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<tr>
<td>AID</td>
<td>Accelerated Innovation Deployment</td>
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<td>ATCMTD</td>
<td>Advanced Transportation and Congestion Management Technologies Deployment</td>
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<td>BUILD</td>
<td>Better Utilizing Investments to Leverage Development</td>
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<td>CMAQ</td>
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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 contains information for Task 2.12 (Recommendations) and Task 2.13 (Actionable Steps).
Exhibit 1: Texas Highway Freight Network

Source: TxDOT.
To frame where this document fits in the broader study, the technical assessments included in this effort are summarized below with topics addressed in this memo noted with an asterisk (*).

- **Truck Parking Inventory and Utilization of Authorized Locations (Tasks 2.3 and 2.4)**—An inventory and the attributes of all known and authorized truck parking locations across the State will be collected from a variety of sources. The utilization of authorized sites by time of day, day of week, and for what purpose also will be shown.

- **Truck Parking Demand in Dedicated and Unauthorized Locations: The Impacts of Parking Deficiencies (Task 2.5)**—Building on the utilization analysis in the prior step, a more in-depth assessment of demand for parking will be conducted to identify common areas, patterns, and reasons for unauthorized parking. This section also includes information for Task 2.7 regarding an examination of unpredictable incidents and events and their impact on truck parking demand.

- **Crash Data Analysis Related to Trucks on Highways and Ramps (Task 2.6)**—Truck involved crash statistics for the latest five-year history will be analyzed to document and map the highest crash locations and overlay those crash statistics with the truck parking inventory and demand analysis.

Source: Cambridge Systematics (2019).
• **Truck Parking Demand (Task 2.7)**—Expanding the truck parking demand analysis in Task 2.5, this task estimates the demand for truck parking in key corridors and regions in Texas, identifies areas or locations where parking is not sufficient to meet current demand, and examines the impacts of weather closures on truck parking.

• **Freight Forecast and Impact on Truck Parking (Task 2.8)**—Future freight volumes will be forecasted to estimate future truck parking demand.

• **Truck Parking Impacts on Safety (Task 2.9)**—Building on the Crash Data Analysis (Task 2.6) an assessment will be conducted of how strategic truck parking improvements—such as increased capacity, improved technology, or physical changes to existing truck parking facilities—can provide safer operations for truck drivers, passenger vehicles, and communities.

• **Summarize Truck Parking Needs (Task 2.10)**—Utilizing the information gathered in previous tasks, truck parking shortages and issues will be summarized by category, and truck parking needs identified.

• **Recommendations (Task 2.12, subject of this memo)**—A range of policies, programs, and projects to address Texas’ current and future truck parking needs will be presented, along with an assessment of estimated costs, potential funding sources, and an analysis of key factors influencing, and affected by completing the recommendation.

• **Actionable Steps for Recommended Solutions (Task 2.13, subject of this memo)**—A set of actionable steps for each recommended solution will be developed, describing the sequence of activities which must occur for the concept to be fully realized.

The needs analysis (Task 2.10) discussed a number of potential strategies that could address truck parking issues in Texas. From that set of possible approaches, specific recommendations, actionable steps, timing, supporting agencies, resources, and regulatory needs are discussed in this memo across four categories:

- Policy/Coordination/Outreach – TxDOT Direct Action.
- Policy/Coordination/Outreach – TxDOT Support.
- Infrastructure/Capacity Projects.
- Technology and Programs.

1.2 **Definitions**

There are several 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.

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

- Section 2 provides recommended strategies across four categories:
  - TxDOT led policy strategies
  - TxDOT supported policy strategies
  - Infrastructure
  - Technology and Program

- Section 3 provides actionable steps for the recommended strategies along with information on timing, partners, high-level cost estimates, and regulatory concerns.
- Section 4 provides an overview of national and state funding options for truck parking related projects.
- Section 5 identifies next steps for this project.
- Appendix A contains a list of sites identified for a site feasibility study, split into 76 priority sites and 261 additional sites.
- Appendix B contains a list of high need areas for construction of new facilities.
- Appendix C includes information shared with TxDOT’s Districts during a webinar in February 2020 including a map and corresponding table of the proposed truck parking recommendations for further study within each TxDOT District.
### 2.0 Recommendations

The prior memo (Current and Forecasted Truck Parking Needs Assessment) included a wide range of possible solutions to address the State’s truck parking needs. From that list, a set of recommended strategies across three broad categories was developed:

- **Policies.** Broad policy recommendations to help change the way Texas approaches truck parking (Section 2.1 and 2.2).

- **Infrastructure.** Specific infrastructure strategies that provide safe, efficient and desirable truck parking that makes Texas roadways safer, better maintained and more efficient (Section 2.3).

- **Technology and Programs.** A collection of technology and programs that can be undertaken to improve the effectiveness of existing truck parking and facilitate the development of new truck parking (Section 2.4).

The policy, infrastructure and technology program recommendations are not exclusive. Instead, the success of one strategy may significantly depend on the success of another, thus underscoring the need for a well-coordinated and simultaneous advancement of the recommendations.

#### 2.1 TxDOT Led Policy Strategies

There are six TxDOT-led policy recommendations. These policies focus on areas under the control of TxDOT and include planning, operations, project development and right of way acquisition and are summarized below.

**2.1.1 Policy Strategy 1: The State Should Develop Guidelines for Integrating Truck Parking into the TxDOT Project Development Process**

Coordination and communication between the large and varied TxDOT departments is critical to ensuring that truck parking needs along with all other highway needs are identified and considered.

Providing information about the critical role that trucks play in Texas’ economy and the need to recognize and incorporate truck parking issues, facilities, and needs in the planning process, particularly during project development, could help TxDOT plan for truck parking needs more efficiently.

**2.1.2 Policy Strategy 2: The State Should Consider Truck Parking Needs Prior to Purchase or Sale of TxDOT Right of Way**

Similar to the above, as TxDOT continues to purchase new right of way, truck parking needs should be considered for future use of the property, just as highway expansion or rail right of way is accounted for in the state’s long-range planning process. In addition, prior to the sale of any TxDOT right of way, the location should be checked against truck parking high-needs areas to ensure that potential expansion or new development opportunities are not missed. TxDOT should revise guidelines governing right of way transactions to include truck parking in the process.
2.1.3 Policy Strategy 3: The State Should Reassess Public Facility Closures in High Demand Areas

Public facilities such as rest areas, picnic areas, and maintenance yards may be closed due to under use, aging facilities, criminal activity, or limited funding. These properties could be valuable options for increasing truck parking inventory through conversion to lower cost, truck-only parking facilities. Weigh stations that are planned to be decommissioned may provide another opportunity. However, the reassessment of weigh stations planned for closure would require close coordination with Texas Department of Public Safety (TxDPS) as they are responsible for operating those facilities.

Prior to closing any publicly owned facility, the site should be evaluated by TxDOT to determine if it is in a high truck parking demand area. If so, the site should be targeted for conversion to truck-only parking. This policy is meant to avoid the need to completely rebuild a closed facility by identifying and converting these locations prior to closure.

2.1.4 Policy Strategy 4: The State Should Allow Truck Parking in Auto-Designated Areas at Existing TxDOT Facilities During Off-Hours

At certain times, especially during overnight hours when automobile traffic is typically lighter at SRAs, TICs, and picnic areas, TxDOT should consider allowing trucks to utilize some of the space reserved for cars. Aerial imagery (see Appendix B of the Truck Parking Demand in Dedicated and Unauthorized Locations) shows trucks are informally using this space at many rest stops and picnic areas, indicating a demand for additional inventory at many locations. Alternatively, a more in-depth study of automobile utilization at rest areas may identify some locations where excess automobile parking could be turned over to truck parking on a more permanent basis. Site geometry and pavement may need to be examined to confirm the car parking areas are able to accommodate trucks.

2.1.5 Policy Strategy 5: The State Should Prepare Corridor Truck Parking Plans

Detailed assessments of corridor level truck parking demand and utilization is needed to fully advance the infrastructure strategies. This information is key to determining specific needs, locations and most applicable strategies. Specific recommendations on where to construct new facilities, expand and enhance existing facilities, repurpose closed or underutilized facilities and what amenities to provide will require corridor and location level data, feasibility assessments and local input and coordination. Corridor Truck Parking Plans should be undertaken and include direct data collection and vehicle counts to provide additional truck parking utilization at existing SRAs and picnic and pull-out areas along the corridor. Truck Parking Plans should first be developed for corridors with the greatest truck parking needs.

2.1.6 Policy Strategy 6: The State Should Integrate Truck Parking into the Strategic Highway Safety Plan (SHSP)

Texas should consider commercial motor vehicles related crashes as a potential focus area in the SHSP to identify and develop additional mitigation strategies. In addition to improving safety, this may also open up safety funding streams for these strategies.
2.2  **Policy – TxDOT Supported Strategies**
TxDOT maintains less than 10 percent of all authorized truck parking in the state. This means that it is necessary that other stakeholders take the lead on some policies aimed at meeting the truck parking challenges. TxDOT can serve a supporting role and sometimes be the catalyst for initiating action. The following are six policy strategies TxDOT should support.

2.2.1  **Policy Strategy 1: The State Should Collaborate with Planning Partners to Examine the Feasibility of Truck Parking at Non-TxDOT Public Facilities**
Similar to allowing trucks to park in auto-oriented areas of an SRA or TIC during off-hours, TxDOT could work with partner agencies and local agencies to identify commuter parking lots, bus depots, or other facilities that, while not owned by TxDOT, could support truck parking during off-hours. These facilities are often located in urban areas where the demand for truck parking is high and have patterns of use that are regular and opposite of the peak demand hours for truck parking.

These locations would likely have minimal amenities on-site but in some areas might be adjacent to commercial or retail establishments that could provide food and restrooms for (paid) use. Additional study would be needed to identify areas with a surplus of overnight parking spaces and that are properly built to carry heavier commercial vehicles for longer periods of time. A park and ride lot at I-15 and SR 76 in Fallbrook, California (Exhibit 3) includes an area for dedicated truck parking. Caltrans is exploring the feasibility of allowing trucks to park in the car parking area during the overnight hours when not in use and the State of Maryland allows trucks to park in specific park and ride lots during inclement winter weather.1

2.2.2  **Policy Strategy 2: The State Should Coordinate with Private Property Owners to Allow Truck Parking at Large Parking Facilities When Not in Use**
Fairgrounds, stadiums, racetracks, and other event venues with large amounts of parking close to the highway in areas with high truck parking needs should be identified and owners contacted to investigate the potential of providing truck parking. These types of locations have schedules that are known far in advance, often have significant downtime, and are used to accommodating large numbers of vehicles and people in a condensed period. An example of the application of this policy can be found on I-80 in Eastern California. Caltrans has an arrangement with the Boreal Ski Resort near the summit of Donner Pass to allow truck parking during winter closures of I-80.

Additional research would be necessary to identify areas of opportunity in Texas, examine utilization patterns, and confirm that the pavement and geometry of the lot can accommodate large trucks for longer periods of time.

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2.2.3 Policy Strategy 3: The State Should Create Guidance to Help Local Agencies Include Truck Parking Demand as Part of Traffic Impact Analyses for New Development

Many local jurisdictions have policies or guidelines in place to evaluate the potential traffic impacts of a proposed development project. State and local agencies should ensure that their policies and guidelines also require that a proposed project that will generate truck trips evaluate the potential impact on local road safety and conditions if increased truck parking demand is not met. By identifying truck parking needs before a project is built, projects can incorporate design changes or mitigation to address potential impacts and help meet truck parking needs. TxDOT could play a lead role in developing guidance or sharing best practices with local communities.
Exhibit 3: Park and Ride Lot, I-15 at SR 76, Fallbrook, California

Source: Google Maps. North is to the top of the image.
2.2.4 Policy Strategy 4: The State Should Develop Guidelines for Integrating Truck Parking into Local and Regional Transportation and Land Use Plans

When local jurisdictions allow for new development, but do not also account for the increased level of truck parking needs, the costs for mitigating these needs are often passed on to the local jurisdiction—such as the cost of providing truck parking, and costs associated with safety, congestion, and community disruption. The State should develop guidelines for integrating truck parking needs into the planning process such as requiring shippers and receivers to provide on-site parking or contribute their fair share to the cost of a common parking area to help meet the parking demand while also helping to spread the costs of providing truck parking.

FHWA in their Freight and Land Use Handbook, in the Context-Sensitive Solutions section, states: “Establish staging areas for freight delivery. Many stores and other facilities receiving shipments do not have staging areas or freight loading docks. Trucks making deliveries must park along the curb or in a parking lot, which can impede traffic flow and cause congestion on the streets around the store. One solution calls for municipalities and other zoning authorities to require onsite, and, preferably, off-street staging areas for facilities and businesses that regularly receive freight shipments. In some cases, there may not be sufficient space for onsite loading docks or parking areas. The establishment of common loading areas in multiple-tenant facilities, and/or regulations to effectively manage curbside truck parking may be more suitable solutions.”

Some areas within the U.S. have taken this step. In 2017, the Township of Upper Macungie in the Lehigh Valley passed a new zoning requirement which requires one off-street truck parking space for every loading dock at a new warehouse or distribution facility. The new zoning regulations also mandated one truck staging space (with a 10-feet x 80-feet dimensions) for every two loading spaces at a distribution or warehouse facility. The new zoning requirements specify that “the applicant shall present credible evidence that the number of “oversized” off-street parking spaces provided for trucks will be adequate to accommodate the expected demand generated by the warehouse activities.”

This approach helps alleviate the issue before it becomes an issue, especially in freight generating areas including border-crossings, ports, warehousing, and industrial developments. In addition, businesses that have truck parking and associated amenities available to drivers—whether on property or in a shared staging lot nearby—become “shippers of first choice” and may receive better rates or preference when trucking capacity becomes tight. TxDOT should partner with industrial development agencies or economic development agencies and local agencies in stressing the need for potential benefits from including truck parking in new construction.

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2 https://ops.fhwa.dot.gov/publications/fhwahop12006/
2.2.5 Policy Strategy 5: The State Should Encourage Commercial and Industrial Property Owners to Provide Truck Parking On-Site

In industrial zoned areas it is common to find vacant lots, or developed sites with excess space which could be used for truck parking. TxDOT should promote or encourage this type of activity by engaging property owners, local agencies, economic development agencies, industrial development agencies, and chambers of commerce in high need areas. As noted in the technology strategies (See Section 2.4), mobile applications that connect drivers looking for parking to property owners with excess capacity can facilitate deployment of this policy.

2.2.6 Policy Strategy 6: The State Should Create Guidance for Next Generation Logistics Parks that Include Integrated and Full-Service Truck Parking Facilities

Truck parking and staging facilities near their customers helps truck drivers maximize their HOS, thereby improving efficiency and profitability. TxDOT should work with industrial developers, shippers and drivers to develop guidance on state-of-the-art logistics parks that accommodate the need for truck staging. The guidelines should be made available to local governments, economic development agencies and developers.

Including these services can help businesses receive preferential treatment from trucking companies and drivers, and possibly even lower trucking rates. This in turn makes the logistic park more attractive to prospective tenants.

2.3 Infrastructure

There are four recommended strategies for adding capacity and increasing utilization at TxDOT maintained truck parking facilities, summarized below.

2.3.1 Infrastructure Strategy 1: The State Should Enhance Amenities at Existing TxDOT Maintained Truck Parking Facilities

Perhaps the simplest strategy for increasing the utilization of publicly owned facilities is to improve the amenities provided at the facilities. The State should provide basic amenities at truck parking locations that make them more attractive to drivers, help ensure compliance, prevent environmental degradation, and make them consistent with Jason’s Law. Stakeholders identified toilets, enhanced vending machine options, Wi-Fi, real-time parking availability and shower facilities as their top desired amenities for long-term or over-night parking with showers being less important for short-term parking.

At a minimum, all TxDOT maintained SRAs, TICs and picnic or pullout areas with dedicated truck parking should include the basic amenities shown in Exhibit 4. These locations should be paved with angled parking and curb space for oversize/overweight (OS/OW) vehicles, and

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5 Jason’s Law requires states to evaluate their capability to provide adequate truck parking and rest facilities for safe parking of commercial motor vehicles. See: https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/jasons_law/truckparkingsurvey/ch1.htm.
include lighting, flush toilets, enhanced vending machines, and trash cans. Currently, none of the 92 TxDOT maintained picnic and pull-out areas have restrooms or vending while the 85 SRAs and TICs have both restrooms and vending. Enhanced vending machines can take different forms but could include more nutritious food and drink options, toiletries, small electronics, or medical needs (bandages, aspirin, etc.) beyond the typical drinks and snack items. In addition, depending on the specific location, level of demand, and resources available, TxDOT should consider including some or all of the enhanced amenities. These amenities are more likely to draw drivers who might otherwise choose to park in an unauthorized location.

Exhibit 4: Amenities for Consideration at TxDOT Facilities

State Departments of Transportation, including TxDOT can only provide basic amenities consistent with a Federal restriction on commercial activities within the Interstate right of way under 23 U.S.C. § 111(b), which prevents commercialization or the provision of goods and services with commercial value at no charge or for sale at rest areas and other DOT facilities. 23 U.S.C. § 111(c) does allow for the use of vending machines in rest areas as an exception to the above rule.

2.3.2 Infrastructure Strategy 2: The State Should Expand and Upgrade Truck Parking at Existing TxDOT Maintained Facilities

TxDOT should undertake the following strategies to develop additional truck parking spaces by expanding existing public facilities and are intended to utilize existing infrastructure and minimize the need to purchase additional right of way, reducing costs for TxDOT.

- The State Should Expand and Upgrade Truck Parking at Existing Safety Rest Areas/Travel Information Centers – Older rest areas in Texas tend to provide only parallel parking for trucks or a mix of both angled and parallel parking and tend to be smaller ranging from about 5 to 18 truck parking spaces. Some locations with truck parking could be reconfigured to increase the number of spaces and improve traffic flow. To achieve this, TxDOT should examine the striping to make better use of space to allow
more trucks to park within existing site limits. Striping and site flow patterns at these facilities to determine if there are ways to improve truck circulation and add space without expanding beyond the existing site footprint. For example, drivers often indicate that locations with striped spaces can fit more trucks than those without as the stripping provides direction to drivers on where to park safely. Angled parking, where trucks pull into a space at an angle and then leave by pulling ahead, also tend to provide better capacity where space is available and reduce safety concerns by eliminating the need to reverse or pull out of a tight parallel parking space.

The Study identified 78 SRAs and TICs for potential upgrades and expansions. The improvements include converting to angled parking and increasing the number of spaces, adding enhanced vending, configuring so that trucks can pull in and exit a spot without backing up, and developing curb parking for OS/OW vehicles. Maps depicting the location of recommended sites and illustrative examples of how facilities could be expanded and enhanced are provided in Section 3.5. In locations where data indicate high utilization rates, expanding the pavement within the existing right of way should be considered as a means for increasing the number of truck parking spaces. In addition, the basic amenities noted above should be installed at all SRAs and TICs. To determine the type and extent of possible upgrades and expansions, a detailed feasibility assessment should be conducted at each of the candidate SRAs and TICs.

- **The State Should Expand and Upgrade Truck Parking at Existing Pull-offs or Picnic Areas** – There may be pull-offs or picnic areas in locations where the need for truck parking is high but conversion to a full SRA and TIC is not possible or cost-effective. For these facilities, the State should: 1) provide basic amenities (as described above), 2) examine the current truck parking spaces to determine if a new striping and site flow pattern could allow more trucks to park within the same area, and 3) expand sites where the utilization data supports the need for additional truck parking and there is room for expansion within the existing right of way. For pull-out areas, utilization data should be collected to see if it is feasible to make the facility a dedicated truck-only parking facility, freeing up additional space to accommodate more trucks. A total of 62 picnic and pull-out areas are identified as potential candidates for expansion. Section 3.5 provides additional information about how these locations were identified and prioritized, and includes a map showing the locations.

- **Potentially Add Truck Parking at Weigh Stations** – Weigh stations (also called inspection sites) are a tool used in several states to help identify, inspect, and stop commercial vehicles that are traveling in violation of State or Federal weight and safety regulations. The number of open and closed weigh stations changes frequently, making it difficult to maintain an accurate count. However, there are roughly 100 inspection stations operated by the Texas Department of Public Safety
(DPS). The design and approach used for this enforcement activity varies widely. Weigh stations that are permanently (or nearly permanently) staffed and located near a state border are a common approach in many southern and western states including Texas.

Several states have built truck parking at these locations and allow trucks to park. For example, Exhibit 5 shows the Post 9 Walton Weigh Station on I-71 in Boone County, Kentucky which allows trucks to park overnight.

Weigh stations are operated and maintained by the DPS and they do not currently allow trucks to park at weigh stations. Many of the existing weigh stations do not have space for trucks to park. However, some newer facilities do have space (such as the New Waverly Weigh Station on I-45 north of Houston shown in the Truck Parking Demand in Dedicated and Unauthorized Locations report) but parking is still not allowed unless trucks are required to stop due to enforcement action (placed out of service due to violation of regulations).

The State should coordinate with DPS and the driver community to assess this potential. Many of Texas’ older weigh stations may not have sufficient space at the existing site to allow parking or have adjacent right of way to expand. At locations where truck parking is available or could be built, communication to the driver community is key as use of these truck parking areas varies widely between states. Because of these challenges, this strategy is not a high priority at this time.

**Exhibit 5: Walton Weigh Station, KY**

Source: Google Maps. North is to the top of the image.
2.3.3 Infrastructure Strategy 3: The State Should Repurpose Underutilized or Closed/Closing TxDOT Maintained Parking Facilities Where Feasible in High Need Corridors

One option under this category is to repurpose closed TxDOT facilities such as SRAs, pull-out areas, picnic areas, maintenance facilities, and weigh stations. Land at these locations may still be publicly owned and prior investments (grading, entrance/exit ramps, electricity, pavement, etc.) can reduce up-front costs for TxDOT. These sites are referred to as opportunity sites and 32 such sites are identified as priorities that require further investigation. Exhibit 21 in Section 3.5 depicts the location of these opportunity sites and additional detail is available in the Truck Parking Demand in Dedicated and Unauthorized Location Report. The State should conduct feasibility studies for these 32 sites.

Missouri DOT is a leader in this approach and has converted 23 obsolete rest areas and weigh stations to parking spaces for trucks, typically with no or minimal amenities (lighting, graded/paved, sometimes a vault toilet). An example location on I-70 is shown in Exhibit 6. These conversions supplement private parking facilities in locations with high truck parking demand and insufficient capacity. The State should identify potential properties for repurposing and ensure that truck parking needs are considered before the property is offered for sale or considered for other use. In addition, coordination is recommended to ensure any areas that may be considered for closing are reviewed for use as truck parking prior to closure.

Exhibit 6: Missouri Converted Rest Area I-70

Source: Missouri DOT Presentation to the I-95 Corridor Coalition, May 1, 2018.

2.3.4 Infrastructure Strategy 4: The State Develop New Publicly Owned Truck Parking

Based on the needs analysis, there are areas where additional truck parking is needed but there are no existing or recently closed facilities that can be expanded or converted. In these cases, the State should develop new truck parking facilities. The State should conduct a feasibility study to determine the exact size, design, and level of amenities based on need, ranging from a small truck pull-off area with minimal amenities, to a new state-of-the-art dedicated truck parking facility, to a fully developed SRA or TIC. A map depicting the
locations where new facilities may be needed and illustrative examples of how the facilities may be designed are provided in Section 3.5.

One area of concern based on the needs analysis is a lack of capacity in or near urban areas where demand for truck parking is highest. More intense and complicated land ownership issues (and more constrained right of way), zoning challenges, community opposition, and higher land prices all make construction of privately owned truck parking facilities more difficult in urban areas. However, as urban areas continue to attract and develop manufacturing, distribution, and warehousing services, and affordable available land decreases, the need for truck parking to serve all truck parking needs will increase.

If located on the outskirts of major urban areas, a new publicly owned, dedicated truck parking facility with a large number of truck parking spaces and a full suite of enhanced amenities could help fill the demand for urban parking, but at a lower initial investment than if placed inside urban areas.

Alternatively, two potential approaches to developing truck parking to serve these urban-specific needs are described below. Both could be built by the public sector and operated as publicly owned truck parking locations. However, private entities may also develop this type of truck parking, independently or in collaboration with TxDOT or a local municipality.

- **The State Should Facilitate the Development of Dedicated Truck Parking Near Shippers/Receivers, Ports, Border Crossings, or Other Areas of High Demand** – The need for truck parking and freight staging near freight generators and in urban areas, especially through a collective or multi-facility parking area was identified in the 2018 Texas Freight Mobility Plan as well as current regional freight planning efforts in the Permian Basin, Houston and Rio Grande Valley regions. Truck parking in these areas should be open at all times so that they can address multiple needs including short-term, staging, long-term, storage, and emergency truck parking. Perhaps most critically, if properly developed they can address the need for short-term and staging parking near areas that require large numbers of truck deliveries whether this is an industrial area or a dense commercial district, or as is prevalent in Texas, near seaports and international border crossings. TxDOT should conduct a feasibility study for developing dedicated truck parking in these high need areas and facilitate partnerships necessary for implementation. This type of parking has historically been difficult to develop for reasons discussed above. However, there are a few examples of local jurisdictions taking the initiative to develop parking in more urban areas, as well as private companies providing parking for a fee.

- **The State Should Develop Dedicated Truck Parking Near Areas of High Demand to Accommodate Short-Term Truck Parking and Staging Needs** – TxDOT should develop smaller lots with basic amenities and restricted hours to counter local resistance to, or the cost of building large, full-service urban lots. These would consist of smaller lots close to a concentration of shippers and receivers and be used for staging only. The hours of operation could be restricted to match those of the shippers and
receivers, thereby restricting its use during the overnight hours when nearby residents might object to idling trucks. It should be open early enough for drivers to gain access to it prior to the morning commute.

These types of staging lots could also be advantageous near ports and border crossings where there is a greater need for short-term and staging parking. A large lot may be required if demand is high in these areas, however, operational and maintenance costs would still be lower with few amenities and restricted hours.
Technology and Programs
This study recommends two technology strategies and five programs to help address truck parking needs in Texas. These strategies are summarized in the following section.

2.4.1 Technology Strategy 1: The State Should Invest in Truck Parking Availability Systems
Truck parking availability systems (TPAS) are a type of Intelligent Transportation System (ITS). TPAS makes finding a truck parking space easier and less stressful for drivers by accurately counting and disseminating real-time information of the number of available spaces at connected facilities. Data is usually disseminated on roadside signs prior to the parking area allowing drivers to see available truck parking in the region. This increases the efficient use of existing capacity and more advanced analysis, such as predictive analytics, can help predict the future supply of truck parking, providing drivers and dispatchers with even more information.

A TPAS relies on accurate and timely collection of truck parking availability and the ability to disseminate that information to users real-time. As noted below, as a part of the I-10 Corridor Coalition and through federal grant funding, TxDOT has partnered with Arizona, California and New Mexico Departments of Transportation on the development of a truck parking information system program along the I-10 corridor.

Data availability on a website or mobile application usually compliments the information on the sign and can provide a lot of detail at a fairly low cost. In lieu of developing a new app to communicate truck parking availability, TxDOT should consider integrating the TPAS data into their DriveTexas.org highway conditions and Lonestar websites and applications.

Technology solutions may be more effective when deployed at a regional or multi-State level, especially applicable for TPAS. Truck drivers benefit from a single, national source for locating available parking, and TxDOT has an opportunity to be at the forefront of implementing one by promoting and supporting a system that can be connected to other regional systems.

2.4.2 Technology Strategy 2: The State Should Provide Truck Parking Information for Integration into Mobile Applications
As it becomes available, TxDOT should also make the TPAS data available to interested third-party truck parking application developers, such as Park My Truck run by National Association of Truck Stop Operators (NATSO), and possibly to mapping and traveler information platforms like Waze and Google maps, to integrate into their own services. There are other truck parking apps that may not be able to disseminate the TPAS data, nevertheless they provide unique solutions for notifying drivers of truck parking opportunities. A few are noted below.

TruckerPath is a crowdsourcing application which relies on drivers to report the number of spaces available at a parking location using a scale ranging from “Lots of Spots” to “Some

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6 They may also be referred to as truck parking information management systems (TPIMS)
Spots” to “Lot is Full.” This system, while low cost, relies on each driver’s interpretation of capacity and the updates can be infrequent.

SecūrSpace is an example of a private application for utilizing public and private spaces more efficiently. It is an online marketplace that connects truck drivers and companies needing parking and storage options to those with dedicated or excess capacity. For example, there are several commercial business and strip malls with ample parking that have closed. The landowner may choose to allow truck parking for a fee as a way to earn some revenue from otherwise dormant property. The challenge would be getting information about the parking availability to those who need parking. The app would be the mechanism for connecting the landowner with truckers in need of trucking.

PARKUNLOAD® is another example of a mobile application used throughout Europe that directs city delivery truck drivers to available curb space and indicates any restrictions such as time of day or duration of parking. Law enforcement, with a different interface, can quickly identify those trucks registered and allowed to park at a particular curb, and cite those who are not.

While none of these offers the ultimate solution, they all have interesting components and applications for providing truck parking information that assists in addressing truck parking and staging needs without adding capacity. For instance, in many areas curbside truck parking is allowed in commercial and industrial areas at certain locations and specified times. An application could indicate to drivers where curbside parking is allowed, at what times of the day, and for what duration—and allow the city to change those restrictions at any time and easily enforce non-compliance. Likewise, private property owners with excess space could also make their space available at the dates, times and durations they desire, and use a private application to communicate those details and availability and facilitate payment. This would enable them to generate revenue from unused space while helping drivers find available parking. TxDOT could help to facilitate the development of applications that would help to serve truck parking needs in Texas.

2.4.3 Program Strategy 1: The State Should Collect Truck and Car Utilization Data at Publicly Owned Truck Parking Facilities

Truck utilization data at SRAs and TICs can be used for performance reporting, evaluating the effectiveness of public investments in truck parking, and providing data to FHWA for future updates to the Jason’s Law. In addition, by also collecting data on cars and recreational vehicles, TxDOT will know how each public facility is being used by vehicle type, time of day, and day of week. Collecting this data using technology such as cameras could be low cost and require little lead time and the data could inform future renovation plans for more efficient configuration and utilization of parking areas. For instance, if few cars utilize the parking area, TxDOT may have the opportunity to convert some of that space to truck parking. Or if cars are not parking overnight, trucks could be allowed to park in those spaces during those hours.
2.4.4 Program Strategy 2: The State Should Install Static Signs and Use Existing ITS Signs Indicating Upcoming Locations for Truck Parking
In advance of the development of a statewide TPAS, TxDOT should install low cost, static signs indicating the exit numbers for upcoming SRAs with truck parking and other truck parking areas. These could be placed on major highways at the entrance points to the state, or near major metropolitan areas. Existing ITS signs could also be used to notify drivers of locations of truck parking. Both approaches will help truck drivers understand their upcoming parking options and therefore plan their stops to avoid unauthorized parking.

2.4.5 Program Strategy 3: The State Should Collaborate with Privately-Owned Truck Stop Operators to Develop New or Expand Existing Truck Parking
TxDOT should meet with the NATSO and other private sector stakeholders to discuss a program and process for supporting development of new or expanded truck parking that would provide tangible benefits to the truck stop operators, without significant costs or complicated programs for TxDOT. An example of a collaborative program is working on guidelines to help the private sector maneuver permitting and public comment processes.

Several truck stop operators have indicated that permitting requirements can increase the cost of construction and make development at a site infeasible, or that public opposition can kill a project. More important to them than financial support, is assistance with the permitting process and gaining public support for the project.

2.4.6 Program Strategy 4: The State Should Include Truck Driver Outreach in “Don’t Mess with Texas” Campaign to Encourage Them to Not Litter
Truck drivers who litter contribute to a negative public perception of drivers and create opposition to facilities that attract truckers, such as truck parking lots. Outreach and partnership with the trucking industry specifically may help awareness about the importance of litter prevention to the industry and the communities they service.

For over 30 years, TxDOT’s “Don’t Mess with Texas” public information campaign has sought to reduce littering by developing ads, educational material, supporting scholarships and artwork competitions, creating a reporting function for citizens, and more recently introducing virtual reality games. In addition, TxDOT’s Adopt-a-Highway and Don’t Mess with Texas Trash-off campaigns have helped reduce roadside trash along state-maintained roadways. These programs could be expanded to target the trucking industry.

2.4.7 Program Strategy 5: The State Should Develop a Public Education Campaign to Inform the Public on the Importance of Truck Parking
Truck drivers work on tight schedules and low margins. They are often not in control of their own schedules, subject to the whims of shippers and receivers, and every minute spent looking for a parking space or stopping before their HOS time is up is time they can’t spend on the road, making money.

Everyone relies on trucks to deliver our food, medicine, clothing and all personal and household goods, often directly to our door. Employers also depend on trucks to deliver materials
and supplies to keep factories, offices and places of employment open. However, few people think about how those purchases drive a demand for truck trips and thus the need for trucks to park. Trucks, like much of the freight system that supports Texas’ economy, are often considered a problem rather than a necessity.

Changing this public perception is a critical piece of outreach for TxDOT in partnership with other agencies and the private sector. One of the largest challenges private truck parking operators face when trying to expand or build new inventory is opposition from residents who do not want trucks parking near them. In tandem with the above message that encourages drivers to stop littering, TxDOT and its partners need to do more to explain the need for truck parking and examine how the negative impacts (noise, light pollution, traffic, etc.) can be ameliorated.
3.0 **Actionable Steps**
This section includes an action plan for the technology and programs, policies, and infrastructure/capacity recommendations described in Section 2.0. Each category of recommendations includes information on timing, supporting agencies, necessary resources, and potential regulatory needs. Each recommended action is also analyzed for potential impacts to land use and zoning, community integration, safety, economics, and asset optimization.

3.1 **Technology**
Technology programs provide ways for the existing truck parking to be used more effectively and provide drivers with necessary information related to truck parking. The upfront capital costs and on-going maintenance costs are often lower than traditional infrastructure and the time needed for planning and implementation a fraction of what is needed for construction. For these reasons, technology solutions are often more cost effective and timely in meeting immediate needs. Exhibit 7 provides a summary of the proposed technology programs and relevant next steps with additional details in the following sections.
Exhibit 7: Summary of Actionable Steps for Deploying Truck Parking Technologies

<table>
<thead>
<tr>
<th>Recommended Strategies &amp; Actionable Steps</th>
<th>Timing</th>
<th>Supporting Agencies</th>
<th>Resources</th>
<th>Regulatory Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technology</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Action 1) Develop a Statewide Truck Parking Availability System</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steps:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Prioritize locations for TPAS across the state</td>
<td>Short</td>
<td>FHWA</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>2. Construct priority TPAS projects (assume 50 sites)</td>
<td>Medium</td>
<td>FHWA</td>
<td>Cost of approximately $2.5 million - $7.5 million</td>
<td>None</td>
</tr>
<tr>
<td>3. Construct balance of projects (assume 50 sites)</td>
<td>Long</td>
<td>FHWA</td>
<td>TBD</td>
<td>None</td>
</tr>
<tr>
<td><strong>Action 2) In advance of a statewide TPAS deployment, where needed, install static signs indicating upcoming locations for truck parking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steps:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Identify Truck Parking Facilities in Need of Signage</td>
<td>Short</td>
<td>FHWA</td>
<td>No additional costs (included with site assessments)</td>
<td>None</td>
</tr>
<tr>
<td>2. Prioritize recommended locations for static signs across the state</td>
<td>Short</td>
<td>FHWA</td>
<td>TxDOT staff/consultant time $1,500 (Small signs - $1,100 per sign; Large signs that could be converted to DMS - $50,000 per sign)</td>
<td>None</td>
</tr>
<tr>
<td>3. Install pilot static signs (assume 5 sites)</td>
<td>Short</td>
<td>FHWA</td>
<td>$30,000 (Small signs - $1,100 per sign; Large signs that could be converted to DMS - $50,000 per sign)</td>
<td>None</td>
</tr>
<tr>
<td>4. Install static signs at mid- and long-term TPAS sites (assume 100 sites)</td>
<td>Medium</td>
<td>FHWA</td>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

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3.1.1 Technology Action 1: The State Should Develop a Statewide Truck Parking Availability System Plan

TPAS makes finding a truck parking space easier and less stressful for drivers by accurately counting and disseminating real-time information of the number of available spaces at connected facilities.

Deploying TPAS statewide would increase the number of locations where information would be available to drivers, helping them make better parking choices, ultimately reduce unauthorized truck parking, reduce the number of trucks searching for parking (and associated environmental and pavement degradation), and reduce the chance that drivers might drive over the HOS limits and contribute to a fatigue-related crash. A conceptual drawing illustrating a possible approach is shown in Exhibit 8.
Exhibit 8: Truck Parking Availability System Conceptual Drawing

I-10 Corridor Coalition TPAS Grant Application (2018).
3.1.1.1 Short-term Steps

3.1.1.1.1 Prioritize locations for TPAS across the state

Deployment locations for a statewide TPAS will need to be prioritized. Work completed to date has identified truck parking deficiencies by major Interstate corridors, as shown in Exhibit 9. Using this approach, I-30, I-35, I-20, and I-45 are all potential candidates for deployment based on percent utilization and the fact that there are some locations in each corridor that are underutilized. The site feasibility analysis conducted as part of the infrastructure/capacity recommendations should include a review of utilities at each location as this information would be needed to inform the Systems Engineering and design work related with a future TPAS development and deployment.

TxDOT could also consider a District or metropolitan area deployment strategy instead of a corridor approach depending on funding, presence of other intelligent transportation system projects, or additional criteria.

Exhibit 9: Truck Parking Utilization by Interstate Corridor

<table>
<thead>
<tr>
<th>Interstate Corridor</th>
<th>Number of Truck Parking Locations</th>
<th>Total Truck Parking Spaces</th>
<th>Average Weekday Peak Hour Demand</th>
<th>Total Corridor Utilization</th>
<th>Number of Locations At/Overcapacity at Peak Hour (1–2 a.m.)</th>
<th>Average Weekday Trucks Parked in Highway Right of Way at Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-10</td>
<td>112</td>
<td>5,772</td>
<td>5,521</td>
<td>96%</td>
<td>40</td>
<td>117</td>
</tr>
<tr>
<td>I-20</td>
<td>91</td>
<td>4,599</td>
<td>4,718</td>
<td>103%</td>
<td>43</td>
<td>165</td>
</tr>
<tr>
<td>I-27</td>
<td>15</td>
<td>636</td>
<td>490</td>
<td>77%</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>I-30</td>
<td>19</td>
<td>826</td>
<td>1,059</td>
<td>128%</td>
<td>14</td>
<td>126</td>
</tr>
<tr>
<td>I-35</td>
<td>67</td>
<td>4,573</td>
<td>4,892</td>
<td>107%</td>
<td>35</td>
<td>185</td>
</tr>
<tr>
<td>I-37</td>
<td>18</td>
<td>492</td>
<td>289</td>
<td>59%</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>I-40</td>
<td>23</td>
<td>1,309</td>
<td>976</td>
<td>75%</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>I-45</td>
<td>30</td>
<td>1,538</td>
<td>1,555</td>
<td>101%</td>
<td>19</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>375</td>
<td>19,745</td>
<td>19,500</td>
<td>99%</td>
<td>142</td>
<td>702</td>
</tr>
</tbody>
</table>


While TxDOT can develop a statewide TPAS deployment, partnerships with MPOs or other entities that have already deployed ITS projects may help speed development. In addition, some TPAS deployments in other states (such as Iowa) have included privately owned truck parking locations. If this approach is considered, then private-sector partners will need to be identified.
The Systems engineering phase will also need to consider information dissemination approaches. Information on where to find available truck parking is typically communicated to drivers via roadside signs and mobile applications. A popular option for roadside TPAS signing is a static blue services sign with fixed destination options that each have a dynamic matrix panel for reporting available parking stalls. This option is widely used by the Mid America Association of State Transportation Officials (MAASTO) states.

Data availability on a website or mobile application usually compliments the information on the sign and can provide a lot of detail at a fairly low cost. In lieu of developing a new application to communicate truck parking availability, TxDOT should consider integrating the TPAS data into their DriveTexas.org highway conditions and Lonestar websites and application. Additionally, TxDOT should make the data available to interested third-party truck parking application developers, and possibly mapping and traveler information platforms such as Waze and Google maps, to integrate into their own services. For example, the American Truck Parking website pulls the dynamic truck parking availability data from the MAASTO TPAS programs.

3.1.1.2 Medium to Long-term Steps
Over the mid-term (next 3-10 years) TPAS should be deployed at the top priority areas or corridors.

Over the long-term, a full statewide TPAS should be deployed. The cost will vary depending on the number of locations where it is deployed as well as the number of spaces and type of sensors used at each location.

Technology solutions may be more effective when deployed at a regional or multi-State level, especially applicable for TPAS. Truck drivers benefit from a single, national source for locating available parking, and TxDOT has an opportunity to be at the forefront of implementing one by promoting and supporting a system that can be connected to other regional systems.

3.1.1.3 Summary Analysis
Planning level cost estimates for the truck detection portion of a TPAS range from $50,000 - $100,000 for most SRAs but can go much higher depending on the inventory at the location and the specific detection technology deployed. Dynamic message signs cost approximately $55,000 per sign. The cost of constructing TPAS at an assumed 50 priority locations could vary by as much as $2.5 million – $7.5 million depending on the number of spaces and type of sensors.

While significant federal grant funding is available (especially through the Advanced Transportation and Congestion Management Technologies Deployment Program), TxDOT resources including matching funds for any grant applications and staff/consultant time to prioritize locations for expansion will be required.

Most work should be done within TxDOT by staff/consultant support with few regulatory hurdles as TPAS is already being deployed in the state. If Texas decides to expand beyond
publicly owned truck parking locations, then additional regulatory steps will be necessary to define how privately owned truck parking locations are included in the system.

3.1.1.3.1 Land Use and Zoning
Impacts are negligible.

3.1.1.3.2 Community Integration
Impacts are negligible.

3.1.1.3.3 Safety
TPAS systems improve the utilization of authorized truck parking locations, thereby reducing the number of trucks parking in unsafe, unauthorized areas.

3.1.1.3.4 Economic Impacts
Helping drivers find available truck parking options reduces the amount of time they waste looking for parking, thereby making trucking more competitive in Texas, reducing the cost of shipping freight, and improving the State’s ability to attract and retain businesses. It will also help reduce the number of trucks parked in unauthorized locations, reducing associated maintenance and safety-related costs.

3.1.1.3.5 Asset Optimization
TPAS improves utilization of existing facilities—optimizing existing assets and reducing the number of new assets that would need to be added to the State’s inventory.

3.1.2 Technology Action 2: The State Should Install Static Signs or Use Existing ITS Signs Indicating Upcoming Locations for Truck Parking Where Needed
TxDOT should install low cost, static signs indicating the exit numbers for upcoming SRAs and truck parking areas, picnic areas and other parking areas with truck parking. The signs should also note the distance to the next public truck parking location. The signs will help truck drivers understand their upcoming parking options and therefore plan their stops to avoid unauthorized parking.

3.1.2.1 Short-term Steps

3.1.2.1.1 Identify Truck Parking Facilities in Need of Signage
Data from this study indicate that there are several publicly owned truck parking locations that are not regularly reaching capacity. Stakeholders identified that in some locations, the physical setting of the truck parking location may make it difficult for drivers not familiar with the route to know parking is available (e.g., the site is set back off the highway, has a long entrance ramp, or it isn’t clear if truck parking is available—as is the case at most TICs). The first phase of this technology program is to complete the site feasibility analysis described above as part of the infrastructure/capacity section. This will identify locations where additional information sharing would help increase utilization at a location.
3.1.2.1.2 **Prioritize recommended locations for static signs across the state**
These sites will need to be prioritized based on capacity, available parking not being utilized, phasing of other projects in the areas, or other criteria developed during the site feasibility review.

3.1.2.1.3 **Install pilot static signs and conduct pilot ITS messaging**
A handful of these small static signs should be deployed as a pilot project to gage their effectiveness and determine whether additional signs for other sites should be deployed. The signs could be similar to the D9-16T sign shown in Exhibit 10.8

*Exhibit 10: D9-16T Truck Parking Sign*

![D9-16T Truck Parking Sign](https://ftp.dot.state.tx.us/pub/txdot-info/trf/shsd/2012/complete_060512.pdf)

3.1.2.2 **Medium to Long-Term Steps**
If the pilot test is successful, additional signs and messaging should be placed where needed, focusing on truck parking areas that are less visible from the road or there is less certainty about the presence of truck parking. Implementing this recommendation could be an interim step to increase knowledge of truck parking locations in the state until TPAS can be deployed.

3.1.2.3 **Summary Analysis**
This recommendation can be undertaken by TxDOT and does not require participation from other agencies. The cost to deploy a sign is approximately $1,1009 and funding should be included as part of TxDOT’s larger sign deployment and maintenance efforts. Alternatively, if suitable locations are identified as part of an early TPAS expansion effort, larger signs could be deployed based on designs developed for the I-10 TPAS. This is a riskier approach as truck parking inventory could change between the sign being deployed and the real-time information being collected and available for display.

As TxDOT already has a sign available to indicate truck parking, there should be no regulatory issues involved in this deployment.

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9 Cost estimate per TxDOT.
3.1.2.3.1 Land Use and Zoning
Impacts are negligible.

3.1.2.3.2 Community Integration
Impacts are negligible.

3.1.2.3.3 Safety
Static signs should improve the utilization of authorized truck parking locations, thereby reducing the number of trucks parking in unsafe, unauthorized areas.

3.1.2.3.4 Economic Impacts
Helping drivers find available truck parking options reduces the amount of time they waste looking for parking, thereby making trucking more competitive in Texas, potentially reducing the cost of shipping freight, and improving the State’s ability to attract and retain businesses. It will also help reduce the number of trucks parked in unauthorized locations, reducing associated maintenance and safety-related costs.

3.1.2.3.5 Asset Optimization
Static signs improve utilization of existing facilities—optimizing existing assets and reducing the number of new assets that would need to be added to the State’s inventory.

3.2 Programs
This document includes five programmatic recommendations, described in detail in the following section. All of these programs should be initiated within the short-term and most will become ongoing efforts. Exhibit 11 provides a summary of these actions, the steps and timeframe necessary to complete them, and identifies supporting agencies, resources, and potential regulatory challenges.
### Exhibit 11: Summary of Actionable Steps for Advancing Truck Parking Program Strategies

<table>
<thead>
<tr>
<th>Recommended Strategies &amp; Actionable Steps</th>
<th>Timing</th>
<th>Supporting Agencies</th>
<th>Resources</th>
<th>Regulatory Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Programs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Action 1)</strong> Develop a program for on-going parking utilization data at TxDOT SRAs and TICs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Collect car and truck counts as part of feasibility studies</td>
<td>Short</td>
<td>None</td>
<td>No additional costs (included with site assessments)</td>
<td>None</td>
</tr>
<tr>
<td>2. Develop program for ongoing data collection statewide</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td><strong>Action 2)</strong> Prepare Corridor Truck Parking Plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Develop work plan templates for conducting corridor truck parking plans</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>2. Conduct a pilot corridor truck parking plan</td>
<td>Short</td>
<td>Relevant MPOs, municipalities, corridor organizations</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>3. Develop Corridor Truck Parking Plans for all the interstates in the State</td>
<td>Medium</td>
<td>Relevant MPOs, municipalities, corridor organizations</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>4. Develop Corridor Truck Parking Plans for high truck volume, non-interstate corridors in the State</td>
<td>Long</td>
<td>Relevant MPOs, municipalities, corridor organizations</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td><strong>Action 3)</strong> Include driver outreach in “Don’t Mess with Texas” campaign</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Develop partnership with trucking industry associations</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>2. Update website with section devoted to truck drivers</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>3. Develop targeted outreach materials</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>4. Increase number of trash receptacles at truck parking facilities</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>5. Provide information and outreach to truck drivers</td>
<td>Ongoing</td>
<td>Texas Dept. of Motor Vehicles Texas, DPS</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td><strong>Action 4)</strong> Create a public education campaign on the importance of truck parking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Develop key topics/themes for outreach, identify markets and distribution channels</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>Recommended Strategies &amp; Actionable Steps</td>
<td>Timing</td>
<td>Supporting Agencies</td>
<td>Resources</td>
<td>Regulatory Needs</td>
</tr>
<tr>
<td>-------------------------------------------</td>
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<td>------------------</td>
</tr>
<tr>
<td>2. Produce and distribute outreach material for campaign</td>
<td>Ongoing</td>
<td>None</td>
<td>To be determined</td>
<td>TxDOT media policy</td>
</tr>
<tr>
<td><strong>Action 5) Facilitate discussions on developing additional private sector truck parking</strong></td>
<td>Ongoing</td>
<td>City, County, MPO, FHWA</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td><strong>Actions:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Discussion/outreach could include roundtables and interviews with the NATSO and other private truck stop operators, a Request for Information, and continued outreach during <em>Corridor Truck Parking Plan</em> development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.2.1 Program Action 1: The State Should Develop an On-going Data Collection Program for TxDOT SRAs and TICs

Truck utilization data at SRAs and TICs can be used for performance reporting, evaluating the effectiveness of public investments in truck parking, and providing data to FHWA for its periodic Jason’s Law survey. The data can inform future renovation plans for more efficient configuration and utilization of parking areas.

3.2.1.1 Short-term Steps

3.2.1.1.1 Collect car and truck counts as part of feasibility studies

As a short-term step TxDOT should expand a truck and car utilization data collection program. Similar to collecting other traffic data, this would provide more precise information to inform prioritization and recommendations for infrastructure projects. TxDOT maintenance division collects some of this information on a district-by-district basis, but car and truck counts are currently combined and the data are not systematically collected. Initially, TxDOT could begin by collecting data as part of the site feasibility studies at the priority locations identified in the infrastructure/capacity section below. Depending on available resources, counts could be conducted for set amounts of time at the initial priority locations (3-4 weeks for example), then rotated to the next set of priority locations, and so forth. Although the time of the counts will vary between locations, this data will help validate the utilization estimates developed in this study.

Technology to collect this data may vary. Traffic counting tubes may be possible in locations where truck and car traffic are separated and have distinct ingress/egress points. In other locations, especially those where more permanent technology may be considered, a closed-circuit television camera and staff time to check utilization at set points each day may be a valid approach.

Counts should be collected for both for truck and car utilization. Understanding car utilization may help identify locations where car parking areas can be converted to truck parking, or areas where trucks could park during off-hours when car use is low. Either option would help increase truck parking inventory while managing costs.

3.2.1.1.2 Develop program for ongoing data collection statewide

Over time, this program should become more formal and be designed to collect ongoing car and truck utilization data. TPAS data could useful for collecting truck utilization data at those facilities outfitted with TPAS, however car parking data will also be needed to understand the appropriate balance between car and truck parking spaces as described above.

3.2.1.2 Summary Analysis

TxDOT will lead the data collection program and should not require participation from partners outside of the agency. Resources will come from TxDOT staff or through consultant efforts (either as part of work on the TPAS or through existing traffic counting projects). As
this work will occur in existing TxDOT right of way, there are no anticipated regulatory concerns.

3.2.1.2.1 Land Use and Zoning
Impacts are negligible.

3.2.1.2.2 Community Integration
Impacts are negligible.

3.2.1.2.3 Safety
No direct safety benefits are anticipated, however better data enables TxDOT to make better decisions that lead to improved safety.

3.2.1.2.4 Economic Impacts
Better data enables TxDOT to make better decisions that help drive economic development.

3.2.1.2.5 Asset Optimization
Better data enables TxDOT to make better and more cost-effective decisions regarding apportionment of space at existing facilities.

3.2.2 Program Action 2: The State Should Prepare Corridor Truck Parking Plans
Corridor Truck Parking Plans can support other infrastructure, technology and program recommendations by providing utilization data collection, right of way inventories and unauthorized parking locations. The State should undertake the corridor truck parking plans for the highest need corridors in the near future. The plans can be conducted as stand-alone efforts or as part of a larger corridor planning effort.

3.2.2.1 Short-term Steps

3.2.2.1.1 Develop work plan templates for conducting truck parking plans
A workplan template for how to conduct a corridor truck parking plan is needed to ensure consistency and appropriate use of data throughout the State.

3.2.2.1.2 Conduct a pilot corridor truck parking plan
TxDOT should undertake a pilot effort to develop a corridor truck parking plan on a high need corridor.

3.2.2.1.3 Develop Corridor Truck Parking Plans for all the interstates in the State
Additional truck parking plans should be developed for key freight corridors starting with the core Interstate system (I-20, I-30, I-35, and I-45 have the highest capacity needs based on results from this study). Additional data from these corridor plans can also serve to help prioritize TPAS deployments.
3.2.2.2 *Medium to Long-term Steps*

As a mid-term action, Corridor Truck Parking Plans should be developed for non-interstate corridors on the THFN starting with the corridors with the highest truck volumes.

3.2.2.3 *Summary Analysis*

TxDOT can complete this task internally although coordination with local municipalities, MPOs, or corridor organizations such as My35\(^{10}\) along the route will help TxDOT build partnerships and strengthen any recommendations that come from the plans. This project can be completed using TxDOT staff and/or consultant resources and there are no regulatory concerns.

3.2.2.3.1 *Land Use and Zoning*

Local land use and zoning data will be collected during the preparation of the Corridor Truck Parking Plans, ensuring the corridor specific recommendations are consistent with local land use and zoning.

3.2.2.3.2 *Community Integration*

Local community outreach will be needed to ensure the corridor specific recommendations are supported by and integrated with the local communities.

3.2.2.3.3 *Safety*

Corridor specific crash data will be needed to ensure the corridor specific recommendations improve safety within the corridor.

3.2.2.3.4 *Economic Impacts*

Corridor specific economic development goals and data will be needed to ensure the corridor specific recommendations provide economic benefits to the local communities.

3.2.2.3.5 *Asset Optimization*

Corridor Truck Parking Plans will provide detailed and focused recommendations that optimize existing assets.

3.2.3 *Program Action 3: The State Should Include Truck Driver Outreach in the “Don’t Mess with Texas” Campaign*

Incorporating outreach with the trucking industry through the “Don’t Mess with Texas” anti-litter campaign may encourage drivers to stop littering and mitigate some of the public resistance to truck parking and reduce the cost of operating truck parking facilities.

\(^{10}\) [http://www.my35.org/](http://www.my35.org/)
3.2.3.1 Short-term Steps

3.2.3.1.1 Develop partnerships with trucking industry associations
The State should establish a working group to develop a plan for tackling this issue with the Texas Motor Carrier Associations, Owner-Operator Independent Drivers Association, Women in Trucking and other relevant stakeholder groups.

3.2.3.1.2 Update the campaign website with a section devoted to truck drivers
The existing “Don’t Mess with Texas” website (shown in Exhibit 12) should have a section added that includes specific messaging to truck drivers. That section could also include a way to report when trash receptacles at truck parking locations are full or if more are needed.

Exhibit 12: Don’t Mess with Texas Website

Source: http://www.dontmesswithtexas.org/
3.2.3.1.3 Develop targeted outreach materials
The State should develop targeted promotional goods including in-cab garbage collection bags and branded trash receptacles at truck parking facilities. TxDOT should also emphasize the fines for littering in the public right of way and the potential negative consequences of excessive littering, including the risk of future site closure.

3.2.3.1.4 Increase number of trash receptacles at truck parking facilities
Drivers across the state indicated a need for more trash cans at existing facilities. It was also commonly suggested that trash receptacles that can be reached from inside the cab be placed at the approach to the exit of parking areas.

3.2.3.2 Summary Analysis
TxDOT can lead this recommendation but partnering with the Texas Department of Motor Vehicles and the private sector industry associations are necessary to ensure success. The resources needed to accomplish this recommendation are limited to TxDOT staff time to develop the new section of the “Don’t Mess with Texas” website and any related paper material. However, there may be some increased costs associated with operations and maintenance (O&M) of the truck parking locations—if drivers report that trash receptacles are full but they are not emptied in a timely manner, then drivers may ignore this messaging.

Since this program is based on education and public outreach, there are no regulatory concerns anticipated.

3.2.3.2.1 Land Use and Zoning
Impacts are negligible.

3.2.3.2.2 Community Integration
Litter at some public facilities has been reported to blow into nearby neighborhoods. Maintaining clean facilities will improve community relations and help garner support for development of future facilities.

3.2.3.2.3 Safety
Impacts are negligible.

3.2.3.2.4 Economic Impacts
Clean facilities improve visitor experience in the State and help promote tourism.

3.2.3.2.5 Asset Optimization
Some public facilities have been closed due to unsanitary conditions. Keeping them clean will optimize existing assets.

3.2.4 Program Action 4: The State Should Create a Public Education Campaign to Inform the Public on the Importance of Truck Parking
TxDOT and its partners need to inform the public of the important role truck parking plays in the State’s economy and our everyday life and present strategies for mitigating any negative
community impacts. TxDOT can develop a public information campaign and provide resources to local communities.

3.2.4.1 Short-term Steps
The first action needed is to develop key topics and themes for outreach, and public education materials that convey the appropriate messages. The State should develop specific target markets and distribution channels and materials.

3.2.4.2 Ongoing Steps
Once the plan is in place, marketing materials can be developed and distributed.

3.2.4.3 Summary Analysis
TxDOT can complete this recommendation using TxDOT staff time and/or consultant support. This approach will require significant media development and direct outreach so TxDOT media policy regulations will need to be followed.

3.2.4.3.1 Land Use and Zoning
Impacts are negligible.

3.2.4.3.2 Community Integration
One of the largest challenges private truck-parking operators face when trying to expand or build new inventory is opposition from residents who don’t want truck parking near them. In tandem with the above message that drivers need to behave better, TxDOT and its partners can help change the public perception by explaining the need for truck parking and examine how the impacts (noise, light pollution, traffic, etc.) can be minimized.

3.2.4.3.3 Safety
Impacts are negligible.

3.2.4.3.4 Economic Impacts
Truck drivers work on tight schedules and low margins. They are often not in control of their own schedules, subject to the whims of shippers and receivers and every minute spent looking for a parking space or stopping before they need to is time they can’t spend on the road, making money, and impacting shipping rates in the region.

Truck drivers are the backbone of our economy. Most citizens do not have a good grasp of the role trucks play in their daily lives and how consumer choices drive the need for truck trips, and thus truck parking. TxDOT can promote the economic and job benefits that are associated with providing truck parking (especially if developed by the private sector).

3.2.4.3.5 Asset Optimization
Impacts are negligible.
3.2.5 Program Action 5: The State Should Facilitate Discussions for Private Truck Stop Development or Expansion

Publicly owned truck parking spaces account for less than 10% of the total capacity in the State. Adding additional publicly owned truck parking is necessary, but not sufficient, to solve the truck parking problem. The private sector is and will need to continue to build more truck parking capacity in the state, and TxDOT can play a role by better understanding what support they can offer the private sector—whether outreach to communities to help reduce opposition to truck stops, working with truck stop operators to include community-friendly components such as public meeting space or other community assets, or help with permitting needs.

3.2.5.1 Ongoing Steps

The outreach conducted as part of this statewide study is a solid foundation to build upon relationships with private-sector stakeholders. TxDOT should continue to build those relationships through roundtables and interviews with the NATSO, private truck stop operators who have facilities or may be looking to build in Texas, and public sector officials to identify ways TxDOT can support development of new or expanded privately owned truck parking.

The corridor truck parking plans are a logical way to begin these additional conversations and can include city, county, MPO, and federal partners for support during plan development.

3.2.5.2 Summary Analysis

TxDOT staff and/or consultant support is necessary to complete this recommendation. There are no regulatory concerns with continuing outreach and facilitating conversations between TxDOT, other public sector stakeholders and the private sector. Solutions that evolve from those discussions may need to be vetted to ensure that all private truck stop operators are treated fairly.

3.2.5.2.1 Land Use and Zoning

By facilitating discussions between private truck stop operators and local permitting agencies early in the development process, TxDOT can encourage appropriate land use and zoning planning, and help truck stop operators locate new facilities in appropriate areas.

3.2.5.2.2 Community Integration

Early discussions between TxDOT, local municipalities, and private truck stop operators will result in new facilities that are better integrated into the community.

3.2.5.2.3 Safety

Additional truck parking capacity, especially at full-service truck stops where drivers prefer to park, will provide truck drivers safe places to park.
3.2.5.2.4 Economic Impacts
Full-service truck stops contribute to the economy by employing local residents and contributing to the tax base through the sales of fuel, services, and goods.

3.2.5.2.5 Asset Optimization
Increasing truck parking capacity through private truck stop operators reduces the need for additional public facilities.

3.3 TxDOT Led Policy, Coordination and Support
There are six recommendations identified under Policy/Coordination/Support where TxDOT should serve as the lead agency. Exhibit 13 provides a summary of these actions, the steps and timeframe necessary to complete them, and identifies supporting agencies, resources, and any regulatory challenges. Details about each recommendation and next steps are provided in the following section.
**Exhibit 13: Actionable Steps for Advancing the TxDOT Led Truck Parking Policy/Coordination and Support Strategies**

<table>
<thead>
<tr>
<th>Policy/Coordination/Outreach</th>
<th>Timing</th>
<th>Supporting Agencies</th>
<th>Resources</th>
<th>Regulatory Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TxDOT Direct Action</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Action 1</strong></td>
<td>Develop guidelines for integrating truck parking into the TxDOT project development process</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Research and document the steps for TxDOT project development process</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td>2.</td>
<td>Work with TxDOT Districts and Divisions, as well as the Texas Freight Advisory Committee (TxFAC), to develop guidelines for integrating truck parking into the project development process.</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td><strong>Action 2</strong></td>
<td>Consider truck parking needs prior to purchase or sale of right of way</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Integrate truck parking into the guidelines for acquiring or disposing of right of way</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td>2.</td>
<td>Develop the characteristics of desirable parcels (size, location, truck parking demand, proximity to other parking locations, etc.)</td>
<td>Short</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td><strong>Action 3</strong></td>
<td>Develop guidelines for funding truck parking solutions</td>
<td>Ongoing</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Develop a guidebook for financing truck parking solutions in Texas</td>
<td>Ongoing</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td><strong>Action 4</strong></td>
<td>Allow truck parking in auto-designated areas in existing TxDOT facilities during off-hours</td>
<td>Short</td>
<td>None</td>
<td>No additional costs (included with site assessments)</td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Collect car and truck utilization data (see Program above)</td>
<td>Short</td>
<td>None</td>
<td>No additional costs (included with site assessments)</td>
</tr>
<tr>
<td>2.</td>
<td>Conduct site reviews at locations with low car utilization to confirm there are no infrastructure challenges that would restrict truck parking in car areas</td>
<td>Short</td>
<td>None</td>
<td>No additional costs (included with site assessments)</td>
</tr>
<tr>
<td>3.</td>
<td>Deploy any necessary signage</td>
<td>Medium</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td><strong>Action 5</strong></td>
<td>Integrate truck parking into the Strategic Highway Safety Plan (SHSP)</td>
<td>Ongoing</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Consider including commercial vehicles as an emphasis area in future SHSP updates</td>
<td>Ongoing</td>
<td>None</td>
<td>TxDOT staff/consultant time</td>
</tr>
<tr>
<td><strong>Action 6</strong></td>
<td>Establish minimum required amenities at publicly owned truck parking facilities</td>
<td>Short</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
</tbody>
</table>
3.3.1 Policy Action 1: The State Should Develop Guidelines for Integrating Truck Parking into TxDOT Project Development Guidelines

Coordination and communication between TxDOT departments are critical to ensuring that truck parking needs in specific, and freight needs in general, are identified and considered from the earliest possible stages of project development.

3.3.1.1 Short-term Steps

3.3.1.1.1 Document a process for how truck parking gets integrated in the project development process

The TxDOT Project Development Process Manual provides guidance to districts, divisions, and consultants on the process for planning, developing, and designing a project. Six major steps are discussed in this manual: planning and programming, preliminary design, environmental, right of way and utilities, plans, specifications, and estimate (PS&E) development, and letting. TxDOT should evaluate each of these major steps for opportunities to incorporate truck parking and freight considerations in general.

3.3.1.1.2 Work with TxDOT Districts and Divisions, as well as the TxFAC to develop guidelines for integrating truck parking into the project development process.

The TxDOT Project Development Process Manual provides guidance to districts, divisions, and consultants on the process for planning, developing, and designing a project. TxDOT should evaluate each of the major steps in the process for opportunities to incorporate truck parking and freight considerations in general.

3.3.1.2 Summary Analysis

TxDOT can complete this recommendation utilizing staff time and consultant support. There are no regulatory barriers for this recommendation.

3.3.1.2.1 Land Use and Zoning

The project development guidelines will be consistent with local land use and zoning.

3.3.1.2.2 Community Integration

The project development guidelines should include local outreach to ensure full integration with the community.

3.3.1.2.3 Safety

Any action that promotes additional truck parking capacity will improve safety.

3.3.1.2.4 Economic Impacts

By providing more and improved truck parking options, these strategies will make trucking more competitive in Texas, reducing the cost of shipping freight and improving the State’s ability to attract and retain businesses. It will also help reduce the number of trucks parked in unauthorized locations, reducing associated maintenance and safety-related costs.
3.3.1.2.5 Asset Optimization
These strategies are intended to maximize assets already owned by TxDOT. Internal coordination between TxDOT departments would be required to identify candidate sites and ensure that truck parking needs are considered before a property is closed or offered for sale.

3.3.2 Policy Action 2: The State Should Consider Truck Parking Needs Prior to Purchase or Sale of Right of Way
As TxDOT continues to purchase new right of way, truck parking needs should be considered when expanding existing highways on the THFN or developing new corridors. In addition, prior to the sale of any TxDOT right of way, the location should be checked against truck parking high-needs areas to ensure that potential expansion or new development opportunities are not missed.

3.3.2.1 Short-term Steps

3.3.2.1.1 Integrate truck parking into the guidelines for acquiring or disposing of right of way
The TxDOT Right of Way Division is responsible for the acquisition and disposition of right of way within the agency. The Right of Way Division also publishes guidance for local governments in its Real Estate Acquisition Guide for Local Public Agencies and its Local Government Projects Policy Manual. Procedures within the Division and common practices at local partners should be evaluated to identify steps that could incorporate truck parking considerations.

3.3.2.1.2 Develop the characteristics of desirable parcels
TxDOT should establish characteristics of parcels with potential to alleviate truck parking needs. Defining these attributes is the first step in developing a process for ongoing review of parcels for truck parking suitability prior to acquisition or disposal of right of way. Parcel size, nearby truck parking demand or need, highway access, and other factors could be considered.

3.3.2.2 Summary Analysis
TxDOT can execute this recommendation utilizing staff resources and consultant support. There are no regulatory barriers anticipated in pursuing this recommendation.

3.3.2.2.1 Land Use and Zoning
New right-of-way acquisitions will be consistent with local land use and zoning.

3.3.2.2.2 Community Integration
New right-of-way acquisitions will be integrated with the local community.

3.3.2.2.3 Safety
Any action that promotes additional truck parking capacity will improve safety.
3.3.2.4 Economic Impacts
This strategy will help realize the economic benefits associated with the expansion of existing or development of new truck parking by preserving existing right of way or ensuring that truck parking needs are considered prior to purchase of new right of way.

3.3.2.5 Asset Optimization
By preserving existing right of way and considering truck parking prior to purchase of new right of way, this recommendation will allow TxDOT to utilize its existing assets in a more strategic manner and consider and incorporate multiple possible uses for new right of way.

3.3.3 Policy Action 3: The State Should Develop Guidelines for Funding Truck Parking Solutions
As discussed in Section 4.0 of this memo, there are a number of potential funding sources available for truck parking projects, though many have location requirements or only fund specific types of deployment (such as technology features). Other sources, specifically grants, are competitive and funding is not assured from year to year.

3.3.3.1 Short-term Steps
TxDOT should develop a guidebook for financing truck parking solutions in Texas through research and continued internal discussions within TxDOT to identify consistent funding areas that can be used for truck parking. TxDOT could seek to set aside a certain amount of money from the National Highway Freight Program, various safety programs, or environmental or congestion management funds. In addition, TxDOT should track current and any proposed legislation at the national level to identify how funding streams may change in the future. One current example is a bill in the U.S. House called the “Truck Parking Safety Improvement Act” which would call for $755 million for truck parking over the next five years, with 75% dedicated to construction activities. Funds would be allocated from various existing transportation sources including highway safety improvements, the national freight highway freight programs, and surface transportation block grants.11

3.3.3.2 Summary Analysis
TxDOT can accomplish this recommendation using staff resources or consultants and there are no regulatory concerns noted other than ensuring that identified funding sources can be used for truck parking purposes following established criteria and guidelines for those funds.

3.3.3.2.1 Land Use and Zoning
Impacts are negligible.

11 https://www.overdriveonline.com/news-roundup-march-10-house-bill-looks-to-add-truck-parking-capacity/?utm_source=daily&utm_medium=email&utm_content=03-10-2020&utm_campaign=Overdrive&just_id=a4950556c9cc9077d449ee5c3ab097dc3ec60ffa&oly_enc_id=1906C6517589F0V
3.3.3.2.2 Community Integration
Impacts are negligible.

3.3.3.2.3 Safety
This strategy supports all other strategies that promote additional truck parking capacity and their associated safety benefits.

3.3.3.2.4 Economic Impacts
This strategy supports all other strategies that promote additional truck parking capacity and their associated economic benefits.

3.3.3.2.5 Asset Optimization
This strategy supports all other strategies that promote additional truck parking capacity and their associated asset optimization benefits.

3.3.4 Policy Action 4: The State Should Allow Truck Parking in Auto-Designated Areas in Existing TxDOT Facilities During Off-Hours
The State should conduct feasibility studies on allowing trucks to utilize some of the space reserved for cars during overnight hours. Driver input indicated that some drivers already informally using this space when there is no available truck parking and they are out of HOS, indicating a demand for additional inventory at many locations.

3.3.4.1 Short-term Steps

3.3.4.1.1 Collect car and truck utilization data
The first step in deploying this program is completing the truck and car utilization counts discussed in Section 3.2.1 above and incorporate any existing data on car utilization that the safety rest areas may already be collecting (customer surveys, interviews with staff, etc.).

3.3.4.1.2 Conduct site reviews
The State should conduct site reviews at locations with low car utilization to confirm there are no infrastructure challenges that would restrict truck parking in car areas.

3.3.4.2 Medium to Long-term Steps
In the mid-term, the results of the site analysis would determine the next steps. If no impediments are discovered, new signs could be deployed or existing signs (see Exhibit 14) could be modified to indicate that trucks are allowed to park in the auto-oriented areas between certain hours. If locations would require modifications, the projects should be added to and considered against other infrastructure/capacity upgrade and enhancement projects.
3.3.4.3 Summary Analysis

TxDOT can complete this recommendation on its own with limited need for support from other agencies. The main resources required will be staff or consultant support for the truck and car utilization counts and the site feasibility reviews at potential locations. Low cost signage will be needed at parking facilities to indicate the hours when trucks are allowed to park in car spaces, though costs to install signs at relevant locations should be minimal.

The main regulatory concern, raised during outreach to TxDOT’s District Engineers, was related to a reluctance in asking drivers to move if they are parking outside of the time limits shown for an auto-oriented area. While this is a risk, TxDOT has the option of ending this program and returning to the status quo. It is hoped that most truck drivers would respect this attempt by TxDOT to increase their parking options and follow the rules of such a program.

3.3.4.3.1 Land Use and Zoning
Impacts are negligible.

3.3.4.3.2 Community Integration
Impacts are negligible.

3.3.4.3.3 Safety
Any action that promotes additional truck parking capacity will improve safety.
3.3.4.3.4 Economic Impacts
Any action that promotes additional truck parking capacity will have associated economic benefits.

3.3.4.3.5 Asset Optimization
This strategy promotes better parking utilization of existing facilities, maximizing public assets.

3.3.5 Policy Action 5: The State Should Integrate Truck Parking into the Strategic Highway Safety Plan
The State should consider commercial motor vehicles related crashes as a potential area of focus for the SHSP to identify and develop additional mitigation strategies. In addition to improving safety, this may also open up safety funding streams for these strategies.

The lack of truck parking in Texas is a safety concern for all drivers. As discussed in detail in prior memos, 2,315 crashes in Texas between 2013-2017 involved a parked truck, resulting in 138 fatalities and nearly 1,000 injuries. Crashes involving fatigued truck drivers are harder to identify in the data due to the large number of crash reports that lack contributing factor descriptions. However, in the top 20 corridors with the most fatigue-related crashes between 2013-2017, nearly 550 crashes including fatigued truck drivers were reported resulting in more than 40 fatalities.

3.3.5.1 Ongoing Steps
Texas’ current Strategic Highway Safety Plan shown in Exhibit 15 was completed in 2017 and does not specifically identify commercial vehicle related crashes as an emphasis area. Future updates, required at minimum every five years, should seek to include commercial vehicles as an emphasis area, or include crashes with parked trucks as a special topic under the existing “Roadway and Lane Departures” section.12 This approach would help highlight the issues caused by a lack of truck parking and would make projects that reduce these types of crashes (such as constructing more truck parking) eligible for safety-related funds.

12 See: https://safety.fhwa.dot.gov/legislationandpolicy/fast/shsp_guidance.cfm
3.3.5.2 Summary Analysis
This policy can be completed by TxDOT utilizing resources already devoted to safety planning in the State. There are no regulatory concerns as long as the SHSP conforms to existing requirements.

3.3.5.2.1 Land Use and Zoning
Impacts are negligible.

3.3.5.2.2 Community Integration
Impacts are negligible.

3.3.5.2.3 Safety
Adding a focus on truck parking-related safety issues will improve both truck and other traveler safety. This policy is focused on identifying these problem areas, developing solutions, and identifying funding.
3.3.5.2.4 Economic Impacts
Impacts are negligible.

3.3.5.2.5 Asset Optimization
Impacts are negligible.

3.3.6 Policy Action 6: The State Should Establish Minimum Required Amenities at Publicly Owned Truck Parking Facilities
The State should include the following basic amenities in all new or renovated truck parking: paved, angled parking and curb space for oversize/overweight vehicles; lighting; flush toilets; trash containers; and enhanced vending machines which could include more nutritious food and drink options, toiletries, small electronics, or medical needs. Wi-Fi should be considered at all rural locations where cellular phone coverage may not be reliable. In some locations additional amenities should be considered, such as a driver lounge, emergency phone/notification system, green space, and security fencing.

3.3.6.1 Short-term Steps
This policy should be considered during the site feasibility studies conducted at high priority truck parking locations and opportunity sites, and deployed to the fullest extent possible as part of future projects.

3.3.6.2 Summary Analysis
TxDOT can complete this recommendation on its own with limited support from other agencies. Required resources include staff or consultant support for the site feasibility reviews at potential locations followed by capital and O&M costs to add flush toilets, vending machines, lighting, etc. at facilities that currently do not have them. Costs for upgrades only would potentially be less than $1 million per site, and in some cases far less if only additional signage is needed. However, if expansions are also needed in order to accommodate new buildings and angled parking, costs could range from $3 million – $5 million, depending on the improvements added and the specific locations chosen for deployment.

There are no regulatory barriers to pursuing this recommendation.

3.3.6.2.1 Land Use and Zoning
Impacts are negligible.

3.3.6.2.2 Community Integration
Litter at some public facilities has been reported to blow into nearby neighborhoods. Providing minimal amenities, such as trash receptacles, will improve community relations and help garner support for development of future facilities.

3.3.6.2.3 Safety
This strategy seeks to develop facilities that truck drivers will prefer over parking in unauthorized areas, thereby improving safety.
3.3.6.2.4 Economic Impacts
By providing improved truck parking options, this strategy will make trucking more competitive in Texas, reducing the cost of shipping freight and improving the State’s ability to attract and retain businesses. It will also help reduce the number of trucks parked in unauthorized locations, reducing associated maintenance and safety-related costs.

3.3.6.2.5 Asset Optimization
This strategy seeks to improve existing assets and truck parking utilization—making better use of existing assets.

3.4 Policy, Coordination and Outreach – TxDOT Support
There are five recommended strategies that TxDOT should participate in and support but will not directly lead. Exhibit 16 provides a summary of these actions, the steps and timeframe necessary to complete them, and identifies supporting agencies, resources, and any regulatory challenges. Details about each recommendation are provided in the following section.
### Exhibit 16: Summary of Actionable Steps for Advancing TxDOT Supported Policy, Coordination and Outreach Truck Parking Strategies

#### Recommended Strategies & Actionable Steps

<table>
<thead>
<tr>
<th>Policy/Coordination/Outreach</th>
<th>Timing</th>
<th>Supporting Agencies</th>
<th>Resources</th>
<th>Regulatory Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TxDOT Support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Action 1)</strong> Advocate for truck parking at non-TxDOT public facilities (commuter lots, bus depots, maintenance lots) during off-peak hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Share results of the truck parking study with MPOs and local municipalities</td>
<td>Short</td>
<td>Relevant MPOs, local municipalities</td>
<td>TxDOT staff</td>
<td>None</td>
</tr>
<tr>
<td>2. As part of the Corridor Truck Parking Plans, include an inventory of key facilities that could be utilized for truck parking during off-hours</td>
<td>Short</td>
<td>Relevant MPOs, local municipalities</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>3. Conduct site feasibility studies on high potential locations</td>
<td>Medium</td>
<td>Relevant MPOs, local municipalities</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td><strong>Action 2)</strong> Encourage shippers/receivers to provide on-site truck parking or contribute to a common staging lot</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actions:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Create guidance for next generation logistics parks that include integrated and full-service truck parking facilities</td>
<td>Short</td>
<td>Industrial and economic development agencies</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>2. Develop benefit-cost analysis and case studies to highlight competitive reasons to include truck parking in industrial/commercial development</td>
<td>Short</td>
<td>Industrial and economic development agencies</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>3. Develop outreach material for local municipalities and permitting agencies</td>
<td>Short</td>
<td>Industrial developers, local municipalities</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td><strong>Action 3)</strong> Create guidance to help municipalities include truck parking demand as part of Traffic Impact Analyses for new developments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Conduct a research project to develop methodologies for estimating demand for truck parking, staging, and queuing at shippers and receivers.</td>
<td>Short</td>
<td>Industrial developers, local municipalities</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>2. Develop guidance to local municipalities on how that information can be used as part of a Traffic Impact Analysis for new construction</td>
<td>Short</td>
<td>Industrial developers, local municipalities</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td><strong>Action 4)</strong> Encourage commercial/industrial property owners to provide truck parking on unused portions of property</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actions:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Meet with local municipalities and industrial property owners to evaluate the opportunities and constraints of this policy</td>
<td>Short</td>
<td>Local municipalities, industrial property owners</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
</tbody>
</table>
### Recommended Strategies & Actionable Steps

<table>
<thead>
<tr>
<th></th>
<th>Recommended Strategies &amp; Actionable Steps</th>
<th>Timing</th>
<th>Supporting Agencies</th>
<th>Resources</th>
<th>Regulatory Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Develop guidelines to assist interested local municipalities deploy this policy</td>
<td>Short</td>
<td>Local municipalities, industrial property owners, technology companies</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>3.</td>
<td>Develop an outreach campaign to industrial property owners that local municipalities could use, or that could be integrated into TxDOT’s public education campaign</td>
<td>Short</td>
<td>Local municipalities, industrial property owners</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>4.</td>
<td>Action 5) Support development of a mobile application (app) that connects property owners desiring to rent unused space, to truck drivers needing parking</td>
<td></td>
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<tr>
<td></td>
<td>Actions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Research and share related industry best practices and other state DOT activities</td>
<td>Short</td>
<td>Technology companies</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>2. Integrate into the policy: <em>Encourage commercial/industrial property owners to provide truck parking on unused portions of property</em></td>
<td>Short</td>
<td>Local municipalities</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
</tbody>
</table>
3.4.1 Policy Support Action 1: The State Should Advocate for Truck Parking at Non-TxDOT Public Facilities (Commuter Lots, Bus Depots, Maintenance Lots) During Off-Hours

Similar to the policy identified in Section 3.3.4 which would allow trucks to park in auto-oriented sections of rest areas with low car utilization rates during overnight hours, TxDOT should work with partner agencies and municipalities to identify commuter parking lots, bus depots, or other facilities that could support truck parking during off-hours. These facilities are usually located in urban areas where the demand for truck parking is high and have patterns of use that are regular and opposite of the peak demand hours for truck parking.

3.4.1.1 Short-term Steps

3.4.1.1.1 Share results of the truck parking study with MPOs and local municipalities
TxDOT should continue to share results from this statewide truck parking study with MPOs and local municipalities, especially those in areas identified as suffering from the largest truck parking gaps.

3.4.1.1.2 As part of the Corridor Truck Parking plans, include an inventory of key facilities that could be utilized for truck parking during off-hours
As part of the Corridor Truck Parking plans (see Section 2.1.5) and especially in and near large urban areas, an inventory of potential properties that could be used during off-hours as truck parking locations should be developed.

3.4.1.2 Medium to Long-term Steps
In the mid-term TxDOT and its partners should conduct site feasibility studies on high potential locations, similar to studies needed at rest areas with low car utilization prior to allowing trucks to park during off hours.”

3.4.1.3 Summary Analysis
TxDOT can assist partner agencies and municipalities with staff resources and consultant support. There are no anticipated regulatory issues with completing this recommendation.

3.4.1.3.1 Land Use and Zoning
Candidate facilities for this strategy must be located in appropriate land use and zoning areas where overnight truck parking is allowed.

3.4.1.3.2 Community Integration
Candidate facilities for this strategy must have local support.

3.4.1.3.3 Safety
Any action that promotes additional truck parking capacity will improve safety.
### Economic Impacts

Any action that promotes additional truck parking capacity will have associated economic benefits.

### Asset Optimization

This strategy promotes better parking utilization of existing facilities, maximizing public assets.

### Policy Support Action 2: The State Should Encourage Shippers/Receivers to Provide On-Site Truck Parking or Contribute to a Common Staging Lot

Staging parking to serve industrial and commercial shippers/receivers was noted during this study as a key issue. Trucks often arrive early for appointments to ensure they do not miss their delivery window, but most businesses do not allow those trucks to park on property while they wait for their delivery time. These vehicles must find a place to park while waiting for their appointment that is close enough to the facility to not risk congestion or other delays. This type of parking commonly lasts between 1 and 4 hours and is often the cause of trucks parked on streets in and near clusters of businesses.

The private sector should play a role in providing truck parking, particularly shippers/receivers who generate a significant truck parking demand. Requiring shippers/receivers to provide on-site parking or contribute to the cost of a common parking area will help meet the parking demand and spread the costs.

### Short-term Steps

#### Create guidance for next generation logistics parks that include integrated and full-service truck parking facilities

Truck parking and staging facilities near their customers helps truck drivers maximize their HOS, thereby improving efficiency and profitability and prevents unauthorized parking, enhancing the safety of the roadways for the motoring public.

#### Develop benefit-cost analysis and case studies to highlight competitive reasons to include truck parking in industrial/commercial development

TxDOT can develop benefit-cost analysis and case studies that highlight competitive reasons that industrial/warehouse clusters may want to consider providing on-site truck parking or a common staging lot shared between a number of businesses.

As needs and potential costs and benefits are better understood, outreach with stakeholders including industrial developers, local municipalities, and private sector truck parking providers should be conducted to refine industry needs and understand where gaps exist in funding, regulations, or other areas that have historically limited the deployment of this approach.
3.4.2.1.3 Develop outreach material for local municipalities and permitting agencies
While TxDOT has a role to play through research and developing best practices, ultimately local governments regulate development through zoning and subdivision regulations. In nearly all cases these ordinances include general development standards (like for landscaping or parking), and many zoning ordinances also contain use-specific development standards (like for manufacturing operations or car dealerships or drive-through windows). These standards could be amended by the jurisdiction to better accommodate truck parking. For example, the parking requirements could require 1 truck parking space per 20,000 square feet (sf) of Gross Floor Area and could require that it be accessible after hours, maybe just outside of the security gate. Some local ordinances may already require a loading zone or loading space for certain types of development, but they are not typically required to be accessible after hours. In a similar approach, a commercial subdivision could require common truck parking space that is shared among the subdivision’s property owners.

3.4.2.2 Summary Analysis
TxDOT can provide support through research and knowledge sharing, but the adoption of these regulations will ultimately require action by local governments, supported by MPOs, industrial or economic development agencies, and chambers of commerce. TxDOT costs include potential staff and consultant resources to provide support through research and knowledge sharing. Initial development of the policy will not face regulatory issues but there may be changes to zoning, subdivision, or other land use regulations at the local level for individual projects.

3.4.2.2.1 Land Use and Zoning
The focus of this strategy to develop zoning guidance for new industrial, warehouse, and distribution centers that ship and receive large amounts of goods, creating a demand for onsite truck parking. Lack of appropriate zoning requirements has contributed to unauthorized parking near shippers and receivers.

3.4.2.2.2 Community Integration
Development of more appropriate land use and zoning guidance for shippers and receivers will reduce unauthorized parking in and around nearby residential neighborhoods, and better integrate shippers and receivers with the surrounding community.

3.4.2.2.3 Safety
Any action that promotes additional truck parking capacity will improve safety.

3.4.2.2.4 Economic Impacts
Anecdotal evidence indicates that shippers and receivers that provide onsite truck parking are embraced by the trucking industry because they reduce costs associated with lost productivity. These savings may be passed on in the form of reduced shipping rates and/or preferential treatment from trucking companies and drivers.
3.4.2.2.5 Asset Optimization
Encouraging shippers and receivers to provide onsite truck parking negates the need for public agencies to construct and maintain truck parking facilities.

3.4.3 Policy Support Action 3: The State Should Create Guidance to Help Municipalities Include Truck Parking Demand as Part of Traffic Impact Analyses for New Developments
Many local jurisdictions have policies or guidelines in place to evaluate the potential traffic impacts of a proposed development project. State and local agencies should ensure that their policies and guidelines also require that a proposed project evaluate the potential increase in truck parking demand, and possible impacts on road safety and condition if the parking demand is not met. By identifying truck parking needs before a project is built, projects can incorporate design changes or mitigation to address potential impacts and help meet truck parking needs as a matter of course.

3.4.3.1 Short-term Steps
While methodology exists to estimate truck trips generated by new commercial and industrial uses, there is no known way to estimate the demand for truck parking generated by new uses. Under this recommendation, TxDOT should conduct a research project to identify methodologies to estimate the need for truck parking generated by new development and develop guidance to local municipalities on how that information can be used as part of a Traffic Impact Analysis for new construction.

Following the research, TxDOT can help develop guidance to local municipalities on how the information can be used as part of a Traffic Impact Analysis for new construction.

3.4.3.2 Summary Analysis
TxDOT can support action on this recommendation using staff resources and consultant support. There are no regulatory concerns identified for this recommendation.

3.4.3.2.1 Land Use and Zoning
Accurately estimating the demand for onsite truck parking is integral to encouraging shippers and receivers to provide onsite parking.

3.4.3.2.2 Community Integration
This supports the policy of encouraging shippers and receivers to provide onsite parking, which if deployed will reduce unauthorized parking in and around nearby residential neighborhoods, and better integrate shippers and receivers with the surrounding community.

3.4.3.2.3 Safety
Any action that promotes additional truck parking capacity will improve safety.
3.4.3.2.4 Economic Impacts
Anecdotal evidence indicates that shippers and receivers that provide onsite truck parking are embraced by the trucking industry because they reduce costs associated with lost productivity. These savings may be passed on in the form of reduced shipping rates and/or preferential treatment from trucking companies and drivers.

3.4.3.2.5 Asset Optimization
Encouraging shippers and receivers to provide onsite truck parking negates the need for public agencies to construct and maintain truck parking facilities.

3.4.4 Policy Support Action 4: The State Should Encourage Commercial/Industrial Property Owners to Provide Truck Parking on Unused Portions of Property
In industrial areas it is common to find vacant lots and developed sites with excess space, which could be used for truck parking. There is a growing trend for industrial property owners to offer a portion of their property for truck parking, typically on a monthly basis serving owner-operators and small trucking companies. TxDOT could promote or encourage this type of activity throughout the state by bringing together and engaging with property owners, municipalities, economic development agencies, industrial development agencies, and chambers of commerce to highlight the need for and potential economic benefit of this type of truck parking.

3.4.4.1 Short-term Steps

3.4.4.1.1 Meet with local municipalities and industrial property owners to evaluate the opportunities and constraints of this policy
If the property under consideration is abandoned and under the control of a local municipality, the local municipality could consider converting it into truck parking. Alternatively, the municipality may be able to work with private property owners who are not utilizing their land. These approaches might require the following actions by the local municipality:

- Title search of properties for ownership.
- Survey to determine ability to accommodate trucks (wide-turning radii, egress and ingress, etc.).
- Assessment of the impacts on the nearby community (noise, air quality, safety, land values).
- Determining costs of environmental remediation and improvements needed for truck parking.
- Possible changes to local zoning ordinances.
- Funding for land acquisition, environmental remediation, improvements, maintenance.
The Mid-America Freight Coalition conducted a similar study and identified several parcels that could be candidates for truck parking development. The scoring rubric and site criteria are shown in Exhibit 17.

**Exhibit 17: Mid-America Freight Coalition Urban Parking Criteria**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Columbus</th>
<th>Detroit</th>
<th>St. Louis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>21.0 acres</td>
<td>12.15 acres</td>
<td>5.25 acres</td>
</tr>
<tr>
<td>Cost per acre</td>
<td>$8,065</td>
<td>$26,532</td>
<td>$6,495</td>
</tr>
<tr>
<td>Distance to interstate (straight line)</td>
<td>1.2 miles</td>
<td>0.1 miles</td>
<td>1.0 miles</td>
</tr>
<tr>
<td>Distance to city (straight line)</td>
<td>2.6 miles</td>
<td>4.0 miles</td>
<td>5.0 miles</td>
</tr>
<tr>
<td>Surface material</td>
<td>Gravel</td>
<td>Concrete, Pavement</td>
<td>Gravel, Vegetation</td>
</tr>
<tr>
<td>Electric service</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Water/sewer service</td>
<td>No</td>
<td>Yes</td>
<td>Unknown</td>
</tr>
<tr>
<td>Fencing</td>
<td>Complete</td>
<td>Partial</td>
<td>Partial</td>
</tr>
<tr>
<td>Soil contamination</td>
<td>Not likely</td>
<td>Possible</td>
<td>Likely</td>
</tr>
<tr>
<td>Safety</td>
<td>Safer</td>
<td>Safer</td>
<td>Safer</td>
</tr>
<tr>
<td>Social impacts</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
</tr>
</tbody>
</table>


**3.4.4.1.2 Develop guidelines to assist interested local municipalities execute this policy**

Similar to the action step in Section 3.4.3 above that TxDOT develop guidance on incorporating truck parking into traffic impact analysis, TxDOT can use the research completed in the above step to help develop guidelines to identify appropriate property types and share best practices and lessons learned that local municipalities could use to execute this recommendation.

**3.4.4.1.3 Develop an outreach campaign to industrial property owners that local municipalities could use, or that could be integrated into TxDOT’s public education campaign**

In addition, either as part of TxDOT’s larger public education campaign recommended above (see Section 2.4.7) or as a separate approach, TxDOT can help develop an outreach campaign to industry to help explain the statewide impact and need for truck parking solutions, especially those that target staging parking.

**3.4.4.2 Summary Analysis**

TxDOT can complete this recommendation using staff time and/or consultant support with no regulatory hurdles. Future development of identified properties for truck parking use may require permitting and regulatory clearances at the local level.
3.4.4.2.1 Land Use and Zoning
Candidate properties for this strategy must be located in appropriate land use and zoning areas where overnight truck parking is allowed.

3.4.4.2.2 Community Integration
This policy must have local support.

3.4.4.2.3 Safety
Any action that promotes additional truck parking capacity will improve safety.

3.4.4.2.4 Economic Impacts
Any action that promotes additional truck parking capacity will have associated economic benefits. In addition, this provides an additional revenue stream to properties owners with non-productive, available land.

3.4.4.2.5 Asset Optimization
Allowing commercial/industrial property owners to provide truck parking on unused portions of their property adds truck parking capacity and will reduce the need for public agencies to construct and maintain truck parking facilities.

3.4.5 Policy Support Action 5: The State Should Support Development of a Mobile Application (app)
TxDOT should encourage and support private development of a mobile application (app) that will show drivers where public and private urban parking is allowed and any applicable time restrictions. The app could also show availability and/or include a reservation system.

3.4.5.1 Short-term Steps
TxDOT should research and share related industry best practices and other state DOT activities and integrate them into the above policy to encourage commercial/industrial property owners to provide truck parking on unused portions of property (Section 3.4.4.).

3.4.5.2 Summary Analysis
TxDOT staff and consultant resources are the only anticipated costs and there are no regulatory concerns with completing this recommendation.

3.4.5.2.1 Land Use and Zoning
Public and private property owners who may wish to use this type of app to promote parking on their property will need to first ensure their property is located in appropriate land use and zoning areas where overnight truck parking is allowed.

3.4.5.2.2 Community Integration
Public and private property owners who may wish to use this type of app to promote parking on their property will need to first ensure their property is located in appropriate land use and zoning areas where overnight truck parking is allowed to ensure community support and integration.
3.4.5.2.3 Safety
Any action that promotes additional truck parking capacity will improve safety.

3.4.5.2.4 Economic Impacts
Any action that promotes additional truck parking capacity will have associated economic benefits. In addition, this type of app provides an additional revenue stream to properties owners with non-productive, available land.

3.4.5.2.5 Asset Optimization
An app that enables commercial/industrial property owners to provide truck parking on unused portions of their property adds truck parking capacity and will reduce the need for public agencies to construct and maintain truck parking facilities.

3.5 Infrastructure Actions
Actions for advancing the infrastructure recommendations are summarized in Exhibit 18 with the steps and timeframe necessary to complete them, and identifies supporting agencies, resources, and any regulatory challenges.
# Exhibit 18: Infrastructure and Capacity Recommendations and Actionable Steps

## Recommended Strategies & Actionable Steps

<table>
<thead>
<tr>
<th>Infrastructure/Capacity</th>
<th>Timing</th>
<th>Supporting Agencies</th>
<th>Resources</th>
<th>Regulatory Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action 1) Expand and upgrade truck parking at existing TxDOT maintained facilities or within existing TxDOT right of way</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Steps:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Identify and prioritize range of potential sites for feasibility assessment</td>
<td>Complete</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2. Conduct site feasibility assessment and recommendations at 76 priority sites</td>
<td>Short</td>
<td>City, County, MPO, FHWA</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>3. Conduct site feasibility assessment and recommendations at the remaining proposed sites</td>
<td>Short or Medium</td>
<td>City, County, MPO, FHWA</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>4. Prioritize recommended sites for improvement</td>
<td>Short</td>
<td>City, County, MPO, FHWA</td>
<td>TxDOT staff/consultant time</td>
<td>None</td>
</tr>
<tr>
<td>5. Design a pilot project for each of the 3 facility types (SRA/TIC, picnic area/pull-off, new facility)</td>
<td>Short</td>
<td>City, County, MPO, FHWA</td>
<td>$10 million</td>
<td>Environmental reviews, permitting</td>
</tr>
<tr>
<td>6. Design and construct priority projects (assume 20 sites)</td>
<td>Medium</td>
<td>City, County, MPO, FHWA</td>
<td>$80 million</td>
<td>Environmental reviews, permitting</td>
</tr>
<tr>
<td>7. Design and construct balance of projects (assume 120 sites)</td>
<td>Long</td>
<td>City, County, MPO, FHWA</td>
<td>$480 million</td>
<td>Environmental reviews, permitting</td>
</tr>
</tbody>
</table>

| **Action 2) Build dedicated TxDOT maintained truck parking facilities**                  |          |                                      |             |                                                       |
| **Steps:**                                                                              |          |                                      |             |                                                       |
| 1. Identify potential sites and conduct site feasibility assessment and recommendations  | Short    | City, County, MPO, FHWA             | TxDOT staff/consultant time | None |
| 2. Prioritize recommended sites for improvement                                          | Short    | City, County, MPO, FHWA             | TxDOT staff/consultant time | None |
| 3. Design and construct a pilot project for large facility adjacent to an Interstate     | Medium   | City, County, MPO, FHWA             | $10 million | Environmental reviews, Right-of-way, permitting |
| 4. Construct priority projects (assume 4 sites)                                          | Medium   | City, County, MPO, FHWA             | $60 million | Environmental reviews, Right-of-way, permitting |
| 5. Construct balance of projects (assume 15 sites)                                       | Long     | City, County, MPO, FHWA             | $225 million| Environmental reviews, Right-of-way, permitting |
3.5.1 Infrastructure Action 1: The State Should Add Capacity on TxDOT Right of Way by Expanding and Upgrading Truck Parking at Existing Public Facilities; and Build Dedicated Truck Parking Facilities

These strategies utilize existing TxDOT right of way, and in many cases existing built environment such as ramps, access roads, paved parking, structures, utilities, and landscaping to expand and/or upgrade truck parking capacity in Texas. In most cases, it will be advantageous to TxDOT from a time, expense, and regulatory perspective to expand or upgrade existing locations instead of building new, greenfield facilities.

This action would apply to three different categories of projects.

- **Expand and/or upgrade truck parking at SRAs/TICs** – Older rest areas in Texas tend to be smaller, provide only parallel parking for trucks, or a mix of both angled and parallel parking. By changing striping and site flow patterns, there may be potential to add space without expanding beyond the existing site footprint. In locations where demand is high, adding pavement within the existing right of way to further expand inventory should be considered. Enhanced amenities should also be installed at all Safety Rest Areas/Travel Information Centers (SRAs/TICs).
- **Expand and/or upgrade truck parking at picnic areas and pull-offs** – In high need locations, expand and stripe truck parking at picnic and safety pull-off areas, and include minimal amenities (at the least).
- **Repurpose underutilized or closed TxDOT facilities for dedicated truck parking** - Underutilized, closed, or closing TxDOT or Department of Public Safety (DPS) facilities such as rest areas, pull-out areas, maintenance facilities, and weigh stations located in high need areas should be considered for repurposing as a truck-only parking facility. Land at these locations may still be publicly owned and prior investment (grading, entrance/exit ramps, electricity, pavement, etc.) can reduce up-front costs.

3.5.1.1 Proposed Locations for Feasibility Assessments

The criteria used to identify possible locations for improvements associated with this action are summarized in Exhibit 19. Locations for these draft recommendations include the following:

- **Existing Public Facility – Expand or Upgrade**: All authorized truck parking locations with a high capacity need are candidates for expansion, if deemed feasible. Some facilities with medium or low capacity need may be underutilized because they don’t offer the amenities truck drivers need, or have poor layout, lighting, or signage that if improved could attract more drivers to park there and reduce parking in unsafe, unauthorized locations. In some cases, the upgrade will also include an expansion.
- **Opportunity Sites**: These are TxDOT parcels with no truck parking utilization data or capacity need score. They may be car or truck parking facilities that are very small with no services; are closed or closing; or are used for other purposes. Those located
in high and medium priority segments are candidates for expansion, upgrade, or to be repurposed as dedicated truck parking facilities.

Exhibit 20 shows 337 sites identified for expansion and/or upgrade or sites that should be repurposed to dedicated truck parking. Of these 337 sites, 140 are existing public truck parking locations, the remaining 197 are opportunity sites (out of 635 total opportunity sites).

It should be noted that the recommendation is not to expand or upgrade all of the locations identified, rather to consider these locations for expansion or upgrade. A more detailed assessment of each location will be conducted during future project phases to prioritize locations based on site specific conditions and needs.

**Exhibit 19: Criteria for Identifying Improvements for Consideration**

<table>
<thead>
<tr>
<th>Location Specific Capacity Need</th>
<th>Segment Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>High and Medium</td>
<td>Expand or Upgrade</td>
</tr>
<tr>
<td>Low</td>
<td>Expand or Upgrade</td>
</tr>
<tr>
<td>Opportunity Sites</td>
<td>Expand, Upgrade, or Repurpose for Dedicated Truck Parking</td>
</tr>
</tbody>
</table>
Exhibit 20: Proposed Recommendations for Expanding or Upgrading Public Locations

Source: Analysis by Cambridge Systematics.
3.5.1.2 Short-term Steps

3.5.1.2.1 Identify and prioritize a range of potential sites for feasibility assessment
While Exhibit 20 above provides a large list of sites that should be examined for potential upgrade or expansion, the first step is to narrow this list to an initial set of sites for a more detailed site feasibility analysis. Exhibit 21 shows two types of locations that should be initial targets for a more detailed review:

- Locations with high or medium capacity needs\(^{13}\) on high need segments.
- Locations with low utilization or no utilization data (opportunity sites) located on high need segments

These 76 locations should be the first targeted for site feasibility studies and are listed in Appendix A.

3.5.1.2.2 Conduct site feasibility assessment and recommendations at 76 priority sites
The site feasibility analysis is required to better understand local conditions such as presence or lack of utilities, surrounding land use conditions and ownership, exact right of way constraints, actual utilization, and other issues that may make a recommendation unfeasible. For example, a location may be a high capacity need and be located on a high priority segment which would make it a target for expansion. However, if the site feasibility analysis discovers that there are surrounding land uses that make it impossible (or at least highly cost-prohibitive) to expand truck parking, this recommendation may change to upgrade, or prompt the examination of a nearby location or greenfield area for possible expansion or new construction.

The 76 site feasibility assessments shown in Exhibit 21 should be conducted first. Recommendations, conceptual plans, and cost estimates will be needed for each site that is deemed feasible for improvements.

Supporting agencies that may need to be involved in the feasibility assessments would be the local city, county and MPO, as well as FHWA.

\(^{13}\) Based on truck parking utilization analysis at peak hour (1-2 A.M.). High capacity need locations have a utilization rate over 80 percent, medium capacity need locations have a utilization rate between 30 and 80 percent.
Exhibit 21: Locations for Initial Detailed Site Feasibility Study

Source: Analysis by Cambridge Systematics.
3.5.1.2.3 Conduct site feasibility assessment and recommendations at the remaining 261 proposed sites
The balance of the site feasibility assessments may be conducted in the short-term if time and budget allow, and if not can be moved into mid-term steps. A list of these sites is provided in Appendix A.

3.5.1.2.4 Prioritize recommended sites for improvement
With more detailed data about each site including updated truck utilization counts specific recommendations with cost estimates, the sites should be prioritized, funding identified, and the projects included in the State Transportation Improvement Program.

3.5.1.2.5 Design a pilot project for each of the three facility types
To refine the costs and next steps, identify the risks, and demonstrate dedication to constructing projects, a small number of pilot projects should be developed in the short-term—possibly one for each type of improvement. In order to move any of these projects forward to construction, a number of steps will be required.

The specific locations shown below are included in the preliminary list of projects for conducting feasibility assessments but may not be the best candidates for the pilot projects. They are shown here only for illustrating the concept and related planning level actions, schedule and cost estimates. Many of these actions can be accomplished concurrently to compress the overall schedule.

1. **Medina County Safety Rest Area: Example of Expanding and Upgrading an Existing SRA** – Est. $2,420,000
   a. Site survey: 2-3 months
   b. Detailed site design: 8-10 months
   c. Environmental clearance (if necessary): 6-12 months, TCEQ coordination: 3 months
   d. Right of way review: 1-2 months
   e. Right of way purchase (if necessary): 8-12 months
   f. Utilities examination: 4-6 months
   g. Permitting: 8-12 months depending on location
   h. Construction: 8-14 months

2. **Fort Davis Picnic Area: Example of Repurposing an Existing Picnic Area to a Dedicated Truck Parking Facility** – Est. $3,260,000
   a. Site survey: 2-3 months
   b. Detailed site design: 10-12 months
   c. Environmental clearance (if necessary): 6-12 months, Texas Commission on Environmental Quality (TCEQ) coordination: 3 months
   d. Right of way review: 1-2 months
   e. Right of way purchase (if necessary): 8-12 months
   f. Utilities examination: 4-6 months
   g. Permitting: 8-12 months depending on location
   h. Construction: 10-16 months
3. **Hopkins County Safety Rest Area: Example of Repurposing a Closed SRA to a Dedicated Truck Parking Facility – Est. $2,008,000**
   a. Site survey: 2-3 months
   b. Detailed site design: 8-10 months
   c. Environmental clearance (if necessary): 6-12 months, TCEQ coordination: 3 months
   d. Right of way review: 1-2 months
   e. Right of way purchase (if necessary): 8-12 months
   f. Utilities examination: 4-6 months
   g. Permitting: 8-12 months depending on location
   h. Construction: 6-12 months

Conceptual site designs for these three locations are shown in Exhibit 22 through Exhibit 24.
Exhibit 22: Medina County Safety Rest Area: Example of Expanding and Upgrading an Existing SRA

Source: Schematics developed by Atkins in consultation with Cambridge Systematics.
Exhibit 23: Fort Davis Picnic Area: Example of Repurposing an Existing Picnic Area to a Dedicated Truck Parking Facility

Source: Schematics developed by Atkins in consultation with Cambridge Systematics.
Exhibit 24: Hopkins County Safety Rest Area: Example of Repurposing a Closed SRA to a Dedicated Truck Parking Facility

Source: Schematics developed by Atkins in consultation with Cambridge Systematics.
3.5.1.3 Medium to Long-term Steps
The State should address all of the high priority areas by completing a detailed feasibility assessment followed by design and construction of the balance of the priority projects.

3.5.1.4 Summary Analysis
TxDOT should lead deployment of this recommendation and will need to utilize substantial staff and consultant resources to fully complete. Total costs to complete this recommendation will vary widely depending on conditions found during the site feasibility study and the specific action (none, upgrade, expand, expand and upgrade) undertaken at each location.

With an assumption of three pilot projects based on the conceptual designs, 20 additional sites in the mid-term, and another 120 sites over the long-term, the total capital cost estimate for this recommendation is approximately $570 million ($10 million for pilot projects, $80 million for mid-term, $480 million for long-term).

3.5.1.4.1 Land Use and Zoning
Potential land use and zoning impacts are anticipated to be minimal. Most work is anticipated to occur within TxDOT right of way and at locations that are active truck areas (or recently were if now closed), limiting any changes in use.

3.5.1.4.2 Community Integration
As these strategies are targeted towards rural corridors, the potential negative impacts on surrounding communities should be minimal.

3.5.1.4.3 Safety
The process for prioritizing highway segments with the greatest need for truck parking was heavily weighted for safety. Therefore, the recommended improvements are primarily located in areas with a high need for safety improvements. These strategies would reduce the frequency of crashes involving parked trucks by adding to the State’s truck parking inventory in areas with medium and high priority safety needs. Upgrades to existing facilities will improve safety on site by improving site flow patterns, better designating truck parking spaces, etc.

3.5.1.4.4 Economic Impacts
By providing more and improved truck parking options, these strategies will make the State economically competitive as a whole by potentially reducing associated freight costs and thereby improve the State’s ability to attract and retain businesses. It will also help reduce the number of trucks parked in unauthorized locations, reducing associated maintenance and safety-related costs.

3.5.1.4.5 Asset Optimization
These strategies are intended to maximize assets already owned by TxDOT. Internal coordination between TxDOT departments would be required to identify candidate sites and
ensure that truck parking needs are considered before a property is closed or offered for sale.

3.5.2 Infrastructure Action 2: The State Should Build New Dedicated Truck Parking Facilities (Acquire New TxDOT Right of Way)

Ideally, TxDOT’s ability to expand and upgrade existing truck parking locations to both provide more inventory and make the location more appealing to drivers will limit the need for new greenfield development which is likely to be more expensive and face more regulatory hurdles. However, there are 21 areas throughout the state where new, dedicated truck parking is needed but there are no existing or recently closed facilities that can be expanded or converted. In this case, a new truck parking facility is needed.

The exact size, design, and level of amenities could vary greatly depending on need, ranging from a small truck pull-off area with minimal amenities to a large state-of-the-art truck-only parking facility with a full suite of enhanced amenities.

3.5.2.1 Short-term Steps

3.5.2.1.1 Identify potential sites and conduct site feasibility assessment and recommendations

Areas where new truck parking facilities should be located are shown on Exhibit 25. The pink shaded areas represent corridor segments where new truck parking facilities are needed, and the gray shaded circles indicate approximate areas where new truck staging/parking facilities are needed near shippers and receivers, ports, and border crossings. These areas do not have proximate existing open or closed facilities that could be expanded to fulfill truck parking needs and are located primarily in high priority segments, and medium priority segments that are surrounded by high priority segments. These locations are listed in Appendix B.

The State should conduct a detailed analysis to identify potential sites for a dedicated truck parking facility adjacent to a highway and sized according to the demand in the area. After selecting a preferred site, recommendations, conceptual plans, and cost estimates can be developed.

3.5.2.1.2 Prioritize recommended sites for improvement

Once all of the candidate sites deemed feasible for a new facility are identified, they should be prioritized in order to identify the best candidate for pilot projects.
Exhibit 25: Draft Recommendations: Areas for New Truck Parking Facilities

Source: Analysis by Cambridge Systematics.

Prepared by Cambridge Systematics. Data for planning purposes only. March 16, 2020
3.5.2.2 Medium to Long-term Steps

3.5.2.2.1 Design and construct a pilot project for a large facility adjacent to an Interstate

To refine the costs and next steps, identify the risks, and demonstrate dedication to this approach, a pilot project should be constructed in the short-term. Two general types of facilities are described below: new dedicated truck parking facility (adjacent to a highway), and a new urban staging lot.

In order to move a project forward to construction, several steps will be required as shown below. Many of these actions may be accomplished concurrently to compress the overall schedule.

1. **New Dedicated Truck Parking Facility (Adjacent to a Highway) – Est. $9,370,000.00**
   a. Site survey: 2-3 months
   b. Detailed site design: 12-18 months
   c. Environmental clearance (if necessary): 6-12 months, TCEQ coordination: 3 months
   d. Right of way review: 1-2 months
   e. Right of way purchase (if necessary): 8-12 month
   f. Utilities examination: 4-6 months
   g. Permitting: 8-12 months depending on location
   h. Construction: 12-18 months

2. **New Urban Staging Lot – Est. $20,508,000.00**
   a. Site survey: 3-4 months
   b. Detailed site design: 12-16 months
   c. Environmental clearance (if necessary): 6-12 months, TCEQ coordination: 3 months
   d. Right of way review: 1-2 month
   e. Right of way purchase (if necessary): 12-16 months
   f. Utilities examination: 6-10 months
   g. Permitting: 10-12 months depending on location
   h. Construction: 12-18 months

High level conceptual design drawings for these two approaches are shown in Exhibit 26 and Exhibit 27.

Once a pilot project is complete, the balance of priority projects as identified during the prioritization process should be designed and constructed. Additional sites can be constructed over the long-term (10+ years).
Exhibit 26: New Dedicated Truck Parking Facility (Adjacent to a Highway)

Source: Schematics developed by Atkins in consultation with Cambridge Systematics.
Exhibit 27: New Urban Staging Lot

Source: Schematics developed by Atkins in consultation with Cambridge Systematics.
3.5.2.3 Summary Analysis
TxDOT should lead development recommendation and will need to utilize substantial staff and consultant resources to fully complete. Total costs for this recommendation will vary widely depending on conditions found during the site feasibility study and the specific action undertaken at each potential location.

With an assumption of one pilot project based on the conceptual designs, construction of four sites in the mid-term, and an additional 10 sites in the long-term, the total capital cost of completing this approach is approximately $295 million ($10 million for pilot project, $60 million for mid-term, $225 million for long-term).

3.5.2.3.1 Land Use and Zoning
Potential land use and zoning impacts are anticipated to be minimal for new facilities in rural corridors, and sites would be selected in areas compatible with surrounding land uses. However, construction of new facilities inside urban areas would require compliance with all local requirements.

3.5.2.3.2 Community Integration
Integrating an urban truck parking facility with the community will be important, and possibly difficult. To help mitigate opposition, facilities could limit truck parking during normal business hours so that trucks are not coming and going or idling throughout the night and disturbing nearby residents.

3.5.2.3.3 Safety
The process for prioritizing highway segments with the greatest need for truck parking was heavily weighted for safety. Therefore, the recommended improvements are primarily located in areas with a high need for safety improvements. Urban areas have the highest frequency of crashes involving parked trucks, largely due to the higher concentration of trucks parked on the roadside. Fortunately, very few result in fatalities due to slower speeds. Increasing the truck parking inventory in these areas will reduce the number of crashes involving parked trucks. New facilities would be designed to current TxDOT safety standards and would reduce the frequency of crashes involving parked trucks by adding to the State’s truck parking inventory in areas with medium and high priority safety needs. New facilities would be designed to current TxDOT safety standards.

3.5.2.3.4 Economic Impacts
Truck parking and staging facilities near their customers helps truck drivers maximize their HOS, thereby improving efficiency and profitability. These savings are sometimes passed on to their customers, who also receive preferential treatment from drivers. This strategy will make trucking more competitive in Texas, reducing the cost of shipping freight and improving the State’s ability to attract and retain businesses. It will also help reduce the number of trucks parked in unauthorized locations, reducing associated maintenance and safety-related costs.
3.5.2.3.5 Asset Optimization
Under this strategy, new assets will not be added to TxDOT’s inventory until existing assets have been optimized. Only when existing assets are not available in priority areas for expansion or upgrade will new facilities be developed.
4.0 Funding

There are a number of programs available to fund various aspects of truck parking projects. These sources include federal, state, local and non-traditional sources. However, many are constrained to specific topics (such as technology deployment) or locations (National Highway Freight Program), and few provide funding for ongoing O&M needs which can be substantial. An overview of federal and state funding programs and grants are listed below.

4.1 Federal Funding Programs and Grants Available

Section 1401 of Public Law 112-141 (MAP-21), commonly referred to as "Jason's Law," established eligibility for a range of facilities to provide for commercial motor vehicle parking. These facilities, located on the National Highway System (NHS), provide safe parking for truck drivers enhances public safety by ensuring drivers are well rested. Prior research by the Federal Motor Carrier Administration indicates that fatigue is a factor in approximately 13 percent of large truck involved crashes. Eligible activities under Jason’s Law include:

1. Constructing safety rest areas with truck parking.
2. Constructing public truck parking facilities adjacent to truck stops and travel plazas.
3. Opening existing facilities such as inspection and weigh stations and park-and-ride facilities to accommodate truck parking.
4. Promoting the availability of publicly or privately provided truck parking on the NHS using intelligent transportation systems or other means.
5. Constructing turnouts along the NHS for truck parking.
6. Making capital improvements to seasonal public truck parking facilities to allow the facilities to remain open year-round.
7. Improving the geometric design of interchanges on the NHS to improve access to truck parking facilities.

The following Federal formula fund programs may be used to support the truck parking projects described above:

- **Surface Transportation Block Grant Program** (STBG) provides funding for truck parking facilities eligible under Section 1401 (Jason’s Law) in MAP-21.
- **National Highway Freight Program** (NHFP) provides formula funds to States to improve the condition and performance of the National Highway Freight Network under 23 U.S.C. 167(i). Eligible activities include truck parking facilities and real-time traffic, roadway condition, and multimodal transportation information systems. The

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NHFP funds are eligible for use on the Primary Highway Freight System or NHFP, or for projects that improve safety, mobility, or efficiency on those systems.

- **Highway Safety Improvement Program** (HSIP) provides funding for truck parking, provided the need for truck parking is consistent with the State Strategic Highway Safety Plan (SHSP) developed under 23 U.S.C. 148 and the project corrects or improves a roadway feature that constitutes a hazard to road users or addresses a highway safety problem.

- **National Highway Performance Program** (NHPP) funds may be obligated for a project on an eligible facility that supports progress toward the achievement of national performance goals for improving infrastructure condition, safety, congestion reduction, system reliability, or freight movement on the NHS. Eligible projects include highway safety improvements on the NHS, which may include truck parking per 23 U.S.C. 148.

- **Congestion Mitigation and Air Quality** (CMAQ) funds may be eligible for the construction of truck stop electrification systems that reduce the need for trucks to idle under 23 U.S.C. 149, but is not eligible for construction of truck parking. Eligibility must be determined in consultation with the U.S. Environmental Protection Agency (U.S. EPA) based upon the likelihood that the associated emissions reduction would benefit a nonattainment or maintenance area.

In addition to formula funding programs, there also are several grant opportunities for truck parking projects, including the following:

- **Infrastructure for Rebuilding America** (INFRA) Grant program is a multiyear discretionary grant program in the Fixing America's Surface Transportation (FAST) Act to fund critical freight and highway projects. Eligible projects include highway freight projects on the National Highway Freight Network, highway projects on the NHS and other specified intermodal freight projects. The INFRA Grant can cover up to 60 percent of the total project cost. Formerly known as the Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) Grant. Florida DOT received funding for its TPAS, which detects available truck parking and collects data at over 70 public facilities in Florida, via a $10.8 million FASTLANE grant in 2016. Florida DOT's TPAS project is the only truck parking project that has received FASTLANE/INFRA grant funding.

- **Better Utilizing Investments to Leverage Development** (BUILD) Transportation Discretionary grants program (formerly known as the TIGER grant program) provides
capital funding directly to any public entity, including municipalities, counties, port authorities, Tribal governments, and metropolitan planning organizations, including multimodal and multijurisdictional projects that are difficult to fund through traditional Federal programs. These grants are intended to support innovative projects that generate economic development and improve access to reliable, safe, and affordable transportation and are not specifically focused to freight needs. TIGER funds have been used in the past to support truck parking projects, most notably the 2015 award of $25 million to the DOTs of Kansas, Indiana, Iowa, Kentucky, Michigan, Minnesota, Ohio, and Wisconsin for a Regional TPIMS. The system had a soft launch in the fall of 2018 and is scheduled to cover more than 150 parking sites on 9 high-volume corridors starting in the summer of 2019.\textsuperscript{15} FY2018 grants included funding for two truck-parking areas on I-80 in Wyoming as part of the “I-80 Winter Freight Improvement Project.” Funding can be used for 100 percent of project costs in rural areas and for up to 80 percent of costs in urban areas.\textsuperscript{16}

- **Innovative Technology Deployment** (ITD) Program (formerly known as CVISN) provides an additional funding source for truck parking projects through the Federal Motor Carrier Safety Administration High-Priority—ITD Grant. Historically, the ITD Program has focused on commercial vehicle enforcement with funds supporting three deployment areas: electronic credentialing, safety information exchange, and electronic screening. The FY2018, 2019, and 2020 grant cycles highlight truck parking as a priority project area for States that have achieved Core Compliance in the Program.\textsuperscript{17} Projects should demonstrate real-time truck parking availability information dissemination to drivers using dynamic message signs, interactive voice recognition, smartphone applications, or other proven technology. Projects are funded at an 85 percent Federal/15 percent State match level. Texas is Core Compliant and so could seek funding for truck parking information technology projects under this Program if a project was included as part of the State’s Program Plan/Top-Level Design.

- **Accelerated Innovation Deployment** (AID) Demonstration program provides funding as an incentive for eligible entities to accelerate the development and adoption of innovation in highway transportation. The AID Demonstration program is one initiative under the FHWA Technology and Innovation Deployment Program providing funding


\textsuperscript{16} Rural areas are those outside of a U.S. Census defined “Urbanized Area” which consists of a densely settled territory with a population of 50,000 people or more.

\textsuperscript{17} As of April 2018, all states in the I-95 Corridor Coalition are Core Compliant except for the District of Columbia, New Hampshire, Pennsylvania, Rhode Island, and Vermont. https://www.fmcsa.dot.gov/information-systems/itd/itd-current-status.
and other resources to offset the risk of trying an innovation. Approximately $10 million in funding is available from FY2016 through FY2020. Projects must involve any phase of a highway transportation project between project planning and project delivery, including planning, financing, operation, structures, materials, pavements, environment, and construction. In addition to the FASTLANE grant award, Florida DOT was awarded an AID grant for $1 million in 2015 to deploy its real-time TPAS.

- **Diesel Emissions Reductions Act (DERA) Clean Diesel Funding Assistance Program** provides approximately $40 million in competitive grant funding through the U.S. EPA. The Program solicits proposals nationwide for projects that achieve significant reductions in diesel emissions in terms of tons of pollution produced and exposure, particularly from fleets operating in areas designated by the Administrator as poor air quality areas. Grant funds may be used for clean diesel projects, including EPA-verified technologies, California Air Resources Board verified technologies, idle-reduction technologies, aerodynamic technologies and low rolling resistance tires, and early engine, vehicle, or equipment replacements. Historically, this grant funding has been used for truck parking activities, including truck stop electrification, truck fleet replacement, and other truck parking activities.

- **Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) program** provides up to $60 million in Federal Funding (50/50 match) to eligible entities to develop model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment. Though truck parking is not explicitly stated as an eligible activity, the funds may be used towards transportation management technologies, data collection systems, pricing/payment systems, or other technologies that support truck parking activities. Texas, as part of the I-10 Corridor Coalition with California, Arizona, and New Mexico, won $6.8 million in ATCMTD funding to outfit public rest areas with a truck parking availability system in 2019.
- **Volkswagen (VW) settlement payments** totaling $4.7 billion will be split into 2 distinct funds: (1) $2.7 billion will go towards an Environmental Mitigation Trust to fund projects that reduce nitrogen oxide emissions where VW diesel 2.0 liter vehicles were, are, or will be operated; and (2) the remaining $2 billion will go toward zero emissions vehicle investments to improve infrastructure, access, and education to advance zero emission vehicles. States will determine how the Environmental Mitigation Trust funds will be spent. VW will determine how the zero-emission vehicle (ZEV) funds will be spent, subject to approval of the U.S. EPA and the California Air Resources Board. Eligible activities for ZEV infrastructure investments include designing, planning, constructing, installing, operating and maintaining infrastructure. Infrastructure designations include shared Level 2 charging stations, public DC fast charging stations that use nonproprietary connections, ZEV fueling stations, and next-generation public ZEV charging infrastructure. VW has stated an interest in installing chargers in approximately 15 metro areas and developing a cross-country network of 200+ fast-charging stations during the first investment cycle. Truck parking projects that are eligible under DERA (including truck stop electrification) are eligible.

### 4.2 **TxDOT Funding Sources and Categories**

The Texas Transportation Commission and TxDOT use the Unified Transportation Program (UTP) as TxDOT’s 10-year plan to guide transportation project development. The UTP is developed annually in accordance with the Texas Administrative Code (TAC §16.105) and is approved by the Texas Transportation Commission annually prior to August 31. The UTP authorizes projects for construction, development and planning activities and includes projects involving highways along with planning and project selection processes for state funding in modal areas of aviation, rail, public transportation, and state and coastal waterways. TxDOT organizes its various funding sources into 12 categories, each associated with specific types of projects or ranges of eligible activities. The funding within most categories comes from a mixture of state and federal funding sources, described below.

- **Federal funds.** Revenues collected from federal motor fuel taxes are deposited in the federal Highway Trust Fund. These funds are appropriated by Congress through the Federal-Aid Highway Programs and distributed to each state. Most TxDOT projects are

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18 More information about the settlements between the U.S. EPA and Volkswagen and its entities is available here: https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement.

19 ZEVs include light duty trucks, medium duty vehicles, or heavy-duty vehicles that produces zero exhaust emissions, as well as plug-in hybrid electric trucks.


funded with both federal and state funds, with the most common share being 80% federal, 20% state. The FHWA reimburse TxDOT for qualified project expenditures as they are paid out.

- **State Funds.** The State Highway Fund is TxDOT’s principal fund. Most of the taxes and fees deposited in the State Highway Fund are dedicated by the Texas Constitution to support state highways. The primary sources of State Highway Fund revenues are the state motor fuels tax, vehicle registration fees, sales taxes (Proposition 7), and the oil and gas production tax (Proposition 1). Revenues from Propositions 1 and 7 are held in special subaccounts of the State Highway Fund.

- **Other State and Local Funds.** Other types of less common state funds are also held in the State Highway Fund subaccounts, including previously issues state transportation and project-specific surplus toll and comprehensive development revenues. Local participation may come from cities or counties in the form of funding agreements with TxDOT to expedite certain projects.

Exhibit 28 shows the 12 funding categories and the funding entities. The funding categories are summarized in the following section. A full description and list of eligibility requirements for each are listed in the 2020 UTP. Truck parking projects should be reviewed against this list of criteria but certain funding sources may not be applicable depending on the specific project.

**Exhibit 28: TxDOT Funding Sources and Categories**

- **Category 1: Preventative Maintenance and Rehabilitation** - Preventive maintenance and rehabilitation on the existing state highway system, including minor roadway
modifications to improve operations and safety; and the installation, rehabilitation, replacement, and maintenance of pavement, bridges, traffic control devices, traffic management systems, and ancillary traffic devices. Projects are selected by TxDOT Districts. The Texas Transportation Commission allocates funds through a formula allocation program. Projects selected for energy-sector distribution/initiatives are managed by the TxDOT Maintenance Division. Funding sources for Category 1 can be:

- 90% federal/10% state; 80% federal/20% state, or 100% state.

**Category 2: Metropolitan and Urban Area Corridor Projects** - Mobility and added capacity projects along a corridor that improve transportation facilities in order to decrease travel time and the level or duration of traffic congestion, and safety, maintenance, or rehabilitation projects that increase the safe and efficient movement of people and freight in metropolitan and urbanized areas. Projects are selected by Metropolitan Planning Organizations (MPO) in consultation with TxDOT. The Texas Transportation Commission allocates federal funds through a formula allocation program. Funding sources for Category 2 can be:

- 80% federal/20% local; 80% federal/20% state, or 100% state.

**Category 3: Non-traditionally Funded Transportation Projects** - Transportation-related projects that qualify for funding from sources not traditionally part of the State Highway Fund including state bond financing under programs such as Proposition 12 (General Obligation Bonds), Proposition 14, Texas Mobility Fund (TMF), pass-through toll financing, unique federal funding, regional toll revenue, and local participation funding. Projects are determined by legislation, Texas Transportation Commission approved Minute Order, and local government commitments. Funding sources for Category 3 can be:

- 100% state; 100% local; or variable based on funding agreements.

**Category 4: Statewide Connectivity Corridor Projects** - Mobility and added capacity projects on major state highway system corridors which provide statewide connectivity between urban areas and corridors, to create a highway connectivity network composed of the Texas Highway Trunk System, National Highway System, and connections from those two systems to major ports of entry on international borders and Texas water ports. Projects are selected by the Texas Transportation Commission based on engineering analysis of projects on three corridor types: Mobility corridors (based on congestion); Connectivity corridors (two-lane roadways requiring upgrade to four-lane divided roadways); and strategic corridors (strategic corridor additions to the state highway network). Funding sources for Category 4 can be:

- 80% federal/20% state; or 100% state.
- **Category 5: Congestion Mitigation and Air Quality Improvement** - Congestion mitigation and air quality improvement area projects to address attainment of a national ambient air quality standard in nonattainment areas of the state. Projects are selected by the MPOs in consultation with TxDOT. The Texas Transportation Commission allocates federal funds distributed by population and weighted by air quality severity to non-attainment areas. Non-attainment areas are designated by the U.S. Environmental Protection Agency (EPA). Funding sources for Category 5 can be:
  - 80% federal/20% local; 80% federal/20% state; 90% federal/10% state (interstate); or 100% federal (safety-related projects that include air quality or congestion relief component).

- **Category 6: Structures Replacement and Rehabilitation** - Replacement and rehabilitation of deficient existing bridges located on public highways, roads, and streets in the state; construction of grade separations at existing highway and railroad grade crossings; and rehabilitation of deficient railroad underpasses on the state highway system. Projects are selected by the TxDOT Bridge Division based on a listing of eligible bridges prioritized first by deficiency categorization (structurally deficient followed by functionally obsolete) and then by sufficiency ratings. Railroad grade separation projects are selected based on a cost-benefit index rating. Projects in the Bridge Maintenance and Improvement Program are selected statewide based on identified bridge maintenance/improvement needs to aid in ensuring the management and safety of the state’s bridge assets. The Texas Transportation Commission allocates funds through the Statewide Allocation Program. Funding sources for Category 6 vary by program.

- **Category 7: Metropolitan Mobility and Rehabilitation** - Transportation needs within the boundaries of designated metropolitan planning areas of metropolitan planning organizations located in a transportation management area. Projects are selected by MPOs operating in Transportation management areas (TMA), in consultation with TxDOT. The Texas Transportation Commission allocates funds through a federal program, distributed to MPOs with an urbanized area population of 200,000 or greater in TMA. Funding sources for Category 7 can be:
  - 80% federal/20% local; or 80% federal/20% state.

- **Category 8: Safety** - Safety-related projects both on and off the state highway system including the federal Highway Safety Improvement Program, Railway - Highway Crossing Program, Safety Bond Program and High-Risk Rural Roads Program. Projects are selected statewide by federally mandated safety indices and prioritized listing. Projects selected in the Systemic Widening Program are evaluated by roadway safety features for preventable severe crash types using total risk factor weights. The Texas Transportation Commission allocates funds through the Statewide Allocation Program. Funding sources for Category 8 vary by program.
− Highway Safety Improvement Program (90% federal/10% state; or 100% state).

− Safety Bond Program (100% state).

− System Widening Program (100% state).

− Federal Railway-Highway Safety Program (90% federal/10% state).

### Category 9: Transportation Alternatives Program (TAP)
- Transportation-related activities as described in the Transportation Alternatives Set-Aside Program, such as on and off-road pedestrian and bicycle facilities, and infrastructure projects for improving access to public transportation. For urbanized areas with populations over 200,000, the MPO selects TAP projects in consultation with TxDOT through a competitive process. Funds allocated to small urban areas and nonurban areas (i.e., areas with populations below 200,000) are administered by TxDOT through a competitive process to be managed by the TxDOT Public Transportation Division. TAP project eligibility is determined by TxDOT and FHWA. TxDOT staff makes recommendations to the Texas Transportation Commission for TAP allocation to areas less than 200,000 population. The Texas Transportation Commission, by written order, selects projects for funding under a TxDOT-administered TAP call for projects. Funding sources for Category 9 vary by program.

− Safety Rest Area Program (80% federal/20% state).

− Transportation Alternatives Program (80% federal/20% state, or 80% federal/20% local).

### Category 10: Supplemental Transportation Projects
- Transportation-related projects that do not qualify for funding in other categories, including landscape and aesthetic improvement, erosion control and environmental mitigation, construction and rehabilitation of roadways within or adjacent to state parks, fish hatcheries, and similar facilities, replacement of railroad crossing surfaces, maintenance of railroad signals, construction or replacement of curb ramps for accessibility to pedestrians with disabilities, and miscellaneous federal programs. Texas Parks and Wildlife Department, the TxDOT Design Division and Rail Division coordinate their respective projects with the districts and for approval. Funding sources for Category 10 vary by program.

− Texas Parks and Wildlife Department (100% state).

− Green Ribbon, Curb Ramp, and Landscape Incentive Awards (100% state; or 80% federal/20% state).

− Coordinated Border Infrastructure and Supplemental Transportation Projects (federal) (100% federal; or 80% federal/20% local).
- Federal Lands Access Program (80% federal/20% state).
- Railroad Grade Crossing and Replanking Program and Railroad Signal Maintenance Program (100% state).

**Category 11: District Discretionary** - Projects eligible for federal or state funding selected at the district engineer’s discretion. The Texas Transportation Commission allocates funds through a formula allocation program. A minimum $2.5 million allocation goes to each district per legislative mandate. The commission may supplement the funds allocated to individual districts on a case-by-case basis. Funding sources for Category 11 can be:
- 80% federal/20% state; 80% federal/20% local; or 100% state.

**Category 12: Strategic Priority** - Projects with specific importance to the state including those that generally promote economic opportunity, increase efficiency on military deployment routes or retain military assets in response to the federal military base realignment and closure reports, and maintain the ability to respond to both manmade and natural emergencies. The Texas Transportation Commission selects these projects. Funding sources for Category 12 can be:
- 80% federal, 20% state; 80% federal, 20% local; or 100% state.

Funding allocations for funding categories 2, 4, 11, and 12 may be subject to further consideration by the Texas Transportation Commission to ensure that TxDOT and the MPOs have complied with the requirements of House Bill (HB) 20 of the 84th Legislative Session.

The General Appropriations Act of the 85th Legislative Session contained a budget rider (Rider 45) of an amount not to exceed $20,000,000 in each fiscal year of the 2018-2019 biennium from any available funds and/or the TMF for public roadway projects that promote port access. Due to constitutional limitations on the use of monies from the TMF, only public road projects may be funded. Ineligible projects include:

- Routine maintenance, operations, and administrative expenses;
- Planning studies; and
- Channel improvements, security projects, equipment purchases, and terminal improvements.

Projects must be selected by the Port Authority Advisory Committee and approved by the Texas Transportation Commission. The Rider 45 program provides Texas ports with a funding source to execute their port connectivity projects over the next two fiscal years.
4.3 Other Funding Options
Beyond grant and formula funding programs, there are other opportunities to raise funds for truck parking projects.

4.3.1 Sponsorship of Rest Areas/Truck Parking Areas
Several states including Texas have obtained sponsors for rest area signage to help defray O&M costs. Texas has a number of rest areas sponsored by Geico in order to help pay for WiFi.\textsuperscript{22} Florida DOT (FDOT) has expanded on this approach by seeking sponsors to support its statewide TPAS signage after receiving FHWA approval in 2018. In Florida there are 72 signs in advance of 67 Weigh Station, Rest Area, and Welcome Center facilities available for sponsorship although the initial sponsorship locations will be fewer due to site work in some locations. FDOT would ideally like a single sponsor but is open to regional sponsors. FDOT anticipates gross annual sales between $226,000 and $407,000 for a statewide sponsor, between $158,000 and $271,000 for a regional sponsorship based on selling 50 percent of the available inventory, and more than $500,000 for a regional approach with 100 percent of inventory sold. Prospective sponsors include recruiting and training companies, trucking companies, service providers (tires, navigation, etc.), manufacturers, insurance companies, and trucking associations.\textsuperscript{23,24} Revenue will be used for O&M costs associated with the truck parking program and emphasizing the link between sponsor, O&M, and the safety benefits provided by the TPAS was a key strategy in getting the program approved.\textsuperscript{25}

4.3.2 Direct User Fees
Pay-for-use truck parking is relatively rare in the United States. Some truck parking facilities do offer reservation systems where a space can be reserved for a fee, but few charge a “use” fee for all vehicles entering the lot. However, a limited number of public and private examples exist. A public parking lot off I-86 in Elmira, NY and a short-term parking facility operated by Truck Specialized Parking Services in Detroit, MI are two examples.

\textsuperscript{22} https://www.txdot.gov/inside-txdot/media-center/statewide-news/31-2016.html


\textsuperscript{24} FHWA blocked a request from Texas Department of Transportation in 2017 to display commercial logos on electronic message signs. Note that the FDOT sponsorship panels will be separate from the TPAS sign. For further information, see: https://www.natso.com/articles/articles/view/fhwa-blocks-commercialization-of-signs-on-the-public-right-of-way.

\textsuperscript{25} Email from Marsha Johnson, Strategic Initiatives Office, FDOT. November 28, 2018.
User fees can help projects fund O&M costs and potentially generate a profit to help cover initial capital costs. The fee structure would need to be organized to establish usage type: short-term, overnight, or long-term local parking due to the different parking patterns with each. For example, a lot aimed at short-term staging parking would expect a higher truck turnover rate than a lot designed to accommodate overnight parking. Within an urban staging area, the direct user fees could be collected from the individual driver, or through a space licensing agreement with their delivery location.

Funding could also be directed from existing taxes and fees, including Truck and Trailer Sales Tax, Heavy Vehicle Use Tax, Truck Tire Tax. Nationally, these taxes currently are deposited in the Highway Trust Fund but could be earmarked or partially isolated for truck parking specific projects. This would, in essence, be creating a truck parking user fee through this tax revenue, while also directly giving needed services back to the truckers who pay the tax.

4.3.3 Public-Private Partnership
Public-Private Partnerships (P3s) are an alternative financing and risk transfer tool used by governments for large projects, as opposed to a standard public procurement. A P3 is an agreement between a Government agency and a private-sector company, or consortia, for the designing, building, financing, operating, and/or maintenance (or any combination) of a project and assets for a designated period of time, usually 25 to 30 years or longer.

A P3 may be a feasible option for the development and continued maintenance of municipal truck parking facilities in which the local municipality can charge a modest fee for parking. This type of partnership could take many forms, for instance, the local municipality could provide the parcel of land, and the private partner could design, build, operate, and maintain the facility and use the revenues to recover costs.

There are risks and benefits to organizing a potential truck parking solution under a P3 arrangement. Since the agreement may encompass many decades and various parties, the long-term usage patterns have to be well understood and all parties clear on their responsibilities and expectations. Even with the inherent risk, P3s can be seen as attractive alternative to traditional procurements as Government agencies can allow for new methods of innovative financing for parking projects and financial risk on the project can be shared with or fully transferred to the private sector. A well-developed P3 can also have the benefit of incentivizing the use of the parking area by freight facilities directly involved in the building, operations, and/or maintenance of the new truck parking area.
5.0 Next Steps
The final task for this statewide truck parking study is to develop a Final Report that synthesizes information from this and all previous memos.

The development of the Statewide Truck Parking Study is a first-of-its-kind for Texas and represents a significant implementation milestone for the 2018 Texas Freight Mobility Plan. This Study builds on the strong foundation of the 2018 Freight Plan by updating and supplementing the data, tools, processes and approaches to lay the groundwork for the challenging job ahead. The Study also had an unprecedented level of stakeholder engagement and was guided by the trucking industry and the Texas Freight Advisory Committee. The study reaffirms Texas’ truck parking challenges and puts forth investment strategies and policies needed to address them.

Advancing the recommendations from the Statewide Truck Parking Study will only be successful with the participation and collaboration of all public- and private-sector users and owners of the transportation system. TxDOT has an important role to play in maintaining and expanding the state’s truck parking infrastructure but ninety percent of the existing truck parking capacity is owned and operated by the private sector. Therefore, TxDOT cannot be solely responsible for moving all the policy, program and project recommendations forward. These recommendations can only become actionable with strong coordination and cooperation with industry stakeholders, as well as with other public agencies, such as Federal, other state agencies, Metropolitan Planning Organizations, cities and counties and other entities. TxDOT will continue to convene the TxFAC, the Border Trade Advisory Committee, the Port Authority Advisory Committee and engage other stakeholders in advancing the recommendations from this effort.

The state must be prepared to address the increase in freight and truck traffic that accompany population, economic and international trade growth. The Truck Parking Study identifies a balanced, comprehensive approach that the state can follow in order to meet the needs of the trucking and freight industry and maintain its position as a global trade hub.

The Truck Parking Study highlights the importance of safe, reliable truck parking to the economy, highway safety and quality of life in Texas. Truck parking considerations need to be considered during the project development process to ensure the future safe and efficient movement of freight. Furthermore, the truck parking needs of Texas are dynamic, and the programs and priorities outlined in the Truck Parking Study will need to be amended or updated regularly to adapt to changes and adjust priorities as may be appropriate.