KENTUCKY TRUCK PARKING STUDY

2022 KENTUCKY TRUCK PARKING ASSESSMENT & ACTION PLAN

TEAM KENTUCKY®

TRANSPORTATION CABINET

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

CHAPTER 1
OVERVIEW OF TRUCK PARKING ASSESSMENT

1.1 Truck Parking Supply & Demand Methodology

The Kentucky Truck Parking Assessment and Action Plan is a comprehensive analysis of truck parking in Kentucky. The safe and efficient movement of freight by truck is dependent upon the availability of safe and legal truck parking across the Commonwealth. Federal hours-of-service regulations require commercial drivers to rest for defined periods at mandated intervals. These rest intervals are monitored electronically and require drivers to plan their driving around finding available, safe, and legal parking. Parking shortages can lead to lost productivity, higher shipping costs, and increased traffic safety risks. The Kentucky Transportation Cabinet (KYTC) commissioned this Truck Parking Assessment and Action Plan to address the following goals:

- Inventory Existing Truck Parking Supply
- Quantify Existing Truck Parking Demand
- Determine and Prioritize Existing Truck Parking Needs
- Identify, Evaluate, and Prioritize Truck Parking Expansion Sites
- Investigate Innovative Truck Parking Solutions
- Develop an Action Plan for Parking Expansion and Innovative Solution Deployment

Desired truck parking outcomes were developed by the project team. These project outcomes are the ideal results of the recommended truck parking solutions. Overall, the top outcome of the project is to have legal truck parking that meets demand at all areas across Kentucky. Due to the magnitude of this undertaking, it was broken into reasonable outcomes that would be easier to target and achieve. These project outcomes, as determined by the project team, are listed below in order of importance:

1. Eliminate truck parking on interchange ramps,
2. Eliminate truck parking on rest area and weigh station ramps,
3. Eliminate truck parking in retail store (big box) parking lots.

1.2 Need for Truck Parking

The trucking industry is critical to the nation's economy and quality of life. It is also vital to Kentucky's communities and businesses. Truckers move products to and from manufacturing, warehouse, and retail facilities across the state. They also move products through the state on a national scale. Long-haul trucking involves multi-day trips and requires parking for mandated breaks and overnight rest. First-mile and last-mile deliveries require parking for staging to wait for designated pick-up and drop-off windows. Truck parking is therefore essential to Kentucky's quality of life, and it is a key part of one of Kentucky's largest economic engines - the freight and logistics industry.

1.2.1 Truck Driver Rest Requirements

The most important influence on where and when truck drivers need to park are the Federal Motor Carrier Safety Administration's (FMCSA) Hours of Service (HOS) regulations and Electronic Logging Device (ELD) mandate. The HOS regulations include strict provisions on driving limits, rest breaks, sleeper berths, and other rest timing. A summary of the regulations is shown in **Table 1-1**. In Kentucky, the HOS regulations are enforced by the Kentucky State Police (KSP) as well as local law enforcement agencies. Penalties for violating these regulations can be high for drivers and trucking companies and may include placing trucks out of service. Exceptions to HOS regulations can occur during emergency situations that require extended driving hours to support critical supply-chains that have been disrupted.

Within their allowed driving time, truck drivers attempt to maximize the distance travelled before finding available and legal parking when their rest period begins. If a driver stops early because they are unsure if they can reach a parking location within the HOS, they are giving up productivity and losing potential income. If they continue to drive beyond available parking, they

risk a costly HOS violation or parking in an unauthorized or less safe location.

1.2.2 Electronic Logging Devices

ELDs are a replacement for the old paper logbook system used to track a driver's HOS and have been required in all trucks since December 2019. These devices improve highway safety and reduce paperwork by automatically recording driver operation information in a tamper-proof system. An ELD interfaces directly with a truck's computers and other systems, and records information on truck movement, mileage, and engine run status. Previously, paper logbooks provided drivers some flexibility and were based largely on the honor system. ELD precision and lack of data-editing forces drivers to find parking earlier within HOS or risk fines or other penalties. While HOS and ELD regulations may have led to a decrease in the number of fatigued drivers, it has also seen an increase in the number of trucks parking in unauthorized locations, including on highway ramps and shoulders.

Table 1-1 Summary of Federal Hours of Service (HOS) Regulations

HOS Provision	Description
11-Hour Driving Limit	Drivers may drive a maximum of 11 hours after 10 consecutive hours off duty. All time spent at the driving controls, in operation is considered driving time.
14-Hour Driving Limit	Property-carrying drivers may not drive beyond the 14th consecutive hour after coming on duty, following 10 consecutive hours off duty.
Rest Breaks	Drivers cannot drive more than 8 hours before taking an off-duty or sleeper berth rest period of at least 30 minutes.
60/70-Hour Limit	Drivers may not drive after 60/70 hours on duty in 7/8 consecutive days. A driver may restart a 7/8 consecutive day period after taking 34 or more hours off duty.
Sleeper Berth Provision	Drivers using the sleeper berth provision must take at least 8 consecutive hours in the sleeper berth, plus a separate 2 consecutive hours either in the sleeper berth or off duty.

1.3 Truck Parking Assessment & Action Plan Approach

Developing the Kentucky Truck Parking Assessment and Action Plan involved several steps (see **Figure 1-1**), including obtaining and analyzing a truck location dataset, inventorying authorized and unauthorized truck parking facilities, engaging with stakeholders, identifying parking needs, and identifying potential parking expansion sites. Key assessment goals include a prioritized list of potential parking expansion sites and an Action Plan to guide deployment of the expansions and other potential solutions.

The final report draws upon technical memos and design submittals developed throughout this effort including:

- KYTC Truck Parking – Parking Supply and Needs Memo
- KYTC Truck Parking – TPIMS Expansion Memo
- KYTC Truck Parking Expansion Site Sketch Designs
- KYTC Truck Parking Expansion Site 15% Designs

Stakeholder input was key during the development of the Kentucky Truck Parking Assessment and Action Plan. The Assessment and Action Plan began in Spring 2021, but due to the impacts of the COVID-19 pandemic protocols, including the cancelation of truck industry events and transitioning to mandatory virtual meetings, made it difficult to conduct as much in-person stakeholder involvement as originally planned. To supplement the outreach effort, an online survey for truck drivers was created to gain input on the needs and issues within Kentucky. A second online survey was completed to gather truck driver input on developed expansion concepts. The results of the two rounds of stakeholder engagement surveys are included in **Chapter 6** and **Chapter 8**.

Figure 1-1. Overview of Approach for Developing Kentucky Truck Parking Assessment and Action Plan

CHAPTER 2
PROJECT DATA AND METHODOLOGY

2.1 Assessment Methodology

2.1.1 Truck Parking Supply & Demand

The analysis approach used to assess Kentucky's truck parking supply and demand consisted of a four-step process as shown in Figure 2 1. The first step defined the locations and type of truck parking facilities. Importantly, it also quantified the actual or estimated truck parking capacity of each site. The second step involved collecting and processing the American Transportation Research Institute (ATRI) truck GPS data and distilling the millions of individual GPS waypoints into individual stop events. Since the ATRI data represents only a sample of all truck activity, the third step calculated inflation factors to estimate total truck parking activity by day and by hour. In the fourth step, the parking demand at each facility was compared to the available parking capacity, to identify unmet demand by hour. The results of this final step were used to define the primary truck parking needs across the state.

2.1.2 Truck Parking Needs

Truck parking needs and need prioritization were determined through a straightforward analysis. The results of the truck parking supply and demand analysis were aggregated into analysis areas to determine and prioritize parking needs across Kentucky. The analysis areas were defined by a geographic grouping of truck parking locations, often multiple parking facilities and ramps at a single interchange. **Figure 5-1** shows an example of how eight parking areas at KY-770 and I-75 in North Corbin were combined into a single analysis area. The truck parking need for each analysis area was calculated from raw unmet parking demand values as well as other data for the area. Six scoring criteria were selected based on the project outcomes discussed in **Chapter 1.1**. The scoring criteria included interchange ramp parking, rest area and weigh station unmet demand, big box store unmet demand, total unmet demand, and parked truck crash occurrence. The total truck parking need was determined by summing each interchange score across all criteria. The total truck parking need scores were utilized to identify and prioritize the areas with the highest truck parking needs. Truck parking need scores are shown in **Table 5 -3** and on **Figure 5-2**.

2.1.3 Capacity Improvements

The approach used to develop and assess Kentucky's potential publicly owned truck parking capacity improvement options also consisted of a four-step process as shown in **Figure 2-2**. The first step involved reviewing county property value administration (PVA) online GIS property maps in areas of high truck parking need, looking for sites within state right-of-way. Once potential expansion sites were identified, they were scored based upon their development potential. The development potential was determined based upon

Figure 2-1. Truck Parking Supply Dataset Development Process

the proposed site's size, topography, roadway access, and environmental challenges. The development potential was combined with a parking need score to determine the overall development priority. This development priority was used to assist in selection of approximately 30 sites for sketch level parking expansion design. The sites were selected based upon a combination of the development priority and engineering judgement, including an effort to evaluate sites along all corridors with truck parking needs. Approximately 10 sites were then selected for high level design development, which was termed as 15% level design. These sites were selected based upon an engineering analysis of the sketch level designs along with the development priority.

Over the course of the assessment, it became clear that there were areas with high unmet demand that could not be addressed using property that is currently within KYTC right-of-way. This pointed to the need for other approaches to meet these needs. The project team explored innovative technologies and deployment methods as possible near-term solutions. For example, upgrading and expanding KYTC's current Truck Parking Information Management System (TPIMS) could help drivers make better use of existing spaces. Also considered was partnering with private firms and truck stops to expand parking areas. There are technological, legal, institutional, and financial barriers to many of these options, but over time several of these ideas could become an important factor in meeting the demand in difficult to serve areas.

2.1.4 Action Plan

The final step in the assessment process was the development of an implementable Action Plan, providing Kentucky with a roadmap for beginning to improve the current truck parking situation. The Action plan outlines the steps that should be taken in each biennium with regards to site implementation, technology and innovation, and policy and planning. The timing, funding amounts needed, and action steps required are outlined such that KYTC can deploy the truck parking program over the next six years at which time an updated program review will provide additional guidance.

Figure 2-2. Truck Parking Capacity Expansion Process

2.2 Project Data

Several major data sources were used for the different parts of this assessment. A summary of these sources and a brief description of their role in the analysis is provided in **Table 2-1.**

Table 2-1 Truck Parking Data Sources

KYTC Truck Parking Facility Inventory
KYTC's truck parking facility inventory provided information on the location and types of public and private facilities, amenities, and a count of marked or estimated truck parking capacity. This source was used as the baseline input for the truck parking inventory.
KYTC Truck Traffic Count Data
KYTC maintains truck traffic count information for thousands of state-maintained highway segments. Separate daily volumes are available for single-unit trucks (e.g., straight trucks or box trucks) and combination trucks (e.g., tractor trailers). This assessment considered the combination truck volumes as those types of trucks are most likely to use overnight truck parking facilities. The primary use for this information was to develop expansion factors for the American Transportation Research Institute (ATRI) truck Global Positioning System (GPS) data.
American Transportation Research Institute (ATRI) Truck GPS Data
ATRI provides one of the most effective sources for evaluating long-haul truck parking demand. The ATRI dataset contains continuous truck probe information for over 1.1 million trucks, of which 89% are tractor-trailer combinations. Six weeks of truck GPS data was purchased for this assessment and action plan. The dataset included all trucks that had at least one GPS "ping" within Kentucky over the six weeklong periods in 2018 to 2021.
Trucker Path
With more than 1 million users, Trucker Path has become one of the most popular applications for drivers searching for overnight parking, re-fueling facilities, and other commercial vehicle destinations. Trucker Path facility information for Kentucky was purchased for this assessment. The database included information on capacity and was used to validate and supplement the KYTC truck parking inventory. Trucker Path user-generated data was also purchased to validate the parking demand results developed using the ATRI data.
Trucker's Friend
As one of the original truck parking directories, the Trucker's Friend was the primary source of information used by the Federal Highway Administration (FHWA) in the 2015 Jason's Law Truck Parking Survey. This directory is now available as an online service and provides information on truck parking capacity and amenities. This source was primarily used as a supplementary data source for cross-validating capacity information.
Major Industry Truck Parking Applications
Many of the major travel plazas, such as Travel Centers of America and Pilot Flying J, now maintain their own applications with detailed information about available truck parking. The National Association of Truck Stop Operators (NATSO) also maintains the Park My Truck application with information about existing truck parking facilities. These sources were used as the primary source of capacity information for the major private facilities.
Aerial Photo and Field Verification
At facilities where there are substantial discrepancies between the above data sources, it was necessary to verify capacity using aerial imagery. In-person field evaluations were also used to confirm truck parking utilization at high-demand facilities.
Crash Data and Records
The safety analysis used five years of crash data from 2015 through 2019. The data was obtained from the KYTC Crash Data Analysis Tool (CDAT) database. This database includes information on the crash location, crash severity, crash type, and vehicle type(s) involved.

CHAPTER 3
EXISTING TRUCK PARKING SUPPLY

3.1 Truck Parking Inventory

The first step in the assessment process was to identify the locations and quantify the capacities of truck parking facilities across the state. A key challenge that had to be overcome was the reconciliation of multiple data sources with sometimes conflicting or even contradictory information. Determining the capacity of a truck parking facility can be difficult, particularly for facilities with unmarked parking spaces. In these instances, capacity can be impacted by factors such as how much space drivers leave between vehicles.

The KYTC truck parking facility inventory was used as the starting point for this process. This data was then joined with the Trucker Path facility database to create a more complete dataset. Finally, additional sources including the TravelCenters of America and Pilot Flying J apps were used to add additional information on truck parking capacity for the major private parking facilities.

The capacity information from each data source was compared before deciding on a final value. In situations where all sources were within approximately 10% of each other, the highest capacity value was used. Where the various sources were not close, an aerial photography review of the facility was conducted to determine which source was most correct.

To identify parking areas not included in the above data sources, ATRI truck GPS data was used to find clusters of truck parking activity. The project team created a geospatial hexagonal grid covering the entire state, using 1-mile-wide hexagons. The grid was joined to the ATRI GPS data for truck parking events exceeding 10 hours. The grid was filtered to include only areas with an average of three or more truck parking events per day. The hexagonal areas meeting this criterion were manually reviewed to identify potential parking facilities. **Figure 3-1** shows the 10-hour truck parking events in the vicinity of I-75 and the Hal Rogers Parkway with the hexagonal grid areas meeting the activity threshold highlighted.

Some of the facilities identified in this manner were added to the assessment database because they are places truck drivers use for overnight parking while in transit. Facilities in this group included gas stations, empty lots with unclear ownership, and retail stores (big box) such as Walmart. Boundary shapes were used to estimate the parking events for each facility. Most of the activity on the right side of **Figure 3-1** was identified as various categories of truck stops and was included in the database.

Figure 3-1. Truck Parking Supply Dataset Development Example

3.2 Truck Parking Supply

In total, over 117 truck parking facilities providing approximately 7,550 spaces were identified across the state as shown in **Table 3-1**. Many of the facilities were privately owned truck stops, which provided 6,330 spaces or 84% of the total spaces. The 28 public facilities contributed 1,050 spaces (14%). There were 572 ramp parking locations and 81 big box store facilities that were identified in the analysis. These locations were not assigned a capacity as ramps are not legal parking locations. The big box store locations may or may not currently be authorized, but even if they are, a change in company policy could make them illegal. Therefore, they were not included in the tabulation of confirmed legal statewide spaces. In total, 728 truck parking areas were evaluated for truck parking supply and demand.

Each of the truck parking facilities (except for the ramp locations) are shown on **Figure 3-2.** Most of the facilities are located along Interstate corridors. This includes all public facilities (welcome centers, rest areas and weigh stations). There are some weigh stations along the interstate and other highways that do not have overnight truck parking available. These locations are not shown on the map. The loop and spur Interstate corridors have a limited number of parking facilities, and those facilities are limited to a small number of truck stops and big box stores. There are also a limited number of parking facilities along the Parkway corridors. Parking facilities along the Parkways are limited to four truck stops along the Western Kentucky Parkway and the Bluegrass Parkway.

Table 3-2 summarizes of the number of spaces by Interstate and Parkway corridor. **Figure 3-3** shows the parking supply across the state. For sections that carry two Interstate designations (e.g., I-64 and I-75 in Lexington and I-71 and I-75 in northern Kentucky), the spaces are attributed to the primary highway only. In both noted instances, I-75 is the primary highway. I-65 has the largest number of parking spaces with 2,330 spaces and the highest parking space density with 17 spaces per mile. I-24 and I-75 are second and third in density, both with 11 spaces per mile. I-165 has the smallest number of parking spaces with 80 spaces, and the Parkway system has the lowest density with less than 1 per mile.

Kentucky has approximately 7,550 truck parking spaces 84% privately owned and 14% at public facilities.

Table 3-1. Truck Parking Supply by Facility Type

Facility Type	Number of Locations	Total Spaces	Percent of Total Spaces
Public Rest Areas	24	860	11.3%
Public Weigh Stations	4	190	2.5%
Privately Owned Truck Stops	74	6330	83.8%
Other Lots with Unclear Ownership	15	170	2.3%
Box Store Parking Lots (e.g., Walmart, Lowes)	81	-	-
Highway Exit/Entry Ramps	572	-	-
Total	728	7550	100%

Table 3-2. Truck Parking Supply by Corridor

Corridor	Truck Parking Spaces	Truck Parking Space Density (spaces per mile)	Truck Parking Space Density Rank
I-24	1000	11	2
I-64	1150	6	4
I-65	2330	17	1
I-69	180	1	6
I-71	490	6	4
I-75	2020	11	3
I-165	80	1	7
Other Interstates	0	0	9
Parkways	230	>1	8
Other Highways	120	n/a	n/a
Total	7550	--	--

3.3 Truck Parking Amenities

Truck driver parking needs vary based on their driving assignments (trip length, route, vehicle type, cargo, etc.) and operational procedures. Some drivers need overnight parking for several days in a row, while others only need parking during the day while waiting for time slots to pick-up or drop-off freight. No matter the duration or reason for their stop, all drivers need safe and secure places to park their trucks.

For this assessment, KYTC defined lighting and trash receptacles as the essential baseline amenities at truck parking facilities. Both are necessary to maintain a safe and sanitary environment. Lighting is necessary to provide drivers with a safe parking area, both while driving and while resting in their trucks. Trash receptacles are required to keep facilities clean and sanitary.

Another high priority amenity that can help meet important driver needs is restrooms. However, restrooms were not included in the minimum requirements. While desirable, permanent restrooms are not always available at public truck parking facilities, and the addition of permanent restroom facilities would substantially increase the deployment time, capital cost, and maintenance cost of some new KYTC facilities.

One desirable outcome of the implementation of the Action Plan is the elimination of interchange and rest area ramp parking by moving these trucks to new nearby parking expansion sites. Drivers that currently park on interchange ramps do not have access to restroom facilities; therefore, providing permanent restroom facilities at potential new parking facilities sites was not listed as a priority. KYTC does plan to attempt to provide temporary restroom facilities at

Figure 3-2. Truck Parking Supply by Type

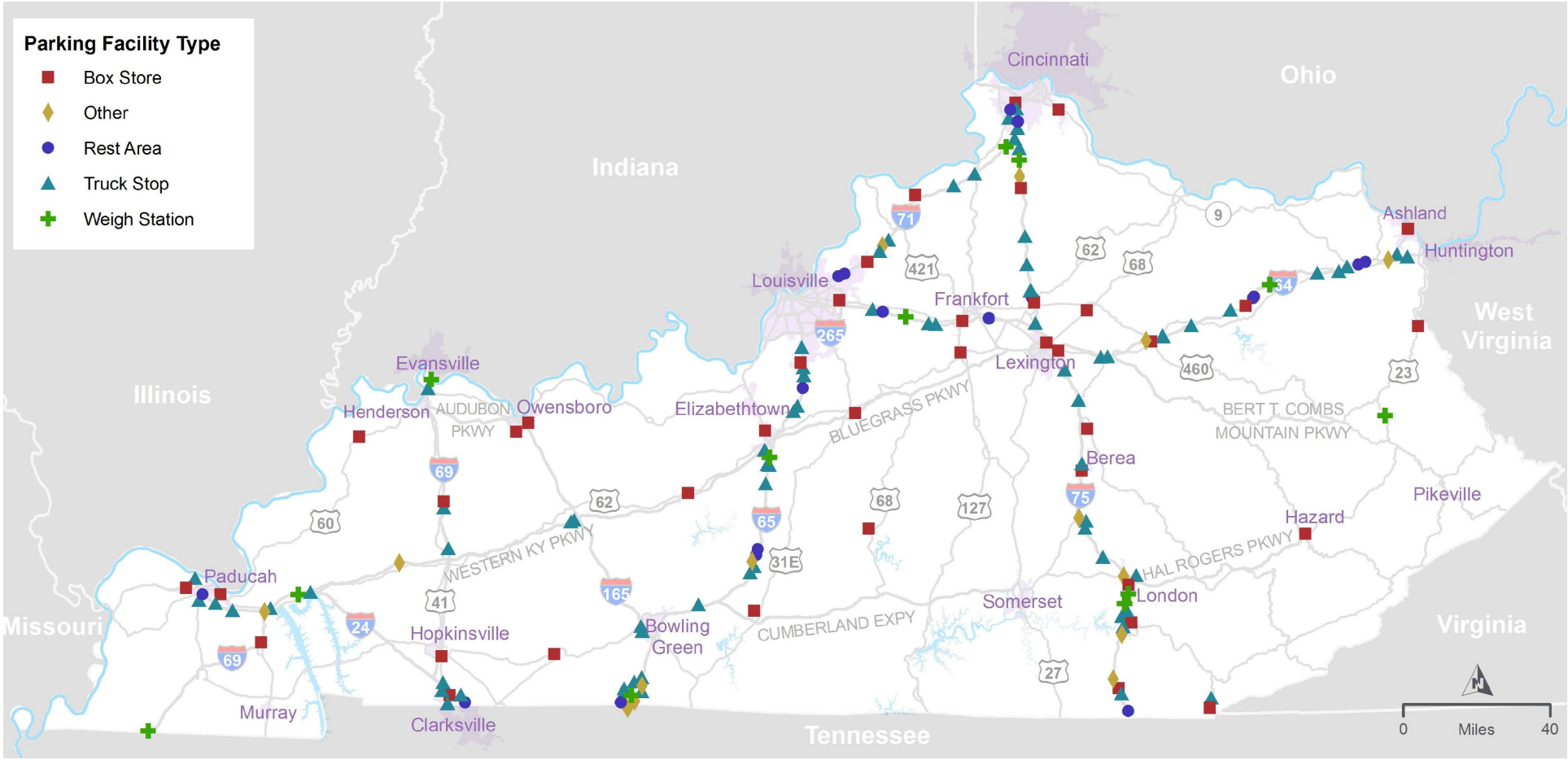
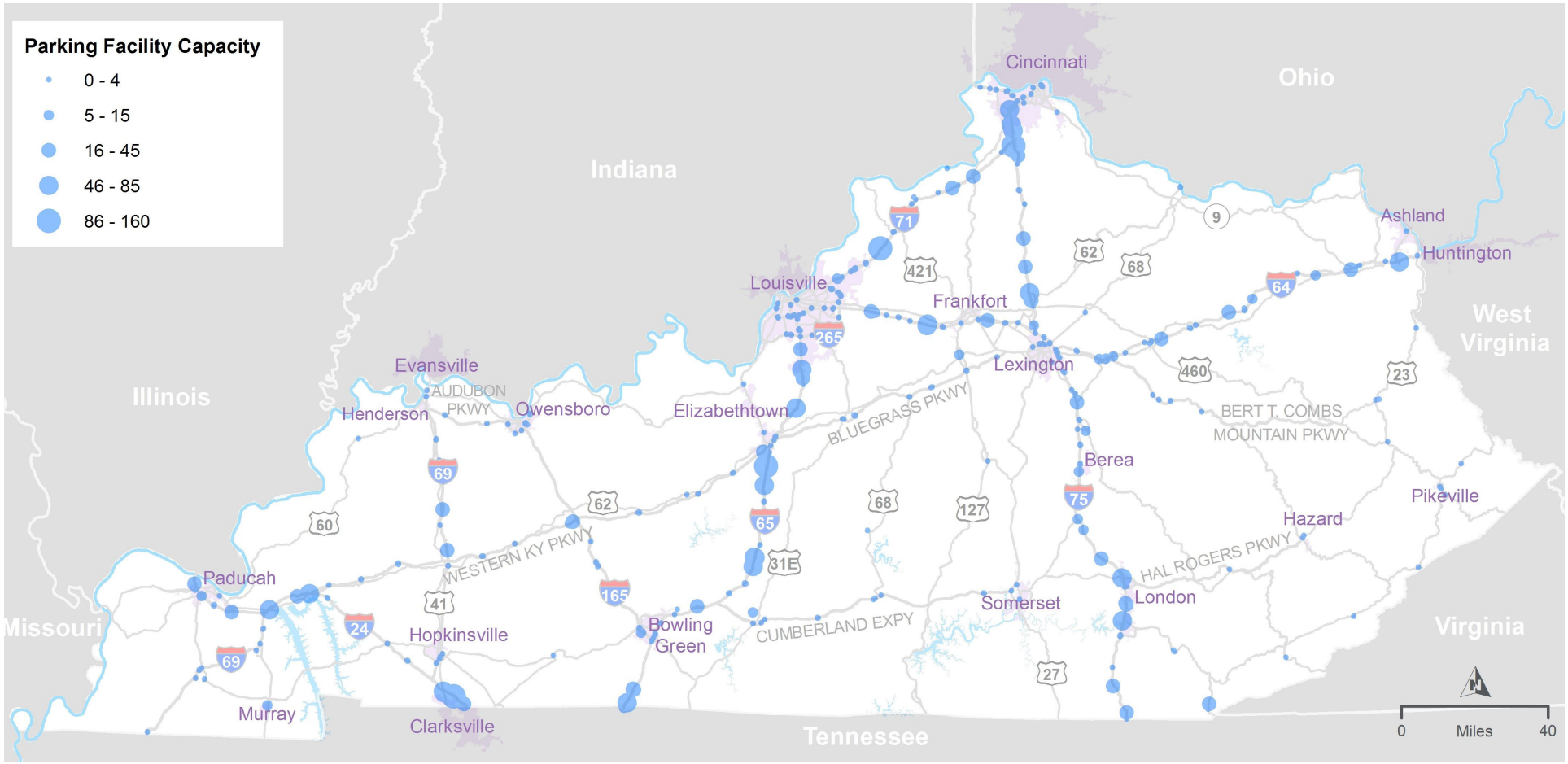


Figure 3-3. Truck Parking Supply by Facility

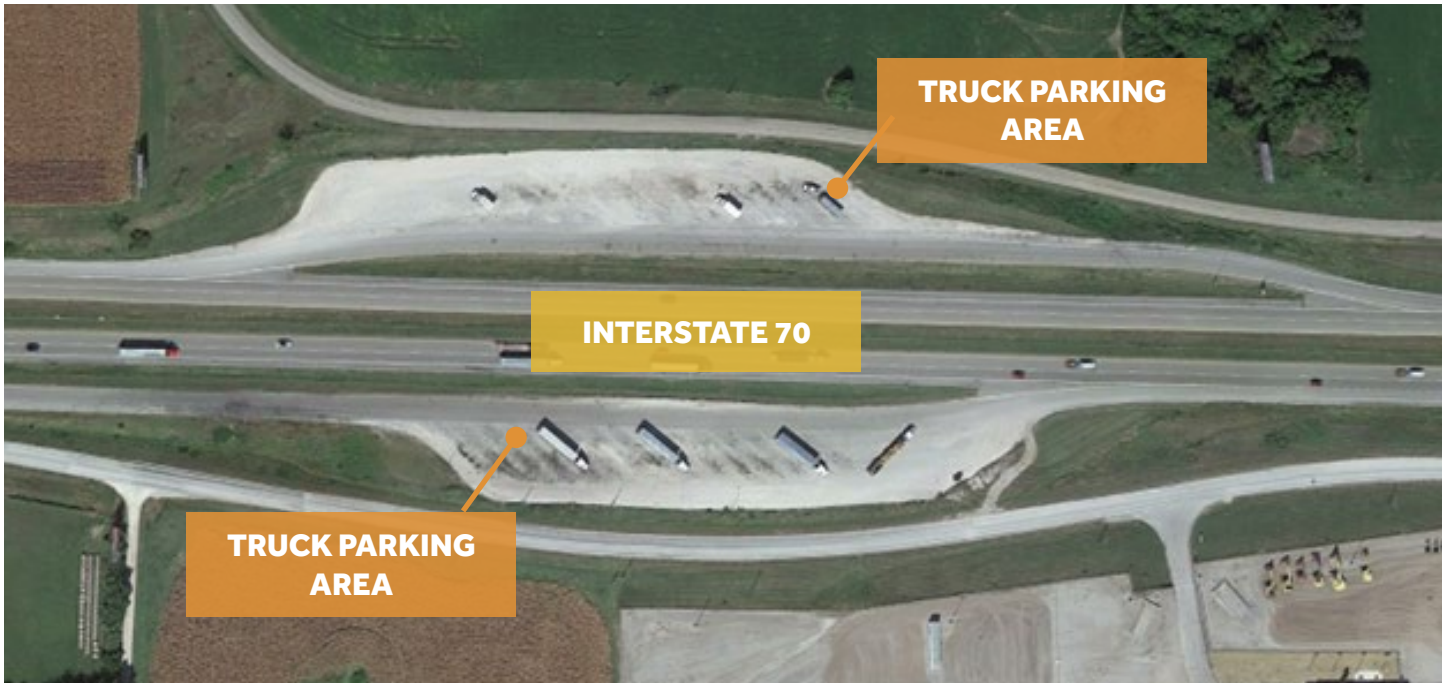


new parking areas that currently have no permanent restrooms. Additionally, an area will be designated at each new parking area for the possible future development of permanent restroom facilities. Addition of these permanent restroom facilities would occur during a second construction phase following parking expansion construction. On the following page, **Figure 3-4** shows a truck parking area developed by the Missouri Department of Transportation on I-70 east of Kansas City. This parking area was built at the site of a closed weigh station and has lighting and trash collection, but no restroom facilities.

> ***"Bathrooms are great to have but not 100% necessary, however a parking spot is."***
> ***- Driver Response from Public Survey***

In addition to basic amenities, many truck drivers also desire additional amenities such as showers, wi-fi internet, laundry, food, convenience items, and active security. Currently, these types of amenities are provided almost exclusively by privately owned truck stops in Kentucky. The only exceptions to this are the vending machines provided at rest areas and the grandfathered rest area on the Western Kentucky Parkway near Beaver Dam that features a full-service gas station and restaurant. The inclusion of amenities provided at this rest area date back to when the Western Kentucky Parkway was a toll road owned and operated by the state. The addition of commercial amenities at rest areas and other truck parking areas in the highway right-of-way is prohibited by federal law. Therefore, these types of higher-level amenities are not planned for any new KYTC truck parking facilities. While truck drivers desire these amenities, driver survey results indicate that their highest need is a flat, safe place to park.

Figure 3-4. I-70 Truck Parking in Missouri – Limited Amenities



CHAPTER 4
EXISTING TRUCK PARKING DEMAND

Truck parking demand was determined through an analysis of truck GPS data. ATRI provided six weeks of GPS waypoint data collected from trucks in the ATRI dataset that travelled within or through Kentucky. Observations were reported approximately every one to two minutes recording each truck's position (latitude and longitude) and travel speed. In total, the data included GPS waypoints for over 250,000 individual trucks. **Figure 4-1** shows an example of a GPS waypoint plot for a truck that passed through Kentucky on I-64.

4.1 Parking Data Time Periods

Four of the six weeklong time periods were used to establish a baseline sample for average truck parking activity. One week was selected from each quarter, avoiding holidays and major events that might impact truck activity. The weeks selected were:

- September 17, 2018 to September 23, 2018: 40,308 unique trucks in sample
- December 3, 2018 to December 9, 2018: 39,463 unique trucks in sample
- March 11, 2019 to March 17, 2019: 37,159 unique trucks in sample
- June 17, 2019 to June 23, 2019: 35,175 unique trucks in sample

Additional weeks were collected to assess potential changes in demand from year to year. The additional weeks included the second week of March for both 2020 and 2021:

- March 9, 2020 to March 15, 2020: 51,271 unique trucks in sample
- March 8, 2021 to March 15, 2021: 48,126 unique trucks in sample

4.2 Defining Stop and Travel Events

To analyze parking demand, the GPS waypoint data was used to define individual truck parking events (i.e., when a truck was stationary for the purpose of parking), with the remainder of the data defining travel events.

- **Parking Event:** A truck was classified as parked when the truck's speed was zero and its relative position did not change for a period of more than 5 minutes. These calculations were supported by appending variables to the ATRI dataset which measured the time and distance between sequential GPS observations for every truck.
- **Travel Event:** A truck was classified as travelling when the parking event conditions above were not met.

Figure 4-1. GPS Waypoints for One Truck in the ATRI Dataset

4.3 Inflation Factors

The ATRI dataset provided a large sample of truck activity in Kentucky, but it did not cover all truck activity in the state. Therefore, counts of parked trucks (i.e., the previously defined parking events) needed to be inflated to estimate the total parking activity. Inflation factors were developed for each parking facility by dividing KYTC's nearest annual average daily truck volumes by the ATRI dataset truck volumes for that same roadway segment. The inflation factors were applied to the initial ATRI truck parking event data. For example, if the ATRI sample recorded ten trucks parked at a rest stop during a one-hour period and that rest stop had an expansion factor of 3.5, it was estimated that 35 trucks were parked at the rest area during that hour.

The average inflation factor was 3.484. The values ranged from a low of 1.62 to a high of 8.56 but most of the factors were between 3 and 4. This indicated that the proportion of trucks included in the ATRI sample typically ranged from 25 to 33 percent. This result is in line with typical inflation factor results from other studies where ATRI data has been used.

4.4 Parking Demand Event Types

To further assess the type of the parking demand, parking events were categorized into three groups based on the duration of the stop.

- **10 or More Hour Events:** Truck parking events of 10 hours or more typically occur because drivers have hit their hours-of-service limit and must rest for at least that long before driving again.
- **1 to 10 Hour Events:** In some instances, drivers with sleeper berths can divide their 10-hour rest into two shorter durations. This category likely captures some of that activity.
- **Less than 1 Hour Events:** Most of these parking events are short-term events associated with refueling, dining or the mandatory 30-minute driving break associated with driving for 8 cumulative hours. The impact of these events on parking is less than the other parking durations since drivers can more easily and safely park in undesignated facilities for short periods of time.

Table 4-1. Truck Parking Utilization by Corridor

Corridor	Truck Parking Demand	Truck Parking Capacity	Truck Parking Unmet Demand	Truck Parking Demand Density (per mile)	Truck Parking Demand Density Rank
I-24	1300	1000	300	14	3
I-64	1120	1150	-30	6	5
I-65	2360	2330	30	17	1
I-69	240	180	60	2	6
I-71	750	490	260	10	4
I-75	2850	2020	830	15	2
I-165	40	80	-40	1	7
Other Interstates	40	0	40	1	8
Parkways	270	230	40	>1	9
Other Highways	270	70	200	n/a	n/a
Total	**9240**	**7550**	**1690**	--	--

4.5 Truck Parking Demand Results

Based on the available data, it is estimated that the average nightly peak truck parking demand in Kentucky is approximately 9,240 trucks. All truck parking demand results are based upon parking events longer than one hour on the average day at 1:00 a.m. **Table 4-1** summarizes the truck parking demand for all Kentucky roadway corridors, including interstates, parkways, and other highways.

Table 4-1 shows that Interstates 75, 24, and 71 all have unmet demand of more than 100 trucks per night. In addition, Interstates 69, 65, and 64 are over full utilization as they have nightly unmet demand greater than 0 trucks per night. On an average night all legal truck parking spaces along those corridors would be occupied. During the parking needs prioritization, each analysis area was reviewed independently, and attention was paid to these interstates to address these corridor-wide over capacity conditions. The entire I-64 corridor has 30 excess truck parking spaces on an average night. Further analysis shows that many parking facilities in eastern Kentucky have many unused parking spaces, while demand is much higher between Louisville and Lexington. Unused parking near Ashland will not help a driver who needs to rest while close to Frankfort. Additional investigation on the parking need for individual parking areas was completed in **Chapter 5**.

The I-75 corridor has the highest demand with an average nightly demand of 2,850 trucks and an unmet demand of 830 trucks. This indicates that approximately 30% of the trucks parking along I-75 (830 trucks) park in unauthorized locations. The interstate corridor with the highest percentage of trucks utilizing unauthorized locations is I-71 with approximately 35% or 260 trucks.

The corridor with the highest demand density is I-65 with 17 trucks per mile. The highest demand segment is on I-65 in the vicinity of mile point 55 to 60 with a demand of 490. The single highest demand facility in that segment is at the Horse Cave Rest Area at mile point 60 in Hart County with an average nightly demand of 278 trucks versus the site capacity of 232 trucks.

Interstate 165, urban loop interstates, and the parkways all have an unmet demand of less than 50 spaces with a demand density of one truck per mile or less. During the parking needs prioritization, individual areas along these corridors were reviewed, but overall, the parking need along these corridors is not an immediate need. The "other highways" category has a total unmet demand of approximately 200 trucks. This grouping represents thousands of miles of state highways throughout the commonwealth and only 10% of the unmet demand. All truck parking shortages are important, especially at the local or regional level, but from a statewide perspective addressing unmet demand on these corridors is not an immediate priority.

Figure 4-2 shows the location of truck parking demand across Kentucky. The areas of highest demand appear to be concentrated in the following areas:

- I-71 between Louisville and northern Kentucky,
- I-71/I-75 in northern Kentucky,
- I-75 between Lexington and northern Kentucky,
- I-75 from London to the Tennessee state line,
- I-65 south of Elizabethtown,
- I-64 between Louisville and Lexington.

"Anywhere (to park) after dark is full."
- Driver Response from Public Survey

Figure 4-2. Truck Parking Demand

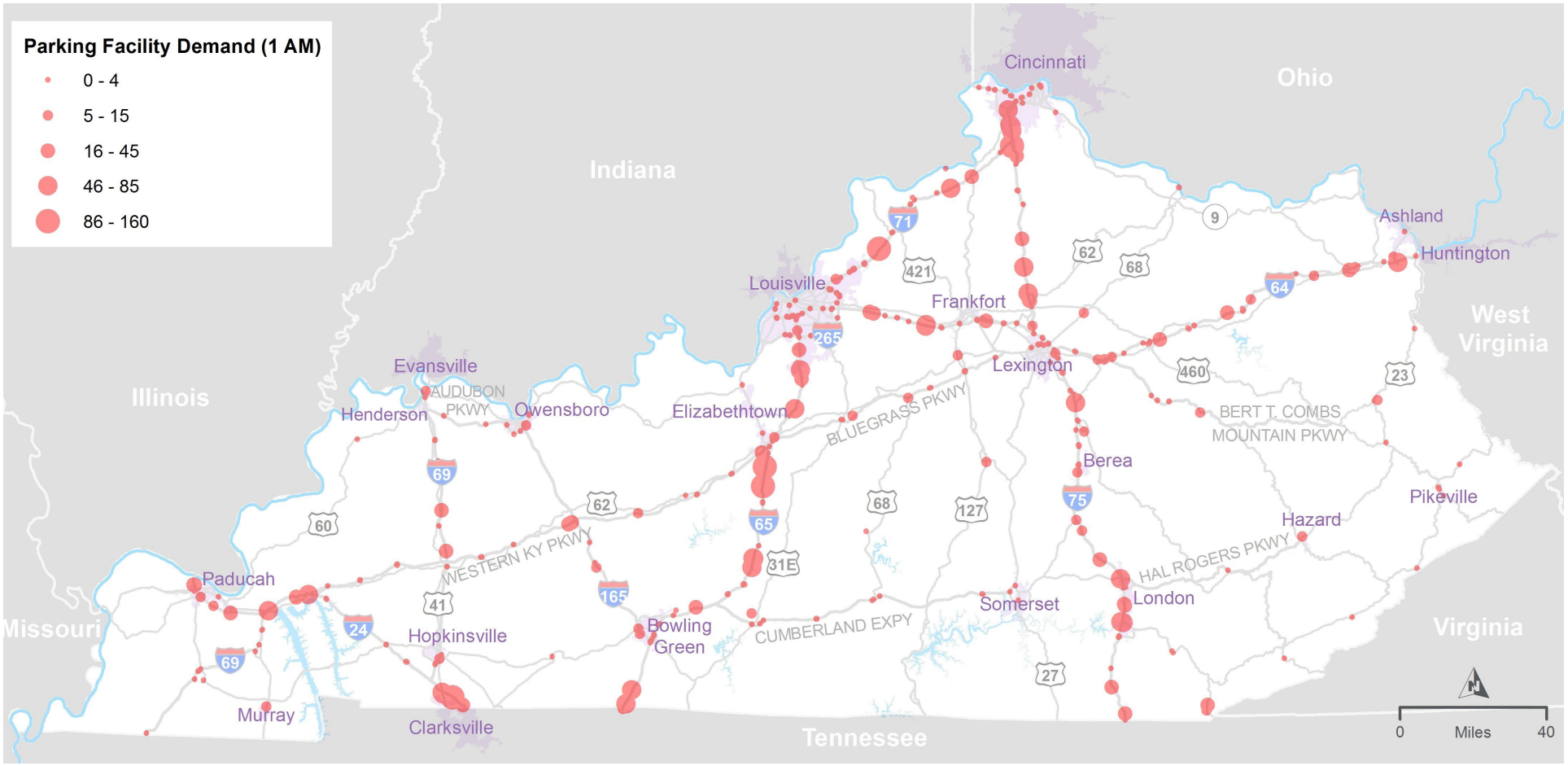


Figure 4-3. Kentucky Ramp Parking Occurrence

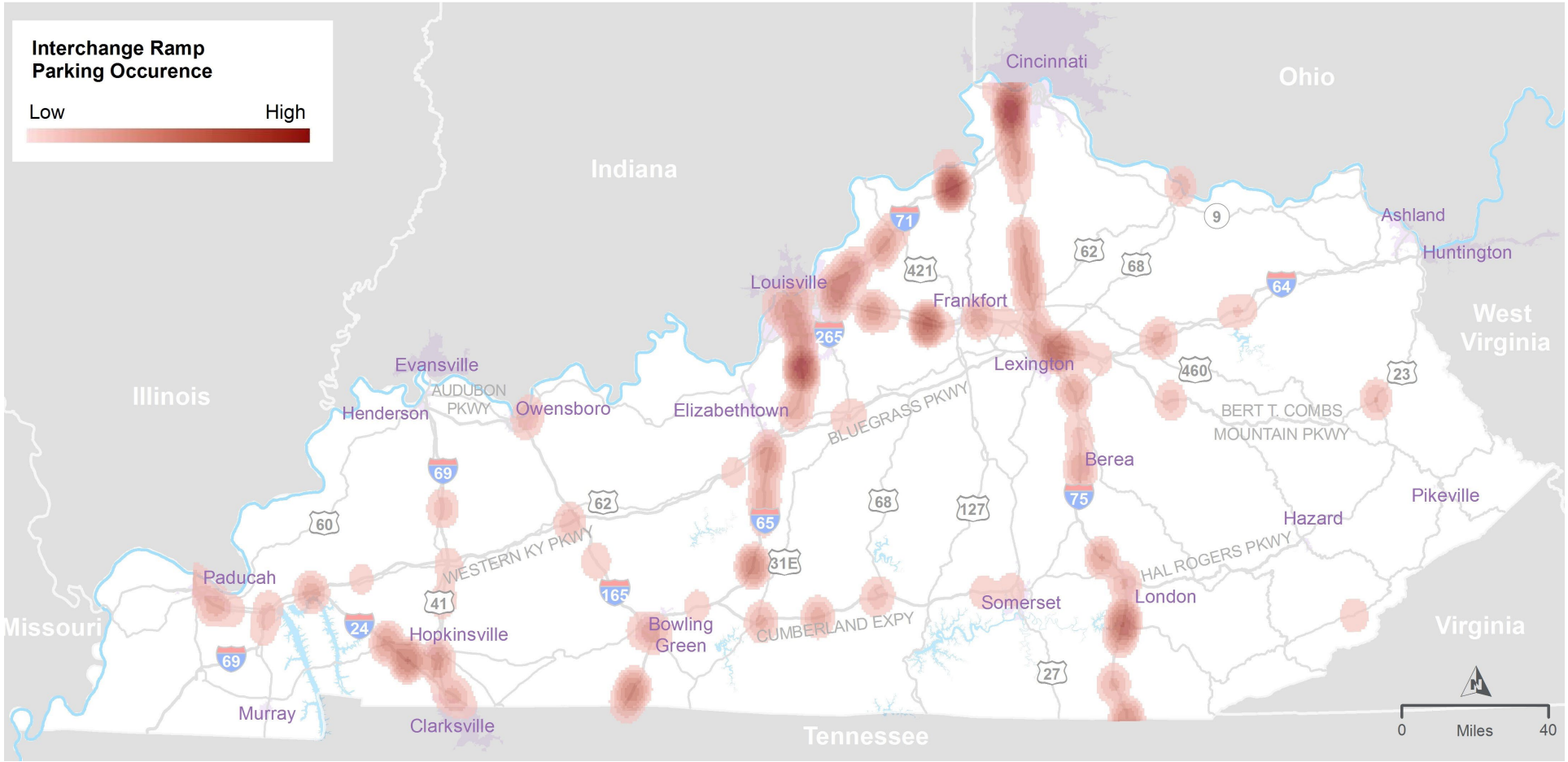


Figure 4-4. Truck Parking Demand and Capacity Along Five Highest Demand Corridors

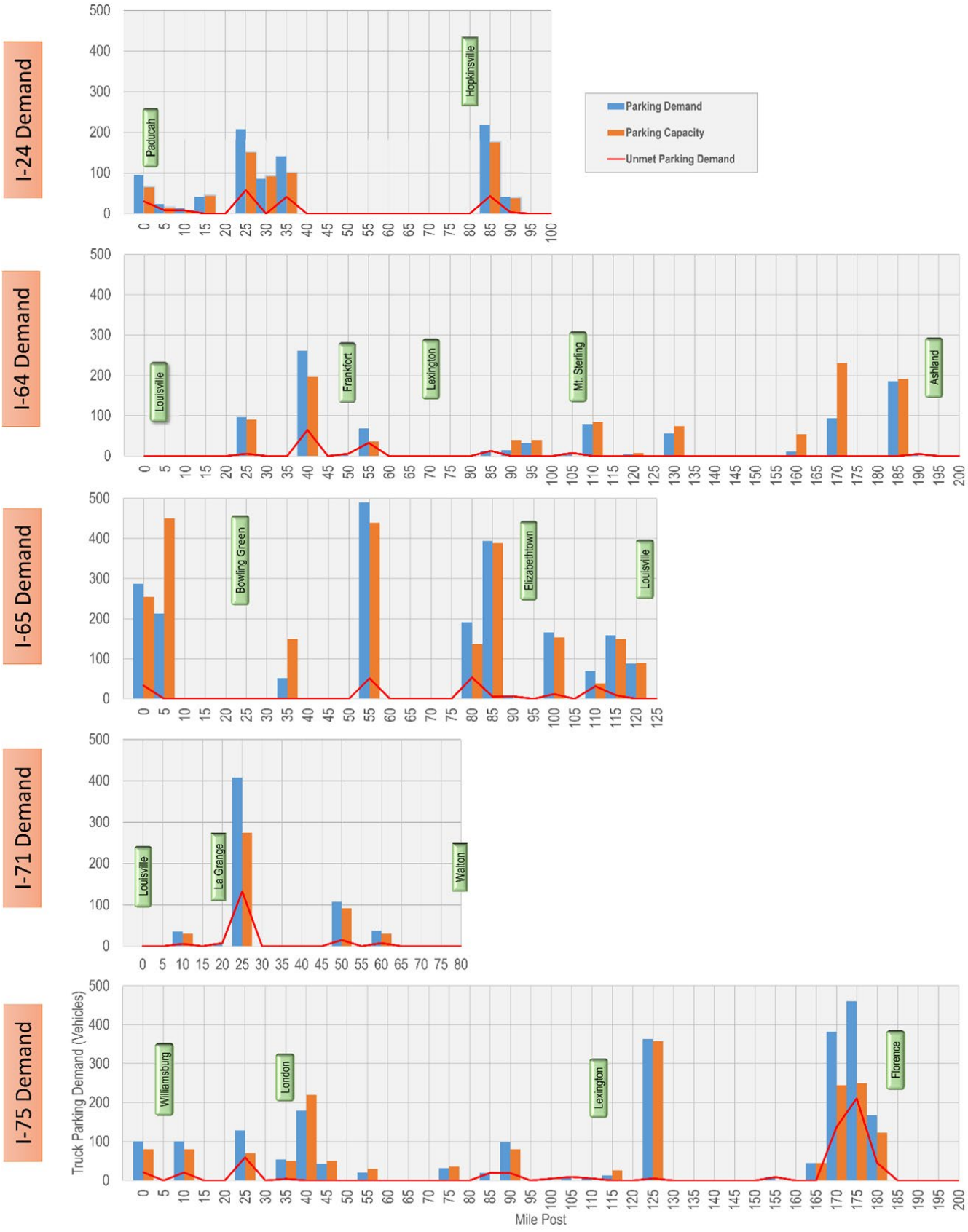


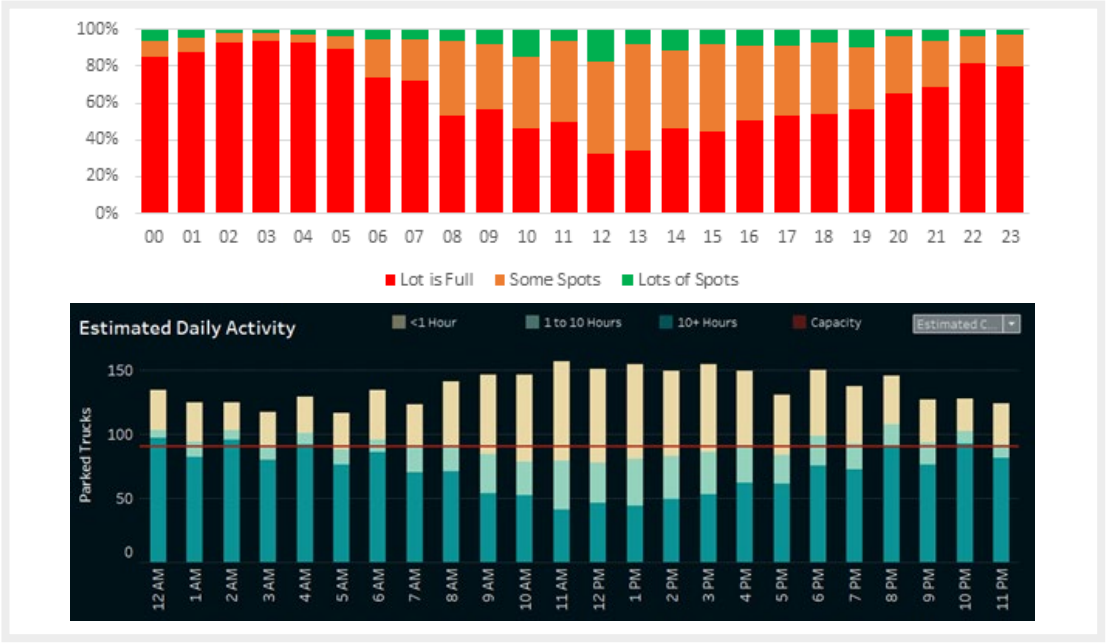
Figure 4-4 shows truck parking capacity and demand along the major interstate corridors in Kentucky, including I-24, I-64, I-65, I-71, and I-75. Each of the corridors were divided into five-mile segments, based upon the mile posts. Truck parking supply, demand, and unmet demand was calculated for each segment. On I-24 the largest area of unmet demand occurs from mile post 25 to 35, in the area west of Paducah, near the Tennessee River. On I-64 the highest area of unmet demand occurs at mile post 40 just west of Frankfort. On I-65 the highest areas of unmet demand occur near mile post 55 and 80, both of which are between Bowling Green and Elizabethtown. On I-71 the highest area of unmet demand occurs at mile post 25, just east of LaGrange. The highest are of unmet demand across the entire state occurs on I-71 in the area between mile post 160 and 185 in the northern Kentucky/Cincinnati metropolitan area. At mile point 175, there are more than 200 trucks worth of unmet demand within a single five-mile segment. The adjacent segments have a total unmet demand in excess of 100 trucks. With the highest concentration of truck parking demand and the highest unmet demand, the northern Kentucky area will be an area to focus potential parking expansion.

4.5.1 Ramp Parking Demand

Truck parking on interchange, rest area, and welcome center ramps is a major safety concern in Kentucky and eliminating truck parking along these ramps is a target outcome of the Kentucky Truck Parking Assessment and Action Plan. The ATRI truck parking event data was used to quantify the extent of this issue, boundaries were developed to measure truck parking along interchange ramps. **Figure 4-3** shows the average number of trucks parked on interchange ramps each night. In total, there are approximately 763 trucks parked on ramps each night. This figure does not include ramp parking that occurs at rest areas, which is also a goal to be addressed by the Assessment and Action Plan. Ramp parking occurrence largely matches the statewide truck parking demand as shown on **Figure 4 -4**. The highest truck parking occurrence is in the I-71, I-75, and I-64 triangle that encompasses the Louisville, Lexington, and northern Kentucky metropolitan areas. Additionally, there is high demand on I-24 in western Kentucky, on I-65 south of Louisville, and on I-75 south of London. In addition to the areas of high demand, **Figure 4-3** also shows additional demand in areas off the interstate corridors where truck parking facilities are currently not supplied, this includes along the Bluegrass Parkway and Cumberland Parkway.

> ***"The current rest areas are overflowing out onto the interstate by 4pm-5pm daily."***
> ***- Driver Response from Public Survey***

Figure 4-5. Trucker Path vs. ATRI Data for Pilot Travel Center #356 (I-65 South of Louisville)



4.6 Parking Demand Results Verification

Two additional methods were used to confirm and cross-validate the ATRI truck parking demand results. This included a review of Trucker Path crowd-sourced data and a field evaluation of select facilities and corridors.

4.6.1 Trucker Path

The Trucker Path app is used by drivers to identify parking facilities with available capacity. The app relies on user-provided crowd-sourced data to determine this availability. When users arrive at a facility, they are asked to provide input on the current parking availability with the responses: "Lot is Full", "Some Spots", or "Lots of Spots". An example of this data for a single truck stop is shown in **Figure 4-5**. The chart represents one year of responses grouped by hour. The Trucker Path chart (top) is compared to the results of the ATRI demand analysis (bottom) for the same location. Overall, there is a high degree of correlation between the two charts. Both show the site at or near capacity from midnight to approximately 7:00 a.m. when more spaces begin to be available. From approximately 7:00 a.m. through 5:00 p.m., the lot remains crowded with only some spots available. After 5:00 p.m., the site begins to reach capacity again.

This figure highlights the subjectivity inherent in crowd-sourced data such as Trucker Path. Different drivers categorize the same availability differently based on their personal definition of "full". Overall, the assessment found a high degree of correlation between the Trucker Path Data and the ATRI data, building further confidence in the veracity of both data sources.

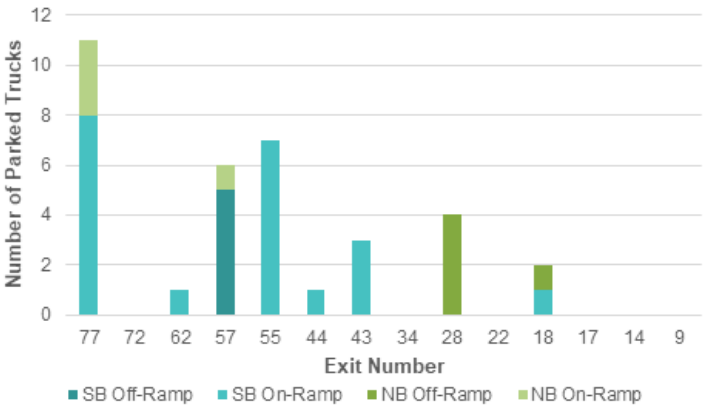
4.6.2 Field Evaluation

The project team conducted field evaluations of select corridors in early September 2021. These field evaluations were completed between the peak parking hours of 9:00 p.m. and 5:00 a.m. along portions of I-24, I-64, I-65, I-71, and I-75. In addition to recording the demand and capacity at individual parking facilities, the field team also recorded the number of trucks parked on ramps along these corridors (see **Figure 4-6**).

The ramp parking field observations for I-71 are summarized in **Figure 4-7**. As shown, Exits 77, 55, and 57 had the highest number of observed trucks parked on the ramps with 11, 7, and 6 respectively. Most trucks in the corridor were parked on the southbound on and off-ramps at the time of the field observations, except at the southern end of the corridor (Exits 18 and 28). In total, 35 trucks were parked on I-71 interchange ramps when the observations were conducted.

Figure 4-6. Field Verified Ramp Parking (I-75 Rest Area Boone County)

Figure 4-7. Field Evaluation Notes for I-71 between I-75 and Louisville



For comparison, the ATRI truck parking event data for Exits 55 and 57 is presented in **Figure 4-8**. Dark red dots indicate parking events of ten or more hours, blue are one to ten hours, and light green are less than one hour. For Exit 55 (image on top), the ATRI data shows extensive use of both the northbound off-ramp and the southbound on-ramp for ten hours or longer parking events. The use of these ramps may be related to the presence of the Love's Travel Stop on the north side of the interchange. When the truck stop reaches capacity, drivers may decide to park on the ramps. The ATRI data for Exit 57 indicated that the southbound off-ramp and northbound on-ramp are used for truck parking, with fewer ten hour or longer parking events then at exit 55. These two figures clearly illustrate examples of truck parking demand and the use of ramps to meet that demand.

Figure 4-8. ATRI Truck Parking Data for I-71 Exits 55 and 57

CHAPTER 5
IDENTIFY TRUCK PARKING NEEDS

To determine the areas with the highest need, parking facilities were grouped into 111 analysis areas established such that all authorized facilities (rest areas, truck stops, etc.) and unauthorized parking locations (big box stores, highway ramps, etc.) were grouped together geographically. In most instances, the analysis areas grouped together all parking facilities serving a single interchange. When defining the analysis areas, several unauthorized facilities with low truck parking demand were not included. **Figure 5-1** contains an example showing the grouping of three truck stops, a box store, a lot of unknown ownership, and three ramp parking areas at KY-770 at I-75 in North Corbin combined in Site ID 299 analysis area. This mainly included ramp parking areas and other unauthorized facilities away from the interstate corridors. All areas with noted truck parking capacity were included. The parking areas included within the analysis areas account for 85% of the demand in Kentucky.

The 111 analysis areas are shown in **Figure 5-2**. The red circles represent areas with unmet parking demand. The size of the circle represents the amount of unmet demand. Black dots represent areas that do not have excess demand. For this assessment, unmet demand is defined as the number of trucks parked for 1+ hour parking events at 1:00 AM minus the estimated capacity of the facilities in that area. The figure shows high levels of unmet demand in northern Kentucky, and the Louisville and Lexington areas. Additional areas of high unmet demand include I-75 near the Tennessee border, and along I-24 in Western Kentucky. The twenty highest unmet demand areas are listed in Table 5 1. Three of the top five areas are in northern Kentucky on I-75 in Boone County. The area with the highest unmet demand is on I-71 at Exit 28 in Henry County, with 140 trucks over the number of legal parking spaces on an average night.

Figure 5-1. Example Analysis Area Grouping

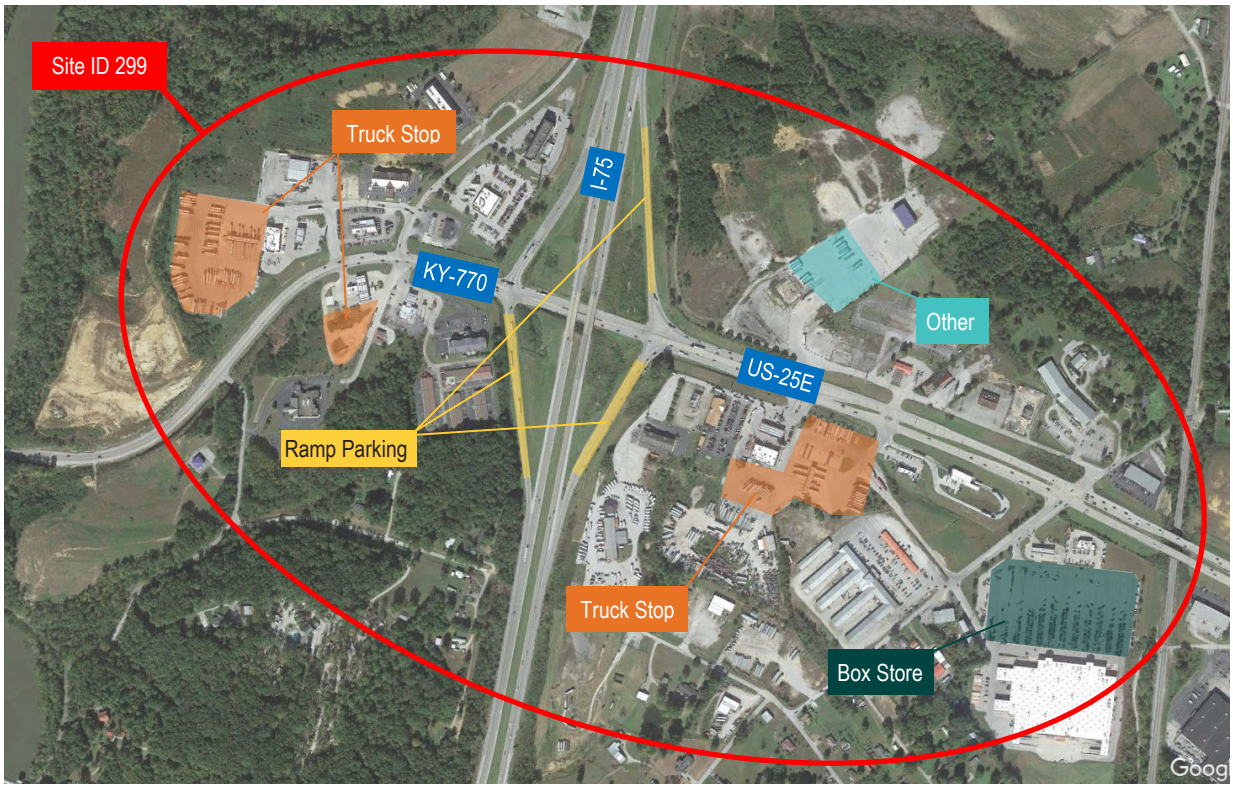


Figure 5-2. Unmet Peak Demand

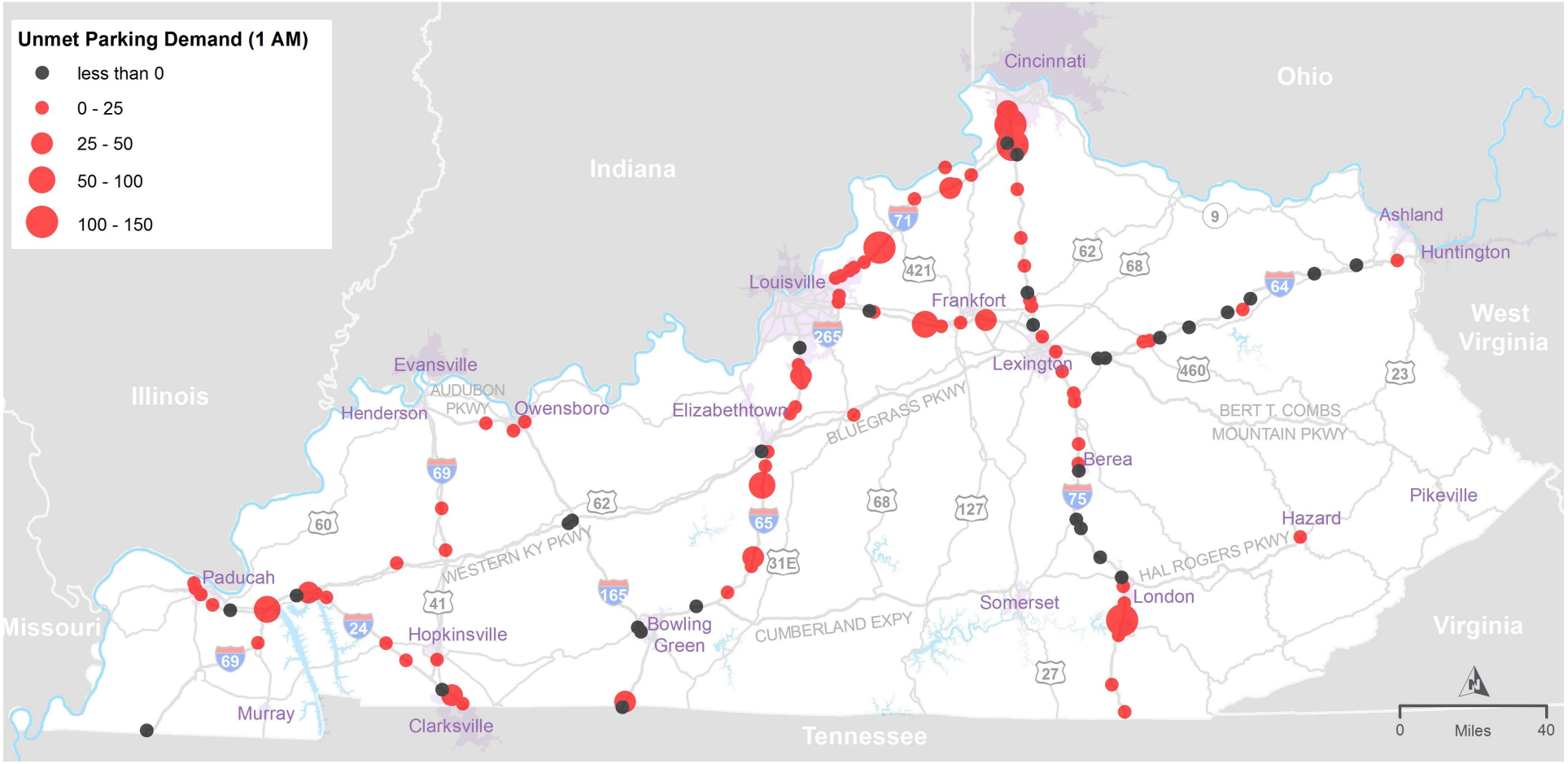


Figure 5-3. Kentucky Parking Need Priority Sites

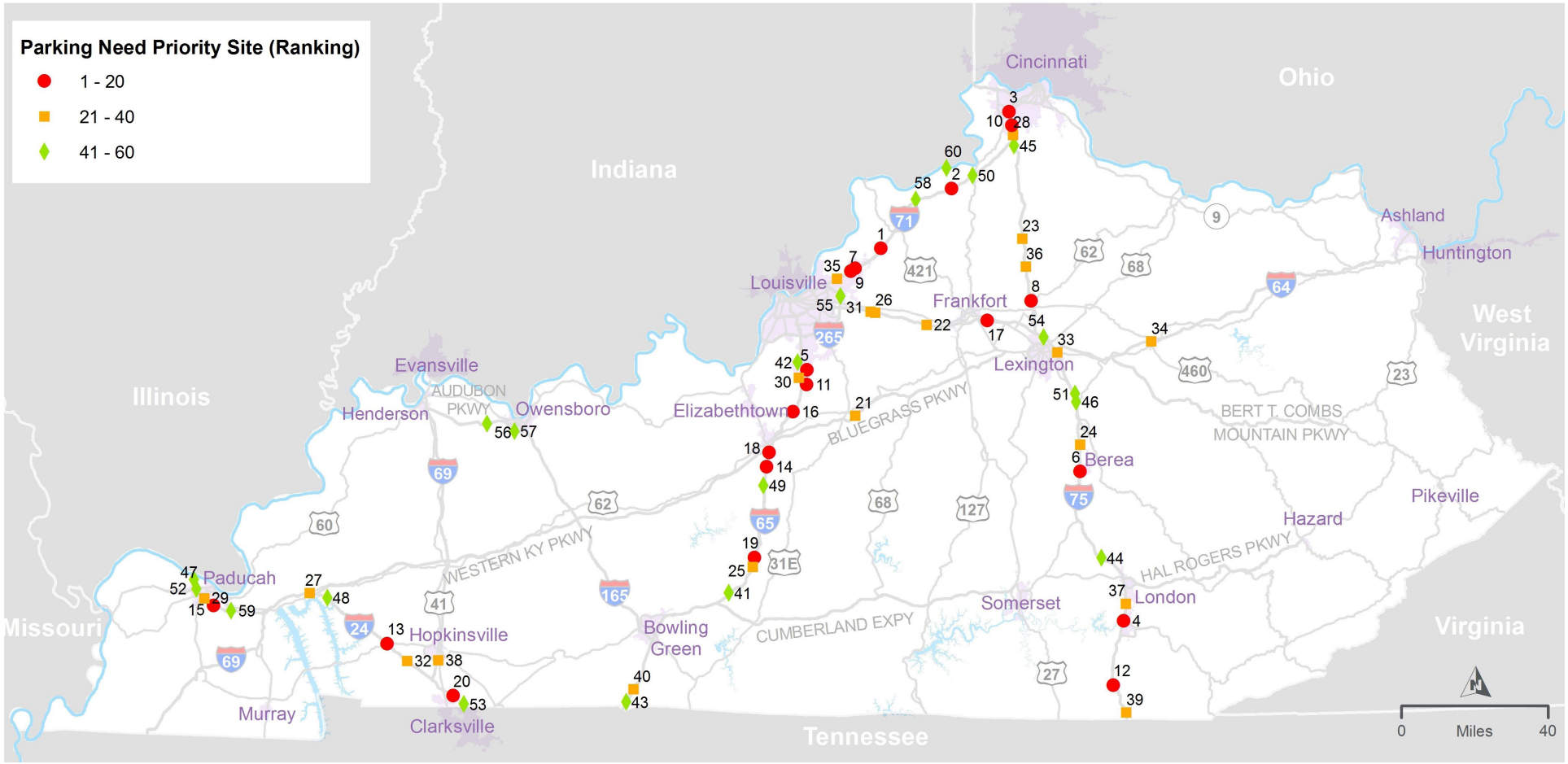


Table 5-1. Top 20 Kentucky Parking Unmet Demand

Route	Location	County	Unmet Demand
I-71	Exit 28	Henry	140
I-75	Exit 171	Boone	139
I-75	Exit 176	Boone	136
I-75	Exit 29	Laurel	132
I-75	Exit 175	Boone	77
I-64	Exit 43	Shelby	66
I-24	Exit 26	Marshall	58
I-65	Exit 81	Hardin	53
I-65	Rest Area MP 60	Hart	46
I-24	Exit 40	Lyon	44
I-24	Exit 89	Todd	44
I-75	Exit 180	Boone	43
I-65	Exit 2	Simpson	35
I-64	Rest Area MP 60	Woodford	33
I-65	Rest Area MP 113	Bullitt	32
I-71	Exit 55	Henry	30
I-75	Exit 136	Scott	24
I-75	Exit 11	Whitley	23
I-24	Exit 3	McCracken	21

5.1 Truck Parking Needs Prioritization

After quantifying the truck parking needs, the next step was to prioritize the areas to determine where capacity improvements and other solutions should be targeted. The prioritization was completed using the six criteria listed in **Table 5-2**. The presence of parked trucks on interstate ramps was the top weighted criteria at 30% of the total score. Unmet demand was the primary factor for the next three criteria (55% total), followed, by parked truck crashes (10%) and trucks parked at big box stores (5%).

Each interchange area was scored between 0 and 1 using the six criteria listed below. The interchanges were divided into quintiles (five equal groups) based on the values for each criterion. Scores of 0, 0.25, 0.5, 0.75, or 1.0 were assigned to each interchange for each criterion based on the quintile the interchange was placed in. The six criteria were given weights that totaled to 100%, such that an interchange with a final prioritization score of 1.00 would be the highest priority site. Details regarding how these criteria were applied is provided in **Section 5.4.**

"Most truck stops and rest areas are full before 9 or 10 pm. More rest areas like the one near Horse Cave are needed on I-75 and I-64."
- Driver Response from Public Survey

Table 5-2. Parking Need Prioritization Criteria and Score Weighting

Criterion	Name	% Weight	Description
1	Ramp Parking	30	Number of trucks parked on interchange ramps
2	Public Facility Need	20	Unmet demand at rest areas and weigh stations
3	Interchange Need	20	Total unmet demand in an area
4	Corridor Need	15	Total unmet demand at adjacent areas on a corridor
5	Parked Truck Crashes	10	Number of parked truck crashes in an area
6	Big Box Need	5	Number of trucks parked at big box stores

Table 5-3. Top 20 Kentucky Parking Need Priority Score Results

Route	Location	County	Need Priority Score
I-71	Exit 55	Gallatin	0.75
I-71	Exit 28	Henry	0.75
I-75	Exit 180	Boone	0.73
I-75	Exit 29	Laurel	0.71
I-65	Exit 116	Bullitt	0.70
I-75	Exit 76	Madison	0.64
I-71	Exit 17	Oldham	0.63
I-75	Exit 127	Scott	0.60
I-71	Exit 18	Oldham	0.58
I-75	Exit 176	Boone	0.58
I-75	Exit 11	Whitley	0.58
I-65	Exit 112	Bullitt	0.58
I-24	Exit 65	Trigg	0.56
I-65	Exit 86	Hardin	0.56
I-24	Exit 11	McCracken	0.55
I-65	Exit 105	Bullitt	0.55
I-64	Rest Area MP 60	Woodford	0.54
I-65	Exit 90	Hardin	0.53
I-65	Rest Area MP 60	Hart	0.51

The weighted points for the six criteria were summed for all 111 analysis areas. This resulted in a ranking of the areas from the highest possible priority sites (1.0 score) to the lowest possible priority sites (0.0 score). **Table 5-3** summarizes the top 20 sites from the prioritization process. **Figure 5-3** shows the location of the top 60 priority sites across the state. Two areas on Interstate 71 between Louisville and northern Kentucky are tied for the highest need priority score; those are Exit 55 in Sparta and Exit 28 in Pendleton. Overall, seven of the top 10 priority sites are located in the I-71, I-75, and I-64 triangle that encompasses the Louisville, Lexington, and northern Kentucky metropolitan areas. There are also concentrations of high need sites along I-65 between Louisville and Elizabethtown, along I-75 south of London, and along I-24 in western Kentucky.

Overall, one-half of the top 20 unmet demand areas are also found in the top 20 need priority ranking. Some of the top 20 unmet demand areas did not make the top 20 need priority list because they did not score highly in all categories including ramp parking and adjacent area demand.

5.2 Impacts of Truck Parking Shortage

Trucks parked along ramps and highway shoulders are examples of how a lack of available truck parking can result in increased safety risks and reduced trucking productivity. Each commercial truck driver is judged, in both their current and potential jobs, based upon their safety record. This safety record includes both receiving traffic enforcement citations and being involved in traffic crashes. Due to the importance of their safety record, commercial truck drivers typically prefer safe, designated parking areas and will only use ramps and mainline shoulders as a last resort. With the stakes involved in the safety and security in their nightly parking spaces, drivers face daily stress involved with finding suitable parking along their route that is compatible with their rest requirements. Due to this stress, many drivers choose to take available legal parking spaces minutes or even hours before their hours of service would require a stop. These hours where drivers are parked before required are lost productivity both for the drivers and for the supply chain economy.

Figure 5-4. Kentucky Parked Truck Crashes

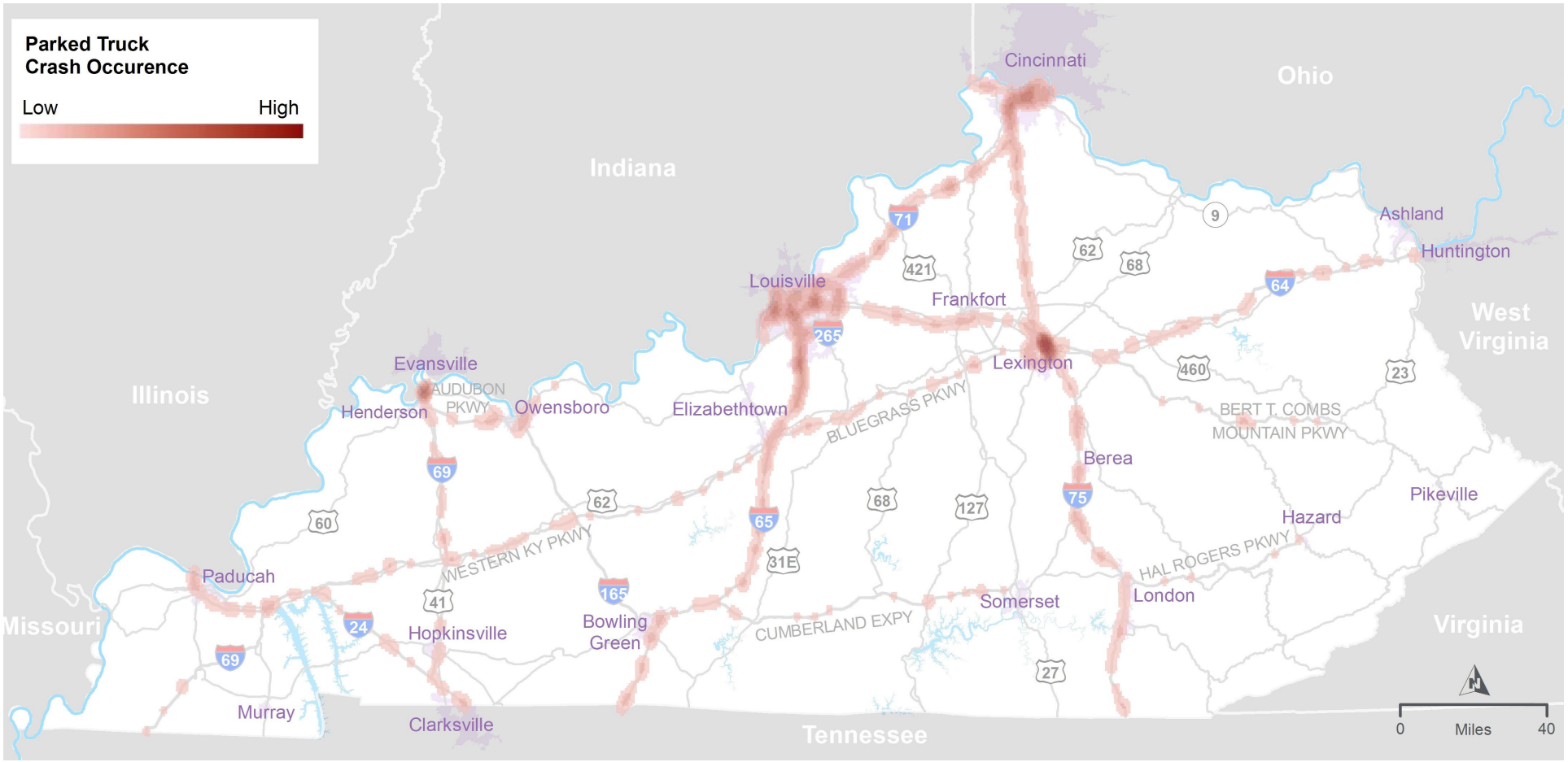
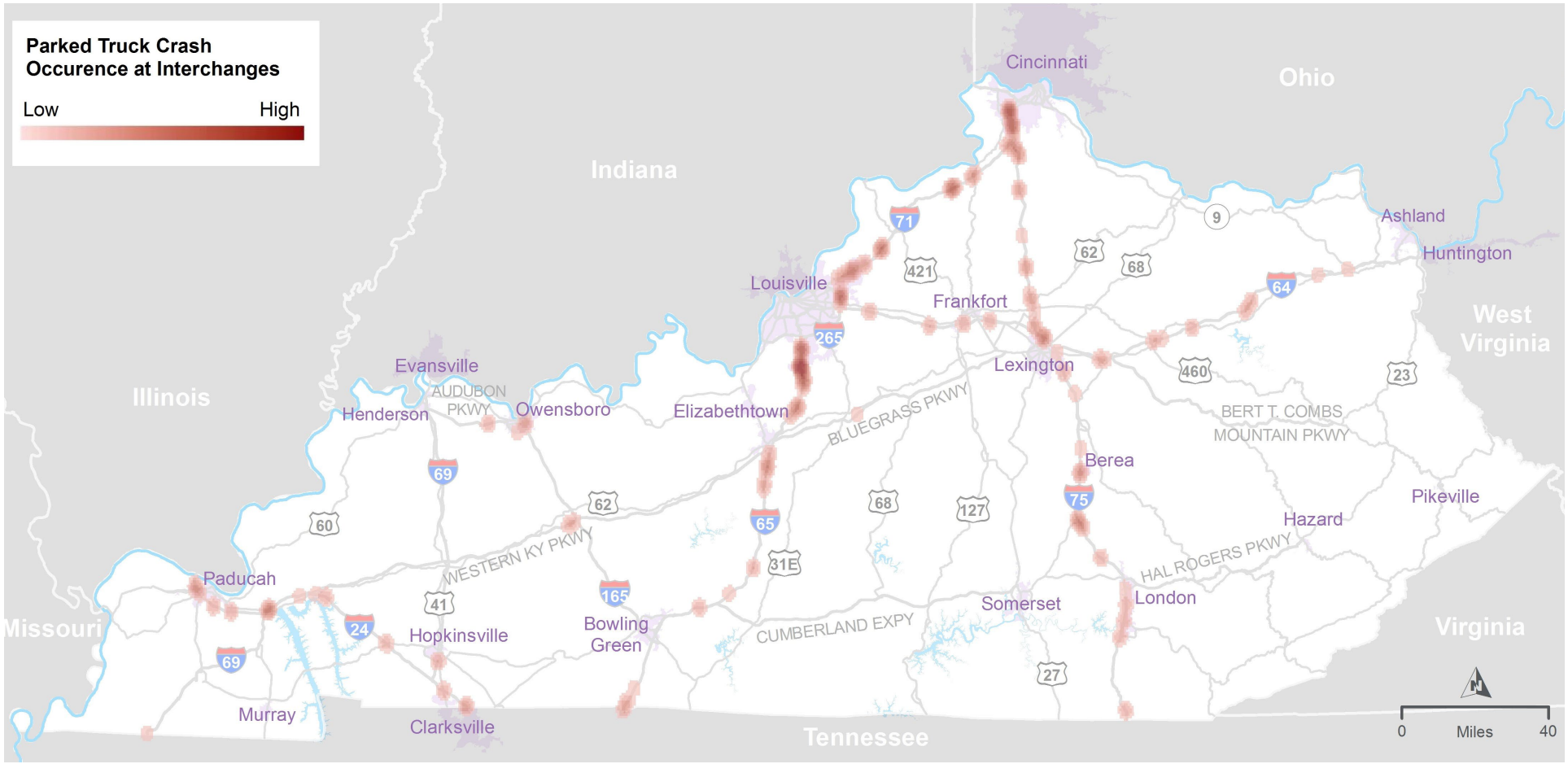


Figure 5-5. Kentucky Parked Truck Crashes Near or at Interchanges



Prior to HOS and ELD regulations, truck parking shortage impacts also included driver fatigue as drivers were forced to continue driving until they found a suitable parking facility. It is now believed that ELDs have mitigated the direct impacts of fatigued truck drivers. Fatigued drivers have now been replaced with truck drivers parked in illegal and often unsafe locations.

One of the main impacts of the truck parking shortage is increased roadway safety risks. The negative impact to roadway safety caused by trucks parked illegally on interchange ramps can be quantified through crash data records. Between 2015 and 2019, there were 395 crashes involving parked tractor trailers in Kentucky. 25 of these crashes resulted in fatalities or serious injuries. **Figure 5-4** shows a heat map of all parked truck crashes across Kentucky between 2015 and 2019. Many of the parked truck crashes occurred in parking facilities and at truck stops. Others involved trucks parked due to mechanical or other issues unrelated to a parking shortage. The portion of the crashes involving ramp and shoulder parked trucks, due to the parking shortage, could be prevented.
For this assessment, it was assumed that any truck parked within one mile of an interchange could be parked in that location due to a lack of truck parking. A heat map of the parked truck crashes that have occurred within 1-mile of an interchange is shown on **Figure 5-5**. A total of 116 parked truck crashes occurred within 1-mile of an interchange, with seven (7) of the crashes resulting in fatalities or serious injuries. **Table 5-4** shows the severity of each of those crashes and the monetized crash cost per the 2021 Traffic Collision Facts Report[1] . Between 2015 and 2019, parked truck crashes that can be attributed to a lack of truck parking totaled $59,077,700.

5.3 Interactive Parking Needs Dashboard

One of the primary tools developed to summarize and review the parking demand analysis was a web-based Tableau dashboard. This platform provided an interactive display of the results in both map and chart form. The results update automatically based on the selection of one or more parking facilities. In total, this dashboard summarized activity at 728 facilities including:

- 24 Public Rest Areas/Welcome Centers
- 4 Public Weigh Stations
- 74 Privately Operated Truck Stops
- 81 Box Store Parking Lots (e.g., Walmart, Lowes)
- 572 Highway Exit/Entry Ramps
- 15 Other Lots with Unclear Ownership

An example of the dashboard results for the I-75 northbound Welcome Center near the Tennessee border is shown in **Figure 5-6**. Dashboard results for all highway interchanges are provided in **Appendix A**.

5.3.1 Dasboard Components

The following text provides a brief description of each dashboard component and how it can be used to interpret truck parking supply and demand at one or more selected truck parking facilities.

5.3.1.1 Facility Map

This map allows the user to select one or more parking facilities to review the results specific to those locations. Public facilities are marked with circles, private truck stops are marked with squares, and other facilities are marked with diamonds. The size of the shapes is based on the percent utilization with facilities that are overutilized (i.e., over capacity) shown with the largest shapes. Locations of ramp parking are shown

Table 5-4. Kentucky Parked Truck Crash Costs

Crash Severity	Severity Description	Number of Crashes	Cost per Crash	Total Cost
K	Fatal	4	$ 11,449,000	$ 45,796,000
A	Incapacitating	3	$ 1,252,000	$ 3,756,000
B	Non-Incapacitating	10	$ 345,000	$ 3,450,000
C	Possible Injury	8	$ 160,000	$ 1,280,000
O	Property Damage Only	91	$ 52,700	$ 4,795,700
Total	--	--	--	**$ 59,077,700**

[1] https://transportation.ky.gov/HighwaySafety/Documents/CollisionFacts2021.pdf

with a triangular ramp shape. The user can use this map to pan and zoom around Kentucky and select facilities for review. The map's navigation bar can be used to change between pan and select modes:

5.3.1.2 Site Map

This map displays the point locations of parking events at each site, color coded to parking duration. In general, this helps visualize the locations of long-term and short-term parking areas and helps identify locations of overflow parking.

5.3.1.3 Estimated Daily Activity

This chart displays the hourly estimated parking demand relative to the number of marked or estimated spaces at each facility. Note that ramps and box store locations are assumed to have a capacity of zero. This information is shown for average daily activity as well as hourly activity by day of week to identify temporal trends in demand. The inflation factor used for each site is shown at the top left corner of the dashboard.

5.3.1.4 Three-Year Trend

This chart shows hourly demand information like the previous chart but looks at information for one week of March data in 2019, 2020, and 2021. The intent of these charts is to highlight changes in parking demand from year to year. **In Figure 5-6**, the demand for year 2021 is substantially higher than either of the prior two years.

5.3.1.5 Time Since Last 10 or More Hour Stop

The purpose of this chart is to estimate the number of on-duty hours since the previous 10+ hour break. As shown in **Figure 5-6**, the majority of drivers who are taking a 10+ hour break have been on duty for an estimated 11 to 14 hours. If a large portion of drivers are taking 10+ hour break when they have not yet

Figure 5-6. Dashboard Results for I-75 NB Welcome Center Whitley County

been on duty for 11 hours, this may indicate that they are stopping only because there is not another parking facility that is within driving distance without violating the hours-of-service requirements. Many parking facilities near the Kentucky border exhibit higher proportions of long-term parking at less-than-11-hours on duty. This may indicate that drivers are choosing to park earlier for trip staging purposes or because other facilities are not available within their allowable duty time.

5.3.1.6 Prior and Next Stop

These heat maps show the locations of truck parking activity for stops immediately before and after the parking activity at the selected location. This information may be useful in identifying potential areas for parking expansion that might fall within the current travel sheds of trucks using overcapacity facilities.

5.4 Truck Parking Need Area Prioritization - Detailed Scoring

The initial parking need prioritization was based on the six criteria previously presented in Table 5-2. This section provides additional details for the scoring process. The six criteria were:

1. Ramp Parking
2. Public Facility Need
3. Interchange Need
4. Corridor Need
5. Parked Truck Crashes
6. Big Box Need

Each area was scored between 0 and 1 for each criterion. The scores were assigned by dividing the areas into approximate quintiles for each criterion and then assigning points (0, 0.25, 0.5, 0.75, or 1.0) based on which quintile the area fell within. The points were then multiplied by a weighting factor (from 5% to 30%) to emphasize the more important factors. The total of the weighting factors was 100%, leading to a final maximum score of 1.0. For example, the raw and final scores for Area 190 (the I-71 Exit 28 interchange) are shown in **Table 5-5**. Example Scoring for Area 190 (Interchange I-71 Exit 28) **Table 5-5**.

5.4.1 Criterion 1 - Interchange Ramp Parking (30%)

The most heavily weighted criterion for the parking need prioritization was truck parking on interchange ramps, not including ramps at weigh stations, rest areas or welcome centers. This accounted for 30% of the total score. Truck parking on interchange ramps is both illegal and a safety hazard (see Section 5.2). Across the 111 assessment areas, the maximum average number of trucks parked nightly on interchange ramps was 15 trucks, at I-65 Exit 116 in Bullitt County.

Table 5-6 shows the point scale for this criterion.

Table 5-6. Criterion 1 Scoring - Interchange Ramp Parking (30%)

Ramp Parked Trucks		Points
From	To	
0.0	1.0	0.00
>1.0	1.5	0.25
>1.5	2.0	0.50
>2.0	3.0	0.75
>3.0	15.0	1.00

Table 5-5. Example Scoring for Area 190 (Interchange I-71 Exit 28)

Criterion	Name	Quintile[1]	Raw Score	Weighting	Weighted Score
1	Ramp Parking	1	1.00	30%	0.3
2	Public Facility Need	5	0.00	20%	0.0
3	Interchange Need	1	1.00	20%	0.2
4	Corridor Need	1	1.00	15%	0.15
5	Parked Truck Crashes	1	1.00	10%	0.1
6	Big Box Need	5	0.00	5%	0.0
TOTAL	--	--	--	100%	0.75

[1] The values for all areas for each criterion were divided into five quintiles (lowest 20% of all calues, three middle 20%s, and the highest 20%). For each areas, the raw score was based on the quintile that area's value fell within.

5.4.2 Criterion 2 - Illegal Parking at Rest Areas or Weight Stations (20%)

The second most heavily weighted criterion was the number of trucks parked outside of legal parking spaces at rest areas or weigh stations. This accounted for 20% of the total score. Illegal truck parking at these facilities can lead to congestion and safety risks, including pedestrian, driver/passenger, and property damage risks. Across the 111 areas, the maximum number of parked trucks over and above the number of marked spaces at a rest area or weigh station was 136 spaces, which occurred at the two Boone County rest areas. **Table 5-7** shows the point scale for this criterion.

Table 5-7. Criterion 2 Scoring - Illegal Parking at Rest Areas or Weigh Stations (20%)

Illegally Parked Trucks		Points
From	To	
0.0	0.0	0.00
>0.0	1.0	0.25
>1.0	2.0	0.50
>2.0	9.5	0.75
>9.5	136.0	1.00

5.4.3 Criterion 3 - Unmet Parking Demand (20%)

Tied for the second most heavily weighted criterion was the amount of unmet truck parking demand in an area, accounting for 20% of the total score. The unmet demand in an area was calculated by comparing the total parking capacity to the total parking demand. The capacity included all legal parking spaces at truck stops, rest areas, weigh stations, rest havens, and any other legal parking area but excluded big box parking areas. The demand included all trucks parked in the area including trucks parked on Interstate ramps, other highway shoulders, and at big box stores. This criterion was a general measurement of the overall parking demand. A score of zero for this criterion would mean less than full utilization of legal parking spaces. Across the 111 areas, the maximum unmet parking demand was 140 trucks at I-71 Exit 28 in Henry County, and the minimum was -233 trucks at I-65 Exit 6 in Simpson County, indicating a large supply of available parking. **Table 5-8** shows the point scale for this criterion.

Table 5-8. Criterion 3 Scoring - Interchange Unmet Parking Demand (20%)

Unmet Parking Demand		Points
From	To	
-233	-2	0.00
>-2	2	0.25
>2	7	0.50
>7	14	0.75
>14	140	1.00

5.4.4 Criterion 4 - Corridor Unmet Parking Demand (15%)

The fourth most heavily weighted criterion for the need prioritization was the total parking need for an area combined with the need one area (i.e., interchange) in either direction, for three areas total. This accounted for 15% of the score. This criterion is similar to Criteria 3; but it also includes the unmet parking demand for adjacent areas/interchanges along a corridor. For the last interchange before a state border, the next two interchanges within Kentucky were utilized instead. This criterion yielded a corridor focused measure of demand, accounting for how excess demand may or may not be addressed by the nearest interchanges. Across the 111 interchanges in the assessment, the maximum unmet demand was 483 trucks at I-71 at the Oldham County Rest Area, indicating the potential need for 500 spaces in that part of the corridor. The minimum value was -326 at I-165 Exit 4 in Warren County, indicating considerable available supply. **Table 5-9** shows the point scale for this criterion.

5.4.5 Criterion 5 – Parked Truck Crash Occurrence (10%)

The fifth criterion was based on the number of parked truck crashes on a ramp or mainline shoulders within each area between 2015 and 2019, based upon crash data records from the KYTC CDAT database. This accounted for 10% of the final score. This criterion quantified the historical safety performance of each area related to the presence of parked trucks. This is related to Criterion 1 which measured the number of trucks parked on interchange ramps in each area, but it counts the observed crashes which involved parked trucks. Because crashes involving trucks parked on ramps are somewhat random, this criterion has a lower weight than Criterion 1. A score of zero indicates that no parked truck crashes occurred in the area during the data period. Across the 111 interchanges in the assessment, the maximum number of parked truck crashes was seven crashes at I-65 Exit 116 in Bullitt County, and the minimum number was 0 crashes. **Table 5-10** shows the point scale for this criterion.

5.4.6 Criterion 6 - Big Box Store Parking Lot Utilization (5%)

The final criterion was the average number of trucks parked at big box store parking lots in an area, accounting for 5% of the total score. A big box store was defined as a large business with a large customer parking lot. These lots are typically underutilized during peak truck parking periods (i.e., at night). This parking availability, plus lights and other amenities, makes parking in these lots attractive to truck drivers. Not all big box retailers allow overnight truck parking, and those retailers that do could change their company policy at any time. A policy change could force drivers that had been using a big box parking lot to look for other legal parking. In overcapacity areas, this could mean parking on ramps or other prohibited locations. Across the 111 areas, the maximum number of trucks parked in big box lots was 20. **Table 5-11** shows the point scale for this criterion.

Table 5-9. Criterion 4 Scoring – Corridor Unmet Parking Demand (15%)

Total Parking Utilization		Points
From	To	
-326	-29	0.00
>-29	50	0.25
>50	93	0.50
>93	166	0.75
>166	483	1.00

Table 5-10. Criterion 5 Scoring – Parked Truck Crash Occurrence (10%)

Parked Truck Crashes		Points
From	To	
0	0	0.00
1	1	0.25
2	2	0.50
3	3	0.75
4	7	1.00

Table 5-11. Criterion 6 Scoring - Big Box Store Parking Lot Utilization (5%)

Big Box Store Parking		Points
From	To	
0	<1	0.00
1	2	0.25
>2	7	0.50
>7	19	0.75
>19	20+	1.00

CHAPTER 6
STAKEHOLDER ENGAGEMENT SURVEY ONE

While data and past initiatives can identify a region's needs, first-hand experiences with the issues and obstacles can provide a valuable insight that cannot necessarily be quantified. The project team developed an online survey to identify key issues related to truck parking and the additional facilities and amenities that are needed. This survey was advertised with yard signs and flyers at 14 facilities (**Figure 6-2**) with high truck traffic throughout Kentucky; these facilities included rest areas, rest havens, and welcome centers. Yard signs (**Figure 6-1**) were placed throughout these sites at highly visible locations, such as along walkways from the parking lot the restrooms. Flyers were also posted on doors to the restrooms, vending machines, and other heavily trafficked areas. To further reach truck drivers, a banner ad was used in the smart phone app Trucker Path, which is a popular app used by truck drivers for wayfinding and to find truck parking. The Trucker Path ad resulted in over 79,000 impressions, and a total 175 people completed the survey. The on-site advertisements resulted in 71 responses and the remaining 104 responses were from the Trucker Path ad. Survey respondents were asked questions to identify specific existing facility issues as well as locations that lack parking facilities. To further identify areas of improvement, respondents were asked to identify existing truck parking areas that they may avoid and the reason for the avoidance. The survey also provided an opportunity to convey potential solutions to the stated issues.

Truck parking issues and needs were identified in every region of the state with a focus on the need for additional parking along I-24, I-64, I-65, I-71, and I-75. Highlights of the issues and concerns included the following:

- Existing facilities are overcrowded and hard to navigate
- New facilities are needed along the major interstate corridors
- Private truck stops, like Pilot or Love's, are avoided due to congestion
- Increased pressure to find a parking spot before nightfall
- Louisville and Cincinnati were identified as major problem areas for finding parking facilities

The following is a detailed summary of the survey results that includes corridor-level parking issues, facility-specific issues, and additional comments.

6.1 On-line Survey Results

Truck drivers are the primary freight highway system users. They are amongst the most important but hardest to engage in stakeholder outreach activities – simply because they are always on the move. Traditional methods of truck driver outreach focus on targeting public rest areas – promoting online tools that drivers could use when they stop to rest. When asked which areas throughout Kentucky have parking issues, an overwhelming response was "almost everywhere". Throughout Interstates 24, 64, 65, 71, and 75 respondents indicated that there were not enough parking locations in general. However, when there are parking facilities, they are overcrowded and hard to navigate throughout. While traveling throughout the state, respondents stated that if they did not find a parking spot by nightfall, they were likely not going to find a spot regardless of the facility or corridor. Large urban areas surrounding Louisville and Cincinnati were also identified as being major problem areas for truckers to find parking facilities.

A full inclusion of the results organized by corridor level parking issues, facility specific corridor issues, and subjective comments can be found in Appendix E.

Figure 6-1. Truck Parking Survey Sign at I-71 Rest Area

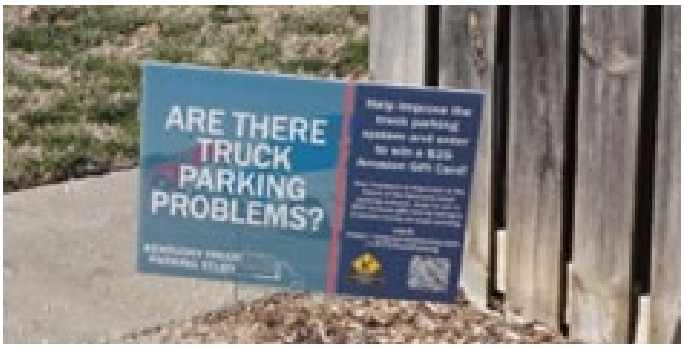
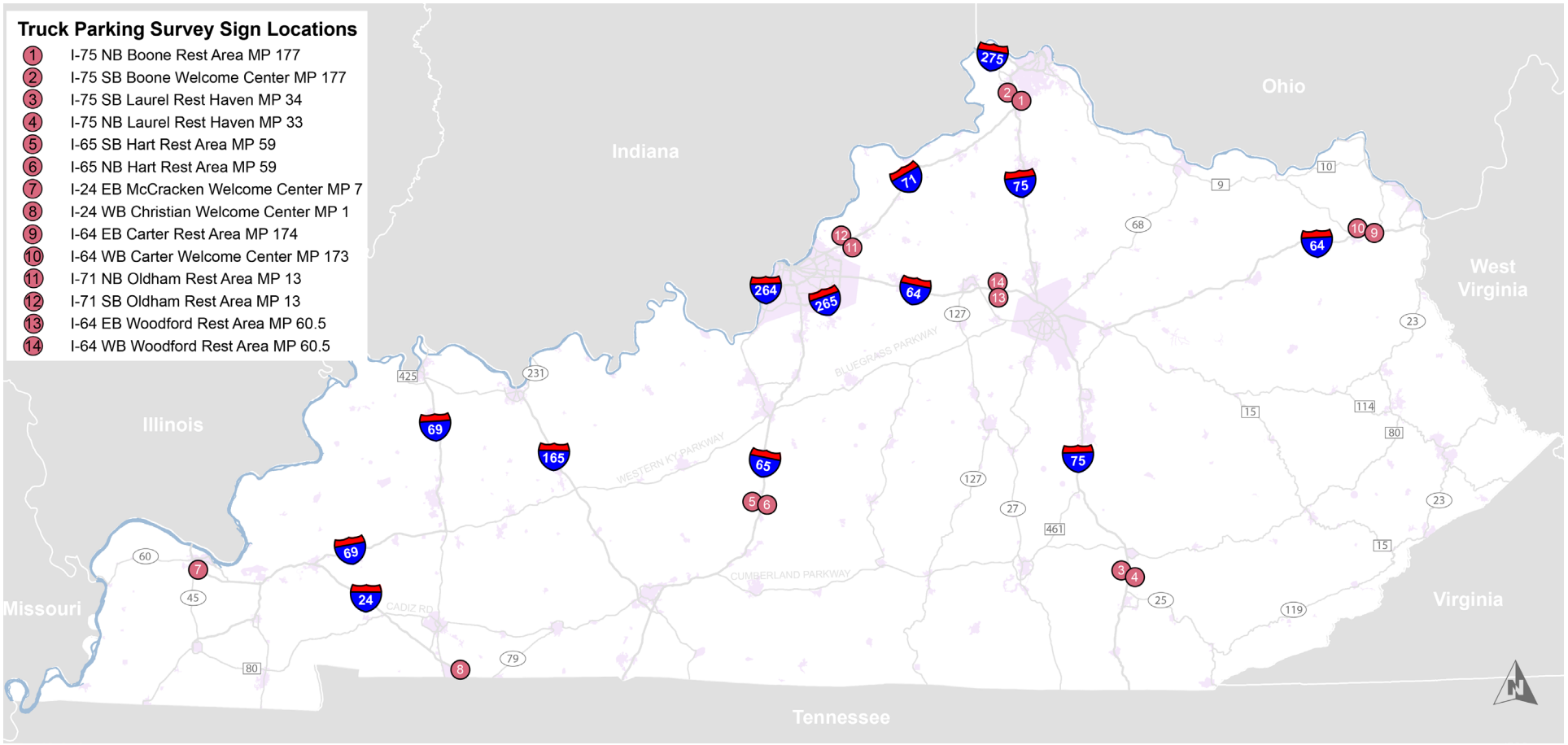


Figure 6-2. Truck Parking Survey Sign Locations



CHAPTER 7
CAPACITY IMPROVEMENTS

The three key Assessment and Action Plan outcomes all involve eliminating truck parking at unauthorized and unsafe locations. The most effective way to eliminate parking in these areas is to provide more parking locations and larger public parking facilities across Kentucky. Locating expansion sites with few development barriers was crucial to minimizing the deployment timeframe. Once sites were identified, they were prioritized to determine which sites should be progressed to the conceptual design and high-level (15%) design stages.

7.1 Potential Truck Parking Sites

The results of the needs prioritization (**Chapter 5**) and the stakeholder outreach (**Chapter 6**) were used to guide the identification of potential truck parking expansion sites in the areas of the greatest need. Potential sites were selected that met the following criteria.

- Site was located within existing KYTC right-of-way (or on other commonwealth property)
- Site was available and the land was appropriate for parking lot construction
- Sufficient Land Area
- Suitable Topography
- Adequate Highway Access
- Site had few, if any, environmental red flags

Sites meeting these criteria were expected to be good candidates for near-term implementation, allowing KYTC to avoid time consuming right-of-way acquisition and complicated environmental permitting.

7.1.1 Parking Expansion Identification

7.1.1.1 Step 1 – Areas Within Existing Right-of-Way

To avoid right-of-way acquisition, the project team focused on sites that were within KYTC right-of-way or on other property owned by the Commonwealth of Kentucky. Starting with the highest priority areas, the team reviewed aerial mapping searching for unutilized land that appeared to be within KYTC right-of-way. Eighty (80) potential sites were identified via aerial mapping and had their ownership confirmed using county property valuation administrator (PVA) maps and other records. For priority areas where no sites could be found within the KYTC right-of-way, PVA maps were used to conduct further searches for other commonwealth property; this method was unable to find any additional state-owned property near priority areas. **Figure 7-1** shows an example of how a PVA map was used to identify a potential site adjacent to I-65 in Warren County.

The site searches were typically prioritized as follows:

1. Land Adjacent to Existing Rest Areas or Weigh Stations/Rest Havens
2. Land at Closed Rest Areas, Parking Areas, or Weigh Stations
3. Land Within Existing Interchange Footprints
4. Land Adjacent to the Interstate or Parkway Mainline (including medians)
5. Land Adjacent to Interchange Cross-Streets

Figure 7-1. Warren County PVA Map Site Identification Example

Figure 7-2. Top 20 Parking Sites for Development Potential

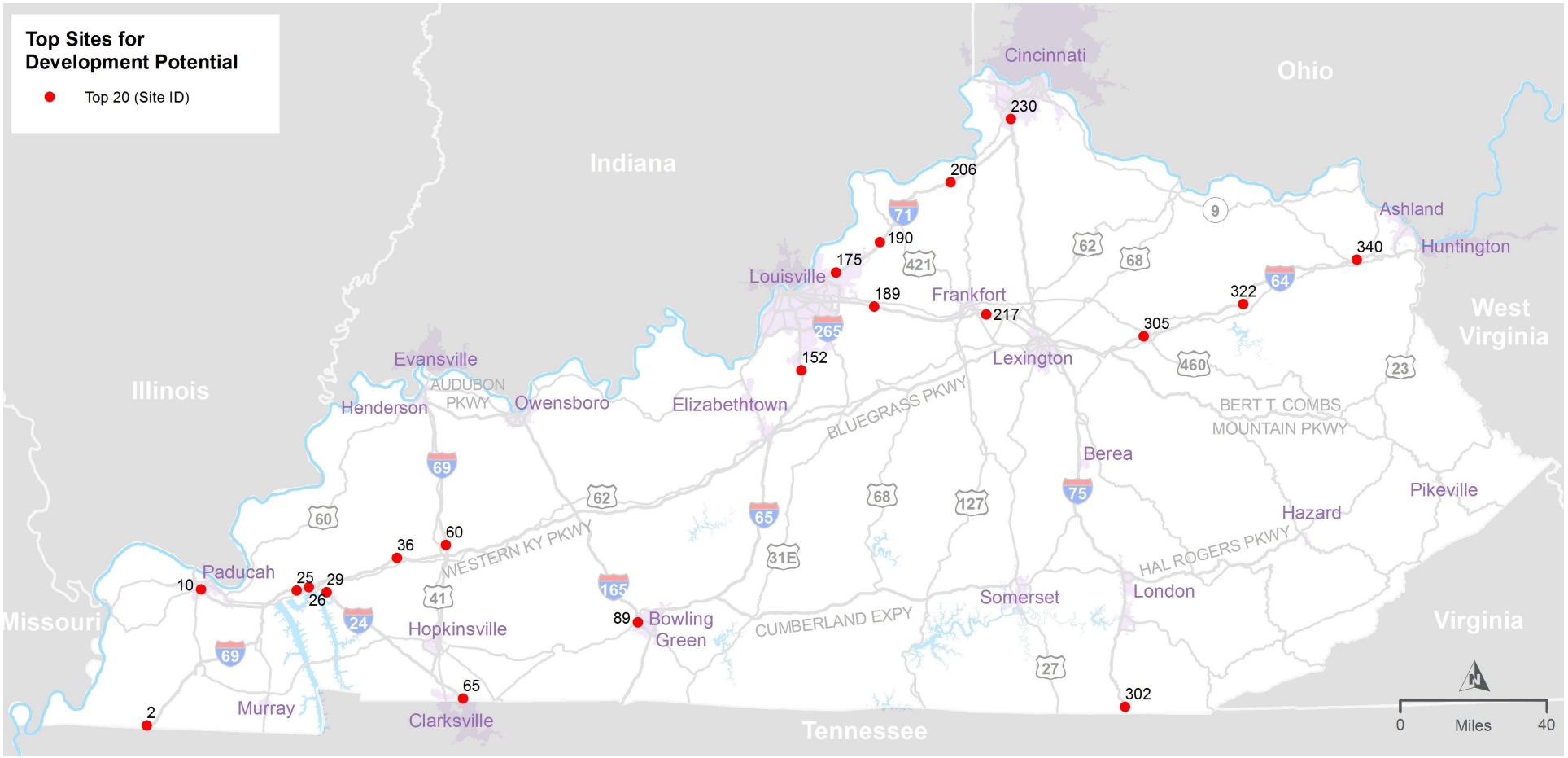


Table 7-1. Top 20 Parking Sites for Development Potential

Route	Mile Post	Site ID	County	Development Score	Notes
I-69	0.2	2	Fulton	15/15	Weigh Station
I-24	6.0	10	McCracken	15/15	Rest Area
I-24	34.6	26	Lyon	15/15	Closed Parking
I-24	54.0	29	Lyon	15/15	Closed Parking
I-69	108.9	60	Hopkins	15/15	Interchange Infield
I-24	92.0	65	Christian	15/15	Rest Area
I-65	0.2	83	Franklin	15/15	Rest Area
I-65	113.3	152	Bullitt	15/15	Rest Area
I-71	13.0	175	Oldham	15/15	Rest Area
I-64	28.5	189	Shelby	15/15	Rest Area
I-71	35.4	190	Henry	15/15	Closed Parking
I-71	51.3	206	Carroll	15/15	Closed Parking
I-64	60.4	217	Woodford	15/15	Rest Area
I-75	176.8	230	Boone	15/15	Rest Area
I-75	2.0	302	Whitley	15/15	Rest Area
I-64	108.0	305	Montgomery	15/15	Rest Area
I-64	141.0	322	Rowan	15/15	Rest Area
I-64	174.1	340	Grayson	15/15	Rest Area
I-24	35.8	25	Lyon	14/15	Weigh Station
I-69	92.5	36	Caldwell	14/15	Interchange Infield
I-165	5.0	89	Warren	14/15	Interchange Infield

7.1.1.2 Step 2 – Determine Available Development Potential

The development potential for each site was scored, assigning between 0 and 5 points each for the available area, topography, and ease of roadway access (up to 15 points total). Maximum points were assigned for sites that were over 10 acres, flat, and provided room for ramps or other access roads not too close to existing ramps or intersections. **Figure 7-2** and **Table 7-1** show the top 20 potential sites based on their development potential scores. To better track the sites, each was given a Site ID that matched the Area ID from the nearest analysis area. **Figure 7-2** shows that the Top 20 sites for parking development potential were well distributed across the commonwealth; there was only one site along I-75 and two sites along I-65. These corridors were two of the four highest demand corridors and were targets for parking expansion, which lead the project team to consider some lower scoring sites to better serve these high-priority corridors.

7.1.1.3 Step 3 – Environmental Red Flag Review

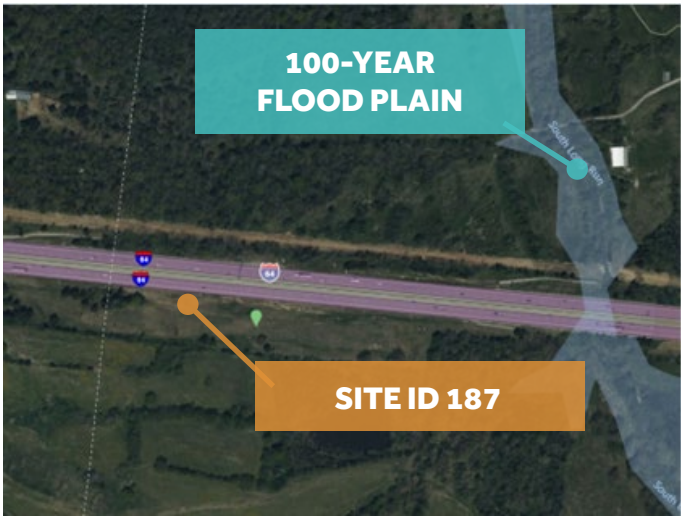
Before advancing potential sites into conceptual design, each site was reviewed for potential environmental red flags. **Table 7-2** shows the four main categories considered for this review, along with the 17 detailed supporting GIS datasets.

Table 7-2. Environmental Review Categories and GIS Datasets

Category	GIS Datasets	Category	GIS Datasets
Environmental	Floodplains	Cultural	Churches
	Wetlands		Schools
	Critical Habitat – Golden Cress		Parks
	Heritage Land Conservation Fund		Trails
	Wildlife Management Area	Hazmat	Underground Storage Tanks
	Indiana Bat		Active Quarry Locations
Historical	State Park Public Structure		Solid Waste Landfills
	NRHP Points		Solid Waste Areas
	NRHP Polygons		

Overall, no environmental issues were found at any of the priority sites that appeared to preclude development. Any wetlands and floodplains that were found in the vicinity some of the potential sites and would need to be avoided or compensated for during development. **Figure 7-3** shows an example of the 100-year floodplain near a potential parking site along I-64.

Figure 7-3. Floodplain Near a Potential Parking Site Along I-64



7.2 Initial Parking Site Prioritization

An initial parking site priority list was developed by multiplying the area need score by the site development potential score. **Figure 7-4** and **Table 7-3** show the top 30 parking expansion sites resulting from this approach. Similar to the truck parking need prioritization, seven of the top ten parking expansion priority sites are located in the I-75, I-71, I-64 triangle area that encompasses the Louisville, Lexington, and northern Kentucky metropolitan areas. Additional top ten priority sites are located on I-65 south of Louisville and on I-24 in western Kentucky. The rest of the top 30 sites are located along those same corridors with the addition of sites on I-75 south of London. One top 30 priority site is located on the Bluegrass Parkway near Bardstown.

Table 7-3. Initial Parking Site Priority List - Top 30 Expansion Sites

Route	Mile Post	Site ID	County	Development Score	Need Score	Development Priority Score
I-71	35.4	190	Henry	15	0.75	11.25
I-71	51.3	206	Gallatin	15	0.75	11.25
I-75	177.0	230	Boone	15	0.58	8.63
I-75	127.0	254	Scott	14	0.60	8.40
I-64	60.5	217	Woodford	15	0.54	8.06
I-65	82.0	123	Hardin	14	0.56	7.88
I-24	34.7	26	Lyon	15	0.51	7.69
I-64	28.0	189	Shelby	15	0.46	6.94
I-71	17.4	183	Oldham	11	0.63	6.88
I-24	6.0	10	McCracken	15	0.45	6.75
I-65	113.3	152	Bullitt	15	0.45	6.75
Bluegrass Prkwy	20.5	185	Nelson	13	0.50	6.50
I-65	89.6	125	Hardin	12	0.53	6.30
I-71	13.0	175	Oldham	15	0.40	6.00
I-75	82.6	289	Madison	12	0.50	6.00
I-65	60.0	113	Hart	11	0.51	5.64
I-75	2.0	302	Whitley	15	0.38	5.63
I-24	10.5	13	McCracken	10	0.55	5.50
I-64	37.4	201	Shelby	11	0.50	5.50
I-64	24.1	187	Shelby	11	0.48	5.23
I-75	18.5	295	Whitley	9	0.58	5.18
I-24	58.3	35	Trigg	9	0.56	5.06
I-24	54.0	29	Lyon	15	0.34	5.06
I-75	168.2	244	Grant	10	0.50	5.00
I-75	28.8	299	Laurel	7	0.71	4.99
I-65	104.8	143	Bullitt	9	0.55	4.95
I-24	92.0	65	Christian	15	0.31	4.69
I-75	34.0	303	Laurel	12	0.39	4.65
I-24	88.8	63	Christian	9	0.50	4.50
I-65	81.2	117	Hardin	13	0.34	4.39

Figure 7-4. Initial Parking Site Prioritization - Top 30 Expansion Sites

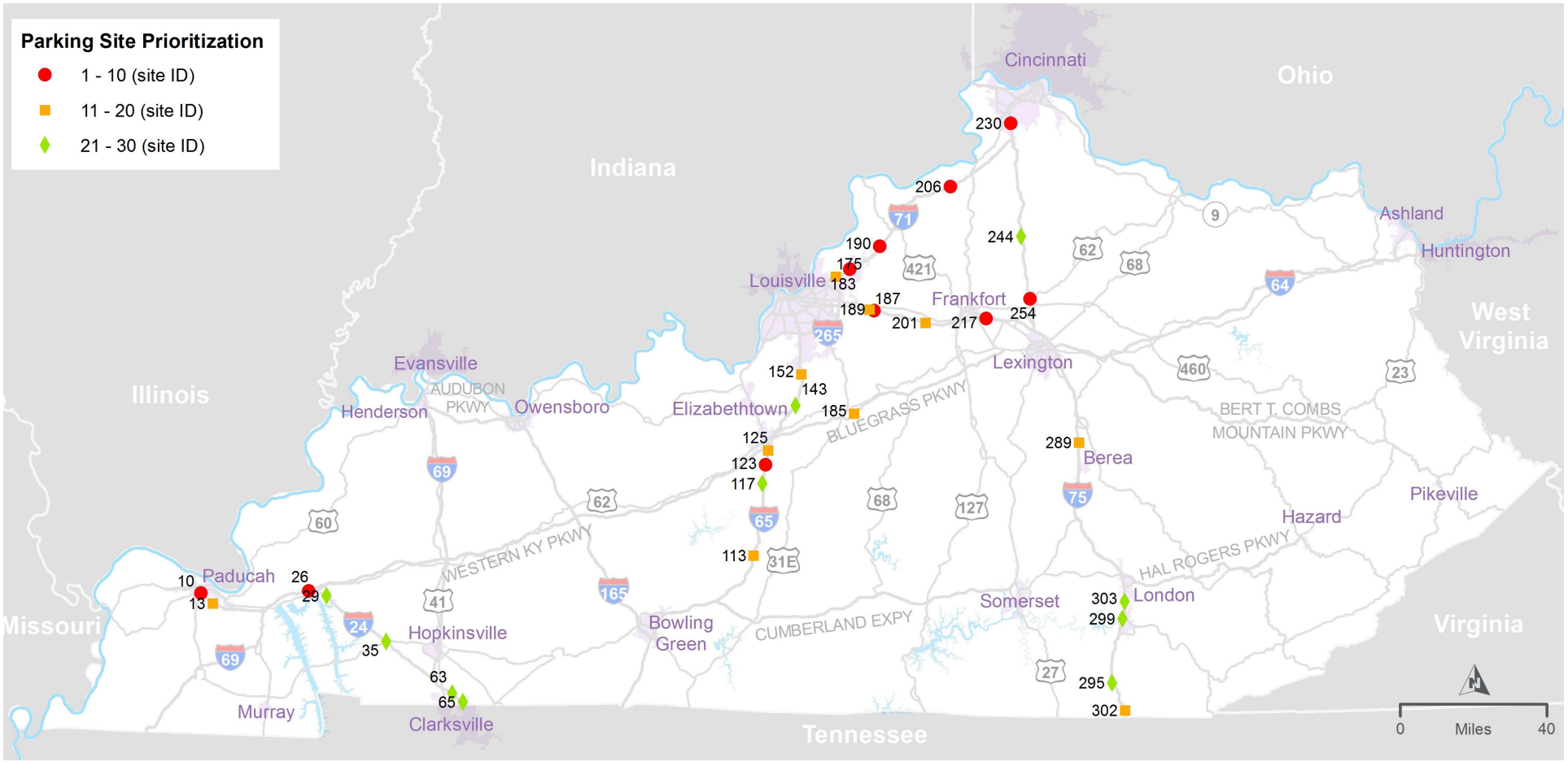
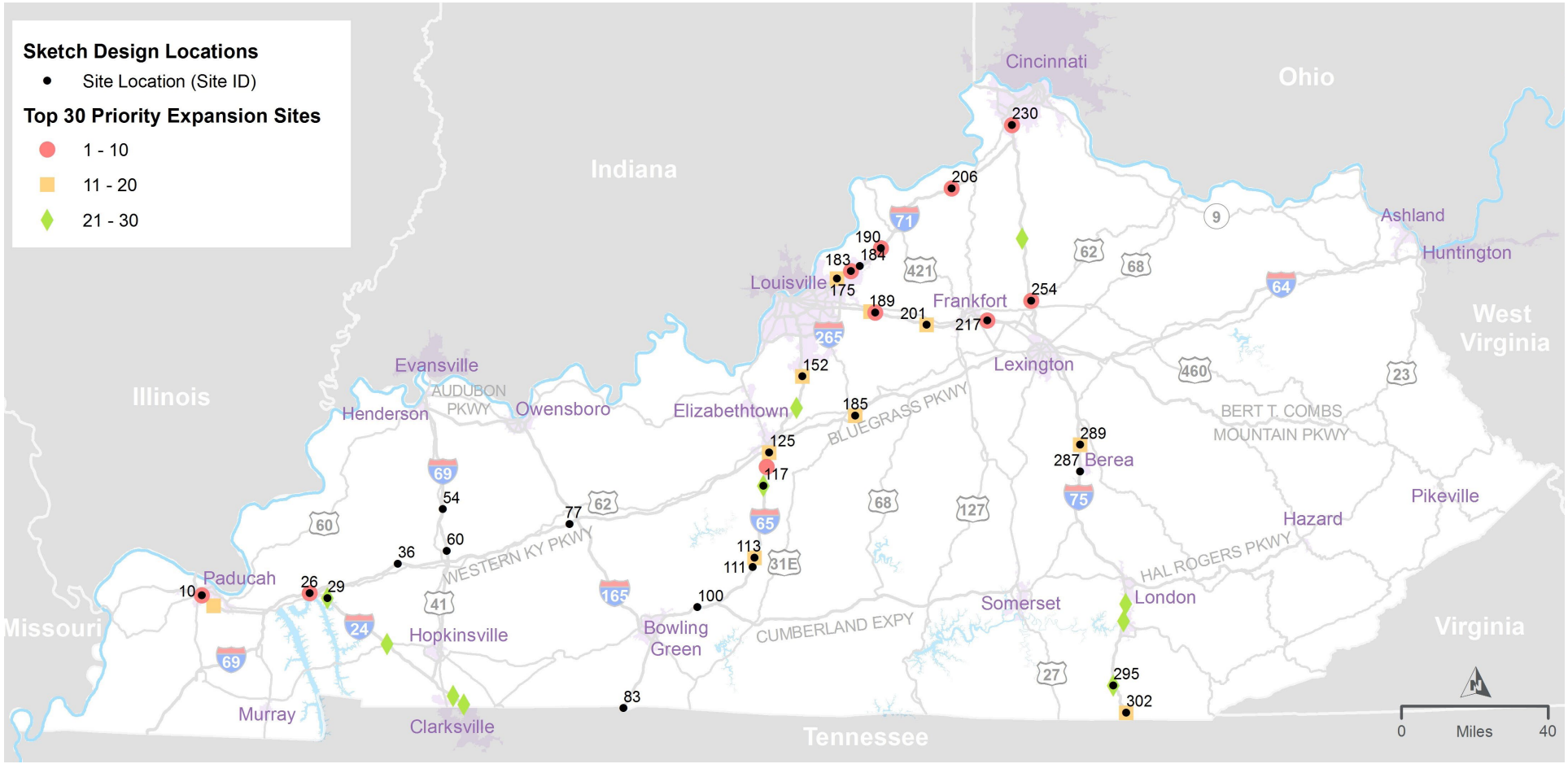


Figure 7-5. Sketch Design Locations Prioritization - Top 30 Expansion Sites



Several areas that scored highly for parking need did not have nearby sites that scored highly for development potential. Often these areas had limited public right-of-way and/or challenging topography, both of which limited the potential for suitable parking sites. These are areas where innovative solutions were exhausted and consequently, right-of-way acquisition could be considered as a last resort option.

The highest ranked parking need areas not covered by the initial Top 30 parking priority site list are shown in **Table 7-4**. These interchanges are generally located on I-75 south of Lexington. Along this section of I-75 truck parking demand is high, but the topography and narrow existing right-of-way hampers development potential for parking capacity expansion. The only right-of-way available in this corridor that is large enough for parking expansion development is found in the wide-extent median areas of I-75. Conceptual designs were prepared for median parking lots, but difficulties with left exit access make these sites less desirable and would require extensive coordination with FHWA. Online survey results indicated that the left exit access is not preferred by most truck drivers.

7.2.1 Sketch Level Concepts and Estimates

From the overall list of potential parking sites, 30 sites were selected for sketch-level design. The site selection process took into consideration the Initial Parking Site Priority List, but it also took into account corridor coverage, stakeholder input, future interstate traffic growth, and future interstate development. For example, stakeholders commented on the lack of truck parking on I-69, the Western Kentucky Parkway, and the Bluegrass Parkway. With continued growth and development expected along those corridors, promising parking sites on those corridors were added to the sketch-level conceptual design list. This will provide KYTC with sketch level designs and costs for when they are needed in the future. The locations of the 30 sketch level design sites are shown on **Figure 7-5**. As shown, there is a considerable overlap between **Figure 7-4** and **Figure 7-5**, but there are also some notable additions.

Field visits were conducted to all 30 of the sketch level design sites. During each field visit, notes were taken on the existing site conditions including lighting, drainage, site grading, and any existing pavement. Photos were also taken at each site. **Figure 7-6** shows an example of a site photo taken at a closed parking area on I-24 in Lyon County. **Figure 7-7** shows example field notes from a site visit to a rest area on I-65 in Bullitt County.

Figure 7-6. I-24 Closed Parking (Lyon County) ID29 Site Photo

Figure 7-7. I-65 Rest Area (Bullitt County) ID152 Site Notes

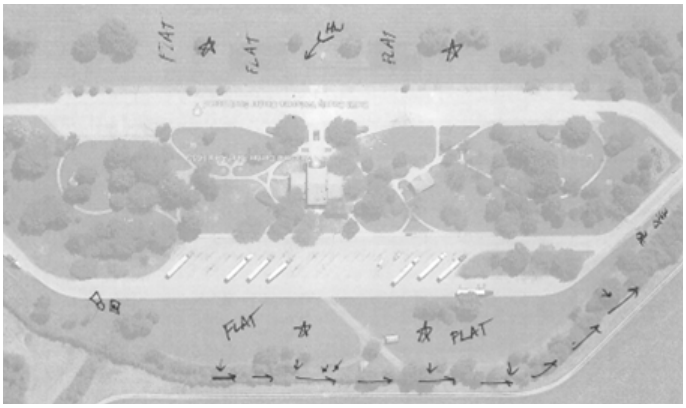


Table 7-4. High Need Areas Without Expansion Sites Within ROW

Route	Exit	County	Need Score	Need Score Rank
I-75	Exit 29	Laurel	0.71	4
I-75	Exit 76	Madison	0.64	6
I-75	Exit 11	Whitley	0.58	12
I-24	Exit 89	Todd	0.50	20
I-75	Exit 83	Madison	0.50	24

Following the field visits, all 30 sites were found to be feasible for expansion. The sites were progressed to the sketch level concepts and estimates. During this phase, conceptual designs for parking expansion were prepared. These designs did not include any detailed drainage or lighting design. These designs were used to approximate the number of parking spaces that could be added at each site.

A concept level construction cost estimate was generated for each parking site using the sketch level concept drawing. The estimates were based on the size of the site and unit prices for pavement, grading, drainage, erosion control/sodding, and lighting. The unit costs were determined from the 2021 KYTC average bid prices, which were the most current available. Factors were used to account for other large cost items (e.g., mobilization, traffic control, and clearing/grubbing). A 25% contingency was also applied.

The cost estimates were used to calculate a concept level per parking space cost for each proposed site. This value, along with the parking need priority were used to determine which sites should be progressed to the next level of design.

Figure 7-8 shows an example sketch level design for a parking expansion on I-71 in Carroll County. All developed sketch level designs and estimates can be found in Appendix B.

Figure 7-8. I-75 Rest Area Expansion (Whitley Co.) Sketch Level Design

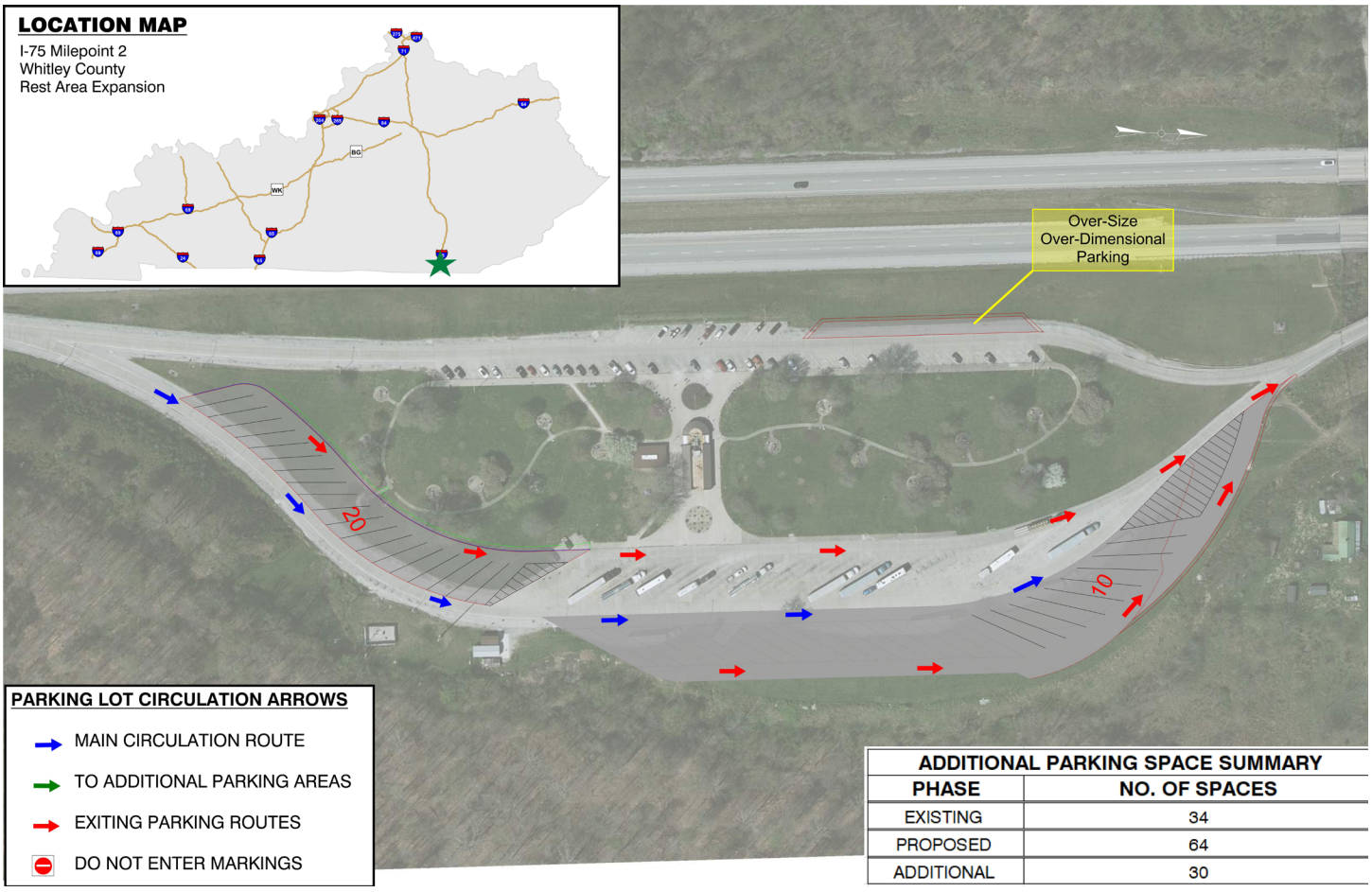


Table 7-5. Parking Expansion Sketch Level Design Cost Estimates

Site ID	Site Type	Route	MP	County	Total (2021 Dollars)	Existing Spaces	New Spaces	Total Spaces	Cost Per Space (2021 Dollars)
10	Rest Area	I-24	6.8	McCracken	$ 1,105,000.00	16	16	32	$ 69,100.00
26	Closed Parking Area	I-24	34.6	Lyon	$ 4,328,000.00	0	75	75	$ 57,700.00
29	Closed Parking Area	I-24	54.0	Lyon	$ 19,530,000.00	0	346	346	$ 56,500.00
36	Interchange Infield	I-69	92.5	Hopkins	$ 1,220,000.00	0	10	10	$ 122,000.00
54	Interchange Infield	I-69	134.0	Webster	$ 940,000.00	0	7	7	$ 134,300.00
60	Interchange Infield	I-69	111.0	Hopkins	$ 2,200,000.00	0	25	25	$ 88,000.00
77	Interchange Infield	WKP	52.0	Muhlenberg	$ 2,050,000.00	0	18	18	$ 113,900.00
83	Rest Area	I-65	0.5	Simpson	$ 2,280,000.00	32	23	56	$ 99,200.00
100	Closed Parking	I-65	39.6	Warren	$ 6,000,000.00	0	56	56	$ 107,200.00
100B	Interstate Median	I-65	41.5	Warren	$ 10,670,000.00	0	91	91	$ 117,300.00
111	Closed Parking	I-65	55.0	Hart	$ 7,690,000.00	0	79	79	$ 97,400.00
113	Rest Area	I-65	60.3	Hart	$ 3,020,000.00	232	54	286	$ 56,000.00
117	Interchange Infield	I-65	64.3	Hart	$ 3,600,000.00	0	58	58	$ 62,100.00
125	Closed Weigh Station	I-65	89.7	Hardin	$ 2,211,000.00	0	16	16	$ 138,200.00
152	Rest Area	I-65	113.3	Bullitt	$ 2,840,000.00	28	54	82	$ 52,600.00
175	Rest Area	I-71	13.0	Oldham	$ 5,170,000.00	26	75	101	$ 67,200.00
183	Interchange Infield	I-71	17.4	Oldham	$ 2,020,000.00	0	22	22	$ 91,900.00
184	Interchange Infield	I-71	18.5	Oldham	$ 3,590,000.00	0	70	70	$ 51,300.00
185	Interchange Infield	BGP	20.4	Nelson	$ 1,720,000.00	0	18	18	$ 95,600.00
189	Rest Area	I-64	28.5	Shelby	$ 4,110,000.00	24	46	70	$ 89,355.00
190	Closed Weigh Station	I-71	34.5	Henry	$ 3,596,000.00	0	46	46	$ 78,200.00
201	Interstate Median	I-64	38.0	Shelby	$ 5,990,000.00	0	60	60	$ 99,900.00
206	Closed Parking Area	I-71	51.3	Carroll	$ 12,890,000.00	0	166	166	$ 77,700.00
217	Rest Area	I-64	60.4	Woodford	$ 4,450,000.00	31	50	81	$ 89,000.00
230A	Rest Area	I-75 NB	176.8	Boone	$ 3,810,000.00	54	49	103	$ 77,800.00
230B	Rest Area	I-75 SB	176.8	Boone	$ 11,040,000.00	67	152	219	$ 72,700.00
254	Rest Area	I-75	127.2	Scott	$ 5,100,000.00	91	67	158	$ 76,200.00
287	Interstate Median	I-75	72.0	Rockcastle	$ 7,850,000.00	0	91	91	$ 86,300.00
289	Interstate Median	I-75	81.0	Madison	$ 11,350,000.00	0	143	143	$ 79,400.00
295	Interstate Median	I-75	19.0	Whitley	$ 6,190,000.00	0	60	60	$ 103,200.00
302	Rest Area	I-75	2.0	Whitley	$ 1,300,000.00	35	30	65	$ 43,400.00

7.2.2 Detailed Concepts and Estimates

Following sketch level designs, ten of the sites were progressed to a more detailed design and cost estimate phase. These sites were selected based on the parking need priority, cost efficiency, and ease of implementation. The ten sites selected for the detailed design phase are shown in **Figure 7-9**.

The detail design phase is approximately a 15% level design with more detailed designs for the pavement layout, drainage design, lighting design, and conceptual grading design. The quantities required for the construction have been individually quantified and utilized in the cost estimates. The cost estimates were developed using KYTC Estimator program and 2022 prices. The full detailed level designs can all be found in **Appendix C**. The accompanying detailed level cost estimates can be found in **Appendix D**. An example of the 15% level design for the expansion of the rest area on I-65 in Bullitt County is shown in **Figure 7-10**. A summary of the detailed cost estimates is included in **Table 7-6** below.

Table 7-6. Parking Expansion Detailed Level Design Cost Estimates

ID	Site Type	Route	MP	County	Total (2022 Dollars)	Existing Spaces	Additional Spaces	Total Spaces	Cost Per Space (2022 Dollars)
29	Closed Parking	I-24	54.0	Lyon	$ 15,900,000.00	0	252	252	$ 63,100.00
83	Rest Area	I-65	0.5	Simpson	$ 2,280,000.00	32	23	56	$ 99,200
100B	Closed Parking	I-65	41.5	Warren	$ 6,860,000.00	0	57	57	$ 120,400.00
152	Rest Area	I-65	113.3	Bullitt	$ 2,710,000.00	28	52	80	$ 52,200.00
175	Rest Area	I-71	13.0	Oldham	$ 8,300,000.00	26	75	101	$ 110,700.00
206	Closed Parking	I-71	51.3	Carroll	$ 11,350,000.00	0	166	166	$ 68,400.00
217	Rest Area	I-64	60.4	Woodford	$ 5,910,000.00	26	65	91	$ 91,000.00
230A	Rest Area	I-75 NB	176.8	Boone	$ 3,710,000.00	54	49	103	$ 75,700.00
230B	Rest Area	I-75 SB	176.8	Boone	$ 8,800,000.00	67	106	173	$ 83,100.00
254	Rest Area	I-75	127.2	Scott	$ 4,260,000.00	91	67	158	$ 63,600.00
302	Rest Area	I-75	2.0	Whitley	$ 2,860,000.00	35	30	65	$ 95,400.00

Figure 7-9. Detailed Design (15%) Expansion Site Locations

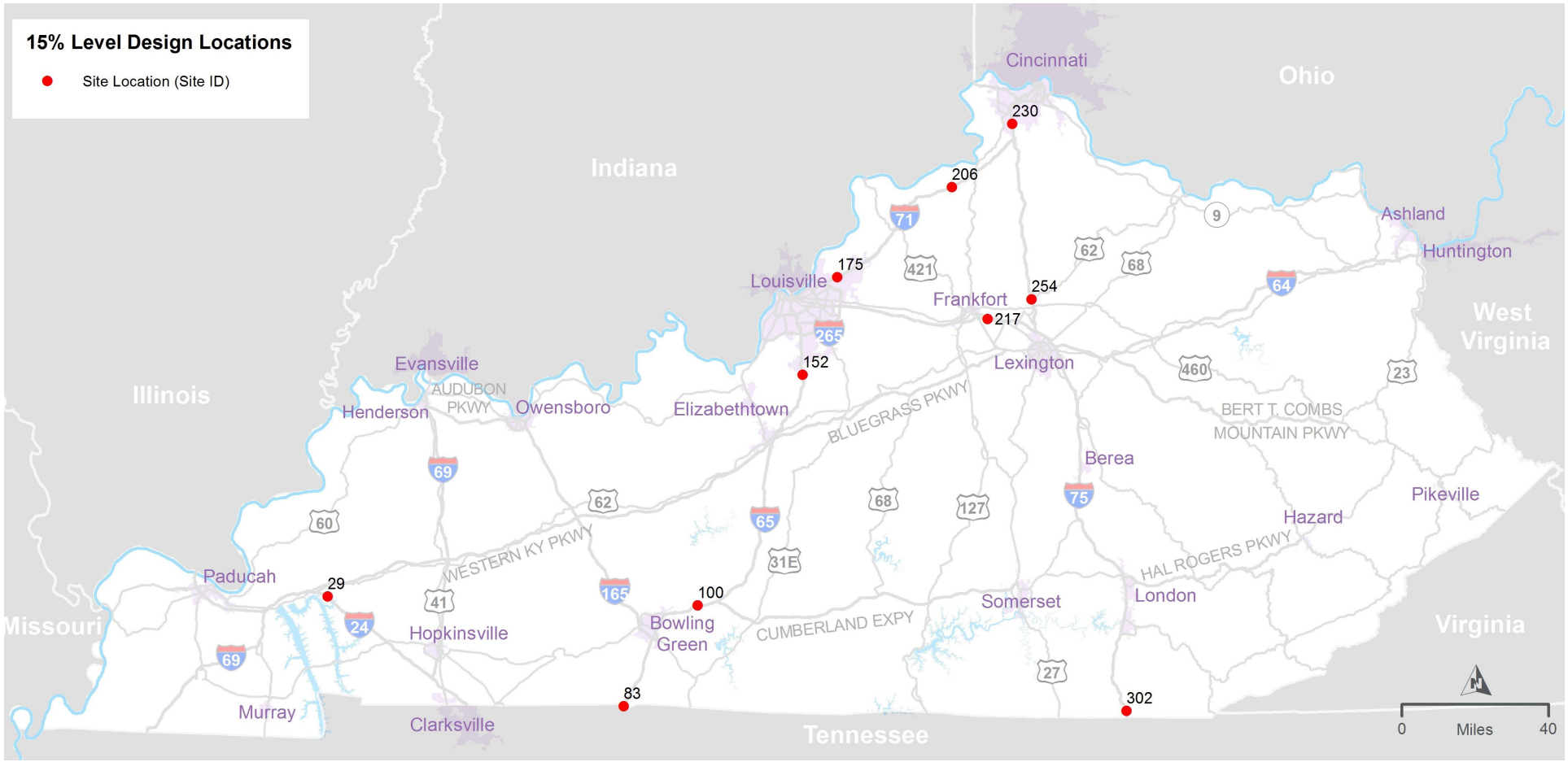
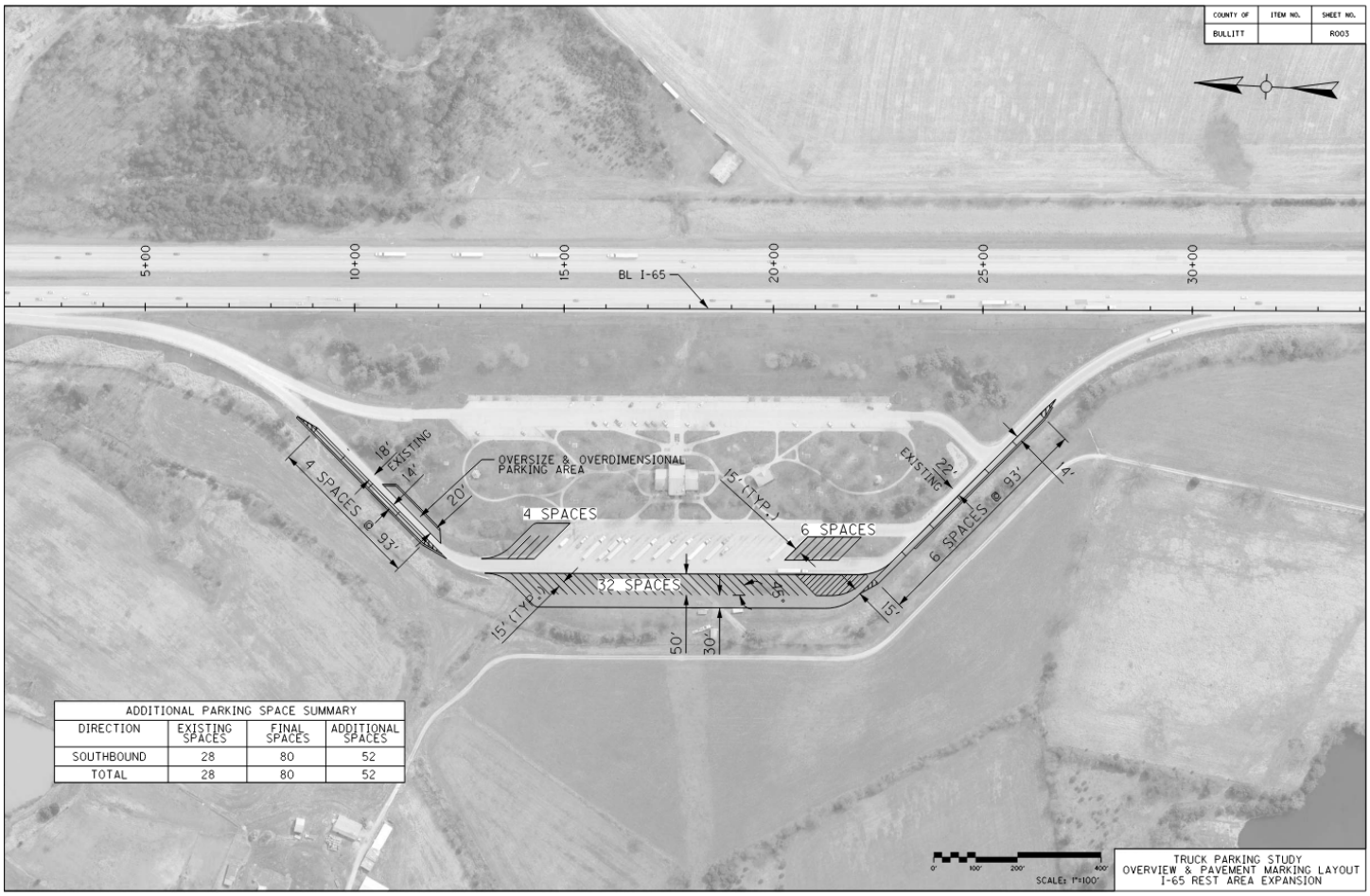


Figure 7-10. I-65 Rest Area (Bullitt Co.) Expansion Detailed Design



7.3 Project Benefits

Improved truck parking access is a priority of the United States Department of Transportation (USDOT) Secretary Pete Buttigieg. He stated in September 2022, "We owe our truckers a safe place to rest." As outlined in FHWA's Truck Parking Development Handbook (September 2022)[2] , expanding truck parking offers many benefits including:

1. Improved Safety for Truck Drivers and Other Motorists
2. Enhanced Security for Truck Drivers and Cargo
3. Improved Trucking Efficiency, Reliability, and Productivity
4. Reduced Miles Traveled, Congestion, and Emissions
5. Reduced Maintenance and Infrastructure Deterioration
6. Other Benefits

The 10 proposed parking projects from this action plan could eliminate 10 parked truck crashes per year, including approximately two fatal or injury crashes each year.

[2]https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/docs/Truck_Parking_Development_Handbook.pdf

7.3.1 Improved Safety for Truck Drivers and Other Motorists

The elimination of parked truck crashes on interstate and parkway ramps and nearby mainline segments is the largest quantifiable benefit of increasing the overnight truck parking supply. Parking in these locations creates substantial safety risks related to the speed differential between stationary trucks in close proximity to the travel way and the vehicles traveling by. The trucks can also limit lines of sight for vehicles as they enter or exit the highway and they block the shoulder from being used by other vehicles during emergencies.

It is projected that approximately 763 trucks park on or near interstate and parkway ramps in Kentucky daily. On average there are approximately 23 parked truck crashes on and near these ramps annually, with approximately two of these being fatal or injury crashes. This is approximately one crash for every 33 trucks parked on a ramp nightly for a year (12,000 total parking events). By reducing the number of trucks parked on and near ramps and shifting them to legal parking spaces in designated lots, many of these crashes can be prevented. KSP has indicated to KYTC, their desire to move parked trucks off interchange ramps due to the safety hazard. They do understand that drivers often have limited legal parking options, so they allow them to remain. Increasing the truck parking supply would allow KSP to restart enforcement of interchange parking restrictions.

It is predicted that for every additional legal parking space that is added to an area with ramp truck parking, one truck would no longer park on a ramp, with an area of influence up to 15-miles from the expanded parking areas. The reduction in ramp parking would reduce the expected number of crashes by that same percentage. For example, on I-75 at MP 176 in Boone County there are 60 trucks that park on or near an interchange ramp each night. By providing enough spaces to accommodate drivers parking on ramps at or near that interchange, the number of nightly drivers parking on ramps would be expected to drop to zero. This could yield an estimated elimination of 1.8 crashes annually.

Table 7-7 shows the expected annual crash reduction for the 10 areas where expanded parking facilities were advanced to detailed design. As shown, the new parking is expected to reduce the number of ramp area parked trucks by 325, possibly eliminating 10 crashes per year, which is approximately 43% of the total ramp area parked truck crashes statewide. Approximately one of the eliminated crashes each year would be a fatal or injury crash.

While the most important benefits are the lives saved and injuries prevented, it is also useful to monetize all the project benefits to further demonstrate the importance of investing limited public resources into the truck parking initiative. **Table 7-8** summarizes the estimated monetized benefits resulting from the eliminated crashes. With the crash severity distribution on interchange ramps shown in **Table 5-4**, the average

Table 7-7. Projected Crash Reduction Per Area Expansion Detailed Design

Route	MP	County	Nightly Ramp Parking	Nightly Ramp Parking Reduction	Crashes Prevented (Annually)
I-24	54.0	Lyon	30	-30	0.9
I-65	0.5	Simpson	15	-15	0.5
I-65	41.5	Warren	10	-10	0.3
I-65	113.3	Bullitt	55	-55	1.7
I-71	13.0	Oldham	48	-48	1.4
I-71	51.3	Carroll	36	-36	1.1
I-64	60.4	Woodford	36	-36	1.1
I-75	176.8	Boone	60	-60	1.8
I-75	127.2	Scott	20	-20	0.6
I-75	2.0	Whitley	15	-15	0.5
TOTAL	--	--	**325**	**-325**	**9.9**

cost is a substantial $509,300 per crash, leading to a total annual crash elimination benefit of $5,042,600 (2022 dollars).

Additional traffic safety benefits are derived from truckers not having to search for and/or detour to find parking. According to recent surveys and studies, 76% of drivers regularly have difficulty finding safe parking (one or more times a week)[3] and 70% of drivers have violated the Federal hours of service rules because they could not find safe parking[4]. The extra driving distance and time to find safe parking leads to increased driver fatigue and frustration, which leads to safety risks. Additional negative impacts of extra drive time to find a safe and legal parking space are increase CO2 emissions and additional fuel consumption.

7.3.2 Enhanced Security for Truck Drivers and Cargo

Illegal and unauthorized truck parking can place drivers, their vehicles, and the cargo at risk. Designated truck parking facilities help mitigate these risks with lighting and the presence of other drivers at a minimum. Depending on the facility there could also be additional security infrastructure, such as fencing and security cameras. According to FHWA's Handbook, "The driver and cargo at undesignated locations have higher exposure to theft, damage, and driver assault. Projects that reduce undesignated parking reduce these risks, benefiting the drivers, the trucking companies, and the owners of the cargo."

"The driver and cargo at undesignated locations have higher exposure to theft, damage, and driver assault. Projects that reduce undesignated parking reduce these risks, benefiting the drivers, the trucking companies, and the owners of the cargo."
- FHWA Handbook

It was the issue of truck driver security that led to the passage of Jason's Law in 2012, following the death of Jason Rivenburg who could not find a safe place to park and was the fatal victim of a violent crime in 2009. Jason's Law has brought national attention to the topic of truck parking and the need for additional safe and secure parking spaces for drivers. Jason's Law contains the following initiatives:

1. Evaluate the capability of each state to provide adequate parking and rest facilities for commercial motor vehicles engaged in interstate transportation.
2. Assess the volume of commercial motor vehicle traffic in each state.
3. Develop a system of metrics to measure the adequacy of commercial motor vehicle parking facilities in each State.

Table 7-8. Anticipated Reduced Crash Benefits

Route	MP	County	Crashes Prevented (Annually)	Crashes Cost Savings (Annually, 2022 Dollars)
I-24	54.0	Lyon	0.9	$ 458,400
I-65	0.5	Simpson	0.5	$ 254,700
I-65	41.5	Warren	0.3	$ 152,800
I-65	113.3	Bullitt	1.7	$ 865,900
I-71	13.0	Oldham	1.4	$ 713,100
I-71	51.3	Carroll	1.1	$ 560,300
I-64	60.4	Woodford	1.1	$ 560,300
I-75	176.8	Boone	1.8	$ 916,800
I-75	127.2	Scott	0.6	$ 305,600
I-75	2.0	Whitley	0.5	$ 254,700
TOTAL	--	--	**9.9**	**$5,042,600**

[3] https://www.freightwaves.com/news/growing-truck-parking-shortages-emerge-in-latest-survey
[4] https://www.trucking.org/news-insights/ata-applauds-introduction-senate-truck-parking-bill

7.3.3 Improved Trucking Efficiency, Reliability, and Productivity

By increasing the supply of safe and convenient truck parking, drivers can be more efficient in their routing. They can avoid detours and eliminate the need to cut trips short or extend past their HOS to secure parking. This increased efficiency reduces unnecessary miles and hours of travel and helps drivers and companies comply with the HOS rules. A list of the benefits in this category includes:

- Decreased Trucking Costs - The increased efficiency leads to lower fuel, maintenance, and driver wages costs, leading to lower business and customer costs.
- Improved Driver Productivity - Many drivers chose to end their day early rather than struggle to find parking at the end of their HOS. This often leads to 30 minutes to an hour of lost driving time. By providing more parking, drivers can work longer within their HOS, increasing their wages, but decreasing overall shipping costs through improved productivity. According to ATRI, each additional hour driven with the HOS reduces the shipping cost by 0.8%.[5]
- Improved Trucking Reliability - Additional parking offers opportunities for drivers to plan their route more easily. They also allow drivers to adjust their route or stop locations due to weather or other unforeseen circumstances. Plentiful legal parking also provides drivers with a place to stage while they wait for their delivery window for dropping-off or picking-up cargo. More parking options increases the trucking system reliability, which is critical for supply chains to function well.

Increased truck parking capacity reduces trucking costs and increases driver productivity and supply chain reliability.

7.3.4 Reduced Miles Traveled, Congestion, Emissions and Other Benefits

The reduction in vehicle miles traveled resulting from more efficient operations leads to several smaller related benefits. This includes the reduction of:

- Emissions of pollutants
- Safety exposure, further reducing the potential for crashes
- Congestion

The reduced miles traveled also offers benefits for highway maintenance costs as drivers find designated places to park more easily. This can lead to a reduction in damage caused by parking on or driving through areas not designed for regular heavy truck traffic. This will reduce maintenance costs for repairing damaged roadway shoulders, curbs, signs, lighting, and guardrails.

There are also several other important benefits of increased safe public truck parking, including several for drivers themselves.

- Reduces driver stress, which can improve driver work satisfaction and overall quality-of-life especially for long-haul truck drivers
- Makes it easier to plan for breaks and overnight stops
- Reduces the potential for drivers to exceed their HOS, which can impact them and their company
- Leads to better rested drivers, who will in turn be better drivers
- Facilitates productive use of the non-driving time

[5] https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/docs/Truck_Parking_Development_Handbook.pdf

7.4 Benefit-Cost Analysis

Two cost-benefit examples are provided in the 2022 FHWA Handbook. In both examples, the traffic safety benefits (like those presented in **Table 7-8**) were approximately 58% of the total project benefits, indicating that 42% of the benefits come from other categories (like those described in Section 7.3) including security, productivity, efficiency, and other categories. Reduced trucking costs accounted for 23% to 30% of the total in the two studies, with the remaining categories providing 19% and 12% respectively. Given the results of these two studies, a ratio of 1/0.58 was used to estimate the expected total benefits, based on the traffic safety benefits.

Based on this ratio, the estimated crash prevention benefits and total benefits over 20 years for each of the parking expansion projects are shown in **Table 7-9** and **Table 7-10**. The benefits have been discounted to a present year (2022) value using rates of 3% and 7%. The resulting benefit-cost ratios at the facility level range from 0.4 to 8.4 and the overall benefit-cost ratio is expected to be between 1.2 and 1.6 for all projects together. Given the random nature of crashes, especially severe crashes, and the benefit factoring approach used, it is most useful to judge the proposed program of projects as a whole. From that perspective the investment of public funds in these 10 areas is expected to yield a reasonable return on the investment.

The estimated benefit-cost ratio for the proposed truck parking expansions exceeds 1.0, offering a positive return on investment for the program of projects.

Table 7-9. Parking Expansion Benefit-Cost Ratio (3% Discounting)

Route	MP	County	20-Year Crash Cost Savings (3% Disc., 2022 Dollars)	Est. 20-Year Benefits (All Sources) (3% Disc., 2022 Dollars)	Project Cost (2022 Dollars)	20 Year Benefit-Cost Ratio
I-24	54.0	Lyon	$6,971,000	$12,018,000	$17,400,000	0.7
I-65	0.5	Simpson	$3,873,000	$6,678,000	$2,780,000	2.4
I-65	41.5	Warren	$2,324,000	$4,006,000	$7,860,000	0.5
I-65	113.3	Bullitt	$13,168,000	$22,701,000	$3,210,000	7.1
I-71	13.0	Oldham	$10,844,000	$18,696,000	$9,300,000	2.0
I-71	51.3	Carroll	$8,520,000	$14,690,000	$12,350,000	1.2
I-64	60.4	Woodford	$8,520,000	$14,690,000	$6,910,000	2.1
I-75	176.8	Boone	$13,942,000	$24,036,000	$13,320,000	1.8
I-75	127.2	Scott	$4,647,000	$8,012,000	$4,760,000	1.7
I-75	2.0	Whitley	$3,873,000	$6,678,000	$3,360,000	2.0
Total	--	--	**$76,682,000**	**$132,205,000**	**$81,250,000**	**1.6**

Table 7-10. Parking Expansion Benefit-Cost Ratio (7% Discounting)

Route	MP	County	20-Year Crash Cost Savings (7% Disc., 2022 Dollars)	Est. 20-Year Benefits (All Sources) (7% Disc., 2022 Dollars)	Project Cost (2022 Dollars)	20 Year Benefit-Cost Ratio
I-24	54.0	Lyon	$5,015,000	$8,646,000	$17,400,000	0.5
I-65	0.5	Simpson	$2,786,000	$4,804,000	$2,780,000	1.7
I-65	41.5	Warren	$1,672,000	$2,882,000	$7,860,000	0.4
I-65	113.3	Bullitt	$9,472,000	$16,331,000	$3,210,000	5.1
I-71	13.0	Oldham	$7,801,000	$13,449,000	$9,300,000	1.4
I-71	51.3	Carroll	$6,129,000	$10,568,000	$12,350,000	0.9
I-64	60.4	Woodford	$6,129,000	$10,568,000	$6,910,000	1.5
I-75	176.8	Boone	$10,029,000	$17,291,000	$13,320,000	1.3
I-75	127.2	Scott	$3,343,000	$5,764,000	$4,760,000	1.2
I-75	2.0	Whitley	$2,786,000	$4,804,000	$3,360,000	1.4
Total	--	--	**$55,162,000**	**$95,107,000**	**$81,250,000**	**1.2**

CHAPTER 8
STAKEHOLDER ENGAGEMENT SURVEY TWO

This survey was focused on getting feedback on conceptual parking solutions at specific sites as well as potential technology improvements. The survey allowed participants to provide input on a single corridor they travel or multiple corridors throughout the state, which included I-65, I-71, I-75, I-64, and other major interstate and parkway corridors. For each corridor, proposed conceptual layouts for reconfiguring existing rest areas and new truck parking locations were presented. Participants were able to provide comments on each of the reconfigured and new locations. The survey also requested input related to improving truck parking technology in Kentucky. The survey was promoted through the Trucker Path app, previously collected emails, and the KYTC's website and social media. A total of 26 responses were received that provided input on these conceptual layouts: with seven (7) responses from direct email advertising and the remaining 19 from the Trucker Path advertisement.

8.1 On-Line Survey Results

For over a decade, parking availability has been among the trucking industry's top concerns. A four-step process was used to gauge truck parking needs within Kentucky. Ultimately, this analysis identified areas throughout the state with unmet truck parking demand. The goal of the second survey was to gather information from drivers who use these sites or corridors on the functionality of potential parking layouts and circulation improvements.

Conceptual layouts were included for 27 locations across the five corridors (I-65, I-71, I-75, I-64, and other major corridors), and participants were asked to provide feedback to three specific questions for each location. Overall, most participants were comfortable with using the presented designs but felt that additional parking was needed.

Finally, participants were able to provide feedback on aspects of the proposed layouts they liked as well as make suggestions for improvements or proposed changes. The largest concern focused on the use of double stacked parking layouts (**Figure 8-1**), and single stacked parking layouts were preferred instead (**Figure 8-2**). Participants also provided comments focused on the parking lot design, including the need for additional lighting, directional markings, and additional oversized parking spaces, as well as the comments on the overall site features, including the need for better access when exiting the parking area, restroom facilities, wider ramps, and better signage for all truck parking opportunities along a corridor or area. The conceptual layouts were revised, as necessary, based on these comments.

A detailed summary of the feedback and comments for each proposed can be found in **Appendix E**.

Figure 8-1. I-71 Carroll County Closed Parking Area with Double Stacked Parking

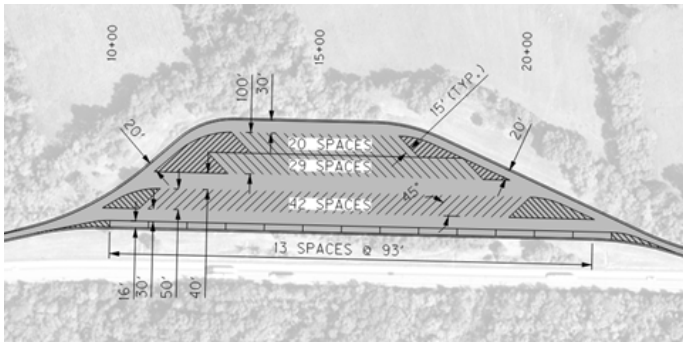
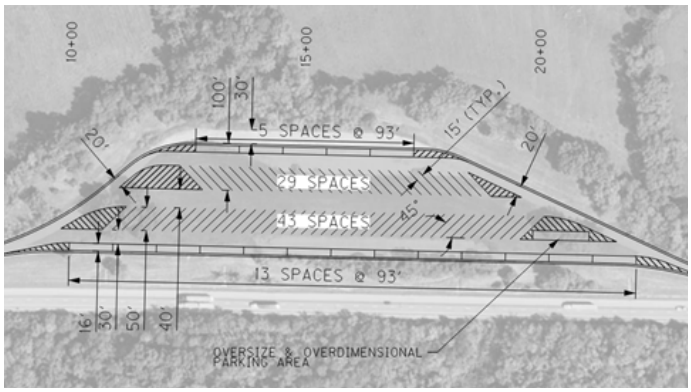


Figure 8-2. I-71 Carroll County Closed Parking Area with Revised Single Stacked Parking



CHAPTER 9
INNOVATIVE SOLUTIONS

The primary goal of the Kentucky Truck Parking Assessment and Action Plan was to identify and plan truck parking expansion in areas of highest need. The commonwealth may not be able to address all areas of need effectively or efficiently by constructing expanded parking within existing state right-of-way. As discussed in **Chapter 5**, some areas of high need may not have sufficient existing right-of-way to allow for efficient parking expansion deployment. In areas without sufficient existing right-of-way, innovative solutions may be utilized as alternatives to physical public truck parking expansion by KYTC. These innovative solutions are technology solutions, public-private partnerships, better utilization of existing parking, roadway project integration, and freight site integration.

9.1 Technology Solutions

9.1.1 TPIMS Expansion

Kentucky is one of eight states participating in the Mid America Association of State Transportation Officials' (MAASTO) Truck Parking Information Management System (TPIMS). The system uses existing Intelligent Transportation Systems (ITS) infrastructure and capabilities, along with emerging vehicle detection and data collection technologies, to monitor the availability of truck parking at over 150 sites across the MAASTO region. The current Kentucky TPIMS utilizes connected, smart cameras to count trucks entering and leaving truck parking areas to keep track, in real-time, of truck parking space availability in each parking facility. Due to occasional camera errors, the available number of spaces in each lot is manually reviewed and updated once daily by the TPIMS operator staff. The real-time truck parking information is shared directly with truck drivers though multiple platforms, including dynamic message signs, on-line navigation tools, private apps, and 511 systems.

While TPIMS can be used to share truck parking availability for public and/or private sector facilities, in Kentucky, the system focuses on public rest stops and weigh stations, with only one private parking facility currently participating. Overall, there are approximately 725 truck parking spaces covered by Kentucky's TPIMS system. **Figure 9-2** shows the locations of the current TPIMs information signs and parking areas that are covered by the existing system.

Figure 9-1. TPIMS Sign on I-65 (Bullitt Co.)

Improvements to the TPIMS system could involve technology upgrades and system expansion. ITS such as TPIMS are only valuable to users when the information provided is accurate and readily available. If drivers observe the counts on the TPIMS signs or on-line data to be inaccurate, they will not trust the information and will ignore the system. The parking availability information should also be provided well in advance of a location so that drivers can plan ahead, but also right before the location, so drivers know whether there are spaces at the facility they are considering entering. The system should also be installed to cover most (if not all) publicly owned truck parking areas along a corridor. Limited coverage is of limited value to truckers attempting to plan a parking stop.

Figure 9-2. Existing TPIMS Signs and Parking Lot Locations

For TPIMS System Expansion the Kentucky Truck Parking Assessment and Action Plan recommends the following expansion priorities.

- **Priority #1**: Install TPIMS in remaining truck parking locations within the I-71, I-75, and I-64 corridors that connect the Louisville, Lexington, and northern Kentucky metropolitan areas. This would include on-site parking occupancy monitoring and reporting, Interstate mainline signs well in advance of the locations, and Interstate mainline signs just prior to the site entrance.
    - I-64 EB: Shelby County Welcome Center (MM 28)
    - I-64 EB: Woodford County Rest Area (MM 60)
    - I-64 WB: Woodford County Rest Area (MM 60)
    - I-71 NB: Oldham County Rest Area (MM 13)
    - I-71 SB: Oldham County Rest Area (MM 13)
    - I-75 NB: Scott County Rest Area (MM 127)
    - I-75 SB: Scott County Rest Area (MM 127)
- **Priority #2:** Install TPIMS systems in newly (re) constructed/expanded facilities. This would include upgraded on-site parking occupancy monitoring and reporting and new Interstate mainline signs a short distance in advance of the site entrance.
- **Priority #3:** Explore the development of TPIMS systems on I-69 as part of the larger corridor development planning process.
- **Priority #4:** Develop partnership with Tennessee DOT to address cross-border TPIMS installation on I-75.
- **Priority #5:** Install TPIMS system along I-24 and I-64 East of Lexington corridors.

To improve TPIMS system reliability and accuracy, it is recommended that KYTC investigate installing enhanced truck parking occupancy sensors in all new or expanded state-owned truck parking facilities. Current parking sensor technology can accurately report truck occupancy and duration (by space) and even vehicle type (if so equipped). A high level of accuracy regarding the number of spaces available is necessary for drivers to trust and use the system.

The current TPIMS system involves determining available parking spaces using a turnstile method by counting trucks entering and exiting the parking area. This type of system typically has the lowest amount of detection equipment required, but any trucks that are missed during entering or exiting can lead to long-term inaccurate parking availability measurements. KYTC should consider installing systems that measure the occupancy of each parking space individually. These systems would provide greater count reliability and flexibility in displaying parking information to drivers. Individual parking space sensors can use infrared, laser, radar, or magnetic technology. Minnesota DOT uses magnetic sensors for its space-by-space system due it its ability to function even when parking areas are covered with ice and snow. However, these ground mounted sensors can be damaged by snow removal equipment. The current industry practice is to utilize pole mounted sensors that are easier to maintain.

Upgrading the TPIMS sensors is one part of upgrading the system's reliability. Another is to provide an effective feedback mechanism for drivers. Currently, if a driver enters a TPIMS network parking area and observes that the actual number available spaces does not match the posted availability, there is no method for them to alert KYTC or KYTC's TPIMS contractor. It is recommended that a sign be posted with information about who to contact if the parking space availability information is not accurate. This could be done with a phone number to call and a QR code for a link to an on-line feedback form.

To communicate space availability more effectively to drivers, it is recommended that a sign with the current parking space availability be installed within one mile of the entrance to each facility. This will confirm for drivers that the lot they are about to enter has (or does not have) spaces available. Then a mobile device app could be used to provide more detailed information such as which portions of the facility have spaces available or even which specific spaces are available (on a map) if that level of information is collected using the new sensor technology. Whatever information is provided must be accurate so drivers can trust the system and know where to find a place to park.

As TPIMS continues to advance and more robust data is collected, KYTC could explore the use of predictive analytics to predict the number of available spaces at a future time when a driver expects to arrive at a facility. TPIMS currently provides real-time truck parking space availability which is useful to a driver that is close to a facility. But when a driver is far away and there is a limited number of available spaces, the driver must

make a calculated decision about what will still be available when they arrive. Predictive analytics using historical and real-time data could be used to estimate availability for future time periods that same day/night.

9.1.2 TPIMS Data Sharing

Another innovative TPIMS based solution that KYTC should consider is additional TPIMS data sharing with private companies, including web-based applications. Many drivers utilize popular smart phone applications, such as Trucker Path, to determine real time parking availability. The parking availability in the apps is based upon driver reports for many sites, including all KYTC owned facilities. As KYTC continues to expand the TPIMS technology, the real time parking availability numbers should be shared with apps like Trucker Path. This would allow drivers to better plan their stops seamlessly within an industry specific app, without having to drive past a TPIMS sign or visit the KYTC TPIMS website.

9.2 Public-Private Partnerships

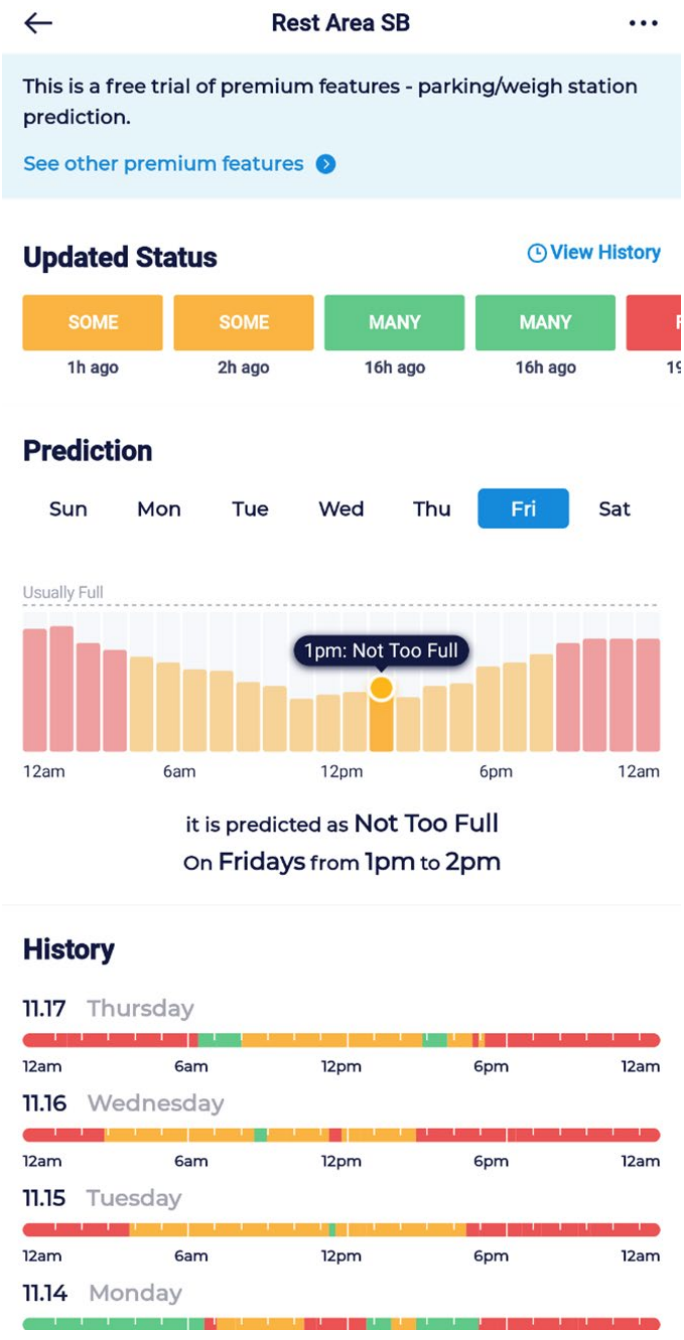
While technological solutions can mitigate truck parking challenges, current demand levels require new and expanded parking capacity. Overcoming this challenge will require increased and sustained investment by the public and private sectors. As noted in **Chapter 5**, public sector parking expansion options are limited, from the state's perspective. Truck parking provides safety, economic, and federal and state regulatory compliance benefits to the public and revenue generation to the private sector.

9.2.1 Indemnification/Insurance Pool

Big box stores and shopping centers have large parking lots which are often underutilized or empty at night. These lots are often identified as a potential opportunity to provide truck parking within an urban or suburban area. These lots are already being utilized by truck drivers in areas where demand is high, and supply is low. Similarly, large parking lots at many freight developments have been identified as potential truck parking opportunities.

While these ideas have significant potential, there are clear issues to their implementation. Concerns regarding safety, security, and lack of amenities are often raised with this type of truck parking activity. The leading issue is the liability created for property

Figure 9-3. Sample Trucker Path Information I-65 Rest Area (Bullitt Co.)



owners by allowing truck parking at their business. These liabilities include illegal or unsafe activity while trucks occupy space within these privately-owned lots that are not primarily oriented toward truck parking. To overcome this issue, options should be explored to limit parking lot owners from the potential risk of allowing trucks to park in their lots. Options could include the creation of an insurance pool to spread the risk and costs associated with ensuring safe

and secure truck parking on the premises of several establishments in close proximity to each other, essentially serving as one large truck parking lot. This could include Assigned Risk coverage where the law mandates that an insurance company offer certain coverages, where insurance companies pool together and accept the assigned risk of truck parking at these retail facilities. Additionally, coordination with local municipal officials will be required to adhere to, or amend, local zoning and ordinance regulations.

9.2.2 Development Agreements

As discussed in Chapter 1, truck drivers, especially long-haul drivers, often desire extensive amenities at the parking locations during overnight stops. These amenities include food, showers, laundry, wi-fi, and other amenities that would be difficult or impossible for KYTC to provide at publicly owned parking facilities. Many of these higher amenity parking facilities are provided by private industry through truck stops. Along some corridors, truck stops have not been developed to meet the current parking need.

To assist with development of parking in these areas, KTYC should consider encouraging public-private partnerships within development agreements. This could include encouraging private developers to build and operate pooled truck parking areas with amenities within or adjacent to industrial development. This type of shared parking would remove the need for on-site, large-scale truck parking/staging at each tenant location, reducing the pavement footprint. Current local land use regulations most often require developments of large, truck-oriented shippers and warehouse/distribution center tenants to have a required number of on-site truck parking and staging area. Pooling the truck parking in one area of a development with multiple truck-oriented tenants would reduce the need for large, paved surface areas at each site, create efficiencies and a reduced truck parking/staging footprint, while providing truck parking needs within close proximity to truck origins and destinations for more consistent delivery/pick up window arrivals. Coordination and information sharing between the commonwealth and local municipal officials will be necessary to identify those existing or planned developments where pooled truck parking is feasible, and the truck parking need those developments could and should address. If public land is available, this option could also include leasing commonwealth owned land to developers to build and operate a pooled truck parking area. Coordination with local municipal officials will be required to adhere to, or amend, local zoning and ordinance regulations. Another possible public-private partnership truck parking solution is an agreement type similar to tolled express lane agreements utilized on interstate corridors in metropolitan areas in the United States. Additional review into legal compatibility for this agreement type with existing laws, with respect to truck parking, is required. In these agreements a concessionaire is allowed to build and operate express lanes along an interstate corridor and collect electronically monitored tolls for vehicles travelling along the corridor. It may be possible to create a similar agreement type to charge trucks an electronic toll to park in a newly constructed parking area along an interstate corridor. The new parking areas would be designed, built, and operated by the concessionaire on an agreed term and returned to the state at the end of that term.

9.3 Existing Infrastructure Utilization

Another fast and cost-effective method for truck parking expansion is better utilization of existing commonwealth infrastructure. Between existing parking areas and underutilize right-of-way, KYTC has opportunities to expand parking capacity without purchasing land or signing agreements with developers.

9.3.1 Truck Parking Reconfiguration

As stated in Chapter 3, KYTC owns and maintains approximately 1,050 truck parking spaces across rest areas, welcome centers, and weigh station rest havens. Based upon historic construction plans and site measurements, truck parking spaces at KYTC sites are typically 15-feet wide. These spaces are typically oriented at 30-, 45-, or 60-degrees in a pull-through arrangement. Site measurements for truck parking spaces at private truck stops are typically 12-feet wide and oriented at 90-degrees in a back-in or double-stack arrangement. A reduction of the KYTC truck parking spaces from 15-feet to 12-feet through restriping would result in up to 25% more truck parking spaces per parking area. A change in truck parking space orientation will not be possible at most facilities due to the existing entrances, exits, and parking aisle

widths. It should be noted that a reduction in truck parking space width will make parking spot ingress and egress more difficult and may result in more slow speed truck crashes in the facilities.

9.3.2 Rest Haven Utilization

KYTC has invested in construction of numerous truck parking spaces at weigh stations with rest haven facilties. With the presence of Kentucky State Police and Vehicle Enforcement officers at the facilities, the Truck Parking Assessment and Action Plan results showed that overcapacity parking and parking on ramps does not occur. However, the Stakeholder Engagement Survey 1 also gathered comments that some drivers avoid parking at rest havens due to negative interactions with Vehicle Enforcement officers, including being subject to additional inspections while parked at the rest haven and being required to pass over the scale both entering and exiting the facility. It is recommended that Kentucky State Police and Vehicle Enforcement officers be requested to be more hands-off with trucks parked in rest havens. Additionally, it has been noted that some rest havens are occasionally used for commercial driver testing conducted by Kentucky State Police and Vehicle Enforcement officers. This testing area often blocks numerous parking spaces, potentially requiring a driver to utilize an unauthorized parking location. It is recommended that rest haven locations not be utilized for driver testing or other activities that block parking spaces.

9.3.3 Unusual Right-Of-Way

All current KYTC owned truck parking areas are in additional right-of-way adjacent to interstates or parkways. Most of these parking areas are also located at least a mile away from the nearest interchange. To construct new parking areas within existing right-of-way unusual right-of-way areas will need to be considered, especially to construct parking areas that can accommodate 20 or more trucks. These unusual right-of-way areas may include interstate or parkway medians or surplus infield areas at interstate or parkway interchanges. Planning and construction of parking areas in these unusual right-of-way areas will require additional coordination with KYTC Highway Design and FHWA due to access control concerns. Additionally, geotechnical and environmental investigations should be completed on any considered interstate or parkway median areas, as often the roadway has been required to bifurcate these areas due to roadway stability concerns.

9.4 Roadway Project Integration

Many high priority truck parking need areas are located along highways where KYTC is already planning improvements. These improvements could include widening, a new interchange, roadway realignment, or other upgrades. Another potential truck parking solution would be for KYTC to actively consider the integration of additional truck parking into all future interstate and parkway improvement projects, especially those that would involve the acquisition of additional right-of-way. At I-75 Exit 175 in northern Kentucky, a TA Truck Stop was removed as part of an interchange reconstruction and widening project for KY-338. Following completion of the roadway work, the parking area of the TA Truck Stop will be reconstructed to be larger than before its removal.

One current project where this could be implemented is on the I-69 Ohio River Crossing (ORX) project. This project is realigning US 41 at Henderson to allow for the future I-69 corridor to cross the Ohio River into Indiana. The existing US 41 alignment has a truck rest haven with 35 parking spaces that will be closed following the project. This realignment could be designed to accommodate the truck parking needs for the area and the northern portion of the I-69 corridor. This would allow for sufficient right-of-way along the new alignment to be purchased to allow for truck parking and other needed facilities, including a new weigh station, to be constructed along with the other new roadway infrastructure. This is currently being implemented on I-65 in Hardin County. The existing weigh station with limited overnight truck parking (six spaces) is being removed due to the construction of a new interchange. The replacement weigh station is being constructed further south, but its preliminary design includes over 100 truck parking spaced with dedicated driver restroom facilities.

Similarly, the Purchase Parkway interchange upgrades that are planned for the southern end of the future I-69 corridor (required for the interstate redesignation) could be designed to include the parking needed in the southern portion of the I-69 corridor. This same approach could be used as the Mountain Parkway is expanded or as widening projects are completed on I-64 and I-75.

9.5 Freight Site Integration

Truck parking needs are generated by trucks moving freight that both passes through Kentucky and freight with an origin or destination in Kentucky. As new freight-generating businesses are opened and operated in the state, truck parking demand across the state will continue to grow. One innovative solution for improving truck parking would be to develop a method to require new freight-generating businesses to build truck parking facilities on or near their property. Due to insurance and security concerns, not all freight-generating businesses allow overnight truck parking at their facilities. One alternative would be combined off-site truck parking areas shared between multiple businesses. These sites could be operated and maintained by third party companies hired by the freight-generating businesses. Although restrictions may be placed on their use, any additional truck parking spaces available in the state would be useful.

Typically, car parking space minimums are coded as part of local zoning requirements. It is possible that cities in Kentucky could add similar requirements regarding truck parking to their local industrial zoning requirements. Another option that could be utilized would be the establishment of an improvement district that would require the owners or operators of warehouses to pay fees assessed by warehouse square footage into a pooled fund. The fund would be used to construct, operate, and maintain truck parking to serve truck parking demand created by the warehouse area. These options are a local issue that would be outside of KYTC control.

Many new freight generators in Kentucky (and other states) receive state support, often in the form of tax breaks and other financial benefits. These new freight generators include inland ports and major industrial sites. One method for securing at least a minimum number of on-site truck parking spaces would be to make it a condition of the financial support provided by the state.

CHAPTER 10
ACTION PLAN

10.1 Introduction

10.1.1 Connection Between Recommendations and Agency Goals

A key goal of the Kentucky Truck Parking Assessment and Action Plan was to identify and quantify the current truck parking needs. Using this information, the Assessment and Action Plan prioritized capacity expansion sites that could help address these needs with an emphasis on sites that could be implemented quickly because they were owned by the state and had few identifiable risks or barriers. The Action Plan provides an executable plan to develop those sites and to implement other supporting actions. It provides recommended actions for KYTC to follow and implement during each biennium period.

10.1.2 Prioritization

The truck parking capacity expansion projects and other recommended actions were prioritized based on the assessment results as well as discussions with KYTC Central Office and Highway District staff as well as FHWA staff. These results include the truck parking need prioritization, the area development score, the development priority score, and conceptual level design results. The goal of this Action Plan is to have the top 10 capacity expansion sites designed and construction funded through the next three biennium. The expansion site at the Boone County Rest Area has been divided into two projects for the Action Plan. This results in a total of 11 sites. Of those 11 sites, at least seven should be constructed during that time. A summary of the 11 sites and their proposed deployment group is in **Table 10-1**.

Meeting this goal would result in the addition of approximately 700 new truck parking spaces across the Commonwealth, alleviating approximately 40% of the current parking supply deficiency. The construction costs for each of the capacity expansions have been inflated to the year of expenditure at the 2023 anticipated inflation rate (4.4%). The parking expansion would be in addition to an expansion of the TPIMS to allow for more efficient utilization of existing truck parking spaces. Prioritization was broken into three categories by current and upcoming biennium. More prioritization details are included in the Action Plan schedule tables in **Section 10.2**.

Table 10-1. Top Priority Parking Expansion Facility Summary

Group	ID	Route	MP	County	Construction Cost Estimate (2022)	Existing Capacity	Proposed Capacity
1	**175**	I-71	13.0	Oldham	$8,300,000.00	26	131
1	**217**	I-64	60.4	Woodford	$5,910,000.00	26	91
1	**230A**	I-75 NB	176.8	Boone	$3,710,000.00	54	103
1	**230B**	I-75 SB	176.8	Boone	$8,800,000.00	94	173
2	**29**	I-24	54	Lyon	$15,900,000.00	0	252
2	**152**	I-65	113.3	Bullitt	$2,710,000.00	28	80
2	**206**	I-71	51.3	Carroll	$11,350,000.00	0	166
2	**302**	I-75	2.0	Whitley	$2,860,000.00	35	65
3	**83**	I-65	0.5	Simpson	$2,280,000.00	32	76
3	**254**	I-75	127.2	Scott	$4,260,000.00	91	158
3	**100B**	I-65	41.5	Warren	$6,860,000.00	0	57

10.1.2.1 2022-2024 Biennium: Focusing on Immediate Needs

Short-term actions are listed in the 2022-2024 Biennium table below. Kentucky's 2022-2028 Enacted Highway Plan (Six Year Plan) was officially approved on June 27, 2022. Within that enacted plan, four truck parking expansion projects were included. Those specific projects do not align with the prioritized needs identified through this assessment. The short-term actions will involve reallocating the approved highway fund projects to align with this assessment. Once this is completed, four truck parking expansion locations, Group 1, can be designed and ready for construction in the next biennium (2024 – 2026). Two priority TPIMS expansion projects are also recommended during the current biennium. Efforts to secure funding for these projects will need to start immediately, as funding is not currently set aside in Kentucky's 2022-2028 Enacted Highway Plan (Six Year Plan). This makes grant funding a more likely source of funding for these TPIMS expansion projects. Work should also begin to secure dedicated funding for TPIMS projects in next biennium (2024-2026).

10.1.2.2 2024-2026 Biennium: Leveraging Opportunities

Medium-term actions are listed in the 2024-2026 Biennium table below. The process for developing the next round of Kentucky's 2024-2030 Enacted Highway Plan (Six Year Plan) will start in early 2023, so it is key that actions be taken soon to ensure that medium term goals can be met. The medium-term actions will involve securing construction funding for the Phase 1 projects that are being designed in the 2022-2024 Biennium. Additionally, design and utility work should be completed for the second round of capacity expansion, Group 2. The next two priority TPIMS expansion projects should be deployed during this period as well.

10.1.2.3 2026-2028 Biennium: Planning for Future Growth

Long-term actions are listed in the 2026-2028 Biennium table below. These actions involve starting the development of the remaining top 11 parking expansions, Phase 3. It will also involve construction of the Phase 2 expansion sites. Additionally, the long-term actions should include an update to the Kentucky Truck Parking Assessment and Action Plan to reevaluate the truck parking needs and priorities beyond the top 11 priority expansions. The final two priority TPIMS expansion projects should also be deployed during this period.

10.2 Action Plan

Table 10-2. 2022-2024 Biennium

Capital Project Actions			
Strategy	**Location**	**FY 2023**	**FY 2024**
Design Group 1: I-75 SB Rest Area MP 176.8	Boone County	$1.0m	
Design Group 1: I-75 NB Rest Area MP 176	Boone County	$0.5m	
Design Group 1: I-71 NB/SB Rest Area MP 13.0	Oldham County		$1.0m
Design Group 1: I-64 EB/WB Rest Area MP 60	Woodford County		$1.0m
Utility Group 1: I-75 SB Rest Area MP 176.8	Boone County		TBD
Utility Group 1: I-75 NB Rest Area MP 176	Boone County		TBD
Utility Group 1: I-71 NB/SB Rest Area MP 13.0	Oldham County		TBD
Utility Group 1: I-64 EB/WB Rest Area MP 60	Woodford County		TBD
Secure Construction Financing for Group 1			$31.3m
Secure Financing for D and U Group 2			$3.5m+TBD
Innovative Technology Actions			
Strategy	**Location**	**FY 2023**	**FY 2024**
Secure Funding for TPIMS install Projects 1-3			X
Policy and Programming Actions			
Strategy	**Location**	**FY 2023**	**FY 2024**
Coordinate reallocation of Highway Plan truck parking projects		X	
Coordination with District Offices and Central Office		X	X
Consider additional TPIMS data sharing policy			X
Progress potential insurance pool policy			X
Progress potential development agreements			X

Table 10-3. 2024-2026 Biennium

Capital Project Actions			
Strategy	**Location**	**FY 2025**	**FY 2026**
Construct Group 1: I-75 SB Rest Area & Expand TPIMS	Boone County	$10.0m	
Construct Group 2: I-75 NB Rest Area & Expand Existing TPIMS	Boone County	$4.6m	
Construct Group 1: I-71 NB/SB Rest Area & Install TPIMS	Oldham County		$9.7m
Construct Group 1: I-64 EB/WB Rest Area & Install TPIMS	Woodford County		$7.0m
Design Group 2: I-65 SB Rest Area MP 113	Bullitt County	$0.5m	
Design Group 2: I-75 NB Rest Area MP 2.0	Whitley County	$0.5m	
Design Group 2: I-71 NB/SB Rest Area MP 51	Carroll County	$1.0m	
Design Group 2: I-24 EB/WB Rest Area MP 54	Lyon County	$1.5m	
Utility Group 2: I-65 SB Rest Area MP 113	Bullitt County		TBD
Utility Group 2: I-75 NB Rest Area MP 2.0	Whitley County		TBD
Utility Group 2: I-71 NB/SB Rest Area MP 51	Carroll County		TBD
Utility Group 2: I-24 EB/WB Rest Area MP 54	Lyon County		TBD
Secure Construction Financing for Group 2			$37.1m
Secure Financing for D and U Group 3			$2.0m+TBD
Innovative Technology Actions			
Strategy	**Location**	**FY 2025**	**FY 2026**
Project 1: Expand TPIMS on I-71	Statewide	X	
Project 2: Expand TPIMS on I-75	Statewide	X	
Project 3: Expand TPIMS to I-64 Rest Areas	West of Lexington		X
Secure Funding for TPIMS install Projects 4-6			X
Policy and Programming Actions			
Strategy	**Location**	**FY 2025**	**FY 2026**
Study Potential Expansion of TPIMS on I-69		X	
Evaluate the effectiveness of Group 1 facilities			X

Table 10-4. 2026-2028 Biennium

Capital Project Actions			
Strategy	**Location**	**FY 2027**	**FY 2028**
Construct Group 2: I-65 SB Rest Area & Expand Existing TPIMS	Bullitt County	$3.3m	
Construct Group 2: I-75 NB Rest Area & Expand TPIMS	Whitley County		$3.2m
Construct Group 2: I-71 NB/SB Rest Area & Install TPIMS	Carroll County	$14.7m	
Construct Group 2: I-24 EB/WB Rest Area & Install TPIMS	Lyon County		$15.9m
Design Group 3: I-65 NB Rest Area MP 1	Simpson County	$0.5m	
Design Group 3: I-75 NB/SB Rest Area MP 127	Scott County	$0.5m	
Design Group 3: I-65 NB Rest Area MP 41	Warren County	$1.0m	
Utility Group 3: I-65 NB Rest Area MP 1	Simpson County		TBD
Utility Group 3: I-75 NB/SB Rest Area MP 127	Scott County		TBD
Utility Group 3: I-65 NB Rest Area MP 41	Warren County		TBD
Secure Construction Financing Group 3			$18.0m
Innovative Technology Actions			
Strategy	**Location**	**FY 2027**	**FY 2028**
Project 4: Coordinate with TDOT on Cross-Border TPIMS on I-75	Tennessee	X	
Project 5: Expand TPIMS to I-64 Rest Areas	East of Lexington		X
Project 6: Expand TPIMS to I-24 Rest Areas	Statewide		X
Policy and Programming Actions			
Strategy	**Location**	**FY 2027**	**FY 2028**
Update Truck Parking Assessment and Action Plan		X	
Evaluate the effectiveness of Group 2 facilities		X	

10.3 Funding Options

10.1.1 10.3.1 Funding Streams

State Highway Plan

The most common funding source for truck parking expansion will be through Kentucky's 2022-2028 Enacted Highway Plan (Six Year Plan). These funds are dedicated by a process involving both KYTC and the Kentucky General Assembly. State Highway Plan funding can be used for planning, design, right-of-way, utility, and construction phases of the projects. Two additional funding streams recommended for truck parking projects are listed below.

Dedicated Project Funding

Most of the projects in the State Highway Plan are dedicated projects. These projects can be added to the State Highway Plan with consideration by KYTC Central Office, KYTC District Offices, MPO's, ADD's and even Legislators through the legislative process. Once identified as a potential project, these project ideas are evaluated through the Strategic Highway Investment Formula for Tomorrow (SHIFT) process, which is a data driven, objective approach to compare capital improvement projects and to prioritize limited transportation funds. This prioritization is used, along with additional input from KYTC leadership and legislative members, to determine the final projects included in the Governor's Recommended State Highway Plan. The General Assembly ultimately approves the projects and funding resulting in Kentucky's 2022-2028 Enacted Highway Plan (Six Year Plan). It is recommended that dedicated project funding be used as the most heavily relied upon funding source for truck parking projects.

Z Various Line Funding

An alternative to dedicated project funding within the State Highway Plan is Z Various line funding. Z Various funds in the State Highway Plan address programmatic needs and commitments and are designed to allow flexibility in implementing the highway program. This funding mechanism allows for a set amount of funding that is not dedicated to specific projects but instead to a general type of project. This funding could be overseen by the KYTC Division of Planning and dedicated as needed to deploy the truck parking expansions as quickly and efficiently as possible. It is understood that this type of funding mechanism can be more difficult to get approved in Kentucky's 2022-2028 Enacted Highway Plan (Six Year Plan) due to the non-project specific nature.

National Highway Freight Program (NHFP) Funding

Kentucky expects to receive approximately $23.5 million to $25.0 million annually in Federal National Highway Freight Program (NHFP) funding through Federal fiscal year 2026. The purpose of these funds is to "improve the efficient movement of freight on the National Highway Freight Network (NHFN)." Key program goals include:

- Investing in infrastructure and operational improvements that strengthen economic competitiveness, reduce congestion, reduce the cost of freight transportation, improve reliability, and increase productivity;
- Improving the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas;
- Using innovation and advanced technology to improve NHFN safety, efficiency, and reliability;
- Improving the efficiency and productivity of the NHFN;
- Source: https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nhfp.cfm

The NHFP goals are well aligned with KYTC's truck parking program goals and objectives. The highest priority truck parking capacity expansion sites and TPIMS upgrade sites are located on the NHFN. Therefore, NHFP funding could be used to implement (in whole or in part) the truck parking improvement program in Kentucky. Kentucky's NHFP funds are programmed into the State Highway Plan for specific projects. If these funds were to be used for truck parking, the projects would need to be in the Enacted State Highway Plan and the freight funds would need to allocated to those projects. In addition, the Kentucky State Freight Investment Plan, which is part of the Kentucky State Freight Plan, would need to be updated to include the truck parking projects.

Carbon Reduction Program Funding

The 2021 Bipartisan Infrastructure Law (BIL), also known as the Infrastructure Investment and Jobs Act (IIJA), included a major new program called the Carbon Reduction Program (CRP). This program provides funds for projects designed to reduce

transporation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources. The program specifically calls out truck parking as an eligible project type. This could include both new truck parking capacity and technology projects, such as TPIMS. Kentucky is estimated to receive approximately $112 million over the five years of the current program (FY 2022 through FY 2026). It would be beneficial for KYTC to coordinate with the MPOs across the state on how these funds could be spent to advance the truck parking program.

While many federal funding sources could be used to support truck parking, this program is notable because it is new, it specifically mentions these project types, and it includes a substantial amount of new funding for the state.

Highway Safety Improvement Program Funding

The Federal Highway Administration (FHWA) has a dedicated federal-aid program with the purpose of reducing traffic fatalities and serious injuries on all public roads. The KYTC program is run through the Highway Safety Improvement Program (HSIP) branch. Funding from the HSIP program is spent on analysis, design, utilities, right-of-way, and construction for safety projects. As the construction of truck parking expansions are expected to result in a reduction in parked truck crashes, these expansions would be considered appropriate for HSIP funding. It should be noted that truck parking is not a recognized safety issue in the 2022 Kentucky Highway Safety Plan , a controlling document for HSIP funding allocation, nor a safety emphasis area in Kentucky's 2020 – 2024 Strategic Highway Safety Plan . It is recommended that the KYTC Division of Planning coordinate with the HSIP branch to evaluate the inclusion of parked truck crashes as a safety issue to be addressed as a part of future Strategic Highway Safety Plan updates.

Metropolitan Planning Organization Funding

For truck parking expansion sites that occur close to urbanized areas in the commonwealth, federal Metropolitan Planning Organization (MPO) funding is another possible funding source or funding support for parking expansion projects. There are nine MPOs representing 18 counties in Kentucky. Each of these MPOs has a federally mandated Transportation Investment Plan (TIP) which lists all projects within the MPOs boundary out to a four-year horizon. KYTC is a member of these MPOs and has the ability to influence the prioritization of funding to truck parking projects.

Potential U.S. Congressional Legislation

The Truck Parking Safety Improvement Act (TPSIA) was introduced in both the U.S. House of Representatives (H.R. 2187) and the U.S. Senate (S. 5169) in 2022. TPSIA would have provided $755 million over five years in discretionary grant funding for truck parking nationally. The federal share of projects funded under this legislation was proposed to be up to 100%. Additionally, up to 10% of the funds could be used for marketing, maintenance, and operations for existing truck parking facilities. That bill did not pass during the 117th Congress, but it is being discussed again in the 118th Congress.

Another bill being considered is the Safer Highways and Increased Performance for Interstate Trucking Act, or SHIP IT Act. Legislation with this name was introduced in the 117th Congress as H.R. 7456 and S. 3807, but those bills did include funds for truck parking. The legislation has been re-introduced in the 118th Congress as H.R. 471. This legislation appears to include a similar level of funding as the TPSIA for truck parking, nearly $800 million through 2026). Should either of these bills (TPSIA or SHIP IT) become law they would open up grant funding opportunities for Kentucky. With the Truck Parking Assessment and Action Plan in place, Kentucky would be well positioned to pursue those funds to help fill the truck parking gap in the state.

10.3.2 Match Funding Streams to Projects

A potential secondary funding source for truck parking expansion are match funding streams. These streams would largely include federal grant programs. Following passage of the BIL, there are many available grant programs that could be utilized to fund or contribute to the funding of truck parking expansion.

- Infrastructure for Rebuilding America (INFRA) Grants
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grants
- Rural Surface Transportation Grants
- National Infrastructure Project Assistance (Mega) Grants

- Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) Discretionary Grant Program
- Advanced Transportation Technologies and Innovative Mobility Deployment (ATTIMD) Program
- Federal Motor Carrier Safety Administration High Priority Innovative Technology Development (HP-ITD) Grants Program (ITS projects only)
- Reduction of Truck Emissions at Port Facilities Program

Many of these grants will require a state funding match of between 20% and 50%. Additionally, for some grants, adjustments to plans, such as the Kentucky Freight Plan, may be required to make truck parking expansion eligible for grant funding.

10.3.3 Funding Streams for Each Project

The funding streams for each project will be ranked by order of recommended preference.

Parking Expansion Projects

1. Z Various Line Funding
2. Dedicated Project Funding
3. NHFP Funding
4. HSIP Funding
5. Grant Funding
6. CRP Funding

TPIMS Expansion Projects

1. Grant Funding
2. Z Various Line Funding
3. NHFP Funding
4. Dedicated Project Funding
5. CRP Funding

10.4 Next Steps

The next steps for executing the Action Plan will start almost immediately to begin executing the short-term actions. The following steps should be taken upon initiation of the Action Plan.

1. Coordinate with KYTC leadership the reallocation of Kentucky's 2022-2028 Enacted Highway Plan (Six Year Plan) truck parking projects (5-578, 5.579, 11-179, 11-180) to the four Phase 1 priority projects.
2. Coordinate truck parking expansion with each KYTC District
    a. Transmit copy of Kentucky Truck Parking Assessment and Action Plan to district chief engineer, planning supervisor, and design manager.
    b. Discuss with district staff potential dedicated projects for inclusion in State Highway Plan, specifically those in Phase 2 and Phase 3 of Action Plan.
3. Discuss with KYTC leadership about obtaining Z Various Line funding for truck parking expansion in the 2024 State Highway Plan.
4. Discuss with KYTC leadership, KYTC district staff, and MPO staff opportunities for allocating CRP funds to truck parking capacity or technology projects.
5. Coordinate with HSIP Branch to discuss revisions to Kentucky Highway Safety Plan to allow for truck parking expansion to be eligible for HSIP funding.

HDR

TAYLOR SIEFKER WILLIAMS design group

ATRI American Transportation Research Institute

CCS