OSOW Support for MAASTO SCOHT and MCC

MID-AMERICA FREIGHT COALITION

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About the Mid-America Freight Coalition (MAFC)

The industries and farms of the Mid-America region can compete in the marketplace only if their products can move reliably, safely and at reasonable cost to market.

State Departments of Transportation play an important role in providing the infrastructure that facilitates movement of the growing amount of freight. The Mid-America Freight Coalition was created to support the ten states of the Mid America Association of State Transportation Officials (MAASTO) region in their freight planning, freight research needs and in support of regional multi-state collaboration.

www.midamericafreight.org

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Locating truck parking facilities is becoming more difficult for truck operators. The operator must contend with the competition for spots, allow for personnel rest needs, maintain hours of service compliance, and ensure safety in their operations. Various studies have shown that truck parking demand often exceeds the available supply of valid parking locations. These problems escalate further with the parking of oversize and overweight trucks, which require larger space, better access, and acceptable pavement. The purpose of this project is to develop a MAASTO state-by-state and regional inventory of available public truck and OSOW truck parking sites. Importantly, parking locations near or at state lines are of very high relevance since such locations provide a holding area for OSOW loads that must wait for daylight to enter the state, or when an agency requires local authorities to provide an escort.

The inventory includes public truck parking facilities: in-state parking areas, state-line parking within the MAASTO region, and state-line facilities that serve non-MAASTO states. The MAASTO SCOHT and representatives of the MCC provided data, oversight, and concurrence on the identified parking locations. This effort supports collaboration across the MAASTO states, the development of multi-state corridors, and provides for increased safety of truck drivers and the traveling public.

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1. INTRODUCTION

Locating available parking at truck parking facilities is becoming more difficult for truck operators. Operators must contend with the competition for parking spaces, allow for personnel rest needs, maintain hours of service compliance, and ensure safety in their operations. Various studies have shown truck parking demand often exceeds the available supply of valid parking locations. These problems escalate with the parking of oversize and overweight (OSOW) trucks, which have specific needs (such as larger space, and better access). The purpose of this project is to develop a Mid America Association of State Transportation Officials (MAASTO) state-by-state and regional inventory of available public truck and OSOW truck parking sites. Due to state regulations that often require OSOW trucks to be escorted by local authorities during daylight hours, parking locations near or at state lines are of very high relevance because such locations provide a holding area for OSOW loads that must wait for daylight to enter the state.

The inventory will include all public truck parking facilities: in-state parking areas, state-line parking within MAASTO region, and state-line facilities that serve non-MAASTO states. The MAASTO SCOHT and representatives of the Motor Carrier Committee (MCC) provided data, oversight, and concurrence on the identified parking locations. This effort supports collaboration across the MAASTO states, the development of multi-state corridors, and provides for increased safety of truck drivers.

Project Objective

The main objective of this study is to review parking facility information available for OSOW and general truck operators across the MAASTO states and provide a consolidated summary. As part of the study, an inventory of OSOW and general public parking locations across the MAASTO region was created, focusing on locations near state lines (stops closest to state border while within 20 miles, and all stops within 10 miles from border). In addition, the report outlines the most common regulations with respect to OSOW truck operation within each state. The study also identifies gaps in information currently available to truck drivers and operators, and the directions that can be explored in order to improve these resources.

Summary of Methodology

In order to create an inventory of OSOW parking and regulations, we solicited the help of the Mid America Association of State Transportation Officials Subcommittee on Highway Transport (MAASTO SCOHT) and the MAASTO Motor Carrier Committee (MCC). This was done through email surveys of resources that the state Departments of Transportation (DOTs) host with respect to OSOW parking options. The survey revealed that while some states have had internal talks of addressing OSOW specific parking, none of the states currently recognize any specific sites as OSOW parking locations. Instead, OSOW truckers are expected to park in regular truck parking locations, occupying more than a single marked spot if needed.

The methodology for the study was changed accordingly to instead create an inventory of public rest areas and welcome centers across the ten MAASTO states that offer truck parking near state borders along major freight corridors. State border parking locations are of high interest to OSOW truck drivers as they provide holding areas for trucks as they wait for daylight, or for authorized escorts where required. In addition, we provide maps for all public rest areas for each state as made available by the respective state agency as Appendix A.

Organization of the Report

The main body of the report is organized as follows:

- Section 2 presents a literature review for relevant past studies on OSOW truck parking needs.
- Section 3 discusses the OSOW limitations and regulations with regards to the ten MAASTO states. This section further provides information on various resources available through the state DOT websites.
- Section 4 presents public truck parking information by each MAASTO state.
- Section 5 presents parking information by major multi-state freight corridors within the MAASTO region.
- Section 6 presents a discussion of findings from the study.
- Conclusions are presented in Section 7.
- Appendix A presents figures showing the complete rest area maps provided by each state on the appropriate websites.

2. LITERATURE

Over the years there have been numerous efforts directed towards addressing truck parking issues across the country. These have included studies on assessing the balance between parking availability and demand, addressing issues related to shortage of truck parking facilities, improving utilization at facilities using technology, making information on parking availability readily available to drivers and freight operators, and addressing issues related to the condition and maintenance of parking facilities.

In 2002, the Federal Highway Administration (FHWA) conducted the "Study of Adequacy of Commercial Truck Parking Facilities" (1) in response to the Transportation Equity Act for the 21st Century (TEA-21), Section 4027. The research aimed to investigate the adequacy of commercial truck parking facilities serving the National Highway System (NHS). The study included: (i) a national assessment of parking shortages; (ii) surveys to identify drivers' parking related needs and preferences; and (iii) development of technical guidance for stakeholders in public and private sectors.

The FHWA researchers developed and calibrated a model to estimate truck parking demand. The results revealed that estimated peak-hour demand for truck parking spaces was approximately 287,000 spaces for NHS routes carrying more than 1,000 trucks per day, and parking demand was expected to increase 2.7% annually. The research compared the demand estimation with the existing parking capacities for each state and showed the shortage for truck parking space in terms of demand/supply ratio. Three categories were used to indicate the situation; "Surplus (the number of parking spaces available is likely to exceed the peak demand)", "Sufficient (the peak demand and the supply of parking spaces are nearly the same)", and "Shortage (overcrowding is likely)". The study results relevant to MAASTO states are presented in Table 2-1 showing public rest areas, and private truck parking locations.

Table 2-1: Parking space utilization for MAASTO region: Demand/supply ratio along interstates and other NHS routes carrying more than 1,000 trucks per day (adopted from (1)) [2002 data].

State	Public Rest Area		Commercial Truck Stop		Total	
	Ratio	Category	Ratio	Category	Ratio	Category
Illinois	2.63	Shortage	1.16	Shortage	1.33	Shortage
Indiana	1.77	Shortage	0.99	Sufficient	1.10	Shortage
Iowa	0.86	Surplus	0.44	Surplus	0.50	Surplus
Kansas	1.24	Shortage	0.44	Surplus	0.51	Surplus
Kentucky	2.23	Shortage	1.03	Sufficient	1.17	Shortage
Michigan	0.81	Surplus	0.69	Surplus	0.72	Surplus

Minnesota	1.63	Shortage	0.65	Surplus	0.75	Surplus
Missouri	4.28	Shortage	0.72	Surplus	0.89	Surplus
Ohio	2.35	Shortage	0.96	Sufficient	1.12	Shortage
Wisconsin	0.97	Sufficient	0.35	Surplus	0.41	Surplus

Another effort to address the shortage of truck parking space was conducted by National Cooperative Highway Research Program (NCHRP) in 2003, titled “Dealing with Truck Parking Demands” (2). The research showed public rest areas were initially designed to provide temporary rest areas for traveling public, but they were currently serving as long-term parking locations for long-haul commercial drivers. Not surprisingly, this resulted in significant overcrowding in truck parking spaces. Through an evaluation of supply and demand for truck parking spaces, the research recommended efforts for increasing truck parking space supply would be required. The researchers offered several strategies towards the goal, including (i) expanding or improving public rest areas, (ii) educating or informing drivers about available spaces, and (iii) making better use of the private sector and private truck spaces.

More recently in 2012, additional research was conducted by FHWA on “Commercial Motor Vehicle Parking Shortage” (3). The research was mainly aimed at confirming and updating previous studies on parking demand (e.g., (1)). The 2012 results showed truck parking shortages remained highly relevant nationally, and shortages were expected to increase with growth in demand for the trucking industry unless utilization of schedules and real time information provided a more balanced demand. Additionally, the research showed investment in parking capacity was required. Researchers recommended strategies from a prior report, such as creating public-private partnerships, were still relevant and necessary to provide additional parking capacity where needed.

In August 2015, the National Coalition on Truck Parking (Coalition) was established by the U.S. Department of Transportation (USDOT) and several other stakeholder organizations. The Coalition was formed as a response to the need for truck parking solutions documented in earlier studies. An activity report created in 2017 (4) summarized findings and the plans drawn out for public-private partnership efforts to improve parking availability nationally.

In addition to national efforts, various states (both within MAASTO, and other states) have conducted studies on truck parking conditions. The Kansas Turnpike Authority and Kansas DOT conducted the “Kansas statewide freight network truck parking plan” study in 2016 (5). The study found that drivers were spending up to 30 minutes, or nearly 5% of their allowable daily driving time, searching for parking, which creates a substantial overhead on cost efficiency and thus economic competitiveness for freight companies and affected industries. Other noteworthy findings identified truck operators were often forced to prioritize hours of service compliance over finding available truck parking space. Due to shortages of available parking, truck operators often parked in places not suitable for long-term truck parking, such as side roads, shoulders, and ramps. The study found that most large legal parking facilities near urban areas, state borders, or intersections of major highway-to-highway connections were at or over capacity on a regular basis. Another important observation was that the money needed for truck parking expansions far exceeded available funding.

3. LEGAL LIMITS AND OSOW REGULATIONS

While there is some consistency in definitions of commercial vehicle legal limits on size and weight, each state may define its own limits. Further, each state may have unique guidelines on regulations such as the need for escort vehicles, display flags and lightings for OSOW loads. In this section regulations across MAASTO states are compared and the differences are highlighted. The information set forth can be especially useful for trucks operating on multi-state corridors where operators / drivers need to be aware of regulation differences between states. Potential truck parking impacts related to the variances in state regulations can affect the need for parking at state borders for staging, access issues due to design or location of lots, and the overall availability of truck parking spaces. In the first subsection, the legal limits are presented across the ten MAASTO states. The second subsection provides OSOW regulation resources available through state DOTs, examines each state independently, and highlights escort, flag, and signage requirement observed by each state.

Legal Limits

Each state defines legal limits on dimensions and loads of trucks based on vehicle type that can be operated without requesting OSOW permits. Table 3-1 and Table 3-2 list the permitted legal limits allowed on interstate highways. While these limits are applicable to most situations, states may independently have exceptions or more restrictive limits based on the type of load and seasonal conditions. For such specific situations, it is best to refer to the state DOT's information page, as covered in the subsequent section. Cells marked with a hyphen in the tables below represent dimensions for which legal limits are not formally provided by state DOT. MAASTO SCOHT maintains a matrix of weight and dimension limits on its website with more specific details (6).

Table 3-1: Legal dimension restrictions by MAASTO state on Major Highways.

Dimension		IL	IN	IA	KS	KY	MI	MN	MO	OH	WI
Width		8'6"	8'6"	8'6"	8'6"	8'6"	8'6"	8'6"	8'6"	8'6"	8'6"
Height		13'6"	13'6"	13'6"	14'	13'6"	13'6"	13'6"	13'6"	13'6"	13'6"
Length	Single Vehicle	42'	45'	41'/ 45'	45'	45'	40'	45'	45'	45'	45'
	Two-vehicle	-	60'	85'	-	-	-	75'	-	65'	70'
	Trailer only	-	53'	53'	59'6"	53'	-	-	53'	53'	-
	Semi-Trailer	65'	75'	85'	85'	-	65'	75'	-	-	75'

Table 3-2: Legal weight limits by vehicle category across MAASTO states.

Weight Category		IL	IN	IA	KS	KY	MI	MN	MO	OH	WI
Weight (1000 lbs)	Single Axle	20	20	20	20	20	20	20	20	29	20
	Tandem	34	34	34	34	34	34	34	34	34	34
	Tridem	-	50	-	-	48	-	42	-	47	-
	Max Gross	-	80	80	80	80	80	80	80	80	80
	Single Wheel	-	-	-	-	-	-	-	-	-	11

OSOW Regulations by State

Illinois

Illinois DOT's OSOW Permits division maintains a webpage (Illinois Transportation Automated Permits, ITAP) (7) that carries a multitude of information for OSOW operators. The webpage includes information on legal weights and dimensions, process of obtaining OSOW permits, maps and information on closures and restricted access roads or bridges, live announcements, etc.

The ITAP website links to a document that details legal length and weight limits on commercial vehicles based on various axle configurations and inter-axle spacings by type of roadway.

The OPER 993 document provides various provisions governing special vehicle movement which details requirements for oversized vehicle operation. Oversized vehicles exceeding 14'6" width or height, or 110' length required a single civilian escort if they exceed along only one dimension, or two civilian escorts, one in front and one behind, if they exceed along two or more dimensions. Vehicle loads exceeding 16' width, 18' height, or 145' length require three civilian escorts. Movement of loads that exceed 18' in width or height, or 200' in length require Illinois State Police escorts.

In addition, movement of objects longer than 80' requires two operating amber flashing lights, one over the cab, and one within 10' of the rear of the vehicle at a high position. All oversized vehicles and loads are further required to display clean red flags (no less than 18" square) at each extremity or corner. Similarly, 'OVERSIZE LOAD' signs are mandatory on the front and rear of vehicles where loads exceed 10' width, 14'6" height, or 75' length.

Indiana

Indiana Department of Revenue document M-204 (8) lists general provisions for oversize / overweight vehicle operation in Indiana. The document lists the requirements with respect to escorts and markers required for operating OSOW vehicles.

Vehicles exceeding 12’4” width, 14’6” height, or 110’ length require an escort vehicle in front when on undivided highways, and in rear when on divided highways. An escort vehicle traveling in front of the oversized vehicle must carry a height stick for vehicles exceeding 14’6” height. For vehicles between 14’4” and 17’ wide, one rear escort is required on a dual lane divided highway, or two escorts (front and rear) on all other roads.

All oversized vehicles are required to be marked with ‘OVERSIZE LOAD’ signs on front and on rear with the signs being at least 18” high, and 6’-8’ long with black letters on yellow background. The lettering should be 12” high with 2” strokes. Indiana permits use of signage coloring rules required by other states if the trip originated outside of Indiana. Vehicles must also be marked with 2 clean red or orange flags (minimum 18” square) placed on the widest extremities of the vehicle or load.

Iowa

Iowa Department of Transportation, Motor Carrier’s webpage (9) includes various information on oversized / overweight permits and regulations. The webpage lists legal dimensions and weights for Iowa commercial vehicles in addition to hosting links to various resources with additional information. Included among these is a link to the Iowa Truck Information Guide, Iowa code 321E, and Chapter 17A of Iowa Code that lists escort and signage requirements for OSOW vehicles.

Minimum Warning Devices and Escort Requirements
For Vehicles Operating Under Permit

	Flags/Signs	Lights	Escorts	
			4-Lane	2-Lane
Length				
75′1″ up to and including 85′	yes	not required	not required	not required
Over 85′ up to and including 120′	yes	yes	not required	not required
Over 120′	yes	not required	rear	rear
Projections				
Front: over 25′	not required	yes	not required	not required
Rear: over 4′ up to and including 10′	flags only	not required	not required	not required
Rear: over 10′	flags only	yes	not required	not required
Height				
Over 14′6″ up to and including 20′	yes	not required	front with a height pole	front with a height pole
Weight				
Over 80,000 lbs.	not required	yes	not required	not required
Width				
Over 8′6″ up to 12′0″	yes	not required	not required	not required
Over 12′0″ up to and including 14′6″	yes	not required	rear *	front *
Over 14′6″ up to and including 16′6″	yes	not required	rear *	front
Over 16′6″ up to and including 18′	yes	not required	rear	front

Figure 3-1: Iowa signage and escort requirements for OSOW vehicles (Table copied as figure from Chapter 511 of Iowa Administrative Code 761).

Rear escorts are required for vehicles with length greater than 120’. Rear escorts are needed for vehicles with width greater than 16’6” on 4-lane highways. Rear escorts, or amber lighting are

required for vehicles exceeding 12’ up to 16’6” width. On 2-lane highways, vehicles exceeding 14’6” width require rear escorts while vehicles with width between 12’ and 14’6” require either rear escorts or amber lighting. Vehicles exceeding a height of 14’6” require a front escort vehicle carrying a height pole. Figure 3-1 shows a screenshot extracted from Chapter 511 of Iowa Administrative Code 761 accessed through Iowa DOT’s website, showing a summary of the rules listed above.

Clear red or orange flags at least 18” square are required on all corners for any oversized vehicle (exceeding 8’6” width, 14’6” height or 75’ length) along with “Oversized Load” signs at least 18” high by 7’ long with 10” black lettering on a yellow background mounted on the front and rear of the vehicle.

Kansas

Kansas DOT provides access to relevant information for OSOW truck operators through both its home website (10), and through the Kansas Truck Routing Intelligent Permitting System, KTRIPS (11). Specific information related to OSOW regulations may be found under Article 36-1 of the Kansas Administrative Regulations.

Kansas requires two escorts, a front and a rear escort, with any oversized truck that exceeds 14’ width operating on a highway with fewer than 4 lanes. Rear escorts are also required for superloads (exceeding gross vehicle weight of 150,000 pounds) and large structures on highways with 4 or more lanes. Escort vehicles should typically travel within 300 feet from the front and the rear of the vehicle / load. Escort vehicles need certification from the state when escorting superloads.

In addition, an escort warning sign or oversize warning sign is required to be attached to the front or the top of each vehicle preceding the load being transported, with a similar sign attached to the top or rear of a vehicle trailing the load. Similarly, each escort vehicle should have a rotating or pulsing amber warning light mounted on the top of the vehicle. Warning signs are required to be a minimum of 12” high and 5’ long with black 8” lettering on yellow background.

Kentucky

Information on Kentucky’s legal limits and OSOW regulations can be found along with various other relevant resources through the Drive KY website (12) under its Motor Carriers section. Information on legal limits can be obtained from the Overweight Over-Dimensional (OWOD) laws and regulations sections, covered by Kentucky Administrative Regulations Title 603-066 for weight limits and 603-070 for vehicle dimension limits.

On multi-lane highways, Kentucky requires a single rear escort vehicle to accompany vehicles exceeding 110’ length. A front escort and 2 rear escorts are required when length exceeds 120’. For vehicle / load widths greater than 12’ but less than 14’, the vehicle must be accompanied by a single rear escort, with 2 escorts (1 in the front and 1 rear) needed for widths 14’ to 16’ and a rear along with two front escorts if width is greater than 16’.

The regulations for 2-lane highway require a front escort (length > 75’), a front and a rear escort (length > 85’) and two front and two rear escorts for OSOW vehicles longer than 120’. Similarly, two escorts (one each in front and rear) are required with OSOW vehicle loads wider than 12’ but less than 16’, and four escorts (two each in front and back) when width exceeds 16’.

For vehicle exceeding 14’11” height, a front escort carrying a height pole is required for both 2-lane and multi-lane highways.

Oversize vehicles that exceed the legal width are required to display flags at each of the four corners and at any extremities that overhang. Vehicles exceeding 10’6” width should display “Oversize Load” signs that are 6’-8’ long with 18” black lettering on yellow background. Such a sign should also be displayed on the lead escort vehicle. Escort vehicles must also have amber strobe or flashing lights.

Figure 3-2 shows a screenshot of standard escort requirements in Kentucky, obtained from the Drive Kentucky website.

STANDARD ESCORT REQUIRMENTS

2 - LANE ROADS	MULTI LANE ROADS	ALL ROADS
	1 - REAR: EXCEEDING 12’ WIDE	1 - REAR: EXCEEDING 10’ REAR OVERHANG
1 - FRONT & 1 - REAR: EXCEEDING 12’ WIDE	1 - FRONT & 1 - REAR: EXCEEDING 14’ WIDE	2-FRONT & 2-REAR: EXCEEDING 16’ WIDE
1 - FRONT: EXCEEDING 75’ LONG	1 - REAR: EXCEEDING 110’ LONG	1 - FRONT W/ HEIGHT POLE: EXCEEDING 14’11” HIGH
1 - FRONT & 1 - REAR: EXCEEDING 85’ LONG		1 - FRONT & 2 - REAR WITH A PIVOT/STEERABLE DOLLY: EXCEEDING 120’ LONG

Figure 3-2: Kentucky standard escort requirements by dimension (Table copied from OWOD Summary Document hosted at Drive Kentucky’s OW/OD Escort Requirements webpage).

Michigan

Michigan OSOW regulations can be found summarized in a document created by the Transport Permits Unit in 2004 on Michigan’s state government website (13).

Michigan requires oversize loads in excess of 90’ length be accompanied by 1 escort and loads in excess of 100’ be escorted by 2 vehicles. Similarly, vehicles exceeding legal width require 1 escort if over 12’ but under 14’ wide, and 2 if over 14’ wide. Vehicles that exceed a height of 14’5” require 1 escort with a height pole.

“Oversize Load” signage is required both at the front and rear of the vehicle for any oversized vehicle / load. In addition, overwidth or overlength vehicles require clear flags at each corner of the load.

The document states that escort vehicles must be passenger cars or pickup trucks with at least one flashing or rotating light on top of the cab. They should display an “Oversize Load” sign 5’ long and 12” high with 8” high black letters on yellow background. All flashing or rotating amber lights need to be visible at a distance of at least 500 feet.

Minnesota

Minnesota Department of Transportation’s website carries an Oversize/Overweight Permits dedicated page (14) that is host to multiple OSOW resources on legal weights and dimensions, process of obtaining permits, OSOW trucking in Minnesota, General Provisions etc. and WINNDOT portal, a permitting partnership between Wisconsin and Minnesota. The “Transporting Oversize / Overweight Loads in Minnesota” (15) brochure lists all key regulations for the state. Minnesota requires the Minnesota General Provisions (16) document to be carried in vehicle during OSOW movement.

On two-lane roadways, a Peace Officer (police) escort must always precede a vehicle that encroaches over the roadway centerline. Lead and rear escorts are required at night when the oversize load is wider than 12'6" or longer than 95' total. Pilot escort drivers are required to be trained through the Minnesota Department of Public Safety's Certified Pilot Car Escort Driver Program. Passenger cars, light duty vans, two-axle pickup, and two-axle single unit trucks are acceptable escort vehicles.

Clear red or orange flags (minimum 18" square) should be displayed when vehicle / load exceeds 9' in width or 75' in length. Flags should mark widest points of load, and all four corners of the vehicle. At night, strobe lights should be used in place of flags. Oversize vehicles should also carry "Oversize Load" signs (reflective or lighted at night) with flashing amber lights both in front and rear of the vehicle.

Missouri

Missouri Department of Transportation's Oversize Overweight webpage (17) is a source for all OSOW related information in the state. The Title 7, Division 10, Chapter 25 Code: 7 CSR 10-25.020 on Oversize Overweight Permits (18), lists regulations related to OSOW operators.

Missouri requires a rear escort for vehicles / loads exceeding 90' in length on all highways except divided highways. A height detection vehicle with a height pole is required to escort ahead of any truck exceeding 15'6". Escorts are expected to travel at a distance of 300' from the front and rear of the vehicle.

Flagging is required whenever the dimensions of overwidth loads are equal to or exceed the width of the traveled lane on two-lane bridges or whenever the movement is of such width or length that it infringes on the adjacent lane of traffic. The operator of the escort vehicle can act as the flagger.

Red, yellow, or orange fluorescent flags (minimum 18" square) are required to be displayed at the extreme ends of all overwidth and overlength loads. "Oversize Load" signs at least 7' long and 18" high with 10" lettering should be displayed at the front and rear for loads exceeding 10'6" in width on all highways.

Ohio

Ohio Department of Transportation's webpage on Special Hauling Permits Regulations and Policies (19) carries all the relevant OSOW information including legal limits, escort requirement and relevant guides. All relevant information for OSOW regulations can be found in the Operational Guide (20).

Ohio requires one rear escort for any vehicle / load with length in excess of 90'. Vehicles with width greater than 13' require one lead escort, or rear escort on multiple lane highways. Vehicles exceeding 14'6" height are required to be accompanied by a lead escort vehicle with a height sensing device. The escort requirement increases to one lead and one rear vehicle for widths larger than 14'6" or for heights exceeding 14'10". The escort requirement is also increased to both rear and front escorts if multiple oversize criterion are applicable. In certain circumstances, the permit office may mandate the use of police or highway patrol escorts if deemed necessary.

Clear red or orange flags (minimum 18" square) should be displayed on all overdimensional vehicles and loads. Overwidth vehicles should bear two flags at the widest extremities of vehicle and one at each corner of the vehicle. Overlength vehicles should display rear flags (one if overlength or projecting part is 2' wide or less, two otherwise). "Oversize Load" signs, at least 7'

long and 18” high with 10” black lettering on yellow background are required to be displayed at front and rear of vehicles that exceed maximum legal length limit, width of 10’, or 14’6” height.

Wisconsin

Information on Wisconsin legal limits and OSOW regulations can be obtained from Wisconsin Department of Transportation’s Oversize-Overweight Permits webpage (21).

Wisconsin escort regulations are summarized in Figure 3-3 (the figure is a screenshot copied from the Escort Chart document hosted by Wisconsin DOT’s OSOW permits webpage). Note, law enforcement escorts (1 or 2 based on dimension criteria mentioned in figure) are required for vehicle / loads exceeding 200’ in length or exceeding 18’ in width.

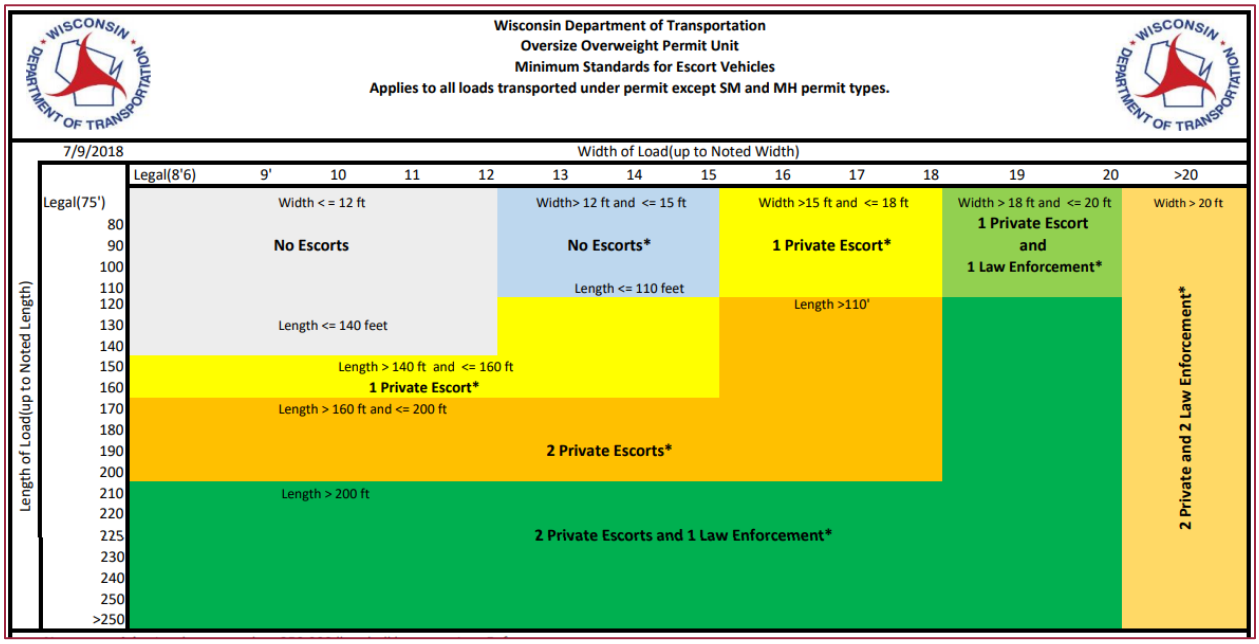

Figure 3-3: Wisconsin escort requirements for OSOW loads based on dimensions (Figure copied from Escort Chart document hosted on Wisconsin DOT’s OSOW permits webpage).

Any oversize vehicle operating during hours of darkness is required to carry amber lighting at front and rear that is visible clearly from either side. All vehicles should be visible from a distance of 500 feet.

“Oversize Load” signs at least 7’ long and 18” high with 10” high lettering in black on yellow background should be displayed at the front and the rear of any vehicle that is overlength (refer to Table 3-1 above) or wider than 10’. Clear solid red or orange flags (minimum 18” square) should be displayed at all four corners of an overwidth vehicle along with flags at the widest point of the load if the load is more than 4” wider than the vehicle. Overlength vehicles should carry 1 or 2 flags at the rear based on whether the overlength or projecting portion is under or over 2’ wide respectively.

4. REST STOPS IN MAASTO STATES

MAASTO states were surveyed for information each state hosts on their websites to aid OSOW operators. A major goal of the survey study effort was to identify the public parking facilities offered by each state to serve OSOW trucks. Public truck parking in the states that is advertised by the states comes almost exclusively in the form of rest areas or welcome centers that are not OSOW specific. Thus, the effort of the study focused on creating an inventory of such rest stops and welcome centers along major freight corridors in the MAASTO states, concentrating on those near state borders (generally within 10 miles of state border, or within 20 miles if no other rest stop was available on the corridor) as they are are typically more relevant to OSOW drivers due to having to wait for regulation hours and escort vehicles. This included sites nearest the state line for non-MAASTO states. Figure 4-1 shows the identified rest stops across the MAASTO region. This map, and subsequent maps presented in Chapters 4 and 5 were created through ArcGIS (each parking location was added into the GIS map either using GPS coordinates identified in the state resource used, or by manually locating the rest stop on Google Maps and extracting the corresponding GPS coordinates).

All ten MAASTO states carry some form of information on rest stops within the state. However, the information may be available as either interactive GIS maps or as static print format maps. Further, the quality of information carried by the state websites such as GPS coordinates for the rest stop, capacity in terms of truck parking spots, live counts, and amenities available at the location, is varied. The varying quality of information creates access hurdles for operators hauling across multiple states, and for any efforts to compile the information into a single resource.

Table 4-1 summarizes findings on general information and information specific to amenities available at parking locations for each State. An entry marked ‘Y’ indicates that the state webpage lists information in that category, ‘P’ indicates the information may be available for some but not all locations within the state, and hyphens (-) indicate the information was not available across sites.

The findings for each state are summarized in the following sections.

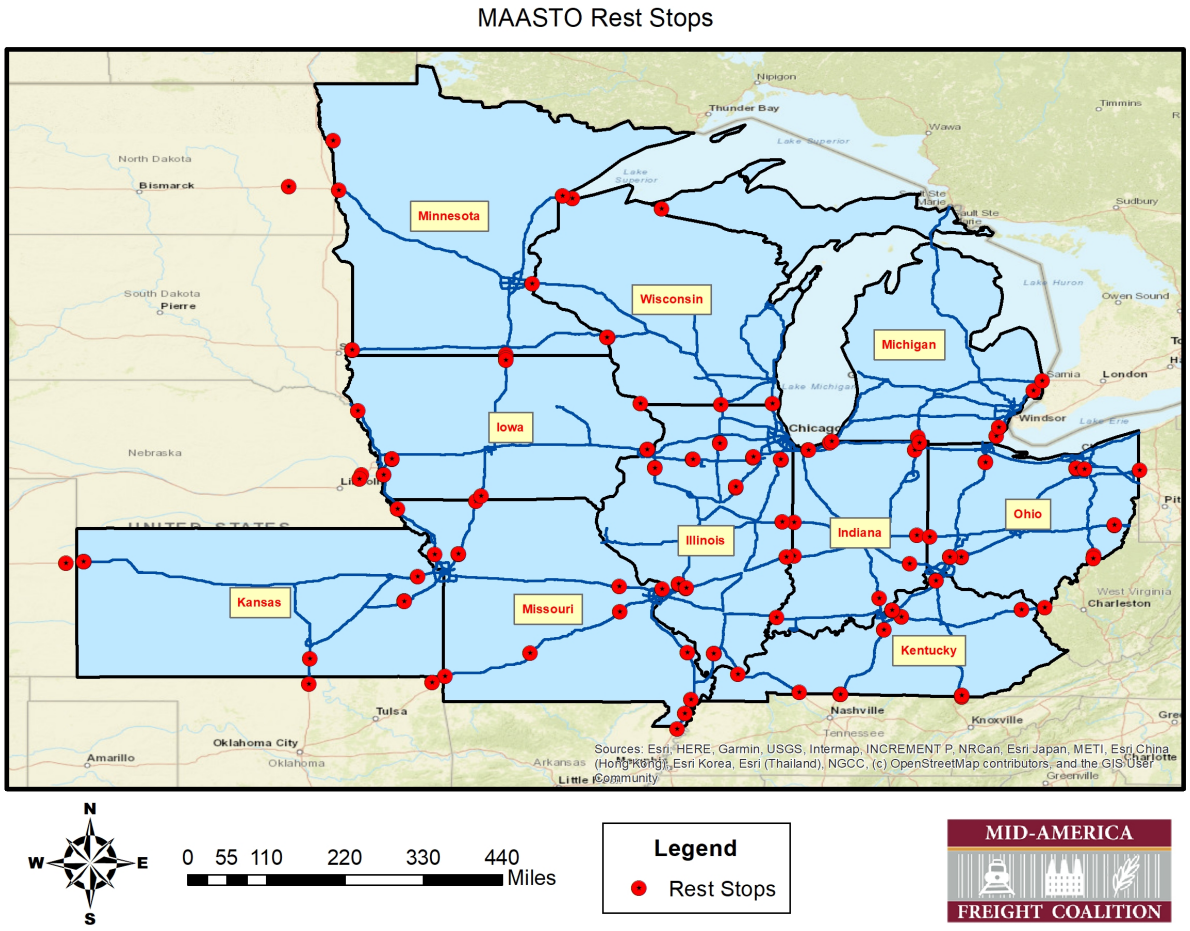

Figure 4-1: Map of MAASTO states showing public rest stops that provide truck parking along major interstate freight corridors around state borders.

Table 4-1: Table summarizing information readily available for each parking location by state.

	IL	IN	IA	KS	KY	MI	MN	MO	OH	WI
GPS Coord	-	Y	-	-	Y	-	-	Y	-	Y
No. Spots	-	Y	P	-	-	Y	Y	Y	Y	Y
TPIMS/Live	-	-	Y	-	Y	-	Y	-	-	-
Mile Marker	Y	Y	Y	Y	-	Y	Y	Y	Y	Y
Restroom	Y	Y	Y	-	-	Y	Y	Y	Y	Y
Water	-	-	-	-	-	Y	Y	Y	Y	Y

Vending Machines	Y	Y	Y	-	-	-	Y	Y	Y	Y
TTY / Pay Phone	Y	-	Y	-	-	Y	Y	Y	-	Y
Info and/or Maps	Y	Y	Y	-	-	-	Y	Y	Y	Y

Index: 'Y' implies that the information for that item is readily available for all sites; 'P' implies information is partially available i.e. it is available for some, but not all sites, and hyphens (-) indicate that the information is not available.

Illinois

The Illinois Department of Transportation hosts a webpage on rest areas and welcome centers in the state. The state maintains a system of 30 rest areas and 11 welcome centers across the state, serving over 36 million visitors annually. Rest stops are marked on an interactive map and listed by Interstate corridor on the page. The website allows access to information on mile markers, restrooms, TTY (Tele Typewriter) stations, vending, weather information, and welcome centers for each site. Figure 4-2 shows a map for the state of Illinois showing all relevant identified public truck parking locations within the state (in red) as well as locations in neighboring states. Additional information can also be found at Illinois's OSOW specific website (7).

Webpage URL: http://www.idot.illinois.gov/travel-information/roadway-information/Rest-Areas-and-Welcome-Centers/index

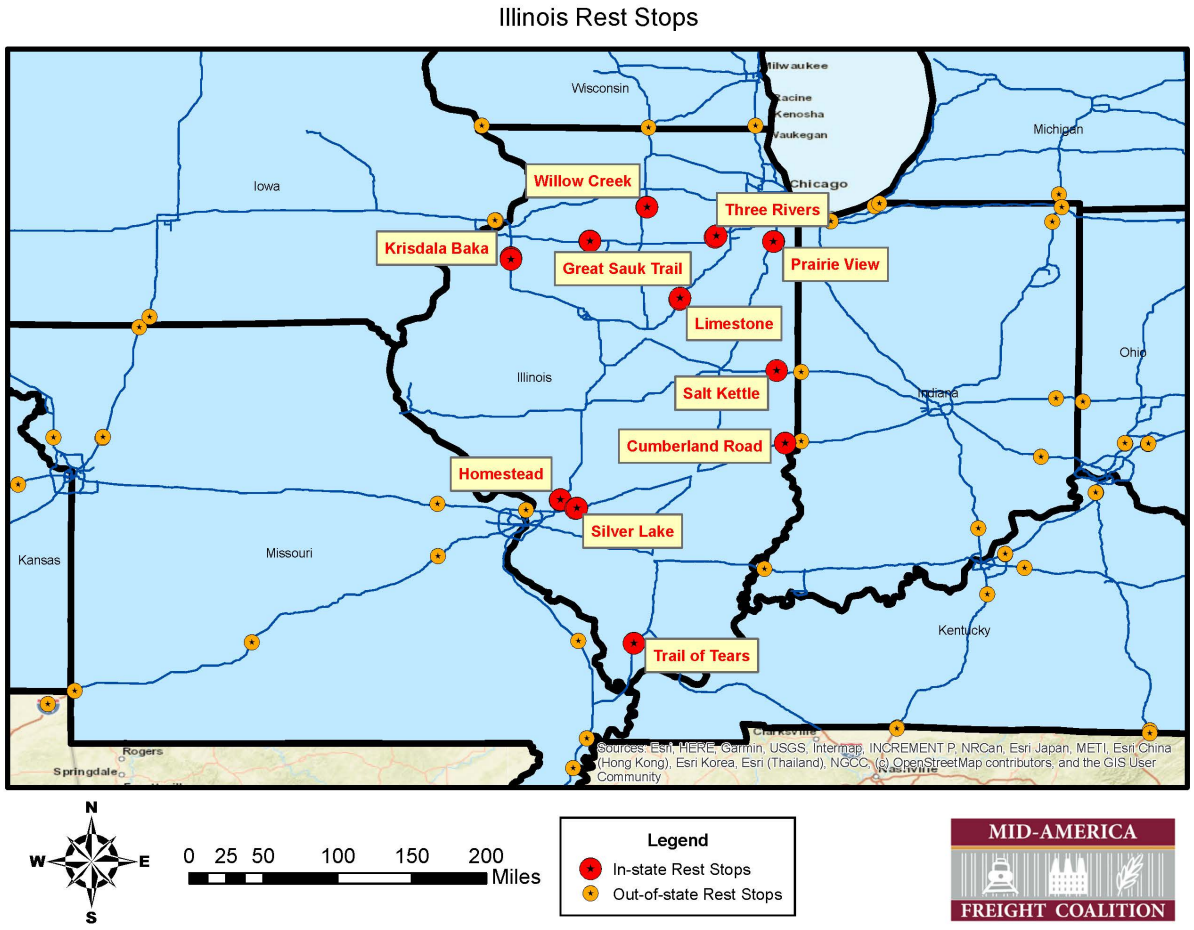

Figure 4-2: Illinois state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

Indiana

The Indiana Department of Transportation hosts an interactive map with 17 INDOT maintained rest areas, and 28 other rest area facilities across the state. Clicking on the site icons brings up additional information for each location including GPS coordinates, mile marker information, phone number, number of parking spaces, year the facility was built, restroom access, vending, and tourist booth availability.

Webpage URL: https://www.in.gov/indot/restareas.htm

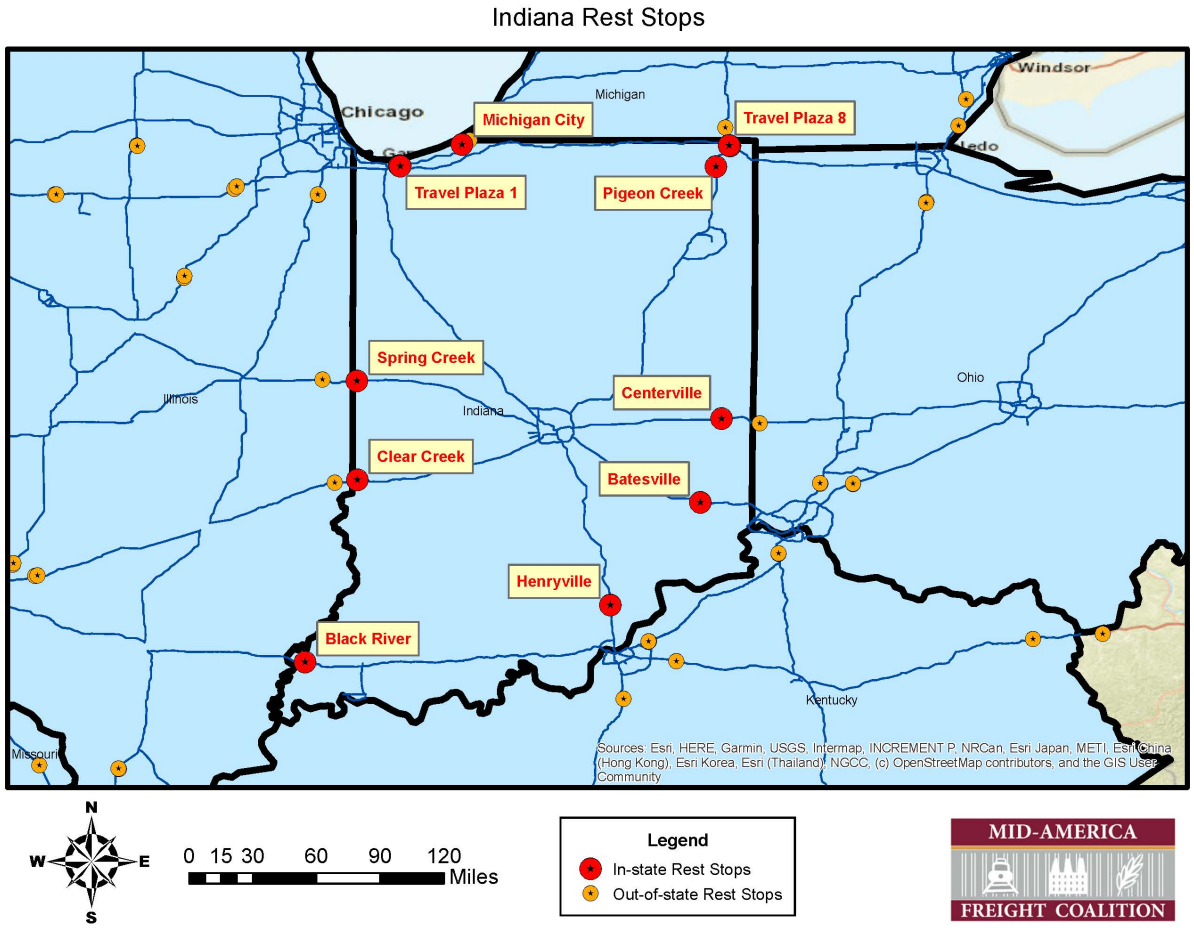

Figure 4-3: Indiana state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

Iowa

The 511 Iowa system (maintained by the Iowa Department of Transportation) provides the most thorough resource for rest stops and truck parking within the state. The system carries information on public rest areas and multiple privately-operated truck stops across the state. The included map location icons are color coded to reflect live parking availability where the information is available. Mile marker information, images for the location, and amenities information covering features such as telephone access, restroom, TTY, vending, weather kiosk, picnic and pet exercise areas, ATMs, and RV dump stations are available for each location.

Webpage URL: https://tr.511ia.org/#restAreasHome?layers=restAreas&timeFrame=TODAY

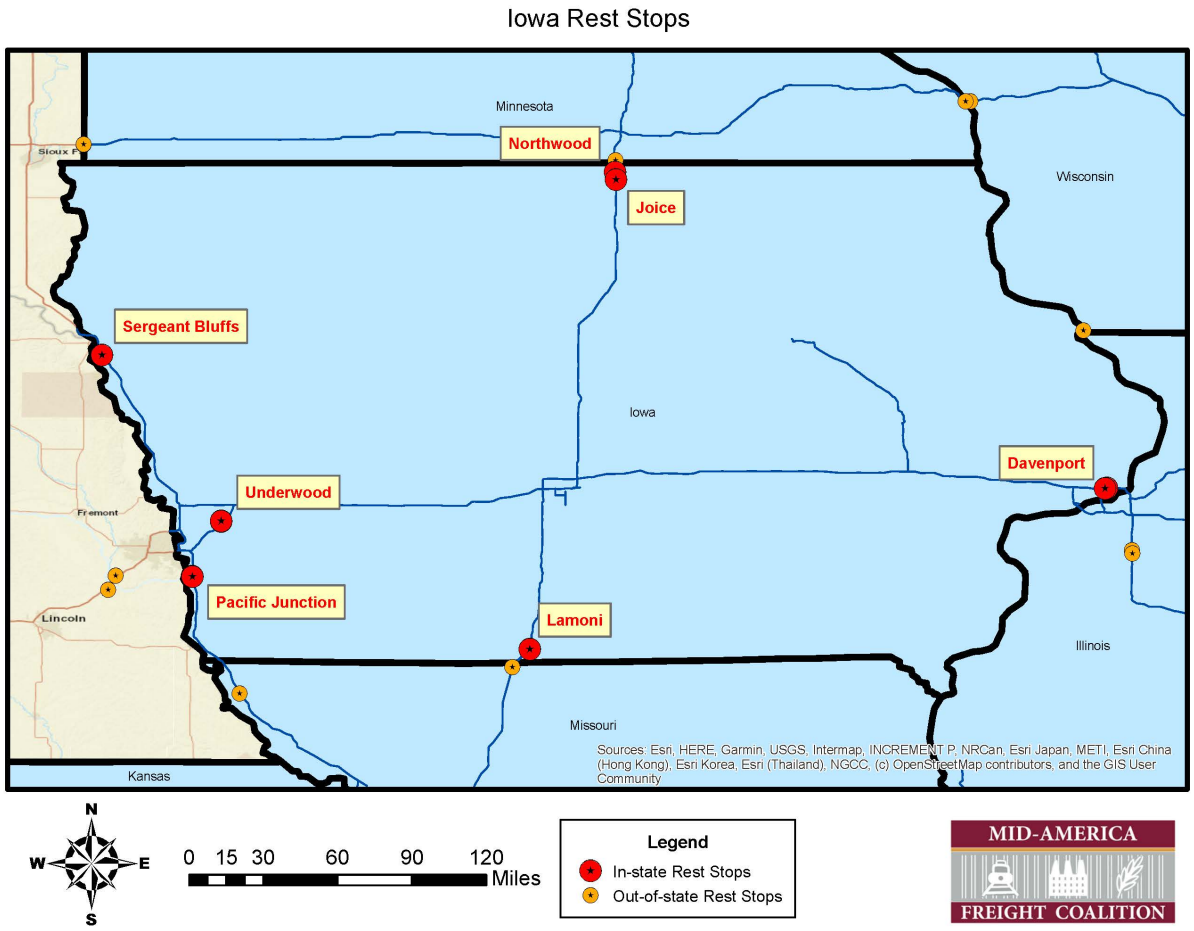

Figure 4-4: Iowa state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

Kansas

At the time of this study, Kansas state government did not host a map of truck parking spaces or rest areas in the state. However, a static map of Kansas with rest areas marked on the map in a PDF format was available through KanDrive. There are multiple resources available through the DOT on relevant information (such as maps on work zones and traffic conditions) through KanDrive and KTRIPS.

Webpage URL: https://www.kandrive.org/kandrive/Public/images/Kansas_Rest_Area_Map.pdf

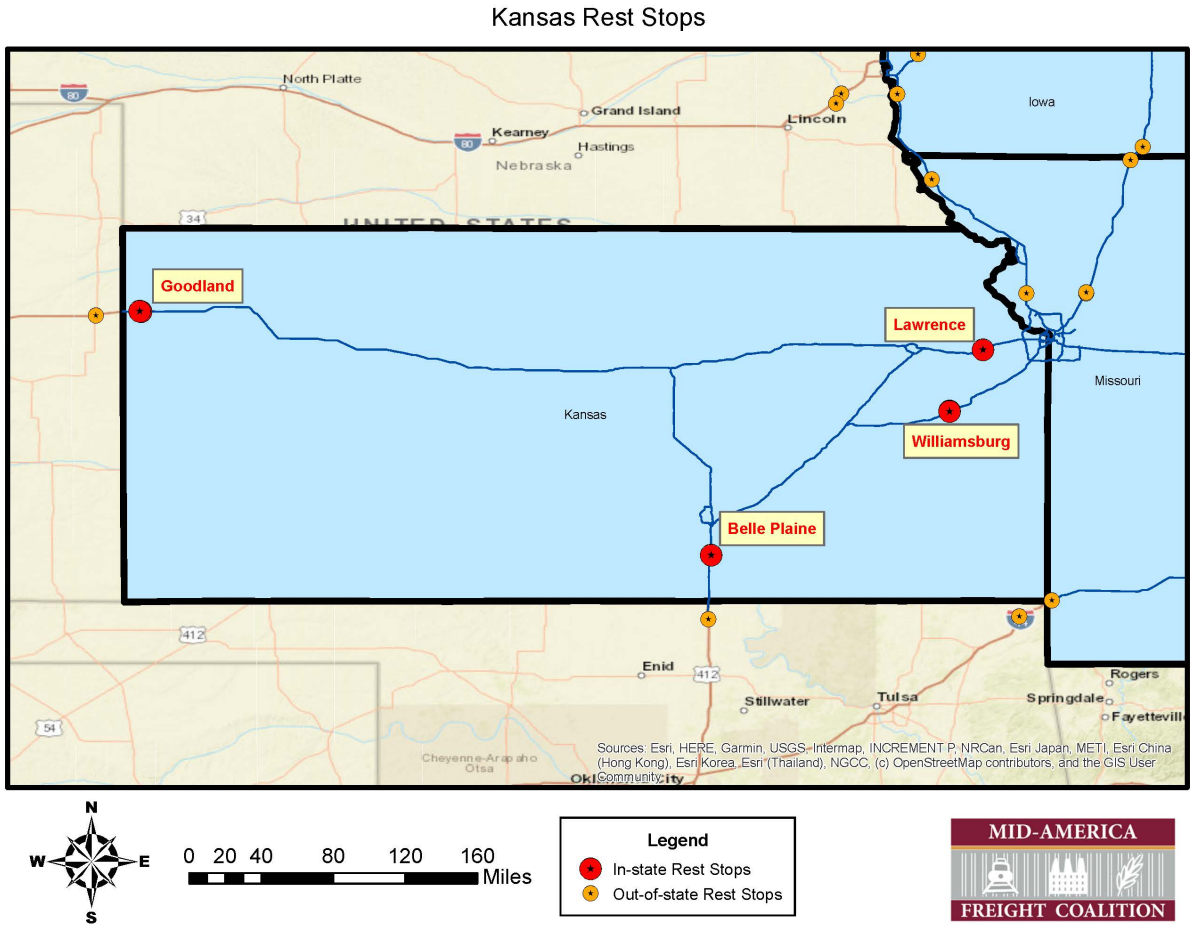

Figure 4-5: Kansas state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

Kentucky

A list of rest areas across Kentucky can be found at the Kentucky Tourism website which shows nine rest areas across the state. Each rest area can be mapped through its GPS coordinates on the webpage, with an address and contact information provided for each site. The Drive KY website carries live availability information for 14 rest areas across Kentucky that are under the TPIMS program.

Webpage URL: https://drive.ky.gov/motor-carriers/Pages/Online-Services.aspx

Alternate Webpage URL: https://www.kentuckytourism.com/get-inspired-ky/travel-tools/maps/rest-area-map/

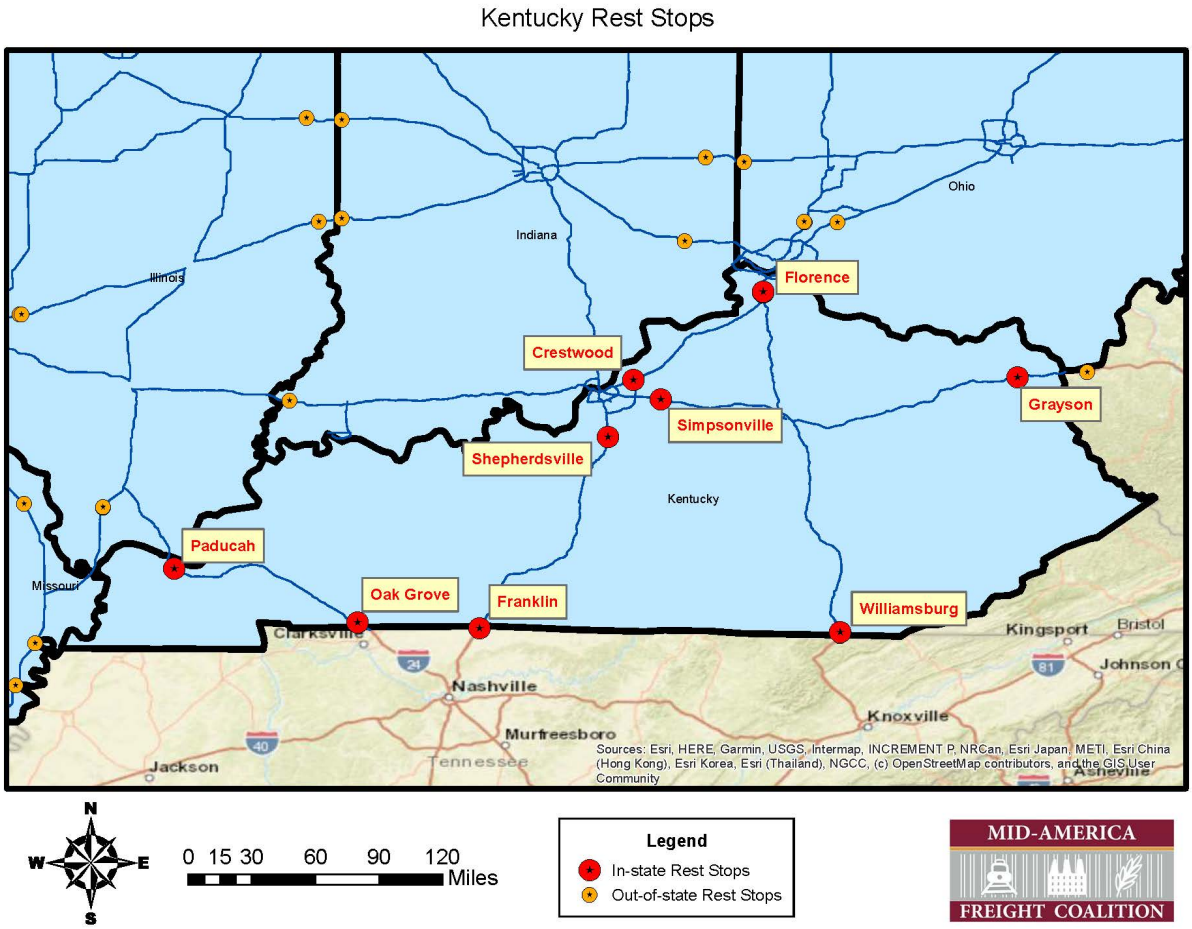

Figure 4-6: Kentucky state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

Michigan

Michigan has information on state public rest stops available through multiple platforms. Michigan DOT hosts a webpage listing rest areas and welcome centers across the state. The DOT lists a total of 77 rest areas maintained by the state, 14 of which are welcome centers. In addition to a map with clickable icons showing the rest areas, the webpage carries information for the locations on number of parking spaces, and mile markers. The site typically includes information on restroom, telephone, drinking water, and picnic area access. The MiDrive webpage also lists live count of open parking spaces where available.

Webpage URL: https://mdotjboss.state.mi.us/MiDrive/map#

Alternate Webpage URL: https://www.michigan.gov/mdot/0,4616,7-151-11151-60528--,00.html

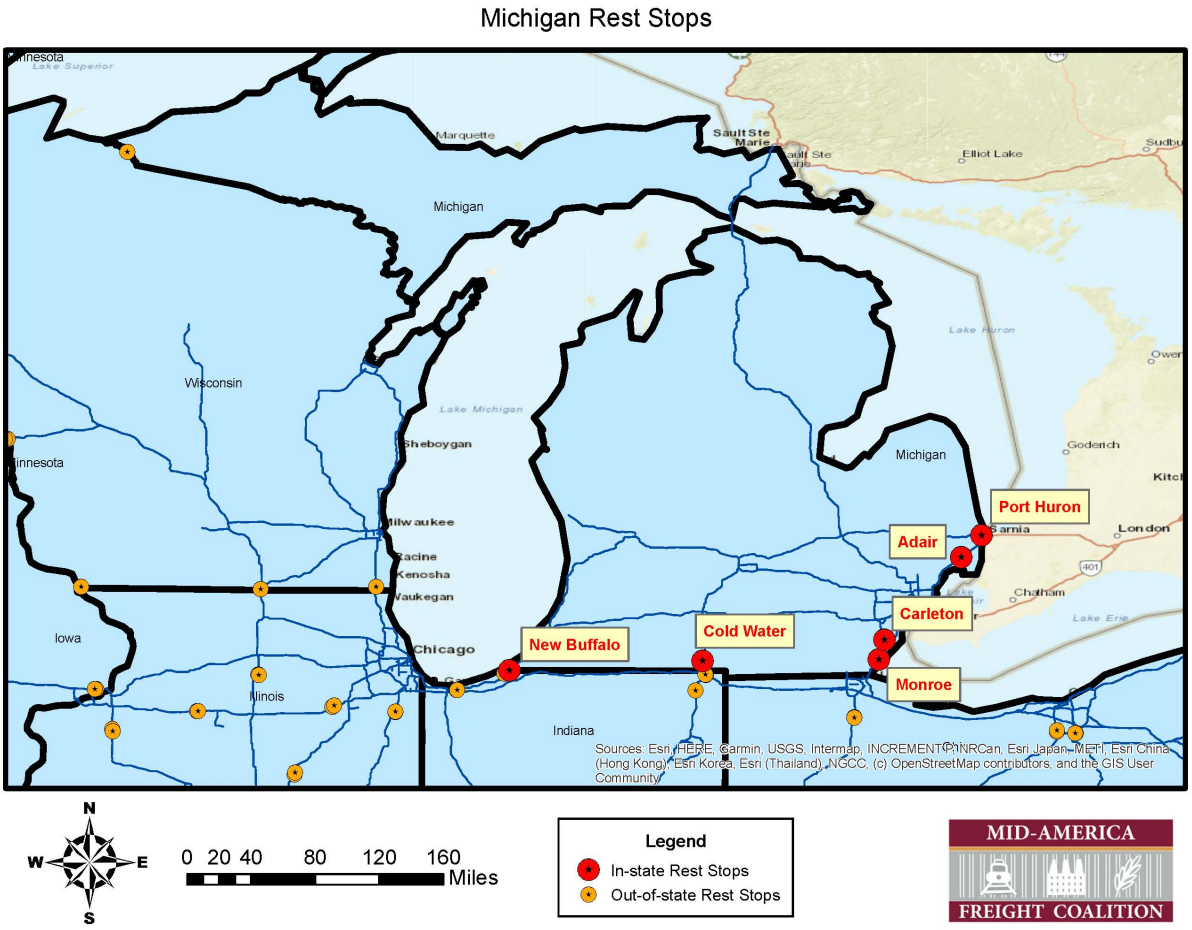

Figure 4-7: Michigan state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

Minnesota

Minnesota DOT hosts a 511 MN system with an interactive map covering numerous truck parking rest areas across the state. The interactive map color codes the location based on whether live availability information is available or not, and if available, if the site has high or low availability currently. Each location carries information on the mile marker, number of stalls, and various amenities available at the location along with satellite images of the location.

Webpage URL: https://tr.511mn.org/#restAreasHome?

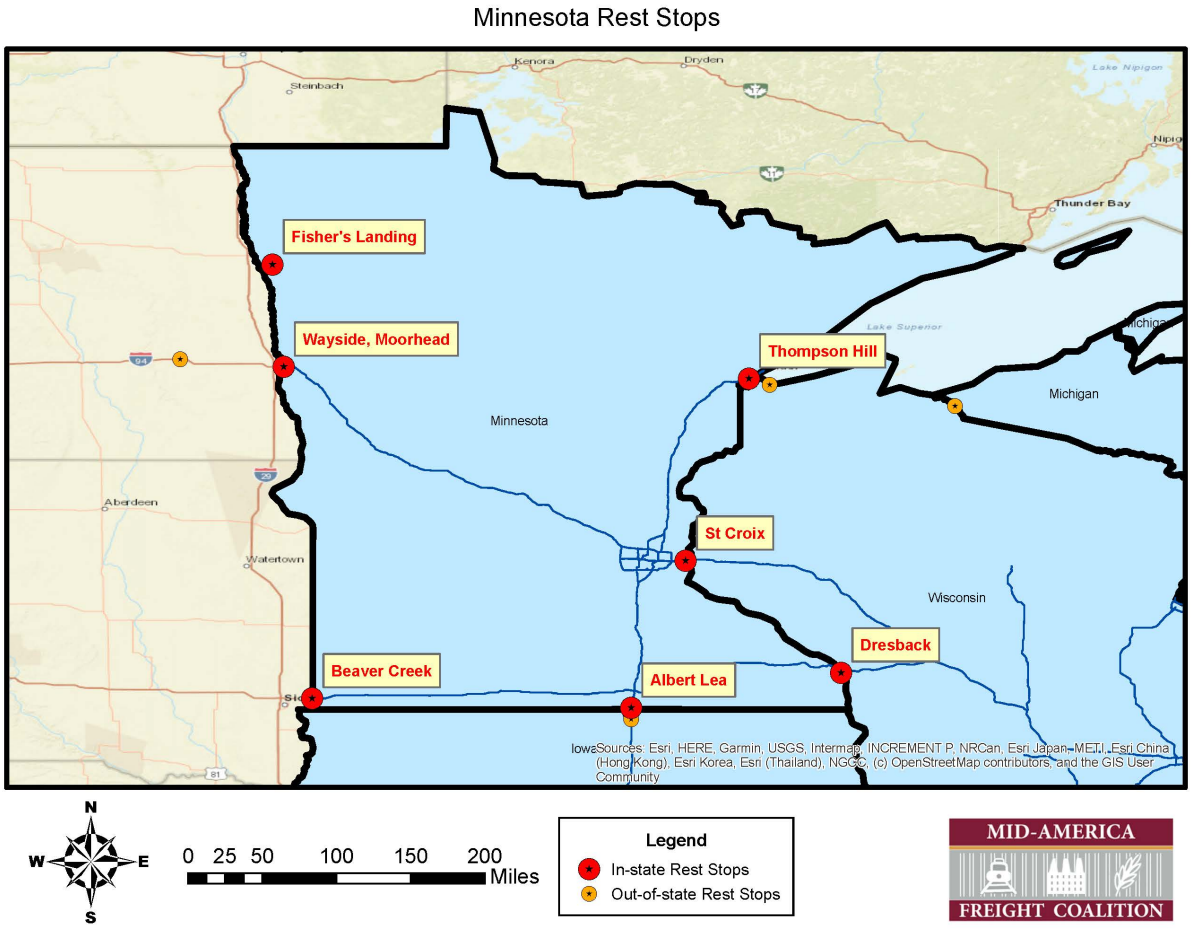

Figure 4-8: Minnesota state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

Missouri

Missouri DOT hosts a page with an interactive map covering 8 welcome centers, 14 rest areas, and 23 truck-only parking sites across the state. Each location includes information on the GPS coordinates, number of stalls, and various amenities available at the location.

Webpage URL: https://www.modot.org/missouri-rest-area-guide

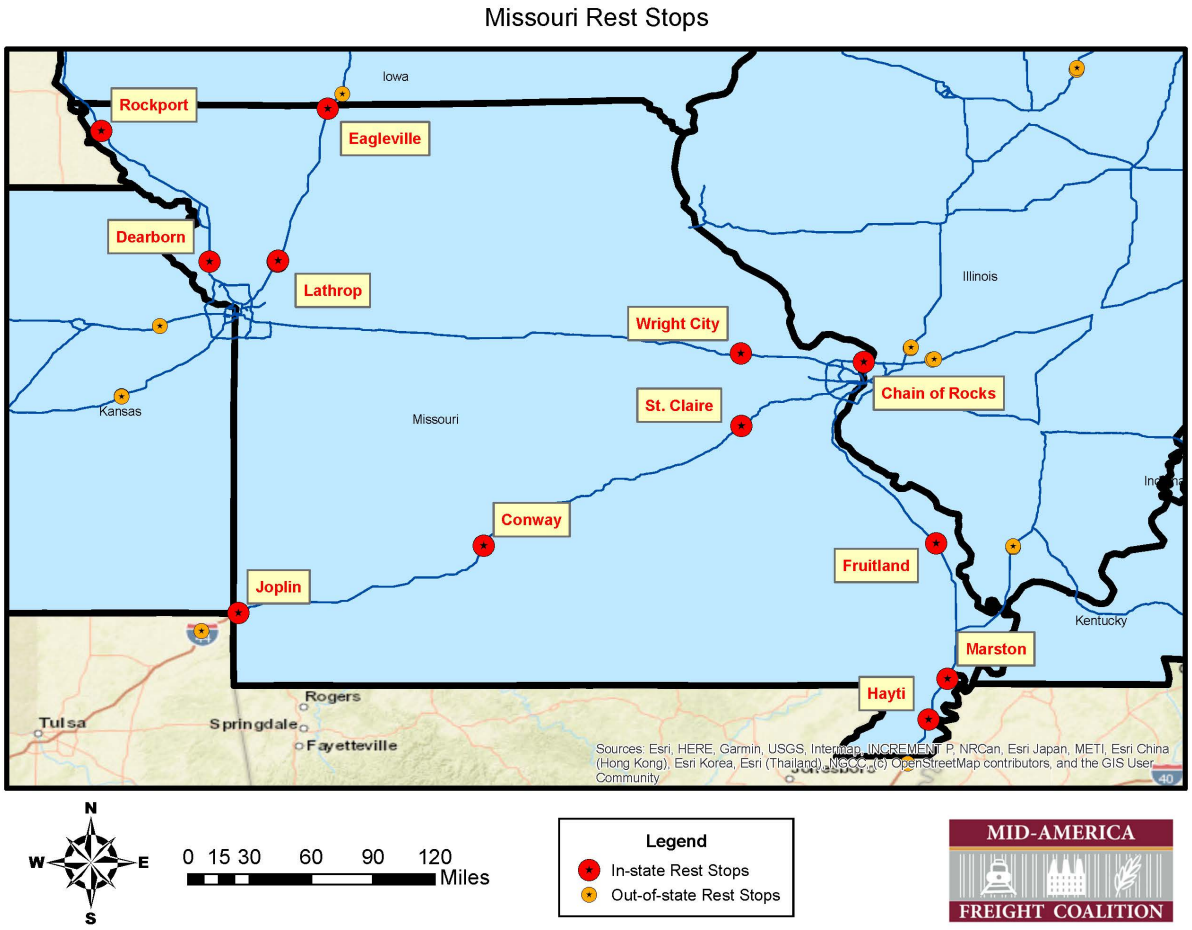

Figure 4-9: Missouri state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

Ohio

Ohio DOT hosts a page with an interactive map of rest area locations across the state. A detailed table of information for each location is also available along with the map. The table contents provide information on rest area number (a unique ID), mile marker, number of parking stalls, status of the location, and amenities available.

Webpage URL:
http://www.dot.state.oh.us/Divisions/Facilities/Facilities/RestAreas/Pages/default.aspx

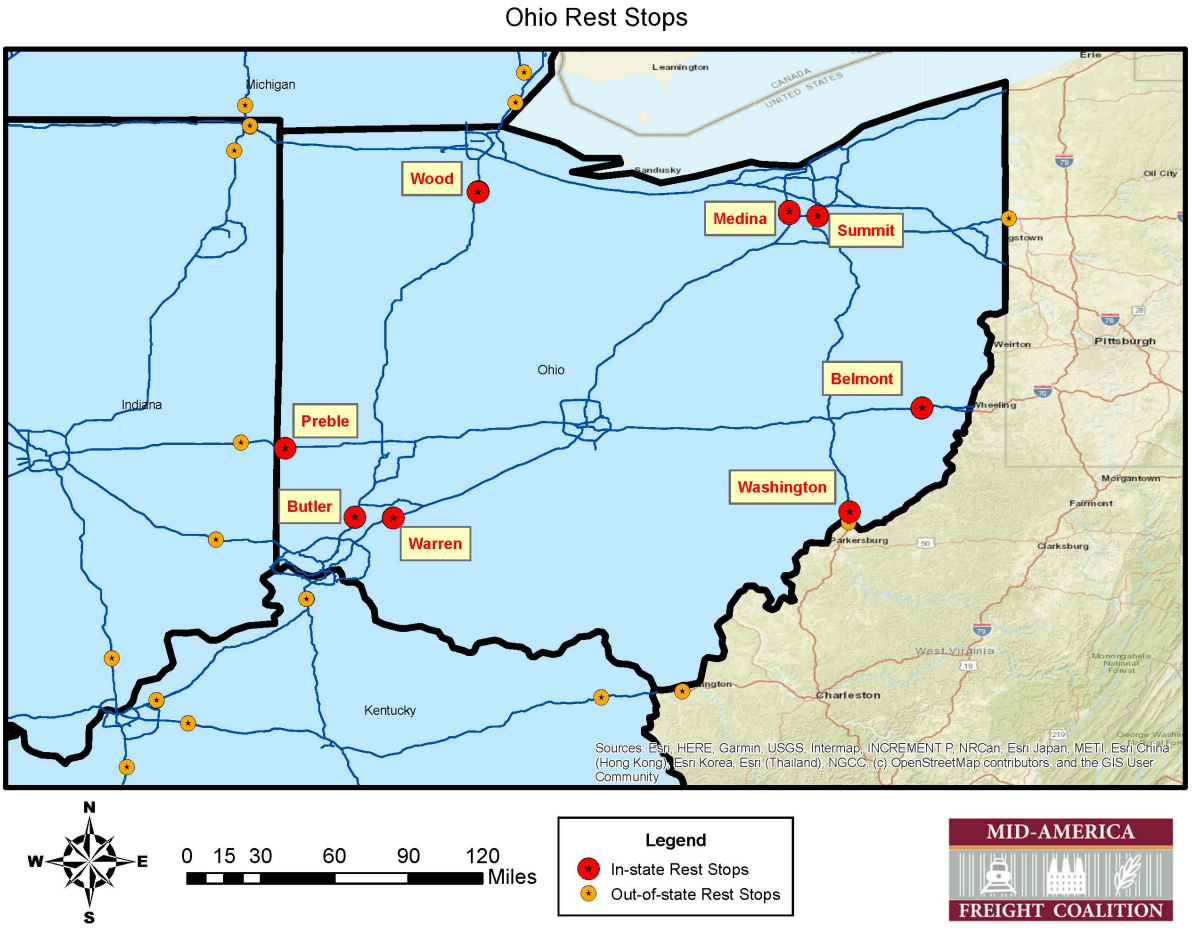

Figure 4-10: Ohio state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

Wisconsin

Wisconsin DOT hosts a page with information on various rest area locations across the state. Through the webpage, information is available for 30 rest locations along various interstate freeways and state and county highways. Each location has a dedicated page that lists the rest area ID, GPS coordinates, mile marker information, number of car and truck parking stalls at the location, and a list of amenities available (such as access to drinking water and public restrooms). The rest area pages also carry images from the location. In addition to the rest stops, newer Safety and Weight Enforcement Facilities (SWEFs) across Wisconsin provide numerous parking resources, offering an increasing number of parking spots as well as facilities such as restrooms and vending access. The Sparta SWEF on I-90 further has OSOW specific parking resources.

Webpage URL: https://wisconsindot.gov/Pages/travel/road/rest-areas/locations.aspx

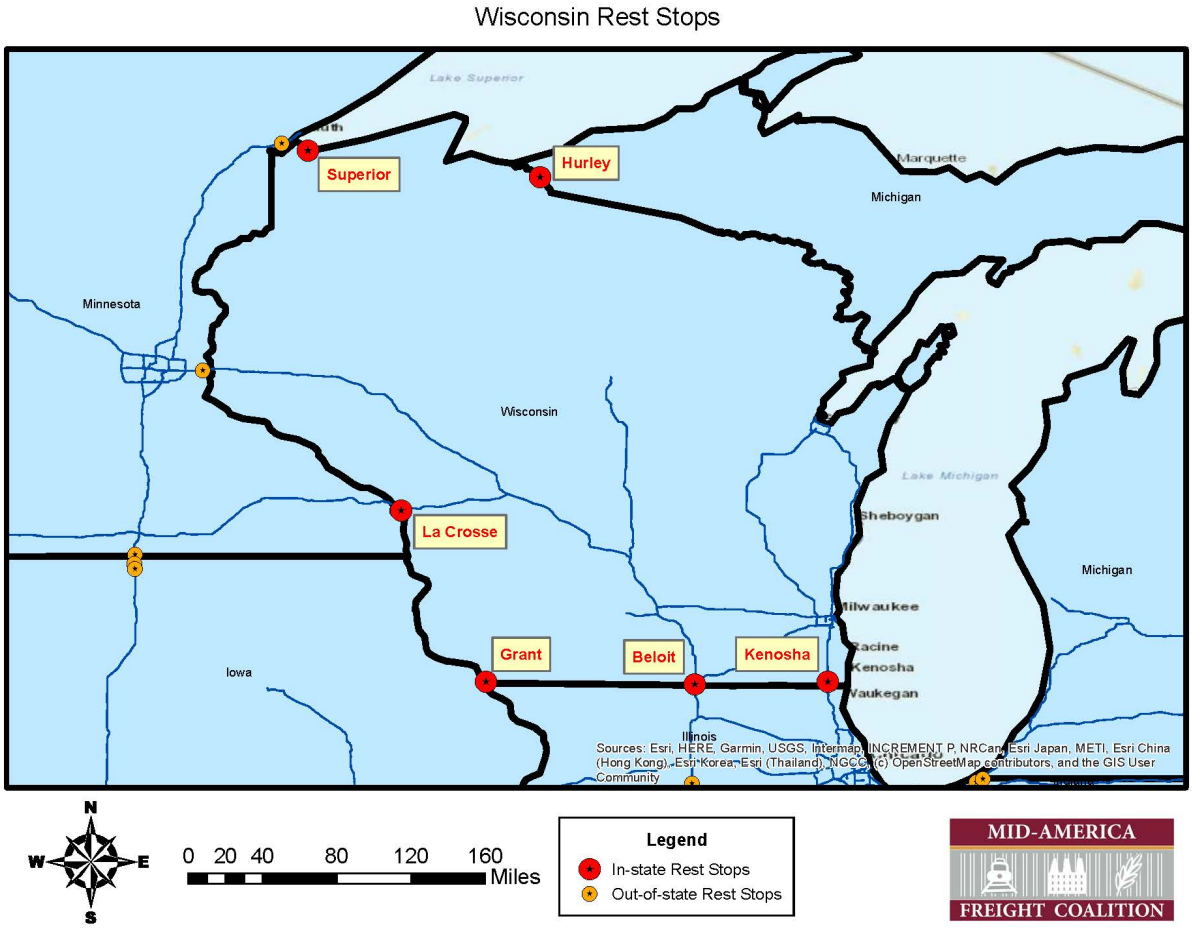

Figure 4-11: Wisconsin state-border truck parking rest areas (red markers) with neighboring state border rest areas also shown (orange markers).

5. REST STOPS ALONG MAJOR FREIGHT CORRIDORS

While each state DOT hosts a map of rest stops within the state, and while a few states also carry additional information relevant to the rest stops (such as number of parking spots, milepost information, and amenities available at the rest stop), drivers operating on multi-state corridors would typically need to visit such resources for each state separately. To support a single source for rest stop information, this study composes maps showing rest stops close to the state border, appropriate for OSOW trucks along the major MAASTO multi-state corridors. In this study, twelve interstate corridors have been selected that span across at least 2 MAASTO states. Based on findings from a 2018 MAFC report on identification of freight networks in the MAASTO region (22) the twelve selected corridors represent the corridors with highest economic value of freight within the MAASTO region (Figure 5-1). In addition to MAASTO in-state rest stops around state borders, non-MAASTO neighboring state rest stops close to the border for each corridor were included as they are relevant to drivers entering or exiting the MAASTO region as part of their freight travel path. Each of the twelve corridors are presented below. All statistics related to corridor economic value and corridor lengths provided below are based on work presented in (22).

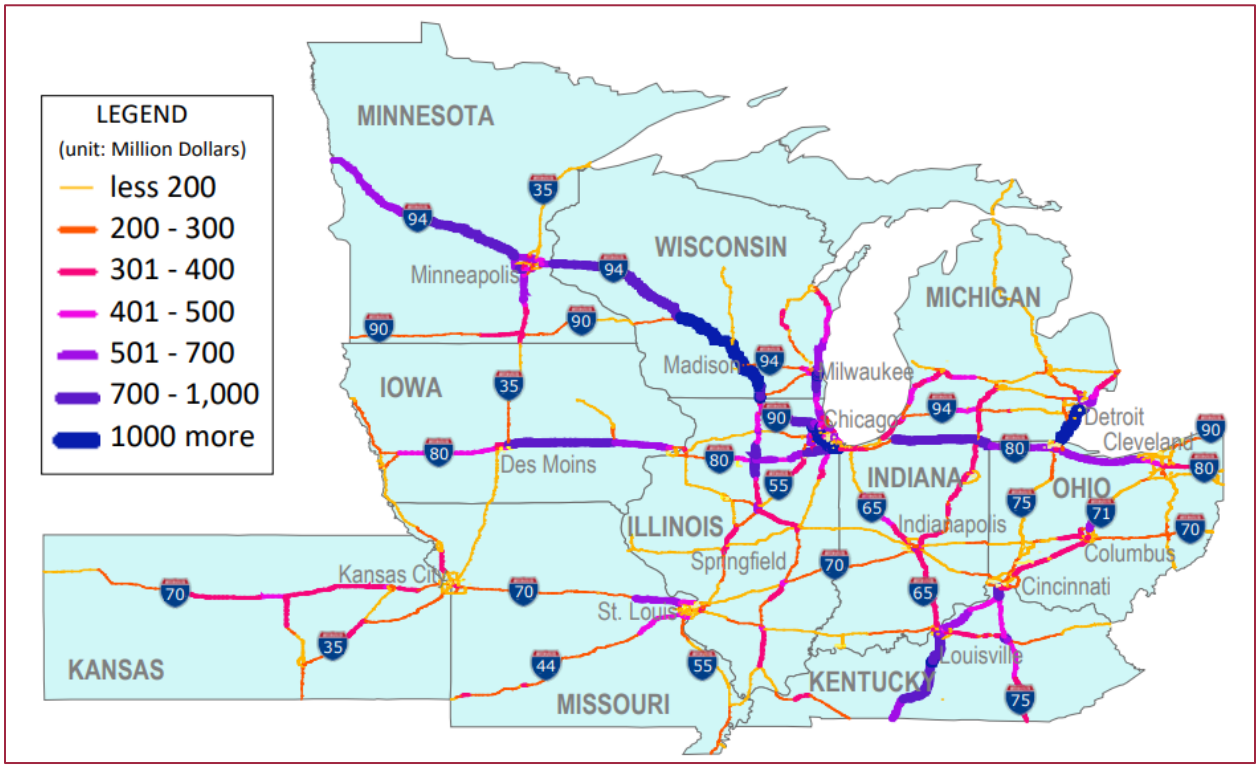

Figure 5-1: Road section economic value of MAASTO highway freight corridors (source: Figure 13 in (22), computed using 2012 fourth generation Freight Analysis Framework data).

I-29

The I-29 corridor is relevant to the freight economies in Iowa and Missouri, running along the western border of Iowa with Nebraska for most of its length. It is the third most important corridor in Iowa by economic value (behind I-80 and I-35) carrying 10.3% share of the state's freight corridor economic value, and fourth most valuable in Missouri (behind I-70, I-44, and I-55) carrying 11.3% share of the state's freight economic value. Figure 5-2 shows a map of the I-29 corridor within the MAASTO states along with marked public rest stops. Table 5-1 lists corresponding parking locations shown in Figure 5-2 along with number of available parking spots.

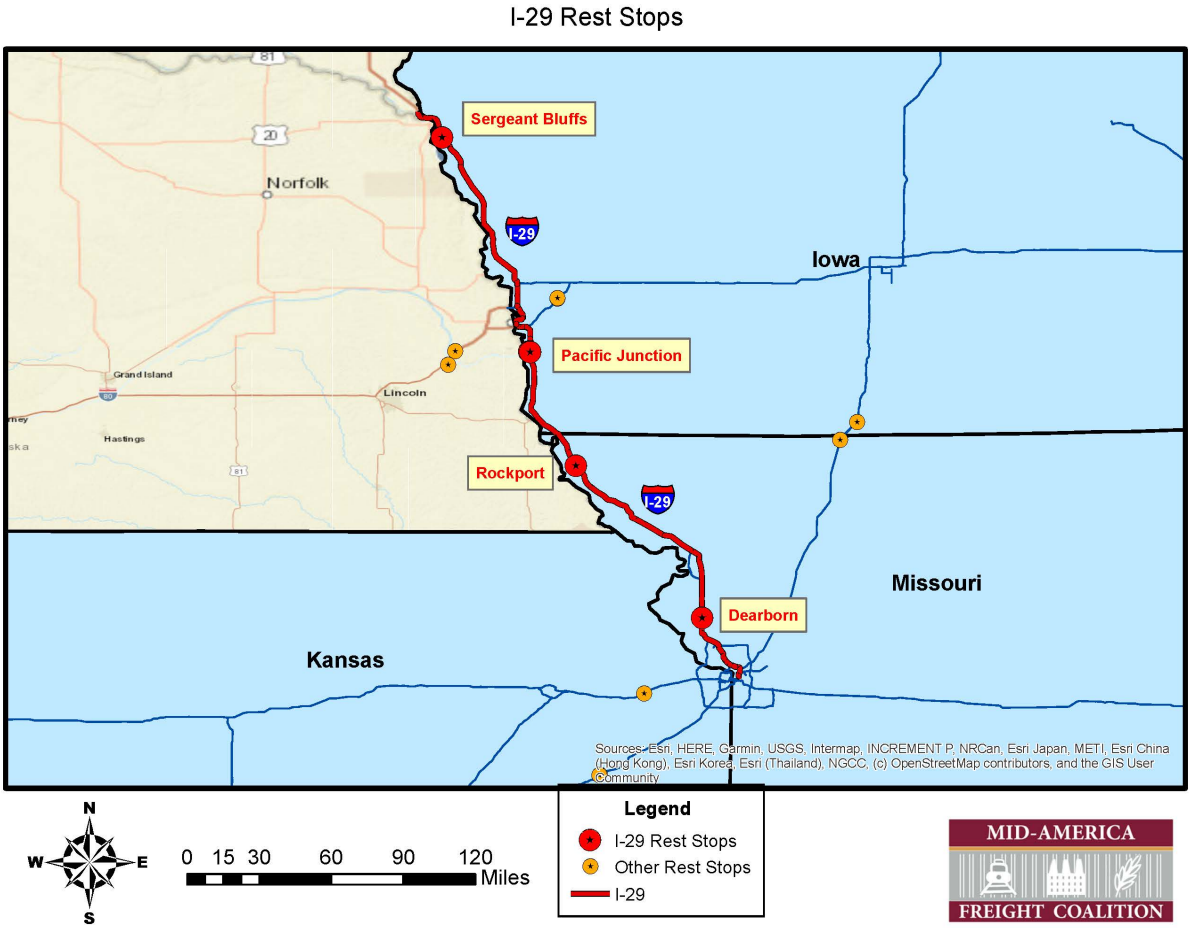

Figure 5-2: State-border public rest stops along I-29 corridor.

Table 5-1: State-border public rest stops along I-29 corridor with number of truck parking stalls.

Number (N to S)	Name	State	No. of Stalls
1	Sergeant Bluffs	IA	29
2	Pacific Junction	IA	15 (NB), 15 (SB)
3	Rockport	MO	39
4	Dearborn	MO	23

I-35

The I-35 corridor is relevant to the freight economies in Minnesota, Iowa, Missouri and Kansas. Spanning across the four states, the corridor is the third longest corridor in the region behind I-70 and I-94 claiming 7.2% of the total National Highway Freight Network (NHFN) length within MAASTO states. The corridor supports the movement goods valued at roughly 5.5% of the total corridor freight economic value across the region.

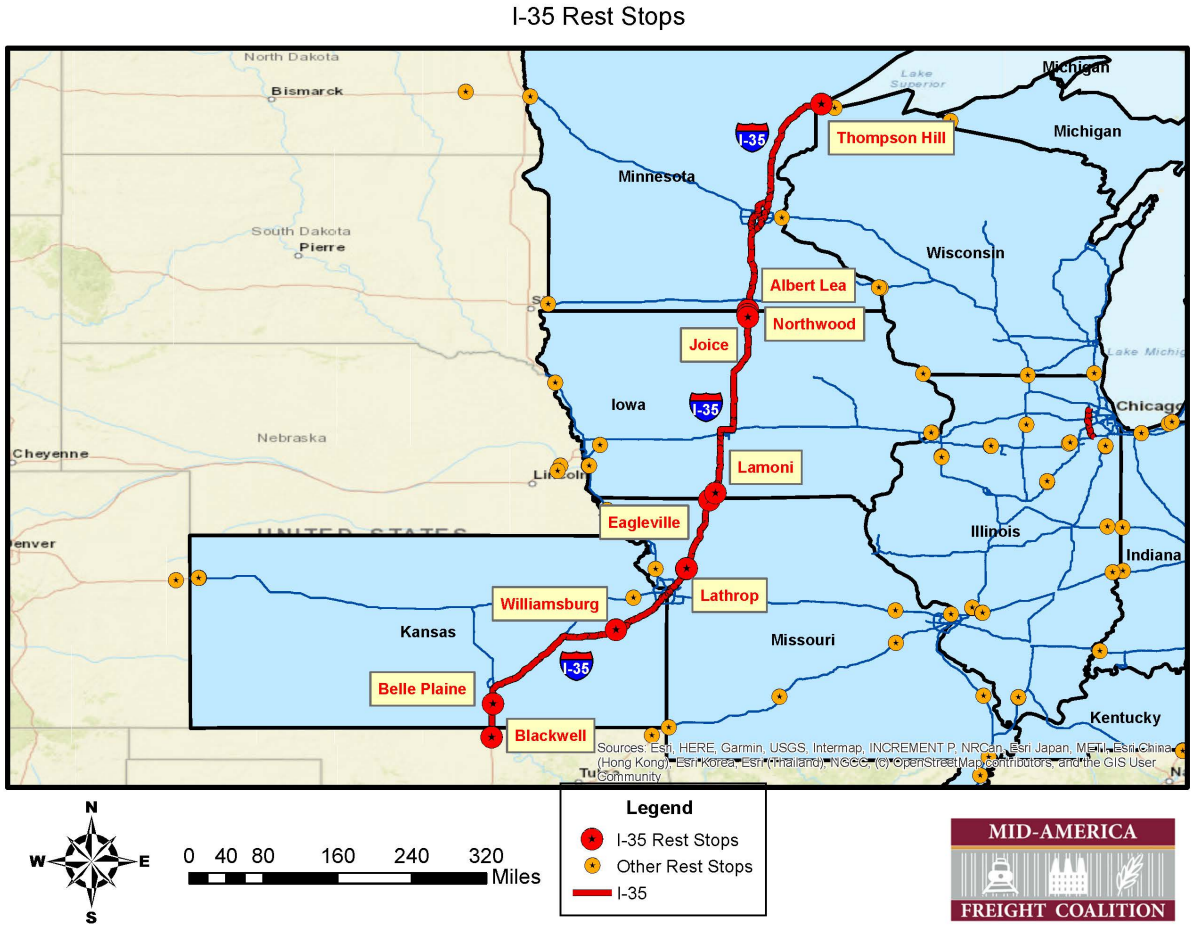

Figure 5-3: State-border public rest stops along I-35 corridor.

Table 5-2: State-border public rest stops along I-35 corridor with number of truck parking stalls.

Number (N to S)	Name	State	No. of Stalls
1	Thompson Hill	MN	10
2	Albert Lea	MN	29
3	Northwood	IA	34
4	Joice	IA	25
5	Lamoni	IA	16
6	Eagleville	MO	40

7	Lathrop	MO	9 (NB), 12 (SB)
8	Williamsburg	KS	14 (NB), 14 (SB)
9	Belle Plaine	KS	40
10	Blackwell	OK	35

I-39

While neither among the longest or the most valuable overall, the I-39 corridor supports valuable freight economies in the states of Illinois and Wisconsin. In Illinois, the freight movement supported by the corridor is valued at over $500 million, making it the fourth most important corridor within the state behind I-294, I-190, and I-80 for freight transportation.

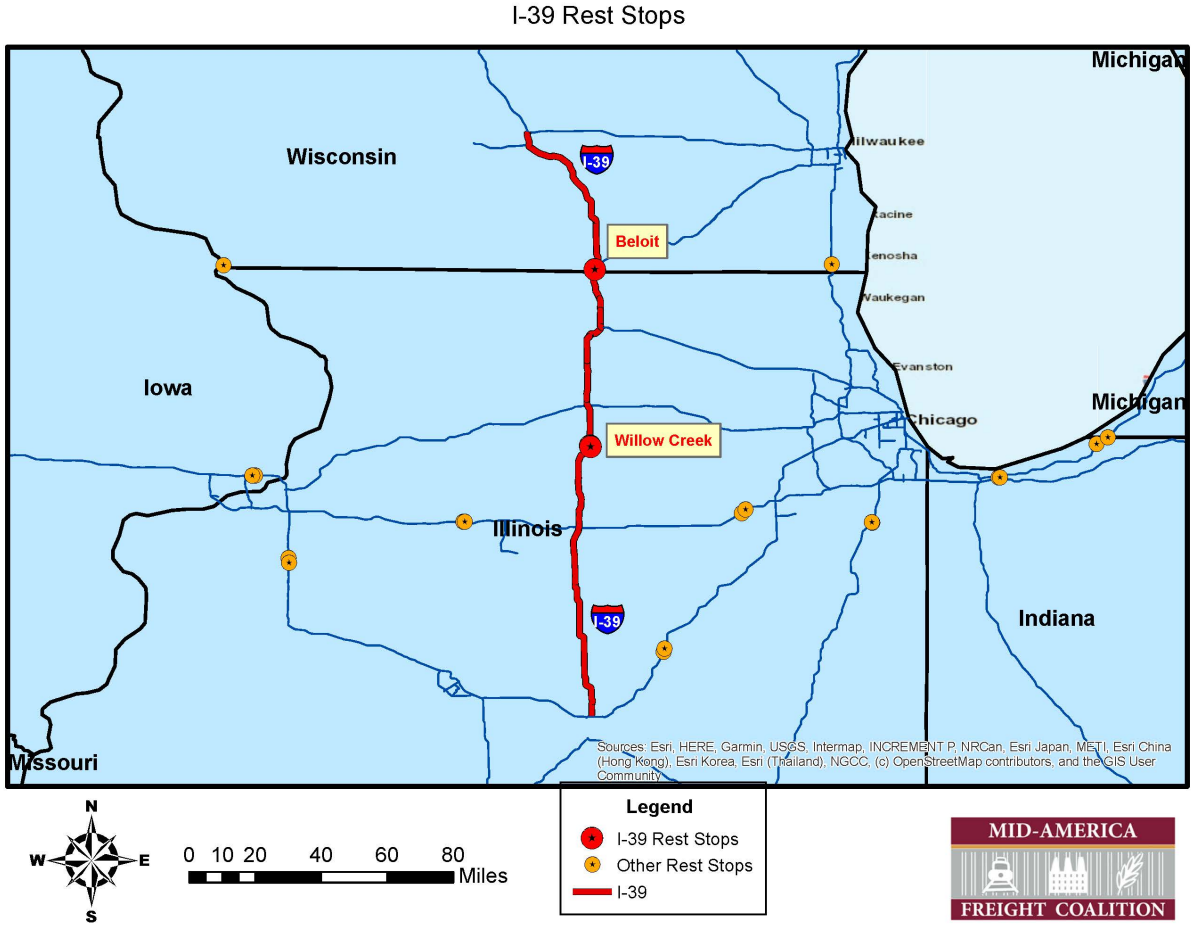

Figure 5-4: State-border public rest stops along I-39 corridor.

Table 5-3: State-border public rest stops along I-39 corridor with number of truck parking stalls.

Number (N to S)	Name	State	No. of Stalls
1	Beloit	WI	30
2	Willow Creek	IL	40 (NB), 40 (SB)

I-55

The I-55 corridor spanning across Illinois and Missouri constitutes roughly 4.5% of the MAASTO freight corridors by length and supports movement of freight valued at roughly 3.2% by corridor economic value. The corridor ranks 3rd by corridor economic value in both Missouri (behind I-70 and I-44), and Illinois (behind I-57 and I-80), with 12.4% and 12.5% share by corridor economic value in the two states respectively.

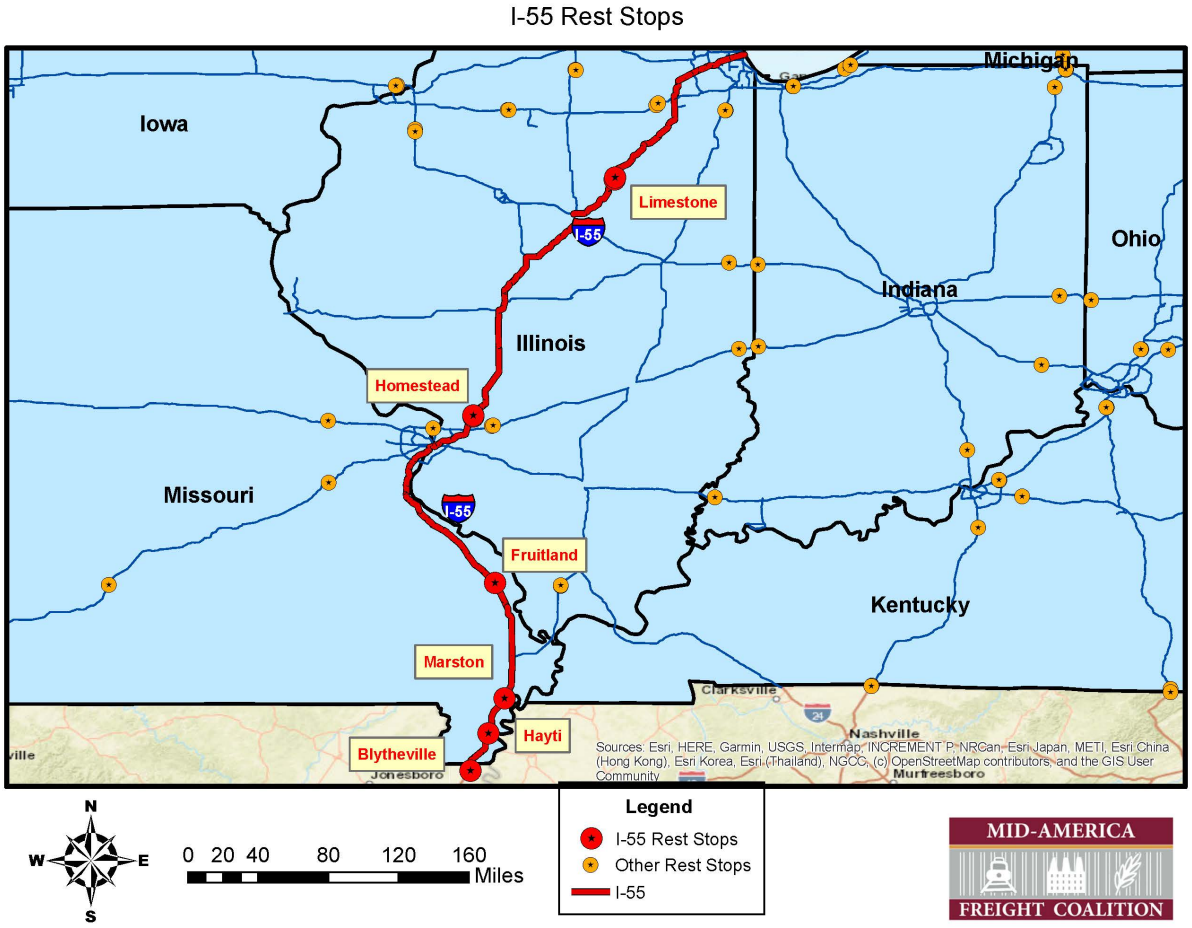

Figure 5-5: State-border public rest stops along I-55 corridor.

Table 5-4: State-border public rest stops along I-55 corridor with number of truck parking stalls.

Number (N to S)	Name	State	No. of Stalls
1	Limestone	IL	32 (NB), 25 (SB)
2	Homestead	IL	40 (NB), 46 (SB)
3	Fruitland	MO	15
4	Marston	MO	68
5	Hayti	MO	70
6	Blytheville	AR	16

I-65

The I-65 corridor is valued at a 5.5% share by economic value of freight carried to the MAASTO region's interstate freight network, spanning the states of Indiana and Kentucky. The corridor has a relatively high average corridor value per mile for the region. It is one of the most important corridors for Indiana and Kentucky, connecting the states to the Gulf of Mexico to the south. In Indiana, the I-65 corridor is valued at a 25.7% share of the state's total freight corridor value, and a substantial 33.5% share in Kentucky.

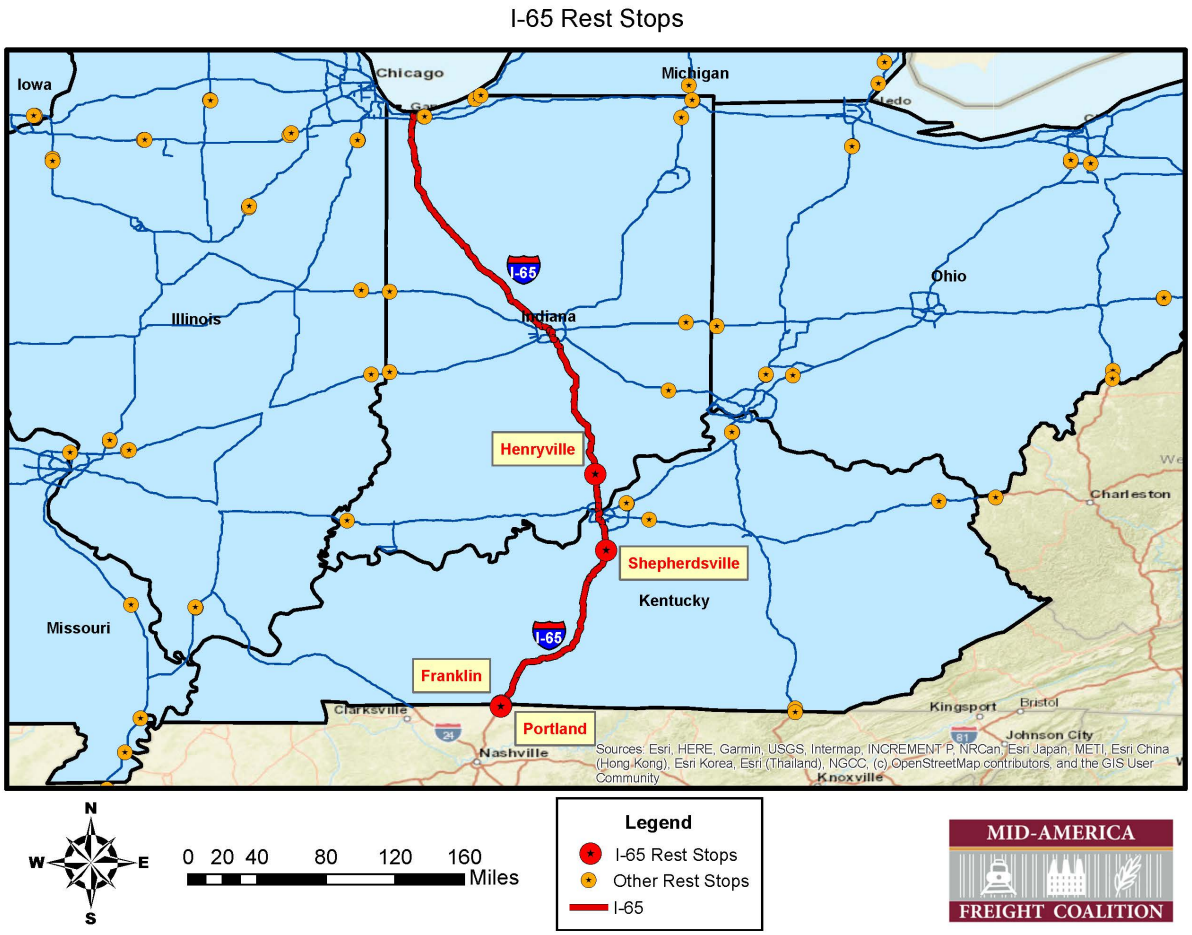

Figure 5-6: State-border public rest stops along I-65 corridor.

Table 5-5: State-border public rest stops along I-65 corridor with number of truck parking stalls.

Number (N to S)	Name	State	No. of Stalls
1	Henryville	IN	64
2	Bullitt County	KY	27
3	Simpson County	KY	21
4	Portland	TN	18

I-69

Spanning across Indiana and Michigan, the I-69 corridor plays a substantial role in the movement of transportation equipment and agricultural products in the state of Michigan and is expected to be important for the biomedical and chemical manufacturing sectors in Indiana (based on state DOT personnel survey conducted in (22)). I-69 is in the process of being extended through Indiana and Kentucky continuing into Tennessee. As of the date of this report, I-69 is signed through parts of western Kentucky (Henderson County through to Graves County) but does not yet have any rest stops along the route in Kentucky and thus the map below only shows I-69 as it extends through Michigan and Indiana. By share of economic value, the corridor ranks 4th in Michigan at a 12.2% share and 3rd in Indiana at roughly 15.3% share for the state.

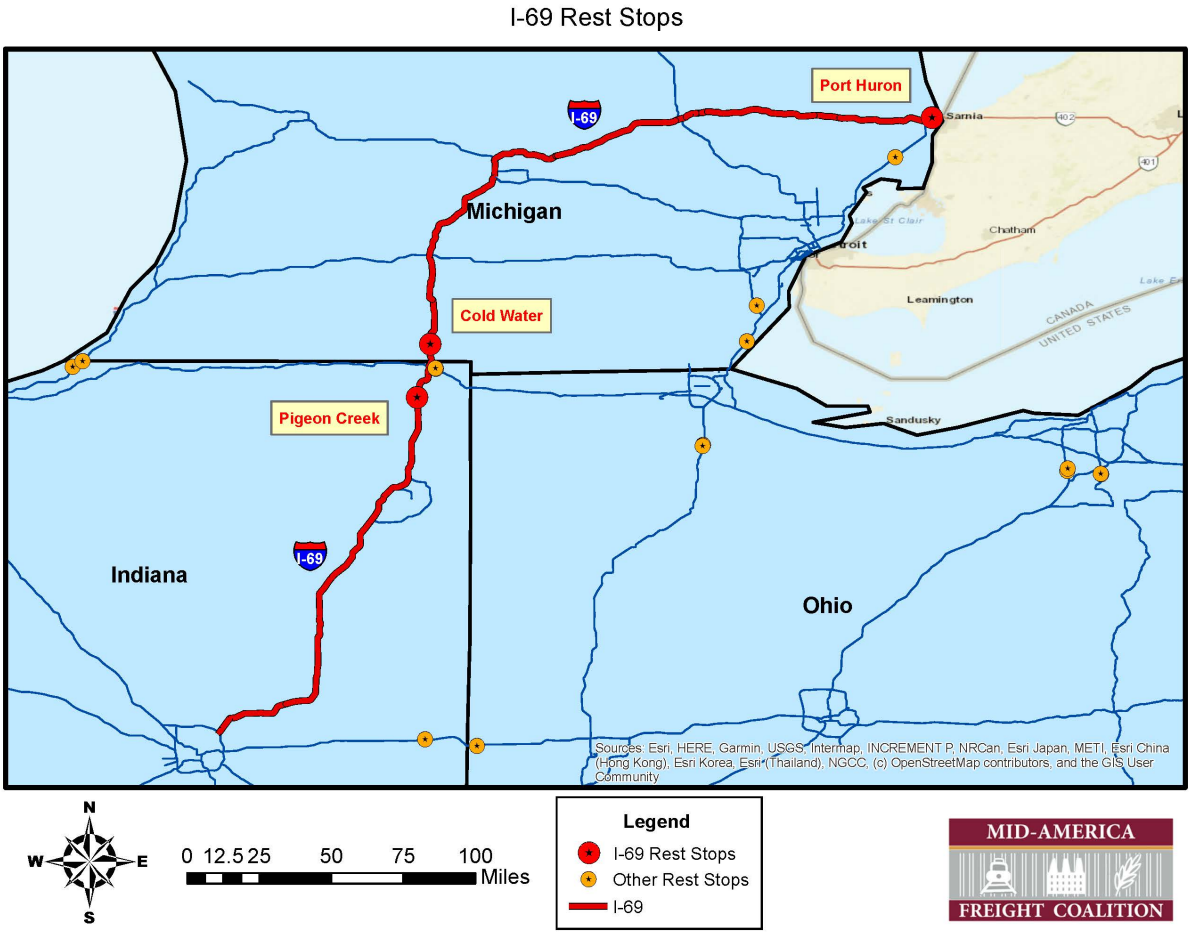

Figure 5-7: State-border public rest stops along I-69 corridor.

Table 5-6: State-border public rest stops along I-69 corridor with number of truck parking stalls.

Number (N to S)	Name	State	No. of Stalls
1	Port Huron	MI	36
2	Cold Water	MI	24
3	Pigeon Creek	IN	18

I-70

I-70 is the longest corridor within the MAASTO region, spanning across Kansas, Missouri, Illinois, Indiana, and Ohio, covering nearly 10% by roadway length of the National Highway Freight Network system within the MAASTO states. It ranks 3rd within the region in terms of total corridor economic value, carrying roughly 9.1% of the combined corridor value across the region. The corridor is valued at a massive 55.6% share in Kansas, 30.4% in Missouri, 13.9% in Ohio, and 11% share in Indiana of each state's total interstate freight value. In Illinois, the interstate freight value of I-70 is less than that of the top 5 corridors ranked in previous research, and thus the calculated value of freight moved on the corridor is not available. I-70 is the corridor carrying the most value in Kansas and Missouri and ranks 3rd and 4th by value in Ohio and Indiana, respectively.

I-70 Rest Stops

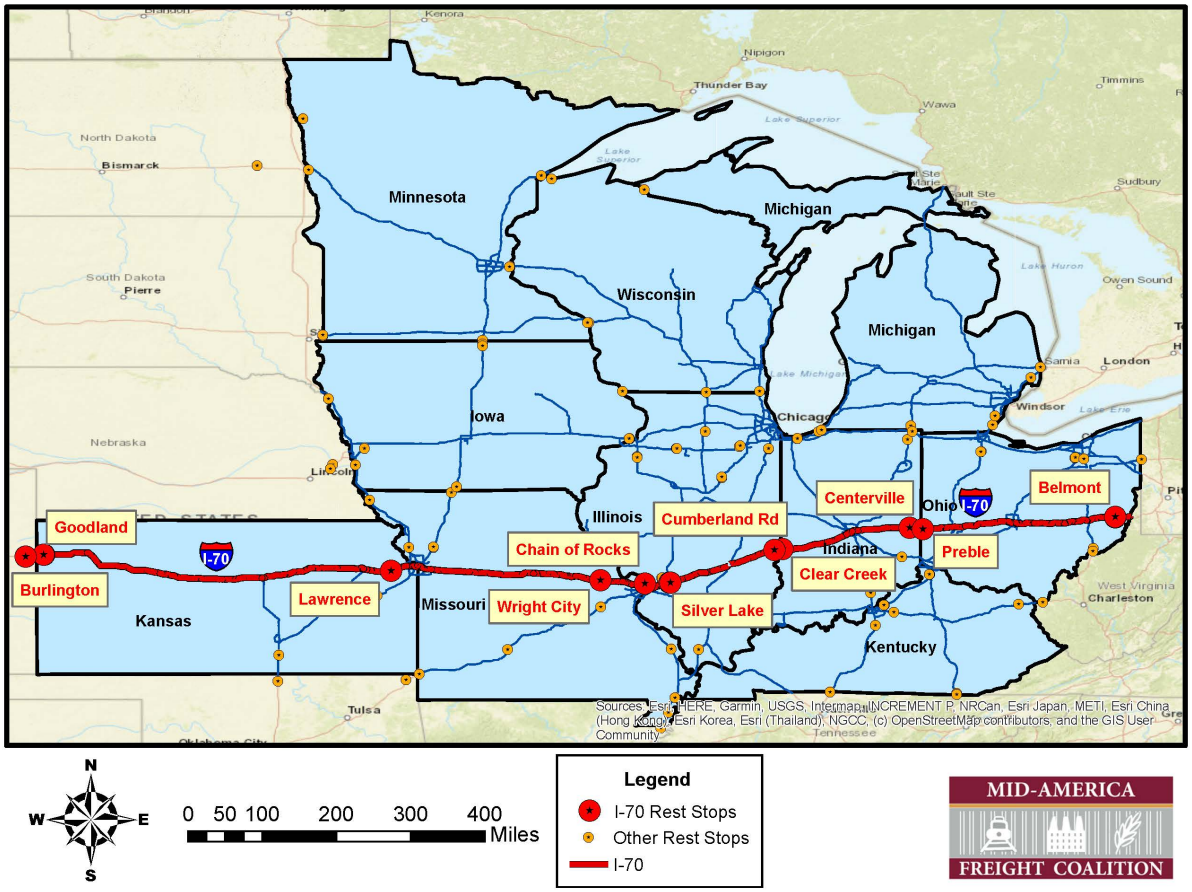

Figure 5-8: State-border public rest stops along I-70 corridor.

Table 5-7: State-border public rest stops along I-70 corridor with number of truck parking stalls.

Number (W to E)	Name	State	No. of Stalls
1	Burlington	CO	12
2	Goodland	KS	Unmarked
3	Lawrence	KS	Unmarked

4	Wright City	MO	18
5	Chain of Rocks (I-270)	MO	7
6	Silver Lake	IL	22 (EB), 20 (WB)
7	Cumberland Road	IL	38
8	Clear Creek	IN	50
9	Centerville	IN	19
10	Preble	OH	59
11	Belmont	OH	19 (EB), 24 (WB)

I-71

The I-71 network spans across Ohio and Kentucky, carrying 3.3% of the overall freight corridor value in the MAASTO region, being an important corridor for freight movement within each state. In Ohio, I-71 accounts for 17.8% of the state's total freight corridor value, second in value to I-80. In Kentucky, I-71 ranks 3rd in terms of economic value behind I-65 and I-75 with a 16.3% share of the state's freight corridor value.

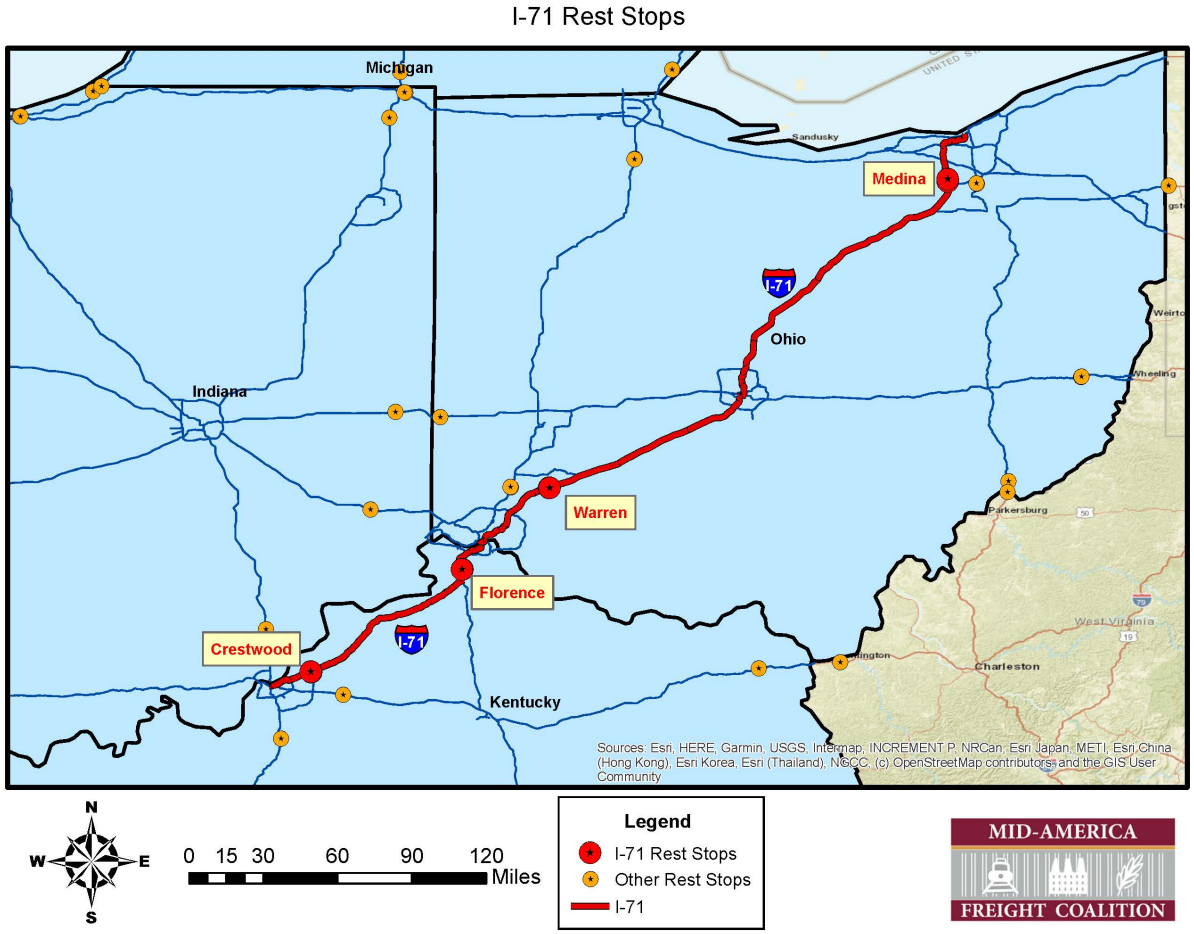

Figure 5-9: State-border public rest stops along I-71 corridor.

Table 5-8: State-border public rest stops along I-71 corridor with number of truck parking stalls.

Number (N to S)	Name	State	No. of Stalls
1	Medina	OH	10 (NB), 20 (SB)
2	Warren	OH	20 (NB), 20 (SB)
3	Boone County	KY	55 (NB), 65 (SB)
4	Crestwood	KY	14 (NB), 12 (SB)

I-75

The I-75 corridor is the fifth longest corridor within the region by length of roadway. The corridor also ranks 5th in the region in terms of economic value accounting for a 6.6% share of the region's freight corridor value. The corridor is important to the states of Michigan, Ohio, and Kentucky acting as a heavy north-south automobile industry supply chain route. The corridor commands a 22.8% share of freight corridor economic value in Kentucky (2nd highest for the state), a major 35.2% share in Michigan (highest in the state), and 12.9% share in Ohio (4th largest in the state).

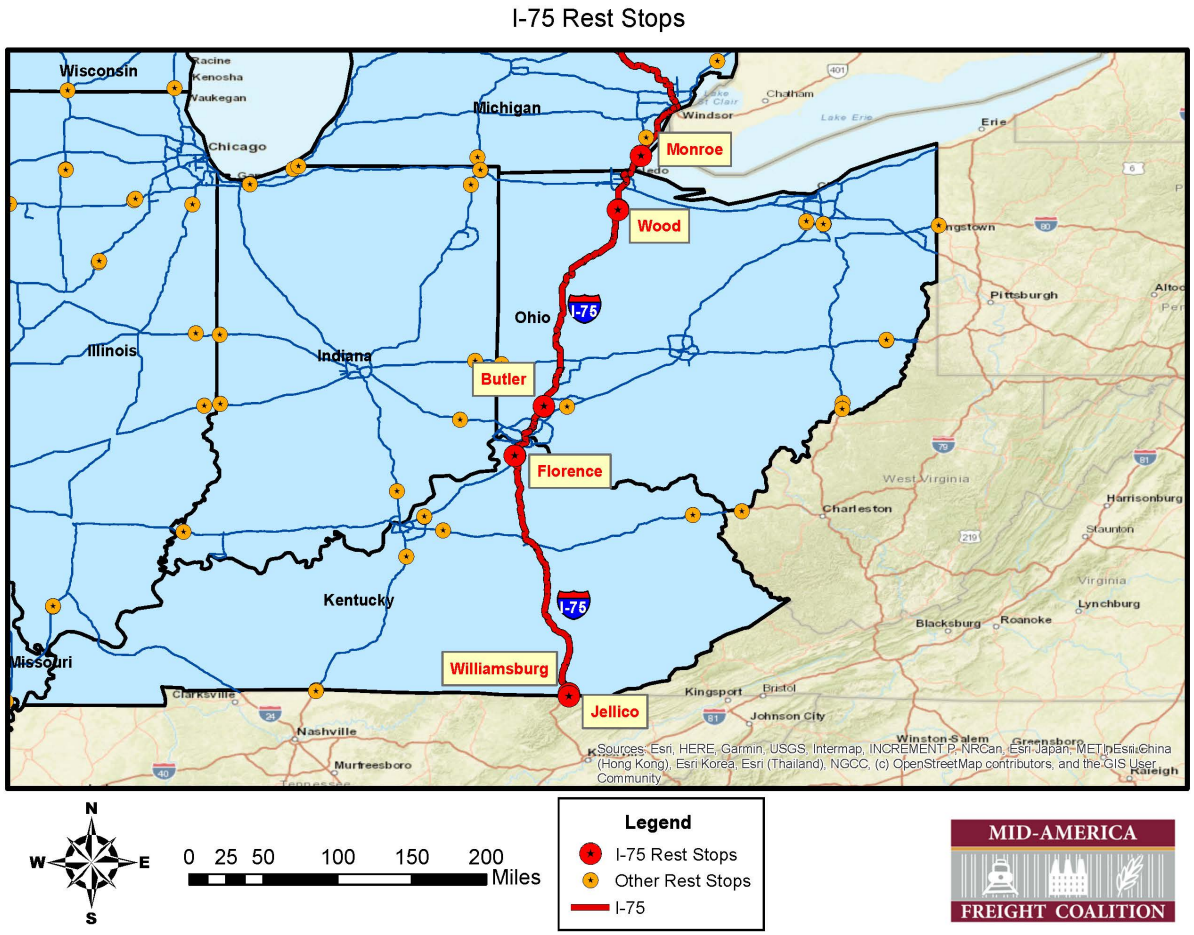

Figure 5-10: State-border public rest stops along I-75 corridor.

Table 5-9: State-border public rest stops along I-75 corridor with number of truck parking stalls.

Number (N to S)	Name	State	No. of Stalls
1	Monroe	MI	46
2	Wood	OH	29 (NB), 30 (SB)
3	Butler	OH	20 (NB), 20 (SB)
4	Boone County	KY	55 (NB), 65 (SB)
5	Whitley County	KY	21

6	Jellico	TN	12

I-80

The I-80 corridor, spanning across Illinois, Iowa, Indiana and Ohio is the most valuable freight corridor in the MAASTO region by corridor economic value, with a 13.3% share for the region's total estimated freight corridor economic value. It corresponds to a 31.7% share of the state's total freight corridor economic value in Ohio, a massive 65% in Iowa, 28.4% in Indiana, and 14.7% in Illinois, making it the most important freight corridor in the first three states, and only slightly behind I-57 in value in Illinois. Movement within Iowa make up for 35.2% of the value of the corridor within the region, with Ohio at 24.2%, Indiana at 20.4% and Illinois at 20.3% of the value.

I-80 Rest Stops

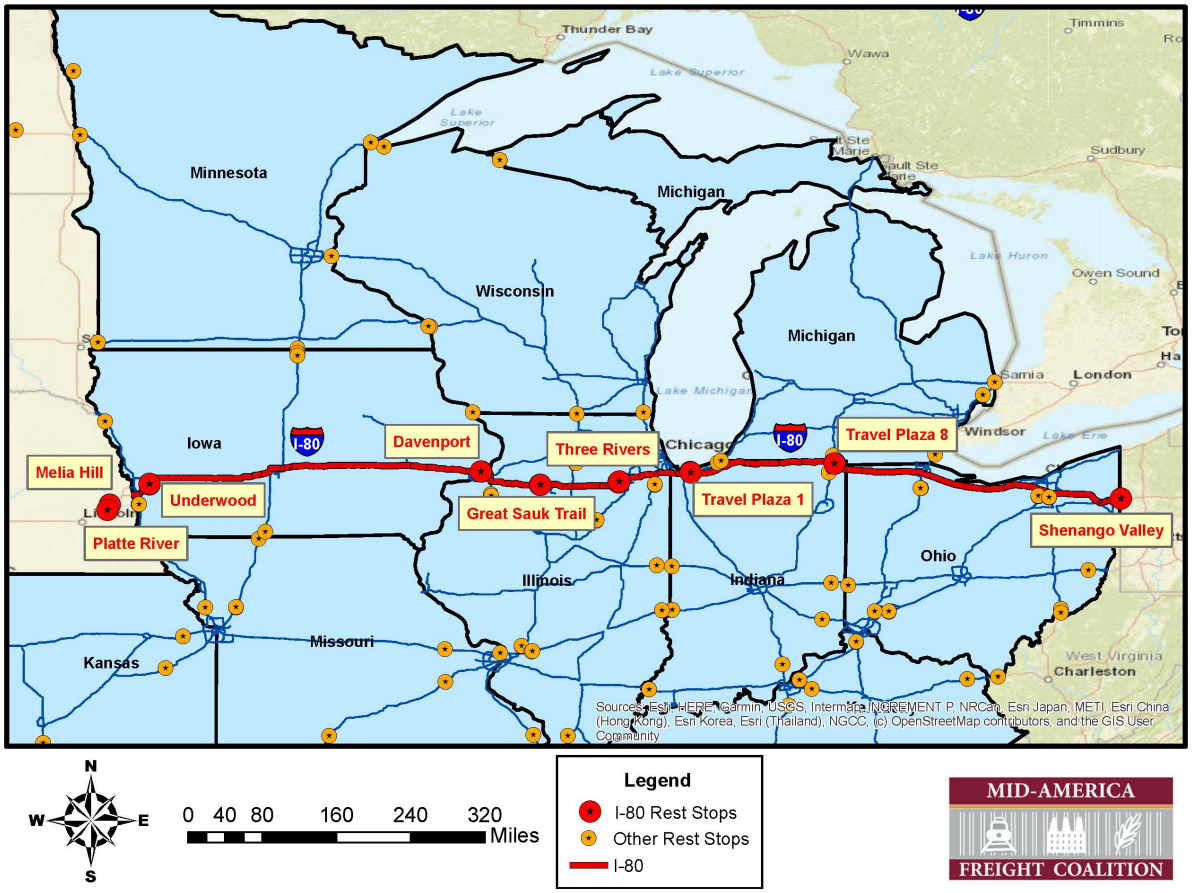

Figure 5-11: State-border public rest stops along I-80 corridor.

Table 5-10: State-border public rest stops along I-80 corridor with number of truck parking stalls.

Number (W to E)	Name	State	No. of Stalls
1	Platte River EB	NE	10
2	Melia Hill WB	NE	24
3	Underwood	IA	15 (EB), 16 (WB)
4	Davenport	IA	14 (EB), 20 (WB)
5	Great Sauk Trail	IL	35 (EB), 47 (WB)

6	Three Rivers	IL	23 (EB), 35 (WB)
7	Travel Plaza 1	IN	75 (EB), 40 (WB)
8	Travel Plaza 8	IN	50
9	Shenango Valley	PA	10

I-90

The I-90 corridor makes up 8.9% of the region's freight corridor value, ranking 4th most valuable corridor to freight movement behind I-80, I-94, and I-70. Much of the value is attributed to freight in Wisconsin (53.4% of the corridor's value), followed by Minnesota (21.8%) and Illinois (18.8%), with Ohio (5.4%) and Indiana (roughly 0.6%) having relatively lower contributions, respectively.

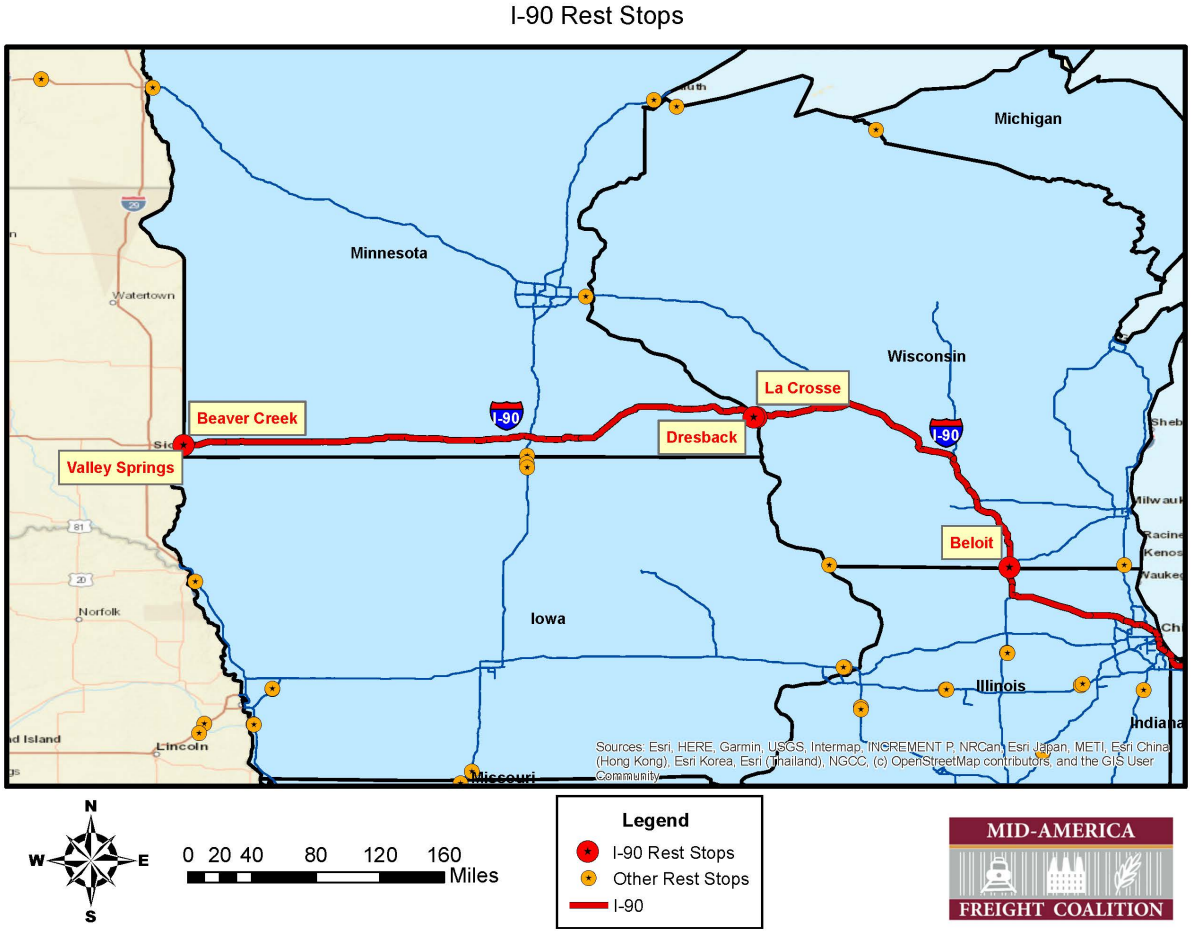

Figure 5-12: State-border public rest stops along I-90 corridor.

Table 5-11: State-border public rest stops along I-90 corridor with number of truck parking stalls.

Number (W to E)	Name	State	No. of Stalls
1	Valley Spring	SD	29
2	Beaver Creek	MN	22
3	Dresbach	MN	Unmarked
4	La Crosse	WI	16
5	Beloit	WI	30

I-94

The I-94 corridor is important to the freight movement in Minnesota and Wisconsin with a very high economic value associated with this corridor. Ranked by economic value of freight (volume and value of goods carried by the corridor), it comes in second in the MAASTO region behind I-80, carrying a 12.9% share of total value for the region. Most of the value is realized in Wisconsin (40.6%) and Minnesota (36.6%), with Michigan (17.8%), Illinois (4.3%) and Indiana (0.7%) making up the rest of the share. The corridor ranks second behind I-70 in total roadway length. Together, the I-90 and I-94 network makes up 21.8% of value across the region. I-94 is the main corridor for value of trade in both Minnesota (48.9% of state's corridor value) and Wisconsin (39.9%), and makes up 25.7% of the freight corridor value in Michigan.

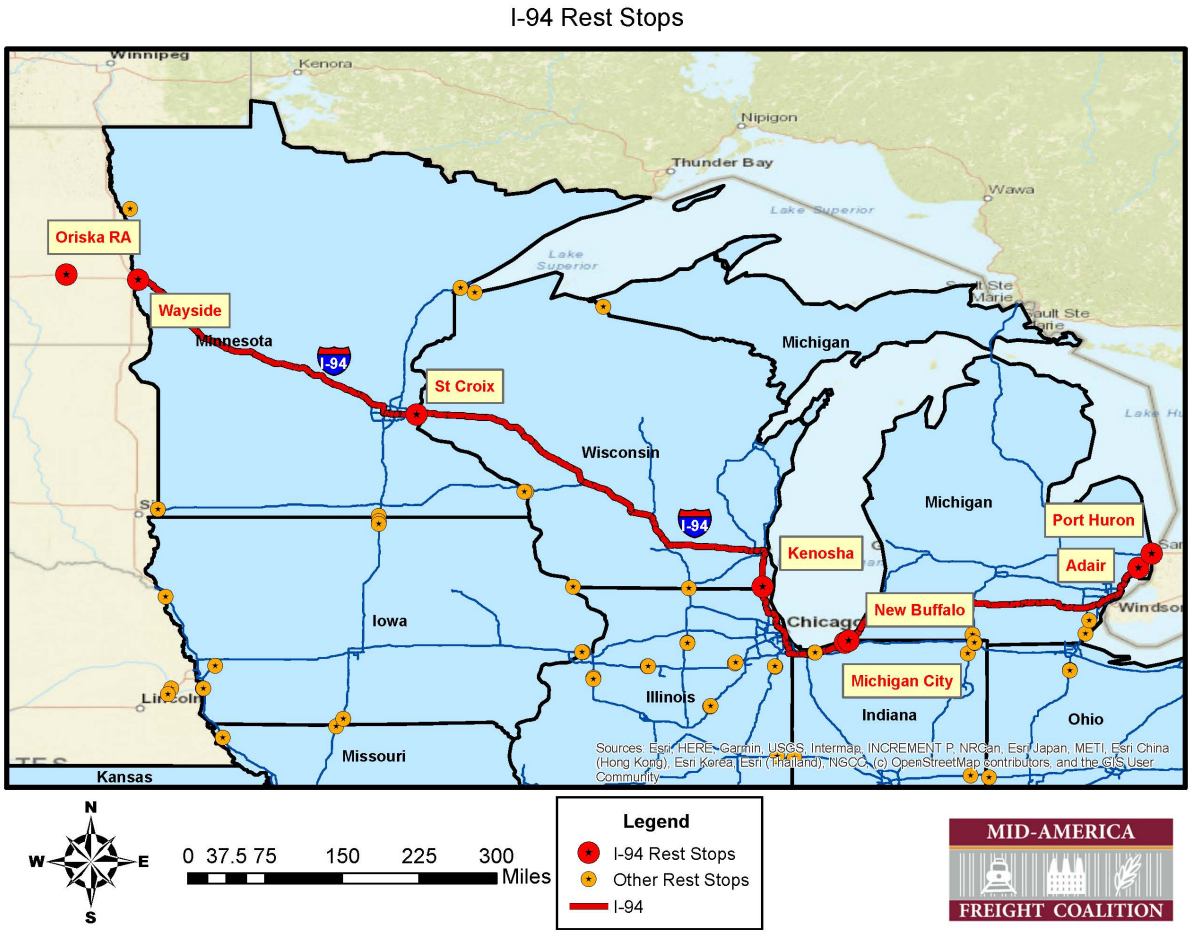

Figure 5-13: State-border public rest stops along I-94 corridor.

Table 5-12: State-border public rest stops along I-94 corridor with number of truck parking stalls.

Number (W to E)	Name	State	No. of Stalls
1	Oriska	ND	Unmarked
2	Wayside	MN	10
3	St Croix	MN	53

4	Kenosha	WI	27
5	Michigan City	IN	31
6	New Buffalo	MI	35
7	Adair	MI	21
8	Port Huron	MI	36

6. FINDINGS AND CONCLUSIONS

In this section, we discuss the key findings and recommendations from the effort.

Rest Area Information

The study found that all states carry maps for public rest areas either through the department of transportation websites, or through other state government websites. While all ten states carry information on public parking available at rest areas and welcome centers within the state, only Iowa and Missouri carry additional information on private truck parking locations (investigating the extent of this list was outside the scope of the present study).

While all states carry some degree of interactive maps providing information on the rest areas, only four states, Indiana, Kentucky, Missouri and Wisconsin, made precise GPS coordinates available to viewers. Most states do list mile marker information for rest area parking locations, but these can sometimes be unreliable as the mile markers are approximate markers and may not always carry precise information for the location (for example, if the rest area is upstream or downstream of a nearby ramp exit). Many states do not list the parking capacity at the location. Addition of such information could be helpful to truck operators and to agencies that wish to aggregate information under one-stop information sources for truck operators.

Along a similar theme, there is little consistency between the states regarding what additional information is available at each parking location. For example, some states do not list any information regarding what amenities are available at the location, while others only carry basic information on access to water, food and/or public restrooms.

Our recommendation is that all states work to provide consistent information on amenities, exact location data, and size for each location. The 511 travel information portal effort undertaken by some states is a positive step towards providing consistent information to drivers.

OSOW Specific Parking

A major finding of the research was a lack of defined OSOW specific parking space availability. The survey conducted with the states led to the understanding that none of the states identify and advertise public OSOW specific parking locations (though some states have suggested OSOW parking) and instead relay general truck parking information to OSOW operators assuming OSOW trucks can park at general truck parking sites. Since OSOW needs are not specifically identified and catered to, OSOW trucks have to take up multiple truck parking spots when possible, or park along shoulders, ramps, or rest area access roadways (such as in situations where OSOW trucks cannot fit into multiple regular truck stalls). Further, specific needs for access road geometry and pavements are not always clearly identified. The study does recognize that for many OSOW and superloads, appropriate parking locations are identified and secured prior to the move.

Minnesota is currently undertaking an effort to study truck parking needs within the state. As part of the study, the state is exploring needs specific to OSOW trucks. The study has so far found that OSOW parking demand is vastly exceeding the supply available, and as a result, OSOW trucks are parking along shoulders and ramps while they wait for escorts or to comply with hours of service regulations. Equivalent efforts across the MAASTO states can lead to a better repository of OSOW specific parking information.

Additionally, a region-wide state and industry roundtable is recommended to address current and future truck parking needs. MAASTO has a strong relationship with the trucking and OSOW

industry and this should be leveraged to identify industry-based perception of parking needs, locations and amenities. While limited funding hinders parking expansion, this industry involvement could help identify low cost solutions as well as increase the awareness of parking needs across federal and state funding institutions.

To further support expansion of commercial vehicle parking, including the needs of OSOW carriers, additional research should be conducted to identify the economic and safety benefits provided by truck parking facilities. Most transportation practitioners are aware of the importance of parking and rest facilities but the actual return on these investments is less clear. Further, the cost of not providing adequate truck and OSOW specific parking is likely more than expected in terms of economic efficiency and safety.

TPIMS

While currently not directly relevant to OSOW truck parking, it is important to note that the Truck Parking Inventory Management System (TPIMS) is an important resource for truck operators. As more locations come online, drivers and operators will have live information on where to find parking, which can lead to better utilization of truck parking capacity and avoid overcrowding in some situations.

Regional Harmonization

General truck parking and parking for OSOW vehicles will continue to be an issue across the MAASTO region and the nation. Providing easy to use, consistent, and accessible information on parking locations, amenities, available parking spaces, and OSOW suitability will generate substantial benefits to truck operators. The information can allow for more effective route and rest planning, greater fuel and economic efficiency, increased safety for weary drivers, and greater accommodation of OSOW moves.

The MAASTO states are leading the way nationally on harmonization with high levels of coordination across the states via the Motor Carriers Committee and Standing Committee on Highway Transport, the TPIMS project, and an overall willingness of these states to work regionally. This initiative by the states should be supported and encouraged. Similar efforts are needed nationally to capture the safety, economic, and customer experience benefits of consistent and thorough information for all truck operators.

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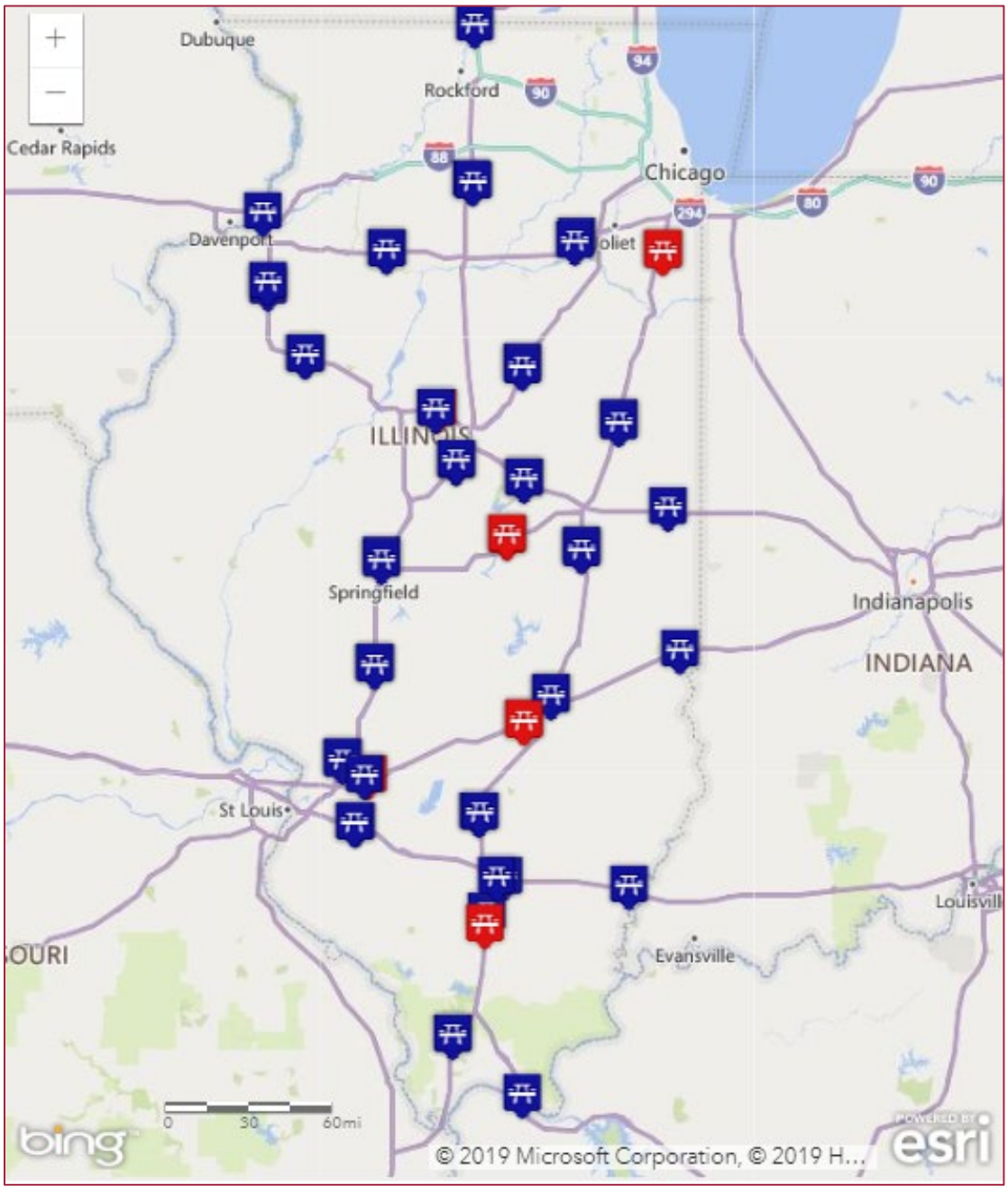
APPENDIX A – STATE REST STOP MAPS

The appendix presents the complete state public rest area and parking maps as available from the respective state's resource pages, typically hosted by the Department of Transportation or other state government agencies. The images are simple screen captures from the corresponding webpage listed below.

Illinois

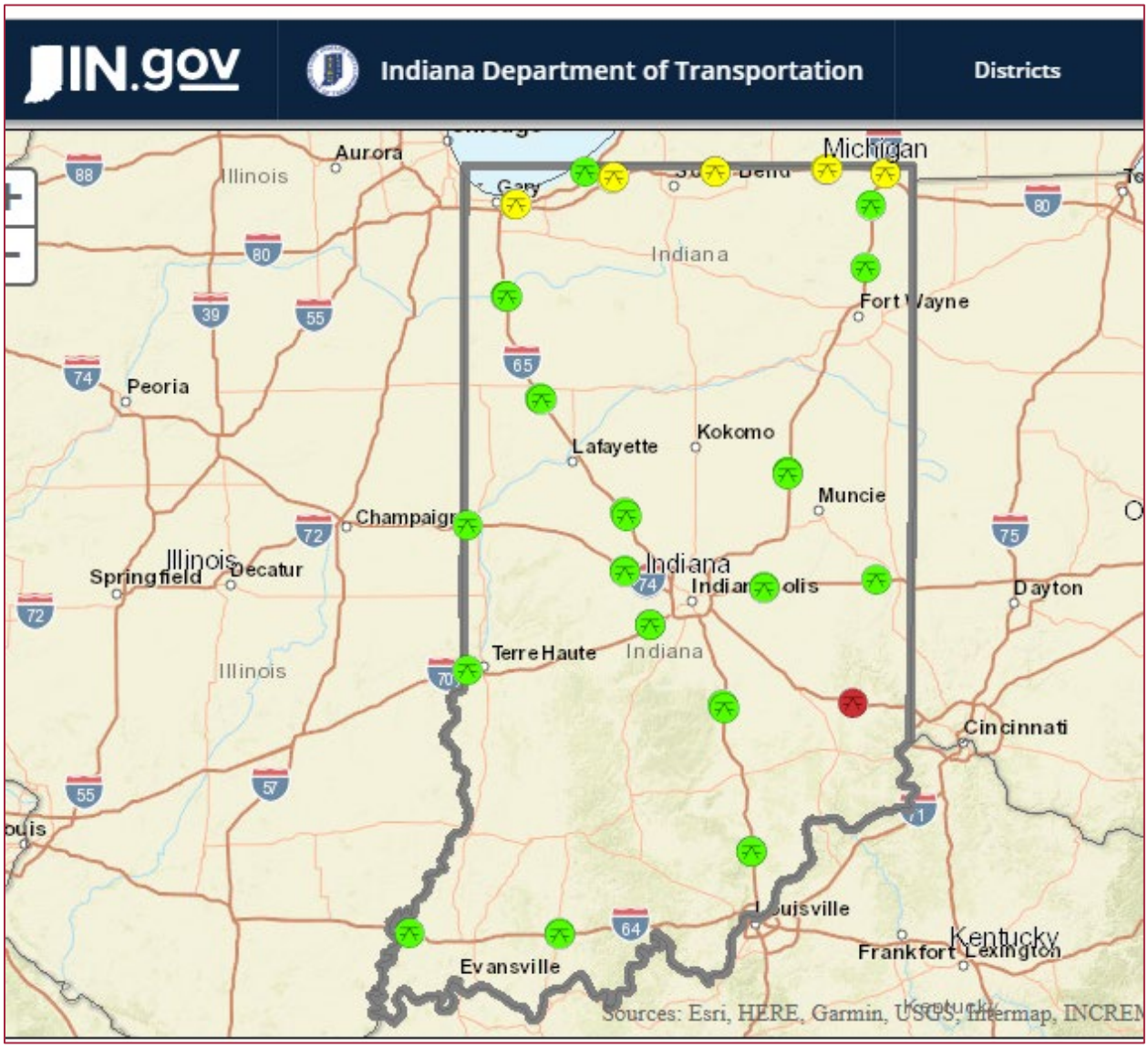
Illinois DOT Rest Areas and Welcome Centers



Key: Blue markers represent open rest stops and red markers represent closed rest stops.

Indiana

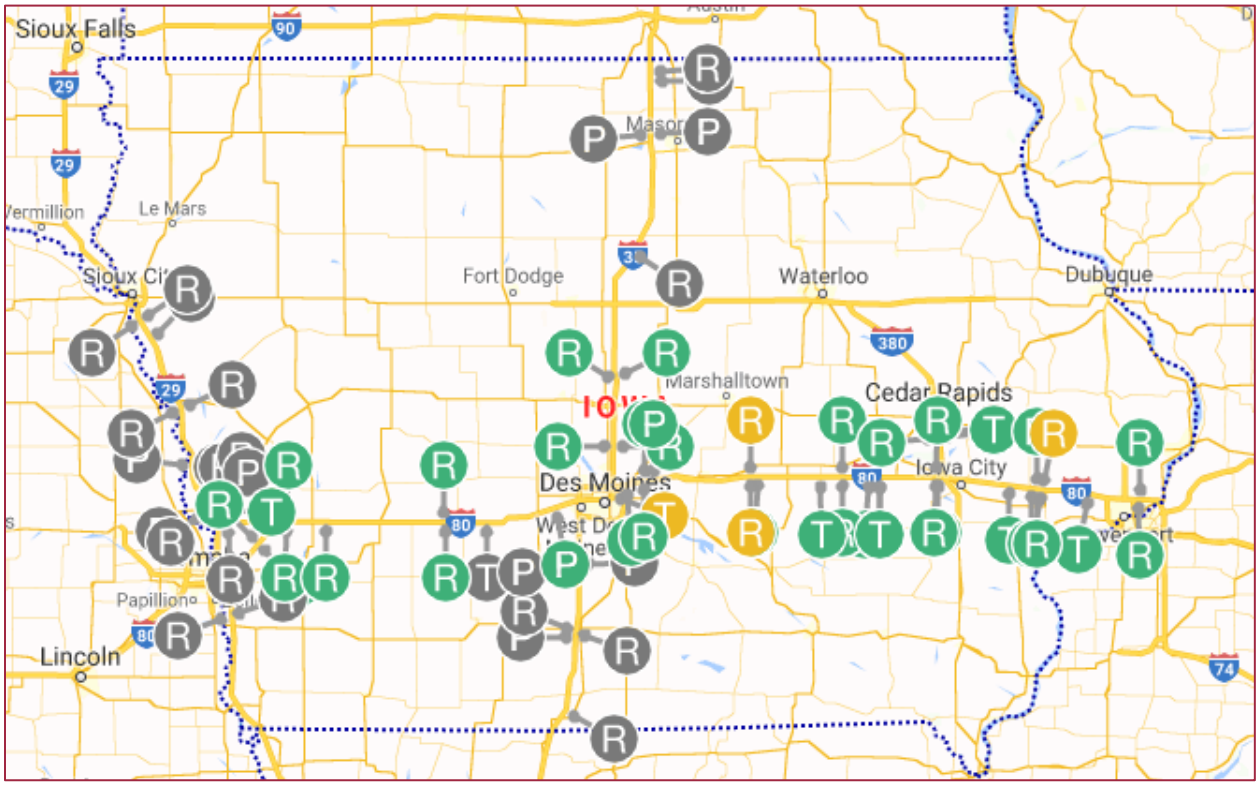
Indiana Welcome Centers and Rest Areas



Key: Green markers represent open public rest stops, red markers represent closed rest stops, and yellow markers represent Indiana Toll Road Travel Plazas.

Iowa

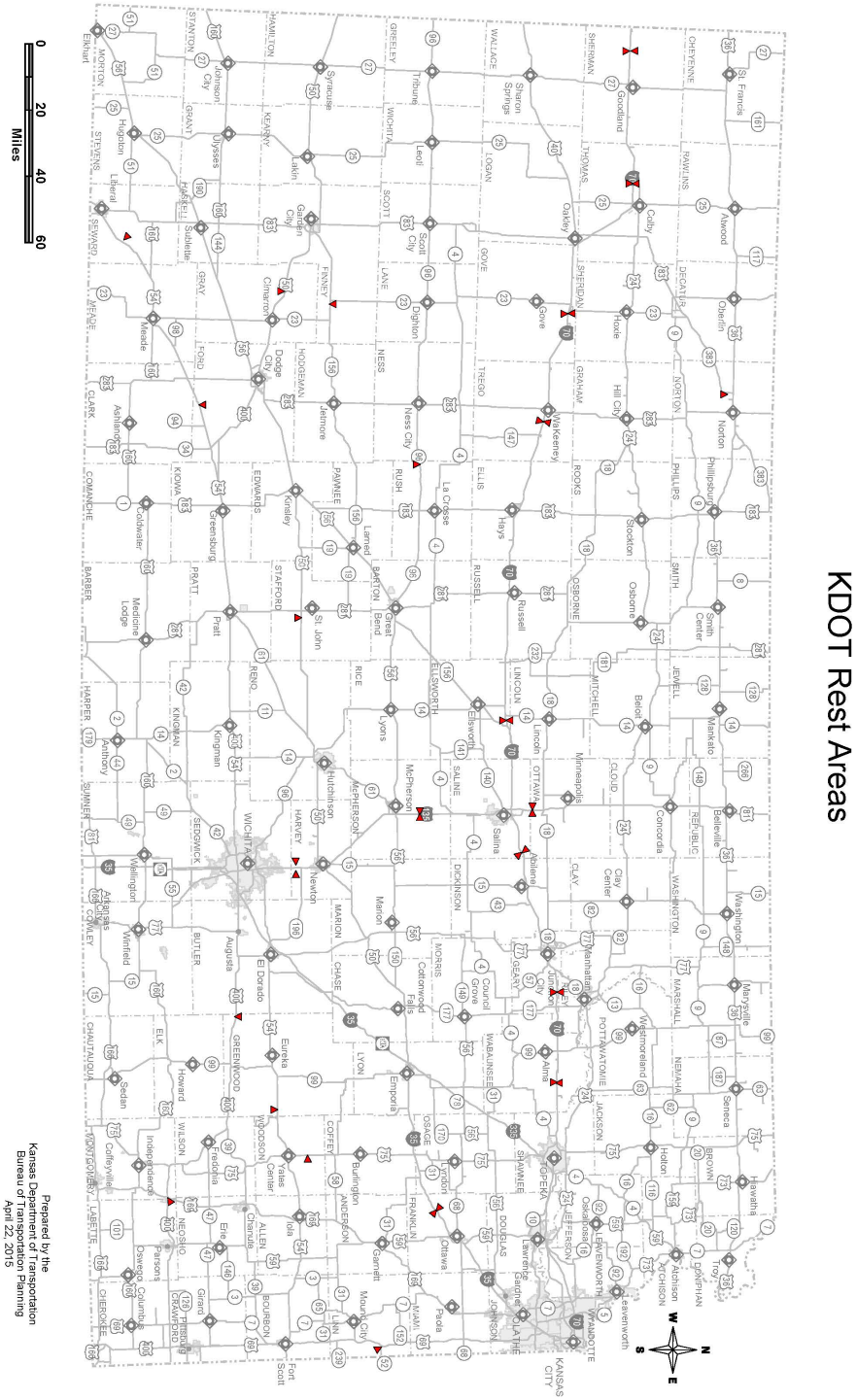
511 Iowa – Rest Areas



Key: Icon lettering represents type of parking (R: Rest area, P: Parking only rest area, T: Private truck stop) and coloring represents real-time parking availability (green: high, yellow: medium, and red: low availability).

Kansas

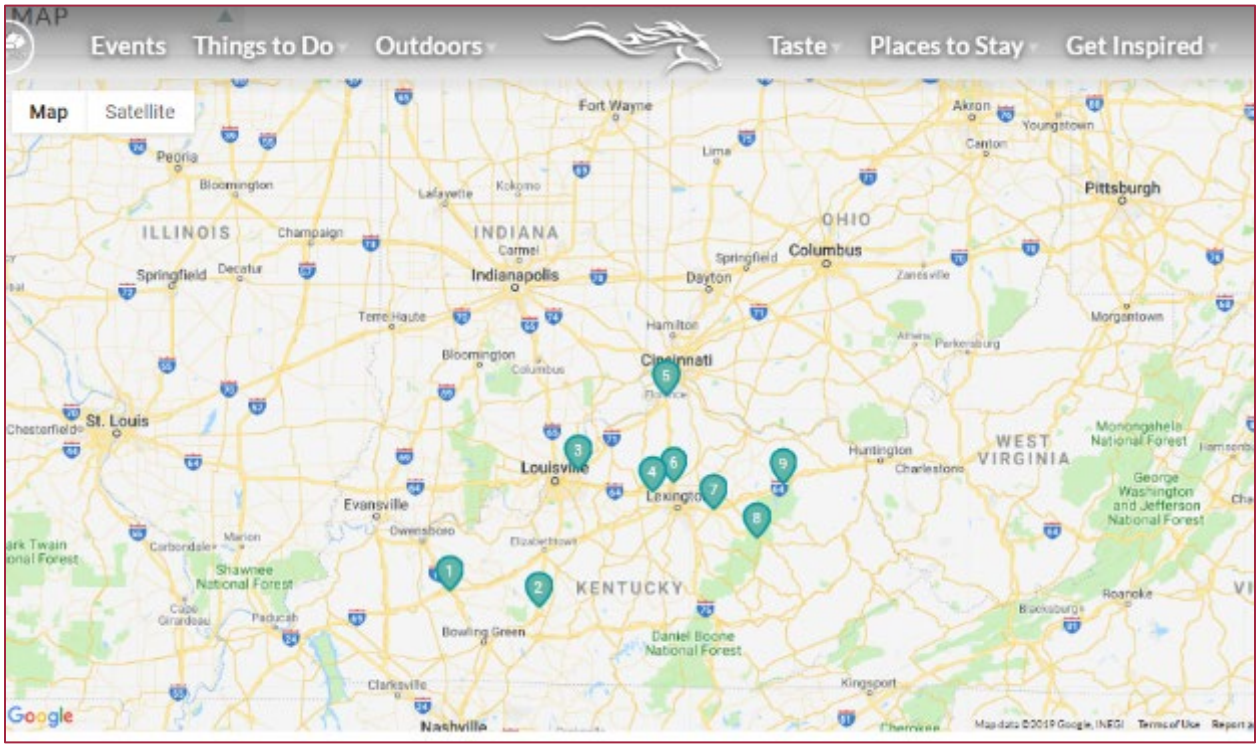
KDOT Rest Area (through Kansasrestareas.com)



Key: Red triangles represent rest stops with the arrow indicating what direction the rest stop is on with respect to the freeway.

Kentucky

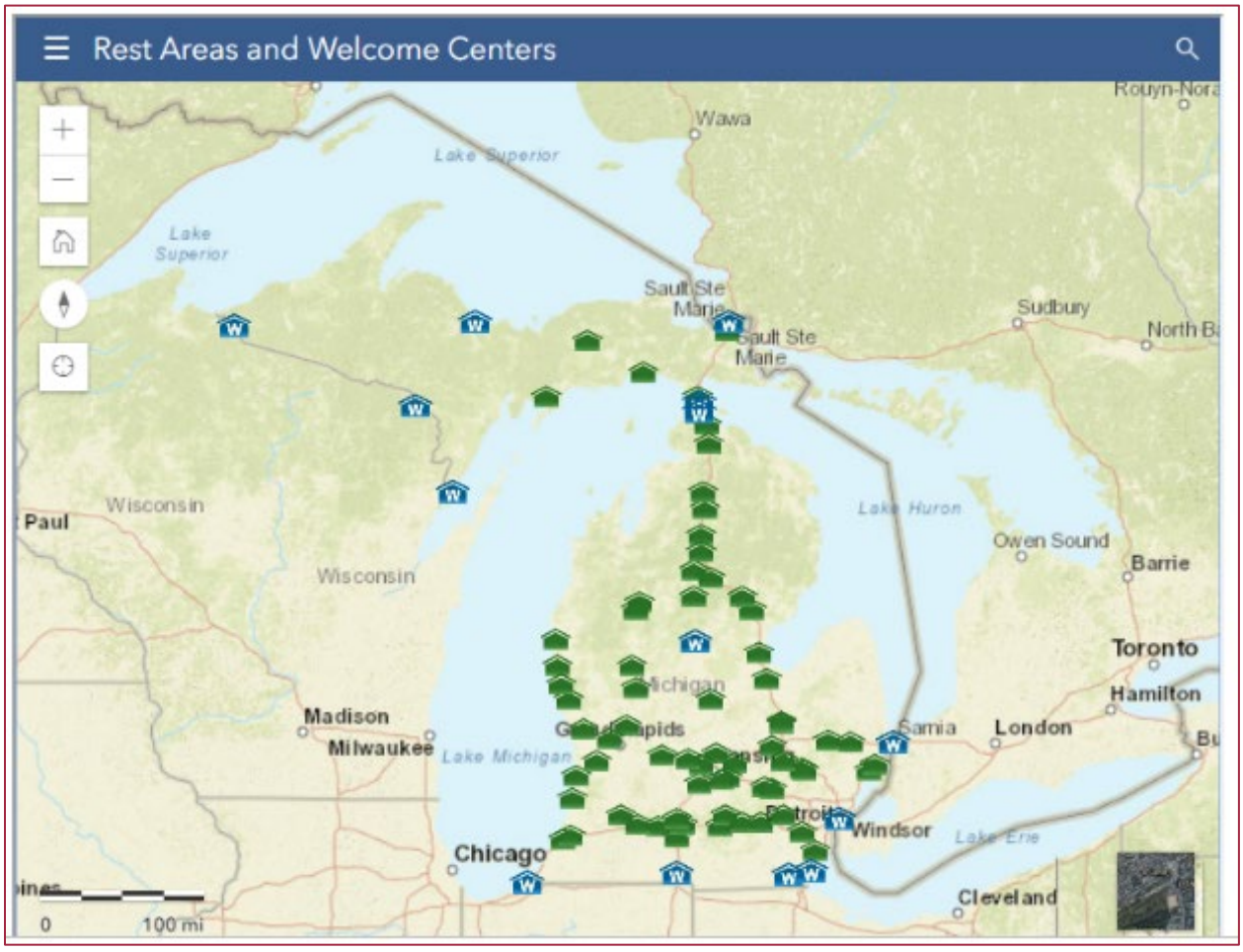
Kentucky Tourism – Rest Areas



Key: Markers represent rest stops.

Michigan

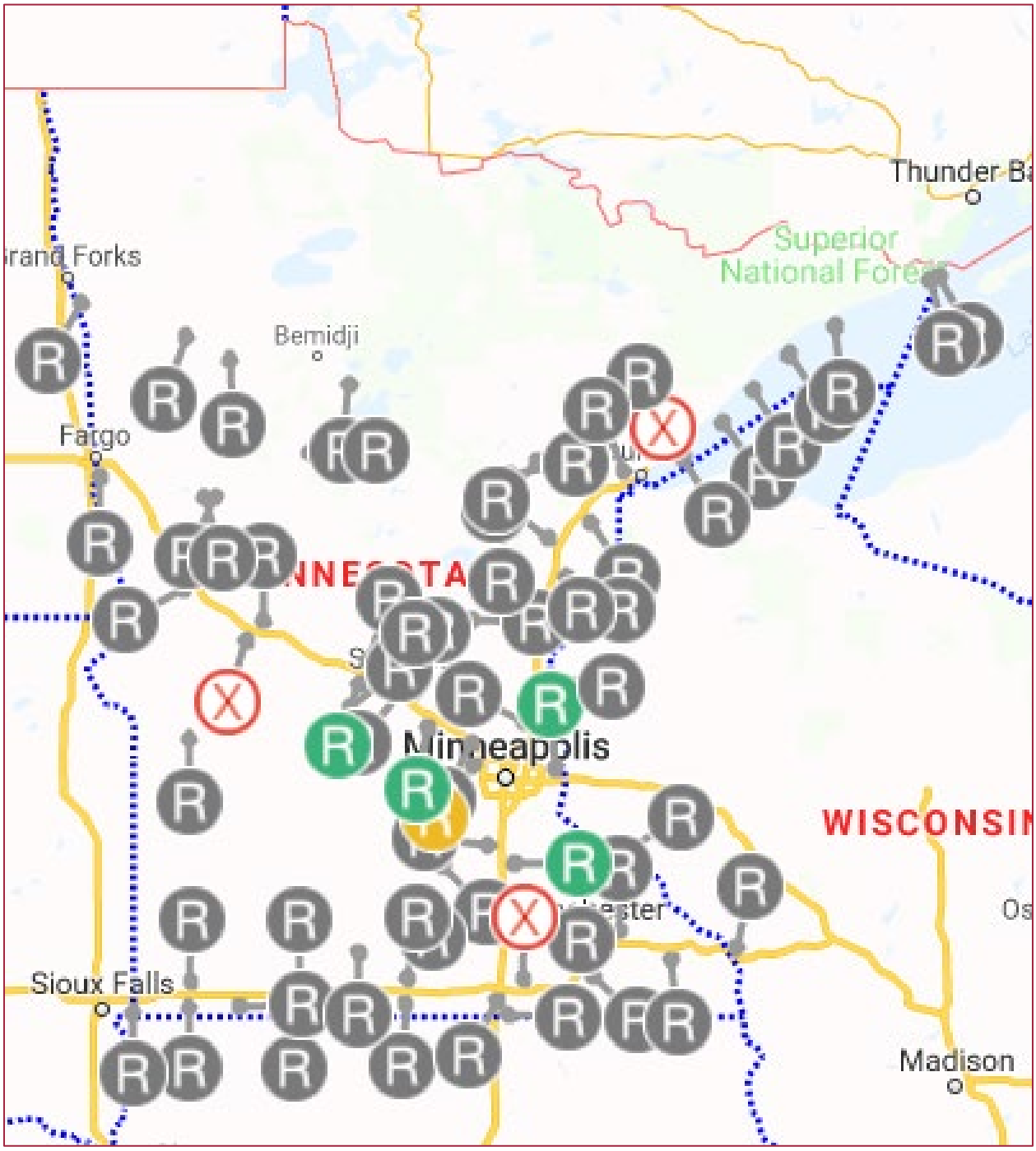
Michigan Rest Areas and Welcome Centers



Key: Green markers represent rest stops. Blue markers with ‘W’ represent welcome centers.

Minnesota

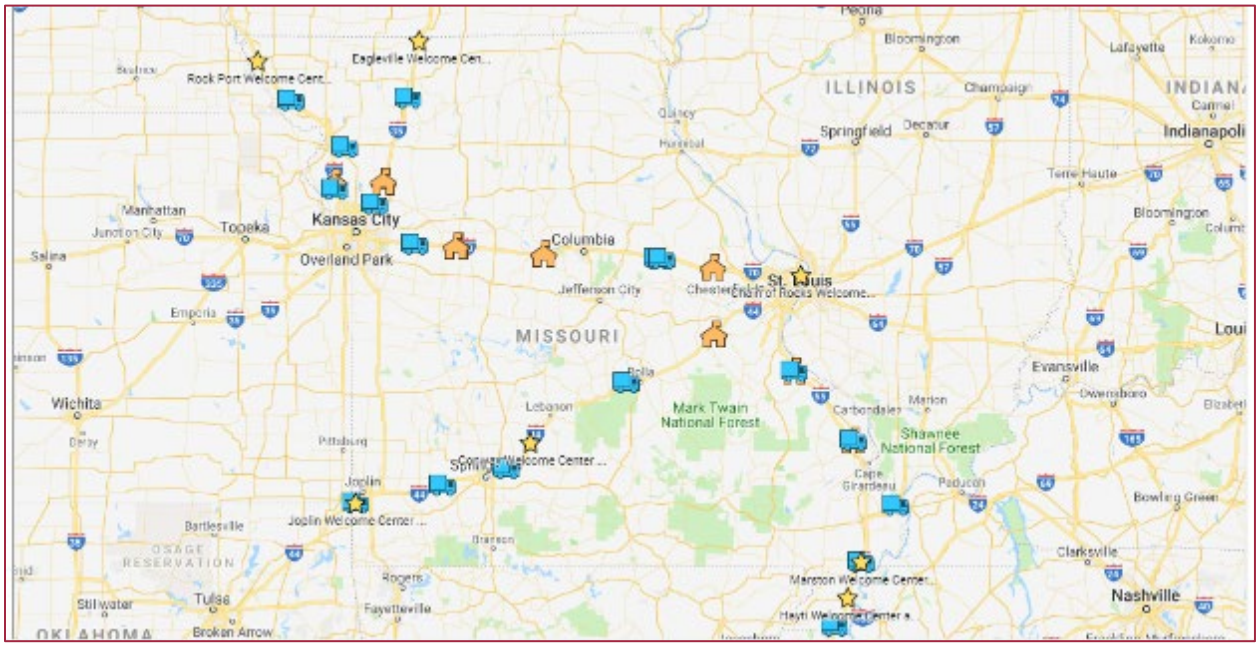
511 Minnesota Rest Areas



Key: ‘R’ icons represent open rest stops and ‘X’ icons represent closed rest areas. Coloring represents real-time parking availability (green: high, yellow: medium, red: low availability, gray: real time information not available).

Missouri

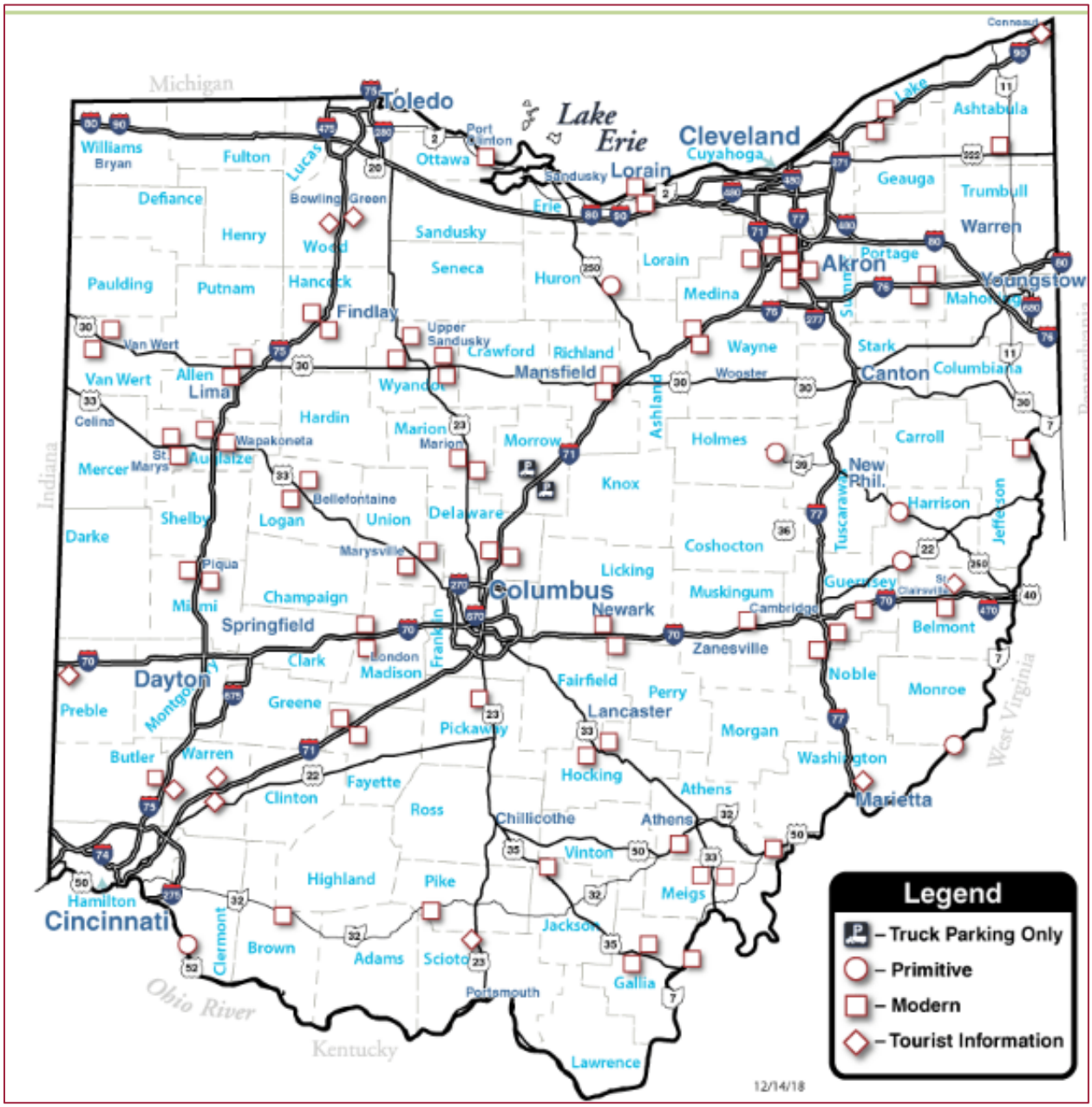
Missouri Rest Area Guide



Key: Star icons represent welcome centers, orange icons represent rest stops, and blue truck markers represent private truck-only parking sites.

Ohio

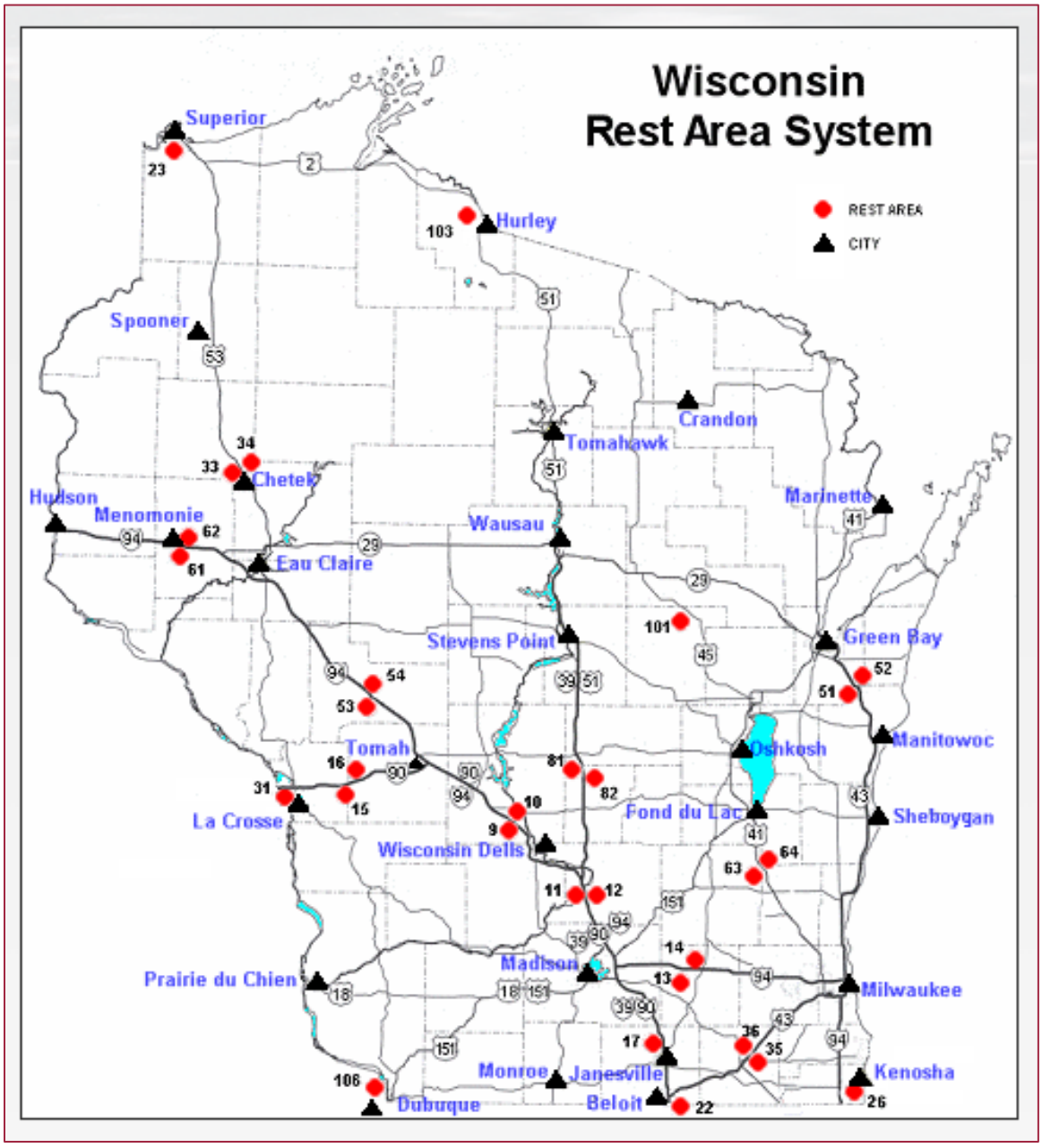
Ohio's Rest Area System



Key: Blue icons with a 'P' represent private truck-only parking sites. Circle, square and diamond markers indicate rest areas of various classifications (circle: primitive rest areas, square: rest area with modern facilities, diamond: tourist information centers)

Wisconsin

Wisconsin DOT Rest Area Locations



Key: Red circle icons represent rest areas with the accompanying number indicating a unique facility ID associated with each site.