Texas Statewide Truck Parking Study

Texas Freight Advisory Committee

www.menti.com
Code: 56 27 99

March 31, 2020
Agenda

Section 1: Texas Statewide Truck Parking Study – Chapters 1-2

Section 2: Current State of Truck Parking in Texas – Chapters 3-6

Section 3: Meeting Texas’ Truck Parking Challenges – Chapters 7-10

Wrapping Up the Final Report

Photo: Midland, TX
Section 1: The Texas Statewide Truck Parking Study
Chapters 1-2
# Chapter 1 - Overview of the Texas Statewide Truck Parking Study

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Support for Messages</th>
</tr>
</thead>
</table>
| ▪ Establish purpose and goals of study
▪ Provide high level overview of approach to study
▪ Summarize key data and stakeholder input | ▪ Goals align with national and state freight goals and TxDOT’s mission
▪ Data-driven, stakeholder-informed process was used to conduct the study
▪ Final report is a summary of all the detailed technical documents | ▪ Cross tabulation of study goals with other plans
▪ Approach overview with summary description of key technical analyses
▪ Summary exhibits for data and stakeholder events
▪ Links to technical reports |
Project Purpose and Goals

Assess and address truck parking needs with practical, innovative, and cost-effective strategies

- Improve safety, reduce congestion, and enhance economic competitiveness of the Texas Multimodal Freight Network
- Reduce unauthorized truck parking on TxDOT right-of-way
- Develop actionable strategies to meet truck parking and basic driver needs across the state, including oversize/overweight loads
- Identify ways to partner with the private sector to meet the state’s truck parking needs
- Leverage technology to ensure efficient use of TxDOT maintained truck parking
- Address parking needs at key truck generators including seaports and border ports of entry
### Truck Parking Study Goals Align with State and National Goals

<table>
<thead>
<tr>
<th>Plan/Act</th>
<th>Goal Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck Parking Study</td>
<td>Enhance Safety, Asset Management, Reduce Congestion, Connection to Other Modes, Cost Effective Solutions, Meet Basic Needs of Drivers, Partner with Private Sector, Economic Competitiveness, Leverage Technology</td>
</tr>
<tr>
<td>TFMP</td>
<td>Safety, Asset Management, Mobility and Reliability, Multimodal Connectivity, Stewardship, Customer Service, Sustainable Funding, Economic Competitiveness, Technology</td>
</tr>
<tr>
<td>TTP 2050</td>
<td>Safety, Asset Management, Mobility and Reliability, Stewardship, Customer Service, Sustainable Funding, Technology</td>
</tr>
<tr>
<td>2019-2023 Strategic Plan</td>
<td>Promote Safety, Deliver the Right Projects and Preserve Our Assets, Foster Stewardship, Focus on the Customer and Value our Employees, Optimize System Performance</td>
</tr>
</tbody>
</table>
Approach Overview

- Collect Data and Identify Best Practices
- Conduct Inventory and Utilization Analysis
- Demand in Authorized and Unauthorized Locations
- Round 1: Stakeholder Workshops
  - Stakeholder Surveys
  - Stakeholder Interviews

- Needs Assessment and Preliminary Solutions
- Develop Recommendations
- Action Plan
- Final Report

Current and Future Conditions

Stakeholder Engagement
State of Practice Review

- **5 FHWA publications:**
  - 2015: Jason’s Law Truck Parking Survey Results and Comparative Analysis
  - 2012: Commercial Motor Vehicle Parking Shortage
  - 2002: Study of Adequacy of Commercial Truck Parking Facilities

- **5 ATRI publications:**
  - 2018: Understanding the Impacts of Truck Parking Shortages
  - 2017: Managing Critical Truck Parking Tech Memo #2: Minnesota Case Study
  - 2016: Identifying Autonomous Vehicle Impacts on the Transportation Industry
  - 2016: Managing Critical Truck Parking Case Study - Real World Insights from Truck Parking Diaries
  - 2015: Kansas Truck Parking Survey Analysis

- **54 state, regional, corridor, and other publications**
## Data-Driven Approach

<table>
<thead>
<tr>
<th>Data Use</th>
<th>Data Source</th>
<th>Data Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck Parking Inventory</td>
<td>TxDOT</td>
<td>Safety Rest Area Inventory</td>
</tr>
<tr>
<td></td>
<td>American Truck Parking</td>
<td>Truck parking facility data</td>
</tr>
<tr>
<td></td>
<td>TruckerPath</td>
<td>Truck parking facility data</td>
</tr>
<tr>
<td></td>
<td>Google Imagery</td>
<td>Truck parking facility data</td>
</tr>
<tr>
<td></td>
<td>District Input</td>
<td>TXDOT truck parking facilities</td>
</tr>
<tr>
<td>Truck Parking Demand</td>
<td>American Transportation Research Institute (ATRI)</td>
<td>Truck GPS data</td>
</tr>
<tr>
<td>Freight Network Data</td>
<td>TxDOT Roadway Inventory</td>
<td>Average Annual Daily Traffic</td>
</tr>
<tr>
<td></td>
<td>TxDOT Freight Mobility Plan</td>
<td>Freight system designation score</td>
</tr>
<tr>
<td>Safety Analysis</td>
<td>TxDOT Crash Record Inventory System</td>
<td>Crash data</td>
</tr>
</tbody>
</table>
Stakeholder Informed Plan

**Two on-line surveys** resulted in over **1,600 responses**, **75% from truck drivers**.

**19 stakeholder workshops** were held throughout the state:
- November 2018
- February 2019

**20 stakeholder interviews** and **focus groups** were held with drivers, managers, trucking associations, planning partners, shippers and receivers, private truck stop facility operators and solution providers.

**Webinars and meetings** with District Engineers and planning staff to discuss the **findings and solicit input on recommendations and strategies**.

**Three Industry forums** conducted in coordination with the **Texas Trucking Association** to gain input from drivers on strategies for addressing truck parking needs.

**TxDOT also staffed a booth** at the **Great American Truck Show** in Dallas in August 2019 to provide information on the study and market the driver survey.

- State of the Practice, Laws, and Regulations
- Truck Parking Inventory and Utilization Report
- Truck Parking Demand in Dedicated and Unauthorized Locations
  - Appendix A – TxDOT District Profiles
  - Appendix B – Publicly Owned Locations – Site Profiles
  - Appendix C – Other Unauthorized Truck Parking – Street Parking
  - Appendix D – Potential Truck Parking Sites Not Included in District Profiles
- Truck Parking Crash Analysis
- Current and Forecasted Truck Parking Needs Assessment
- Truck Parking Recommendations and Action Plan
## Chapter 2 - Why Truck Parking Matters

### Chapter Purpose
- Demonstrate why truck parking is an important TxDOT issue
- Increase public awareness about truck parking basics

### Key Messages
- Trucks are vital to TX economy
- Regulation and business practices biggest drivers for parking demand
- Truck parking is public concern because it impacts everyone

### Support for Messages
- Statistics on trucked freight and economy
- Hours of service overview
- Jason’s law overview
- Driver survey results
Types of Truck Parking

Long-haul:
Challenge:
Long-haul drivers are on the road days and sometimes weeks at a time traveling across the country.

Staging:
Challenge:
Truck drivers picking up and delivering freight at manufacturing plants, warehouses and distribution centers or trucks near border crossings awaiting paperwork need a place to park to await the window of time to pick up, deliver, or cross the border.

30-minute break
Challenge:
The driver must be off-duty meaning that they are relieved of all responsibilities and will not have to move the truck for any reason.

Emergency
Challenge:
Drivers may be impacted by an incident that has either closed or severely congested the roadway, and they need a place to park.

Time off
Challenge:
Independent drivers don’t have a company facility to provide parking during time off. They are done with their work week and need a place to park their truck while off-duty.
Why Truck Parking Matters

Today, trucks carry over 1.2 billion tons of freight valued at more than $1.7 trillion annually in Texas. The volume of freight moved by truck is projected to double to 2.5 billion tons by 2045.

3 Primary Reasons Trucks Need to Park

- HOS regulations
- Electronic logging device (ELD) mandates for enforcing the HOS
- Shipper and receivers delivery windows

2013-2017
190,240 Statewide Crashes involving Commercial Vehicles
2,953 fatalities
2,315 Crashes involving Parked Trucks
138 fatalities

Source: Cambridge Systematics analysis of IHS Global Insight TRANSEARCH

Source: TxDOT CRIS data
Regulation Impacting Truck Parking

Hours-of-Service (HOS)

<table>
<thead>
<tr>
<th>HOS PROVISION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-Hour Driving Limit</td>
<td>Drivers may drive a maximum of 11 hours after 10 consecutive hours off duty. All time spent at the driving controls of a CMV in operation is considered driving time.</td>
</tr>
<tr>
<td>14-Hour Driving Limit</td>
<td>Property-carrying drivers may not drive beyond the 14th consecutive hour after coming on duty, following 10 consecutive hours off duty.</td>
</tr>
<tr>
<td>Rest breaks</td>
<td>Drivers cannot drive more than 8 hours before taking an off-duty or sleeper berth rest period of at least 30 minutes.</td>
</tr>
<tr>
<td>60/70-Hour Limit</td>
<td>Drivers may not drive after 60/70 hours on duty in 7/8 consecutive dates. A driver may restate a 7/8 consecutive day period after taking 34 or more consecutive hours off duty.</td>
</tr>
<tr>
<td>Sleeper Berth Provision</td>
<td>Drivers using the sleeper berth provision must take at least eight consecutive hours in the sleeper berth, plus a separate two consecutive hours either in the sleeper berth or off duty.</td>
</tr>
<tr>
<td>34-Hour Restart</td>
<td>A driver of a property-carrying vehicle may “restart” a 7/8-consecutive-day period after taking 34 or more consecutive hours off duty.</td>
</tr>
</tbody>
</table>

Jason’s Law

“Jason’s Law is named in honor of Jason Rivenburg. On March 4, 2009, Jason stopped for a delivery in Virginia and then headed toward a delivery destination in South Carolina. While only 12 miles from the delivery location, he needed to find parking to rest through the night as his arrival location was not yet open to receive deliveries. Jason did not have a safe place to park. Jason had learned from truckers familiar with the area that a nearby abandoned gas station was a safe location to park and proceeded to park there for the night. Tragically, he was attacked and murdered at this location while he slept with his killer taking both his life and just $7.00 that he had in his wallet.”

Source: https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/jasons_law/truckparkingsurvey/ch1.htm

Electronic Logging Device (ELD) Mandate
### Why Do Drivers Park in Unauthorized Locations?

| Reason                                                                 | Percentage
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours-of-service demands</td>
<td>25%</td>
</tr>
<tr>
<td>Limited overnight truck parking facilities</td>
<td>23%</td>
</tr>
<tr>
<td>Limited access to truck parking and/or pickup and delivery areas</td>
<td>16%</td>
</tr>
<tr>
<td>Emergency weather or roadway closure situations</td>
<td>12%</td>
</tr>
<tr>
<td>Truck drivers are unaware of available parking areas</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: Truck Parking Study Stakeholder Interview, 2019
Driver Interviews

Greatest need is for staging near freight generators (large industrial centers, ports, border crossings)

Staging needed surrounding the warehousing districts and border crossings

Very few locations have designated parking for oversize/overweight trucks

Demand for truck parking in the Permian Basin has exploded

Residents complain of trucks parking near residential areas
Section 2: The State of Truck Parking in Texas

Chapters 3-6

Photo: Midland, TX
# Chapter 3 - Truck Parking Supply in Texas

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Support for Messages</th>
</tr>
</thead>
</table>
| ▪ Document inventory and capacity of public and private truck parking in Texas  
  ▪ Statewide  
  ▪ Corridor  
  ▪ TxDOT District  
  ▪ Inventory amenities at parking facilities | ▪ TxDOT provides less than 10% of all authorized truck parking in the state  
  ▪ TxDOT-provided truck parking is usually in rural areas or small metro areas  
  ▪ Basic amenities are needed at truck parking facilities to meet driver necessities | ▪ Summary statistics on truck parking inventory at the statewide level  
  ▪ Map of truck parking inventory at the district level  
  ▪ Summary statistics of truck parking by corridor  
  ▪ Survey results on amenities |
Overview of Truck Parking Supply in Texas

Texas has more than 27,000 truck parking spaces at nearly 650 privately- and publicly-owned truck parking locations.

**Source:** Cambridge Systematics analysis using TxDOT, AmericanTruckParking.com, Allstays.com, TruckerPath (app), ParkMyTruck (app), Google Earth/Maps

**TxDOT and other public entities maintain 177 locations with approximately 2,300 truck parking spaces.**

**Three major truck parking chains provide more than half of the truck parking capacity in Texas:** Love’s, Pilot/Flying J, and TA/Petro.

**The private sector provides more than 90% of Texas truck parking capacity with nearly 25,000 truck parking spaces.**

Together, the “Big 3” make up nearly a quarter of parking locations and 60 percent of truck parking spaces.

Source: Cambridge Systematics analysis using TxDOT, AmericanTruckParking.com, Allstays.com, TruckerPath (app), ParkMyTruck (app), Google Earth/Maps
Statewide Inventory
Public and Private

Over 27,000 spaces at 650 facilities
- Authorized truck parking spaces statewide (public and private)

Nearly 2,300 spaces at 177 locations
- Publicly maintained truck parking spaces

Nearly 25,000 spaces at 473 facilities
- Privately maintained truck parking spaces

Source: Cambridge Systematics analysis using TxDOT, AmericanTruckParking.com, Allstays.com, TruckerPath (app), ParkMyTruck (app), Google Earth/Maps
## Truck Parking Capacity by Interstate Corridor
### Public and Private

<table>
<thead>
<tr>
<th>Interstate Corridor</th>
<th>Publicly Owned Truck Parking Spaces</th>
<th>Privately Owned Truck Parking Spaces</th>
<th>Total Truck Parking Spaces</th>
<th>Truck Parking Density (Spaces per 100,000 Truck-miles Traveled)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-10</td>
<td>559</td>
<td>5,213</td>
<td>5,772</td>
<td>69</td>
</tr>
<tr>
<td>I-20</td>
<td>306</td>
<td>4,293</td>
<td>4,599</td>
<td>82</td>
</tr>
<tr>
<td>I-27</td>
<td>70</td>
<td>556</td>
<td>636</td>
<td>164</td>
</tr>
<tr>
<td>I-30</td>
<td>98</td>
<td>728</td>
<td>826</td>
<td>32</td>
</tr>
<tr>
<td>I-35</td>
<td>318</td>
<td>4,255</td>
<td>4,573</td>
<td>53</td>
</tr>
<tr>
<td>I-37</td>
<td>44</td>
<td>448</td>
<td>492</td>
<td>57</td>
</tr>
<tr>
<td>I-40</td>
<td>195</td>
<td>1,114</td>
<td>1,309</td>
<td>114</td>
</tr>
<tr>
<td>I-45</td>
<td>122</td>
<td>1,416</td>
<td>1,538</td>
<td>48</td>
</tr>
<tr>
<td>Total</td>
<td>1,712</td>
<td>18,023</td>
<td>19,745</td>
<td>64</td>
</tr>
</tbody>
</table>

Source: Cambridge Systematics analysis using TxDOT, AmericanTruckParking.com, Allstays.com, TruckerPath (app), ParkMyTruck (app), Google Earth/Maps
Truck Parking Capacity by U.S. and SH Corridors
Public and Private

- 77% of spaces are within 1 mile of an Interstate
- Another 19% within 1 mile of U.S. Highway
- Another 3.8% within 1 mile of State Highway

<table>
<thead>
<tr>
<th>Top 5 U.S. Highways</th>
<th>Top 5 State Highways</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 59</td>
<td>SH 225</td>
</tr>
<tr>
<td>1,432 spaces</td>
<td>325 spaces</td>
</tr>
<tr>
<td>US 77</td>
<td>SH 158</td>
</tr>
<tr>
<td>1,348 spaces</td>
<td>312 spaces</td>
</tr>
<tr>
<td>US 90</td>
<td>SH 62</td>
</tr>
<tr>
<td>861 spaces</td>
<td>274 spaces</td>
</tr>
<tr>
<td>US 287</td>
<td>SH 342</td>
</tr>
<tr>
<td>792 spaces</td>
<td>250 spaces</td>
</tr>
<tr>
<td>US 281</td>
<td>SH 146</td>
</tr>
<tr>
<td>770 spaces</td>
<td>240 spaces</td>
</tr>
</tbody>
</table>

Source: Cambridge Systematics analysis using TxDOT, AmericanTruckParking.com, Allstays.com, TruckerPath (app), ParkMyTruck (app), Google Earth/Maps
Truck Parking Capacity by District
Public and Private

- **Houston District** has most (3,000 spaces) capacity but no publicly-owned
- **Dallas and San Antonio Districts** have more than 2,000 spaces each
- **Amarillo District** has most publicly-owned capacity
- **Odessa District** is the only other district with at least 200 publicly-owned spaces

Source: Cambridge Systematics analysis using TxDOT, AmericanTruckParking.com, Allstays.com, TruckerPath (app), ParkMyTruck (app), Google Earth/Maps
### Amenities at TxDOT Maintained Facility

<table>
<thead>
<tr>
<th>Drivers Need...</th>
<th>Lighting, trash cans, and toilets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drivers Desire...</td>
<td>Food options, showers, Wi-Fi, and security measures</td>
</tr>
<tr>
<td>Drivers Appreciate...</td>
<td>Laundry, green space, and convenience items</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE</th>
<th>RESTROOM</th>
<th>VENDING</th>
<th>STAFFED</th>
<th>WI-FI</th>
<th>ANGLED PARKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Rest Area/Travel Information Center (85 sites)</td>
<td>100%</td>
<td>42%</td>
<td>100%</td>
<td>39%</td>
<td>72%</td>
</tr>
<tr>
<td>Picnic Area/Pull-off (92 sites)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Source: Cambridge Systematics analysis using TxDOT data and Google Earth/Maps
Chapter 4 - Truck Parking Demand and Shortages

Chapter Purpose
- Examine the demand for truck parking in Texas
- Identify truck parking utilization, shortages and capacity needs
  - Statewide
  - Corridor
  - TxDOT District

Key Messages
- Demand for truck parking exceeds capacity in all major metro areas and Permian Basin during peak hour (1:00 a.m. to 2:00 a.m.)
- Lack of capacity is forcing drivers to park in unauthorized locations
- By 2050, truck parking demand projected to be 170% of current capacity

Support for Messages
- Summary statistics on truck parking demand and shortages at the statewide level
- Statistics on truck parking demand and utilization at corridor and district levels
- Results from driver survey and District input
- Forecast of future truck parking demand
Statewide Truck Parking Utilization and Shortages

Total utilization at peak hour at:

105% Major national truck stops
+ 67% All other privately owned truck stops
= 92% Total of all privately owned truck stops

86% Publicly owned safety rest areas/travel information centers
+ 60% Publicly owned picnic areas/pull-offs
= 78% Total of all publicly owned truck stops

Peak hour is 1:00 a.m. to 2:00 a.m.

Source: Cambridge Systematics analysis of ATRI truck GPS data
Corridor Level Truck Parking Utilization and Shortage

Interstates

- Four interstates have **more peak hour demand than capacity** in the entire corridor:
  - I-20, I-30, I-35, I-45

- All interstates have sites near or over capacity:

  Sites with 80% or higher peak hour utilization (1:00 a.m. - 2:00 a.m.)

<table>
<thead>
<tr>
<th>Interstate</th>
<th>Sites with 80% or higher peak hour utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-10</td>
<td>64</td>
</tr>
<tr>
<td>I-20</td>
<td>59</td>
</tr>
<tr>
<td>I-27</td>
<td>4</td>
</tr>
<tr>
<td>I-30</td>
<td>15</td>
</tr>
<tr>
<td>I-35</td>
<td>48</td>
</tr>
<tr>
<td>I-37</td>
<td>3</td>
</tr>
<tr>
<td>I-40</td>
<td>4</td>
</tr>
<tr>
<td>I-45</td>
<td>22</td>
</tr>
</tbody>
</table>

Source: Cambridge Systematics analysis of ATRI truck GPS data
## Corridor Level Truck Parking Utilization and Shortage

**U.S. and SH Routes with at least 5 facilities**

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Utilization</th>
<th>Parking Shortage (−)</th>
<th>Facilities over Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 385</td>
<td>122%</td>
<td>-99</td>
<td>3</td>
</tr>
<tr>
<td>US 67</td>
<td>104%</td>
<td>-7</td>
<td>4</td>
</tr>
<tr>
<td>US 82</td>
<td>101%</td>
<td>-6</td>
<td>6</td>
</tr>
<tr>
<td>US 285</td>
<td>101%</td>
<td>-6</td>
<td>4</td>
</tr>
<tr>
<td>US 90</td>
<td>99%</td>
<td>+10</td>
<td>11</td>
</tr>
<tr>
<td>SH 34</td>
<td>127%</td>
<td>-61</td>
<td>6</td>
</tr>
<tr>
<td>SH 225</td>
<td>106%</td>
<td>-18</td>
<td>3</td>
</tr>
<tr>
<td>SH 158</td>
<td>98%</td>
<td>+6</td>
<td>4</td>
</tr>
<tr>
<td>SH 146</td>
<td>80%</td>
<td>+48</td>
<td>3</td>
</tr>
<tr>
<td>SH 6</td>
<td>64%</td>
<td>+72</td>
<td>1</td>
</tr>
</tbody>
</table>

*Source: Cambridge Systematics analysis of ATRI truck GPS data*
## District Truck Parking Shortage for All Truck Parking Facilities

<table>
<thead>
<tr>
<th>City</th>
<th>ABILENE</th>
<th>AMARILLO</th>
<th>ATLANTA</th>
<th>AUSTIN</th>
<th>BEAUMONT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14 facilities near/over capacity</td>
<td>9 facilities near/over capacity</td>
<td>6 facilities near/over capacity</td>
<td>6 facilities near/over capacity</td>
<td>10 facilities near/over capacity</td>
</tr>
<tr>
<td>BROWNWOOD</td>
<td>3 facilities near/over capacity</td>
<td>12 facilities near/over capacity</td>
<td>5 facilities near/over capacity</td>
<td>5 facilities near/over capacity</td>
<td>34 facilities near/over capacity</td>
</tr>
<tr>
<td>EL PASO</td>
<td>18 facilities near/over capacity</td>
<td>11 facilities near/over capacity</td>
<td>18 facilities near/over capacity</td>
<td>11 facilities near/over capacity</td>
<td>3 facilities near/over capacity</td>
</tr>
<tr>
<td>LUFKIN</td>
<td>5 facilities near/over capacity</td>
<td>27 facilities near/over capacity</td>
<td>12 facilities near/over capacity</td>
<td>3 facilities near/over capacity</td>
<td>9 facilities near/over capacity</td>
</tr>
<tr>
<td>SAN ANTONIO</td>
<td>21 facilities near/over capacity</td>
<td>16 facilities near/over capacity</td>
<td>15 facilities near/over capacity</td>
<td>8 facilities near/over capacity</td>
<td>11 facilities near/over capacity</td>
</tr>
</tbody>
</table>

Source: Cambridge Systematics analysis of ATRI truck GPS data
Unauthorized Truck Parking Statewide

50% of drivers say they park in unauthorized places due to hours-of-service constraints.

23% point to lack of overnight parking.
How much of a problem is unauthorized parking in your District?

- A big headache: 15
- Somewhat of a concern: 18
- Not a concern: 1

Source: TxDOT District Webinar, February 14, 2020
Truck Parking Capacity Needs

- Additional truck parking needed to meet statewide peak hour demand per mile
- Texas Triangle and Permian Basin regions have greatest truck parking shortages
- Border regions also have significant truck parking shortages

Source: Cambridge Systematics analysis of ATRI truck GPS data
Future Truck Parking Capacity Need, 2050

**2018**

140,000+ trucks parking per day
Peak Demand is 98% of capacity

**2050**

240,000+ trucks parking per day
Peak Demand is 170% of current capacity

Source: Cambridge Systematics analysis of ATRI truck GPS data
## Chapter 5 - Impact of Truck Parking Shortage in Texas

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Support for Messages</th>
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</thead>
</table>
| ▪ Identify truck parking safety, congestion, and asset management impacts  
▪ Statewide  
▪ TxDOT District  
▪ Corridor | ▪ Unauthorized truck parking is a safety hazard to all motorists  
▪ Lack of truck parking contributes to congestion and congestion contributes to need for truck parking  
▪ Unauthorized truck parking contributes to pavement damage | ▪ Crash statistics for parked trucks and fatigued drivers  
▪ Comparison of capacity need and congestion  
▪ Input from TxDOT Districts |
Impacts of Inadequate Truck Parking on Safety

2013-2017

190,240 Statewide Crashes involving Commercial Vehicles

2,953 fatalities

2,315 Crashes involving Parked Trucks

138 fatalities

Source: Cambridge Systematics analysis of TxDOT CRIS data
Impacts of Inadequate Truck Parking on Safety

Crashes Involving Parked Trucks
Crash Severity, 2013-2017
- Fatality
- Serious Injury
- All Others

Crashes Involving Fatigued Truck Drivers
2013-2017
- Truck Driver Asleep or Fatigued
- Truck Driver Possibly Asleep or Fatigued

Source: Cambridge Systematics analysis of TxDOT CRIS data

Texas Freight Advisory Committee
March 31, 2020
Impacts of Inadequate Truck Parking on Safety

- Measured by the number and severity of crashes per mile involving parked trucks from 2013-2017
- Dallas-Fort Worth and Houston regions with highest impacts and needs
- I-35 between Laredo and San Antonio high impact and need

Source: Cambridge Systematics analysis of TxDOT CRIS data and ATRI truck GPS data
Crashes Involving Parked Trucks by Corridor, 2013-2017

- Among interstates, I-35 had the most crashes per mile involving a parked truck.
- State highways with the most crashes tend to be in industrial, urbanized areas:
  - SH 225: Port of Houston
  - SH 183: DFW International Airport

Crashes Involving Parked Trucks, per Mile

<table>
<thead>
<tr>
<th>Highway</th>
<th>Crashes per Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-35</td>
<td>0.45</td>
</tr>
<tr>
<td>I-45</td>
<td>0.37</td>
</tr>
<tr>
<td>I-30</td>
<td>0.37</td>
</tr>
<tr>
<td>I-20</td>
<td>0.24</td>
</tr>
<tr>
<td>I-10</td>
<td>0.23</td>
</tr>
<tr>
<td>US 75</td>
<td>0.27</td>
</tr>
<tr>
<td>US 59</td>
<td>0.21</td>
</tr>
<tr>
<td>US 290</td>
<td>0.15</td>
</tr>
<tr>
<td>US 281</td>
<td>0.08</td>
</tr>
<tr>
<td>US 60</td>
<td>0.07</td>
</tr>
<tr>
<td>SH 225</td>
<td>1.33</td>
</tr>
<tr>
<td>SH 183</td>
<td>0.73</td>
</tr>
<tr>
<td>SH 249</td>
<td>0.60</td>
</tr>
<tr>
<td>SH 180</td>
<td>0.54</td>
</tr>
<tr>
<td>SH 360</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Source: Cambridge Systematics analysis of TxDOT CRIS data and ATRI truck GPS data.
Inadequate Truck Parking and Congestion

- High capacity needs and high congestion levels
  - Texas Triangle
- Border regions
  - El Paso
  - Rio Grande Valley
- Permian Basin

Source: Cambridge Systematics analysis of ATRI truck GPS data and TxDOT Level of Service data
Feedback on Truck Parking Challenges

Drivers

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Drivers Percentage</th>
<th>TxDOT Districts Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours-of-service demands</td>
<td>50%</td>
<td>41</td>
</tr>
<tr>
<td>Limited overnight truck parking facilities</td>
<td>25%</td>
<td>3.6</td>
</tr>
<tr>
<td>Limited access to truck parking and/or pickup and delivery areas</td>
<td>23%</td>
<td>3.3</td>
</tr>
<tr>
<td>Emergency weather or roadway closure situations</td>
<td>16%</td>
<td>1.6</td>
</tr>
<tr>
<td>Truck drivers are unaware of available parking areas</td>
<td>6%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: Texas Truck Parking Study Stakeholder Interview, 2019

Source: TxDOT District Webinar, February 14, 2020
# Chapter 6 - Focusing on the Highest Priority Truck Parking Needs

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Present highest priority truck parking needs</td>
</tr>
<tr>
<td>• Statewide</td>
</tr>
<tr>
<td>• TxDOT District</td>
</tr>
<tr>
<td>• Corridor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Truck parking needs are present throughout the state and across the Texas highway freight network</td>
</tr>
<tr>
<td>• 90% of interstate mileage has high or medium priority needs</td>
</tr>
<tr>
<td>• Numerous U.S. and SH corridors have high truck parking needs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support for Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Prioritization process</td>
</tr>
<tr>
<td>• Maps of statewide prioritized needs</td>
</tr>
<tr>
<td>• Table of corridor prioritized needs</td>
</tr>
<tr>
<td>• Chart of TxDOT District prioritized needs</td>
</tr>
</tbody>
</table>
Prioritizing Truck Parking Needs

1. **Capacity (25%)**
   - Truck Parking Shortage

2. **Safety (50%)**
   - Crashes Involving Parked Trucks

3. ** Freight Significance (25%)**
   - Priority Freight Segments
Prioritized Statewide Truck Parking Needs

Needs throughout state:

- Urban and rural
- Border regions
- Permian Basin
- Maritime ports
- Interstates, U.S. Highways and State Highways

Source: Cambridge Systematics analysis of ATRI truck GPS data, CRIS crash data and 2018 TFMP
Prioritized Truck Parking Needs – Interstate Corridors

- 90% of interstate mileage has high or medium priority needs

- The highest priority locations
  - I-30, I-45
  - Future I-69 corridor
  - Segments of I-35
  - I-40 west of Amarillo
  - A mixture of high and medium segments on I-10 and I-20 in the Permian Basin

<table>
<thead>
<tr>
<th>Corridor</th>
<th>High Miles and Percent of Corridor Miles</th>
<th>High or Medium Miles and Percent of Corridor Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-10</td>
<td>263 30%</td>
<td>768 88%</td>
</tr>
<tr>
<td>I-20</td>
<td>160 25%</td>
<td>605 95%</td>
</tr>
<tr>
<td>I-27</td>
<td>0 0%</td>
<td>51 41%</td>
</tr>
<tr>
<td>I-30</td>
<td>137 61%</td>
<td>223 100%</td>
</tr>
<tr>
<td>I-35</td>
<td>261 44%</td>
<td>556 95%</td>
</tr>
<tr>
<td>I-37</td>
<td>27 19%</td>
<td>114 80%</td>
</tr>
<tr>
<td>I-40</td>
<td>45 25%</td>
<td>157 89%</td>
</tr>
<tr>
<td>I-45</td>
<td>148 52%</td>
<td>278 98%</td>
</tr>
<tr>
<td>Total</td>
<td>1,041 34%</td>
<td>2,753 90%</td>
</tr>
</tbody>
</table>

Source: Cambridge Systematics analysis of ATRI truck GPS data, CRIS crash data and 2018 TFMP
Prioritized Truck Parking Needs – Other Corridors

- **US Highways**
  - US 75, rapidly developing corridor, rises to top of US highways
  - US 59, future I-69 corridor

- **State Highways**
  - 4 of 5 in greater metropolitan areas (Houston and DFW)
  - One in Southeast Texas

```
<table>
<thead>
<tr>
<th>Corridor</th>
<th>High Miles and Percent of Corridor Miles</th>
<th>High or Medium Miles and Percent of Corridor Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 75</td>
<td>29 39%</td>
<td>54 72%</td>
</tr>
<tr>
<td>US 59</td>
<td>85 15%</td>
<td>343 62%</td>
</tr>
<tr>
<td>US 80</td>
<td>17 11%</td>
<td>53 34%</td>
</tr>
<tr>
<td>US 79</td>
<td>28 10%</td>
<td>159 58%</td>
</tr>
<tr>
<td>US 259</td>
<td>14 10%</td>
<td>50 34%</td>
</tr>
<tr>
<td>SH 225</td>
<td>16 100%</td>
<td>16 100%</td>
</tr>
<tr>
<td>SH 249</td>
<td>24 89%</td>
<td>24 89%</td>
</tr>
<tr>
<td>SH 183</td>
<td>17 48%</td>
<td>26 73%</td>
</tr>
<tr>
<td>SH 90</td>
<td>14 33%</td>
<td>14 33%</td>
</tr>
<tr>
<td>SH 121</td>
<td>15 25%</td>
<td>22 37%</td>
</tr>
</tbody>
</table>

Source: Cambridge Systematics analysis of ATRI truck GPS data, CRIS crash data and 2018 TFMP
High and Medium Needs by TxDOT District

TxDOT Districts with above average high priority needs:
- Dallas
- Houston
- Bryan
- Lufkin
- Fort Worth
- San Antonio
- Paris
- El Paso
- Amarillo

Source: Cambridge Systematics analysis of ATRI truck GPS data, CRIS crash data and 2018 TFMP
Section 3: Meeting Texas’ Truck Parking Needs

Chapters 7-10
### Section 3: Meeting Texas’ Truck Parking Needs

<table>
<thead>
<tr>
<th>Chapter 7: Policy/Coordination/Outreach</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ TxDOT Led</td>
</tr>
<tr>
<td>▪ TxDOT Supported</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 8: Infrastructure/Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Expand or upgrade truck parking at existing facilities</td>
</tr>
<tr>
<td>▪ Repurpose underutilized or closed TxDOT facilities</td>
</tr>
<tr>
<td>▪ Develop new publicly owned truck parking facilities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 9: Technology/Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Truck Parking Availability System</td>
</tr>
<tr>
<td>▪ TxDOT led programs</td>
</tr>
</tbody>
</table>
www.menti.com

Code: 56 27 99
## Chapter 7 - Addressing Truck Parking Through Policies, Outreach, and Coordination

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Support for Messages</th>
</tr>
</thead>
</table>
| ▪ Present policy, outreach and coordination strategies  
  ▪ TxDOT Led  
  ▪ TxDOT Supported | ▪ Some are TxDOT led while others are TxDOT supported  
  ▪ All require coordination with partners, and many require private sector or partners taking the lead  
  ▪ Strategies can be advanced in short terms | ▪ Present strategies and support with State of Practice examples, stakeholder input, and feedback |
Policy/Coordination/Outreach Recommendations

TxDOT Led
The State should:

- Develop guidelines for integrating truck parking into the TxDOT project development process
- Consider truck parking needs prior to purchase or sale of right of way
- Create consistent funding sources for truck parking implementation
- Allow truck parking in auto-designated areas in existing TxDOT facilities during off-hours
- Integrate truck parking into the Strategic Highway Safety Plan
- Develop and implement guidelines for providing basic amenities at publicly owned truck parking facilities
- Integrate truck parking information into existing TxDOT platforms (DriveTexas, LoneStar)
- Consider developing truck only parking areas
- Coordinate with private applications to integrate truck parking information into existing platforms
### Policy/Coordination/Outreach Recommendations

<table>
<thead>
<tr>
<th>TxDOT Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The State should:</strong></td>
</tr>
<tr>
<td>- Facilitate discussions with partner agencies to allow truck parking at non-TxDOT public facilities</td>
</tr>
<tr>
<td>- Facilitate discussions with private property owners with excess industrial/commercial property to provide truck parking</td>
</tr>
<tr>
<td>- Develop guidance for next generation logistics parks that includes truck parking facilities in coordination with developers, local governments, shippers and driver community</td>
</tr>
<tr>
<td>- Coordinate with shippers/receivers to provide on-site truck parking</td>
</tr>
<tr>
<td>- Create guidance to include truck parking demand in Traffic Impact Analyses</td>
</tr>
<tr>
<td>- Integrate truck parking into local and regional transportation and land use plans</td>
</tr>
</tbody>
</table>
Please rate the policy and coordination strategies you feel TxDOT should pursue.

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Code: 56 27 99
District Feedback on Policy, Coordination and Outreach Recommendations

Please rate on a sliding scale the policy recommendations you feel TxDOT should pursue.

- Develop guidelines for integrating truck parking into project development
- Consider truck parking needs prior to purchase or sale of ROW
- Reassess public facility closures in high demand areas
- Allow truck parking in auto-designated areas during off-hours
- Prepare District Truck Parking Plans
- Integrate truck parking into the Strategic Highway Safety Plan
- Include minimum required amenities at publicly owned truck parking facilities

Source: TxDOT District Webinar, February 14, 2020
# Chapter 8 - Addressing Truck Parking Through Infrastructure Investments

## Chapter Purpose
- Present infrastructure strategies
- Provide amenities
- Enhance and expand existing TxDOT facilities
- Build new TxDOT facilities

## Key Messages
- Provide basic amenities at TxDOT facilities to meet driver basic needs
- Opportunities to expand truck parking at existing public facilities
- Need to add new truck parking facilities in select locations

## Support for Messages
- Compare needs to utilization at existing facilities and public right-of-way
Love's peak hour utilization = 248%

IH 10 - Eastbound (8799 S. Desert Blvd. Anthony, TX)

Anthony Travel Information Center peak hour utilization = 14%

1 mile apart

Source: Cambridge Systematics analysis of ATRI truck GPS data and Google Earth

Length of Time Parked:
- Parked 15 Min. - 1 Hour
- Parked 1+ Hour
Round 2 Driver Survey – Amenities Needed

- **Green space and walking paths**
  - Amenities needed at public rest area - Short-term parking
  - Amenities needed at public rest area - Long-term parking

- **Toilets**
  - Amenities needed at public rest area - Short-term parking
  - Amenities needed at public rest area - Long-term parking

- **Showers**
  - Amenities needed at public rest area - Short-term parking
  - Amenities needed at public rest area - Long-term parking

- **Laundry machines**
  - Amenities needed at public rest area - Short-term parking
  - Amenities needed at public rest area - Long-term parking

- **Enhanced vending machine (better quality food, medicines, and personal items)**
  - Amenities needed at public rest area - Short-term parking
  - Amenities needed at public rest area - Long-term parking

- **Driver lounge**
  - Amenities needed at public rest area - Short-term parking
  - Amenities needed at public rest area - Long-term parking

- **WI-FI**
  - Amenities needed at public rest area - Short-term parking
  - Amenities needed at public rest area - Long-term parking

- **Real-time parking space availability information**
  - Amenities needed at public rest area - Short-term parking
  - Amenities needed at public rest area - Long-term parking

- **None of the above. Given the choice, I prefer to park at or near my favorite truck stops**
  - Amenities needed at public rest area - Short-term parking
  - Amenities needed at public rest area - Long-term parking
92 of the 177 TxDOT maintained facilities are picnic or pull-off areas which do not have restrooms

Source: Cambridge Systematics analysis of ATRI truck GPS data, CRIS crash data and 2018 TFMP
TxFAC Feedback on Amenities

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Please rate the amenities you feel should be provided at TxDOT maintained facilities.
“Enhanced vending machines would be very helpful. Food, drink, medical, convenience are all areas that could help truck drivers have a better experience and be more likely to park at public areas.”

“We are not asking for a lot - just restrooms, lights, and trash cans.”

“I just parked at the Anthony TIC last week for the first time. It is a beautiful facility and only a few trucks were parked there. It is hard to access—have to follow a long access road with no signage to indicate the TIC is ahead.”

“To support need for minimal amenities, the top request is for restrooms, followed by TPAS.”
Please rate on a sliding scale the amenities you feel should be provided at TxDOT truck parking facilities.

<table>
<thead>
<tr>
<th>Amenities</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green space/walking paths</td>
<td>2.4</td>
</tr>
<tr>
<td>Flush toilets</td>
<td>3.8</td>
</tr>
<tr>
<td>Showers</td>
<td>3.8</td>
</tr>
<tr>
<td>Laundry machines</td>
<td>3.1</td>
</tr>
<tr>
<td>Enhanced vending machines (including medicine, personal items)</td>
<td>3.1</td>
</tr>
<tr>
<td>Wi-Fi</td>
<td>3.1</td>
</tr>
<tr>
<td>Real-time parking availability information</td>
<td>3.4</td>
</tr>
<tr>
<td>Dump station and water</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Source: TxDOT District Webinar, February 14, 2020
### Recommendations for Amenities

**Basic amenities needed at all TxDOT maintained SRAs, TICs and high demand picnic and pullout areas**

- Paved
- Angled Parking
- Lighting
- Trash receptacles
- Curb space for OS/OW trucks
- Enhanced vending machines
- Flush toilets

**Desired enhanced amenities within TxDOT right of way in high need areas**

- Staffed
- Green space
- Wi-Fi
- Emergency phone/ notification
- Driver lounge
- Specific to urban facilities: Security fencing
- Showers
Enhancing and Expanding Existing TxDOT Facilities

- Safety Rest Areas
- Travel Information Centers
- Picnic Areas
- Pull-off Areas

Weigh Stations are a potential option but they are maintained by Department of Public Safety
Illustrative Example - Expand/Retrofit Existing Safety Rest Areas

Medina County SRA

DEVELOPMENT SUMMARY
ANGLED TRUCK PARKING - 22 SPACES
OSOW PARKING INCLUDED
CAR PARKING STALLS - 18 SPACES
HANDICAP PARKING - 2 SPACES
COVERED PICNIC AREAS - 3
FLUSH TOILETS
ENHANCED VENDING MACHINES
WIFI

Estimated cost: $2.4 million

Source: Drawings by Atkins with input from Cambridge Systematics
Illustrative Example - Repurpose Picnic/Pull-out Areas for Dedicated Truck Parking

Fort Davis

Estimated cost: $3.7 million

Source: Drawings by Atkins with input from Cambridge Systematics
Illustrative Example - Repurpose Closed TxDOT Facilities for Dedicated Truck Parking

Hopkins SRA

DEVELOPMENT SUMMARY
ANGLED TRUCK PARKING - 25 SPACE
OSOW PARKING INCLUDED
FLUSH TOILETS
SHOWERS
ENHANCED VENDING MACHINES
WIFI

Estimated cost: $2 million

Source: Drawings by Atkins with input from Cambridge Systematics
Opportunities for Repurposing Closed TxDOT Facilities

- Reasons for closing facilities
  - Obsolete/poor state of repair
  - Community safety concerns
  - Cost
  - Underutilized
## Opportunities and High Needs
- Dallas-Fort Worth
- Permian Basin
- I-10 between Houston and San Antonio

## Lack of Opportunities and High Needs
- Houston
- Border regions

---

**Comparing Closed Facilities to Needs**

Source: Cambridge Systematics analysis of ATRI truck GPS data, CRIS crash data and 2018 TFMP

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**Truck Parking Need**

Capacity and Safety Needs
- High Capacity Need and High Safety Need
- Low Capacity Need and High Safety Need
- High Capacity Need and Low Safety Need

- Closed or Closing Rest Area
- Open Public Parking Area
Expand, Upgrade, or Repurpose State Rest Areas or Picnic Areas

- **Total Opportunity**
  - 140 existing TxDOT facilities for possible expansion or upgrades
  - 197 opportunity sites identified for possible expansion, upgrade or repurpose for dedicated truck parking

- **Priorities for initial feasibility assessment**
  - 34 existing facilities with high utilization and need
  - 42 facilities in high need areas with little or no current utilization

*All locations will require additional analysis to determine extent and feasibility of improvements*

Source: Cambridge Systematics analysis of ATRI truck GPS data, CRIS crash data and 2018 TFMP
Build Large Truck Only Parking Facility Adjacent to Highway

Estimated cost: $9.4 million

- Add trash cans every 4 – 6 spaces
- Add truck height trash cans at truck exit

Source: Drawings by Atkins with input from Cambridge Systematics
Build Truck Parking/Staging Facility near Industrial Clusters and Borders

Estimated cost: $20.5 million

Source: Drawings by Atkins with input from Cambridge Systematics
Build New Truck Parking Facilities

- For long-term parking on Texas Highway Freight Network right of way
- For short-term staging near shippers & receivers, border crossings, and ports

Source: Cambridge Systematics analysis of ATRI truck GPS data, CRIS crash data and 2018 TFMP
Please rate each type of infrastructure strategy for increasing truck parking capacity in Texas.
Driver Interviews

“Need **more OS/OW parking options**”

“Better information on parking is great but it does provide MORE parking which is needed.”

“Very few locations have designated parking for oversize/overweight trucks”

“There is plenty of land in Texas, use it.”
Please rate on a sliding scale your opinion of each type of infrastructure project for increasing truck parking capacity.

- Expand/upgrade SRA: 3.1
- Expand picnic area: 2.6
- Repurpose closed SRA for dedicated truck parking: 2.8
- Repurpose parking safety pull-off area for truck parking: 2.5
- Repurpose former construction staging area for truck parking: 1.8
- Build new dedicated truck parking with 20-30 spaces: 2.4
- Build new dedicated truck parking with 100+ spaces: 2.4

Source: TxDOT District Webinar, February 14, 2020
Chapter 9 - Addressing Truck Parking Through Technology and Program

Chapter Purpose
- Present technology and program
  - Two technology strategies
  - Five program strategies

Key Messages
- Strategies do not add capacity but facilitate more efficient use of the existing parking
- Strategies provide useful information to drivers and dispatchers
- Lower cost, significant impact solutions

Support for Messages
- Present strategies and support with State of Practice examples, stakeholder input, and feedback
Technology Truck Parking Availability System (TPAS)

- Dynamic system that provides information on available parking directly to drivers

Strategies
- Expand I-10 efforts to other high need freight corridors (I-35, I-20, I-45, I-30)
- Major freight generators (Borders, Ports, Energy Sector)
- Explore multistate opportunities
- Integrate into existing platforms (ex.: LoneStar, DriveTexas, etc.)

Short-term: Install static signs or use existing ITS signs for upcoming truck parking facilities
Truck Parking Mobile Applications

- Applications to provide truck parking information that assists in addressing truck parking needs without adding capacity
- Integrate into existing and developing platforms (ex. LoneStar, DriveTexas.org, ConnectSmart, etc)
- TxDOT led app for TxDOT facilities
- TxDOT supported app to connect drivers with private parking

Source: TruckerPath.com
Program Recommendations

- Establish truck and car utilization data collection program
- Prepare Corridor Truck Parking Plans
- Include truck driver outreach in “Don’t Mess with Texas” campaign
- Create a public education campaign to inform the public on the importance of truck parking
- Facilitate discussions for private truck stop development or expansion
Please rate the truck parking technology and program strategies TxDOT should pursue
Driver Interviews

“That truck parking does not seem to be a priority in current planning, and a public education campaign is needed to change the negative perception of drivers and promote the industry as part of the solution.”

“Provide tax incentives for private providers to build truck parking.”

“Truck staging should be a part of planning for industrial parks—should require a set-aside for truck parking.”
Please rate on a sliding scale the technology and program recommendations you feel TxDOT should pursue.

- Truck Parking Availability System: 4.2
- Static signs indicating locations: 4.3
- Facilitate discussions for private truck stop development or expansion: 3.7
- Include driver outreach in "Don't Mess with Texas" campaign: 4
- Create a public education campaign: 4
- Collect truck and car utilization data at public facilities: 4.3

Source: TxDOT District Webinar, February 14, 2020
# Chapter 10 - Taking Actions to Address Truck Parking Challenges

## Chapter Purpose
- Present short-, medium- and long-term steps to advance recommendations

## Key Messages
- Some are TxDOT led while others are TxDOT supported
- All require coordination with partners and many require private sector or partners taking the lead
- Strategies can be advanced in short terms

## Support for Messages
- Present strategies and support with State of Practice examples, stakeholder input, and feedback
### Advancing Truck Parking Technology and Programs

<table>
<thead>
<tr>
<th>Technology Actions</th>
<th>Program Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-/Medium-Term</strong></td>
<td><strong>Short-Term</strong></td>
</tr>
<tr>
<td>• Prioritize locations for TPAS across the state</td>
<td>• Develop program for ongoing parking utilization data collection</td>
</tr>
<tr>
<td>• Construct priority TPAS projects</td>
<td>• Develop Corridor Truck Parking Plans for all the interstates in the State and high need U.S. and SH corridors</td>
</tr>
<tr>
<td>• Prioritize recommended locations and install static truck parking signs or use existing ITS signs across the state to alert drivers of truck parking locations</td>
<td>• Include truck driver outreach in “Don’t Mess with Texas” campaign</td>
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<td>• Increase number of trash containers at truck parking facilities</td>
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<td>• Produce and distribute public outreach material on importance of truck parking</td>
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<td>• Conduct ongoing roundtables and interviews with the National Association of Truck Stop Operators (NATSO) and other private truck stop operators</td>
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</table>
Advancing TxDOT Led Policy, Outreach and Coordination Strategies

Short-Term

- Develop guidelines for integrating truck parking into the project development process
- Integrate truck parking into the guidelines for acquiring or disposing of right of way
- Develop a guidebook for financing truck parking solutions in Texas
- Conduct site reviews at locations with low car utilization to confirm there are no infrastructure challenges that would restrict truck parking in car areas
- Consider including commercial vehicles as an emphasis area in future SHSP updates
- Evaluate minimum required amenities during the site feasibility studies
- Create guidance for next generation logistics parks that include integrated and full-service truck parking facilities
- Develop benefit-cost analysis and case studies to highlight competitive reasons to include truck parking in industrial/commercial development
- Develop outreach material for local municipalities and permitting agencies
- Develop guidance for local municipalities on how that information can be used as part of a Traffic Impact Analysis for new construction
- Develop guidelines to assist interested local municipalities encourage industrial property developers to include truck parking
## Advancing Infrastructure Strategies

<table>
<thead>
<tr>
<th>Short-Term</th>
<th>Medium-Term</th>
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<tbody>
<tr>
<td>• Conduct site feasibility assessment and recommendations at priority sites</td>
<td>• Design and construct highest priority projects</td>
</tr>
<tr>
<td>• Conduct site feasibility assessment and recommendations at the remaining proposed sites</td>
<td>• Build dedicated truck parking facilities</td>
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<tr>
<td>• Prioritize recommended sites for improvement</td>
<td>• Construct highest priority projects</td>
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<tr>
<td>• Design pilot project for each of the 3 facility types (SRA, Picnic Area and New Facility)</td>
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<tr>
<td>• Identify potential sites and conduct site feasibility assessment and recommendations</td>
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<tr>
<td>• Prioritize recommended sites for improvement</td>
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</tbody>
</table>
Keys for Addressing Texas’ Truck Parking Needs

- **Policy and Program Recommendations:** Take short- and medium-term actions to fully advance truck parking policy and program recommendations outlined in the Truck Parking Study

- **High Priority Truck Parking Capacity Investments:** Near-term expansion and upgrading of truck parking facilities in the highest need areas

- **Low and Medium Truck Parking Capacity Investments:**
  - Advancement of feasibility studies for the medium and low need truck parking facilities located on high need highway segments
  - Monitoring the remaining facilities to ensure changing truck parking needs are met without the need for a complete update of the Truck Parking Study
Discussion

Photo: I-10 Westbound, El Paso County Safety Rest Area, Fabens, TX
Next Steps

Final Plan - April 15

- Respond to TxFAC comments
- Final review by TxDOT staff
- Release final report and executive summary

Sherry.pifer@txdot.gov

Photo: San Antonio, TX
I-10 Corridor Coalition
Truck Parking Availability System (TPAS)
I-10 Corridor Coalition

- Comprised of Texas, New Mexico, Arizona and California
- Formed in 2016
- Focus Areas:
  - Resource Sharing
  - Economies of Scale
  - Joint Testing
  - Best Practices
I-10 TPAS at a Glance

- Monitors and provides real-time truck parking availability information to commercial vehicle drivers and dispatchers
- Deployed at rest areas along I-10 in Texas, New Mexico, Arizona and California
- Funded through $6.85 M Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) Grant and 1:1 state matching funds
- System will launch in 2022
I-10 Corridor Coalition TPAS Vision and Goals

- **Vision**: Help commercial vehicle drivers make safer, more efficient truck parking decisions through a user-focused parking information service

- **Future Goals**:
  - Provide timely, reliable information to drivers and dispatchers
  - Maximize usage of existing truck parking
  - Add value to the trucking industry
  - Ensure harmonious and consistent messaging and operations between states
  - Implement the system in a sustainable and scalable way
I-10 TPAS Project Objectives

- Allow commercial vehicle drivers to readily identify available truck parking and reduce chances of operating while fatigued
- Enable commercial vehicle drivers to reduce travel time searching for truck parking
- Enable commercial vehicle drivers to reduce truck parking along highway shoulders, ramps, or other unauthorized locations
- Create a system that can be expanded elsewhere in the Coalition States, possibly expanded to adjacent States, and deliver other truck related travel information such as weather advisories and incident management alerts
**I-10 Corridor Coalition TPAS Concept**

1. Vehicle detection systems measure available parking in lots across each state
2. Parking data goes to states and 3rd party processors
3. Data is delivered to drivers

*Examples are for illustrative purposes only*

- TPAS not currently available on drivetexas.org but will be integrated as part of project.
TPAS purpose is to collect commercial vehicle parking usage data from public rest areas

Example data collected:
- Public rest area locations
- Number and occupancy of truck parking spaces
- Public rest area amenities:
  - Restrooms
  - Picnic areas
  - Pet facilities
  - Vending machines
  - Wifi
  - Other amenities
Entrance/exit detection technology (in-pavement sensors, video analytics, radar, laser, etc.) to be selected during concept of operations and preliminary engineering phase.
Space occupancy detection technology (in-pavement sensors, video analytics, etc.) to be selected during concept of operations and preliminary engineering phase

(Detection technology to be determined)
I-10 TPAS Data Dissemination and Communication Approach

State Truck Parking Signs and Traveler Information Sites

Private Truck Parking In-Cab and Phone Applications

SmartParking USA
Interactive Voice Response System
I-10 TPAS Stakeholder Engagement

- Freight Advisory Committee Outreach with all Coalition States
- Trucking Industry Stakeholder Workshops in each Coalition State
- Trucking Industry Stakeholder Interviews
- Educational and Informational Webinars
- Electronic Surveys
- Third Party Application Developer Truck Parking Data Feed Awareness and Educational Outreach
## I-10 TPAS Schedule

### Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
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<tbody>
<tr>
<td>Notice of Grant Award</td>
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<td>Project Management Plan</td>
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<td>USDOT Cooperative Agreement</td>
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<td>Concept of Operations</td>
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<td>User Needs &amp; System Requirements</td>
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<tr>
<td>Parking Site Concepts</td>
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<td>Final Design</td>
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<td>Software Development and Integration</td>
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<td>Construction</td>
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<td>System Launch</td>
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<td>Performance Monitoring</td>
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<td>Operations and Maintenance</td>
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<tr>
<td>Stakeholder Engagement</td>
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### Decision points

- **2019**: Notice of Grant Award
- **2021**: System Launch
- **2022**: Performance Monitoring, Operations and Maintenance, Stakeholder Engagement
I-10 Corridor Coalition TPAS Next Steps

- **Planning**: Assess detection methodologies/technologies given parking site configurations and sign location spacing in each Coalition State

- **Systems Engineering**: Develop the TPAS concept of operations, system requirements, design standards and site conceptual design

- **Stakeholder Engagement**: Secure industry input regarding system concepts and create consistent project communications and branding

- **Parking Site Concepts**: Develop conceptual parking site layouts showing technology types and locations to help inform the design process