



I-10 Corridor Coalition

Truck Parking Availability System

Truck Driver and Dispatcher Baseline Survey Summary

December 23, 2020



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1.0 Introduction

The I-10 Corridor Coalition (Coalition), a partnership of state departments of transportation from California, Arizona, New Mexico, and Texas, recognizes the importance of the safe and efficient movement of people and freight along the Interstate 10 (I-10) national trade corridor. The Coalition was awarded a \$6.85 million U.S. Department of Transportation (USDOT) Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant in April 2019 to implement a truck parking availability system (TPAS) along the I-10 corridor in the Coalition states. The Coalition is implementing the TPAS to help commercial vehicle drivers and dispatchers find safe and convenient truck parking at public rest areas along the I-10 corridor. The I-10 TPAS will monitor, collect, and communicate real-time information about truck parking availability at 37 public truck parking locations along the I-10 corridor from California to Texas.

From August 26, 2020 to November 2, 2020, the Coalition conducted the TPAS Truck Driver and Dispatcher Baseline Survey through Survey Monkey to gather input from commercial vehicle drivers and dispatchers. The survey results help the Coalition better understand the challenges and issues drivers experience when attempting to park at locations along the I-10 corridor. Input from the survey provides valuable information for the development of the concept of operations (ConOps) to ensure the design of the TPAS system meets end-user needs.

The project team introduced the I-10 TPAS project to leadership representatives from the California Trucking Association, Arizona Trucking Association, New Mexico Trucking Association, Texas Trucking Association, and the Owner-Operator Independent Drivers Association (OOIDA). Representatives provided feedback on specific survey questions asked in the TPAS Truck Driver and Dispatcher Baseline Survey. Each of the associations distributed information to their membership about the I-10 TPAS project and provided a link to the survey.

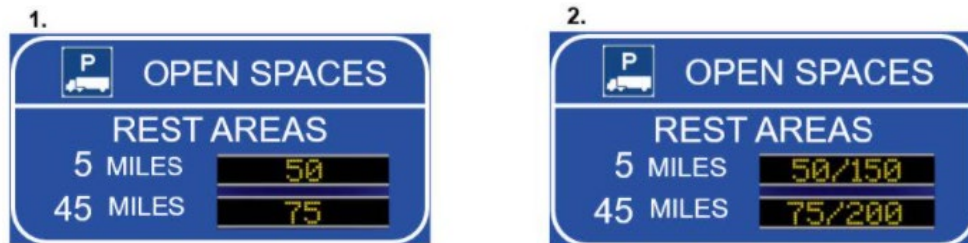
The Coalition states also helped disseminate the survey by utilizing social media channels, displaying posters at the future truck parking sites, and writing press releases. Several media sites such as Land Line, trucker.com and freightwaves.com, also posted articles about the project and the survey.

A link to the survey was also available on the www.i10connects.com website.

2.0 Key Findings

The survey consisted of 27 questions related to truck parking behaviors, preferences for receiving truck parking availability information, roadway signage, other truck parking considerations, and driver demographics. The Coalition received 545 responses with an 87 percent completion rate. Results from the survey were consistent with input received from the meetings with the state trucking associations and OOIDA. The following key findings were identified and will be considered in the development of the TPAS Concept of Operations and inform future messaging about the system:

- Forty-one percent of the respondents indicated it takes 30 minutes to an hour to find parking; 37 percent responded it takes longer than an hour to find parking.
- Parking is needed to meet the mandated 10-hour HOS breaks for 93 percent of respondents and parking for 30-minute breaks for 62 percent of respondents.
- Respondents prefer roadside changeable message signs for receiving information, followed by technology applications such as private smartphone applications or in-cab navigation systems.
- The survey presented five design options for the roadside changeable message signs. Of the five options presented, 56 percent of respondents preferred **Option 2** showing all rest areas within five to 45 miles and the number of total and available spaces. Twenty-eight percent of respondents preferred **Option 1** showing all rest areas within five to 45 miles and the number of available spaces. Options 1 and 2 presented in the survey are shown below.



- Respondents provided the following input on sign preferences:
 - Signs should include as much accurate information as possible.
 - Signs should display two or three upcoming sites.
 - Preferences for how far in advance parking availability information signage should be displayed vary in the survey results. Nineteen percent of respondents prefer three to five miles in advance, 20 percent prefer five to ten miles in advance, 27 percent prefer 11-30 miles in advance, and 25 percent prefer 31-60 miles in advance.

3.0 Survey Results

Respondents were asked to provide input on parking behaviors, information dissemination and communication, roadside messaging signs, oversize/overweight parking needs, and respondent demographics. The following section summarizes the responses.

3.1 Parking Behaviors

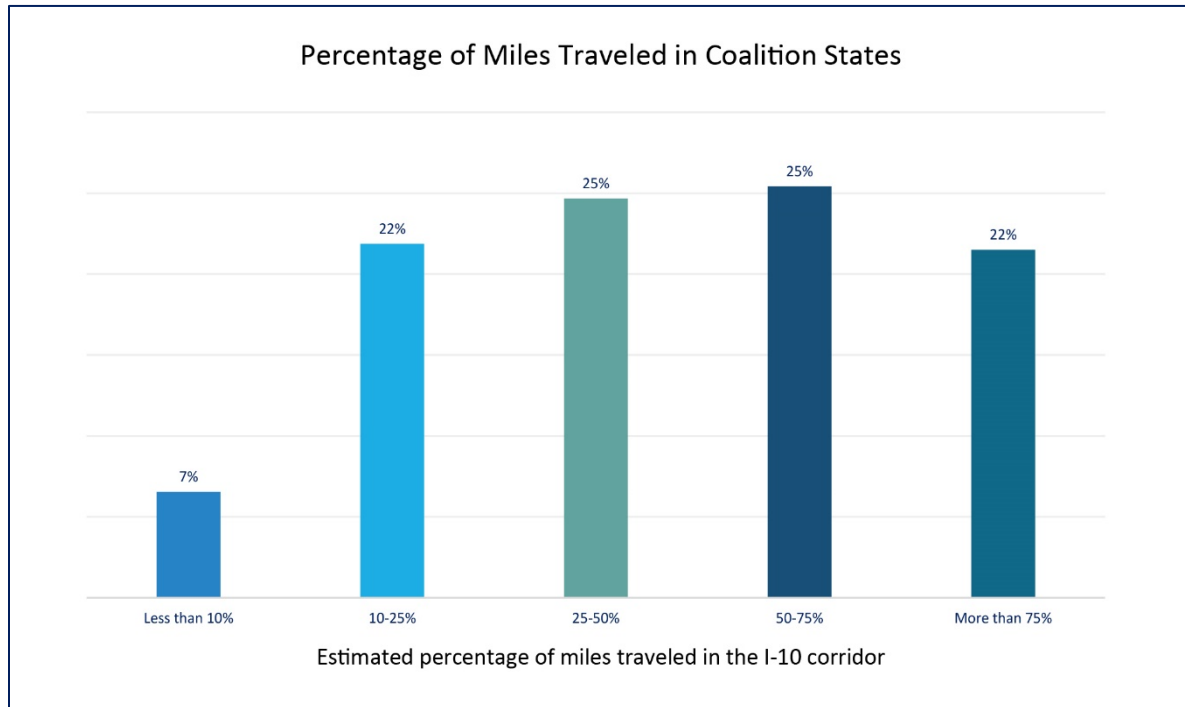
Respondents were asked a series of questions on typical truck parking behaviors. Overall results show most respondents traveled a significant percent of their miles in the Coalition states. Results also reveal respondents need longer parking breaks several times a week while on the corridor, park most often in

private truck stops, have been experiencing difficulty in quickly finding appropriate parking, and have parked in unauthorized locations.

? *Please estimate the percentage of all miles you travel in the I-10 Corridor Coalition states, including CA, AZ, NM, and TX.*

Figure 1 shows the percentage of miles respondents travel in the I-10 Corridor Coalition states.

Figure 1: Percentage of Miles Traveled in Coalition States



As shown in **Figure 1**, approximately 47 percent of the respondents drive 50 to 100 percent of all their miles in the Coalition states, while only seven percent drive less than 10 percent in the corridor.



How often do you need truck parking in the four I-10 Corridor Coalition states (CA, AZ, NM, TX)?

Table 1 shows how often truck parking is needed in each of the Coalition states.

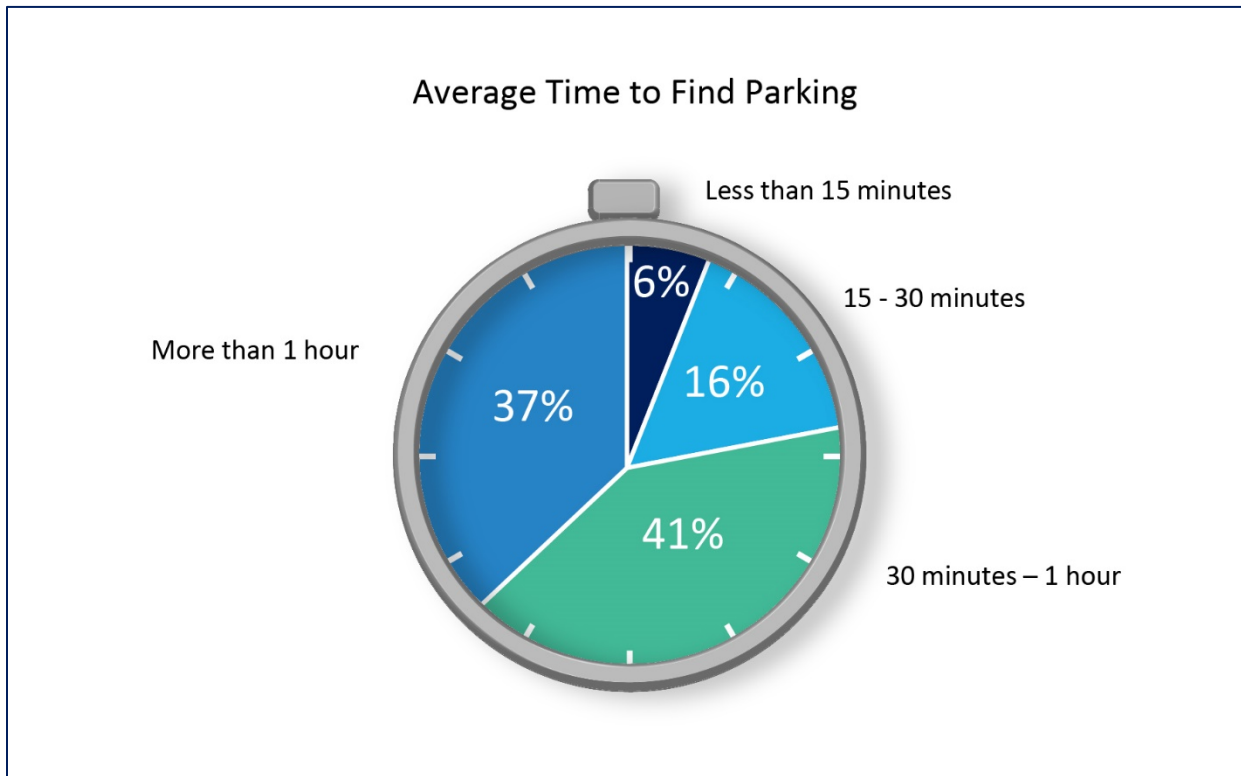
Table 1: Frequency of Truck Parking Needs by State

Frequency of Truck Parking Needs by State					
	Never	Once a week	2-4 times a week	5-6 times a week	Every day
California	14.72%	30.59%	34.61%	12.05%	8.03%
Arizona	11.26%	34.56%	41.94%	5.63%	6.60%
New Mexico	15.59%	40.74%	34.31%	5.65%	3.70%
Texas	11.05%	28.38%	41.71%	12.76%	6.10%

? *On average, how long does it take for you to find parking in the four I-10 Corridor Coalition states (CA, AZ, NM, TX)?*

Figure 2 shows the amount of time it takes respondents to find parking in the Coalition states.

Figure 2: Average Time to Find Parking



As shown in **Figure 2**, 41 percent of the respondents indicated it takes 30 minutes to an hour to find parking and 37 percent responded it takes longer than an hour to find parking. These findings are consistent with other similar truck parking surveys conducted across the country including the 2018 Mid America Association for State Transportation Officials (MAASTO) Truck Parking Survey and the 2019 USDOT Jason’s Law Truck Parking Survey. These surveys all indicate that a large percentage of drivers look for parking for at least 30 to 60 minutes.



Please indicate how often the following parking location types have available truck parking along the I-10 Corridor within the four Coalition states (CA, AZ, NM, TX).

Table 2 shows how often truck parking is available in each of the Coalition states.

Table 2: Truck Parking Availability by State

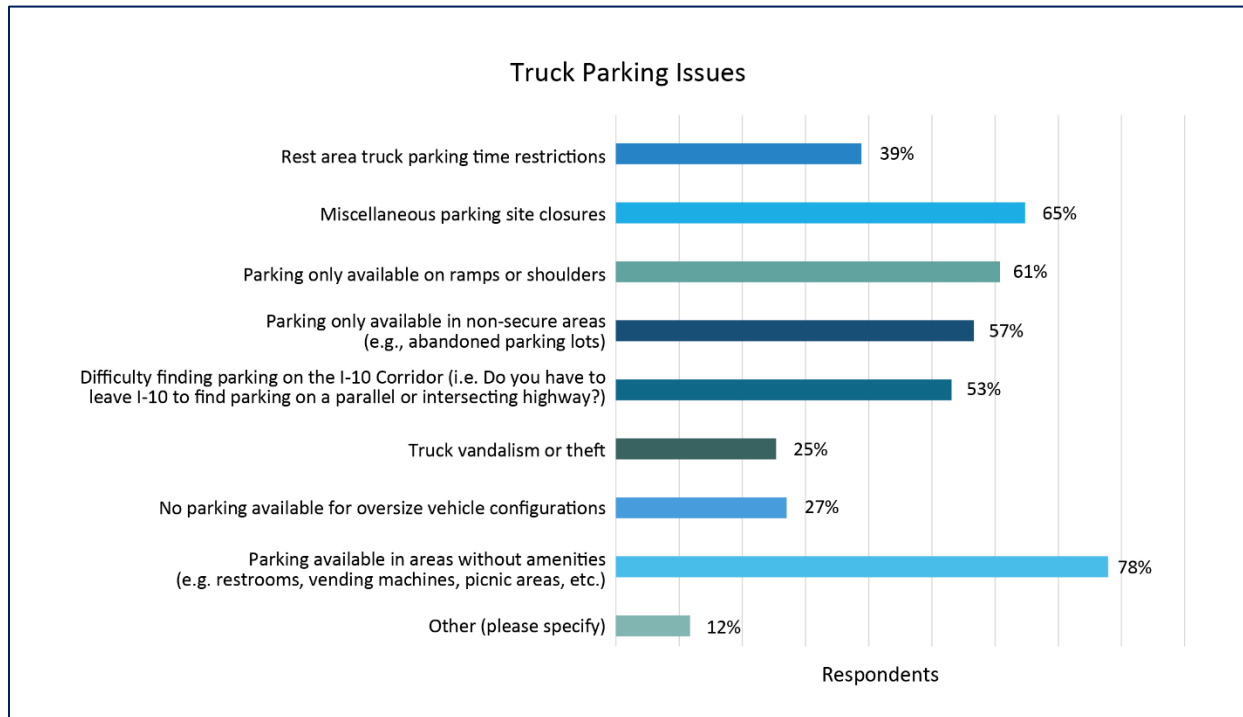
Truck Parking Availability by State						
	Never	Rarely	Sometimes	Often	Always	N/A
Arizona Public Rest Areas	9.90%	36.57%	37.33%	10.29%	2.10%	3.81%
Arizona Private Truck Stops	4.95%	32.00%	40.19%	14.86%	4.00%	4.00%
California Public Rest Areas	32.38%	42.15%	13.60%	4.60%	1.34%	5.94%
California Private Truck Stops	24.24%	42.18%	19.85%	5.15%	2.67%	5.92%
New Mexico Public Rest Areas	9.89%	29.28%	39.16%	11.98%	2.28%	7.41%
New Mexico Private Truck Stops	4.57%	23.81%	43.05%	17.14%	4.57%	6.86%
Texas Public Rest Areas	7.33%	27.07%	36.65%	17.29%	4.51%	7.14%
Texas Private Truck Stops	5.62%	24.16%	40.26%	16.67%	6.55%	6.74%



Do you personally experience the following issues in the four Corridor Coalition states (CA, AZ, NM, TX)? (Check all that apply)

Figure 3 depicts the issues drivers experience when looking for truck parking in the Coalition states.

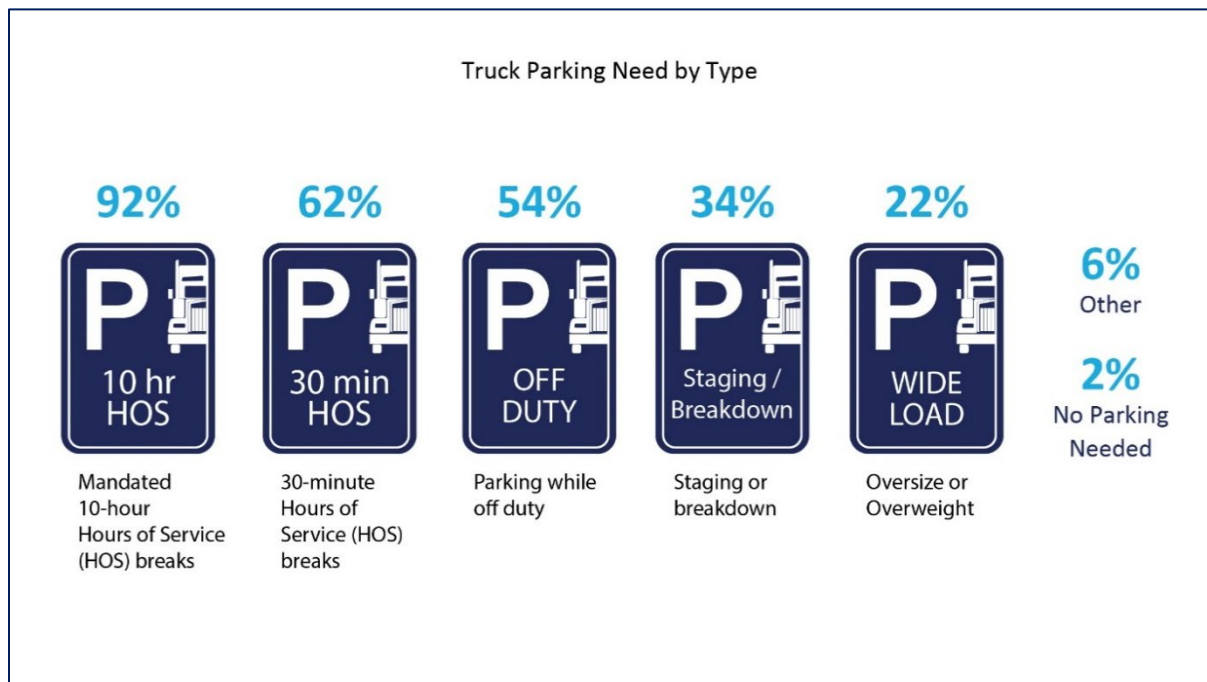
Figure 3: Truck Parking Issues



? *What type of truck parking do you need along the I-10 corridor? (Check all that apply)*

Figure 4 depicts the type of parking respondents need along the I-10 corridor.

Figure 4: Truck Parking Need by Type





Please indicate how often you park at the following location types in the four I-10 Corridor Coalition States. (CA, AZ, NM, TX)

Table 3 shows how often drivers park at specific location types along the corridor.

Table 3: Frequency of Truck Parking by Location Type

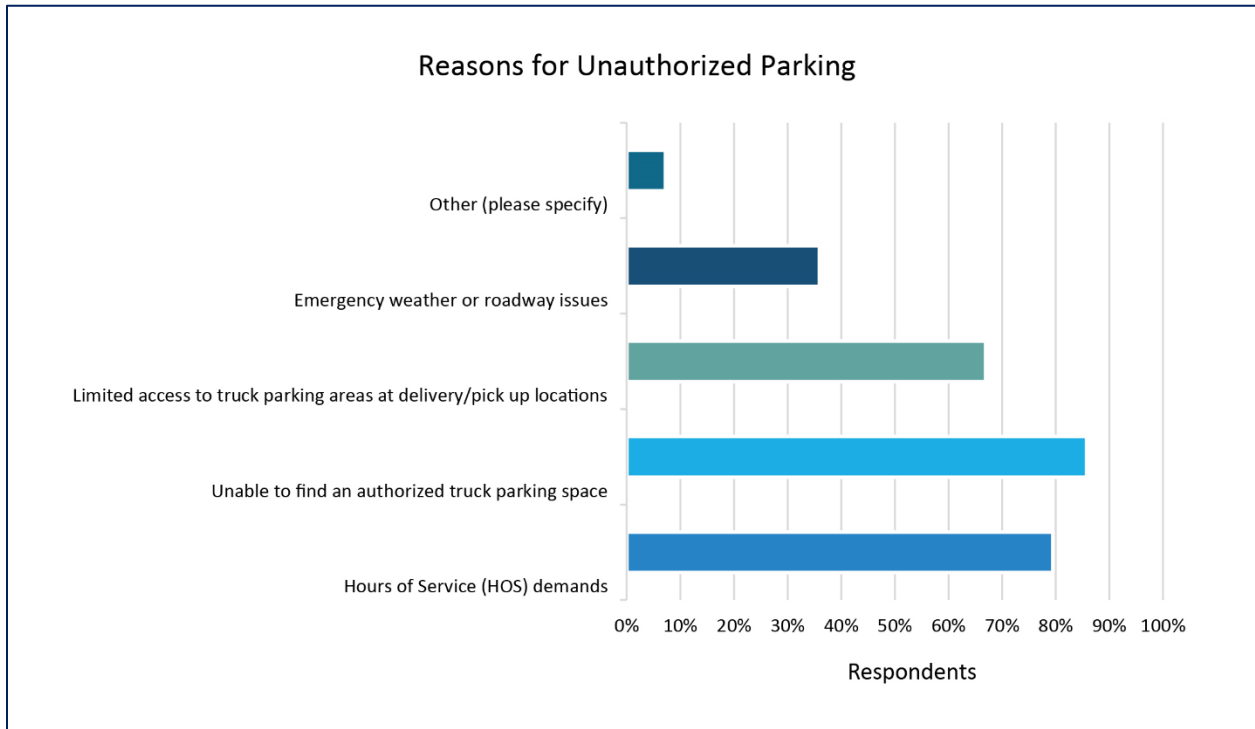
Frequency of Truck Parking by Location Type					
	Never	Rarely	Sometimes	Often	Always
Public Rest Areas	7.34%	21.28%	43.50%	25.24%	2.64%
Private Truck Stops	1.13%	11.30%	31.64%	45.39%	10.55%
Road Shoulder/Ramp	32.39%	28.44%	22.41%	15.82%	0.94%
Other Parking Locations (store lots, city streets, etc.)	19.62%	31.51%	36.23%	11.51%	1.13%
Shipper Facility	19.06%	33.21%	32.83%	12.45%	2.45%



If you do park in unauthorized parking spaces, what is the typical reason? (Check all that apply)

Figure 5 depicts respondents' reasons for parking in unauthorized parking spaces.

Figure 5: Reasons for Unauthorized Parking



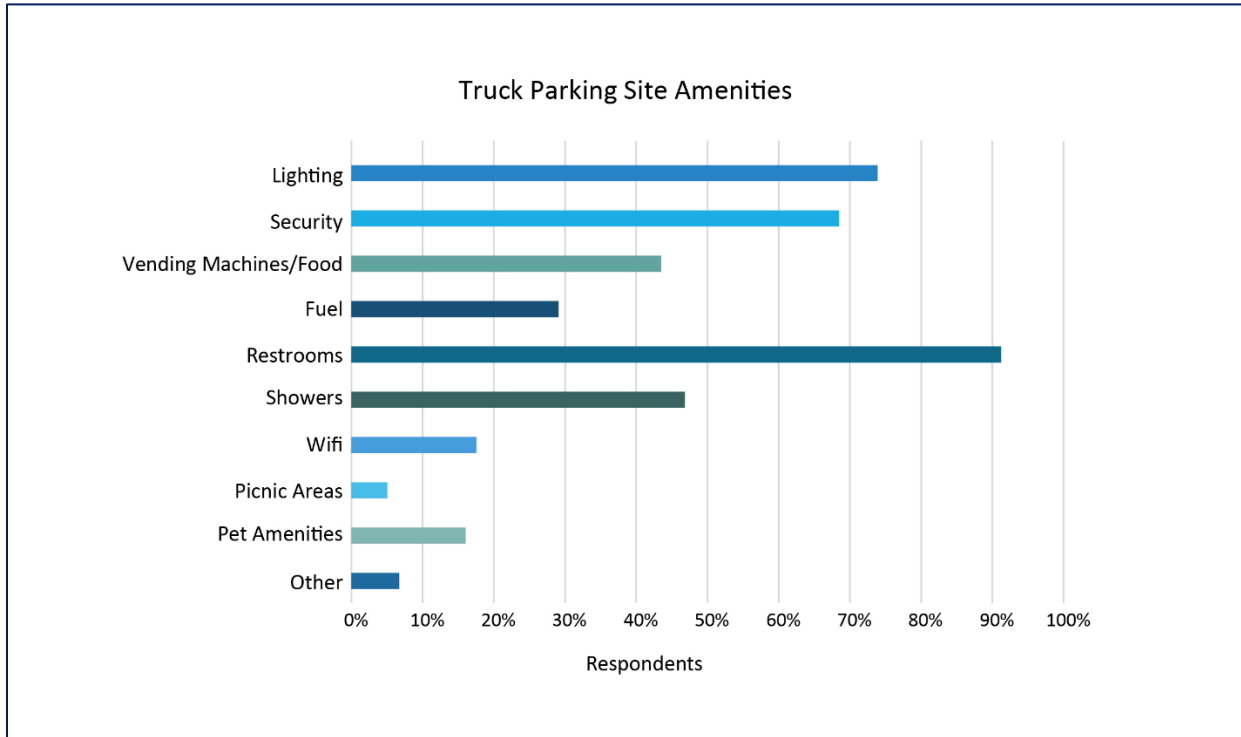
Respondents indicated the most common reasons for parking in unauthorized parking spaces are HOS demands, inability to find authorized truck parking spaces, and limited access to truck parking areas at delivery/pickup locations. Of those that selected “Other” and provided a specific reason, many noted they do not park in unauthorized locations or only park in these locations due to a break-down or an emergency.



What amenities are important to you when selecting a truck parking site? (Select top three)

Figure 6 shows amenities considered when selecting a truck parking site.

Figure 6: Truck Parking Site Amenities



3.2 Data Distribution and Communications

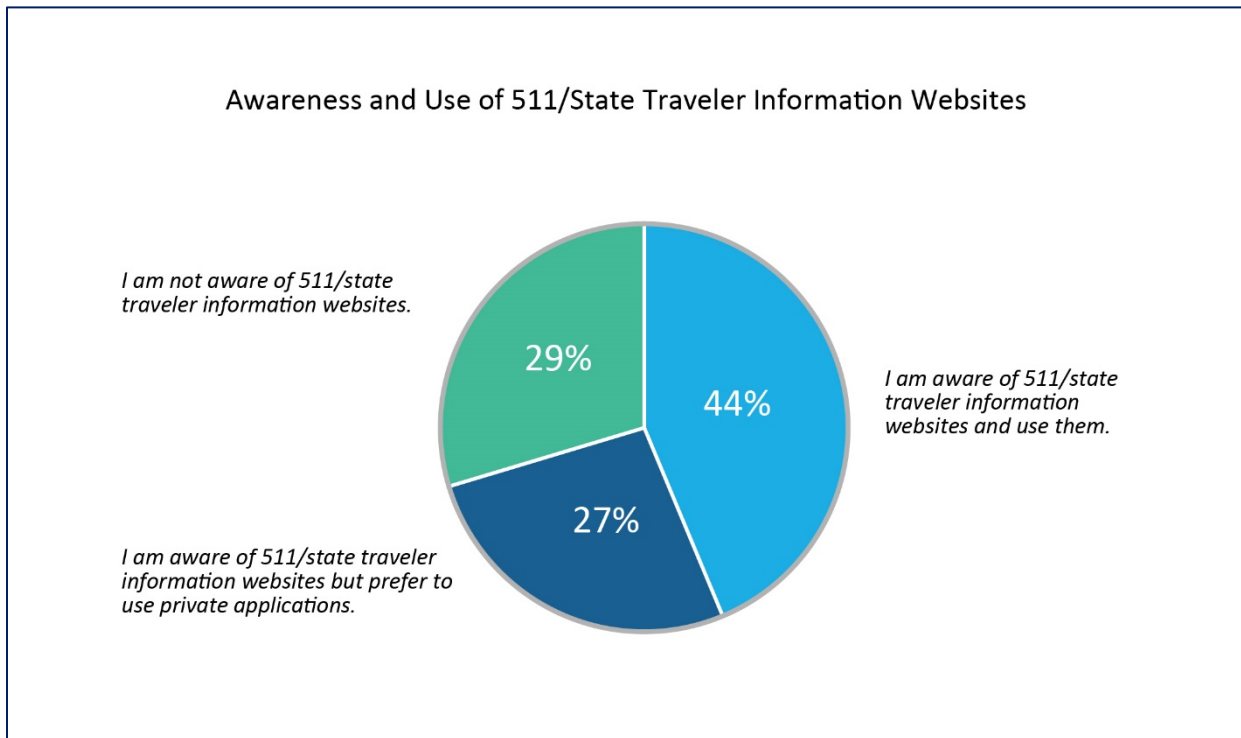
Respondents were asked a series of questions related to their preferred method to receive truck parking availability information. Responses indicated that most expressed a preference for receiving information from roadside signs or smartphone applications.



Are you aware of and do you use state 511 or travel-related information websites?

Figure 7 shows respondents' awareness and use of state 511 or travel-related information websites.

Figure 7: Awareness and Use of 511/State Traveler Information Websites

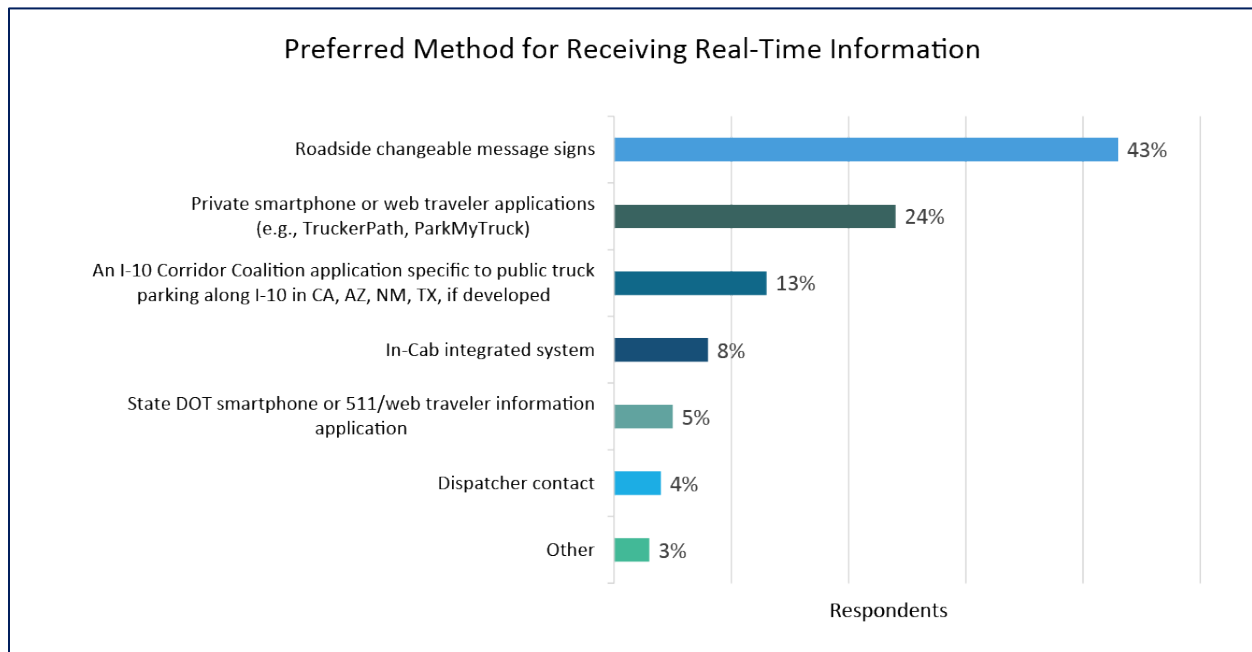




Please rank in order (1 to 7) your preferred method for receiving real-time truck parking availability information, with 1 being the MOST preferred.

Figure 8 shows respondents' most preferred method for receiving real-time truck parking availability information.

Figure 8: Most Preferred Method for Reiving Real-Time Information



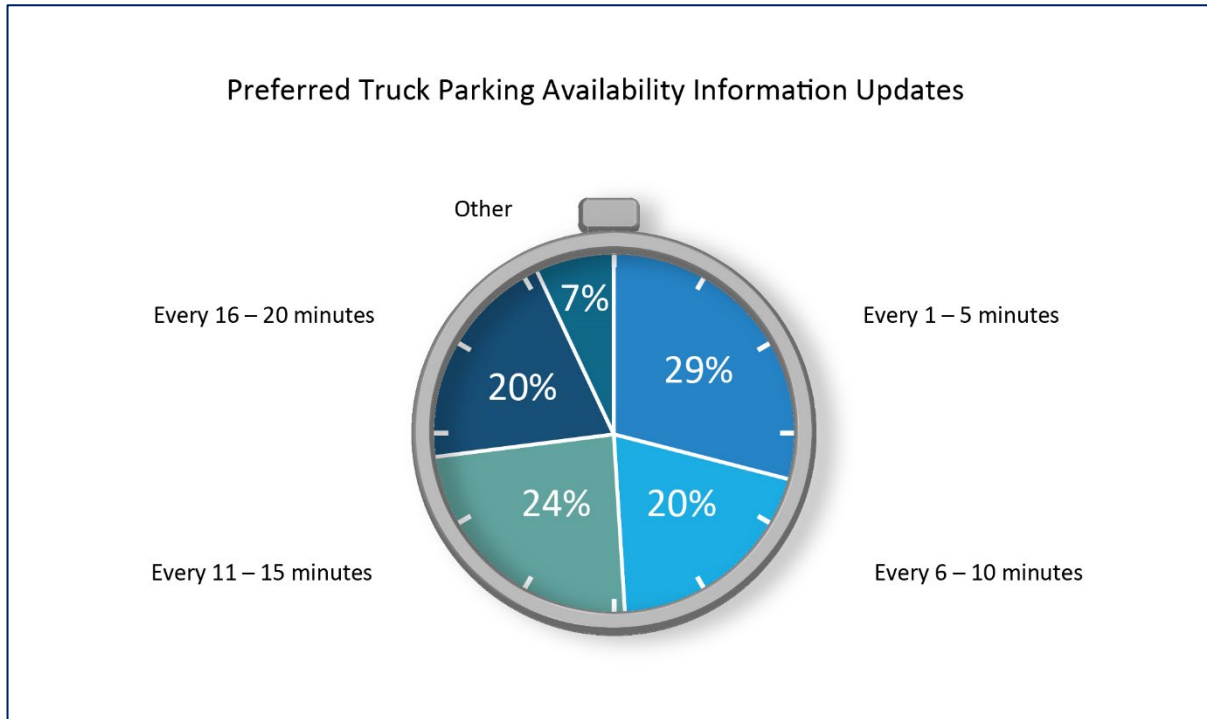
Forty-two percent of respondents ranked phone applications as their most preferred method to receive real-time truck parking information. These include state DOT or private smartphone applications, 511/web traveler information applications, or an I-10 Corridor Coalition application specific to public truck parking along I-10 in California, Arizona, New Mexico, and Texas. Forty-three percent ranked roadside changeable message signs as their most preferred method. Respondents who selected “Other” identified CB radio, word of mouth, and Google Maps as their preferred method for receiving truck parking availability information.



How often would truck parking availability information need to be updated for it to be relied upon as “real-time” information?

Figure 9 shows how often drivers prefer to have truck parking availability information updated.

Figure 9: Preferred Truck Parking Availability Information Updates



Respondents who provided comments when selecting “Other” stated that every 30 minutes or hourly is sufficient time to update the parking availability information. The TPAS system is designed to update approximately every five minutes which will meet most drivers’ expectations.

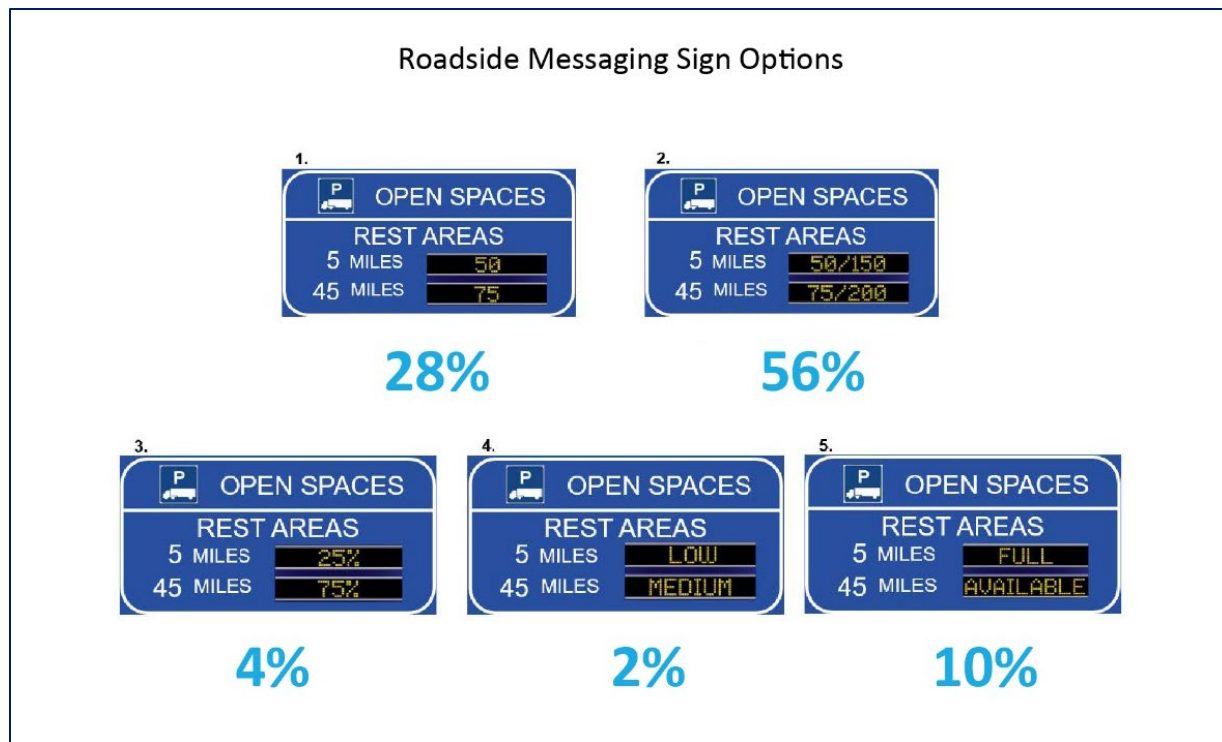
3.3 Roadside Messaging Signs

Respondents were asked a series of questions related to roadside messaging sign preferences. The survey presented five design options for the roadside changeable message signs.

? *Based on the images above, what truck parking information displayed on roadside changeable message signs is most helpful?*

Figure 10 depicts the sign options presented in the survey.

Figure 10: Roadside Messaging Sign Options



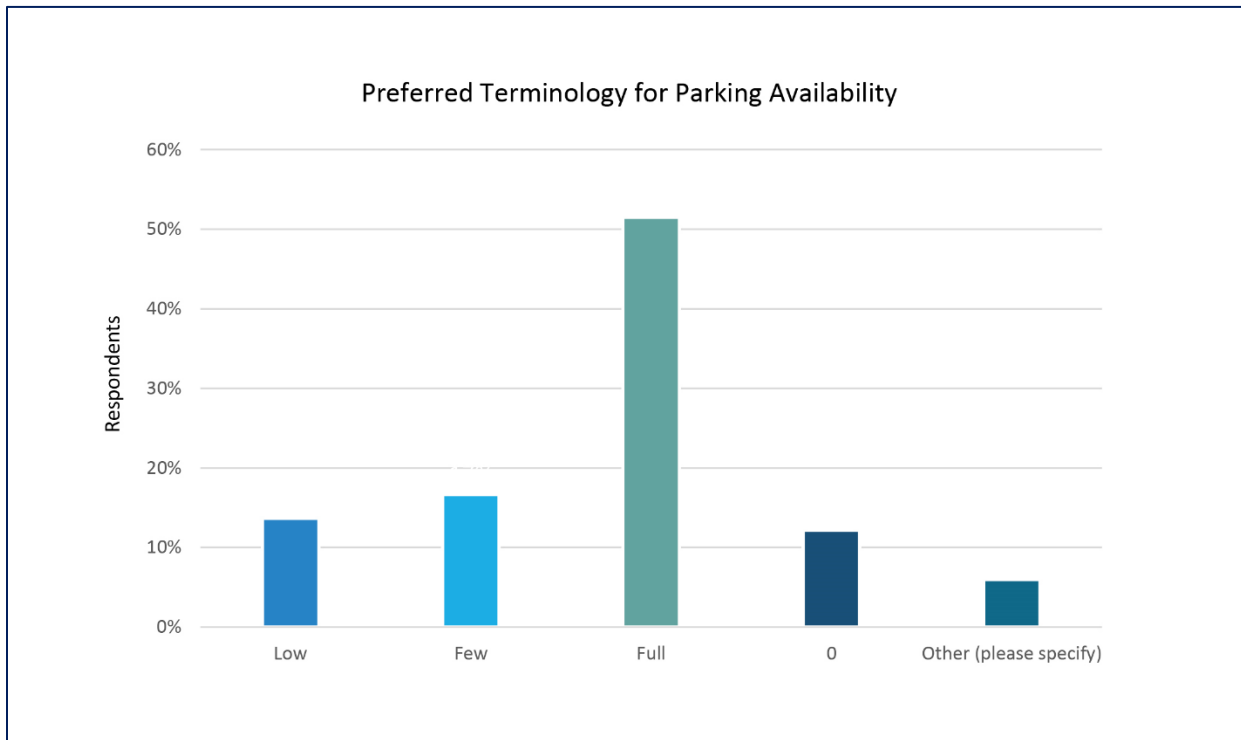
Of the five options presented, 56 percent of respondents preferred Sign 2 showing all rest areas within five to 45 miles and the number of total and available spaces. Twenty-eight percent of respondents preferred Sign 1 showing all rest areas within five to 45 miles and the number of available spaces.



When authorized truck parking locations are full or nearly full, how would you prefer roadside changeable message truck parking availability signs to read?

Figure 11 shows the respondents' preferred terminology for roadside messaging signs.

Figure 11: Preferred Terminology for Parking Availability



When authorized truck parking locations are full or nearly full, respondents preferred roadside changeable message truck parking availability signs that read as “full”. This is consistent with the input received by representatives from the state trucking associations and OOIDA.

? *How far in advance do you want signage on parking availability information?*

Figure 12 depicts respondents' preferences for sign locations.

Figure 12: Preferences for Sign Locations

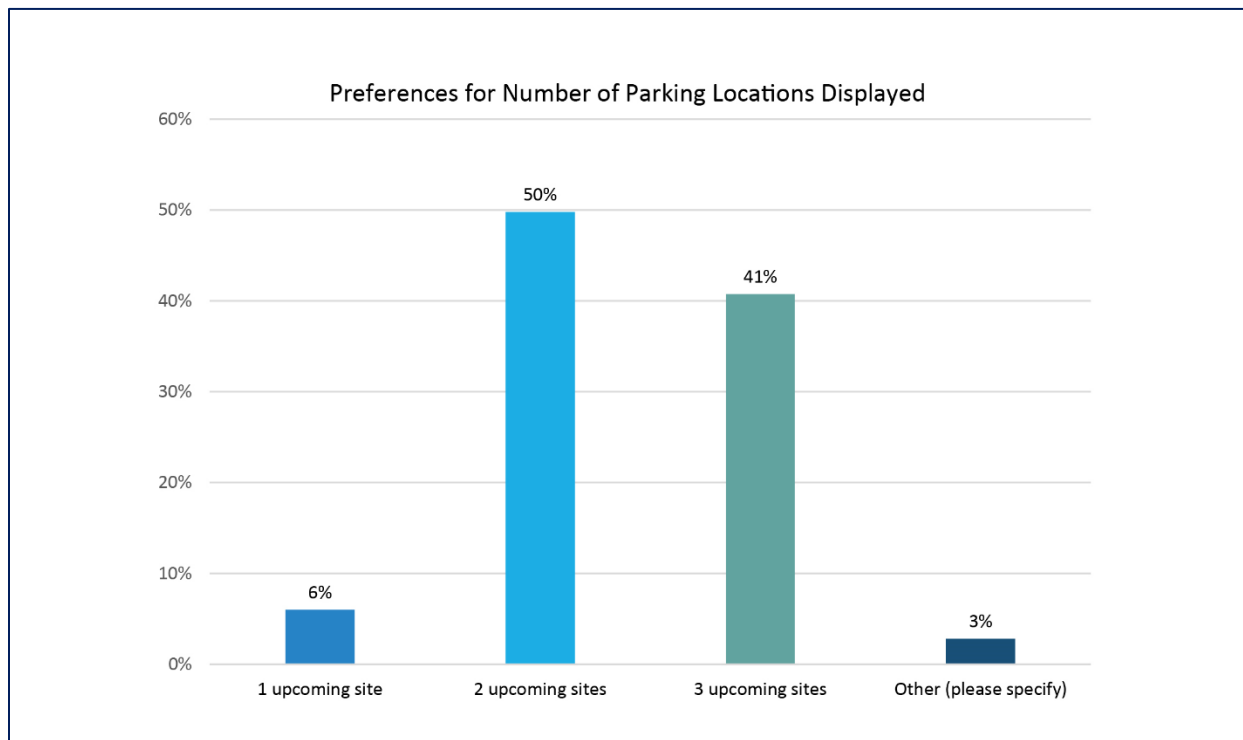




How many upcoming parking locations should be displayed on each of the roadside changeable message signs?

Figure 13 depicts respondents' preferences for the number of locations to be displayed on the signs.

Figure 13: Preferences for Number of Parking Locations Displayed



3.4 Oversize/Overweight Truck Parking Considerations

While the ATCMTD grant only provides funds for the I-10 TPAS, respondents were asked a series of questions related to other parking concerns, including needs for oversize or overweight truck parking. The Coalition gathered this input to help inform future initiatives to improve public truck parking facilities along the corridor.

Over 80 percent of respondents indicated they do not need oversize or overweight (OS/OW) parking. Respondents who require OS/OW parking were asked to provide their desired location for OS/OW parking; however, responses varied and there were no recurring characteristics for specific locations. Respondents emphasized that, overall, more OS/OW parking was needed all along the I-10 corridor within the I-10 Coalition states.

Respondents were asked to provide input on the type of accommodations that should be provided for OS/OW parking areas. The most frequent answers included wider parking spaces, well-lit facilities, restrooms, food, WIFI, and showers.

Respondents were also asked if they had any privacy or other concerns about systems that monitor truck parking. Eighty-seven percent indicated they did not have privacy concerns related to the monitoring of truck parking.

Respondents were asked to provide additional comments related to challenges and issues they experience along I-10 Corridor in the Coalition states. The following issues were frequently noted in the survey responses:

- There is a lack of parking along the I-10 corridor within the four states due to rest area closures.
- More parking is needed, specifically improved parking with amenities such as better lighting, restrooms, and shower rooms.
- Cleanliness is a problem at truck stops/rest areas. More frequent trash pick-up is needed.
- Truck drivers commonly experience unsafe conditions on I-10 due to high speeds, hostility towards truck drivers, and bad pavement conditions or potholes.

3.5 Demographics

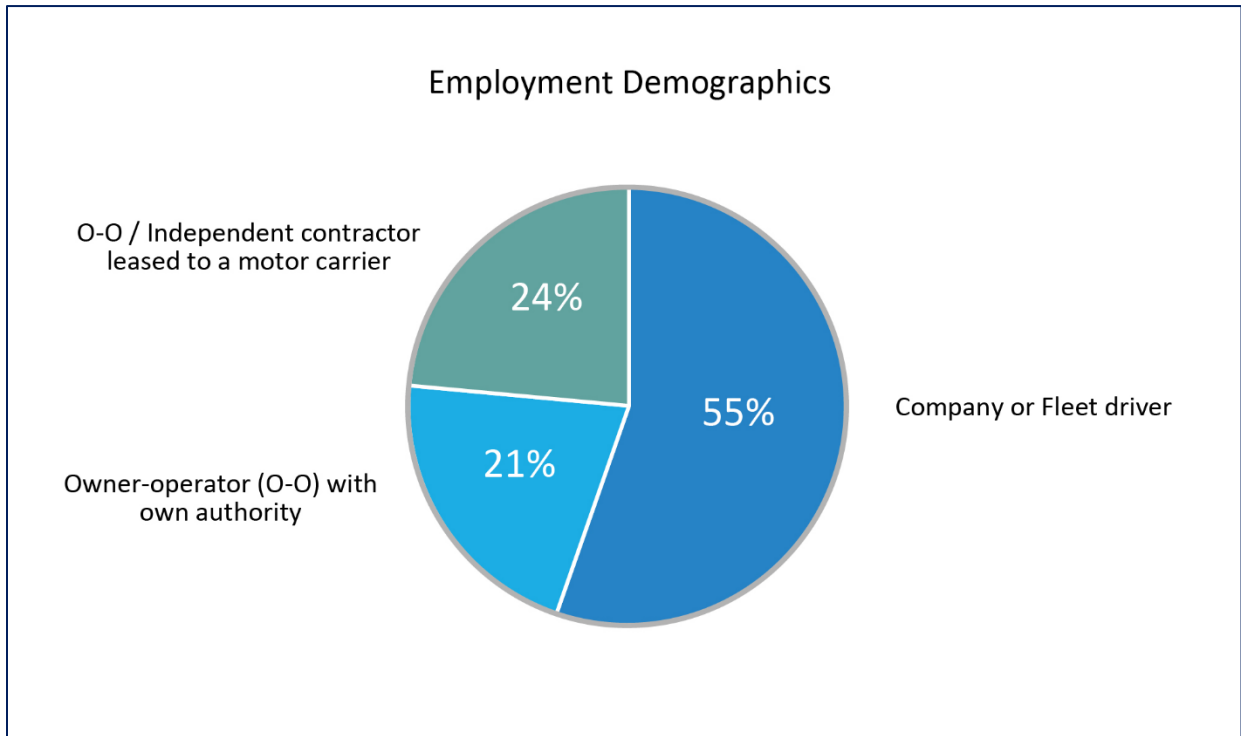
Respondents were asked a series of demographic questions to ensure stakeholder input was received by all truck parking end-user groups.



Which of the following best describes your employment within the trucking industry? (Check one)

Figure 14 depicts respondents' employment within the truck industry.

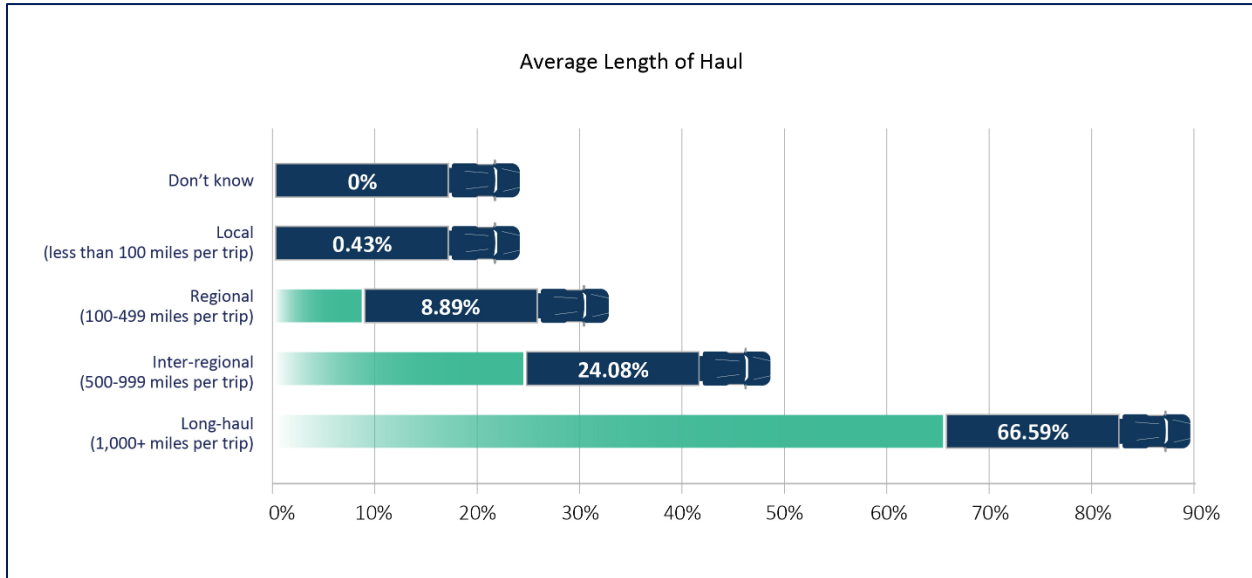
Figure 14: Employment Demographics



? *What is your average length of haul? (Check one)*

Figure 15 shows respondents' average length of haul.

Figure 15: Average Length of Haul



Demographics of the survey respondents reflect typical age and gender demographics in the trucking industry. Respondents provided the following demographic information:

- **Respondent Age**
 - 2.60% – Age 25 or younger
 - 29.72% – Age 26 - 44
 - 58.57% – Age 45 - 64
 - 9.11% – Age 65 or older
- **Respondent Gender**
 - 79.74% – Male
 - 17.21% – Female
 - 3.05% – Prefer not to specify
- **Respondent Home State**
 - 14.81% – California
 - 22.66% – Arizona
 - .65% – New Mexico
 - 21.79% – Texas
 - 40.09% – Other