
FINAL REPORT

Commercial Vehicle Driver Survey: Assessment of Parking Needs and Preferences



Prepared for

Federal Highway Administration
Turner-Fairbank Highway Research Center
6300 Georgetown Pike
McLean, VA 22101

FOREWORD

This report provides detailed technical documentation supporting the Report to Congress on the study called for in Section 4027 of the Transportation Equity Act for the 21st Century to “determine the location and quantity of parking facilities as commercial truck stops and travel plazas and public rest areas that could be used by motor carriers to comply with Federal hours of service rules.” The report details the methodology and results of a survey administered to commercial truck drivers on their parking needs and preferences.

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16. Abstract This research assessed truck driver parking needs and preferences in accordance with Section 4027 of the Transportation Equity Act for the 21 st Century. A survey was conducted to determine how truck drivers plan for and address their parking needs; how truck drivers select when, where, and at which facilities they park; and what truck drivers think of the adequacy of current parking facilities. This report summarizes the background, methodology, and outcome of the driver survey. Surveys were distributed to a national sample of more than 2,000 truck drivers through site visits and mailings to truck stops. The sample included male and female drivers; independent owner/operators; and drivers for small-, mid-, and large-sized carriers. The majority of respondents identified themselves as long-haul drivers. Nearly all drivers reported that they, not their company colleagues, decide where they will park. Most drivers make this decision as they are driving. When drivers park their trucks, most expect to satisfy only their basic needs. Drivers prefer parking facilities that provide food, fuel, restrooms, phones, and showers. They also consider safety and convenience important. Drivers generally prefer private truck stops to public rest areas. However, for quick naps drivers showed a preference for rest areas over truck stops. Many respondents indicated they have trouble finding available parking at rest areas and truck stops. In fact, drivers asserted that building more truck stop and rest area spaces would be the best way to improve the parking situation. Survey respondents indicated that the parking facilities they encounter generally have characteristics that make those facilities usable. But, drivers did recommend that time limits be eliminated and that parking lot layouts be improved to accommodate large trucks.			
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APPROXIMATE CONVERSIONS TO SI UNITS

APPROXIMATE CONVERSIONS FROM SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol	Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH					LENGTH				
in	inches	25.4	millimeters	mm	mm	millimeters	0.039	inches	in
ft	feet	0.305	meters	m	m	meters	3.28	feet	ft
yd	yards	0.914	meters	m	m	meters	1.09	yards	yd
mi	miles	1.61	kilometers	km	km	kilometers	0.621	miles	mi
AREA					AREA				
in ²	square inches	645.2	square millimeters	mm ²	mm ²	square millimeters	0.0016	square inches	in ²
ft ²	square feet	0.093	square meters	m ²	m ²	square meters	10.764	square feet	ft ²
yd ²	square yards	0.836	square meters	m ²	m ²	square meters	1.195	square yards	yd ²
ac	acres	0.405	hectares	ha	ha	hectares	2.47	acres	ac
mi ²	square miles	2.59	square kilometers	km ²	km ²	square kilometers	0.386	square miles	mi ²
VOLUME					VOLUME				
fl oz	fluid ounces	29.57	milliliters	mL	mL	milliliters	0.034	fluid ounces	fl oz
gal	gallons	3.785	liters	L	L	liters	0.264	gallons	gal
ft ³	cubic feet	0.028	cubic meters	m ³	m ³	cubic meters	35.71	cubic feet	ft ³
yd ³	cubic yards	0.765	cubic meters	m ³	m ³	cubic meters	1.307	cubic yards	yd ³
NOTE: Volumes greater than 1000 l shall be shown in m ³ .									
MASS					MASS				
oz	ounces	28.35	grams	g	g	grams	0.035	ounces	oz
lb	pounds	0.454	kilograms	kg	kg	kilograms	2.202	pounds	lb
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")	Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
TEMPERATURE (exact)					TEMPERATURE (exact)				
°F	Fahrenheit temperature	5(F-32)/9 or (F-32)/1.8	Celsius temperature	°C	°C	Celsius temperature	1.8C + 32	Fahrenheit temperature	°F
ILLUMINATION					ILLUMINATION				
fc	foot-candles	10.76	lux	lx	lx	lux	0.0929	foot-candles	fc
fl	foot-Lamberts	3.426	candela/m ²	cd/m ²	cd/m ²	candela/m ²	0.2919	foot-Lamberts	fl
FORCE and PRESSURE or STRESS					FORCE and PRESSURE or STRESS				
lbf	poundforce	4.45	newtons	N	N	newtons	0.225	poundforce	lbf
lbf/in ²	poundforce per square inch	6.89	kilopascals	kPa	kPa	kilopascals	0.145	poundforce per square inch	lbf/in ²

* SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.

(Revised September 1993)

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EXECUTIVE SUMMARY

In 1998, Congress issued a mandate that research be conducted to determine the location and quantity of parking spaces at public rest areas and private truck stops along the National Highway System (see section 4027 of the Transportation Equity Act for the 21st Century). The congressional mandate specifies that current and projected truck parking shortages be assessed. To accurately assess shortages, it is necessary to go beyond a simple count of parking spaces available across the Country. Shortages must be estimated by measuring the parking supply in light of regional, driver-preference, and other influencing factors.

As part of the effort to respond to the congressional mandate, the current study measured truck driver parking needs and preferences. Through a nationwide survey of truck drivers, the study sought to determine:

- How truck drivers plan for and address their parking needs.
- How truck drivers select when, where, and at which facilities they park.
- What truck drivers think of the adequacy of current parking facilities.

The “Truck Parking Needs and Preferences” survey developed for this study was designed and organized with the help of many industry stakeholders. As part of the survey development process, a working meeting was held with stakeholders from across the Country. During the working meeting, participants reviewed a draft “Truck Parking Needs and Preferences” survey and provided feedback on survey format and on question content and format. Communication with the stakeholders began before the draft survey was generated and continued after the stakeholder meeting for subsequent survey revisions. Stakeholders represented varied, sometimes opposite, perspectives and included State enforcement and department of transportation officials, motor carriers, private truck stop operators, commercial drivers, and safety advocates. The final survey reflected a comprehensive examination of truck drivers’ parking needs and preferences. To ensure that the length, content, and format of the survey were acceptable to truck drivers, 40 drivers completed the survey and provided feedback during a pilot data collection period.

Surveys were collected from a national sample of 2,046 truck drivers both directly, through site visits to truck stops, and indirectly, through mail-backs from truck stops. Survey distribution and collection locations were chosen in order to reach a nationally representative sample of drivers. The sample included male and female drivers; independent owner/operators; and drivers for small-, mid-, and large-sized carriers. The majority of respondents identified themselves as long-haul drivers.

How Truck Drivers Plan for and Address Their Parking Needs

Nearly all drivers reported that they, not their company colleagues, decide where they will park. Most drivers make the decision as they are driving. Drivers commented that

they find it difficult to plan parking before they embark on their trips because their schedules often change. For example, shipper and receiver locations may be “backed up” and cause them delay in moving on to their next destination. Because they are delayed, drivers cannot travel as far in their remaining legal duty hours as originally planned. They must choose a parking facility that comes sooner along the corridor they are traveling. Despite this impediment to parking planning, many drivers said that they can improvise because they know the location of most parking facilities.

How Truck Drivers Select When, Where, and at Which Facilities They Park

Drivers’ responses to the survey demonstrated definite preferences and priorities when it comes to choosing where they will park. When drivers park their trucks, most expect to satisfy only their basic needs. Drivers prefer parking facilities that provide food, fuel, restrooms, phones, and showers. They also consider safety and convenience important when they park their trucks. Drivers do not consider entertainment and other “luxuries” to be necessary characteristics of a parking facility. As one driver urged, “I just want to find a place to park that is safe and available.” Because truck stops typically provide showers, restaurants, and repair facilities, it is not surprising that drivers generally prefer private truck stops to public rest areas. Rest areas are preferred only when drivers park for quick naps. For more lengthy activities such as eating a meal, resting for the night, or repairing a truck, drivers would choose truck stops whenever possible.

What Truck Drivers Think of the Adequacy of Current Parking Facilities

When members of the survey team approached drivers to introduce the study, the single most common verbal response given by drivers was “build more spaces.” A handful of drivers remarked that they don’t see a problem with truck parking, with one driver going so far as to say, “drivers just need to learn how to park their trucks!” However, the majority of drivers seemed to consider the problem epidemic. A majority of survey respondents indicated that they rarely or almost never find available parking at public rest areas. Fewer respondents reported such consistent trouble finding available parking at private truck stops; however, the number one recommendation made by drivers for improving the parking situation was “build more truck stop spaces.” The popularity of this recommendation may reflect the fact that over three-quarters of respondents prefer to use truck stops for long-term rest. Most survey respondents indicated that the parking facilities they encounter generally have characteristics that make those facilities usable. But, drivers did recommend that time limits be eliminated and that parking lot layouts be improved to facilitate the ingress and egress of tractor-trailers that are commonly 53 feet in length.

Drivers indicated in both their written and verbal remarks that one sure way to improve the truck parking situation is to discourage law enforcement officers from waking sleeping drivers. Drivers reflected the same concern as stakeholders that safety is jeopardized when fatigued truck drivers are on the road. The drivers expressed a sense of responsibility for getting off the road whenever they feel tired.

The parking needs and preferences relayed by drivers in this study are neither surprising nor complicated. Drivers want more parking spaces, and they would like to find those spaces in clean, safe parking facilities. When drivers park their trucks, they want access to basic amenities. They want to eat a meal, take a shower, and get a few hours of uninterrupted sleep. Drivers participating in this survey were grateful for the opportunity to share their perspectives. They expressed a willingness to work together with industry and safety stakeholders to improve truck parking across the Nation.

1.0. INTRODUCTION AND BACKGROUND

In research conducted by the Federal Motor Carrier Safety Administration and reported in *Commercial Driver Rest & Parking Requirements: Making Space for Safety* (Publication No. FHWA-MC-96-0010 hereafter referred to as the “1996 Study”), considerable gains were made in understanding how truck drivers use public rest areas and privately owned truck stops.⁽¹⁾ The research methodology concentrated on analyzing data at public rest areas and privately owned truck stops through:

- An inventory of parking capacity and restrictions in the 48 contiguous States.
- Direct observation of the actual use of truck parking at facilities along a medium-density trucking corridor.
- A series of interviews and surveys that consulted 500 truck drivers, 330 motor carriers, and 170 truck stop operators.

Subsequent research in this area has been mandated by Congress (Section 4027 of Transportation Equity Act for the 21st Century) to determine the location and quantity of parking spaces at public rest areas and private truck stops along the National Highway System. The congressional mandate specifies that current and projected truck parking shortages be assessed. To accurately assess shortages, it is necessary to go beyond a simple count of parking spaces available across the Country. Shortages must be estimated by measuring the parking supply in light of regional, driver-preference, and other influencing factors.

In response to the congressional mandate, the current study built on the 1996 Study by:

- Extending the assessment from the Interstate Highway System to the National Highway System.
- Seeking a more comprehensive and representative understanding of driver-related factors that affect truck parking demand.

The current study included a truck parking supply assessment, truck parking demand model development, and truck driver needs and preferences survey.

Prior to conducting the current study, the Federal Highway Administration (FHWA) issued a Request for Information (Solicitation Number RFI-ST-001) to obtain feedback on how best to design, focus, and conduct the Section 4027 study. Five individuals or organizations provided responses. In addition, the FHWA hosted a Rest Area Forum (June 1999).⁽²⁾ Forum participants included more than 70 State departments of transportation and enforcement officials, representatives of the motor carrier industry, private truck stop operators, commercial drivers, safety advocates, and other interested parties. Input gathered through the RFI and the Rest Area Forum reflected a consensus that a clear understanding of truck drivers’ parking-related needs, preferences, and decision making is necessary to accurately assess truck parking supply and demand.

To measure truck driver parking needs and preferences, the current study employed a nationwide survey of truck drivers. The survey sought to determine:

- How truck drivers plan for and address their parking needs.
- How truck drivers select when, where, and at which facilities they park.
- What truck drivers think of the adequacy of current parking facilities.

This report summarizes the background, methodology, and outcome of the driver survey task.

2.0. METHODOLOGY

2.1. Survey Development

The “Truck Parking Needs and Preferences” survey (see appendix A) developed for this study was designed and organized with the help of many industry stakeholders. As part of the survey development process, a working meeting was held with stakeholders from across the Country. During the working meeting, participants reviewed a draft “Truck Parking Needs and Preferences” survey and provided feedback on survey format and on question content and format. Communication with the stakeholders began before the draft survey was generated and continued after the stakeholder meeting for subsequent survey revisions. Stakeholders represented varied, sometimes opposite, perspectives and included State enforcement and department of transportation officials, motor carriers, private truck stop operators, commercial drivers, and safety advocates. The final survey reflected a comprehensive examination of truck drivers’ parking needs and preferences.

The survey functioned not only to provide an understanding of truck drivers’ parking needs and preferences, but also to provide input into the parking demand model developed as part of this study. During survey development, the survey designers consulted with the parking demand modelers to ensure that the survey included appropriate model-related questions. As a result, the survey gathered driver feedback on the number of days per month that drivers sleep at home, the number of times per week that drivers sleep at shipper or receiver locations, and the drivers’ preferences for public versus private parking facilities. These data provided modelers critical insight into drivers’ travel patterns and behaviors and supplied data for several of the models’ parameters.⁽³⁾

To ensure that the length, content, and format of the survey were acceptable to truck drivers, 40 truck drivers completed the survey and provided feedback during a pilot data collection period. The survey team and stakeholders were concerned that the six-page survey would be too long for drivers to complete given their tight schedules. Although some drivers suggested that the survey length should be shortened, many not only completed the survey, but also took extra time to write additional comments and provide unsolicited verbal feedback to the surveyors. Drivers recommended that the survey be distributed at private truck stops rather than at public rest areas so that drivers could complete the survey while waiting for their laundry, eating dinner, or resting for the night. The drivers’ recommendation was well founded; when surveys were subsequently distributed at truck stops, nearly all drivers who were approached by surveyors did complete the survey.

2.2. Survey Distribution and Collection

Surveys were distributed to a national sample of truck drivers both directly, through site visits to truck stops, and indirectly, through mailings to truck stops. A total of 2,046 completed surveys were collected. During site visits, survey teams collected 1,042

completed surveys. Surveyors experienced overwhelmingly high response rates after briefly explaining the purpose of the survey to drivers. In fact, the survey team estimates achieving response rates above 80 percent during nearly every site visit. An additional 4,400 surveys were mailed out to 22 truck stops across the Country. Close to 1,100 surveys were returned, yielding a response rate of 24 percent for the mail-out distribution.

Locations for the site visits and mail-out distributions were chosen in order to reach a nationally representative sample of drivers. Before embarking on the major data collection task, the survey team tested distribution methods by visiting both public and private truck parking facilities on the east coast. During this pilot test, drivers made it clear that when at public rest areas they do not have time to participate in the study. However, at private truck stops, drivers generally agreed to fill out the survey during their stay. To determine whether omitting rest areas from the list of distribution locations would limit the sample of short-haul drivers, the survey team asked short-haul drivers if they use truck stops as often as they use rest areas. Short-haul drivers consistently indicated that they use both types of facilities equally. Therefore, to maximize response rate and minimize negative impact on drivers' time, truck stops were used exclusively for the survey distribution.

To ensure that the sample would be representative of a national sample of drivers, survey distribution sites were located in 27 States along major trucking corridors on the National Highway System (see figure 1). All regions of the United States were included.

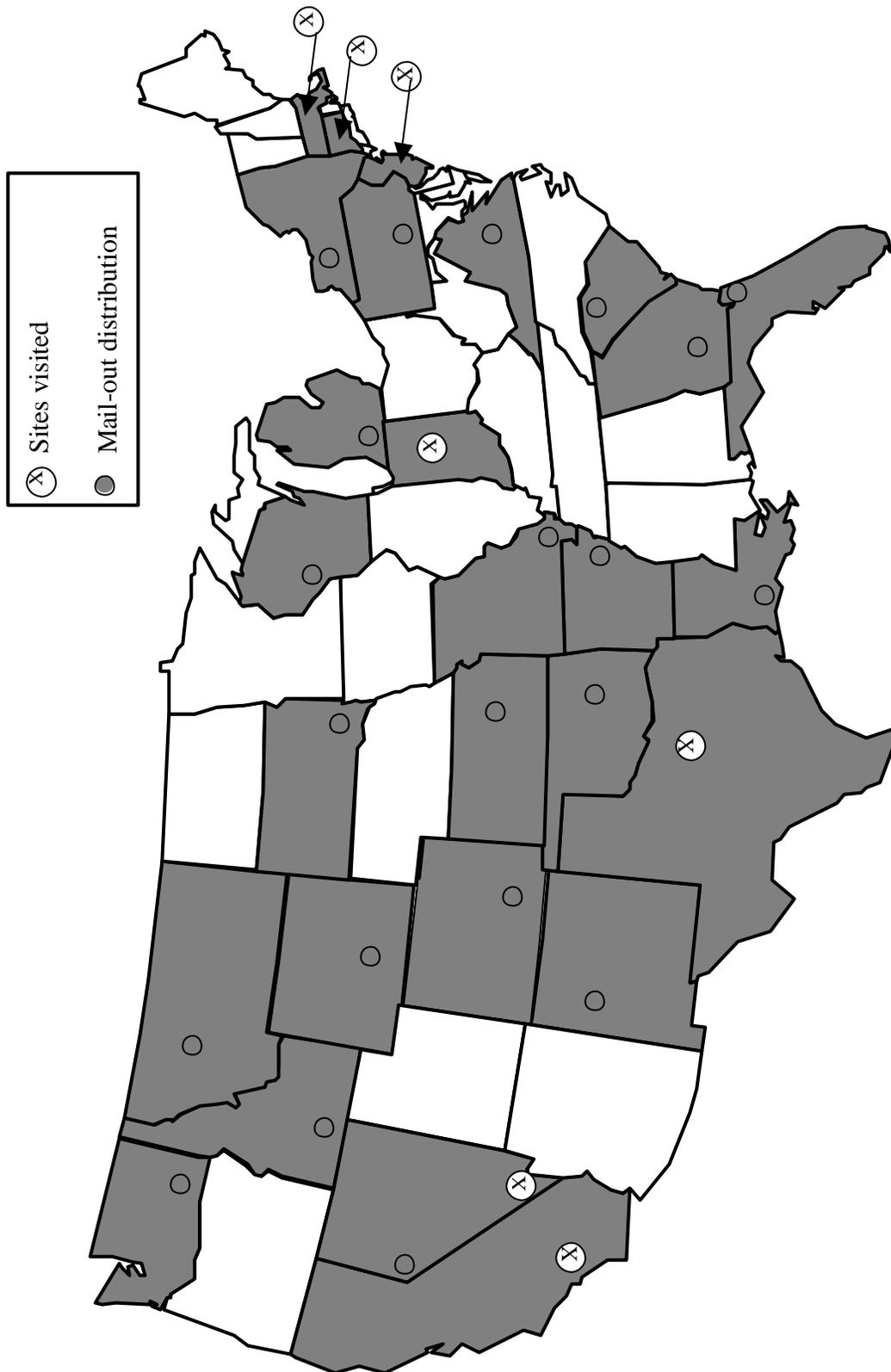


Figure 1. States included as distribution sites.

2.2.1. Site Visit Procedure

During site visits, surveyors followed a standard protocol. Teams of two survey members each visited truck stops during lunch and dinner hours (11:00 a.m. to 2:00 p.m. and 4:00 p.m. to 8:00 p.m.) to encounter as many drivers as possible. Drivers were observed getting out of their trucks and were approached when they reached the entrance of a truck stop building. Whenever possible, the survey team members positioned themselves outside the entrance used principally by truck drivers. The survey team used the following greeting to inform drivers about the survey. The bold-faced words were considered key words and were the words that a surveyor focused on if he or she had to talk quickly to a busy driver.

Greeting: Hello, we are doing a **nationwide** study on **truck parking**. **Congress** has mandated that information be collected to show whether there is a shortage or surplus of truck parking **in truck stops and rest areas**, so we are going across the Country to talk to truck drivers like you about this issue. We know that **drivers know better** than anyone whether there are problems with truck parking and we want to gather as much **written evidence** of drivers' opinions on this subject as possible.

If drivers requested more information, the greeting continued as follows:

Greeting continued: We will be **presenting** the **opinions** of the thousands **of drivers** we talk to through a report to **DOT and Congress** in the summer of 2001. We want to make sure that drivers have a say in determining what problems there are, if any, with parking and, if there are problems, what should be done to improve the truck parking situation.

The surveyors informed drivers that the surveys could be completed anywhere (for example, in a truck or restaurant) as long as the completed surveys were returned to the surveyors by a specified time (i.e., the departure time of the survey team).

For each site visited, surveyors filled out a "Survey Batch Information" sheet. This sheet included space to record the date, facility identification, road, direction, beginning survey ID, and ending survey ID. This information was entered into the database to identify each survey. One batch number was assigned for every site visited.

2.2.2. Site Visit Materials

The survey team brought the following materials to each site they visited:

- Two hundred surveys.
- Twenty-five sharpened pencils.
- Twenty business cards for distribution at drivers' request.
- One survey batch information sheet.
- Pencil sharpener.
- Stapler.

2.2.3. *Mail-Out Procedure*

Truck stops were chosen for inclusion in the mail-out phase of the survey distribution based on their locations. The survey team coordinated with the National Association of Truck Stop Operators (NATSO) Foundation to contact the appropriate truck stop operators for permission to include the site in the study. Nearly all truck stop operators agreed to participate in the study. Mail-out packets were distributed to the appropriate truck stop managers. The packets contained everything the manager would need for distributing, collecting, and returning the surveys. One member of the survey team followed up with each manager by phone to ensure that proper distribution and collection procedures were followed. Managers displayed the blank surveys in such heavily traveled areas of the truck stop as restaurant counters, truck drivers' entrances, and fuel counters. Signs were prepared for managers to place near the distribution location to alert drivers about the survey. Surveys were distributed in this manner for up to one week. A clearly visible sign informed drivers to return their completed surveys to a "return box" by a designated time each night. Managers emptied the return box each night and at the conclusion of the distribution period, they mailed the surveys, at no charge to the truck stop, to a survey team member using a team express mail account. The returned surveys from each site were identified with a unique pre-printed code to identify the location where the surveys were collected.

2.2.4. *Mail-Out Materials*

The mail-out packets sent to truck stops for distribution included the following materials:

- Two hundred pre-coded surveys.
- One distribution box for displaying blank surveys.
- One return box for collecting completed surveys.
- One 8-in x 10-in sign (in frame) and one poster-size sign for advertising the survey to truck stop patrons and for providing instructions to respondents.
- One self-addressed, pre-paid express shipping label.
- One step-by-step instruction sheet for truck stop managers.
- Tape for securing signs and sending the return box to the survey team.

2.2.5. *Data Coding and Entry*

The completed surveys were scanned into an electronic database using survey development and data scanning software. Prior to data scanning, the survey team developed coding specifications for each item in the survey and entered those specifications into a blank electronic data file. The data were then scanned into that data file for analysis with a statistical software package.

3.0. RESULTS

Survey data were analyzed to examine driver opinions within three topic areas:

- Parking availability and usability.
- Parking patterns and preferences.
- Parking solutions.

This section of the report presents the results of those analyses. The section begins with a discussion of the respondents' demographic characteristics.

3.1. Demographics

Approximately 90 percent of the survey respondents reported that they are male and about 10 percent reported they are female. Despite efforts to enable and encourage short-haul drivers to complete the survey, only three percent ($n = 57$) of the respondents identified themselves as short-haul drivers. Ninety-seven percent reported that they are typically long-haul drivers.

Twenty-six percent of drivers identified themselves as independent owner/operators. Five percent are employed by independent owner/operators. Seven percent are employed by small carriers (2-10 power units). Seventeen percent drive for mid-sized carriers (11-100 power units), while 43 percent reported that they drive for large-sized carriers (carriers with over 100 power units).

When asked to report the frequency with which they participate in team driving, the majority of drivers (72 percent) indicated that they "rarely" or "almost never" participate in team driving. In fact, only 16 percent of drivers indicated that they "almost always" participate in team driving; four percent marked "frequently" and nine percent marked "sometimes." Participation in team driving did not generally vary by the type of driver (e.g., independent owner/operator, driver for large-sized carrier).

Throughout the United States, surveys were distributed along corridors with various truck volumes (see figure 2.) The survey distribution points were categorized according to the truck volume on the roadway where the distribution point is found. Approximately 38 percent of the sampled distribution points have truck volumes of 15,001 to 20,000 trucks per day. Fifteen percent have truck volumes of 10,001 to 15,000 trucks per day; 24 percent have volumes of 5,001 to 10,000 trucks per day; and 23 percent have truck volumes of 5,000 trucks or less per day.

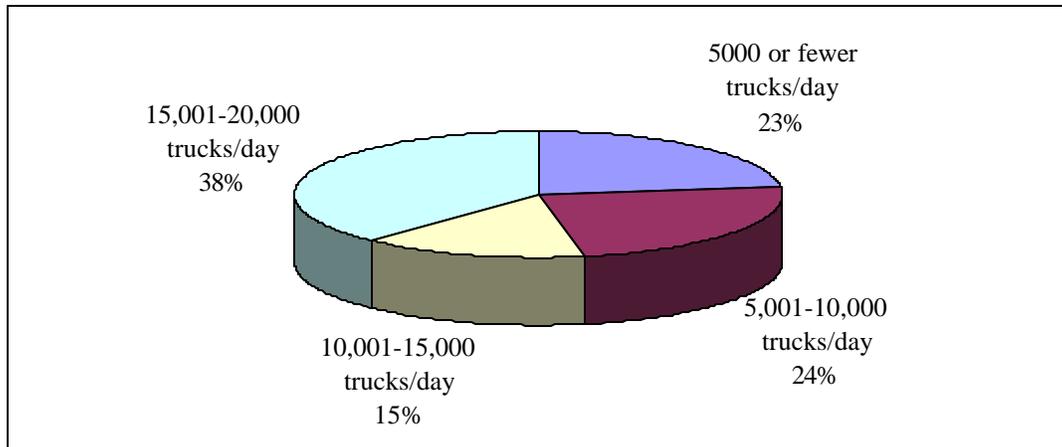


Figure 2. Percent of respondents by truck volume corridor categories.

Drivers reported the city and state of their home base (i.e., normal work reporting location). Forty-nine States and six Canadian provinces served as home bases for the responding drivers. Texas and Tennessee were the two most frequently reported home base States, with seven percent and six percent of the respondents, respectively, reporting these States. When drivers completed the survey, 30 percent of them were between 500 and 999 miles away from their home base. Twenty-eight percent were between 1,000 and 1,999 miles from their home base; and 20 percent were 200 to 499 miles from their home base. Fewer respondents were very close or very far from their home base. Twelve percent were fewer than 200 miles away, while 11 percent were more than 2,000 miles away.

3.2. Parking Availability and Usability

3.2.1. Are There Enough Parking Spaces?

Drivers were asked how frequently they encounter available parking at public and private truck parking facilities. Among the overall sample, only 11 percent of respondents indicated that they *frequently* or *almost always* find available parking at rest areas and only about one-third of respondents reported that they *frequently* or *almost always* find available parking at private truck stops (see figure 3). Nearly 90 percent of respondents indicated that they *sometimes*, *rarely*, or *almost never* find available parking at rest areas; while two-thirds reported that they *sometimes*, *rarely*, or *almost never* find available parking at truck stops.

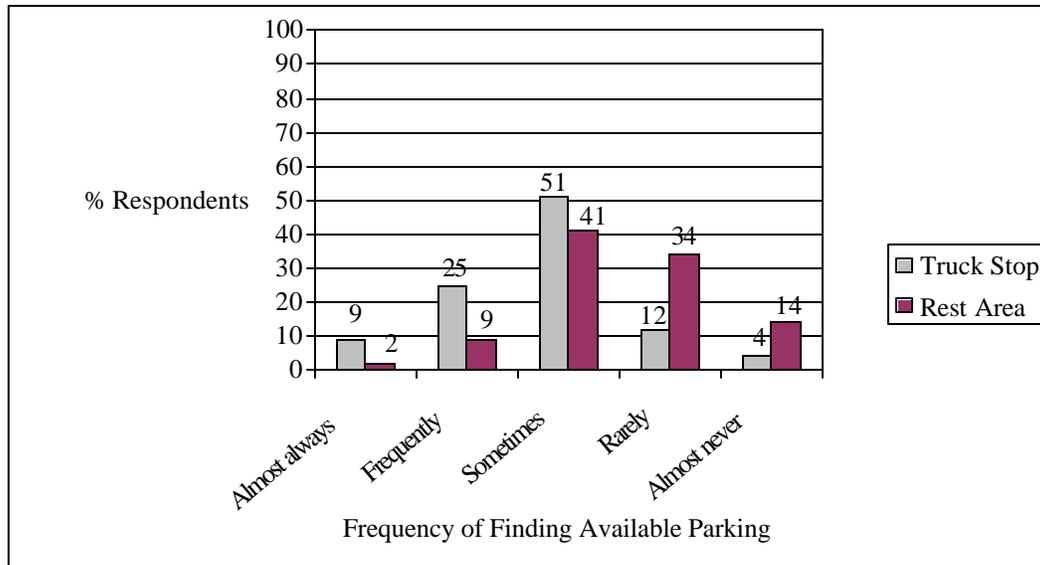


Figure 3. Frequency with which drivers find available parking at truck stops and rest areas.

Drivers were asked how frequently they encounter available truck stop and rest area parking within the context of their general experience and within the context of the trip they were making when filling out the survey. Respondents reported slightly more positive impressions of parking space availability in the context of their trip than in the context of their general experiences. Specific to the trip they were making, 15 percent of respondents reported that truck stops *almost always* have available parking, while only nine percent of respondents made the same statement in the context of their general experience. Six percent of respondents reported that rest areas *almost always* have available parking on the trip they were making at that time; only two percent reported that rest areas, in general, *almost always* have available parking.

Drivers also had the opportunity to rate how often their next stop (e.g., shipper or receiver) has available parking. The most frequently reported response (by 40 percent of sample) was that *sometimes* their next stop has available parking. Thirty-seven percent of drivers reported that their next stop has available parking *rarely* or *almost never*. Twenty-three percent indicated that their next stop has available parking *frequently* or *almost always*.

Several hundred drivers provided written and verbal comments, both solicited and unsolicited, regarding the availability of truck parking. Overwhelmingly, drivers remarked that there are not enough parking spaces at truck stops or rest areas. Drivers complained of a lack of parking availability particularly in the overnight hours. Drivers also reported that more parking is needed near metropolitan areas and in certain regions of the country (e.g., Northeast, Southern California, Northwest).

3.2.2. How Useable are the Parking Spaces?

Because the number of available parking spaces is only part of the parking picture, respondents were asked to report how frequently truck parking spaces have certain usability characteristics. Drivers rated how frequently available parking is convenient to the highway, has the features they need, has time limits that allow enough time for their needs, has enough room for them to maneuver their trucks in and out, and is used only by trucks. Respondents gave mixed ratings for all these usability characteristics (see table 1). For each of these usability characteristics, *sometimes* [I encounter this characteristic] was the most frequently reported driver response. The usability characteristic that was most often encountered by respondents (i.e., most often given ratings of *frequently* or almost *always*) was “available parking has the features I need” – marked by 51 percent of respondents. Thirty-nine percent of respondents indicated that available parking is *frequently* or *almost always* convenient to the highway.

Table 1. Frequency of encountering usability characteristics in truck parking.

Usability Characteristic	Almost Always	Frequently	Sometimes	Rarely	Almost Never
Parking is convenient to highway	9%	30%	41%	12%	7%
Facility has features needed	15%	36%	38%	7%	3%
Parking time limits allow enough time	15%	22%	30%	18%	15%
Parking allows enough room to drive in and out	8%	24%	48%	15%	6%
Truck spaces used only by trucks	9%	25%	34%	20%	12%

Note: Due to rounding, percentages may not sum to 100.

3.3. Parking Patterns and Preferences

3.3.1. How Often Do Drivers Sleep at Home?

Drivers reported sleeping at home anywhere from zero to 31 days per month. On average, drivers reported sleeping at home seven days each month. However, there was tremendous variation in drivers’ responses to this question (standard deviation = 5.65 days). Twenty-one percent of respondents sleep at home only four days per month, which was the most frequently reported response to this question. Two-thirds of respondents sleep at home seven days or less each month. Only about four percent of the sample sleeps at home more than 21 days per month. Because the sample comprises so few short-haul drivers, when long-haul drivers were considered separately from short-haul drivers the distribution of responses remained very much the same. The 56 short-haul drivers who answered this question gave much different responses than the long-haul drivers. They most often reported sleeping at home 30 days per month, with a mean

response of 23 days. Although short-haul drivers would be expected to sleep at home much more frequently than long-haul drivers, nearly one-quarter of the short-haul drivers sampled in this study reported that they sleep at home less than half the days each month. This suggests that even short-haul drivers may use parking facilities for long-term rest.

3.3.2. Where Do Drivers Park?

Drivers reported the number of times per week that they park in various locations for long-term rest (see figure 4). More than 90 percent of respondents reported that they park in truck stops for long-term rest. On average, they park at truck stops for long-term rest four times per week, with about 15 percent parking there seven or more times per week. Two-thirds of respondents reported that they park an average of two times per week at rest areas for long-term rest. Sixty percent of respondents indicated that they park at loading or unloading docks for long-term rest. Loading and unloading docks are used an average of three times per week for long-term rest. Eighteen percent of respondents do not park to sleep because they sleep in sleeper berths while their driving partner drives.

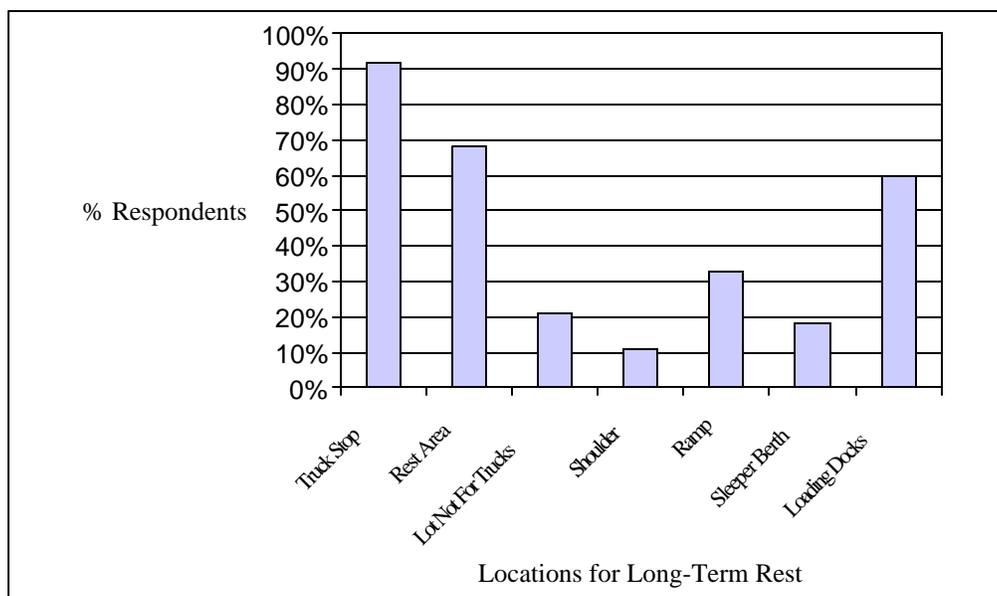


Figure 4. Locations chosen for long-term rest.

Some drivers indicated that for long-term rest they park in places *not* designated for truck parking. One-third reported that they park on entrance or exit ramps, 21 percent in parking lots not designated for truck parking, and 11 percent on highway shoulders. On average, drivers who park in these places for long-term rest do so two times per week. Almost 40 percent of drivers who park in these unconventional locations indicated that alternative parking, if made available, would improve the parking situation. Perhaps these respondents would make use of alternative parking areas and park less often in locations not designated for truck parking.

Drivers' reports of where they park to sleep for long-term rest were examined in light of driver type (i.e., independent owner/operator, driver for owner/operator, driver for small-, mid-, or large-sized carrier). Driver type generally made no difference in the places where drivers park for long-term rest.

In addition to reporting general parking patterns, drivers reported trip-specific parking behaviors. Drivers identified where they last parked their trucks to sleep and where they would next park their trucks to sleep. Fifty-six percent *last* parked at a truck stop, eight percent *last* parked at a rest area, four percent *last* parked on an entrance or exit ramp, and 10 percent *last* parked at a loading or unloading dock. Fifty-eight percent reported that they would *next* park at a truck stop, seven percent at a rest area, two percent on an entrance or exit ramp, and 14 percent at a loading or unloading dock. Driver type showed a limited effect on where drivers last parked and would next park. Zero percent of independent owner/operators (with more than one power unit) reported *last* parking at rest areas to sleep, compared to eight percent of the overall sample. Fifteen percent of respondents who drive for small-sized carriers indicated that they *last* parked at a rest area to sleep (versus eight percent overall); however, only three percent of the same sample of respondents reported that they plan to park *next* at a rest area (versus seven percent overall).

3.3.3. *Who Decides Where Drivers Park and When is the Decision Made?*

Drivers were asked who decides where they will park and when the decision is made about where they will park. For both these questions, drivers were able to mark multiple response choices. All types of drivers (that is, independent owner/operators; drivers for independent owner/operators; and drivers for small-, mid-, or large-sized carriers) responded similarly to these parking decision questions. Overall, 98 percent of respondents indicated that *they* decide where they will park; while only one percent of respondents ($n = 22$) marked that someone from their companies decides where they will park. Eighty-three percent of drivers who decide on their own where they will park do so as they are driving; 21 percent decide before they start driving. These percentages indicate that some drivers marked more than one response choice about when they decide where to park. These drivers sometimes decide before driving and sometimes while driving.

Nearly 300 respondents provided additional written comments regarding when they decide where to park. In their remarks, drivers indicated that they often try to plan their parking stops, but circumstances arise that prevent them from parking when or where they had planned. Drivers noted circumstances such as getting tired before they thought they would, experiencing delays at shipper/receiver locations, and failing to find available parking spaces at their pre-planned destinations. Drivers also remarked that they decide where to park as their on-duty hours elapse, based on how far they think they can drive in their remaining hours of service. Other drivers indicated that they do not plan ahead, but simply park whenever or wherever they find an available space.

For those drivers who reported that they park in unconventional locations such as highway ramps and shoulders, and parking lots not designated for truck parking, responses were examined to discover who decides where drivers will park and when that decision is made. This sample of drivers reflected operations very similar to the overall sample, with 97 percent deciding on their own where they will park and one percent following company instructions about where to park. Of those who make their own parking decisions, 89 percent make them while driving and 16 percent decide before they start driving.

When the sample was split by the various driver types, responses to the question about who makes the parking decisions did not differ among the groups. However, over 90 percent of the respondents who drive for independent owner/operators reported that the decision about where to park is made while they are driving; while the rest of the driver types showed percentages in the seventies and eighties. Additionally, respondents who drive for large carriers more often reported that parking decisions are made before they start driving (27 percent compared to between 12 percent and 20 percent for the other driver types).

3.3.4. *Why Do Drivers Park on Ramps and Shoulders?*

The survey provided respondents with the opportunity to speculate why truck drivers sometimes park on entrance or exit ramps and highway shoulders. Drivers reported what they think are the four most common reasons. The two most commonly reported reasons were *no nearby parking facility* and *no empty spaces in nearby truck stops or rest areas* (reported by 83 percent and 94 percent, respectively). About half of the drivers indicated that trucks are sometimes parked on ramps or shoulders because *nearby parking spaces have time limits that are too short* or because *empty nearby parking spaces are blocked by other trucks, cars, or RVs*. Roughly one-third of respondents cited the reasons: *the ramp/shoulder is convenient for getting back on the road* and *[drivers are] less likely to be bothered by strangers (e.g., drug dealers, prostitutes)*. Eighteen percent of respondents marked that drivers park on ramps and shoulders because it's *hard to drive around parking lots*. While only four percent reasoned that there is *better lighting on ramp[s]/shoulder[s] than in lot[s]*.

Some believe that there is a connection between how often drivers park on ramps and shoulders and when drivers decide or plan where they will park. In this survey, drivers were asked to report why they believe *other* drivers park on ramps and shoulders; however, it is possible that their responses reflected their own reasons for parking on ramps and shoulders (if they park there). Respondents were grouped according to their "planning behavior" (i.e., those who decide before driving where to park versus those who decide while driving where to park). Responses to the question about why drivers park on ramps and shoulders were then examined for each group. Drivers' own planning behavior did not seem to affect their perceptions of why truck drivers park on ramps and shoulders. Drivers who decide while they are driving where they will next park responded about the same as drivers who make their parking decisions before they start driving. However, 137 written comments provided by respondents regarding why drivers

park on ramps and shoulders stated that drivers park on ramps and shoulders when they are too tired to continue driving or when they run out of hours. These comments reflect at least some connection between poor planning and parking on shoulders and ramps.

Other written comments provided by respondents indicated that drivers park on ramps and shoulders because they have no other available option at the time. Some respondents wrote that drivers park on ramps and shoulders because they lack the experience, good judgment, or energy to find other suitable parking. A few drivers commented that parking on ramps and shoulders reduces the chances of being hit by another truck.

3.3.5. *What are Drivers' Parking Preferences?*

To help clarify drivers' parking preferences, the survey asked drivers to identify how important various parking facility features are to them when they park their trucks. Drivers rated various features on a scale from 1 to 5 (*almost always important* to *almost never important*). Table 2 shows the features evaluated, along with the mean and modal ratings they received. Features rated as most important were generally the ones that address basic needs. Food, fuel, restrooms, phones, showers, convenience to highway, and well lighted parking lots all received modal ratings of *almost always important*. In fact, between 70 percent and 85 percent of the sample rated these features as *frequently* or *almost always important*. Interestingly, drivers appear to value well lighted parking lots more than they value security presence. Seventy-five percent of respondents rated "well lighted parking lots" as *frequently* or *almost always important*, while only 60 percent gave the same ratings to "security presence." The majority of drivers rated features such as entertainment facilities, Internet connections, and availability of travel information as less important.

Almost 400 respondents provided written comments on the parking facility features they consider important. The single most frequently mentioned feature was *big parking spaces that allow trucks to maneuver in and out* (written by 45 drivers). Drivers indicated that they look for quiet parking facilities where they are not likely to be disturbed by police officers or solicitors. They value clean facilities where the personnel are friendly. Drivers also commented that they prefer parking facilities that allow access to shopping areas with grocery or department stores. Finally, drivers commented that laundry facilities add to the appeal of a parking facility.

Table 2. Importance of features when parking (as rated by drivers).

Important Features	Mean	Median	Mode
Restrooms	1.4	1.0	1
Convenient to highway	1.6	1.0	1
Showers	1.7	1.0	1
Well-lighted parking lot	1.9	1.0	1
Public phones	1.9	1.0	1
Restaurant	1.9	1.0	1
Fuel	2.0	1.0	1
Security presence	2.3	2.0	1
Repair facilities	2.6	3.0	1
Prepaid fuel cards accepted	2.9	3.0	1
Vending machines	3.4	3.0	5
Entertainment facilities	3.4	3.0	5
Travel information available	3.6	4.0	5
Internet connections	4.0	5.0	5

Note: Respondents rated the features on a scale from 1 to 5 (*almost always important to almost never important*).

Ratings given by short-haul drivers reflected the fact that they value parking facility features differently than long-haul drivers. Specifically, long-haul drivers most often rated features such as showers, fuel, and well-lighted parking lots as *almost always important*, while short-haul drivers most often rated these same features as only *frequently important*. Female respondents provided different ratings than their male counterparts on some features. Eighty percent of women rated security presence as *frequently* or *almost always important*, while just under 60 percent of men gave the same ratings to security presence. Additionally, 92 percent of women rated “well-lighted parking lot” as *frequently* or *almost always important*, while about 75 percent of men did the same.

In addition to inquiring about the features that are important to drivers, the survey also asked which type of parking facilities (public versus private) they prefer for parking. Because parking facility preference likely depends on the purpose of the stop, various common “reasons for parking” were identified to give context to their facility preferences. Generally, when drivers showed a preference, they indicated a preference for truck stops over rest areas (see table 3). Rest areas were preferred to truck stops only when drivers stop for a quick (less than two hours) nap. For extended rest (more than two hours), performing minor truck maintenance, and eating a meal, drivers overwhelmingly preferred truck stops to rest areas, with between 80 percent and 90 percent of drivers indicating a preference for truck stops and less than six percent indicating a preference for rest areas. Most respondents marked “no preference” for stops made to use vending machines, get travel information, use public phones, and use the restroom. However, among those drivers who did show a facility preference when making these types of stops, more drivers indicated a preference for truck stops. For all the parking reasons listed, short-haul driver preferences were the same as long-haul

driver preferences. It is necessary to note that the data were collected at truck stops rather than rest areas, and could, therefore, reflect a sampling bias for a truck stop preference. However, pilot data suggests that a sample drawn at truck stops would be generally the same as one drawn at rest areas, and would consequently represent truck drivers at both commercial truck stops and public rest areas.

Table 3. Drivers' parking facility preferences by purpose of stop.

Reason for Parking	Rest Area	No Preference	Truck Stop
Take a quick nap (≤ 2 hours)	45%	36%	19%
Take an extended rest (> 2 hours)	6%	16%	79%
Use vending machines	28%	58%	14%
Get travel information	9%	51%	40%
Use public phones	14%	49%	37%
Perform minor maintenance on truck	2%	19%	79%
Use the restroom	25%	45%	30%
Eat a meal	1%	8%	91%

Note: Due to rounding, percentages may not sum to 100.

3.4. Parking Solutions

3.4.1. What Improvements Do Drivers Recommend?

From a comprehensive list (see table 4), drivers identified the five truck-parking-related improvements that they think will help the most in improving truck parking. This list of possible solutions emerged from the discussions held at the Rest Area Forum. Drivers' responses to this list of solutions reflect support for many of the recommendations made at the Forum. The five improvements identified by the largest percentages of drivers were:

1. Build more truck stops spaces (79 percent of respondents).
2. Build more rest area spaces (66 percent of respondents).
3. Stop enforcement officers from waking drivers (57 percent of respondents).
4. Eliminate time limits on truck parking spaces (49 percent of respondents).
5. Improve parking layouts/configurations (46 percent of respondents).

Coming in sixth and seventh places were "separate truck, car, and RV parking" and "provide alternative parking," marked by 42 percent and 36 percent of respondents, respectively. When responses were examined by type of driver, respondents' recommendations remained largely the same.

Recommendations also remained largely the same when isolated for those drivers who prefer to park at truck stops for extended rest. Drivers who prefer to park at rest areas for extended rest demonstrated slightly different priorities for improving truck parking (see

table 4). For example, their top recommendation was to build more rest area parking spaces and they less often recommended eliminating time limits.

Table 4. Parking-related improvements identified by drivers as helping the most.

Parking-Related Improvement	% of All Drivers	% of Truck Stop Users	% of Rest Area Users
Build more <i>truck stop</i> parking spaces	79%	80%	67%
Build more <i>rest area</i> parking spaces	66%	62%	76%
Stop enforcement officers from waking driver	57%	56%	52%
Eliminate time limits	49%	50%	38%
Improve parking layout/configuration (e.g., more pull-through)	46%	46%	43%
Separate truck, car, and RV parking	42%	41%	43%
Provide alternative parking (e.g., at weigh stations, Park-N-Ride lots)	36%	34%	42%
Increase security presence	29%	31%	24%
Improve signs and roadway information for parking facilities	28%	28%	28%
Improve lighting	26%	26%	25%
Use car parking for truck parking during peak overnight hours	22%	21%	26%
Up-to-the-minute information on parking space availability	18%	18%	15%
Adopt standard spacing between rest areas	16%	15%	21%
Improve amenities at rest areas	14%	14%	16%
Landscape to minimize hiding places for criminals/criminal activity	13%	14%	10%
Educate drivers/dispatchers about planning parking stops before trip	7%	6%	10%
Enforce time limits	1%	1%	1%

Note: Rest area users and truck stop users are those respondents who specified a preference for public or private parking when they park for extended rest (i.e., more than two hours). One-hundred-eleven respondents specified a preference for rest areas; 1,563 specified a preference for truck stops.

Two recommendations discussed at the Rest Area Forum were endorsed by drivers more so than they were by Forum participants: “Improve parking layout/configuration” and “separate truck, car, and RV parking.” Nearly half the respondents identified these two solutions as having the potential to improve truck parking. The driver support shown for these solutions suggests that even when the number of truck parking spaces is sufficient, some of the spaces may be inaccessible to trucks. Poor parking space layout and occupation of truck spaces by cars and recreational vehicles prohibit trucks from using

the truck spaces. Forum participants may not have been aware of the extent of this problem.

3.4.2. How Might ITS Technology Help Drivers?

The Rest Area Forum participants recommended that parking availability information be made more accessible to drivers. Forum participants discussed the use of intelligent transportations systems (ITS) technology to deliver real-time parking information to drivers. Survey respondents provided feedback on whether they thought better information exchange would improve the parking situation. Additionally, drivers identified how they would like to receive real-time information and what type of information they would find helpful.

When asked how they would like to receive real-time information, 73 percent of drivers marked “radio in vehicle (e.g., CB, low-power FM, Dedicated Short Range Communication (DSRC)).” Forty percent marked “electronic visual display in vehicle” and 12 percent marked “the Internet.” Drivers indicated that they would like to receive the following types of real-time information:

- Location of truck parking facilities along the road being traveled (84 percent of respondents).
- Features that are available at upcoming parking facilities (77 percent of respondents).
- Number of truck parking spaces available at upcoming parking facilities (68 percent of respondents).
- Length of time limits on upcoming truck parking spaces (46 percent of respondents).

Some of the respondents who indicated that they would benefit from receiving real-time information on the location of truck parking facilities (number one above) or on the number of spaces available (number three above) emphasized their position when they marked their top five recommendations for improving truck parking. Specifically, 28 percent of these respondents included *better signs and roadway information* as one of their top-five recommendations and 18 percent included *provide up-to-the-minute parking information* in their top-five recommendations.

Over 200 respondents provided written comments about what other types of information they would like to receive. Generally, drivers reported that they would like information about the layout and size of parking spaces at upcoming facilities. They would find it useful to know whether a parking facility can accommodate trucks that are oversized, hauling hazardous material (HAZMAT), or multiple-trailer loads. Drivers also would find useful any information on parking fees associated with parking facilities.

4.0. SUMMARY AND CONCLUSIONS

More than 2,000 truck drivers from all over the United States and Canada participated in the survey effort for this TEA-21 Section 4027 Study on Adequacy of Truck Parking. Responses were collected from long-haul and short-haul drivers at private truck stops through site visits and mail-out distributions. The respondent pool included all types of drivers from independent owner/operators who own just one truck to drivers employed by large trucking carriers. Drivers responded enthusiastically to the study, oftentimes thanking the survey team for making an effort to gather driver opinions. Response rates, particularly during site visits, were unusually high for survey research.

Drivers provided insight into how often they park their trucks, what characteristics they prefer in parking facilities, what they think of the current truck parking situation, and what improvements they think would most improve truck parking. The original survey task objectives sought to answer the following three questions:

- How do truck drivers plan for and address their parking needs?
- How do truck drivers select when, where, and at which facility they will park?
- What do truck drivers think of the adequacy of current parking facilities?

Drivers generously provided answers to all these questions. Furthermore, drivers generally agreed with each other, whether they drive for small operations or large ones, and whether they are male or female.

Nearly all drivers reported that they, not their company colleagues, decide where they will park. Most drivers make the decision as they are driving. Drivers commented that they find it difficult to plan parking before they embark on their trips because their schedules often change. For example, shipper and receiver locations may be “backed up” and cause them delay in moving on to their next destination. If they are delayed, drivers cannot travel as far in their remaining legal duty hours as originally planned. They must choose a parking facility that comes sooner along the corridor they are traveling. Despite this impediment to parking planning, many drivers said that they can improvise because they know the location of most parking facilities.

Drivers’ responses to the survey demonstrated definite preferences and priorities when it comes to choosing where they will park. When drivers park their trucks, most expect to satisfy only their basic needs. Drivers prefer parking facilities that provide food, fuel, restrooms, phones, and showers. They also consider safety and convenience important when they park their trucks. When it comes to safety, drivers appear to value well-lighted parking lots even more than they value security presence. Drivers do not consider entertainment and other “luxuries” to be necessary characteristics of a parking facility. As one driver urged, “I just want to find a place to park that is safe and available.” Because truck stops typically provide showers, restaurants, and repair facilities, it is not surprising that drivers generally prefer private truck stops to public rest areas. When drivers park for quick naps, they prefer to park in rest areas. For more lengthy activities

such as eating a meal, resting for the night, or repairing a truck, drivers would choose truck stops whenever possible.

When members of the survey team approached drivers to introduce the study, the single most common verbal response given by drivers was “build more spaces.” A handful of drivers remarked that they don’t see a problem with truck parking, with one driver going so far as to say, “drivers just need to learn how to park their trucks!” However, the majority of drivers seemed to consider the problem epidemic. A majority of survey respondents indicated that they rarely or almost never find available parking at public rest areas. Fewer respondents reported such consistent trouble finding available parking at private truck stops; however, the number one recommendation made by drivers for improving the parking situation was “build more truck stop spaces.” The popularity of this recommendation may reflect the fact that over three-quarters of respondents prefer to use truck stops for long-term rest. In their written and verbal comments, drivers pointed out that parking shortages are often related to location. They remarked that more parking is needed near metropolitan areas and in certain regions of the Country (e.g., Northeast, Southern California, Northwest). Most survey respondents indicated that the parking facilities they encounter generally have characteristics that make those facilities usable. But, drivers did recommend that time limits be eliminated and that parking lot layouts be improved to facilitate the ingress and egress of tractor trailers that are commonly 53 feet in length.

Drivers indicated in both their written and verbal remarks that one sure way to improve the truck parking situation is to discourage law enforcement officers from waking sleeping drivers. Drivers reflected the same concern as stakeholders that safety is jeopardized when fatigued truck drivers are on the road. Drivers expressed a sense of responsibility for getting off the road whenever they feel tired.

The parking needs and preferences relayed by drivers in this study are neither surprising nor complicated. Drivers need more parking spaces and they would like to find those spaces in clean, safe parking facilities. When drivers park their trucks, they want access to basic amenities. They want to eat a meal, take a shower, and get a few hours of uninterrupted sleep. Drivers participating in this survey were grateful for the opportunity to share their perspectives. They expressed a willingness to work together with industry and safety stakeholders to improve truck parking across the Nation.

APPENDIX A.

DRIVER SURVEY

For Office Use Only

Date: _____
Time: _____
Facility ID _____
Road & Direction: _____
Nearest Mile Marker/Cross Road:

Truck Parking Needs and Preferences

“TRUCK PARKING FACILITY”- an area designated for truck parking, including public rest areas, private truck stops, weigh stations, and pull-offs.

DIRECTIONS:

- ! PLEASE BE ASSURED THAT ALL RESPONSES ARE ANONYMOUS AND CONFIDENTIAL. You do not need to include any *identifying* information on this survey and your individual responses will not be reported to anyone.
- ! YOUR RESPONSES ARE IMPORTANT TO US! We appreciate your thoughtful feedback. Your responses will influence policy recommendations to improve truck parking.
- ! Please complete this survey alone. Do not confer with others about your responses.
- ! YOU CANNOT GIVE A WRONG ANSWER. We are interested in your opinions. Please respond to all items based on your experience and perceptions.
- ! If you have any questions, please call 1-800-986-9678 and dial extension 33384 for Kelley Pécheux or extension 33378 for John Farby.

Section A: Background

1. Which of the following driver categories best describes you? **(Please mark all that apply.)**

- independent owner/operator (1 power unit)
- independent owner/operator (multiple power units)
- driver for an owner/operator
- driver for a *small-sized* carrier (carrier with 2-10 power units)
- driver for a *mid-sized* carrier (carrier with 11-100 power units)
- driver for a *large-sized* carrier (carrier with over 100 power units)
- other, please specify _____

2. Do you participate in TEAM driving? **(Please mark only one box.)**

.....

Almost Always Frequently Sometimes Rarely Almost Never

3. What is your sex?

- male
- female

4. Are you TYPICALLY a LONG-HAUL/REGIONAL or SHORT-HAUL/LOCAL driver?
(Please mark only one box.)

- long-haul (sleep away from home for work)
- short-haul (sleep at home)

Section B: Parking Patterns and Preferences

5. How many DAYS do you SLEEP AT HOME EACH MONTH? _____ days

6. In a TYPICAL week on the road, HOW MANY TIMES do you park in the following places for longterm rest (at least 4 hours of rest)? **(Please write the number of times per week next to each.)**
I sleep...

in a rest area parking lot _____ times per week
 in a truck stop parking lot _____ times per week
 in a parking lot not designated for truck parking (e.g., park & ride) _____ times per week
 on the shoulder of the highway _____ times per week
 on an entrance/exit ramp _____ times per week
 in sleeper berth while team driver drives _____ times per week
 at a loading/unloading location _____ times per week
 in a location not shown above (please specify) _____ _____ times per week

7. Who TYPICALLY decides where you will stop to park? **(Please mark all that apply.)**

- I do
- my company does (e.g., dispatcher or other company employee)
- other, please specify _____

8. If you park to SLEEP AWAY FROM HOME, WHEN IS THE DECISION MADE about where you will park? **(Please mark all that apply.)**

- N/A-- I don't park to sleep away from home
- as I'm driving, the decision is made
- before I start driving, the decision is made
- other, please specify _____

9. On a scale from 1 to 5 ("Almost Always Important" to "Almost Never Important"), please rate how often the following features are important to you when you park at a truck stop or rest area.

When I park my truck, this feature is...

(circle only one number for each feature)

Feature	Almost Always Important			Almost Never Important	
	1	2	3	4	5
convenience to highway	1	2	3	4	5
well-lighted parking lot	1	2	3	4	5
prepaid fuel cards accepted	1	2	3	4	5
travel info (e.g., info kiosks, maps)	1	2	3	4	5
entertainment facilities (e.g., arcade, movies)	1	2	3	4	5
Internet connections	1	2	3	4	5
security presence	1	2	3	4	5
showers	1	2	3	4	5
repair facilities	1	2	3	4	5
vending machines	1	2	3	4	5
restaurant	1	2	3	4	5
public phones	1	2	3	4	5
fuel	1	2	3	4	5
restrooms	1	2	3	4	5
other, please specify _____	1	2	3	4	5

10. Trucks are sometimes parked on ramps or shoulders along the road. Why do you think ramps and shoulders are sometimes used for truck parking?

PLEASE MARK THE 4 MOST COMMON REASONS.

- no nearby parking facility
- no empty spaces in nearby truck stops or rest areas
- nearby parking spaces have time limits that are too short
- hard to drive around parking lots
- empty nearby parking spaces are blocked by other trucks, cars, or RVs
- the ramp/shoulder is convenient for getting back on the road
- better lighting on ramp/shoulder than in lot
- less likely to be bothered by strangers (e.g., drug dealers, prostitutes)
- other, please specify _____

11. Please indicate how often you encounter EACH of the following parking situations:

I encounter this parking situation...

(mark only one box for each situation listed on the left)

Parking Situation	Almost Always	Frequently	Sometimes	Rarely	Almost Never
Truck stops have parking available.
Rest areas have parking available.
My next stop (e.g., shipper/receiver) has parking available.
Available parking is convenient to the highway.
The parking facility has the features I need.
Parking time limits allow enough time for me to park.
There is enough room for me to get in and out of available spaces.
Truck spaces are used only by trucks.
Other, please specify _____

12. When you stop FOR THE FOLLOWING REASONS, where do you PREFER to park, at rest areas or truck stops?

Parking Facility Preference

(mark only one box for each reason listed on the left)

Reason For Stopping	REST AREA	NO PREFERENCE	TRUCK STOP
Take a quick nap (2 hours or less)	.	.	.
Rest for extended period (more than 2 hours)	.	.	.
Use vending machines	.	.	.
Get travel info (e.g., maps)	.	.	.
Use public phones	.	.	.
Perform minor maintenance on truck	.	.	.
Use the restroom	.	.	.
Eat a meal	.	.	.
Other, please specify _____	.	.	.

Section C: Parking Solutions

13. What type of up-to-the-minute information on truck parking availability would help you plan your stops while you drive? **(Please mark all that apply.)**
- . location of truck parking facilities along the road I'm traveling
 - . number of truck parking spaces available at upcoming parking facilities
 - . length of time limits on upcoming truck parking spaces
 - . features (e.g., food, fuel, phone) that are available at upcoming parking facilities
 - . other, please specify _____
14. How would you like to receive up-to-the-minute information on truck parking availability? **(Please mark all that apply.)**
- . electronic visual display in vehicle
 - . radio in vehicle (e.g., CB, low-power FM, DSRC (Dedicated Short Range Communication))
 - . the Internet
 - . other, please specify _____
15. Below is a list of possible truck parking improvements.
PLEASE MARK THE 5 IMPROVEMENTS THAT YOU THINK WOULD HELP THE MOST.
- improve lighting
 - increase security presence
 - landscape to minimize hiding places for criminals/criminal activity
 - improve amenities at rest areas
 - build more *truck stop* parking spaces
 - build more *rest area* parking spaces
 - separate truck, car, and RV parking
 - use car parking for truck parking during peak overnight hours
 - *enforce* time limits on truck parking
 - *eliminate* time limits on truck parking
 - improve parking layout/configuration (e.g., more diagonal pull-through)
 - improve signs and roadway information for parking facilities
 - up-to-the-minute information on parking space availability
 - adopt standard spacing between rest areas
 - provide alternative parking (e.g., at weigh stations, Park-N-Ride, private parking lots)
 - stop enforcement officers from waking driver
 - educate drivers/dispatchers about planning parking stops before trip
 - other, please specify _____

Section D: Information About This Trip

PLEASE NOTE: The following items pertain ONLY to THIS TRIP - from the time you left home until the time you return home.

16. Where did you pick up (or drop off) your last load? City _____ State _____

17. Where will you drop off this load (or pick up the next load)? City _____ State _____

18. Where is your home base (normal work reporting location)? City _____ State _____

19. Right now, about how far are you away from home base (to the nearest mile)?

- 0-199 miles
- 200-499 miles
- 500-999 miles
- 1,000-1,999 miles
- 2,000 miles or more

20. On this trip, where did you last park your truck to sleep?

- I have not slept yet
- truck stop
- rest area
- ramp
- loading dock
- other _____

21. Where is the next place that you plan to park your truck to sleep?

- home
- truck stop
- rest area
- ramp
- loading dock
- other _____

22. How many days will you be away from home on this trip? _____ Days

23. Please indicate how often you have encountered EACH of the following parking situations ON THIS TRIP.

**ON THIS TRIP, I have encountered
this parking situation...**
(Mark only one box for each situation listed on the left)

Parking Situation	Almost Always	Frequently	Sometimes	Rarely	Almost Never
Truck stops have parking available.
Rest areas have parking available.
My next stop (e.g., shipper/receiver) has parking available.
Available parking is convenient to the highway.
The parking facility has the features I need.
Parking time limits allow enough time for me to park.
There is enough room for me to get in and out of available spaces.
Truck spaces are used only by trucks.
Other, please specify _____

24. In which towns/cities are you scheduled to PICK UP or DROP OFF loads on this trip (including your origin and final destination)?

Please list all towns/cities here:

THANK YOU !

REFERENCES

1. *Commercial Driver Rest & Parking Requirements: Making Space for Safety*. Publication No. FHWA-MC-96-0010, Federal Highway Administration, U.S. Department of Transportation, Washington, D.C., May 1996.
2. *Rest Area Forum: Summary of Proceedings*. Publication No. FHWA-RD-00-034, Federal Highway Administration, U.S. Department of Transportation, Washington, D.C., December 1999.
3. Pécheux, K.K., Chen, K.J., Farbry, J., and Fleger, S.A. *Model Development for National Assessment of Commercial Vehicle Parking*, Publication No. FHWA-RD-01-159, Federal Highway Administration, U.S. Department of Transportation, Washington, D.C., March 2002.