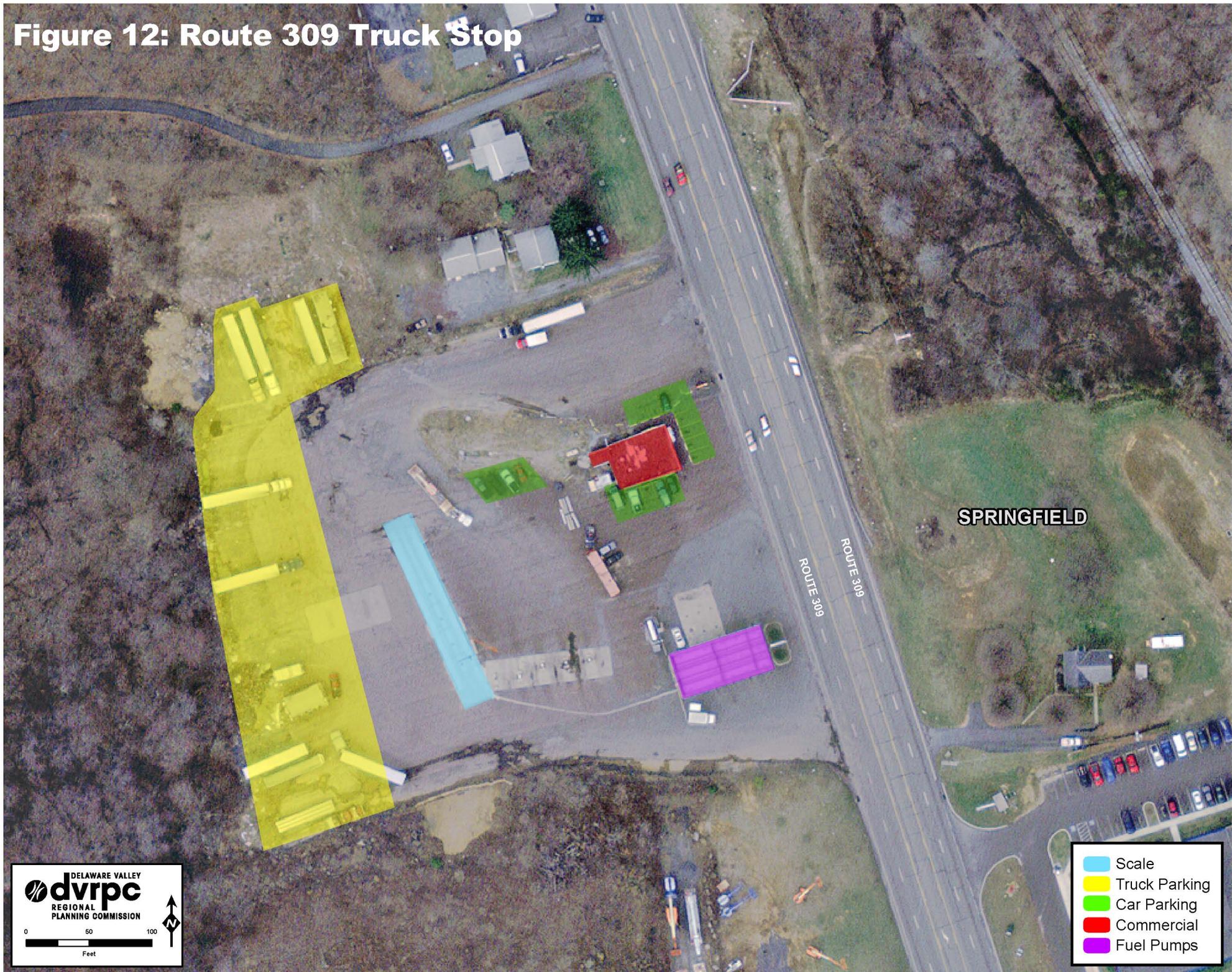


The sign at the entrance to the Route 309 Truck Stop. Photo taken by DVRPC.



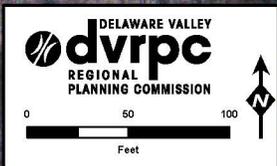
Trucks and cars parked at the Route 309 Truck Stop. Photo taken by DVRPC.

Figure 12: Route 309 Truck Stop



SPRINGFIELD

ROUTE 309
ROUTE 309



- Scale
- Truck Parking
- Car Parking
- Commercial
- Fuel Pumps

Woodrow Wilson Service Plaza

Location and Capacity

- 🌀 Roadway Served: I-95 (NJ Turnpike)
- 🌀 Direction Served: Northbound
- 🌀 Access: Direct from Highway at Milepost 58.7
- 🌀 Nearest Truck Parking Facility:
 - ❖ To next facility: 20 miles
 - ❖ From last facility: 19 miles
- 🌀 Location: Hamilton Township, Mercer County
- 🌀 Number of Car Spaces: 178
- 🌀 Number of Truck Spaces: 42

Amenities (yes/no)

- 🌀 Food: Yes
- 🌀 Idle Free Technology: No
- 🌀 Truck Wash: No
- 🌀 Truck Repair: No
- 🌀 Lounge Area: No
- 🌀 Laundry Facilities: No
- 🌀 Showers: No
- 🌀 Truck Scale: No
- 🌀 Number of Diesel Pumps: 2

Woodrow Wilson graduated from Princeton University in 1879 and went on to become President of the school from 1902 to 1910. In 1911, Wilson successfully ran for Governor of the state of New Jersey. In 1912, he was elected the 28th President of the United States. To date, he is the only President to serve a political office in New Jersey before election to the Presidency.



The sign 2 miles before the Woodrow Wilson Service Plaza. Photo taken by DVRPC.



The travel pavilion at the Woodrow Wilson Service Plaza. Photo taken by DVRPC.

Figure 13: Woodrow Wilson Service Plaza



Richard Stockton Service Plaza

Location and Capacity

- ☞ Roadway Served: I-95 (NJ Turnpike)
- ☞ Direction Served: Southbound
- ☞ Access: Direct from Highway at Milepost 58.7
- ☞ Nearest Truck Parking Facility:
 - ❖ To next facility: 28 miles
 - ❖ From last facility: 13 miles
- ☞ Location: Hamilton Township, Mercer County
- ☞ Number of Car Spaces: 166
- ☞ Number of Truck Spaces: 42

Amenities (yes/no)

- ☞ Food: Yes
- ☞ Idle Free Technology: No
- ☞ Truck Wash: No
- ☞ Truck Repair: No
- ☞ Lounge Area: No
- ☞ Laundry Facilities: No
- ☞ Showers: No
- ☞ Truck Scale: No
- ☞ Number of Diesel Pumps: 2

Richard Stockton was born in 1730 near Princeton, New Jersey. Admitted to the bar in 1754, he soon rose to great distinction as a lawyer. In 1774, he was appointed to the New Jersey Supreme Court, and in 1776 he was elected to the Second Continental Congress. Stockton was the first person from New Jersey to sign the Declaration of Independence. In 1969, the New Jersey Legislature passed legislation establishing a state college named Richard Stockton College of New Jersey.



A sign of available food at the Richard Stockton Service Plaza. Photo taken by DVRPC.



Trucks parked at the Richard Stockton Service Plaza. Photo taken by DVRPC.

Figure 14: Richard Stockton Service Plaza

HAMILTON

DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

0 100 200
Feet

- Scale
- Truck Parking
- Car Parking
- Commercial
- Fuel Pumps



James Fenimore Cooper Service Plaza

Location and Capacity

- ☞ Roadway Served: NJ Turnpike
- ☞ Direction Served: Northbound
- ☞ Access: Direct from Highway at Milepost 39.4
- ☞ Nearest Truck Parking Facility:
 - ❖ To next facility: 19 miles
 - ❖ From last facility: 34 miles
- ☞ Location: Mount Laurel Township, Burlington County
- ☞ Number of Car Spaces: 150
- ☞ Number of Truck Spaces: 46

Amenities (yes/no)

- ☞ Food: Yes
- ☞ Idle Free Technology: No
- ☞ Truck Wash: No
- ☞ Truck Repair: No
- ☞ Lounge Area: No
- ☞ Laundry Facilities: No
- ☞ Showers: No
- ☞ Truck Scale: No
- ☞ Number of Diesel Pumps: 2

James Fenimore Cooper was the son of a United States Congressman born in Burlington, New Jersey in 1789. He worked as a sailor in a merchant vessel before joining the Navy at age 19. He became a famous writer known for his sea-tales and historic fiction. James Fenimore Cooper is most well known for his novel *The Last of the Mohicans*, which was completed in 1826 and became one of the most widely read American novels of the 19th century.

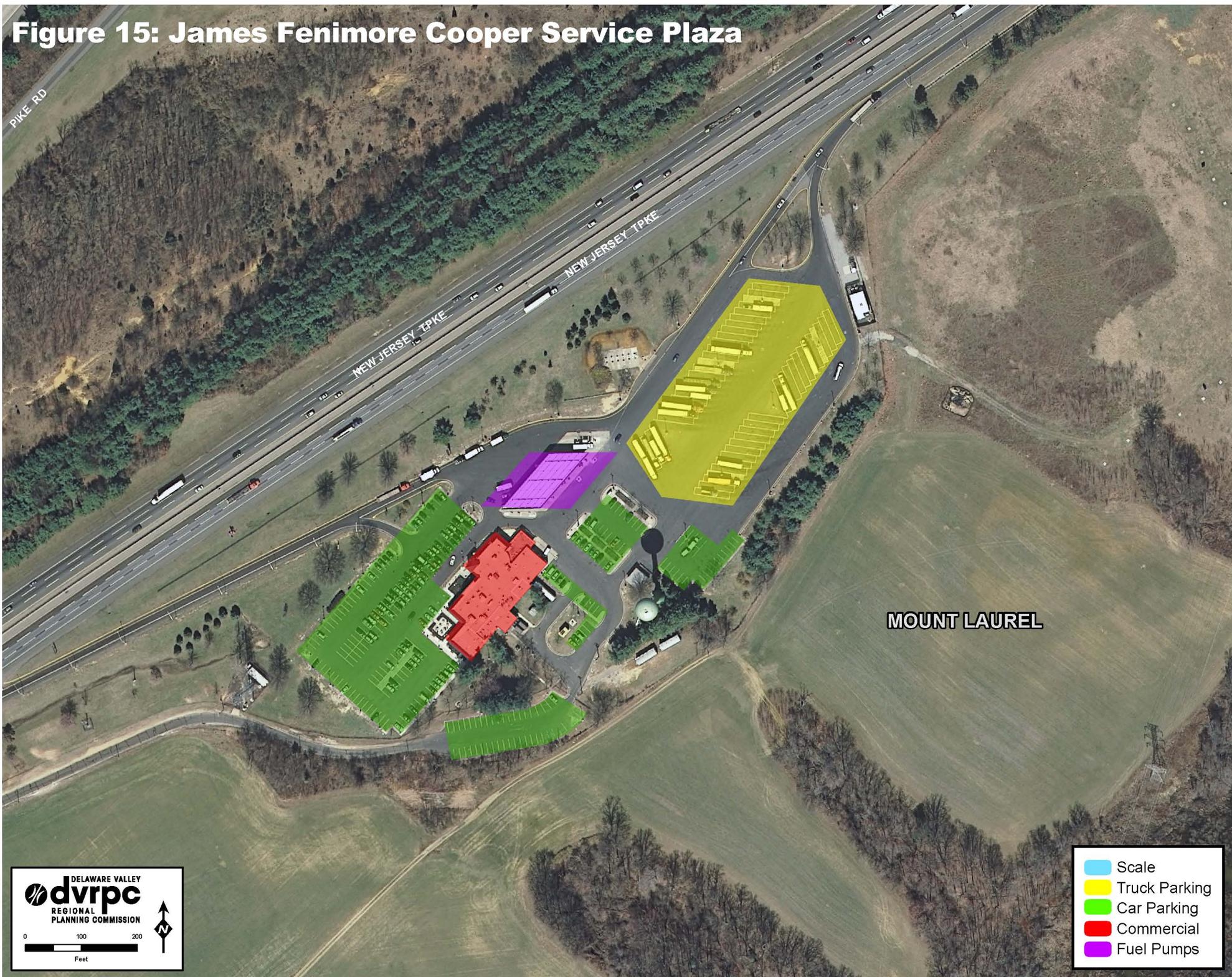


The sign 2 miles before the James Fenimore Cooper Service Plaza. Photo taken by DVRPC.



Inside the travel pavilion at the James Fenimore Cooper Service Plaza. Photo taken by DVRPC.

Figure 15: James Fenimore Cooper Service Plaza



Walt Whitman Service Plaza

Location and Capacity

- 🌀 Roadway Served: NJ Turnpike
- 🌀 Direction Served: Southbound
- 🌀 Access: Direct from Highway at Milepost 30.2
- 🌀 Nearest Truck Parking Facility:
 - ❖ To next facility: 25 miles
 - ❖ From last facility: 29 miles
- 🌀 Location: Cherry Hill Township, Camden County
- 🌀 Number of Car Spaces: 115
- 🌀 Number of Truck Spaces: 31

Amenities (yes/no)

- 🌀 Food: Yes
- 🌀 Idle Free Technology: No
- 🌀 Truck Wash: No
- 🌀 Truck Repair: No
- 🌀 Lounge Area: No
- 🌀 Laundry Facilities: No
- 🌀 Showers: No
- 🌀 Truck Scale: No
- 🌀 Number of Diesel Pumps: 2

Walt Whitman was an American poet, essayist, and journalist. Whitman is considered to be one of the most important and influential American poets and is often called the father of free verse poetry. His work was controversial for his time, particularly his most famous and well-known collection of poetry, *Leaves of Grass*. Born in 1819 on Long Island, Whitman spent much of his life in New York. Whitman moved to Camden, New Jersey in 1873 and bought his own house on Mickle Street in 1884. During his time in Camden, he continued to produce further editions of *Leaves of Grass*. Whitman died in 1892, and his public viewing at his Camden home drew over one thousand people.



The sign 2 miles before the Walt Whitman Service Plaza. Photo taken by DVRPC.



Sunoco Gas Station at the Walt Whitman Service Plaza. Photo taken by DVRPC.

Figure 16: Walt Whitman Service Plaza



DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

0 100 200
Feet

- Scale
- Truck Parking
- Car Parking
- Commercial
- Fuel Pumps

Petro Bordentown

Location and Capacity

- 🌀 Roadway Served :I-95 (NJ Turnpike) and I-295
- 🌀 Direction Served: Northbound and Southbound
- 🌀 Access: I-295 via Rising Sun Road. NJ Turnpike via US 206 and Connector Road to Rising Sun Road. Facility located at 402 Rising Sun Road.
- 🌀 Nearest Truck Parking Facility:
 - ❖ To next facility NB: 6 miles
 - ❖ From last facility NB: 6 miles
 - ❖ To next facility SB: 25 miles
 - ❖ From last facility SB: 16 miles
- 🌀 Location: Bordentown Township, Burlington County
- 🌀 Number of Car Spaces: 124
- 🌀 Number of Truck Spaces: 490

Amenities (yes/no)

- 🌀 Food: Yes
- 🌀 Idle Free Technology: Yes
- 🌀 Truck Wash: Independently owned on adjacent property
- 🌀 Truck Repair: Yes
- 🌀 Lounge Area: Yes
- 🌀 Laundry Facilities: Yes
- 🌀 Showers: Yes
- 🌀 Truck Scale: Yes
- 🌀 Number of Diesel Pumps: 12

Petro was founded in 1975. The company claims to be the first to offer drivers lockable showers, segregated truck fueling lanes, free 24-hour movie theaters, a driver loyalty program, and IdleAire HVAC equipment. On May 31, 2007, TravelCenters of America acquired Petro, but the Petro service centers retain the Petro name.

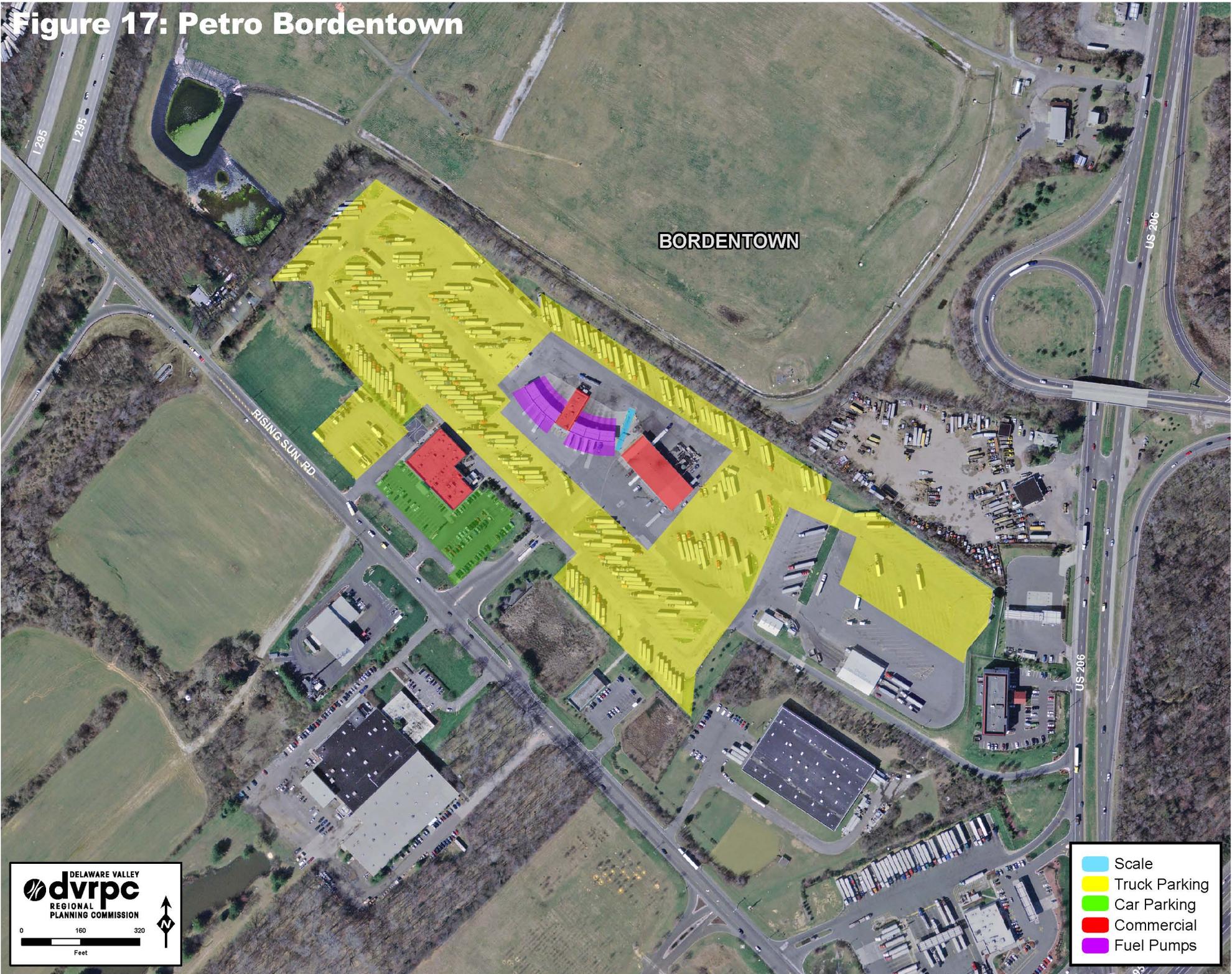


A truck parked and using IdleAire equipment at the Petro Bordentown. Photo taken by DVRPC.



The repair shop at Petro Bordentown. Photo taken by DVRPC.

Figure 17: Petro Bordertown



Love's Travel Stop Bordentown

Location and Capacity

- ☞ Roadway Served: I-95 (NJ Turnpike) and I-295
- ☞ Direction Served: Northbound and Southbound
- ☞ Access: I-295 via Rising Sun Road. NJ Turnpike via US 206 and Connector Road to Rising Sun Road. Facility located at 2008 US Highway 206.
- ☞ Nearest Truck Parking Facility:
 - ❖ To next facility NB: 6 miles
 - ❖ From last facility NB: 6 miles
 - ❖ To next facility SB: 25 miles
 - ❖ From last facility SB: 16 miles
- ☞ Location: Bordentown Township, Burlington County
- ☞ Number of Car Spaces: 67
- ☞ Number of Truck Spaces: 79

Amenities (yes/no)

- ☞ Food: Yes
- ☞ Idle Free Technology: No
- ☞ Truck Wash: Independently owned on adjacent property
- ☞ Truck Repair: No
- ☞ Lounge Area: No
- ☞ Laundry Facilities: Yes
- ☞ Showers: Yes
- ☞ Truck Scale: Yes
- ☞ Number of Diesel Pumps: 10

On June 30, 2010 Pilot Travel Centers and Flying J announced the completion of a merger. This facility, which was formerly the Pilot Bordentown, was one of 26 facilities that were sold to Love's Travel Stops & Country Stores as required by the Federal Trade Commission.

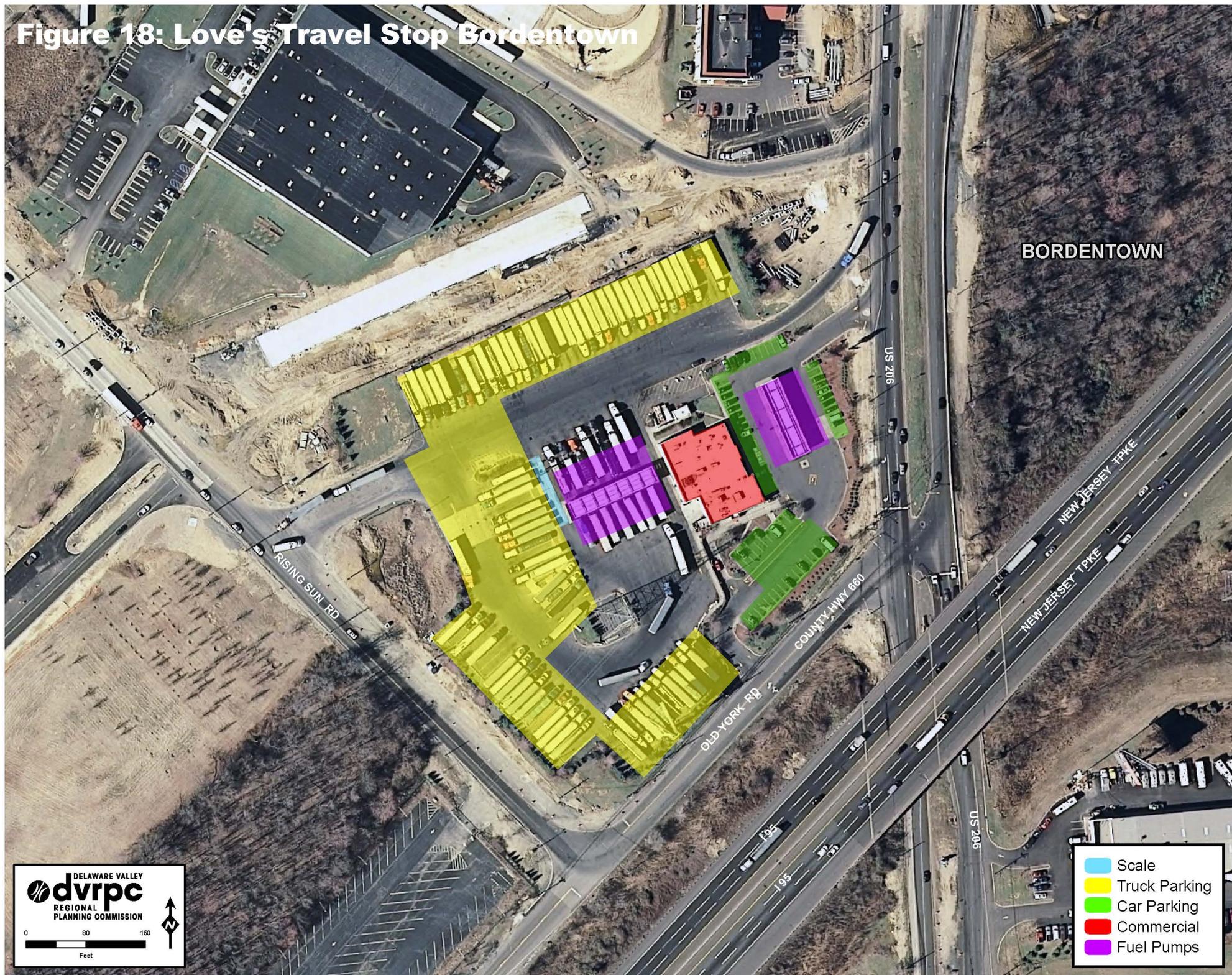


The Love's Travel Stop Bordentown travel pavilion getting a delivery. Photo taken by DVRPC when facility was owned by Pilot.



A truck backing into a parking space at the Love's Travel Stop Bordentown. Photo taken by DVRPC.

Figure 18: Love's Travel Stop Bordentown



BORDENTOWN

DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

0 80 160
Feet

- Scale
- Truck Parking
- Car Parking
- Commercial
- Fuel Pumps

TravelCenters of America Paulsboro

Location and Capacity

- 🌀 Roadway Served: I-295
- 🌀 Direction Served: Northbound and Southbound
- 🌀 Access: off I-295 via Berkley Road. Facility located at 295 Berkley Road.
- 🌀 Nearest Truck Parking Facility:
 - ❖ To next facility NB : 38 miles
 - ❖ From last facility NB: 38 miles
 - ❖ To next facility SB: 17 miles
 - ❖ From last facility SB: 17 miles
- 🌀 Location: Paulsboro, East Greenwich, and Greenwich Townships, Gloucester County
- 🌀 Number of Car Spaces: 70
- 🌀 Number of Truck Spaces: 185

Amenities (yes/no)

- 🌀 Food: Yes
- 🌀 Idle Free Technology: Yes
- 🌀 Truck Wash: Independently owned on adjacent property
- 🌀 Truck Repair: Yes
- 🌀 Lounge Area: Yes
- 🌀 Laundry Facilities: Yes
- 🌀 Showers: Yes
- 🌀 Scale: Yes
- 🌀 Number of Diesel Pumps: 10

TravelCenters of America, better known as TA, was founded in 1972 by Phil Saunders in Westlake, Ohio. With its purchase of Petro in 2007, TA became the largest full-service travel center chain in the United States. The company owns 166 locations in 41 states and employs just under 12,000 persons.

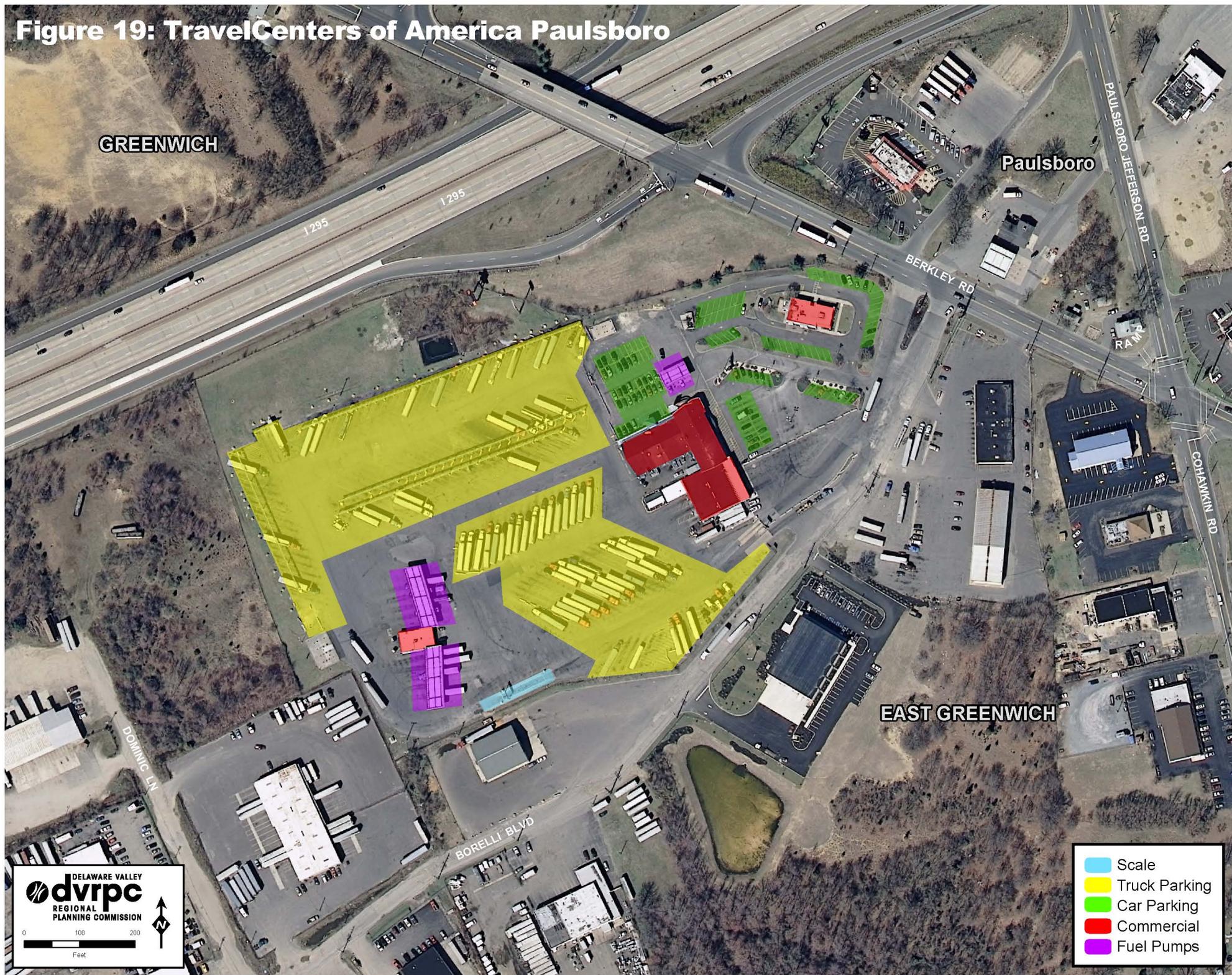


The travel pavilion at TravelCenters of America Paulsboro. Photo taken by DVRPC.



Scale and fuel pumps at the TravelCenters of America Paulsboro. Photo taken by DVRPC.

Figure 19: TravelCenters of America Paulsboro



GREENWICH

Paulsboro

EAST GREENWICH

- Scale
- Truck Parking
- Car Parking
- Commercial
- Fuel Pumps

DELAWARE VALLEY
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PLANNING COMMISSION

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Feet

Former Truck Parking Facilities

In addition to the existing truck parking facilities, the DVRPC region has facilities that have been recently closed. Regrettably, the trend in recent years has been that truck parking facilities have been closing. Five facilities, covering all three facility categories, have been closed within the last five years. These closed facilities provided the region with just over 100 truck parking spaces, or roughly 9% of the current regional capacity.

I-295 Rest Areas (Northbound and Southbound)

Two adjacent rest areas along I-295 in Burlington County, one northbound, one southbound, provided 15 spaces dedicated for trucks. They were built in 1983 and were in operation until they closed in October 2008. New Jersey state officials found that the facilities had become too expensive to maintain. It is estimated that they cost the state \$1 million per year to keep the facilities open.

These rest areas are still in existence, although Jersey barriers have been installed to block the entrances. The New Jersey Department of Transportation is using them as a staging area for the ongoing resurfacing of I-295 construction project. If the funds were available and the state wished to do so, these facilities could be reopened.

This follows a nationwide trend; as states trim their budgets, many are being forced to close rest areas, which are costly to maintain and do not bring any direct revenues to the state. The Virginia Department of Transportation has made news recently for its plan to close 25 of the 41 rest areas in the state. This closure will result in the state losing 412 truck parking spaces. The closure is expected to save the state \$12 million per year.³

North and South Neshaminy Service Plazas

The Pennsylvania Turnpike Commission has recently closed the South and North Neshaminy Service Plazas, which were located about a half-mile east of the intersection of I-276 and US 1. Both are being closed permanently, and there is no plan to replace them with new facilities anywhere on the Turnpike system. The service plazas are being closed due to the relocation of a toll plaza in conjunction with the I-95/Pennsylvania Turnpike Interchange project. The existing toll plaza must be moved to the west of the new interchange. The

³ Landline Magazine. Kell-Holland, Clarissa, March 13, 2009. www.landlinemag.com.

service plazas have the necessary right of way to facilitate this move and will thus be forced to close. Each plaza had 28 truck parking spaces.

Walt Whitman Truck Stop

The last known privately operated truck stop located in Philadelphia was the Walt Whitman Truck Stop. It closed in 2006, and the parcel of land is presently vacant. The truck stop was located in the northwest quadrant of the intersection of Lawrence Street and Pattison Avenue. It provided a range of services, including diesel and gasoline pumps, a restaurant, a truck wash, a 13-room motel, showers, a convenience store, a repair facility, washers and dryers, a lounge area, and a truck scale. The facility was conveniently situated at 3540 South Lawrence Street, near the Philadelphia Produce Market, the rail and port terminals of South Philadelphia, and Interstates 95 and 76. When the Walt Whitman Truck Stop was in operation, it provided approximately 20 to 30 spaces for overnight truck parking.

Supply and Demand of Overnight Truck Parking

To gain an overall sense of the supply and demand of truck parking in the Delaware Valley, DVRPC conducted a number of data collection analysis efforts. These efforts documented existing conditions and paved the way for quantifying future needs. As part of this assessment, a DVRPC study team spent three nights documenting formal and unauthorized truck parking throughout the region. These findings, along with a supply and demand model analysis, are included in the section.

Formal Truck Parking

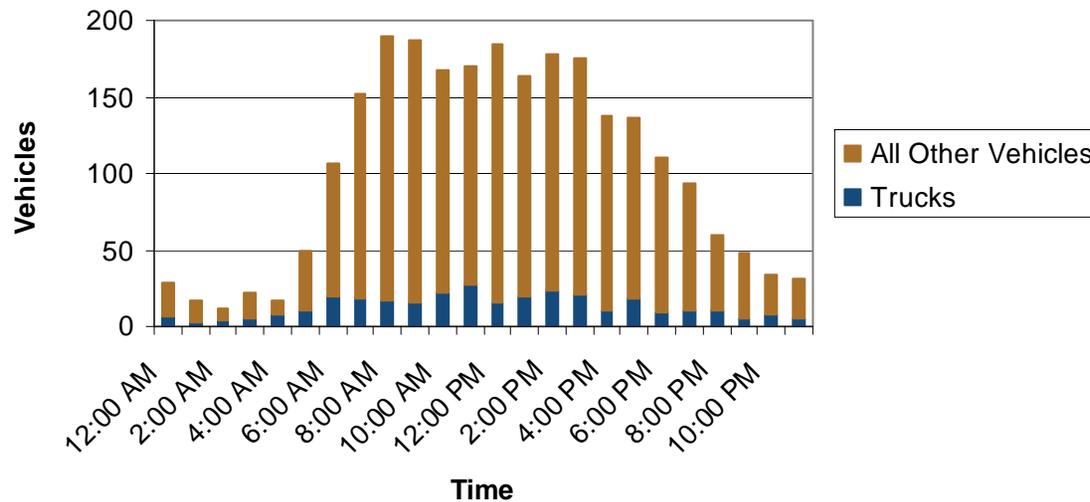
For the purpose of this study, formal truck parking is defined as delineated spaces within authorized facilities. Trucks parked within truck parking facilities, but not in delineated spaces, are considered to be unauthorized parking, and are treated in the next sections of this chapter. To determine the utilization of the current facilities in the region, many different approaches were considered. The first was the methodology used by the Pennsylvania State-Wide study, which was to have people stationed at the entrances and exits of representative facilities and chart trucks as they arrived and departed over a 24-hour period. The results from the facilities are then expanded using an algorithm over the rest of the system. The main advantage to this approach is that it allows for the ability to determine how long trucks are parking, and to differentiate between short-term and long-term parking.

The DVRPC study Steering Committee felt it was important to perform counts at every facility, not just a sampling. It was decided to attempt to count all vehicles as they entered and exited each publicly-owned truck parking facility. Along with a total count of cars and trucks, this approach could differentiate vehicles entering and exiting the facility at hourly intervals. However, in analyzing the results from the DVRPC fieldwork, the exit ramp counts were found to be unreliable. The following is a sampling of the inbound counts, which show how traffic flows into these service plazas on an average day. (DVRPC was only able to use formal traffic counters at service plazas and welcome centers as access was not provided to count the private truck stops. Private truck stops were surveyed as part of the fieldwork referenced on pages 55–57.)

Valley Forge Service Plaza

The Valley Forge Service Plaza exhibits a predictable spread of traffic inbound to the facility over a 24-hour period. While total entering vehicles peak during the morning rush hour, entering trucks tend to peak around noon. The vast majority of the trips into the Service Plaza are short trips in duration. Through observations by DVRPC staff, there are few trucks parked in the facility during the day, despite the fact that roughly 25 trucks enter the facility every hour. Based on a combination of the data presented and observations, many of the trucks entering during the evening rush hour through midnight are thought to be using the facility for long-term parking.

Figure 20: Inbound Vehicles by Type at Valley Forge Service Plaza. April 8, 2009.



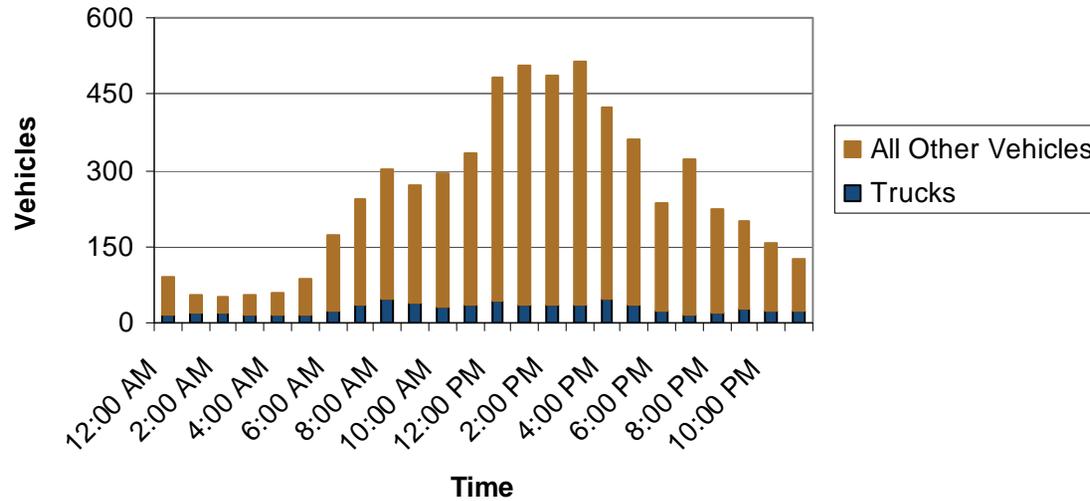
Source: DVRPC

Woodrow Wilson Service Plaza

Slightly different from the Valley Forge Service Place, the Woodrow Wilson Service Plaza experiences its inbound peak in the hours leading up to the afternoon rush hour. The total number of vehicles entering the

Woodrow Wilson Service Plaza is much greater than the Valley Forge Service Plaza, but the number of trucks entering each facility is similar.

Figure 21: Inbound Vehicles by Type at Woodrow Wilson Service Plaza. April 8, 2009.



Source: DVRPC

Utilization of Facilities

Truck parking patterns at all the truck parking facilities in the DVRPC region was documented on three nights of fieldwork. The peak period for truck parking is between 1 a.m. and 4 a.m., according to the studies conducted by nearby agencies. The DVRPC team began all overnight fieldwork at 10 p.m. in order to document facilities when they were closest to their expected peak usage.

Conditions at each formal truck parking facility were captured on two nights. For the Pennsylvania portion of the DVRPC region, the amount of trucks in each facility was counted on Tuesday April 7, 2009 and Sunday May 31, 2009. For the New Jersey portion of the DVRPC region, the amount of trucks in each facility was counted on Tuesday April 7, 2009 and Sunday May 17, 2009. (Note: unauthorized parking was also documented during these nights of fieldwork).

Table 2: Utilization of Facilities in Pennsylvania

Facility	# of Truck Spaces	# of Trucks Observed	Utilization Rate
Yardley Welcome Center	8	16	200%
Linwood Welcome Center	10	8	80%
Valley Forge Service Plaza	9	60	667%
North Neshaminy Service Plaza ¹	28	29	104%
Peter J. Camiel Service Plaza	27	34	126%
Totals	82	147	179%

¹ North Neshaminy was included in the survey to represent the temporarily closed King of Prussia Service Plaza, since both serve the same corridor and direction.

Source: DVRPC, 2009

Table 2 shows the observed utilization rates of service plazas and welcome centers in Pennsylvania. Most of these facilities operated over capacity during the overnight observation period. Linwood Welcome Center and North Neshaminy Service Plaza were found operating near capacity. The Peter J. Camiel Service Plaza was found to be operating slightly over capacity, while the Yardley Welcome Center and Valley Forge Service Plaza were both operating significantly over capacity. The total of 67 trucks witnessed in facilities but not in delineated spaces leads to the conclusion that there is a shortfall of available truck parking in the Pennsylvania portion of the DVRPC region during the time of peak parking demand. The Bensalem Travel Plaza and Route 309 Truck Stop were not monitored. Parking utilization at the Bensalem Travel Plaza cannot be determined from the road side, but the owners say that utilization is growing.

Table 3 shows that three of the four service plazas in New Jersey were operating over capacity during the field views. The Richard Stockton Service Plaza and the James Fenimore Cooper Service Plaza were slightly over capacity, while almost twice the number of trucks as available spots was observed at the Woodrow Wilson Service Plaza. The three private facilities were harder to precisely account for because of their size, but all were observed to be at or just over capacity.

Table 3: Utilization of Facilities in New Jersey

Facility	# of Truck Spaces	# of Trucks Observed	Utilization Rate
James Fenimore Cooper Service Plaza	46	54	117%
Woodrow Wilson Service Plaza	42	82	195%
Richard Stockton Service Plaza	42	46	110%
Walt Whitman Service Plaza	31	28	90%
Petro Bordentown	490	490	100%
Love's Bordentown	79	88	111%
TravelCenters of America Paulsboro	185	194	105%
Totals	915	982	107%

Source: DVRPC, 2009

Unauthorized Truck Parking

The DVRPC teams also documented unauthorized overnight truck parking in the DVRPC region. Unauthorized parking has safety and security concerns associated with it. Unauthorized truck parking is broken down into five categories for this report: service plaza crowding, shoulder parking, wide out parking, toll plaza parking, and freight generator queuing.

Service Plaza Crowding

As observed in the utilization of existing truck parking facilities, two service plazas experience significant crowding on an average night, while other facilities have little to moderate crowding. Service plaza crowding most significantly impacts safety when trucks park on the entrance and exit ramps of the service plaza.

In the DVRPC region, the Woodrow Wilson Service Plaza and the Valley Forge Service Plaza present the most significant problems in terms of Service Plaza Crowding. While the Yardley Welcome Center does experience crowding, it is a much smaller facility.

It was also noted on field views that some facilities experience parking on the entrance ramps (the ones used to exit the highway and enter the facility) despite having available spaces in the facility. Seemingly, drivers concerned about not getting an authorized space in the facility elect to park on the entrance ramp to avoid passing through the facility with nowhere to park. Almost exclusively, entrance ramp parking took place at facilities where there was service plaza crowding noted on multiple visits by the DVRPC team.

Shoulder Parking

Truck parking on the shoulders of highways at night is a major safety concern. Other drivers could drift slightly off the road and hit a truck parked along the shoulder. Also, shoulders do not have acceleration and deceleration lanes for the trucks to merge out of and back into traffic. For state police, a major dilemma is presented: they can either wake the trucker up or make them move their vehicle off the shoulder, thus putting a tired driver on the road; or, they can allow the driver to stay on the shoulder, thus creating a potentially dangerous situation. Truckers will sometimes choose to park on shoulders of entrance or exit ramps instead of on the main line of the highway.

In the DVRPC region, the overnight fieldwork found limited instances of shoulder parking. Fifteen trucks were found to be parked on the shoulder of Interstates in the DVRPC region. Six were parked on shoulders in Pennsylvania—all on various portions of the turnpike system (not including trucks parked in wide outs; see next section). Nine trucks were found parked on various Interstates in New Jersey, the majority of which were found along I-295 southbound.

Wide Out Parking

Wide out parking is a type of unauthorized truck parking that is specific to the Pennsylvania Turnpike system. The Pennsylvania Turnpike has many “wide out” areas that were designed as emergency pull-over areas. However, from the fieldwork done by DVRPC, it appears they are highly used for overnight truck parking. Truck parking in wide outs reduces some concerns, because a car cannot as easily drift off the road. Wide out parking still creates safety issues, as trucks pull into and leave wide out areas without proper acceleration and deceleration lanes. The Pennsylvania Turnpike is currently planning expansion of its highway system within the DVRPC region. Along with the expansion, the Pennsylvania Turnpike Commission plans to eliminate all wide out areas from the system.



Two trucks parked in a wide out along I-76 (PA Turnpike) Westbound. Photo taken by DVRPC.

The overnight fieldwork conducted found a total of 39 trucks parked in wide outs along the Pennsylvania Turnpike. Most wide outs only contained one truck; however, some larger ones contained five, eight, and twelve trucks, respectively. The corridor that was most prominent in terms of wide out parking was the Pennsylvania Turnpike Eastbound from Chester County to New Jersey. A total of 21 trucks were found parked in wide outs along this stretch of road.

Toll Plaza Parking

Turnpike toll plazas may also serve as havens for unauthorized truck parking. In the DVRPC region, only one toll plaza was found to have significant parking along the roads leading up to and away from the tolls. The I-476 Mid-County Toll Plaza had five trucks lined up before the toll plaza and two trucks after the toll plaza (all traveling southbound) during overnight observations. A tollbooth operator stated that trucks park there almost

Figure 22: The Mid-County Toll Plaza along I-476



Source: DVRPC

every evening. In the aerial photograph in Figure 22, two trucks can be seen parked after the toll plaza traveling southbound (see red arrow).

In New Jersey, the DVRPC team found one instance of significant toll plaza parking. At Exit 8A, just outside the DVRPC region and along the New Jersey Turnpike, ten tractor trailers were witnessed parked around the toll plaza. Exit 8A is situated near several large warehousing and distribution centers, so it would appear that these trucks are there to make a delivery or pick-up.

Freight Generator Queuing

Trucks often queue up near the gates of facilities that they are making a delivery to or picking up from. This type of unauthorized overnight parking can be unwelcome by the community near the facilities and does not give the drivers even basic amenities such as bathrooms. Nearby communities have been known to complain that drivers idle their engines overnight and create noise and air quality concerns. Many of the truck drivers idle their engines in order to have a comfortable temperature in which to sleep.

The draft Ridley Township/Eddystone Borough Comprehensive Plan, which was prepared with the assistance of the Delaware County Planning Department, cited overnight truck parking on Stewart Avenue's shoulders (near I-95) as an issue that could pose potential safety and security problems to residents, employees, and employers. The draft plan recommended that the two municipalities establish a Freight Task Force to discuss possible solutions, such as establishing an I-95 truck stop that accommodates trucker sleeping needs and identifying a short-term staging location for truckers to fill out mandatory paperwork to enter the nearby Penn Terminals.

In order to determine which industrial areas might have significant amounts of freight generator queuing, DVRPC staff asked all the city and county planning commission staffs to submit locations of suspected overnight truck parking locations in their respective jurisdictions. Over the course of three nights of fieldwork, the DVRPC staff visited the identified sites in every county. The majority of sites had either no trucks or just one or two trucks. Types of facilities visited included clusters of warehouses, port facilities, and clusters of big box commercial stores. Only three sites were found to have significant amounts of overnight truck parking near industrial areas. All three were located within Philadelphia: the South Philadelphia Freight Complex, Port Richmond, and the Northeast Philadelphia Airport.

South Philadelphia Freight Complex

The South Philadelphia Freight Complex is home to the region's largest port facility (i.e., Packer Avenue Marine Terminal), the largest intermodal rail yard (i.e., CSX Greenwich Terminal), other piers that receive specific commodities (mainly cocoa beans and paper), a large network of warehouses dealing mostly with food-related products (such as the Food Distribution Center), and a cluster of big box retailers (such as Walmart, Home Depot, Lowes, Ikea, and Target).

The DVRPC team visited the South Philadelphia Freight Complex on two separate nights to document parking patterns. From that research, the following locations were found to have a significant number of idling trucks near one another:

☞ From 3rd Street to 7th Street and Packer Avenue to I-95 (Food Distribution Center)

❖ Tuesday, April 7: 40 Trucks

❖ Sunday, May 31: 33 Trucks

☞ Old Delaware Avenue from Packer Avenue Marine Terminal to Pier 84

❖ Tuesday, April 7: 10 Trucks

❖ Sunday, May 31: 32 Trucks

☞ Pier 70 (Walmart, Home Depot, etc.)

❖ Tuesday, April 7: 16 Trucks

❖ Sunday, May 31: 12 Trucks

A total of 66 trucks were documented as parked in the South Philadelphia Freight Complex on Tuesday, April 7, while a total of 77 trucks were documented on Sunday, May 31. The port facilities on Old Delaware Avenue had much more queuing at their respective facilities on the Sunday night in comparison to the Tuesday night. While some of this may be due to ship schedules, it appears that Sunday night, and the corresponding Monday morning, is a popular time for port business. On the other hand, parking at the Food Distribution Center and Pier 70 was more prevalent on the Tuesday night in comparison to the Sunday night.

Port Richmond Industrial Area

For the purposes of this study, the DVRPC team documented truck parking near the Tioga Marine Terminal and the Port Richmond Kinder Morgan facility. This facility was only documented on Tuesday April 7. A total of thirteen trucks were documented parked in the area. Two tanker trucks were parked along Allegheny Avenue, apparently waiting for the Kinder Morgan facility to open in the morning. Eleven other trucks were found in various locations on Delaware Avenue.

Northeast Philadelphia Airport

The area around the Northeast Philadelphia Airport had a total of seventeen trucks parked along the side of local roads on Sunday night, May 31. Along Red Lion Road, there were six trucks, and on Decatur Road there were eight eastbound and two westbound. The area is roughly a five-minute drive from I-95, so it is unlikely that trucks traveling on I-95 come just for the parking. The area is home to a large array of industrial businesses, and it is probable that all the trucks parked in this area are serving a local facility in some way.

Supply and Demand of Truck Parking

In order to gain a theoretical estimate of the amount of truck parking needed in the region, DVRPC collected information to build and employ a demand model for truck parking spaces in the region. The model is based upon the Federal Highway Administration (FHWA) model, which follows the following formula:

$$\text{Demand} = \text{Truck Hours Traveled (THT)} \times \text{Average Parking Duration (P}_{\text{avg}})$$

Truck Hours Traveled (THT) can be represented by the following formula:

$$\text{THT} = \text{T\%} \times \text{AADT} \times (\text{L/S})$$

Where:

T% = the percentage of all vehicles that are trucks

AADT = the annual average daily traffic

L = the length of the roadway

S = the speed of the roadway

Step One: Compile Information Needed to Determine Truck Hours Traveled

Developing a THT calculation first required breaking down the region's Interstates into corridors in which the necessary data can easily be compiled. Using an assortment of sources, traffic counts, speed, and truck

percentage information were collected at multiple points along each corridor and then averaged out to supply the necessary information to calculate THT. Sources included:

- ☞ PennDOT
- ☞ NJDOT
- ☞ Traffic.com
- ☞ DVRPC Regional Travel Simulation Model

The DVRPC Regional Travel Simulation Model was used when data was not available and also used to scale 2009 volumes up to 2035 volumes so that the model could estimate both 2009 demand and 2035 demand.

Corridors Included:

- ☞ I-95 (Pennsylvania Portion)
- ☞ I-76 (Pennsylvania Portion from Valley Forge to Ben Franklin Bridge)
- ☞ I-476 (From Chester to Mid-County Toll Plaza)
- ☞ I-476 (PA Turnpike Northeast Extension)
- ☞ I-76 / I-276 (PA Turnpike from Chester County to NJ Turnpike)
- ☞ I-295 / I-95 (New Jersey Portion)
- ☞ I-676 / NJ 42* (Ben Franklin Bridge to Atlantic City Expressway)
- ☞ NJ Turnpike (Entire portion within DVRPC region)

*I-676 / NJ 42 was not broken down by direction due to the lack of available directional data

Because the model is built to forecast on a county-by-county basis, each highway corridor was split into individual counties (for example, I-95 was split into sections for Delaware, Philadelphia, and Buck Counties, and the THT information was compiled for each). Because the traffic counts vary for each direction all highways were considered separate for each direction—thus I-95, in Pennsylvania, had six segments in the model (i.e., two directions in each of the three counties).

Step Two: Calculate THT

Below is an example of how THT was calculated for one of the six segments of I-95 (Northbound in Delaware County).

- ☞ T% = 9% (as per the DVRPC model)
- ☞ AADT = 70,484 (this number was determined by the average of 3 different traffic counting locations from traffic.com)
- ☞ Length = 11.3 miles (as calculated by DVRPC)
- ☞ Average Speed = 60.2 (this number was determined by the average of 3 different traffic counting locations from traffic.com)

Thus:

$$2009 \text{ I-95 Northbound in Delaware County THT} = (.09) \times (70,484) \times (11.3 / 60.2) = 1,190.73$$

To create 2035 THT, the AADT and average speed were adjusted as per the DVRPC travel demand model; truck percentage is assumed to remain constant. Thus:

$$2035 \text{ I-95 Northbound in Delaware County THT} = (.09) \times (83,312.69) \times (11.3 / 58.63) = 1,445.01$$

Step Three: Determine Ratio of Short-Haul versus Long-Haul Trucks

The FHWA model calls for short-haul truck trips and long-haul truck trips to be treated differently. FHWA defines short-haul truck trips as any trip that can be covered in three hours, while a long-term truck trip is any trip greater than three hours. The logic behind this breakdown is that short-haul trucks do not have a need to park overnight at truck parking facilities. Most of these drivers operate during the day and return home by night time. Truck parking facilities are not overcrowded during the day, and these short-haul trucks do not significantly contribute to the demand for available truck parking.

It was determined that different corridors in the region have different amounts of long-haul versus short-haul traffic. Through the Freight Analysis Framework and other regional studies, long-haul versus short-haul ratios were determined for each individual corridor. It is logical that a corridor such as the New Jersey Turnpike is

going to have a high degree of long-haul traffic, while a corridor such as I-76 through Philadelphia is going to have a higher ratio of short-haul traffic. It was determined that for highway corridors with heavy short-haul traffic a ratio of 85% short-haul to 15% long-haul would be used; for roadways with lighter short-haul traffic such as the Pennsylvania and New Jersey Turnpikes, a ratio of 65% short-haul to 35% long-haul would be used.

Thus, the amount of Truck Hours Traveled that is attributed to short-haul trucks for the example corridor (I-95 in Delaware County) equals:

$$2009 \text{ Short-Term THT} = (1,190.73) \times (.85) = 1,012.12$$

Similarly, the amount of THT that are attributed to long-haul trucks equals:

$$2009 \text{ Long-Term THT} = (1,190.73) \times (.15) = 178.61$$

Step Four: Translating THT into Demand for Spaces

In order to translate the amount of Truck Hours Traveled into the peak hour demand for spaces, three pieces of information are needed:

- ☞ The amount of average time stopped per hour of driving
 - ❖ For short-term parking, this was determined to be five minutes out of every hour driving
 - ❖ For long-term parking, this number varied based on the type of roadway
 - Interstates with local access and heavy short-haul traffic were deemed to have 1.725 hours of parking per hour of driving. This number was derived from comparable regional studies that measured the hours-of-service regulations and determined this average based on an 8-day period. This number was factored up or down for corridors with higher long-haul truck ratios to match the observed demand.
- ☞ The average duration of a stop
 - ❖ For short-term parking, this was determined to be 20 minutes.
 - ❖ For long-term parking, this was determined to be seven hours.

- ☞ The percentage of trucks that are parked during the peak hours
 - ❖ For short-term parking, this was determined to be 1.898% as determined by the inbound traffic flows.
 - ❖ For long-term parking, this number varied based on the type of roadway.
 - Interstates with local access and heavy short-haul traffic were deemed to have 40% of parking occurring during the peak hours. This number came out of other regional studies that measured 24-hour utilization cycles. This number was factored up or down for corridors with higher long-haul truck ratios to match the observed demand.

So, for the example corridor, the following string of calculations took place in order to arrive at the demand for the number of spaces during the peak hours.

☞ Short-Term Parking Average = $(5/60) * (20/60) * 1.898\% = .000527$

☞ Long-Term Parking Average = $(1.725) * (1/7) * 40\% = .098572$

Thus, since Demand = THT x P_{avg}

☞ Short-Term Demand = $1012.12 * .000527 = .53$ spaces

☞ Long-Term Demand = $178.61 * .098572 = 17.61$ spaces

☞ Total Number of Spaces to meet Demand = $.53 + 17.61 = 18$ spaces

Step Five: Aggregating the Data to a Corridor Level

Once each segment for all corridors was completed, they were summed together to obtain the demand for each corridor. For example, for I-95 northbound:

☞ Delaware County = 18 spaces

☞ Philadelphia = 42 spaces

☞ Bucks = 14 spaces

☞ Total = $18+42+14= 74$ spaces needed to fulfill 2009 demand

The following tables reflect the results of the supply and demand model. Both are organized in the order of which corridor has the greatest shortfall of spaces. Table 4 contains the 2009 results, while Table 5 contains the 2035 results. To determine the demand in 2035, the regional simulation model was used to project AADT in the calculation of truck hours traveled on each segment of roadway. The roadway and truck parking system is assumed to remain constant. All other calculations were done in the same manner as in determining 2009 demand.

Table 4: 2009 Demand Model Results

Roadway	Direction	Existing Parking Capacity	Estimated 2009 Demand	Parking Shortfall	Rank
I-76 / I-276 (PA Turnpike)	East	9	140	131	1
I-76 / I-276 (PA Turnpike)	West	55	93	38	2
I-476	North	0	36	36	3
I-76	East	0	36	36	3
I-76	West	0	35	35	5
I-476 (PA Turnpike)	Both ²	0	30	30	6
I-476	South	0	29	29	7
I- 676 / NJ 42	Both ²	0	25	25	8
I-95	South	58 ¹	74	16	9
I-95	North	60 ¹	74	14	10
NJ Turnpike	South	216 ¹	185	-31	11
NJ Turnpike	North	231 ¹	199	-32	12
I-295	South	234 ¹	195	-39	13
I-295	North	234 ¹	193	-41	14
Total		1,097³	1,344	247	

¹The Petro, Love's, TravelCenters of America, and Bensalem Travel Plaza were distributed evenly for each roadway that they serve.

²AADT was not available for each direction on these roadways.

³Route 309 Truck Stop was not included in the total because it does not directly serve any of the corridors considered in the model. Thus, the total existing parking capacity in the model is 1,097, while it is 1,122 for the DVRPC region.

Source: DVRPC, 2009

Table 5: 2035 Demand Model Results

Roadway	Direction	Existing Parking Capacity	Estimated 2035 Demand	Parking Shortfall	Rank
I-76 / I-276 (PA Turnpike)	East	9	169	160	1
I-76 / I-276 (PA Turnpike)	West	55	112	57	2
I-476	North	0	43	43	3
I-76	East	0	42	42	4
I-76	West	0	41	41	5
I-476 (PA Turnpike)	Both ²	0	35	35	6
I-476	South	0	35	35	6
I- 676 / NJ 42	Both ²	0	27	27	8
I-95	South	58 ¹	85	27	8
I-95	North	60 ¹	85	25	10
NJ Turnpike	North	231 ¹	229	-2	11
NJ Turnpike	South	216 ¹	213	-3	12
I-295	South	234 ¹	225	-9	13
I-295	North	234 ¹	222	-12	14
Total		1,097³	1,563	466	

¹The Petro, Love's, TravelCenters of America, and Bensalem Travel Plaza were distributed evenly for each roadway that they serve.

²AADT was not available for each direction on these roadways.

³Route 309 Truck Stop was not included in the total because it does not directly serve any of the corridors considered in the model. Thus, the total existing parking capacity in the model is 1,097, while it is 1,122 for the DVRPC region.

Source: DVRPC, 2009

Findings

The fieldwork and the model show more demand for truck parking in New Jersey than in Pennsylvania, but New Jersey also possesses significantly more capacity than Pennsylvania, mostly due to the three private truck stops located there. The model shows that the Pennsylvania portion of the region is in demand of 547 spaces currently, and the system only provides 182 spaces, a shortfall of 365 spaces. In the New Jersey portion of the region, the model estimates a 2009 demand of 797 parking spaces, but New Jersey currently has a supply of 915 spaces. The demand model for both the I-295 and I-95 (New Jersey Turnpike) show a surplus of spaces on these respective roadways; however, the utilization survey of facilities on these roads found a utilization rate of 107%.

There are multiple possible explanations for the discrepancy between the model and the observations, the most basic of which could be described as the “if you build it, they will come” theory. That is, if truck parking exists, it will attract additional overnight parking to those facilities, which are not taken into account by the FHWA model. Also, the corridors with a surplus of truck parking spaces could be picking up the slack for corridors with a large parking shortfall. As described in Chapter 1, the regions around DVRPC also have a shortfall of truck parking, so trucks may use DVRPC facilities in real life, while they are modeled to use a non-existent facility in another region. The model is constructed to determine how much parking demand there is based on when trucks run out of hours-of-service. It does not take into account the lack of parking in an adjacent region, which may force trucks to park before they run out of eligible hours-of-service. Lastly, the impact of the Ports of Newark and Elizabeth in northern New Jersey, and the large population center of New York City cannot be ignored as a possible explanation, especially since observed utilization along the New Jersey Turnpike was higher on the Northbound service plazas than on the southbound ones.

The model’s output can also be grouped and analyzed by corridor. DVRPC has defined two primary freight corridors: a north–south corridor and an east–west corridor. The roadways in the north–south corridor have demand for 920 spaces in 2009, while the system currently provides 1033 spaces in this corridor, a surplus of 113 spaces. The east–west corridor is in demand of far fewer spaces—only 424—but currently only provides 64 spaces for overnight truck parking, a shortfall of 360 spaces. This is consistent with the findings of the overnight survey, in which the most unauthorized truck parking was documented on roads in the east–west corridor.

The model results for 2035 do not look radically different. However, demand is projected to increase. From 2009 to 2035, the model suggests demand will grow from 247 additional spaces to 466 additional spaces.

Recommendations

The analysis of formal and unauthorized truck parking in the DVRPC region contained in Chapter 3 displayed the following:

- ☞ The total utilization rate of the existing truck parking facilities surveyed was 113%.
- ☞ A significant amount of unauthorized truck parking was found in the region. DVRPC estimates that roughly 300 trucks are parked in unauthorized locations on an average night.
- ☞ Modeling efforts showed a current regional shortfall of 247 spaces that will grow to a shortfall of 466 spaces by 2035.
- ☞ There is a greater need for additional spaces in the Pennsylvania side of the region than in the New Jersey side of the region, as well as a greater need in the east–west corridor than in the north–south corridor.

From these findings, it is apparent that the truck parking system in the DVRPC region is not adequate. This section provides actions to be taken by DVRPC and its partners in an effort to improve the regional truck parking network.

Multi-Regional Actions

In the allowable 11-hour driving window, a truck leaving from Philadelphia can reach Toronto to the north, Cincinnati to the west, or Charlotte to the south. Drivers cross many regions every day and which they park in is dependent on many circumstances. It is clear that the need for truck parking is not limited to any one state or region. Many communities see truck parking as somebody else’s problem as they search for higher rates and more appealing businesses. No single region should be left with the burden of providing truck parking. If every region works toward creating solutions together, the total truck parking system will be more viable. The following actions are ones that DVRPC should assist on but that need to be undertaken on a collaborative basis with other regions.

Action 1: Fully utilize available public funding that directly supports the creation of additional overnight truck parking spaces

Funding the construction of truck parking facilities, particularly with public funds, is complex. However, truck parking funds were made available in the Safe, Accountable, Flexible, Efficient, Transportation Equity Act – A Legacy for Users (SAFETEA-LU) in 2005. The Truck Parking Facilities Program under SAFETEA-LU Section 1305 provided \$25 million specifically for truck parking over a four-year period. Funds were bundled to leverage their buying power and dedicated to two projects, the I-95 Corridor Coalition Truck Parking Initiative and California's I-5 iPark.

Other programs under SAFETEA-LU, such as the Surface Transportation Program and the National Highway System, are large federal-aid programs with flexibility in how their funds can be used. Truck parking is not listed as an eligible use, per se, but may be eligible if certain criteria are met. Each program has guidelines to aid in determining which projects or specific costs within a project are eligible. Sometimes projects that, as a whole, are ineligible for federal funding can secure federal dollars for portions of a project.

On September 30, 2009, SAFETEA-LU expired, but it is still the governing transportation bill thanks to several extensions. Work on the next transportation authorization bill is expected to be in progress. Given that the Truck Parking Facilities program was established in the last authorization bill, there is a possibility that it will be maintained in the next bill. The increasing awareness and attention given to truck parking issues may help to perpetuate and to possibly increase the funding dedicated to the program. Unfortunately, the next authorization bill is still under development and what will ultimately be available for truck parking is unknown at this time.

DVRPC should work with organizations such as the Coalition for America's Gateways and Trade Corridors to support legislative funding considerations of additional truck parking. In the meantime, DVRPC should continue to work with its partners to identify potential sites so that it can be ready to apply for funding if it becomes available.

Action 2: Advance the use of the latest Intelligent Transportation Systems (ITS) technologies to optimize existing parking locations

ITS represents an array of new technologies that monitor travel conditions to convey information to travelers. The idea of using ITS to get information to truck drivers is a natural connection based on truckers' familiarity and ease of use of available technologies. A truck driver has a general knowledge of his or her parking options for a given night but has little idea about the occupancy rates. It is dangerous to force a truck driver into a situation in which he or she drives to a facility expecting to find parking, only to discover no more spots. At this time, the driver has two choices, both of which are potentially illegal: they can find unauthorized parking near the facility, or they can continue to drive and try to find authorized parking (this may cause the driver to exceed their hours-of-service limitations). Also, long-distance truckers who are not familiar with the region may not know about some of the non-chain private truck stops, such as the Bensalem Travel Plaza and Route 309 Truck Stop. Giving them this information as they drive on the roadway may increase the use of these facilities and decrease unauthorized parking.

ITS has the opportunity to increase the efficiency of how the region's truck parking spaces are used. Optimizing the system using technology has the possibility of creating a significant upgrade in capacity at a much smaller cost than expanding the physical capacity by creating new spaces. However, there are challenges to implementing ITS technologies for truck parking. Conditions at truck parking facilities are always changing, and it is easy to imagine that the information relayed to drivers would not be real-time (i.e., in the lag between when the information is retrieved and when the driver arrives at the facility, spaces may become available or may be filled). Currently, truck parking facilities do not keep close track of the real-time usage of their facility, so before technologies are put into place to relay information to drivers, steps are needed to gather the base information in real time at the facilities. The use of existing ITS systems, such as satellite radio, #511 phone numbers and variable message signs (VMS), and any future technologies that may become viable are good ways to relay information about truck parking facilities to drivers.

One example of how DVRPC can work toward this action step is to participate in the I-95 Corridor Coalition's Truck Parking Initiative. The I-95 Corridor Coalition will be setting up a trial truck parking availability system with ITS components. The trial will install monitoring devices in test truck parking facilities and relay the information through a hands-free telephone application to a network of test drivers. DVRPC should participate in the working group for this program and apply for the region's truck parking facilities to be considered as trial locations.

Action 3: Reduce emissions that are caused by idling parked trucks

Truck drivers often leave the engine running to provide climate control inside the cab, or to run a television or computer. This idling causes harmful emissions that affect the air quality of the surrounding areas. However, simply passing anti-idling laws is not sufficient because in extreme weather (either very hot or very cold), a truck driver needs to be able to control the temperature of their cab. Many states and municipalities have passed anti-idling laws to try to restrict these emissions.

Two popular technologies, described below, allow truck drivers to turn off their engine while still having climate control and electricity in the cab. In the future, DVRPC will continue to support programs, initiatives, and funding opportunities for idling reduction technologies that lead to improvements in air quality.

Truck Stop Electrification

Truck stop electrification provides electricity that is fed to each truck through a system that easily attaches to the cab, often in the window. The system requires on-site construction to house the utility lines. Once the system is in place, the driver may shut off the truck engine and still have power and climate control, as well as cable and Internet access and other amenities.

Truck stop electrification is very popular with local communities because it provides them reassurance that the harmful effects to the local air quality will be mitigated. The DVRPC region has two truck stops where truck stop electrification has been installed—at the Petro in Bordentown and the TravelCenters of America in Paulsboro. The company that ran the electrification business at these facilities declared bankruptcy in January

Anti-Idling Laws in the DVRPC Region

New Jersey:

- ❖ 3 minutes maximum of idling (15 minutes if stopped for >3 hrs and <25 degrees Fahrenheit)
- ❖ Idling was allowed if using the sleeper berth until April 30, 2010

Pennsylvania:

- ❖ 5 minutes maximum of idling
- ❖ Exempt when using the sleeper berth if the outside temperature is below 40 degrees or greater than 75 degrees Fahrenheit at any time during the rest period

(Source: Compilation of State, County, and Local Anti-Idling Regulations, United States Environmental Protection Agency, Office of Transportation and Air Quality)

2010 forcing the facilities to close (although the infrastructure remains). As of the publication of this report, the company that purchased the infrastructure had re-opened select facilities, but neither of the ones in the DVRPC area. Other private companies are in existence with similar technology but have not ventured into the DVRPC market as of yet. DVRPC has in the past used Congestion Mitigation and Air Quality Improvement (CMAQ) funding to help pay for the on-site installation of truck stop electrification equipment, and potentially could do so again if the right opportunity arose.

Auxiliary Power Units

Auxiliary Power Units (APU) are small diesel engines that attach to the cab of a truck. They come in many shapes and sizes and contain a cooling system, heating system, and generator. When a truck driver stops for an extended period of time, he or she may switch off their engine, turn on the APU, and have all the same amenities in the cab, while burning much less fuel. The amount of gas burned can fluctuate greatly, depending on the type and size of the APU, but one model claimed that it could run for 8 hours on one gallon of diesel. (In comparison, an average truck engine at idle burns roughly 2 gallons per hour.)



A Comfort Master APU attached to the underside of the truck between the cab and wheel base. (Source: www.comfortmaster.com)

APUs are very appealing to truck drivers because they can use them no matter where they are parked and they greatly increase fuel savings and wear and tear on the truck's engine. APUs cost roughly \$8,000–12,000, but drivers can make this back in one year from savings through lower gas costs and lower maintenance costs.

There are also programs in place to help truck drivers purchase APUs, such as grants through the New Jersey Motor Truck Association and the New Jersey Department of Environmental Protection, which can cover 50% of the price of the APU up to \$4,500 (see: http://www.njmta.org/images/pages/Truckers_challenge_II.pdf).

Regional Actions

The DVRPC regional truck parking system does not accommodate current demand. The unauthorized parking is a safety concern for both truck drivers and the general public. Additionally, truck parking facilities have the possibility to create taxable revenue for the township they are located in. The following are actions that DVRPC can actively pursue in an attempt to lead the region to a better truck parking system in the future.

Action 4: Promote the need for truck parking spaces and amenities to both DVRPC partners and the public

One of the hurdles regarding truck parking shortages is that it is a largely invisible problem. Most of the unauthorized parking occurs at night, when the roadways are relatively empty and in industrial areas removed from the public eye. In order for the issues surrounding truck parking to be solved, the public must understand the importance of truck parking and the key role parking facilities play in the availability of consumer goods.

Equally important to adding additional parking spaces is access to trucking amenities. Truck drivers perform a job that is vital to the American way of life. Giving drivers easy access to food, showers, and truck scales helps keep drivers more alert and overweight trucks off the road. Highlighting the lack of scales and truck driver amenities, a truck leaving South Philadelphia, and traveling to the west on I-76, does not encounter a full-service truck stop until it reaches Carlisle, Pennsylvania, a trip of roughly 120 miles.

DVRPC should include the topic of truck parking and trucking amenities in appropriate public education materials. For example, this was done in *Municipal Implementation Tool #19: Freight Transportation* (Publication #MIT019), which can be found in the freight section of the DVRPC Web site at www.dvrpc.org/freight. It should also be referenced in the DVRPC Long-Range Plan as an area the region needs to address.

Action 5: Improve access to existing truck parking facilities

One way to improve the truck parking system is to improve the access roads that lead trucks from major highways to the private truck parking facilities. Welcome centers and service plazas are generally located with direct on and off access to the highway. However, private truck stops are typically located off of the main road. DVRPC should treat connecting roadways the same as NHS freight Connector roadways. NHS freight connector roadways are the public roads (often locally owned) that connect major highways (freeways and arterials) with intermodal facilities. DVRPC studies these roadways to ensure the conditions of pavement, turning radius, access ramps, and signage, is adequate for a heavy volume of tractor trailer traffic.

There are two locations in the DVRPC region where major transportation projects could be undertaken to improve access.

I-295 Exit 56

Exit 56 on I-295, in Bordentown Township, Burlington County, New Jersey serves both the Petro and Love's Truck Stops, which provide 51% of the regional truck parking capacity. This exit only allows for two direct moves: trucks traveling northbound on I-295 can exit, and traffic coming from the truck stops can travel southbound on I-295. Southbound traffic must proceed to Exit 52 and do a U-turn and then travel north to Exit 56 in order to access the truck stops. (The U-turn is signed on the roadway, particularly to direct trucks to the truck stops.) This circuitous route forces trucks to travel an extra 8 miles to reach the Petro and Love's facilities. Also, trucks leaving the truck stops cannot access northbound I-295 and would need to use the same circuitous U-turn in order to do so. The interchange is among others on I-295 that provides incomplete moves. When prioritizing them for project development, the access to the truck stops should be included and emphasized in any analysis.

I-95 Street Road Exit

The I-95 Street Road Exit (Exit #37), in Bensalem Township, Bucks County, Pennsylvania serves the Bensalem Truck Stop. The entrance and exit ramps provide all possible moves to and from I-95, but the geometry of the ramps causes unsafe conditions for trucks, as well as localized congestion during peak periods. The short interchange ramps are not adequately designed, given the high volume of trucks that use the interchange. The I-95 Southbound on and off ramps are especially hazardous given the lack of a signal.

This interchange is an antiquated diamond interchange, which was constructed before the large amount of growth of commercial activity in the Street Road corridor. The recent addition of the Parx Casino and Racetrack has only increased traffic volumes. Given funding constraints, one short-term solution may be to add a second signal and coordinate the signals, thus increasing the efficiency and safety of the interchange.

Action 6: Maintain existing facilities and create additional regional capacity where possible

While optimizing the existing truck parking system to be more environmentally friendly and more efficient is of vital importance, the Delaware Valley must also confront the need for additional formal truck parking spaces. The first step in creating a system in which spaces match demand is to stop the trend of closing truck parking facilities. Efforts should be made to keep all facilities mentioned in this report open, and if a facility must be closed, all efforts should be made to replace the lost spaces somewhere else in the system.

The analysis in Chapter 3 clearly showed that all the facilities in the DVRPC region are operating near, or over capacity, so it is logical to deduce that additional spaces created anywhere in the system (and through any type of facility) would be beneficial to the system as a whole. In particular, any area with a cluster of truck activity (for example, a large industrial park with multiple freight generators or a large intermodal facility) should have a truck parking facility in close proximity.

Ways to create additional spaces

Expanded or Reconfigured Facilities

The easiest way to create additional spaces, in terms of both cost and public acceptance, is to expand already existing facilities. Private truck parking facilities, the largest components of the existing system, are largely governed by market conditions. However, there may be opportunities for the public sector to help facilitate facility expansion in close coordination with the host community.

In adjacent regions, most of the successful projects that have expanded or reconfigured truck parking spaces have occurred at service plazas. Two notable projects include the Delaware Welcome House along I-95 and the Vince Lombardi Service Plaza on the New Jersey Turnpike. The introduction of idle free technology was used to garner public support for each of these projects.

The most important requirement for a major expansion is additional adjacent land. This may prove to be a challenge for many of the service plazas in the DVRPC region since the Turnpike Authority right-of-way is usually not large enough to accommodate any significant expansion.

Another option is to reconfigure the existing service plaza to derive more truck parking spaces and better efficiency. One service plaza where the layout could possibly be improved is the Peter J. Camiel Service Plaza, which is scheduled for reconstruction from fall 2012 to spring 2013. By having two separate parking areas, a situation was observed in which no trucks were parked in the first parking area, while the second area was full and unauthorized parking was taking place on the ramp to re-enter the Turnpike.

Public Private Partnerships

The public and private sectors can work together to improve the truck parking system. One potential option is to commercialize welcome centers and rest areas, which is currently under consideration in a few states. Many states have resorted to closing rest areas due to the cost of operating and maintaining them. States have the option of leasing the land to commercial operators (likely either the same operator as the service plazas or a national private truck stop company) and thus generating revenue from the parcel.

A second option is for the private and public sectors to partner together and expand the role that truck depot locations play in truck parking. In the DVRPC region, the recently opened Bensalem Travel Plaza provided 100 spaces, matching about what the region has lost in spaces over the last five years. Atkinson Freight Lines realized that the need for truck parking corresponded with the extra space they had in their facility and responded by creating the Bensalem Travel Plaza. By creating a truck stop that is branded, advertised, and offers amenities to drivers, the Bensalem facility has helped bridge the regional truck parking shortfall.

Additional companies can do this on either a formal or informal scale. As long as there is space, and safety, labor, and security issues can be resolved, there should be an opportunity for companies to allow truck drivers to use a greater network of truck parking facilities at private sector trucking depots. Public sector agencies have a chance to create partnerships with candidate companies to help them realize the opportunity and promote their facility. Additionally, public agencies may help them apply for funding to acquire anti-idling technology, move forward with projects to help improve access to their facility, and get them involved with any future ITS truck parking system that may be developed.

New Facilities

The creation of new truck parking facilities is a challenging option in a mature region like the Delaware Valley. However, truck parking facilities can create ratables for local townships and may help attract other industrial

business. These ratables can greatly help a township when it comes to funding such things as schools and local improvements.

The two most important factors when citing a new truck parking facility are location and available land. Truck drivers are not willing to go far out of their way to find parking. Truck parking facilities require a large footprint in order to operate. While most of the land is taken up with parking, additional land is needed for food, a scale, and amenities, as well as for the installation of fueling stations. The three private truck stops in the DVRPC region (i.e., Love's, TravelCenters of America, Petro) are roughly 6.5, 11.2, and 24.0 acres in size, respectively. This provides a range for the amount of land required to build a truck parking facility.

DVRPC analyzed the square footage where truck parking is taking place within all the facilities profiled in this report. A space per square foot ratio was determined for each facility by using the area swatches created in the profile maps and dividing the square footage by the number of spaces. The average throughout the region was roughly 1,500 square feet of land per truck parking space. This number could be used going forward to estimate the amount of spaces a expanded of new facility could create.

Lastly, because of the stigma around truck parking facilities, it is advised that any facility be cited in a location that does not border or closely surround a residential community. Ideally, locations would be around industrial land uses that already attract truck traffic.

Conclusion

By working to create additional spaces and making the system more efficient, the DVRPC region can have a truck parking system that meets demand and fulfills economic, safety, environmental, and quality of life objectives. It involves building on the current system and keeping a mix of all different types and sizes of facilities. Emphasis on interagency arrangements and collaboration between the public and private sector will be necessary moving forward.

Abstract Page

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Abstract

The trucking industry plays an increasing role in the movement of goods for the DVRPC region. Truck drivers often need safe and secure locations at which to park their trucks overnight. This study identifies the capacity of truck parking in the DVRPC region, provides an estimate of the current and future demand, presents the observations of overnight truck parking inventories, and offers recommendations to ensure a sufficient network of truck parking facilities. DVRPC's work in this area follows in the footsteps of work at MPO's in New York, North Jersey, and Baltimore, as well as a State-Wide Pennsylvania Study.

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