Truck Parking Stakeholder Outreach and Engagement Summary Memo

WA 3 Task 4

Final: April 15, 2020
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### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATRI</td>
<td>American Transportation Research Institute</td>
</tr>
<tr>
<td>HOS</td>
<td>Hours of service</td>
</tr>
<tr>
<td>OSOW</td>
<td>Oversize/Overweight</td>
</tr>
<tr>
<td>SRA</td>
<td>Safety Rest Area</td>
</tr>
<tr>
<td>TxDOT</td>
<td>Texas Department of Transportation</td>
</tr>
<tr>
<td>TxDPS</td>
<td>Texas Department of Public Safety</td>
</tr>
<tr>
<td>TxFAC</td>
<td>Texas Freight Advisory Committee</td>
</tr>
<tr>
<td>Wi-Fi</td>
<td>Wireless fidelity</td>
</tr>
</tbody>
</table>
1.0 Introduction
The safe and efficient movement of freight depends on adequate and strategically located truck parking. Hours-of-service (HOS) regulations require drivers to rest at defined intervals, causing them to search for parking before their allowable drive time expires or while staging for their pick-up and delivery slots. The scarcer truck parking is, the sooner drivers must begin searching for parking, resulting in lost productivity and higher shipping costs. Parking shortages can also lead to parking in unauthorized locations and result in a safety hazard for both the driver and the motoring public. Assessing the current condition of truck parking was identified in the Texas Freight Mobility Plan 2018 as an immediate need and a comprehensive examination and plan for truck parking was one of the short-term policy recommendations.

1.1 Study Purpose and Tasks
The purpose of this study is to conduct a statewide truck parking study that will assess the current supply and demand for truck parking in Texas, identify needs, and develop solutions to address existing and future truck parking gaps and needs. The study will also develop actionable strategies to meet truck parking needs across the state, promote partnerships with local governments and the private sector, enhance safety, reduce congestion, and improve efficiency on the Texas Highway Freight Network (shown in Exhibit 1).

The various tasks within this study are shown in Exhibit 2. This memo summarizes the public outreach efforts for this study which provided input to the other memos completed in this study.
Exhibit 1: Texas Highway Freight Network

Source: TxDOT
**1.2 Stakeholder Outreach Overview**

Private- and public-sector participation was a crucial component of the study to properly frame the scope and depth of truck parking needs, and develop effective solutions that will be helpful for truck drivers and supported by all stakeholders. In addition to continuous communication with stakeholders, there were three key periods during the study when broad outreach was conducted to receive specific input.

- **November 2018 – February 2019: Round 1 Stakeholder Workshops and Survey.**
  Early in the study, a series of 19 workshops were help across the State accompanied by a survey distributed to truck drivers, carriers, private businesses, and other stakeholders to gather initial feedback on truck parking issues and areas of concern. This was followed by a period of extensive data collection and analysis to quantify and locate the supply and demand for truck parking, and other contributing factors of concern such as safety and congestion.

- **May – August 2019: Mid-project Stakeholder Interviews and Field Reviews.**
  Midway through the study targeted interviews were conducted with various industry
representatives, accompanied by field reviews of specific corridors and regions, to validate the findings from the data analysis and to begin to explore a range of possible solutions. With input from these interviews and field reviews, draft strategies were developed and analyzed.

- **January – February 2020: Round 2 Truck Driver Survey and Roundtables.** TxDOT wants to ensure that any public investment in truck parking will be utilized by and beneficial to drivers. To that end, a final series of roundtable meetings and a second survey was targeted at truck drivers to get their input on the specific design characteristics and amenities needed at various types of truck parking facilities. In addition to truck drivers, TxDOT District engineers were briefed on the study’s draft recommendations to gather their input and further validate our final recommendations.

Throughout the study, TxDOT monitored a dedicated email address and voicemail hotline available for continuous stakeholder input, and the study team reached out to select stakeholders as needed.

### 1.3 Definitions

There are a number of terms used when discussing truck parking, often describing very similar concepts and sometimes used interchangeably. For purposes of this study, the following terms and definitions apply:

- **Authorized Location**—Specific site where truck parking is explicitly allowed.
- **Inventory**—Number of truck parking spaces at a location.
- **Capacity**—Number of truck parking spaces in a given geographic area (district, statewide, corridor, etc.).
- **Demand**—Number of trucks that would park at a location or geographic area if there was sufficient space.
- **Utilization**—Number of trucks that are parked at a location or in a geographic area at a given time.
- **Raw Utilization**—The number of trucks in the American Transportation Research Institute (ATRI)’s database parked at a location or within a defined geographic area at a given time compared to the inventory or capacity available within the same defined area.
- **Expanded Utilization**—An estimate of the full number of trucks at a location or within a defined geographic area derived by “expanding” the number of trucks in ATRI’s database. Not every truck on the road is included in ATRI’s GPS database; therefore, the number of parked trucks captured in the database and recorded at any given
location is only a portion of the total number of parked trucks. The ratio of ATRI truck volumes to TxDOT truck volumes at locations around the State is needed to “expand” the ATRI count and thereby approximate the actual number of parked trucks.

- **Percent Capacity**—The number of trucks parked at a location or in a geographic area at a given time compared to the inventory or capacity. This number expressed as a ratio or percent shows if a location or area has a shortage or surplus of truck parking spaces.

- **Shortage (or surplus) in Truck Parking**—The inventory or capacity of truck parking at a location or in a geographic area, less the number of trucks parked there at a given time.

- **Urban**—located within a U.S. Census designated urbanized area.

### 1.4 Organization of the Document
The remainder of this memo is organized into the following sections:

- Section 2 discusses the approach and information obtained from the first round of stakeholder workshops and survey conducted between November 2018 and February 2019.

- Section 3 highlights information obtained during follow-up interviews and field reviews.

- Section 4 examines data received during a final survey conducted in January 2020.

- Section 5 briefly summarizes input received during a TxDOT District webinar in February 2020.

- Section 6 provides some high-level conclusions.

- Appendix A contains the Round 1 Stakeholder Workshop summary report.

- Appendix B contains the Round 1 Stakeholder Survey executive summary report.

- Appendix C contains notes from follow-up interviews and staff field surveys.

- Appendix D contains notes from three stakeholder roundtables.

- Appendix E contains notes and discussion points from a TxDOT District webinar presented in February 2020.
2.0 Round 1 Stakeholder Workshops and Survey

An initial round of 19 stakeholder workshops were held throughout the state between November 2018 and February 2019, and accompanied by a survey to a broad base of stakeholders.

2.1 Round 1 Stakeholder Workshops Approach

At the 19 workshops, stakeholders provided valuable input on key needs and issues. The needs identified ranged from general truck parking challenges observed in their regions and the state, to needs at specific locations. In addition, stakeholders provided input on key truck parking amenities and driver needs. This information was used to form the needs assessment from identifying truck parking shortages to needed enhancements at existing publicly operated truck parking facilities.

In addition to stakeholders identified in the TxDOT Freight Stakeholder Database, stakeholders from trucking associations, Texas ports, trucking fleets, and industry groups both regional and statewide were contacted to publicize workshop information to their constituents and reach a wider audience.

Email announcements and registration alerts were sent using Constant Contact, a platform that tracks whether communications are successfully sent to each mailbox, whether the recipients opened it, and whether they clicked a link within the email. Each email provided recipients with a link directing them to a workshop sign-up page. Exhibit 3 shows the number of registrants and attendees for each workshop. In total, 339 stakeholders attended 19 workshops. TxDOT employees and the consultant team members are excluded from these totals.

Each workshop included introductory material about the Truck Parking Study, including the needs, scope, schedule, and major tasks. Each workshop was an open-ended, facilitated discussion about the Truck Parking Study. The moderator prompted attendees to discuss issues observed or experienced related to long-haul trucking, parking in urban areas, parking in rural areas, and parking around special generators such as ports, border crossings, or warehousing.

Following discussion of each project, the facilitator led a real-time online polling session to collect information on priorities and needs in the region. Polling was conducted using a third-party, cloud-based PowerPoint plug-in called Participoll, which enables users to vote from their smartphone, tablet, or computer while the presentation is active. Poling results were displayed on the screen and served as a point for further discussion. An additional tool used to capture information during the workshops was an interactive map which allowed attendees to pinpoint specific locations with truck parking or infrastructure design issues or needs.
### Exhibit 3: Workshop Locations and Attendance

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Date</th>
<th>Registered</th>
<th>Attended</th>
<th>Yield Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Antonio</td>
<td>November 27, 2018</td>
<td>17</td>
<td>7</td>
<td>41%</td>
</tr>
<tr>
<td>Laredo</td>
<td>November 29, 2018</td>
<td>42</td>
<td>51</td>
<td>121%</td>
</tr>
<tr>
<td>El Paso</td>
<td>December 4, 2018</td>
<td>44</td>
<td>27</td>
<td>61%</td>
</tr>
<tr>
<td>Houston</td>
<td>December 6, 2018</td>
<td>50</td>
<td>26</td>
<td>52%</td>
</tr>
<tr>
<td>Ft. Worth</td>
<td>December 11, 2018</td>
<td>11</td>
<td>16</td>
<td>145%</td>
</tr>
<tr>
<td>Grapevine</td>
<td>December 11, 2018</td>
<td>16</td>
<td>12</td>
<td>75%</td>
</tr>
<tr>
<td>East Dallas</td>
<td>December 12, 2018</td>
<td>10</td>
<td>8</td>
<td>80%</td>
</tr>
<tr>
<td>South Dallas</td>
<td>December 12, 2018</td>
<td>14</td>
<td>15</td>
<td>107%</td>
</tr>
<tr>
<td>Texarkana</td>
<td>December 13, 2018</td>
<td>28</td>
<td>16</td>
<td>57%</td>
</tr>
<tr>
<td>Corpus Christi</td>
<td>December 18, 2018</td>
<td>25</td>
<td>12</td>
<td>48%</td>
</tr>
<tr>
<td>Brownsville</td>
<td>December 19, 2018</td>
<td>19</td>
<td>25</td>
<td>132%</td>
</tr>
<tr>
<td>Pharr</td>
<td>December 19, 2018</td>
<td>24</td>
<td>30</td>
<td>125%</td>
</tr>
<tr>
<td>Lubbock</td>
<td>January 9, 2019</td>
<td>14</td>
<td>15</td>
<td>107%</td>
</tr>
<tr>
<td>Amarillo</td>
<td>January 10, 2019</td>
<td>6</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Beaumont</td>
<td>January 22, 2019</td>
<td>18</td>
<td>7</td>
<td>39%</td>
</tr>
<tr>
<td>Lufkin</td>
<td>January 23, 2019</td>
<td>5</td>
<td>5</td>
<td>100%</td>
</tr>
<tr>
<td>Tyler</td>
<td>January 24, 2019</td>
<td>9</td>
<td>4</td>
<td>44%</td>
</tr>
<tr>
<td>Midland</td>
<td>February 7, 2019</td>
<td>33</td>
<td>33</td>
<td>100%</td>
</tr>
<tr>
<td>Central Texas</td>
<td>February 14, 2019</td>
<td>21</td>
<td>24</td>
<td>114%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>406</td>
<td>339</td>
<td>83%</td>
</tr>
</tbody>
</table>

2.2 **Round 1 Stakeholder Workshops Results**

Exhibit 4 summarizes the consistent challenges and solutions discussed by stakeholders. High demand for parking and lack of capacity were the most prevalent concerns throughout the state, and solutions involving increasing capacity were the most commonly discussed as well.
Exhibit 4: Summary of Truck Parking Challenges and Solutions

<table>
<thead>
<tr>
<th>Common Challenges</th>
<th>Common Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of capacity in general</td>
<td>Use underutilized land for truck parking</td>
</tr>
<tr>
<td>High demand near freight generators</td>
<td>Develop public or private truck parking near freight activity</td>
</tr>
<tr>
<td>Providing amenities at truck parking facilities</td>
<td>Improve availability of information about truck parking locations</td>
</tr>
<tr>
<td>Ensuring safety at parking facilities</td>
<td>Encourage development of truck parking through tax incentives</td>
</tr>
<tr>
<td>Policies and regulations, including local zoning</td>
<td></td>
</tr>
<tr>
<td>Signage and information about truck parking</td>
<td></td>
</tr>
</tbody>
</table>

Truck parking near freight generators emerged as a common concern due to the large amount of truck traffic entering and exiting a region daily. Some stakeholders observed inadequate parking capacity near border crossings and ports, both within and outside the gates. They commented that barriers to parking inside the gates include security policies and lack of available land.

Also consistent throughout the state, warehousing was identified as a land use that generates demand and challenges for truck parking. In Fort Worth and Mesquite, stakeholders commented on the need for staging areas and first-/last-mile parking facilities to prevent overflow into residential areas or other unauthorized areas. In Grapevine, they observed that this issue is exacerbated when facilities close for holidays and trucks are not permitted to park on the property. On the other hand, stakeholders in Beaumont commented that good staging design near freight-dependent businesses has been effective in their region.

Stakeholders throughout the state agreed that truck parking considerations are not typically built into development plans by companies or cities, resulting in increasing demand without additional capacity during both construction and operation of facilities.

Drivers indicated that increased signage is needed to better direct drivers to parking locations. The availability of real-time information was considered an important feature of an effective system; drivers often are aware of parking options, but they do not have enough
information to maximize their driving time with confidence that a spot will be available for them.

Two final themes that emerged from the stakeholder outreach was the need to provide basic amenities such as lighting and restrooms at publicly owned, authorized truck parking locations. This is both a humanitarian need and a way to help increase utilization at these locations and make them more appealing than unauthorized locations. Finally, the challenge of providing parking for oversize/overweight (OSOW) loads was identified since many carry goods that are critical to Texas’ growing economy.

One-page summaries of each of the Round 1 Workshops is located in Appendix A.

2.3 Round 1 Stakeholder Survey Approach

TxDOT hosted an online survey on a third-party platform (MetroQuest) from Nov. 7, 2018 to April 3, 2019. The purpose of the survey was to gather input on truck parking from stakeholders including truck drivers, carriers, private businesses, or other stakeholders. Access to the survey link was advertised through email blasts, announcements at workshops and other events attended by TxDOT staff and included on printed materials such as workshop invitations and informational one-pagers. Information gathered in the survey helped guide development of recommended strategies to improve truck parking by ensuring stakeholders’ top concerns were addressed.

The online survey link was sent to approximately 41,000 contacts believed to own, operate, or participate in the Texas trucking industry, in addition to a database of interested freight stakeholders. The recipients were not limited to a certain area or region so responses could give a true representation of statewide feedback. A total of 862 participants took the survey with 60 percent of respondents identifying themselves as a truck driver or carrier. Other participants included business owners, residents, coordinating agencies, elected officials, freight association members, and others. A breakdown of survey participants is shown in Exhibit 5. All TxDOT districts were represented and districts with larger urban areas had the most respondents.
2.4 **Round 1 Stakeholder Survey Results**
Participant responses were divided into driver/carrier responses and nondriver/carrier responses to highlight the concerns and preferences of freight roadway users. For the purposes of this summary, only the truck driver/carrier responses are presented. For detailed results, please see the complete MetroQuest Survey Summary Report. The survey results confirmed many of the themes found during the state-of-the-practice assessment and stakeholder workshops. Two primary issue areas were included in the survey: truck parking and freight infrastructure design considerations. The key findings are summarized below.

### 2.4.1 Finding Parking, Parking Challenges, Unauthorized Truck Parking

- The majority of drivers find parking by driving around an area (69 percent). Utilizing State rest areas, parking apps, and reservations at private facilities were the next most popular responses.

- A lack of overnight parking ranked as the greatest parking challenge. This was followed by a lack of authorized parking at shippers and receivers and by hours-of-service limitations (both receiving 62 percent). Limited parking at retail establishments, long-term parking, emergency parking, and availability to reserve were less commonly chosen.

- More than half of respondents reported parking in unauthorized locations at least once per week (54 percent), as shown in Exhibit 6.

- Hours-of-service demands were identified as the primary reason for unauthorized truck parking (50 percent). Limited overnight facilities (23 percent) and limited access to parking at pickup/delivery (16 percent) were the next most common responses. Emergency parking and lack of awareness of parking locations were less common reasons.
2.4.2 Truck Parking Design and Amenities

- Safety features, such as lighting (83 percent), followed by food availability (75 percent) and shower facilities (65 percent) were selected as the top 3 desired amenities. Other amenities selected included availability of extended stay parking (36 percent), ability to reserve parking (14 percent), Wi-Fi access (12 percent), and access to a truck washing facility (5 percent).

- Many drivers were concerned with the quantity of parking and design of spaces, suggesting that existing parking options and site design are often unsatisfactory. Operators requested more pull-through spots for doubles, extended parking, more parking, and reservation systems. Drivers requested areas for walking and exercise, but only if accompanied by enhanced security (e.g., security cameras or personnel).

- Within travel stops or parking facilities, dining options and restrooms were the major amenities discussed. An overwhelming number of commenters requested healthy dining options. Sit-down style restaurants, nonchain options, basic grocery options,
and preparation areas were specifically mentioned. Drivers expressed the need for clean restrooms and 24-hour access at facilities. Other amenities included Wi-Fi, quality retail options, chapel, basic repair equipment, ample dumpsters/trach cans, and pet facilities.

### 2.4.3 Truck Parking Improvements

- Drivers noted the most “ideal” parking facilities would include the amenities identified above. Drivers, especially women, requested improved lighting. Drivers also described maintenance as a safety issue, including pavement quality and pot holes.

- Ease of access also was a major theme. Drivers requested easy entry/exit (e.g., multiple access points, limited shoulder curbing at access points, improved curvature), larger parking areas, improved information about nearby parking, improved signage, and better pull-through options for oversize loads.

- Drivers also requested a more predictable frequency of parking, such as 50 to 60 miles apart. Communication of truck parking options also was important. Drivers recommended improved, consistent communication of available parking at private and public locations so that drivers can easily find a vacant space.

- Some stakeholders noted the potential for truck stops and truck parking to support local economic development by providing “small ‘truck parking’ communities.” These places would provide drivers the comfort of a nice place to rest when required and also bring economic and recreational value to the local community. Recreational facilities could include recreation centers, movie theaters, or bowling alleys.

*There is plenty of land in Texas, use it.*

Survey Participant
3.0 Mid-project Stakeholder Interviews and Field Reviews

A series of stakeholder interviews, roundtables, field reviews, and industry forums with trucking associations (Laredo Motor Carriers Association and various chapters of the Texas Trucking Association) were conducted from May through August 2019 as follow-up with active stakeholders who participated in the workshops held from November 2018 through February 2019. The categories of stakeholders targeted in this outreach are broken into two tiers, as shown in Exhibit 7. The primary categories are either those that directly employ drivers, operate trucks, and utilize parking capacity, or who have a substantial number of deliveries from various carriers. The secondary categories are those with either a capacity or regulatory role in truck parking, or that employ a smaller number of drivers.

Also during this time, TxDOT staffed a booth at the Great American Truck Show in Dallas in August 2019 to provide information on the study and receive driver feedback. Information received during that event is included in the summaries provided below. Finally, staff conducted a number of interviews during a field review of a number of publicly owned and privately owned truck parking locations, primarily along I-10 east of El Paso, US 59 southwest of Houston, I-35 between Laredo and San Antonio, I-10 between San Antonio and Houston, and numerous facilities on the eastern edge of Houston. Information from these efforts is incorporated into the relevant categories discussed below.

A summary of the responses by category from the additional stakeholders interviewed are included below in the section. Complete notes from each of the additional stakeholders interviewed, information from the TxDOT-staffed booth at the Great American Trucking Show, and notes from the field review are found in Appendix C.

**Exhibit 7: Response Highlights from Key Stakeholder Categories**

<table>
<thead>
<tr>
<th>Primary Categories</th>
<th>Secondary Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drayage (both intermodal and international)</td>
<td>Deep Water Ports</td>
</tr>
<tr>
<td>Energy Sector</td>
<td>Municipalities</td>
</tr>
<tr>
<td>Food</td>
<td>Retail</td>
</tr>
<tr>
<td>Long-Haul</td>
<td>Providers – Monthly</td>
</tr>
<tr>
<td>Other Warehousing and Manufacturing</td>
<td>Providers – Truck Stops</td>
</tr>
<tr>
<td>Specialized OSOW</td>
<td>Developers</td>
</tr>
</tbody>
</table>
3.1 Interview Summaries from Primary Categories

3.1.1 Drayage (both intermodal and international)

Dray movements are defined as: "a truck pickup from or delivery to a seaport, border point, inland port, or intermodal terminal with both the trip origin and destination in the same urban area". Stakeholders indicated that the origins and destinations inside Texas are warehouse facilities owned by the drayage companies or by the company contracting their services, at which trucks have immediate access. Therefore, overnight or staging truck parking are not commonly needed to serve dray trips.

However, cross border drayage is typically done by Mexican companies and drivers who make several crossings each day and are required to return to Mexico at the end of the day. At times, the border crossings close before they can return from their last trip, creating a need for overnight parking. As a result, these drivers typically park on the shoulder of the border crossing access road.

Even though the dray movements themselves do not generate parking or staging demand, the goods crossing the border and arriving by ship or train attract a tremendous number of over-the-road trucks making pick-ups or deliveries at the local warehouses. Those trucks need overnight and staging parking. For instance, stakeholders in Laredo stated that trucks arrive every Sunday and park on the roadway shoulders surrounding the warehouses to be first in line for Monday a pick-up or delivery.

3.1.2 Energy Sector

The demand for truck parking in the Permian Basin has exploded in recent years. Stakeholders observed a doubling of truck traffic in recent years, and many drivers are living out of their trucks due to the low supply and high cost of housing, and the higher cost of temporary lodging (hotels). Trucks of all types carrying pipe, sand, fuel, equipment, and supplies can be found parking in unauthorized locations along on/off ramps and roadway shoulders throughout the region. According to stakeholders, every truck stop, at all times of the day and night, is near or at capacity. Many cities in the Permian Basin have implemented ordinance prohibiting truck parking on certain streets. The highest demand for parking is along I-20 where most through traffic is funneled as it connects the Permian Basin coast to coast.

Stakeholders in the Permian Basin believe that smaller, public rest areas interspersed along major highways will help, but large staging lots are needed close to origin-destination points. Allowing parking at weigh stations was also believed to be a good solution, however those facilities are operated and maintained by the Texas Department of Public Safety (TxDPS). On the technology side, dynamic message signs notifying where parking is available would be

beneficial, and the ability to help predict future demand based on historical trends would be especially useful.

### 3.1.3 Long-Haul

Long-haul drivers operate a truck with a sleeper unit and in many instances are gone for days at a time. A variety of long-haul drivers were interviewed—male and female, and drivers of different types of equipment such as dry van, refrigerated units (reefers), and flat beds. All indicated a need for parking to take short breaks and safety checks, mandatory 10-hour rest breaks, and short-term staging near their destinations. Safety rest areas (SRA) are often used for short breaks as they are distributed across the highway freight network with easy access from the highway, and in Texas they are often staffed, secure, clean, and with functioning bathrooms and green space. An example of a SRA on I-10 is shown in Exhibit 8. SRAs typically have plenty of availability during the day, and some in high traffic areas will fill up overnight. Drivers indicated that in some cases recreational vehicles will take truck parking spaces at SRAs, limiting their availability to truck drivers.

Stakeholders indicated they prefer full-service truck stops for long-term parking to meet the mandatory 10-hour rest breaks as they often offer food, showers, laundry, repair, and other needed amenities. They also indicate that it is not as difficult finding parking at rural SRA’s and truck stops during the day, but that most will fill up overnight, or come close to capacity. However truck stops in urban areas are reported to fill up more commonly and for longer periods of the day.

*Exhibit 8: Fabens Safety Rest Area*

Source: Cambridge Systematics (2019).
3.1.3.1 Long-haul Drivers Short-term Staging Needs

The greatest need identified by stakeholders is for short-term staging near freight generators (large industrial centers, ports, international border crossings). Drivers stated that some shippers/receivers operate on appointment systems but do not always honor the appointment time, creating a need for the driver to find parking nearby while they wait access to the facility. It was also indicated that many shippers/receivers do not allow drivers to park on their property or use their facilities. During the interviews, stakeholders cited Hershey’s as the exception—a company that provides a “welcome center” for drivers with on-site parking and excellent facilities. Most private truck stops near freight generators are full around the clock with high turn-over during the day as drivers park for short breaks or staging. —Most private truck stops start filling up with overnight parking by late afternoon, and by evening, parking is typically only available 75 miles out from an urban center.

3.1.3.2 Long-haul Drivers Amenity Needs

Stakeholders shared the minimum amenities needed at an urban parking facility are security (fencing and staff), restrooms, vending machines, lighting, and wi-fi. It was also suggested that it would be helpful if they offered live information of traffic and parking conditions nearby, interactive kiosk to orient to surroundings, and communications between shippers/drivers to push notifications (e.g., your appointment has been pushed back an hour).

Several female drivers, who make up a small percentage of the driver population, were interviewed and they stated their truck parking needs, in order of priority, are:

- Safety
- Trash receptacles and lighting
- Paved parking lots (inside of the truck is home; don’t want to track in mud/sand; want to keep it clean; have to “live” in it)
- Toilets
- Food, showers, fuel, laundry
- Lodging

3.1.4 Other Warehousing and Manufacturing

As indicated in the preceding section, warehouse distribution centers and manufacturers generate a demand for short-term staging. However, if they own and operate their own fleet of trucks, and/or seek contract trucking companies, they provide immediate access to those drivers, who do not therefore need staging parking. Those located near the border with Mexico often export components to maquiladoras\(^2\) in Mexico which assemble and finish products, and return them to the US for distribution. In this case only trailers are shipped back and forth.

\(^2\) Manufacturing plants that import and assemble duty-free components for export.
3.1.5 Specialized Oversize/Overweight (OSOW) Parking

Very few locations (publicly or privately owned) have designated parking for OSOW trucks. One truck stop noted that they allow them to park along the back edge of the lot (see Exhibit 9). Quite often OSOW loads will park on frontage roads due to lack of spaces at rest areas and difficult geometry that makes entering and exiting the location a challenge. One stakeholder requested that 5% of spaces at every location should be dedicated for OSOW trucks.

Exhibit 9: Oversized Truck Parked at Hungerford Truck Stop

Source: Cambridge Systematics (2019).

3.2 Interview Summaries from Secondary Categories

3.2.1 Municipalities

Trucks parked on municipal roads are a common source of resident anger. Trucks parked on roadsides in industrial areas are typically not objectionable. Though trucks rarely park inside residential neighborhoods and streets (unless the driver is a resident and it is not against local regulation), the somewhat wider but still quiet collector streets surrounding neighborhoods municipalities often see unauthorized parking or staging, especially near freight generators (shippers/receivers, shipyards, pipe yards). These roads are often adjacent to schools, parks and other areas where residents object to parked trucks.

3.2.2 Storage Truck Parking Providers – Monthly

Drivers indicated a need for longer storage facilities, especially for owner-operators who need a place to park their truck when they are home for breaks. Some drivers noted that they are seeing several monthly truck parking providers pop up in industrial areas of large urban centers to serve this need. Drivers complained that some of these are over-priced dirt lots with no amenities, and that they would prefer paved parking with security fencing and some basic amenities such as toilets.

One interview was with a party interested in developing a secure lot north of Laredo for drivers to drop trailers, but will also offer overnight parking and a reservation system. Other services at this proposed facility may include trailer repair, and a place for owner-operators to cross-dock loads so they don’t have to leave their trailer. They will also offer a drayage
service to shunt trailers across the border, thus allowing a company driver to quickly drop a trailer, pick up another, and get back on the road—thus reducing the need for staging parking in the area.

Several monthly providers were interviewed for similar studies in other states. They are often located on the outskirts of an urban area with lower land costs and fewer permitting issues and may offer spaces at dirt, gravel, or paved lots. They claim that most drivers are unwilling to pay much for truck parking, and so they try to minimize capital costs in order to have a profitable business. Those interviewed offer secure lots with basic amenities—restrooms and vending machines. One offered cross-docking services where goods can be moved between different trailers. Another offered an electronic reservation system. They noted that when nearby, full-service truck stops fill up the truck stop staff will refer drivers to their lot. One stakeholder indicated that they are trying to negotiate a strategic partnership with one of the national truck parking chains.

3.2.3 Truck Stops
Numerous truck stops were visited and interviewed during this phase of outreach (an example is shown in Exhibit 10). As noted above, rural truck stops often reported having availability during the day, but most will fill up overnight, or come close to reaching capacity. Truck stops in urban areas near freight generators reported being full around the clock—high turnover during the day as drivers park for short breaks or staging—and then they start filling up with overnight parking by late afternoon. Some managers indicated that they also have a few drivers parked during their 34 hour HOS re-set.³

³ Drivers may not drive after 60/70 hours on duty in 7/8 consecutive days. A driver may restart the 7/8 day consecutive day period by taking a minimum of 34 or more consecutive hours off duty.
3.2.4 Developers

Typically, commercial, industrial, and warehousing land uses build minimal onsite parking in order to maximize usable building footprints. One developer interviewed in Laredo indicated that providing a truck parking/staging facility in an industrial development increases the value of the development and makes it more attractive to potential tenants. He is considering ways to include a parking facility with one of his next projects.
4.0 Round 2 Truck Driver Survey and Roundtables
The following sections detail input received during a second round of stakeholder surveys and roundtables conducted for the Texas Statewide Truck Parking Study.

4.1 Round 2 Driver Survey Approach
TxDOT hosted an online survey on a third-party platform (Survey Monkey) from Jan. 17, 2020 to Jan. 31, 2020. The purpose of the survey was to gather input from truck drivers on truck parking amenities (such as showers or Wi-Fi) and truck parking staging (waiting to access a facility). Information gathered in this survey helped guide the prioritization of truck parking recommendations for the Texas Statewide Truck Parking Study. Three email blasts were sent to stakeholders regarding the online survey.

The survey contained 21 questions, with an expected completion time of 5-10 minutes. Most questions were in multiple choice format with several open-ended response questions. Participants were not required to answer every question.

A total of 728 participants took the survey, with 90 percent of respondents identifying themselves as a truck driver or carrier. As in the Round 1 survey, participants were not limited to a certain area or region so responses could give a true representation of statewide driver feedback.

4.2 Round 2 Driver Survey Results

4.2.1 Amenity Needs
The study data indicated that often drivers will bypass a safety rest area with available parking, only to park on the side of the road near a full-service truck stop. A series of questions were asked to better understand this behavior and to identify amenities that may be needed at safety rest areas to make them more appealing to drivers. The first question required setting up the scenario, and was worded as follows:

“Assume your first choice truck stop has a full parking lot. Your only options for parking are on a nearby side street with open curb space OR in a public rest area two miles away from your preferred truck stop. Where would you choose to park?”

As shown in Exhibit 11, 75 percent responded they would park at the safety rest area. Those respondents were asked to order the amenities they need at public rest areas (with the most important on top), shown in Exhibit 12. The 25 percent who responded that they would prefer to park on a side street near their preferred truck stop were asked a slightly different question. They were asked to identify the amenities they need at a public rest area for long-term parking (more than 8 hours) and for short-term parking in order for them to park there instead of on a side street near their first choice truck stop. The responses are shown in Exhibit 13.

Regardless of how the question was asked, the top two amenities desired by the participants for long-term parking are toilets and real-time parking availability information,
followed closely by showers, enhanced vending machines (better quality food, medicines, and personal items) and Wi-Fi. The answers were the same for short-term parking except for showers which dropped from 65 percent to 32 percent.

*Exhibit 11: Parking Preference*
Exhibit 12: Responses to “Order the amenities you need at public rest areas in order of importance.”
4.2.2 Short-term Staging Parking Needs

A series of questions were asked to better understand truck driver needs for short-term staging parking. The responses were used to guide recommendations for placement, amenities offered, operational strategies, and pricing (for privately-operated facilities). The responses are summarized below.

- Participants responded that they typically need staging for one to four hours, but is not uncommon to need it for up to six hours.

- When asked to rank amenities needed while staging, participants recorded similar responses as they did for long-term parking—toilets and real-time parking availability information topped the list.

- 61 percent of the respondents would be willing to drive 5 – 25 minutes between a staging parking lot and pick-up/delivery point.
• This survey reveals that staging lots will be used frequently. 45 percent of respondents would use them two to four times per week, and another 20 percent reported they would use them daily.

• Over half of the respondents (56 percent) selected that they would not pay to park at a staging lot. 19 percent recorded they would be willing to pay $1.00 per hour.

4.2.3 Areas Where New Truck Parking Facilities are Needed
The survey had one open-ended question that asked participants to “enter up to three locations where you would like to see new Safety Rest Areas or Picnic Areas”. Participants were allowed to enter their preferences by “nearest city or region”, “highway name”, and/or “mile marker/exit number”. The region with the most responses was in the North Texas area, which includes Dallas-Fort Worth and surrounding areas. There were 316 responses (39.45 percent)—twice as many as the next most popular region, the Gulf Coast/Houston area. Central Texas, which encompasses Austin, San Antonio and surrounding areas was a close third. Exhibit 14 shows the responses by region.

Exhibit 14: Regions Where New Safety Rest Areas are Needed

<table>
<thead>
<tr>
<th>Regional Location</th>
<th>Percent of Responses</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Texas</td>
<td>7.87%</td>
<td>63</td>
</tr>
<tr>
<td>South Texas</td>
<td>4.25%</td>
<td>34</td>
</tr>
<tr>
<td>West Texas</td>
<td>6.24%</td>
<td>50</td>
</tr>
<tr>
<td>North Texas</td>
<td>39.45%</td>
<td>316</td>
</tr>
<tr>
<td>Central Texas</td>
<td>17.85%</td>
<td>143</td>
</tr>
<tr>
<td>Panhandle</td>
<td>4.37%</td>
<td>35</td>
</tr>
<tr>
<td>Gulf Coast / Houston</td>
<td>19.97%</td>
<td>160</td>
</tr>
</tbody>
</table>

4.3 Companion Roundtable Meetings
Three additional roundtables were held with various truck driver groups to discuss the survey questions and better understand why drivers responded as they did. One of the most revealing take-aways came from discussion regarding why drivers choose to park on roadsides surrounding full-service truck stops, instead of at safety rest areas with available space. Overwhelmingly it had less to do with having a full suite of amenities, and more to do with visibility and either not knowing the location was there, or not knowing if truck parking was available.

Drivers agreed that the best rest areas have the below characteristics and amenities:

• Visible from the highway, so you can visually check availability and get a sense of security
• Dedicated truck parking area with pull through angled parking
• Clean and well maintained
• Restrooms with flush toilets (vault toilets are better than none at all)
• Wi-Fi if in a cell phone dead zone—otherwise, prefer cell coverage
• Real-time parking space availability information, with a sign posted just before exit. (Signs too many miles in advance are somewhat helpful, but availability can change in minutes. Drivers need to know if there is space available just before exiting.)
• In absence of real-time parking space availability information, static signs indicating where truck parking is provided can help direct drivers

A copy of the Round 2 Roundtable Notes is located in Appendix D.
5.0 Additional Outreach and Communication

The study team provided two briefings to the Texas Freight Advisory Committee (TxFAC) during the course of this study, with a third briefing to review the final report in March 2020. The briefings included two panels with truckers who operate throughout Texas. The drivers discussed their experiences in finding truck parking in Texas including top challenges and implications arising from the truck parking shortage and identified potential solutions. TxFAC input was used to refine the needs and challenges and inform the recommendations.

TxDOT also conducted a webinar on Feb. 14, 2020 with over 60 TxDOT District employees to highlight the initial findings and recommendations of the Truck Parking Study. The project team presented the overall importance, purpose, timeline, current needs and draft recommendations for truck parking in Texas. The webinar also used as a platform to collect high level and regional feedback by using a questionnaire polling tool called Menti (www.menti.com). The polling software recorded real-time responses from participants who accessed Menti using a code provided on the PowerPoint presentation. Webinar meeting notes with questions and responses from District staff are located in Appendix E.
6.0 Conclusion
TxDOT took extensive steps to reach a vast array of affected stakeholders, especially truck drivers. Throughout the state, insights garnered from one-on-one interviews, roundtables, workshops, webinars, surveys, observations and panel presentations all played a role in this in-depth study.

The exhaustive list of stakeholders included long-haul truck drivers (male and female), trucking companies, trucking associations, retailers, truck stop providers, food companies, manufacturers, law enforcement, warehouse suppliers, energy sector companies, ports, TxDOT staff, local and statewide agencies. The thoroughness of the Truck Parking Study is strengthened by the unique and insightful contributions of stakeholders. As a result, the entire trucking community will benefit from the Truck Parking Study as TxDOT moves forward to utilize its findings for improved truck parking throughout Texas for years to come.