



MAG Truck Parking Best Practices Review

Final Report 01/12/2024





Introduction

This document summarizes the findings from the Maricopa Association of Governments (MAG) Truck Parking Best Practices Review. This best practices review effort is intended to inform an upcoming 2024 MAG study that will focus on implementation strategies for addressing truck parking supply and siting of facilities to ensure safe and efficient freight movement in and through the MAG region. The 2024 MAG study will build upon the previous MAG Truck Parking Study completed in 2021 and create an implementation plan with targeted strategies for developing truck parking in the region.

The 2024 MAG study is intended to satisfy the requirements in Arizona Revised Statutes (ARS) 28-6352 (A), which direct MAG to “consider truck parking availability when considering the construction, expansion or modification of freeways or other routes in the state highway system [and to, by December 31, 2045,] allocate at least \$90,000,000 for the implementation of commercial motor vehicle parking that is consistent with a regionally adopted truck parking plan, including funding for construction, land acquisition, lease, maintenance or operations or entry into a public-private partnership agreement”.

Relevant Previously Completed Documents

The Arizona Department of Transportation (ADOT) completed an Arizona State Freight Plan in 2017, which established immediate and long-range plans for freight-related transportation investments that are critical to the State’s economic growth and gave appropriate priority to investments in such facilities. The Freight Plan identified inadequate truck parking as a major issue affecting the safety and efficiency of freight movement in Arizona. The 2019 Arizona Truck Parking Study, which was an outcome of the original Freight Plan done in 2017, identified gaps between truck parking supply and demand, defined infrastructure and policy needs, and proposed potential capacity and technology solutions to improve truck parking in Arizona.

ADOT recently updated the Arizona State Freight Plan in 2022, which included an update on the status of truck parking installation projects recommended in the 2019 Arizona Truck Parking Study and an assessment of how much of Arizona’s federal National Highway Freight Program (NHFP) freight funding should be allocated to additional truck parking improvements. The 2022 Arizona State Freight Plan noted that three of the four truck parking installation projects recommended in the 2019 Arizona Truck Parking Study have already been completed, adding 120 truck parking spaces statewide. The 2022 Arizona State Freight Plan also noted that insufficient truck parking continues to be an issue and as such recommended an update to the 2019 Arizona Truck Parking Study as well as that \$50 million of the \$125 million in NHFP freight funding anticipated over the next five years be allocated to additional truck parking installations, with the remainder of the funding allocated to addressing freight bottlenecks.

MAG completed a regional Truck Parking Study in 2021 to assess commercial truck parking supply and demand in the MAG region. The study aimed to address the issue of current and future parking availability in the MAG region by assessing truck-parking patterns, freight demand, impact of safety regulations, and impact of future technologies on truck parking (autonomous trucking, etc.). The goal of the study was to provide recommendations to address truck parking needs and safe solutions for both truck drivers and the surrounding community.



These previous studies were reviewed at the initiation of the best practices review effort to help determine what the focus areas should be in interviews with other peer regions. Previous studies were reviewed to understand:

- Roles of the planning agency and the implementing agency as well as other interested parties in each study;
- Characteristics of truck parking needs;
- Implementation strategies and existing practices in the region and the state; and
- Federal guidance or mandates as it relates to, or dictates, truck parking solutions.

Best Practices Review Process

As part of the 2021 MAG Truck Parking Study, MAG undertook a series of stakeholder surveys and interviews with freight operators, freight associations, and some freight industry representatives that gave context to the truck parking challenges facing this region. In advance of the 2024 update to that study, MAG desired to learn from peer regions of their implementation successes and lessons learned to address the truck parking challenges facing their regions.

A total of 11 peer agencies across seven different states were identified as suitable candidates with whom to conduct a virtual interview for the best practices review effort based on their similarities to the MAG region or as a recommendation from the interviewees themselves regarding successful implementers of truck parking strategies. The focus for MAG was on urbanized population centers as the MAG region is heavily urbanized, with the majority of the land already developed. Interviews with peer regions were conducted with staff from the state Department of Transportation (DOT) and the Metropolitan Planning Organization (MPO) that pertain to each peer region. Interviews were framed around what has gone well, what has not gone well, and lessons learned from implementation.

The Truck Parking Challenge

Effective October 1, 2012, the Federal Highway Administration (FHWA), a branch of the United States Department of Transportation (USDOT), enacted Jason's Law. Jason's Law established a national priority on addressing the shortage of long-term parking for commercial motor vehicles on the National Highway System to improve the safety of non-motorized users and commercial vehicle operators. This required the individual state DOTs to conduct a survey and comparative assessment for evaluating the capability of each state to provide adequate parking and rest facilities for commercial motor vehicles that utilize the interstate, assess the volume of commercial motor vehicles in the state, and develop a system of metrics to measure the adequacy of commercial motor vehicle parking facilities in the state. Jason's Law refers to and honors Jason Rivenburg, a commercial vehicle truck driver who was fatally attacked after parking after-hours at an abandoned gas station 12 miles from his delivery location.

Parking for trucks with trailers has become increasingly problematic and a hot button issue for many public agencies in the United States. The problem became more pronounced following the supply-chain challenges that occurred due to the COVID-19 pandemic in early 2020.

Federal regulations based on Hours of Service (HOS) requirements have become more enforceable since 2016, when the change to monitor truck driver logging went electronic to limit discrepancies in manually entered, paper logbooks. An increase in enforcement greatly



encouraged truck drivers to lean on the side of caution and safety to ensure compliance with the HOS rules. This often led truck drivers to have to factor into their trips not only the distance to their destination, but also delays from anticipated congestion and trying to find safe parking locations. To help alleviate some of these challenges, the Federal Motor Carrier Safety Administration (FMCSA), a branch of the USDOT, updated its HOS requirements for truck drivers in late 2020 to provide additional flexibility and exceptions to address the challenges. The changes primarily dealt with short-haul and adverse driving condition exceptions, break requirements, and sleeper berth provisions.

Coupled with regulation, the industry itself was in a transitional period into an online model that was greatly accelerated due to restrictions enacted nationwide in early 2020. Suddenly, more people were out of work with private/government assistance, working from home, or were deemed “essential workers” and worked greater hours than normal. This meant more people were not physically shopping as much as before, instead relying more on online retailers. Shippers and receivers responded by locating themselves closer to population centers to provide more timely delivery services to their customers. This generated the need for more trucks. This influx of shipper/receiver facilities making their way to the market caused its own distribution in the supply chain, the effects of which are still being felt in the current market.

There are increasingly more trucks on the road and those trucks need to park somewhere. This leads to precarious situations where trucks are parking in neighborhoods and on major city streets or are pushed out into unsafe areas such as highway shoulders and ramps. This spillover happens for different reasons, and understanding those reasons and how public agencies like MAG can help mitigate the parking problem is one of the objectives of this best practices review.

Best Practices and Lessons Learned Process

Peer Regions Summary

The peer regions that were identified are provided in **Table 1**, along with their role in planning and/or implementing a freight plan as well as the overall peer region description.

Table 1: Peer Region Summary

Agency	Creates Agency Freight Plan	Implements Strategies	Follows Another Agency Plan	Peer Region Description
TEXAS				
Houston-Galveston Area Council (H-GAC)			✓	H-GAC is the MPO in the Houston-Galveston area and is located along the Gulf coast near the Port of Galveston and the Port of Houston, which are two of the busiest seaports in the United States (US). Houston is unique in that it is the largest city in the US that does not have a formal zoning code, instead opting for an infrastructure-based system where infrastructure improvements are included into requirements for land developers.



Agency	Creates Agency Freight Plan	Implements Strategies	Follows Another Agency Plan	Peer Region Description
North Central Texas Council of Governments (NCTCOG)	✓		✓	NCTCOG is the MPO that encompasses the cities of Dallas-Arlington-Fort Worth. The region contains an inland port located just outside Dallas along I-45 that serves all types of freight movement. NCTCOG is an active MPO that establishes regional programs for implementation by member agencies as well as some managed by the MPO.
Texas Department of Transportation (TxDOT)	✓	✓		TxDOT operates in the entire state of Texas, which is the second most populated state in the country and is growing at a rapid pace. Texas shares the longest international border with Mexico and is situated in the Sun Belt, a region that experiences more days of sunlight in comparison to their northern neighbors and has the advantage of being able to readily move goods year-round. Texas' central location in the southern US has enabled it to build many direct connections to other areas, making it the focal point for goods movement in the country.
NEVADA				
Regional Transportation Commission of Southern Nevada (RTC SNV)			✓	RTC SNV is the MPO for the area surrounding and encompassing the Las Vegas metropolitan area. Like the MAG region, the RTC SNV region is a half-day drive away from the Port of Long Beach and Port of Los Angeles in Southern California. These are some of the busiest deep-water ports in the country and have a high volume of daily goods movement.
Nevada Department of Transportation (NDOT)	✓	✓		Operating throughout the state of Nevada, NDOT has been one of the nation's leading DOTs for their technology adaptation and building smarter roadways. Nevada shares the longest border with California of any U.S. state, and many goods pass through California and end up in Nevada, which hosts two of the west's most important interstate connections for inter-state and inter-continental commodity distribution.
COLORADO				
Denver Regional Council of Governments (DRCOG)		✓	✓	DRCOG is the MPO for the broader Denver metropolitan area, located right in the heart of Colorado. Denver is experiencing a housing shortage, which has made land more valuable closer to the city center and caused issues with industrial areas located near I-70 and I-25 being able to provide adequate locations for truck parking.
Colorado Department of Transportation (CDOT)	✓	✓	✓	The state of Colorado is located at the crossroads of east to west, as well as north to south in the country. With the Rocky Mountains to the west and Great Plains to the east, freight often crosses the state. The challenging topography of the state limits its total number of connections and puts more emphasis on a limited number of corridors rather than on the entire state.
UTAH				
Wasatch Front Regional Council (WFRC)			✓	WFRC covers the greater Salt Lake City region. With two major cross-country interstates in the region—I-15 and I-80—and I-70 located just south of the region, freight is a major player in the region's economy. The region has an inland port just south of Salt Lake International Airport where much of the industrial sector is located.
Utah Department of Transportation (UDOT)	✓	✓	✓	One of the great crossroads in the country is the state of Utah located in the center of where goods flow in the Great Basin and the western U.S. With extreme weather in both the winter and in the summer, UDOT has transportation mobility challenges year-round.
CALIFORNIA				



Agency	Creates Agency Freight Plan	Implements Strategies	Follows Another Agency Plan	Peer Region Description
San Diego Association of Governments (SANDAG)	✓	✓	✓	Located on the coast with a seaport and near the international border south of San Diego, SANDAG operates in the County of San Diego. San Diego is relatively close to the major ports located in Los Angeles and Long Beach. The SANDAG region is a major hub for freight and is less than a half-day drive away from Los Angeles, which has created a freight spillover affect for the region similar to what is occurring in Las Vegas.
ILLINOIS				
Chicago Metropolitan Agency for Planning (CMAP)	✓	✓	✓	CMAP is the main planning organization for the Chicago region. Being one of the largest rail hubs in the country, Chicago has an increasingly large truck parking problem due to the modal shift of commodities and has been at the forefront of addressing the issue. The Chicago area features a harbor port and an inland port.
Illinois Department of Transportation (IDOT)	✓	✓		The state of Illinois is one of the most densely populated states in the country and boasts several major cities and metropolitan areas. IDOT is the major owner of land in the state and truck parking has been an issue that the state is directly addressing through a number of implementation solutions.
WASHINGTON				
Washington Department of Transportation (WSDOT)	✓	✓		As a border state on the northern side of the country, WSDOT handles traffic crossing between the U.S. and Canada as well as trucks that make their way through the state. With seaports, inland ports, and ports of entry, WSDOT manages a variety of freight movement through harsh weather conditions as well as limited availability of truck parking spaces.

Peer Region Contacts

Through the identified peer regions, the Transportation Planning, Freight Planning, or general Planning departments were all contacted to schedule interviews. Participants were provided a series of questions in advance and were encouraged to bring anyone involved with their local plans or implementation strategies to be part of the interview process. Interviews were scheduled over the course of four weeks in November and December of 2023. The contacted representatives from the peer region agencies, along with their titles and contact information, have been provided in **Appendix A**.

Peer Region Overall Themes

The common theme with all the interviewed peer regions is that truck parking is a problem that has become increasingly difficult to address given the circumstances, and that there is no “silver bullet” for addressing the problem. It was determined through the interview process that not every peer region was responsible for their own truck parking solutions and that the regions are only involved in specific roles in addressing the problem. Each region is unique by itself and the problems that the regions face should be addressed at the regional and local level. The freight modal movement through the region needs to play a major role in how to address the issue because strategies can be specific to types of truck industries and the owner/operator of trucks or fleets that utilize the facilities in the region. It is also important to look beyond regional boundaries to determine truck parking’s relation to the surrounding ingress and egress patterns.



One region may have a higher percentage of rail traffic versus truck traffic, while another region may have more inbound freight than outbound. One region may be a major junction that leads to other major regions whereas the other could be the hub for an entire state. Understanding these key themes helps identify which implementation strategies the MAG region should consider.

Interview Summaries

Truck parking is an issue that all of the regions interviewed are experiencing, and most have not had the opportunity to implement strategies that were studied by the various plans that were crafted around freight movement. Many of the regions have crafted a freight plan in the previous five years and are in the process of updating their current plan. Updates are occurring largely because freight movement has changed significantly following the COVID-19 pandemic and now there are more implemented strategies to review and consider than in years past. Freight has now become a neighbor to many residential, commercial, and industrial neighborhoods in the region with the advancement of online retail as well as retailers co-locating their distribution centers near the centers of population. This change has put more reliance on the trucking industry and the individual contracted truck drivers for getting the various commodities to their destinations. Paired with federal regulation that limits the operating hours the drivers of these trucks can work, this has resulted in additional trucks on the road and these drivers are now on a time-crunch to locate a safe, reliable parking location to not violate the regulation.

The issue with truck parking has unveiled itself more to the public eye in the last ten years. With the trucking industry bringing more awareness to the truck parking problem, and seeking funding to address the problem, more people have become cognizant of the situation. Trucks have been spotted on the shoulders of roadways such as freeways, highways, and ramps, in addition to parking on the sides of roads wherever they see an open spot. A variety of solutions have been studied and planned, though most have not been implemented through most of the peer regions interviewed. Some common solutions involve partnerships, awareness, technology, land-use, and low-hanging fruit such as safety rest areas or ports of entry.

Lessons Learned Summary

Each region had the interview questions provided in advance to prepare for the discussion. Then during the virtual interview, most of these questions were specifically addressed in some manner during the discussion. Because of this, the questions were specifically used to summarize the lessons learned across all interviews, and those most useful to apply in the MAG region were summarized.

Detailed interview summaries are provided in **Appendix B**. The summaries of responses to each of the provided questions are included for MAG's consideration below:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - This strategy was used by many of the agencies and was seen as at the top of the priority list for them to improve the truck parking situation. Truck drivers are more inclined to use en-route information called a “windshield survey”, which is a survey of what the driver can see from their perspective while driving. The truck drivers will use availability information





provided on message signs more than they are using any mobile phone application. While it is still beneficial to provide this information through a 511 system, Application Programming Interface (API), or publicly available website to view camera images and space availability, displaying the number of available spaces for the nearest parking location for the driver on the road approaching the parking facility was perceived as more important. The truck parking availability system must be reliable to be useful because an unreliable system leads to distrust and drivers returning to the status quo. Implementing this strategy can be challenging if not incorporated as a network for truck drivers to rely on when moving through an area and preferably should be deployed in coordination between jurisdictions rather as an implementation by a single jurisdiction.



- **Increase visible no parking signage in unsafe parking areas**
 - Few areas have taken a direct approach with this topic. Of those that have, most have experienced a positive result from property owners. Many local agencies were noted to have deployed this solution as a stop-gap measure on specific streets or corridors adjacent to freeways, but signage is only as beneficial as the enforcement of them.



- **Expansion or redesign of existing truck stops / rest areas**
 - Expansion or redesign of existing facilities is the most common approach taken by the state DOTs, as it is the most convenient option for addressing the problem quickly. This approach is a preferred first step for many agencies over the deployment of real-time parking availability systems due to funding constraints of resources to support implementation, operation, and maintenance of real-time parking availability systems. The land for the rest areas is often owned by state entities and is not in competition with private truck stops or yards. Rest areas are also typically underfunded. In some cases, adding physical truck parking spaces adjacent to existing rest areas or truck stops was a near-term solution that provided expanded capabilities for minimal cost. Rest areas have started to serve a different purpose as time passes and require upgrades to them to address the amenities needs from the trucking community. At a minimum, restrooms require upkeep; it was also noted that other amenities such as internet access, showers, or security may be beneficial as well. For many peer regions, these rest areas are not located in urbanized areas, and are instead on the periphery of those regions.



- **Partner with retail establishments and underutilized malls/shopping areas to allow for truck parking**
 - This is a solution that was noted in being beneficial to pursue to address the truck parking problem in the urbanized areas. Malls and shopping centers operate differently than individual retail establishments and can offer considerably more land to work with than individual establishments/owners, they require a close partnership between themselves and the agency. It was recommended to approach the situation as a public-private partnership. While the owners of vacant parcels vary in size, malls and shopping areas are owned by larger firms with a better backing and understanding of leverage. If one agreement is



made between the agency and a firm, that word will spread, and other firms would want to cut the same or similar deal. Being consistent and open to widespread adoption with this strategy is a need, not a want. To the owner of the firm, the parking lot is intended for their patrons, and they may see the benefit of having more foot traffic at their center by providing some truck parking spaces for use. Underutilization does not necessarily mean abandoned and can range in usage based on the traffic a location experiences – which can create unreliability. When partnering with a retail establishment, the needs for the establishment need to also be considered. This ranges from identifying where the parking location would be, deciding on agreement duration as well as funding exchange for operations or maintenance, and ascertaining the roles of responsibilities between the agency and establishment. These agreements require due diligence and long-term planning to achieve the desired outcomes. Such locations for considerations could include stadiums, empty or underutilized malls, and even Walmart’s in rural areas where a side door can provide truck driver access to amenities in proximity to a parking lot.



- **Increase enforcement of parking restrictions in conjunction with other solutions**
 - The relationship with law enforcement plays a key role in addressing the needs of the community and agency. Enforcement is ultimately up to the discretion of the agency and of the individual officer choosing to enforce. Three examples are time duration violations enforced by posted signage, idling time violations being enforced by posted signage, or rest areas being patrolled by state troopers. Being clear with the intention of enforcement while also providing an adequate supply of truck parking to minimize the need for enforcement makes for the most successful path. Not all situations are controllable and that should be taken into consideration when increasing enforcement. Having a regular conversation regarding this topic is important, such as through the organization of a commercial motor vehicle (CMV) task force that meets periodically.



- **Reach out to owners of vacant parcels to encourage temporary truck parking use**
 - Similar to retail establishments, and any other public-private partnerships moving forward, clear boundaries and agreements should be established early in the process. Private entities, small or large, typically do not want to enter an agreement that has a lot of requirements, and they are less compliant if the situation is unfavorable to them or their profitability. Leveraging needs of the agency and the wants of the private entity is a balance. Moving forward with any plan without the input of private entities could result in compliance issues further down the road.



- **Parking agreements with facilities with in-house fleets**
 - This strategy option was not as popular of an approach as many of the others, as this idea relies on the shipper/receiver utilizing mostly their own fleet of vehicles and allowing for additional parking on-site. As the industry has grown, so has the amount of contracted work that makes sure to avoid any in-house fleet requirement, thus exacerbating the last-mile segment problem. There is further discussion of the last-mile



problem in the *Additional Implementation Considerations* section of the report. Any agreement made with in-house fleets must extend beyond the fleet and would change the definition of what it means to deliver/receive a load from the shipper/receiver, which is not desirable for the private sector.



- **Modify zoning ordinances to require provision of truck parking**
 - Approaching the truck parking problem as a land use issue was a common theme expressed by many of the peer regions. Establishing requirements for truck parking with code or zoning profiles can help address the issue at the source and keeps the issue contained. Creating a code or formula that would appropriately address this strategy should come from an MPO level that works best with the region's needs, such as several truck parking spaces for each warehouse dock door ratio. It is advisable to mimic zoning ordinances between neighboring jurisdictions that have seen benefit from their changes, especially if there is a particular area of the region that is experiencing more truck parking issues.



- **Public-private partnerships to build additional truck parking**
 - Public-private partnerships are tricky, especially when dealing with a business whose goal is to provide the optimal number of parking locations for their patrons rather than providing open spaces for potential truck parking users. These partnerships are difficult when all partners involved are not on the same page or are not going at the same pace. These partnerships are not limited to only the option of directly increasing the number of parking locations or spaces. State DOTs and MPOs get calls to advise some agencies or some private sector companies on where to even begin to address truck parking. A truck parking development handbook / blue book / design guideline / policy guideline examples have helped to inform on important items like permitting, storm water issues, security issues, and environmental properties, such as weather or climate, to include truck parking recommendations with new developments. These partnerships can also include traffic studies and infrastructure improvements to address problems that arise from the additional parking locations. The private entity involved will always be on the look-out for making the project beneficial for them, and the agency should be aware of this scenario and sensitive to both sides to make any solution viable and beneficial for both parties. Any kind of parking reservation system is strongly recommended to be left to the private sector to develop, not for public agencies.

- What are some lessons learned on the implementation process for truck parking physical locations?



- **How do you identify potential truck parking locations?**
 - There is no single way to identify locations most effectively. Locations for additional parking needs will most certainly be centered around the shipper/receiver locations within urbanized areas. Data available for analysis is changing, just in the past five years. Therefore, previous data analysis methods and data sources may provide one story while newer types of data, such as American Transportation Research Institute (ATRI)



data, may provide for additional insights not previously known. What would make a successful truck parking location is if a location can be consistent for the drivers and industry and not change regularly, forcing them to find parking elsewhere. It may be useful as a data source to ask the truck drivers directly where they think truck parking is missing inside of a region. To understand how to solve this issue, the agency responsible should understand the origin-destination movements to help them better identify the strategies for addressing the actual needs. Also, identifying a distance to reliable parking from known locations would be helpful for the trucking industry and to coordinate and centralize truck parking where it needs to happen. This would include identifying just a few publicly funded parking locations in the region and build them as well as including security, lighting, amenities, and real-time availability. In collaboration with the publicly funded parking locations, identify the private sector locations and get all locations and availability on a map available to truckers through 511 or a private application. Identifying a way to help truck drivers pay for the parking may help in use of this organized approach to truck parking in the region. There was also some desire to retrofit or change underutilized public parking locations into truck parking. Public parking is mainly owned by municipalities, and they have their own restrictions; removing these restrictions to allow truck parking could help to supplement the need for additional public spaces.



- How do you identify opportunities for public-private partnerships?
 - Many times, a private entity looking to establish or expand their operations will not be aware of who to be in contact with. The MPO could be a central resource for this information to help facilitate a future partnership between agencies and private entities to address site concerns early on. This relies mainly on the MPO having that connection with locating these developments appropriately and could lead to enhanced partnerships between the MPO and municipalities. Also, partnering strategically with entities that may be better equipped to support such partnerships is beneficial and creates leverage for the agency. Also, finding opportunities where a private sector partner needs something from a public agency who in turn needs more truck parking can be a door opening to a potential partnership opportunity.



- Mechanisms to implement construction for new truck parking?
 - Often, the easiest solution for an agency to take is the best solution, as there is no federal standard for construction of truck parking that is truly applicable everywhere. The only standard is Jason's Law. The AASHTO Green Book can be used for parking standard in general, not specific to truck parking. If construction of a new location is warranted, finding the desired location and working collaboratively with the local agencies responsible for that area are desired. Local agencies need to consider not only the location itself, but also the access to the location, and the queuing that can occur at entrances to the location. This can come from traffic impact studies or the establishment of freight villages. For construction as a capital improvement, the use of federal funding such as grant programs can be dedicated toward these types of implementation



strategies because that same funding would not be able to be used for operations and maintenance of any publicly funded facility. Creating extra and new spaces next to existing private lots is a cost-effective mechanism where truckers can use the private amenities while parking on the adjacent publicly owned lot. Also, a mechanism that can be helpful to keep the topic of truck parking at the forefront is an active state Freight Advisory Council that can make sure implementation strategies are being pursued toward the broader goal of truck parking solutions statewide.



- **Methods to reallocate or retrofit existing facilities like rest areas for truck parking?**
 - Rest areas are often managed by the DOT on their rights-of-way and increasing rest area capacity is seen as an easier solution to implement for addressing the problem. Rest areas are typically limited in their ability to service truck drivers and are intentional in that regard.



- **How to address site issues like security, lighting, traffic, and drainage?**
 - Security and safety are the two major concerns that truck drivers have regarding the desire to use truck parking. The challenges that come with providing services such as security, lighting, traffic access, and drainage to parking sites often fall back on the ability to maintain the services. Being able to allocate funds and staff resources to maintain these properties to their desired extent must be taken into consideration. Security, lighting and drainage are all big needs for these facilities and are not the easiest to manage without a concrete, long-term plan in place. Handing the services to a private entity can come with its own series of challenges and private entity needs should be considered just as much as public-owned facilities.



- **How to handle public pushback on adding truck parking?**
 - The public does not want to witness trucks parking in areas where they were not anticipating them being. In many cases, the public pushback is felt by citizen complaints at the local level and sometimes gets forwarded to the MPO or state DOT level. When getting the public involved on any project like truck parking, considerations should be made to provide awareness and education. Land use is at the center of this potential for public pushback, and it is imperative that any facility requiring truck movement in or around the facility be a “good neighbor”. For example, locating schools near industrial areas creates a conflict because of queuing and staging. As noted previously, truck parking is more and more an issue the public is aware of because of its tremendous growth. Finding opportunities to show successes in proper truck parking organization will benefit the region in reducing public pushback. Also, specifically developed material can help guide parking awareness and safety in an area, such as a truck parking guide or standardized manuals for implementing truck parking.

- **Additional questions for a lessons learned summary of your area:**
 - **Policy and Regulations**



- Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesigned” parking areas?



- Policy and ordinance changes are challenging to address as they require approvals and legal changes that can take years to implement. While many peer regions have experimented with noise, idling, and emissions ordinances, only a few have had success having a proper implementation of these policies on a wide scale. Policies should have a region-wide effect; however, being too ambitious could cause political backlash at the state level if not addressed accordingly. Any changes to laws or policies that actually impact where truck drivers are allowed, or not allowed, to park gets out quickly through the trucking community.



- Any problematic regulations you have experienced you'd advise to do away with?
 - No agency cited any policy they have enacted that they would do away with. Not many policies have been implemented or enacted on. Some solutions may need to be up to Congress to solve – such as truck parking costs being a tax write off as a business expense. The personal conveyance loophole in the Electronic Logging Device (ELD) mandate is required to be used. The mandate creates a lose-lose situation for truck drivers trying to maximize their route but also be safe in their truck parking decisions before their time runs out to stop.

- **Operating Concerns**



- Is there a difference in truck parking needs based on the North American Industry Classification System (NAICS) level? Manufacturing, industrial, retail, etc.?
 - The need for truck parking is less determined by the NAICS level and more on the range that the trucks are intending to travel, although it is a consideration for the amount or size of truck parking issues in a particular area. Long-haul drivers consider staying outside of the urbanized areas while short-haul drivers do not have that option. However, this is region-specific and can vary based on the most common industry type of the area.



- Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other travel demand management (TDM) strategies have been deployed to help with the demand concerns in your area?
 - No particular changes were noted as a lesson learned by the peer regions. Staging and short-term parking has not been an issue compared to overnight parking. When evaluating for overnight parking, however, the agencies consider how to utilize short-term parking and long-term parking together.



- What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - As far as the agencies are concerned, the issues are not conflated and are presented as the same. The duration of parking does not seem to be the focus of implementation strategies. Allowing private warehouses to allow non-fleet vehicles to park so long as





they have business being there could be a good strategy to consider.

- How have you planned for the dropped trailers phenomenon?
 - This issue is dealt with on the enforcement side of operations and is up to the officer's discretion to enforce the problem.
- Who typically bears the cost of providing truck parking or utilizing truck parking?
 - No one party is entirely responsible for providing truck parking locations. A collaborative effort is needed between the DOT, MPO, municipality and private entity to create a solid partnership for tackling the truck parking challenge. It is primarily the private entities that are creating the truck parking challenge, although jurisdictions each do their part to invite the economy into their areas and therefore also warrant some responsibility. While some locations do fall on distinct jurisdictions like on the DOT side, it is not on them entirely to lead the effort. It is important for the MPOs and the District or Regional state DOT representatives to be in close coordination as impacts are felt across the freeway and arterial network in the urban areas. Resources could be poured into re-designing cross streets to include freight parking facilities in areas where that may be needed. Operations and maintenance funding does not typically come with federal funding, so that needs to be allocated and planned for separately very carefully. It is also important for an MPO to work with rural cities to make sure the newer development is being planned out properly to help ensure the roadway system is prepared for the volume of trucks traveling down the roadway.
- Zoning and Development
 - Has your area had any major freeways added that have changed truck movement / parking demand?
 - One peer region had construction of a new freeway that was located in the rural area just outside of the major population center. There is one region that has a single section of freeway that is not connected in the loop system that forces all truck travel to take a path through the center of the urban area. If that single section was able to be completed, freight mobility would drastically change through the region. The rest of the peer regions either had no change in their freeway network or have already removed a freeway. Evaluating travel paths through a region helps to identify the next largest impact project.
 - How has your area effectively planned for trucking parking / movement? How has it been demonstrated that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - The issue should be approached as a collaborative effort that is not reliant on any single agency to do the legwork. As a region grows, so does the market, and the market is what dictates how





growth occurs in the region – a long-range plan can only plan so much ahead without understanding how the truck parking industry operates and market forces should be considered. Metrics, such as the ones noted above, are not specifically tracked with exception to the national count of parking spaces for public and private. Small distribution facilities are getting as close to customers as possible. It did not seem to be a focus to need to track implementation strategy effectiveness, perhaps because the truck parking challenge is just over a decade old with no clear solutions to track. Some MPOs have incorporated “freight assets” into their regional transportation plan to recognize the truck parking challenge more holistically.



- Have any constraints made adding additional spaces to an existing location lead to “outside of the box solutions”?
 - Many of the solutions that have emerged from the peer regions are textbook in planning and implementation. There are a few exceptions such as dealing with historical areas that require unique approaches or with major ports areas that are difficult from the MPO side to address for right-of-way access and establishing agreements. Outside of the box solutions are unique to the region’s needs. A consistent outside of the box solution that crossed multiple peer region discussions is creating the freight village concept, or inland truck parking hub, where there is a need for a large amount of spaces and no clear public-private opportunity to fill the need in other ways.



- Are agreements made between private companies for the need of additional truck parking spaces?
 - Public-private partnerships present their own challenges, with few long-term success stories. Private entities operate using their private funding while abiding by the regulations and standards set by the agency, so any agreement must be made with their interests considered as well. Approving warehouse parking with traffic impact analysis was an example of an application of one space requirement for every warehouse unit. Typically, there is no end user involved in the development discussion and it results in a regulatory process which dictates that no middle-mile truck parking needs are addressed. The middle-mile is discussed in the *Additional Implementation Considerations* of the report.

- Data and Technology



- How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - This strategy had some major conflicts for both extremes. While some regional studies found that truck drivers do not use their phone and mostly rely on what they see from their trucks while driving, others promote the use of applications and are working on collaborative efforts between multiple states to have a single, unified 511 system. No truck driver wants to have multiple apps



they need to switch between to get roadway information updates based on the state they infrequently travel through. Private companies have also taken on the application market in pursuit of finding the appropriate solution. When approaching this, it should be up to the agency's discretion and the existence of available technology platforms as to what information they desire to share out. One direction can lead to needing an increase in public-private partnerships and the other direction is entirely handled by the public side, which may have its own limitations. The consistent message across most all interview discussions is the importance and benefit of providing real-time truck parking availability at or approaching locations. The preference was toward dynamic signage and sharing camera images out rather than getting more innovative with pursuits such as connected vehicle or private-sector partnerships like Google or Waze. It is important to find ways to leverage well known apps like DriveWyze to bolster availability of information to the trucking community. Getting the basics of information out in a consistent and reliable manner seemed to be the preferred direction for most agencies. Low-tech options such as visor cards are used in some states.



- Amenities

- How do you go about providing the amenities needed by the trucking community for parking?
 - The public agencies interviewed expressed that they are not in the business of competing with private truck parking companies or lots. Agencies need to be clever with how these amenities are being provided to truck drivers. Truck drivers will forgo food and services, they just need a safe place to park. Winter weather/adverse conditions has led to a need for access to food and services and having that access is helpful when being stuck for a day or longer. Agencies are unable to make a profit themselves when utilizing most funding streams to support truck parking, but providing the facilities where amenities can be provided alleviates the red tape that comes with profiting off the locations while also providing a location for truck drivers to feel safe and comfortable.

Additional Implementation Considerations

Much of the conversations had with peer agencies centered around ideas. Ideas that the agencies have but are not unable to pursue or do not see the solution happening without further study or case examples to reference back to. Common themes and ideas emerged from these conversations as well as a "want to have" in an ideal situation, which include:

Considering Tribal Entities

The topic of public-private partnerships dominated the discussions, including other local partnerships as possibilities. One partnership that was looked at from WSDOT was teaming up with tribal nations to tackle the truck parking problem. Tribal governments are not in competition



with any other government or entity as much as a DOT or MPO would be and as such may have more ability to control right-of-way and land ownership to support truck parking physical solutions.

Establishing a Permit System

A permit system exists in the Town of Monroe, Washington, where drivers can get a parking permit where the Town covers the cost of parking at the facilities within the Town, rather than requiring the truck driver to pay the parking fees. This idea could be expanded upon at the MPO or state level, where a truck driver gets a permit upon entry to an area (port or entry, private truck stop, etc.) and that permit could cover the cost of parking at an approved private facility. This would require private facilities to participate in the permitting system and may help regulate the cost of facilities as well as availability information provided in the area. Partnering permitting systems between areas within the state could be established as well to “hand off” trucks as they pass through and use truck parking facilities throughout the state.

Seek Strategic Public-Private Partnerships for Truck Parking Locations

Establishing public-private partnerships can occur in a variety of ways. Getting specific on the partnerships to establish, as well as the ones to be cautious about, is important to determine the appropriate implementation strategies.

To leverage technology innovations, public-private partnerships could take the shape of partnering intentionally with such entities as the Institute of Automated Mobility (IAM) or the Arizona Corporation Commission. These entities may be able to support the pursuit of innovative technologies to apply to the truck parking issue.

MAG, as an MPO, may not be the owner of the public-private partnership to address truck parking. In many cases, local agencies may need to own the public-private partnerships to apply implementation at a localized level. An MPO and a state DOT may only be able to be involved if there are multiple locations of a private company’s partnership opportunity. Partnership between the MPO and the State District or Region is key in the urban areas because truck parking impacts are felt across the freeway and arterial networks.

MAG may be able to support identifying private sector partners that are unconventional large landowners in the region, such as pallet companies or manufacturing yards, that may be able to provide truck parking.

Regionalizing the Truck Parking Center of Excellence

There are a handful of opportunities that MAG may have in centralizing the truck parking knowledge base and implementation focus for the region.

An opportunity to pursue that was noted with some of the interviews involves when warehousing specifications do not address truck parking. This makes it difficult to require truck parking after half-street improvements and lot requirements are already built. Consider updating the MAG specifications and details to be able to support truck parking demand that would be generated by types of land uses in the region.

Another opportunity is for regionalizing the knowledge base of truck parking space needs to leverage potential partnerships with the private sector. An example of this could be providing



truck parking space information to companies, such as Realize, that look for opportunities to be informed of where truck parking spaces are needed to maximize their potential customers.

The final opportunity identified focuses on education and support for when the private sector wants to provide truck parking in local municipalities whose staff may not be as well versed on those negotiations as other agencies. MAG can provide a regionalized approach and partnership with local agencies to support when new situations they may not be well versed in need to be addressed.

Closing the Gap Between Local Agency Ordinances

Closing the gap between ordinances that exist and are beneficial in some localities and are not existing in neighboring localities could help to standardize the truck parking response across a region. This applies for policies already in place, such as the example of the idling time ordinance in Maricopa County that may be useful for other adjacent counties.

Going Vertical with Truck Parking Spaces

Multi-level parking garages are commonplace in areas where parking demand is high, but space is limited and expensive. While no notable examples of this exist within the U.S., East Asian nations have been building multi-level warehouses and garages for truck storage and staging for quite some time and have a replicable plan. These garages may be most useful to be located at ports where the need and density is the greatest.

Creative Use of Federal Funding

Few regions have dedicated funding for truck parking. Some areas desire to pursue grant programs that can help implement strategies to address the truck parking challenge. It is important to understand the available uses of funding to know which strategies to address. For example, federal funding typically does not allow agencies to monetize truck parking lots. However, through examples such as broadband grants, infrastructure can be put in place that then allows other private entities to come in and utilize the infrastructure in a way that is monetized for their benefit. It is recommended that MAG be creative with how to implement appropriate strategies and utilize the opportunities for funding to achieve segments of the ultimate goal.

Recognize the First-, Middle-, and Last-Mile Issue

Truck parking should be viewed from a higher level and how it fits in the freight ecosystem. The freight ecosystem is catered to each region and is unique based off the region’s location and proximity to other regions and should be treated as such. Freight modal systems should be viewed from a first-, middle-, and last-mile perspective that changes the types of modes, types of locations, and types of implementation strategies that may be most impactful for the region.

Table 3 outlines the differences in the segment types.

Table 2: First-, Middle-, and Last-Mile Segment

Segment	Modal Type	Locations
First-Mile	<ul style="list-style-type: none"> • Rail • Air • Sea 	<ul style="list-style-type: none"> • Seaports • Airports • Inland Ports



	<ul style="list-style-type: none"> • Semi-Truck 	<ul style="list-style-type: none"> • Industrial Centers
Middle-Mile	<ul style="list-style-type: none"> • Semi-Truck 	<ul style="list-style-type: none"> • Industrial Centers • Distribution Centers
Last-Mile	<ul style="list-style-type: none"> • Semi-Truck • Box-Truck • Cargo Van 	<ul style="list-style-type: none"> • Consumer Locations

First-Mile Segment

This is the first segment of freight movement where massive amount of freight is typically moved over long distances through their own ports (e.g., seaport to seaport, inland port to inland port). This first-mile movement is typically supplemented with their own modes of transportation between ports in the form of private fleets or major freight companies. Semi-trucks are involved in the cargo transfer process at these locations, which has prompted many ports to add additional parking for those drivers visiting the major ports. The parking issues that are addressed in these port areas do not necessarily support or solve the issues experienced in the middle-mile or last-mile segments.

Middle-Mile Segment

Distribution centers have become more prevalent in states with the growth of online retail. Distribution centers are generally less of a pollutant on the surrounding area, which makes living near them more attractive than living near industrial centers. Distribution centers are unique in that they do not need to be located along rail, air, or sea lines. They are spread throughout urban, and sometimes rural, metropolitan areas near residential and commercial centers for servicing online retail consumers. This middle-mile segment is the area where truck parking has become problematic as residential and retail centers do not want to visibly see semi-trucks or deal with their pollutants.

Last-Mile Segment

The last-mile segment is the final stretch of delivery for most truck travelers. This is where smaller modes of transportation are preferred to be able to reach into retail and residential centers in tighter road network conditions. Semi-trucks are prevalent in this segment as retail centers find it cheaper to run one truck with one driver to multiple locations on a single load than multiple loads on multiple vehicles to minimize cost for vehicles, maintenance, and drivers. Residential deliveries may utilize semi-trucks for larger items. For all other forms of delivery, neighborhood restrictions limit their interaction and vans/box trucks are supplemented in those areas. From the agency perspective, curbside management becomes an issue in this last-mile segment.



Appendix A: Agency Representatives Contact Information

Agency	Representative	Title	E-mail	Phone
H-GAC	Anita Hollmann Matijcio	Regional Planning Manager	Anita.Hollmann@h-gac.com	713-993-4587
	Sydni Ligons	Freight Planner	Sydni.Ligons@h-gac.com	832-681-2563
NCTCOG	Morgan Tavallaee	Transportation Planner III	mtavallaee@nctcog.org	682-433-0490
	Jeff Hathcock	Program Manager	jhathcock@nctcog.org	817-608-2354
	Michael Johnson	Principal Transportation Planner	mjohnson@nctcog.org	817-695-9160
	Brady Lapres	Transportation Planner I	BLapres@nctcog.org	817-695-9109
TxDOT	Kale Driemeier	Planner V	Kale.Driemeier@txdot.gov	512-649-6825
RTCSNV	Andrew Kjellman	Director of RTCSNV	KjellmanA@rtcsnv.com	702-676-1662
	Nathan Goldberg	Manager of Transportation Planning	GoldbergN@rtcsnv.com	-
	Hui Shen	Senior Transportation Planner	shenh@rtcsnv.com	702-676-1727
DRCOG	Cole Nedar	Senior Planner (Regional Multimodal)	cneder@drcog.org	303-480-6729
CDOT	Craig Hurst	Manager of the Freight Mobility and Safety	craig.hurst@state.co.us	303-757-9712
	Erica Denney	Freight Mobility and Safety Branch Freight Planner	erica.denney@state.co.us	-
WFRC	Jory Johner	Director of Long-Range Planning	JJohner@wfrc.org	801-363-4250 Extension 1110
	Chay Mosqueda	Long Range Transportation Planner	CMosqueda@wfrc.org	-
	Ben Wuthrich	Long Range Transportation Planner	BWuthrich@wfrc.org	801-363-4250 Extension 1121
	Kip Billings	Senior Transportation Engineer and Air Quality Analyst	KBillings@wfrc.org	801-363-4250 Extension 1115



MAG Truck Parking Best Practices Review



Agency	Representative	Title	E-mail	Phone
UDOT	Jordan Backman	Urban Planning Manager	jbackman@utah.gov	253-508-2383
SANDAG	Mariela Rodriguez	Senior Regional Planner	Mariela.Rodriguez@sandag.org	619-699-1936
IDOT	Adam Gabany	Intermodal Planning Unit Chief	Adam.Gabany@illinois.gov	217-784-2994
	Janel M. Veile	Planning Services Chief	Janel.Veile@illinois.gov	217-558-7452
WSDOT	Scott McCollister	Multimodal Freight Systems Planner	Scott.McCollister@wsdot.wa.gov	-
	Zhao Wenjuan	Multimodal Freight Systems Planning Engineer	Wenjuan.Zhao@wsdot.wa.gov	360-705-6990
	Jason Beloso	Freight and Rail Planning Program Manager	Jason.Beloso@wsdot.wa.gov	206-464-1259



Appendix B: Interview Notes

Houston-Galveston Area Council (H-GAC)

H-GAC has no formal zoning in the region which has led to developments, to now include additional requirements for dedicated spaces for truck drivers to park their work vehicles. Houston relies almost entirely on the private industry to supplement the parking need in and near the urbanized areas with about 85-90% of parking being provided by private industry. The agency expressed the importance of addressing the needs of both short-haul and long-haul truck parking. Short-haul trips result in parking closer to the city's core while long-haul trips are situated on the periphery of the region. The issue of trucks parking sparked additional awareness of the problem, leading some cities and private industry in the region to seek additional parking locations. Not all cities are on board with this, and many in the private sector have determined that more spaces for trucks does not equate additional revenue for the cost of providing the parking locations. One solution that has had some success are micro-truck parking locations, which are not large lot locations but have proven to alleviate the demand in nearby locations.

Texas Department of Transportation (TxDOT)

TxDOT is responsible for updating their state freight plan and working with the local municipalities to address the needs from the plan. The agency takes the lead for many of the implementation projects that are currently happening, as well as developing the second phase of the plan. All the safety rest areas are owned and maintained by TxDOT. TxDOT is completing Regional Action Plans to take a closer look at specific regional needs and implementation strategies in those areas. The issue of truck parking is still prevalent for the agency for long-haul drivers, as many of the short-haul issues are presented in the urbanized areas and require a collaborative effort between TxDOT and the stakeholders in that specific region. The TxDOT Maritime Division is working with the Port to establish freight villages that are dedicated to freight and helps prioritize facilitating truck parking. TxDOT has also implemented truck parking systems along I-45 that give real time information of the number of locations available for truck drivers to park, reducing the need for truck drivers to hunt for available spaces and risking the potential to run out the clock. TxDOT is also in the process of establishing regional access lanes, which are not dedicated to freight movement but offer the opportunity for truck drivers to avoid congestion with a dedicated travel lane they can utilize.

Interview with H-GAC and TxDOT on 12-08-2023

Representatives: Kale Driemeier (PM Truck Parking Study TxDOT), Sydni Ligons (Senior Planner), Brian Comer (HNTB)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - There is more awareness now than 10 years ago. The trucking industry has been trying to get federal funding while raising awareness of the issue. On the technology side, more people are aware of these solutions



now and it is becoming more commonplace to tie in more technology to maximize what is out there. No specific examples were provided.

- Increase visible no parking signage in unsafe parking areas
 - Not directly addressed.
- Expansion or redesign of existing truck stops / rest areas
 - 85-90% of parking is privately provided in the region. TxDOT is adding more parking to rest areas and that involves expanding them. They are in rural areas and not in the urban areas. Houston TxDOT region does not have public parking for trucks. Private companies provide parking on periphery. Closer to urban areas, land is expensive and more difficult to provide. TxDOT can improve the rest areas and areas that are developing along their network.
 - TxDOT is completing Regional Action Plans to take a closer look at specific regional needs and implementation strategies in those areas.
- Partner with retail establishments to allow for truck parking
 - A lot of folks in the private industry want to provide more parking, and they state the cities/counties does not want more of them there.
- Increase enforcement of parking restrictions in conjunction with other solutions
 - Raising awareness is major as there are areas that restrict trucks, the drivers will park there anyway and pay the ticket so enforcement is an issue. Cities and counties can provide the parking. Truck parking needs to be approached as land use planning, to dedicate areas for parking.
- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - Not directly addressed.
- Cooperate with owners of underutilized malls/shopping areas
 - Not directly addressed.
- Parking agreements with facilities with in-house fleets
 - Not directly addressed.
- Modify zoning ordinances to require provision of truck parking
 - There is no zoning permitted in this region, everything is done on infrastructure basis i.e., if a truck stop wants to locate itself near the highway an evaluation would be needed to determine what kind of infrastructure is needed to support the development. The developers also do not build quite as many parking locations because of insurance costs and the lack of a profit from truck parking itself.
- Public-private partnerships to build additional truck parking
 - Public private partnerships are difficult to do. TxDOT is limited to what they can provide at rest areas in terms of amenities. Easier for a city/county to do versus the TxDOT. There is no formal partnership, but a good relationship with owners of the truck stops is important. It is important to know their challenges and having awareness for them to know where to develop. Now they are building smaller parking facilities as they do not make as much money on parking. Building facilities adjacent/near the truck stop would be the best solution in this instance.



- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - There are some in the region, but still a good amount of demand. Can show where the demand is located through the studies that were conducted.
 - Identifying your boundaries which areas you want to take in – but do you want to look at areas outside of the boundary like Nogales as that will impact drivers into the Phoenix area.
 - Growth has exploded in warehousing, trucks lined up on frontage road, the topic is now on people’s mind and might see some positive change from that.
 - All projects are TxDOT, cities, counties, or port lead – HGAC is not a lead for implementation strategies but helps to facilitate the regional conversations during implementation.
 - How do you identify opportunities for public-private partnerships?
 - Not directly addressed.
 - Mechanisms to implement construction for new truck parking?
 - Some areas where it is constrained, the TxDOT Maritime Division is working with the Port for establishing freight villages, rail lanes, regional access lanes (not dedicated lanes for freight but are focused on freight through the region) and identifying staging areas. This is also to utilize the Regional Access Lanes (REAL) lanes. Issues in El Paso are border related and warehousing, as every region is unique to their freight movement.
 - Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - Not directly addressed.
 - How to address site issues like security, lighting, traffic, and drainage?
 - Tired and fatigued drivers make driving a safety issue. Stating that the federal government gave the drivers an unfunded mandate.
 - It helps to have dedicated funding stream from the state DOT level to do improvements.
 - How to handle public pushback on adding truck parking?
 - Cities are stopping drivers from parking at home. Local entities do complain about truck parking, many of them mentioned the need for additional spots. There is a handbook for policy guidelines for community implementation of parking. There is no zoning in Houston, so developing guidelines for these regions to require parking, signal, or road approach for truck parking is the best approach. Zoning ordinances are difficult to get through. Taking the guidebook and making it more catered to the cities and counties.
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesignated” parking areas?
 - Not directly addressed.



- Any problematic regulations you have experienced you'd advise to do away with?
 - Not directly addressed.
- Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - There are still long-haul parking on the periphery, whereas the short-range drivers are parking in the city. There is a need to look at both and not in a vacuum. Different parking types for different reasons. Staging occurs in the urbanized areas whereas the others take place on the periphery of the region.
 - In Harris County there is a lot of freight warehousing.
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not directly addressed.
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Short term parking may not need amenities and could be different. Truckers want to be close as possible to final destination. Overnighters would want facilities like restrooms and dining options.
 - How have you planned for the dropped trailers phenomenon?
 - Not directly addressed.
 - Who typically bears the cost of providing truck parking or utilizing truck parking?
 - Not directly addressed.
- Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - Not directly addressed.
 - How has your area effectively planned for trucking parking / movement? How has it been demonstratable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - Houston transportation is rehabbing sidewalks. So if they want to require parking/staging areas they would need to incorporate that into the development process.
 - Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - Not directly addressed.
 - Are agreements made between private companies for the need of additional truck parking spaces?
 - Not directly addressed.



- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - DriveWyze is user-inputted and sharing information on where to park – throughout the country and not Texas specifically. This information can be provided to technology and 511 to relay the information to the drivers. At the Great America Truck Show, there are different application creators there and that seems to be a good way to get that information integrated.
- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - Not directly addressed.



North Central Texas Council of Governments (NCTCOG)

The NCTCOG has a heavier focus on implementation of plans that are developed from the state freight plan by TxDOT that included locating where the demand for truck parking has been identified. NCTCOG has conducted their own truck parking study as well as a truck driver survey to help identify additional locations where truck parking should be located. NCTCOG, like many other peer interviewed MPO's, does not have direct involvement with state-owned facilities such as safety rest areas which has resulted in the metropolitan region being supported entirely by the private industry. NCTCOG has been successful with partnering with private industries through the region by acting as the mediator for all the involved stakeholders to address the truck parking problem. NCTCOG plans for the next ten years while the private industry is looking into the next one to two years of immediate implementation. This requires any plan to have the long-range as well as short-range solution ready to implement as they are needed. NCTCOG is currently in the process of implementing a large truck port that has been dubbed as a "quasi-public-private" facility for trucks. The agency also performed a land use study and is working to develop requirements for all future developments to take into consideration the needs of truck parking.

Interview with NCTCOG on 12-07-2023

Representatives: Brady Lapres (Transportation Planner), Michael Johnson (Principal Transportation Planner Freight Planning), Jeff Hathcock (Program Manager Freight Planning), Morgan Tavallaee(Transportation Planner)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - It is good to have signage displayed on highway message signs (DMS) and have a number of sensors in the actual parking lot. The COG is working with stakeholders on implementing that type of system.
 - Eventually, the truck parking issue would move to a driverless cab and stopping in a designated area – although truck parking availability systems can help in the interim.
 - Increase visible no parking signage in unsafe parking areas
 - Not directly addressed.
 - Expansion or redesign of existing truck stops / rest areas
 - The truck parking situation in the twelve-County MPO is that there is no public truck parking in region. There are a few rest areas, but none designated for truck parking. Several TxDOT rest areas provide facilities with a total of less than 1200 spaces in the entire region.
 - The region is supported by the private sector completely.
 - Partner with retail establishments to allow for truck parking
 - TxDOT cannot speak to any one company using another company's lot. As an example, at one stage Walmart would allow truck parking at some facilities and was open to negotiation as a temporary location for deliveries in the area. Some Walmart's still allow it, but not all – and this is



something that a relationship would need to be built to see efficiency in the solution.

- Increase enforcement of parking restrictions in conjunction with other solutions
 - The local jurisdictions deal with enforcement and also the local application of roadway design criteria. If there are trucks parking in a specific location near a freight facility, there is a reason trucks are parking in the vicinity. The issue is not with drivers running out of time, but what is going on with the facility that is causing the operational issue, such as queuing.
 - There is a Commercial Motor Vehicle (CMV) Enforcement Task Force that discusses these topics on a regular basis.
 - On the enforcement side, a lot of Cities have no truck parking in the City or in neighborhoods. No good success story to tell about enforcement. It has been noticed that state police have been allowing truck parking on frontage roads as long as truckers are safe, likely because they understand the conditions and limitation of parking for truckers.
- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - Not directly addressed.
- Cooperate with owners of underutilized malls/shopping areas
 - Not directly addressed.
- Parking agreements with facilities with in-house fleets
 - Not directly addressed.
- Modify zoning ordinances to require provision of truck parking
 - The NCTCOG truck parking study looked at where the trucks are going, both on the freeway, and in terms of land use. Also, the study looked at where the truck stops are existing. NCTCOG did a driver survey to get an idea of where the drivers thought truck parking was missing.
- Public-private partnerships to build additional truck parking
 - NCTCOG have had quite a bit of success with working with multiple partners. An agency cannot talk to just the state DOT or a single company – the solution set has to be collaborative. When NCTCOG takes the 2018 Truck Parking Study, or any plan, to the private sector, the plan almost always goes back to square one. Make any plan fully inclusive of all stakeholders. It is very hard to get the private industries involved.
 - The private sector is looking at the next year, not next 10 years – their timeframe is more immediate than any plan can support implementation. Private sector loses focus if implementation strategies are planned too far out in advance. An idea is to break strategies into phases so that there is a near-term implementation strategy set for private sector to partner on. Supplemental measures can be put in place along the way (long-term plan and immediate plans that can be implemented). The biggest thing is to try to get private sector buy-in. Private industries are looking at near term compared to long term planning. Great success with long term plan, but the private sector is not as interested.
 - Signage, communication, real time trucking availability are helpful at public-private facilities. Working with private industry, Cities, Counties, and TxDOT are planning to put in a quasi public-private parking facility –



called the AV truck port. This is just one project that is fairly large and was submitted through the TIGER grant proposal process for automated truck vehicles. The proposal can be found online.

- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - NCTCOG is working on a new truck parking location but have an emphasis on implementation over locating truck parking locations.
 - FHWA has many funding sources for truck parking. Everyone likes to talk about it, but no one wants to pay for it. Not just a private/public sector problem.
 - Houston has micro truck parking locations that is a best practice in the state.
 - TxDOT has made a design guideline for truck parking that other regions should consider.
 - NCTCOG is trying to overlap the needs of stakeholders and combine them into one location as sort of a truck port situation. Zoning in on specific projects that can match up with specific available funding from FHWA may offer opportunities to leverage money is for truck parking. Agencies can then apply for this and show that the different type of project is best in our “Corridors of Concern”.
 - Everyone is moving at a different speed between the different stakeholders. Biggest lesson learned is NCTCOG moves at the pace of government. Agencies have to figure out ways to move at it a bit more quickly.
 - Private industry is proposing technological items to add to infrastructure to provide better parking ingress/egress. For example, lidar is a technology that can identify how many trucks are traveling down the roadway, how fast, and what exits they are using that allows agencies then to use the data and put into action a plan for certain facility improvements.
 - The agency that pays for the operations and maintenance of truck parking depends on the project. For some projects, NCTCOG is the lead. Some are TxDOT lead. Some are Cities and Counties. The key is to make sure everyone is committed to the project, and everyone has stake in the game. It is recommended to try to get a diversified financial base for the project. Sometimes it depends on where the location is and may be better for TxDOT to lead project or cities. For specifically truck parking, it is important for TxDOT to lead the project and have everyone be in support of the project. Precedence has been set by the federal government.
 - How do you identify opportunities for public-private partnerships?
 - Not directly addressed.
 - Mechanisms to implement construction for new truck parking?
 - Not directly addressed.
 - Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - Not directly addressed.



- How to address site issues like security, lighting, traffic, and drainage?
 - It is good to focus more on safety as that is a driving factor in usage of a facility. At a woman in trucking event, they all have the same story about unsafe conditions they have experienced.
 - At a facility in Dallas (Walmart and Amazon), they have a queuing problem because of the flow into the facility that can be backed up onto the ramp that leads to the facility. It is an issue for regular motorists and other drivers. NCTCOG has worked with the City and facility to try and correct those situations.
- How to handle public pushback on adding truck parking?
 - No area is exactly the same. The agency did do a land use analysis that looks at freight as a good neighbor strategy. The analysis tries to express the importance of strategies to the private sector and Cities or agencies that are in charge of enforcement, development, and property. NCTCOG tries to ensure that anything built now is built with those recommendations, so these problems are minimized in the future.
 - NCTCOG works with the Cities of Dallas, Arlington, and Fort Worth. A lot of cities and counties have issues with truck parking near neighborhoods, as well as issues with noise, pollution, nuisance, idling. NCTCOG tries to take on those tasks one-by-one and also deals with them in a holistic approach in a specific area.
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesignated” parking areas?
 - One ordinance (contested by the state) that the NCTCOG has worked on in Cities and in the County is to reduce idling. Idling code for Cities and Counties is for a maximum of 15 minutes (for air quality) for any vehicle over 8,000 pounds in weight. A lot of Cities and Counties did adopt it although it has helped with enforcement in certain areas. Drivers must be aware of this ordinance. In some cases, agencies have tried to push Auxiliary Power Unit (APU) programs. Smaller trucks do not have an APU. Most overnight drivers have APU’s.
 - The agency tracks areas with a lot of freight development that ordinances and space has been allocated to pull over and park to get out of the way.
 - There is some use of “no truck parking” signage in local communities.
 - Any problematic regulations you have experienced you’d advise to do away with?
 - This is more of a land use question and NCTCOG has little influence over land use as an agency. Areas change with their land planning over time. The scale of warehousing is getting larger and puts pressure on rural communities where this type of industry and facility is moved into. The demand of the market is what drives this shift in land use, as well.



- Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - Not directly addressed.
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not directly addressed.
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Seen as the same issue, whether at the edge of the region or in the direct center.
 - How have you planned for the dropped trailers phenomenon?
 - Dropping trailers is more of an issue on the enforcement side, the agency is aware of different Cities and their enforcement strategies.
 - Who typically bears the cost of providing truck parking or utilizing truck parking?
 - It is important to talk about freight as a good neighbor. Cities have necessary tools, need to educate them on property development. Rural areas may not be used to 1,000,000 square foot warehouses or a Love's moving in, as they see the development as a great thing for the tax base for the City. They need to make sure to put in the proper development rather than making the development its own island. These agencies may not be as well versed as the MPO or the state DOT in how best to address truck parking and allow for and plan for appropriate truck parking so as to not get into the situation that many dense urban areas are now dealing with. NCTCOG has worked with quite a few rural Cities to make sure the newer development is being planned out properly to make sure the roadway system is prepared for the volume of trucks traveling down the roadway.
- Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - Not directly addressed.
 - How has your area effectively planned for trucking parking / movement? How has it been demonstrable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - Multiple teams from NCTCOG work with the agencies to try and make sure the problem is addressed from multiple angles. Fair Park, a location being revitalized, is redesigning and reconstructing their roadway system along the 345 and 30. They are being rebuilt and cause new connections into a largely pedestrian area of Deep Ellum – so NCTCOG is trying to make sure multiple teams are addressing multiple facets with multiple



pieces working together. Pedestrian and freight brings up a major safety concern. There is a need to look at through streets for freight traffic away from pedestrian movements. If they have a physical separation, this provides a bit of safety. The roadway network may still have trucks for the through street, so it is beneficial to try to find the safest, best possible way to make those work together.

- Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - Historical buildings/freight developments that are aging out put a lot of the focus for out-of-box ideas in areas near neighborhoods.
- Are agreements made between private companies for the need of additional truck parking spaces?
 - Not directly addressed.
- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - Not directly addressed.
- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - The most important thing for drivers is safety. Truck drivers are willing to pay to reserve a spot as long as they know they have a safe place to park. Amenities are handled by the private sector in these instances.



Regional Transportation Commission of Southern Nevada (RTCSNV)

The RTCSNV region is unique in that it not only does not own or maintain public facilities for truck parking, but that the private industry seems to have handled the truck parking problem inadvertently. For many of the major casinos, truck drivers can stay on the property of the casinos, or in adjacent parcels owned by the industry. Because of the density of casinos in the region, this results in less demand for truck parking than in other regions without a direct partnership with the industry. The region also has a separation of land uses, which has helped with any public pushback that could be experienced with dedicated spaces for truck parking. With some planning in the works to build an inland port near Nellis Airforce Base, and a separate airport/industrial center being considered south of Las Vegas near the town of Primm, the region is preparing itself for a greater influx of freight traffic to combat the issue directly. RTCSNV has also considered utilizing unusable land directly north of Harry Reid International Airport for staging truck parking for events near or on the strip. As the Port of Long Beach and Port of Los Angeles grow and the amount of goods needing to travel from the port to the rest of country grows, so does demand for storing those goods at half-day or day-away drive locations such as Las Vegas.

Interview with RTCSNV on 12-06-2023

Representative: Andrew Kjellman (Director of RTCSNV), Nathan Goldberg (Manager of Transportation Planning)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - RTCSNV has had some involvement with the process, although NDOT is the ultimate owner of the freeways so RTCSNV has little ownership in terms of technology capabilities on the freeway.
 - Increase visible no parking signage in unsafe parking areas
 - Not directly addressed.
 - Expansion or redesign of existing truck stops / rest areas
 - Not directly addressed.
 - Partner with retail establishments to allow for truck parking
 - Not directly addressed.
 - Increase enforcement of parking restrictions in conjunction with other solutions
 - Not directly addressed.
 - Reach out to owners of vacant parcels to encourage temporary truck parking use
 - Casinos provide many spots for truck parking as they own much of the land surrounding the strips and truck drivers park their vehicles in adjacent dirt lots owned by the casino.
 - Harry Reid International Airport owns a lot north of the north runway that is heavily restricted in use and acts as a temporary parking location for trucks between events in Vegas. An issue recently has been the number of closures occurring near the strip for events that restrict the underutilized parcel for event staging. The parcel is currently used by the convention center, so access to the parcel for truckers is limited to when



- the convention center has no need for it. This location north of the airport has been considered for a shared truck parking plaza and is currently being discussed with the Convention Center to determine feasibility.
- In the context of the empty lots, private operators can have an easement for the empty lot for trucks to park there as there is available land and make it cheap to attract those truckers. This has helped alleviate a lot of this problem within Southern Nevada. Truck parking exists that is intermittent with varying levels of utility and use. Truck parking is an extremely low value of land, currently. Eventually this will be a major problem for Southern Nevada in 20-25 years.
 - Cooperate with owners of underutilized malls/shopping areas
 - Not directly addressed.
 - Parking agreements with facilities with in-house fleets
 - Not directly addressed.
 - Modify zoning ordinances to require provision of truck parking
 - Warehouses are built on specifications, so there is no liberty in finding out who the owner may be to set-up a partnership accordingly.
 - Public-private partnerships to build additional truck parking
 - Not directly addressed.
- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - The current approach is to refer to calls/complaints from the municipalities of problem areas and directly address the issue. This is a case-by-case situation for most of these. The problem is not so apparent in southern Las Vegas.
 - There is a new airport being planned for in Primm which could support a truck staging, parking, and logistics hub for the state of Nevada.
 - How do you identify opportunities for public-private partnerships?
 - The last mile issue lends itself to workforce transit access. RTCSNV looked at a transit approach for the area by providing subsidized travel costs for Lyft for employees in industrial areas. \$1 each way subsidized and the employer pays the rest – leaving the cost for accessing the truck parking for the workforce completely covered. More of the microtransit focus on getting workers to their trucks, especially during seasonal increased freight movement and workforce needs.
 - No other partnerships were established regarding truck stops in or near the area.
 - Mechanisms to implement construction for new truck parking?
 - City of Henderson approached the idea as curbside management after trucks were caught parking in the buffered bike lane in the city. The city provided parking for trucks within the buffer.
 - Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - Not directly addressed.
 - How to address site issues like security, lighting, traffic, and drainage?
 - Not directly addressed.



- How to handle public pushback on adding truck parking?
 - There are a severe separation of land uses in the Vegas area, so finding residential near industrial areas where trucks frequent has not been presented as an issue to the region. Recently, charter schools have been located near the industrial areas and are creating a queuing and staging problem for the area during pick-up/drop-off.
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesigned” parking areas?
 - Not directly addressed.
 - Any problematic regulations you have experienced you’d advise to do away with?
 - Not directly addressed.
 - Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - Not directly addressed.
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not directly addressed.
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Not directly addressed.
 - How have you planned for the dropped trailers phenomenon?
 - Not directly addressed.
 - Who typically bears the cost of providing truck parking or utilizing truck parking?
 - The RTCSNV role in the phenomenon is that they are responsible for the design guidebook – Blue Book. Resources could be poured into re-designing cross streets to include freight needs for areas where that may be needed. This book helps with new developments and could be updated to include truck parking recommendations.
 - Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - I-11 has been completed in recent years and provides many locations for parking in the immediate area that is more accessible compared to when it was US-93 carrying freight traffic on the east side of Vegas.
 - Economic development sites being developed could include freight planning considerations for truck parking earlier in the conversation.



- How has your area effectively planned for trucking parking / movement? How has it been demonstrable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - [Not directly addressed.](#)
 - Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - [Not directly addressed.](#)
 - Are agreements made between private companies for the need of additional truck parking spaces?
 - [Not directly addressed.](#)
- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - [Not directly addressed.](#)
- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - [Not directly addressed.](#)



Denver Regional Council of Governments (DRCOG)

DRCOG adopts the plans that are created by CDOT and works with the local municipalities to address where the greater needs are. One challenge to this are the air quality mandates present in the region, which is a policy that has created limitations for where truck parking locations can be implemented. Another challenge comes from the housing affordability issue, as developments are being located more along freeways and has elevated the issue with residents not wanting to see or hear any trucks. Directly in the boundary and under the guidance of DRCOG, any solution that has occurred in the region has been the direct result of private industry action. The region is 11th in the country for the number of available public spaces, but 31st with the number of available private spaces. In the DRCOG region, the growth of truck parking spaces has not kept up with demand.

Interview with DRCOG on 12-06-2023

Representative: Cole Nedar (Senior Planner Regional Multimodal Group)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - Following the state freight plan, it calls for recommendations without assistance on how to implement the plan. The plan calls for increased technology along interstate corridors, but the MPO is unsure how to facilitate that. The plan in the Denver area also mimics that of the statewide plan.
 - DRCOG is looking at a possible “signage coalition” between agencies for truck rest areas state-by-state
 - CDOT primarily oversees this (only 350+ owned by CDOT)
 - Increase visible no parking signage in unsafe parking areas
 - DRCOG identified issue: Off-interstate parking, off-ramp/on-ramp parking with the updated goal of identifying where the issue areas are inside the region
 - Expansion or redesign of existing truck stops / rest areas
 - Safety rest areas are handled by the DOT.
 - General recommendation and ID of project rest area along I-25
 - DRCOG has no parking-specific map to identify the needs
 - This was a general issue that was brought up statewide, but that DRCOG has done little to help with. A critical concern from public feedback was the lack of programmed or “planned” funding for expansions or redesigns like truck stop improvements. The agency does not have a specific program in place for this and for that reason, that approach has been a failure.
 - Partner with retail establishments to allow for truck parking
 - One 3P project CDOT/local gov and a Loves gas station for expanded parking
 - CDOT expressed need for future projects in addition to pilot



- Increase enforcement of parking restrictions in conjunction with other solutions
 - Enforcement is generally left up to the local governments, DRCOG has no enforcement or incentive mechanism related to parking restrictions. CDOT (with DRCOG involvement) has the following groups to address (recommendations only) issues like this:
 - Statewide Transportation Advisory Committee
 - Colorado Freight Advisory Committee
 - Freight Plan Working Group
 - CDOT Public Working Group
 - DRCOG is considering Neighborhood/local gov request portal to identify areas of concern (from stakeholder feedback)
 - One consideration that DRCOG has mentioned - tie GHG emissions work into this, or look at TDM strategies developed by DRCOG
- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - DRCOG has not personally done this, leaves it up to CDOT or local governments. This effort is fractured and in the beginning stages, it's hard to tell if it's actually making a difference yet.
- Cooperate with owners of underutilized malls/shopping areas
 - Not directly addressed.
- Parking agreements with facilities with in-house fleets
 - Not directly addressed.
- Modify zoning ordinances to require provision of truck parking
 - Not directly done or enforced by DRCOG, but DRCOG can establish these ordinances, if desired. Truck parking ordinances come in conflict with the price of land in the region and make it difficult to handle properly.
 - DRCOG is considering recommending the creation of a model zoning ordinance for freight routing/freight cluster areas in the next plan update.
 - The agency does general freight cluster areas, but they are unspecific and do not contain further recommendations.
 - DRCOG does note that they have been looking at similar freight cluster studies in Indianapolis, Memphis, CMAP freight corridors, and ARC
- Public-private partnerships to build additional truck parking
 - Statewide DOT has facilitated more on public-private parking. Collaboration between CDOT and the Town of Bennett is most notable for the infrastructure deal that was established between the town and a private developer.
 - Multi-use areas that have truck parking in combination with other land uses or vehicle movement may not be an effective solution.
- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - This is the role that CDOT plays, MPO and the City follow the recommendations of CDOT.
 - Truck parking has not kept up with growth.
 - The region is 11th in the country with the number of available public spaces but 31st with the number of available private spaces.



- Based off of CDOT information (2019 truck parking assessment). DRCOG does not collect this data and the agency relies on CDOT.
 - The answer is basically the same for the remainder of the questions. The agency does not have a programming mechanism in place for any of these improvements, so they don't really make a concerted effort on these improvements.
- How do you identify opportunities for public-private partnerships?
 - It may be beneficial to consider partnerships with public-private entities such as between the DOT and local transit providers for use of park and rides, as an example.
- Mechanisms to implement construction for new truck parking?
 - Not directly addressed.
- Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - Not directly addressed.
- How to address site issues like security, lighting, traffic, and drainage?
 - Not directly addressed.
- How to handle public pushback on adding truck parking?
 - As the City is facing a housing affordability and inventory issue, many units are being built near interstate and has inflated the issue as residents do not want to see trucks.
 - We see this (in general) with any truck routing or truck parking improvements. Most improvements are viewed at the expense of other modes of transportation or other land uses, so our metro area has difficulties overcoming this given the overall density.
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesignated” parking areas?
 - Not directly addressed.
 - Any problematic regulations you have experienced you'd advise to do away with?
 - Stagnant gas tax in Colorado. Leads to less than desirable roadway conditions, limited transit options to get personal vehicles off the road, and not enough funding for demanded improvements. And an overreliance on fines and fees.
 - Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - Not directly addressed.
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not directly addressed.
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Not directly addressed.



- How have you planned for the dropped trailers phenomenon?
 - [Not directly addressed.](#)
- Who typically bears the cost of providing truck parking or utilizing truck parking?
 - [If it is a state-owned facility, CDOT will handle it. Others are handled by the private industry themselves.](#)
- Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - [The region will not be expanding or adding any highways.](#)
 - How has your area effectively planned for trucking parking / movement? How has it been demonstrable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - [Not directly addressed.](#)
 - Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - [Not directly addressed.](#)
 - Are agreements made between private companies for the need of additional truck parking spaces?
 - [Not directly addressed.](#)
- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - [Not directly addressed.](#)
- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - [Not directly addressed.](#)



Colorado Department of Transportation (CDOT)

CDOT has taken some unique approaches with implementation strategies to address the truck parking challenge. The most prominent case example is a public-private partnership that CDOT facilitated between the Town of Bennett and a private truck stop. When the industry wanted to locate a truck stop in the Town, CDOT facilitated the conversation between the private truck stop and the Town for bringing the total number of parking spots from 30 to 114 by fast-tracking a roadway improvement project that would have been needed to be addressed with the project. From this project as well as several others with expanding the number of spaces available at private truck stops, CDOT has found that there is an upper limit of spaces versus the number of amenities that can be provided before it no longer is cost-effective for the private company. CDOT has also purchased land behind a private major retailer to supply additional parking locations behind the retailer in partnership with CDOT for future addition of truck parking locations and separate entrance for truck parking access to amenities. Amenities and safety are priority for CDOT and is in constant pursuit of providing both when implementing strategies for more parking spots. CDOT recognizes that they are not in competition with the private industry and cannot provide these services directly as a result – which is why there is such a huge emphasis on public-private partnerships. Any federal funding that does come CDOT's way is strictly for capital improvements, as additional funds need to be secured for maintaining the lots. Technology is a major player that was looked at, specifically on roadways. Truck drivers do not want multiple applications to access the 511 system to get information on truck parking nor do drivers get the opportunity to use their phone while working.

Interview with CDOT on 11-21-2023

Representatives: Craig Hurst (Freight Mobility and Safety Branch Manager), Erica Denney (Freight Mobility and Safety Branch Freight Planner)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - CDOT suggested to leverage the *NCHRP Project 20-68A, Scan 20-02: Successful Approaches for Facilitating Truck Parking Accommodation Along Major Freight Corridors* for additional lessons learned.
<https://onlinepubs.trb.org/onlinepubs/nchrp/docs/SCAN20-02.pdf>
 - Real-time truck parking availability signage and communications
 - Truck parking signs posted along freeways are helpful to indicate to drivers, so they do not guess and drive straight to the solution. Some places are going to charge and some are not – that is up to Congress to allow truck drivers to write it off as a tax write off.
 - CDOT wants to own truck parking as a state and open an API that collects truck parking availability data where all trucks would have access to this (and state website) and do it for free. Truck stop companies want to display the parking spots available at their lot and would participate in this API implementation.
 - Recommendation is to build an entire network for truck parking, not just some sites. CDOT did a pilot of four (4) locations for roadside signage that says, “exit 365 has 37 spots available”.



- Increase visible no parking signage in unsafe parking areas
 - Not specifically discussed.
- Expansion or redesign of existing truck stops / rest areas
 - Expansion and redesign was discussed. It makes sense and they like the idea. Not a massive amount of spots are built, but expansions can help. CDOT's most likely solutions are expanding rest areas.
 - CDOT recognizes that the state should not be in the truck parking business, but the rest area business. DOTs should stay away from parking reservation systems.
- Partner with retail establishments to allow for truck parking
 - Looking at talking to stadiums for setting this up for truck parking emergencies during winter conditions. CDOT cannot park at the office (located next to the stadium) when the Denver Broncos play. Need to look into utilizing empty event parking areas more often for truck drivers outside of events.
- Increase enforcement of parking restrictions in conjunction with other solutions
 - There is a safety violation for going over on hours of service. Some truckers will park and hold up for 10 hours with nowhere else to go. Officers are less likely to cite for parking due to EDL mandates.
 - Best thing to do might be tell drivers to park outside of town. Then trucks would now have to park outside the City and account for that added time in their travel and not going over on the federal mandate. Double edge sword for helping drivers not violate drivable hours. The industry is putting a lot on drivers and now have no time on the backside to safely park.
- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - Not specifically discussed.
- Cooperate with owners of underutilized malls/shopping areas
 - CDOT is considering using underutilized malls for parking. People generally would rather have the empty mall than truck parking.
 - Rural locations have been discussed with Walmart including a side door entry to the Walmart for the drivers.
 - Safety solutions for truckers is needed. There is a safety issue with truckers parking on the side where plowing is needed.
 - CDOT has purchased land behind a Walmart and turned it into a parking location before with some success. Our biggest opportunity is to have this partnership and ongoing conversation with private sector to find opportunities to create and support truck parking.
- Parking agreements with facilities with in-house fleets
 - No direct agreements have been made. Most fleets are utilizing third party truck parking. Any strategy mitigation with fleets must be regional in implementation, not possible to do at a local level. Businesses only want their fleet drivers parking there. Big transition in our economy is with the Amazon model. For example, Amazon will contract with a middle company to travel to the customer. Middle company is not allowed to park at Amazon facilities and does not own their own facility, which creates the truck parking demand for the transportation network.



- **Modify zoning ordinances to require provision of truck parking**
 - Nothing has been implemented.
 - An idea is to consider development requirements for middle mile parking. For example, if we are building a warehouse with 10 dock doors and they need to provide 5 truck parking areas. Industry heads see the value and they are trying to keep property as suitable as possible. Similarly, when we look at building multi-family housing, we always have a parking standard. We need to do the same thing for when approving warehouse districts. When doing a traffic impact study for a development, 1601 process, we should look at businesses how they impact parking, they are creating the problem and asking the government to solve it. A policy to approve warehouse parking with the traffic impact analysis where there would be one space required for every unit would dictate truck parking requirements. That would have supported addressing the front end problem to not create the truck parking stresses on the network. We can do appropriate setbacks and some people do not like to look at the truck parking. So we build a warehouse district to require something in the middle (i.e. parking), and it can be the center of use for businesses in that area. Security, lighting, can turn into a micro-truck stop. This is strictly a new development sell.
- **Public-private partnerships to build additional truck parking**
 - When talking to Loves, they have a balance for truck parking versus amenities they need to be sensitive to. CDOT worked with the City of Bennett to allow 114 spots before it became burdensome to provide any more.
 - CDOT has also worked with private companies to make bigger spots and expand their current lots. Bigger truck parking spots/more spots do not solve everything otherwise they have to support more showers. Florida takes an existing facility and builds a truck parking spot next door. You must be working in partnership with the business.
 - One example local Town corridor has needed over 100 truck parking spots because of a prevalence trucks parking in the area. The local Town came to CDOT with the truck parking issue that exploded every night (especially Sunday nights).
 - Airbnb type companies could be used to reserve spot for parking. CDOT suggests to let the private companies do this rather than any government agency.
- **What are some lessons learned on the implementation process for truck parking physical locations?**
 - **How do you identify potential truck parking locations?**
 - CDOT will always advocate for better truck data. A lot of truck parking issues experienced for CDOT are inbound freight. Some truckers arrive early and wait it out until their delivery time. A significant amount of truck parking problems could be reduced by solving the issue at the origin – middle development. Companies are already existing and changing their parking practices that could help solve the problems in the open areas. It



- is recommended to build partnerships and look to the industry to identify the problem. It is always a good idea to ask instead of demand regulation.
- Need to identify pain points in the network and communities where truck parking concerns have come up.
 - How do you identify opportunities for public-private partnerships?
 - CDOT got lucky on a public-private partnership where a City wanted to partner with CDOT with a Love's location. CDOT got an advance on the funding to fix/expanded design of bridge from freight planning money to support the City need (using freight planning money for highway funds). City, in turn, got their truck parking situation addressed with an expansion of the private sector parking with adjacent extra spaces added on. Number one concern was mobility and if they get a good design in place they can accelerate the project.
 - Mechanisms to implement construction for new truck parking?
 - CDOT recommends partnership with municipalities to accelerate mobility projects for assistance with truck parking.
 - Florida DOT has done this type of partnership before, creating extra and new spaces next to existing private lots where truckers can use the private amenities while parking on the adjacent publicly owned lot.
 - Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - CDOT cannot just keep expanding rest areas with funds received.
 - There is not much in terms of retrofitting as there is a lack of truck parking design standards. Jason's Law is the only standard.
 - How to address site issues like security, lighting, traffic, and drainage?
 - For truck drivers, parking in the dark and having to walk across the street to use a bathroom, lack of safety is important. This applies to third party trucks using the lot and causes insurance liability issues. No federal standard for truck parking, Jason's law is the closest. AASHTO Green Book for those standards. Diagonal parking with good ingress and egress. Now the topic on striping for pedestrian safety becomes a challenge. What we need to do is put ourselves in the drivers seat, what can we do to help them. It is an ever-changing industry.
 - How to handle public pushback on adding truck parking?
 - There is an I-70 Truck Parking Guide that has been developed that may support parking awareness and safety for truck drivers along I-70. https://www.codot.gov/safety/traffic-safety/assets/documents/truck_parking_guide.pdf
 - CDOT needs ROW and direction on how to use the land when purchased. City Council's needs to approve those land use changes. That is where people come in and begin complaining. No one wants to see the trucks. That makes the issue stick for residents.
 - Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to "designated" parking areas that has helped your region? Or "undesigned" parking areas?
 - Truck drivers all talk. So if something is appropriately signed or communicated as designated or undesigned, the trucking



industry will quickly learn where to park or not to park. Maybe there are ways to leverage that chain reaction of information.

- Any problematic regulations you have experienced you'd advise to do away with?
 - The ELT personal conveyance loopholes in the system are fines that drivers need to pay when trucks cannot find parking, either available or affordable. The federal hours ELT mandate is a strict one and loosening up of the mandate, or identifying a way to allow for the time to find safe truck parking, should be allowed. Truckers will take billable time out of their travel to find safe parking or they will not be reimbursed for truck parking closer to their destination – lose-lose situation.
- Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - The first thing to look at in development is what is generating all this need. Denver is a big inbound city. It is a good idea to look at the middle mile, which has been overlooked more recently – not just first and last mile that are generally focused on in studies and implementation plans. For example, Amazon will contract with a middle company to travel to the customer. It is a good idea to distribute warehouses in region to accommodate this. Third parties get kicked off property (which accounts for most places). The first place that experiences this impact is in the industrial areas.
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not specifically discussed.
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Allowing private warehouses to allow non-fleet vehicles to park so long as they have business being there could be a good strategy to consider.
 - How have you planned for the dropped trailers phenomenon?
 - Not specifically discussed.
 - Who typically bears the cost of providing truck parking or utilizing truck parking?
 - It depends on who is addressing the issue is the one who pays. If it is on private property, the landowner bears the cost and the result is that the owners want charge for the service due to maintenance and sanitary reasons. Public parking is managed by the owner of the facility – either local or state DOT.
 - Operations and maintenance funding does not typically come with federal funding, so that needs to be allocated and planned for separately very carefully.



- Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - Not specifically discussed.
 - How has your area effectively planned for trucking parking / movement? How has it been demonstrable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - Education, land use, and zoning are the first things that get in the way. The economy is shifting, and retail is moving to distribution centers. Small distribution facilities are getting as close to customers as possible. Amazon has now taken over the smaller retail stores becoming a source of many of the truck parking issues.
 - Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - CDOT recommends to look into the Port of Seattle and their drayage parking lots they have provided off-site for staging and overnight parking with success. They are trying to find places for port workers to park their trucks at night. The Port identified a location, created security protocol and is more organized and secured. The spots are free to the Port workers.
 - Are agreements made between private companies for the need of additional truck parking spaces?
 - There was a policy to approve warehouse parking with traffic impact analysis where there would be one space required for every unit (1601 process possibly). That would have supported addressing the front end problem to not create the truck parking stresses on the network.
 - Discussion was had with the City of Bennett, Colorado and Loves for increased parking. Going from 30 spaces to 114 based on various agreements made. 114 spaces was the cap for Loves without acquiring more land for added services like showers and retail.
 - Typically there is no end user involved in the development discussion and it results in a regulatory process which dictates that no middle mile truck parking needs are addressed.
- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - No trucker wants to have multiple apps they need to switch to get roadway information updates based on the state they infrequently travel through.



- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - CDOT has addressed this, for example, by making sure that food trucks and porta potty locations are available for drivers during winter closure emergencies at places like stadiums.



Wasatch Front Regional Council (WFRC)

Much of the truck parking problem has been concentrated in the industrial areas, with noticeable spillover into the surrounding areas of Salt Lake City, Ogden, and West Valley. Some solutions have been implemented with little success, including the location of truck parking into underutilized shopping/strip malls which is challenging because the locations are inconsistent and vary based on the time of year. During the holidays, especially, is when these lots used by drivers are no longer available to them so that the malls can make use of the space for patrons in need of personal vehicle parking. Curb management has been an explored option as well, originating from air quality studies from parked semi-trucks and resulting in roadway extensions and further studies on potential implementation in the downtown Salt Lake City area. There has been little pushback and interaction between the public-private cooperation in the region, and that has led to interesting situations regarding the infrastructure not being able to directly support the influx of semi-trucks entering an area they are unfamiliar with. The inland port authority has been pursuing implementing more truck parking locations and is working with the WFRC on an appropriate location. Like all truck parking projects being pursued by the MPO, WFRC intends to provide sanitation and food services as well at the lots. The WFRC region does have safety rest areas located within their boundaries, however those are managed by the state DOT.

Interview with WFRC on 11-30-2023

Representatives: Jory Johner (Director of Long Range Planning), Chay Mosqueda (Long Range Transportation Planner), Ben Wuthrich (Long Range Transportation Planner), Kip Billings (Senior Transportation Engineer and Air Quality Analyst)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - Have no experience with this. UDOT has tried to enhance signage with minimal results.
 - Increase visible no parking signage in unsafe parking areas
 - Have no experience with this. UDOT has tried to enhance signage with minimal results.
 - Expansion or redesign of existing truck stops / rest areas
 - WFRC is not responsible for funding efforts for parking. UDOT has pursued the construction of a truck stop with facilities that ended up being not maintained and has slowly lost favorability. The Inland Port Authority near Salt Lake City is pursuing the creation of truck parking near their location.
 - Partner with retail establishments to allow for truck parking
 - The first effort of this was led by UDOT with a private company that owned real estate around a truck stop/gas station, and the state of Utah was interested in this project. This was an electrified truck parking project that ended up being pulled out because of a challenging access issue that could not be overcome. WFRC has not had direct conversation with private companies such as Flying J and Sapp Brothers.



- Increase enforcement of parking restrictions in conjunction with other solutions
 - Not specifically discussed.
- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - Not specifically discussed.
- Cooperate with owners of underutilized malls/shopping areas
 - WFRC has held talks about multi-uses for shopping malls with large parking lots that are used only at capacity during holiday shopping. They found that there is some inconsistency for trucks and has deterred trucks from going to retail areas. They do not want to take the chance to park there so they stay close to the interstate and does feed into the neighborhood. WFRC has been working with the company Associated Foods and the County to extend the road 2700 North to have the trucks that park in the extra space. There is consideration for expanding the parking in the current parking lot and could be a facility for more trucks.
- Parking agreements with facilities with in-house fleets
 - Not specifically discussed.
- Modify zoning ordinances to require provision of truck parking
 - Not specifically discussed.
- Public-private partnerships to build additional truck parking
 - No direct interaction with private gas companies on the building of additional parking locations. There is not as much pushback or fallout with the topic.
- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - WFRC discussed completing a Freight and Local Delivery Study that looks at origin and destination as well as movement to support deliveries in the Salt Lake City downtown area. This is more of a curb management plan rather than a truck parking study.
 - A process that WFRC described seems to be that they look at air quality readings/analysis as trucks keep their reefers running for multiple hours while parked and causes a spike in air quality. This is centered more around the industrial area where businesses called for concern on trucks parking for extended durations.
 - What would make a successful truck parking location is if a location can be consistent for the drivers and industry and not change which would forces them to find parking elsewhere. Identifying a distance to reliable parking from known locations would be helpful for the trucking industry to have and to coordinate and centralize truck parking where it needs to happen.
 - How do you identify opportunities for public-private partnerships?
 - The private company must be reached out to by the local agency to get this started. There is a push to get a joint request option put into place to simplify the process.
 - Mechanisms to implement construction for new truck parking?
 - There is no standard that is used for implementation.



- Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - WFRM identified UDOT as being the responsible agency for rest area renovation and upgrades and has tried that approach since the early 2000's. WFRM has concept plans they can share for the sites.
- How to address site issues like security, lighting, traffic, and drainage?
 - Not directly addressed, but the agency does not want to only pursue parking lots with no facilities and wants to include items like showers, trash, and food options for the drivers.
- How to handle public pushback on adding truck parking?
 - Not specifically discussed.
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesignated” parking areas?
 - WFRM was not aware of any policy changes, will pass this question onto their government relations representative.
 - Any problematic regulations you have experienced you'd advise to do away with?
 - Not specifically discussed.
 - Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - On the west side, there are trucks parking in neighborhoods near the industrial area of town – southwest of the airport and the I-15/I-80 interchange.
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not specifically discussed.
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Not specifically discussed.
 - How have you planned for the dropped trailers phenomenon?
 - Not specifically discussed.
 - Who typically bears the cost of providing truck parking or utilizing truck parking?
 - Ben provided an example of a current situation regarding parking at 2700 West. In a city called Farr West City, the city initially requested Weber county for funding to have the road extend south to remove the dead-end. The County is evaluating the project, they can put \$2 million for that, and the City goes to WFRM to ask for additional funding to complete the project. From there WFRM works with the County to line up the funds. In a way, Farr West uses the County funds as a match to federal money along with WFRMs.
 - If it is a state facility, then UDOT takes care of it. But sometimes, the local jurisdictions surrounding the area will ask for funding on



the project and all the agencies will work together to make it possible.

- Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - A new freeway was not necessarily added, the agency noted that a truck stop was constructed in an area that previously did not have those amenities and trucks now route around half the city just to get back onto the major interstates along 215 (as no northbound exits to I-15 are present).
 - How has your area effectively planned for trucking parking / movement? How has it been demonstrable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - The industry is ever-changing and has evolved into something that has presented an issue to cities in recent years. There is no blame to be had on any side and WFRC acknowledges that a consensus should be met between drivers and the cities they drive through to provide them the amenities they need and that, in turn, reduces the burden cities experience.
 - Salt Lake City has vehicle idling ordinance and should be applied/enforced with heavy duty trucks. Efforts could be coordinated by satisfying truckers need.
 - Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - Not specifically discussed.
 - Are agreements made between private companies for the need of additional truck parking spaces?
 - Not specifically discussed.
- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - Not specifically discussed.
- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - When designing truck parking locations, whether they be gas stations or an empty lot, the region as a whole intends to include showers, food options, and areas where the drivers can walk around for all parking locations going forward to increase the attractiveness of those locations over street parking.



Utah Department of Transportation (UDOT)

As UDOT is the major facilitator of all freight movement in the state, UDOT can utilize areas like safety rest areas and the inland port with success in expanding rest areas, which has reduced some of the demand with truck parking. UDOT has also been the major facilitator with working with private industry to establish additional parking locations. The state had established five major partnerships with major private truck stops to provide additional parking along with amenities and safety qualities such as food, sanitation, and resting areas. The contacts were not renewed, however, due to the concerns of vandalism and trash that was being left on the site. Maintenance is currently struggling to keep up with existing facilities, so any capital improvements must consider the priority need for increased maintenance. Because of the extreme weather conditions that are experienced in the region, one idea that has been considered is to turn chain-up areas into temporary parking locations during the non-winter months.

Interview with UDOT on 11-21-2023

Representative: Jordan Bacman (Urban Planning Manager)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - TPIMS is not utilized in Utah. There was a question that was raised in 2017 whether UDOT should be doing that. The decision was made at the time that the trucking industry would rely on outsourced information.
 - UDOT is wrapping up a truck parking study for a pilot on I-80.
 - UDOT has a publicly available statewide rest area map:
<https://uplan.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=a8d16c9f1f0c492a9a2d98a8849abc2d>
 - Increase visible no parking signage in unsafe parking areas
 - UDOT has not increased visible no parking signage. Other folks in the region may be able to describe if this has occurred.
 - Municipalities have posted up the signs more so to keep the roads clear in the warehouse areas.
 - UDOT has tracked locations of where unsafe parking is occurring. There are two local streets that are popular with truckers in the Salt Lake City area. UDOT used GPS data from ATRI to find hotspots of parking in illegal areas based on four (4) months of truck parking data.
 - Expansion or redesign of existing truck stops / rest areas
 - UDOT recently expanded one rest area at Echo Junction along I-80 through leftover truck parking from a FHWA grant. UDOT expanded the existing rest area completed last summer. Not currently tracking utilizations in the area. Other than that, not aware of any public areas expanded or redesigned recently.
 - When Dan Kuhn was the UDOT freight planner, UDOT worked with Parametrix for truck parking on I-15 with private truck owners. A handful of new truck parking locations came about from the study. With the new



truck parking study being wrapped up, discussion will be had with leadership on additional truck parking. Trash cleanup is a point of topic for these areas.

- Partner with retail establishments to allow for truck parking
 - This is one of the potential recommendations that came from the study, but UDOT has not explored this yet. Retail coordination is one of the last available options to consider as it is probably the most difficult of the options. Surge times during the holidays or event venues create uneven amounts of truck parking issues and hot spots, in some cases as great as nine times the amount of truck parking issues in non-holiday or non-event times. Many of these private companies want to charge and truckers do not want to pay either.
- Increase enforcement of parking restrictions in conjunction with other solutions
 - Unsure about increased enforcement. Truck parking violations are enforced, but there is not a deliberate increase or intention with enforcing truck parking at a state level.
- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - UDOT has not done this, but recognizes it is a possibility. Private landowners will probably want to monetize this.
- Cooperate with owners of underutilized malls/shopping areas
 - Not specifically discussed.
- Parking agreements with facilities with in-house fleets
 - Not specifically discussed.
- Modify zoning ordinances to require provision of truck parking
 - Not aware of any Utah examples. Briefly passed the idea by a planner in Salt Lake City. One discussion that has been had is about providing one trucking space for every two loading docks as a good recommended ratio. This is for temporary parking, not overnight parking. It is definitely an option to talk with local governments, but no serious conversations have occurred yet.
- Public-private partnerships to build additional truck parking
 - UDOT has had five public-private partnerships with gas stations or areas where you can pull off and park designated as rest areas. An example is a partnership with transit agencies to utilize park and ride lots for truck parking. Would need to provide 24/7 facilities to use the bathrooms with the idea to drive up business. This was implemented in Utah and lasted over a decade. In recent years, all of the contracts for the public-private partnerships were cancelled by the private owners citing issues with vandalism and trash that the owners no longer wanted to deal with.
- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - UDOT does not have a system for that today and there are few recommendations to look at where there are patterns that indicate a lack of supply. There is a lack of information to then implement a TPIMS. The recent study has plenty of examples where UDOT can start implementing solutions.



- How do you identify opportunities for public-private partnerships?
 - UDOT does not have a system for this today and are just starting conversations on this topic.
- Mechanisms to implement construction for new truck parking?
 - UDOT does not have a system for this today. UDOT is trying to figure out how to fund all of the potential strategies. NHFP dollars have been used to build truck parking from the FAST Act. UDOT does not have an allocation system and they are now working with leadership to know what that looks like for capital construction.
- Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - UDOT only expanded one rest area years ago and not sure if UDOT is really focused on expanding public truck parking areas as a major strategy. Some options UDOT is looking at includes potentially expanding chain-up areas during non-winter months to upgrade facilities to be used during non-winter months and an idea from Kentucky where they made a signage shift for Ports of Entry to communicate with the truck drivers to park at POEs in exchange for not succumbing to additional inspections because of proximity to the POEs. truck industry, we will not bother you for additional inspections – not implemented yet or had the conversation.
- How to address site issues like security, lighting, traffic, and drainage?
 - UDOT does not provide security on public areas. Private operators with gates and lights are different than rest areas. Trucks park at their own risk for rest areas.
- How to handle public pushback on adding truck parking?
 - UDOT has not heard a lot of public pushback. UDOT has just not been building new truck parking areas to create pushback.
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesigned” parking areas?
 - No laws or policy changes known as related to truck parking. It is hard to address which policies to do away with if they are problematic.
 - Any problematic regulations you have experienced you’d advise to do away with?
 - Some municipalities limit trucks outright and cannot say that it is problematic because the issue does not arise in those locations. The definition of “problematic” may change depending on the location, data source, or issue attempting to be addressed.
 - Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - For certain industries, there is more truck parking activity related to it. The big truck parking issue creators are manufacturing, agriculture, and big industrial. Industry type does influence the need.



- Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not that UDOT is aware of, and industry is difficult to adjust.
- What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Short term parking is difficult to predict and determine the need of because of the flexibility. Facilities may not look any different as they need the same number of spaces to park.
- How have you planned for the dropped trailers phenomenon?
 - One street in particular experiences this at the municipal level by an LTL company, however, UDOT has not any identified patterns related to this phenomenon.
- Who typically bears the cost of providing truck parking or utilizing truck parking?
 - No one entity owns truck parking.
 - WFRC does not own any truck parking areas. WFRC did a local delivery study that focused more on short term and not long haul truck parking needs.
 - The Utah Inland Port Authority has gotten into the truck parking issue recently and is looking at a few different options. They designed a truck parking lot on 5600 west and I-80 with a private vendor to maintain it. There are some access issues with the fact it goes through a train line. They are interested in approving more truck parking.
- Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - Not specifically discussed.
 - How has your area effectively planned for trucking parking / movement? How has it been demonstratable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - UDOT has not really done any before or after studies, so it is hard to say what is effective. There is a lot of parking on on-off ramps. The focus should be where is the greatest need where adding more capacity would directly address the problem.
 - Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - Not specifically discussed.
 - Are agreements made between private companies for the need of additional truck parking spaces?
 - There was a major agreement once before but has since been terminated for various reasons involving maintaining the land and cost. No new agreements have been made yet that they are aware of.



- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - Truck visor cards are used to help provide general information to trucks that regularly travel through UDOT.
 - Unsure. UDOT has DMS on the main freeways, but not specifically for truck parking.
 - The statewide Traffic Operations Center works with Waze for accidents, but not for truck parking.
 - There is no truck parking on Utah's 511 and UDOT wants to investigate some more options.
 - There is a map of all truck parking inventory and is not easy for the public to find.
 - Truck drivers do not want to switch between apps across state lines, even if they aggregate it to an app, its still an additional app to use.
- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - Our maintenance personnel feel tapped out now. If UDOT moves forward on capital construction of any new truck parking, operations and maintenance funding as well as resource support needs to come with it.



San Diego Association of Governments (SANDAG)

The SANDAG organization operates as the San Diego's regional planning organization and DOT, with close coordination with both Caltrans District 11, Imperial and San Diego county, and the local municipalities that encompass the region. San Diego hosts two ports, the 10th Avenue Marine Port and the National City Marine Terminal, both of which are in close proximity to one-another south of Downtown San Diego. San Diego also hosts an international border crossing with Tijuana, Mexico, which brings in a sizable amount of commercial freight goods in and through the city. As the city grows, so does SANDAG, and that has influenced the agencies role with managing freight as it moves through the region. In close collaboration with Caltrans, the two agencies have a close relationship in addressing the truck parking problems that have become more present in the region. SANDAG is not a proprietor of land-use, which has presented familiar challenges with addressing these issues of truck parking and how to approach them. Much of the land in the SANDAG region is already developed and anything that is undeveloped has shifted its priorities towards residential development to address the housing issue of the region – so solutions that pertain to truck parking have become expensive and require due diligence with solutions that can properly tackle the problem afflicting the region.

Interview with SANDAG on 01-05-2024

Agency Representatives: Mariela Rodriguez (Senior Regional Planner Goods), Tim Garrett (Regional Planner Goods Movement)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - SANDAG currently does not have a system like this in place currently but this was discussed in the effort underway called the “Sustainable Freight Strategy”. The agency did receive good feedback for additional ITS implementation such as real-time truck parking systems, most of the ITS solutions were in support if the public understood it.
 - Increase visible no parking signage in unsafe parking areas
 - Local cities would post signage in their designated areas and on their local websites. They also have truck routes identified as well as citations for non-compliance.
 - Expansion or redesign of existing truck stops / rest areas
 - This is under Caltrans jurisdiction and a few are located in the urbanized areas of the region.
 - Partner with retail establishments to allow for truck parking
 - Public-private partnerships are not an area that SANDAG has explored quite as in-depth as they are wanting to.
 - Increase enforcement of parking restrictions in conjunction with other solutions
 - There have been complaints from the lack of enforcement on the issue. To address this, when SANDAG last time we met with National City, the city wanted to set up an on-street truck parking reservation system administered at the city-level.



- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - No specific examples were provided, but auxiliary land in the surrounding port of entries owned by the state have been considered for utilization efforts.
- Cooperate with owners of underutilized malls/shopping areas
 - Not specifically discussed,
- Parking agreements with facilities with in-house fleets
 - Not specifically discussed,
- Modify zoning ordinances to require provision of truck parking
 - SANDAG is not directly responsible for land-use modifications as that is performed at the city-level. The Port of San Diego is comprised of different cities along the water. The Port owns the marine terminals and some of the ROW that is directly on the waterfront. The Port also has authority of roads and land use in the area. Land has already been designated for the Port ownership as industrial or similar use, so there is no concern with residential land that may need to change a land use for Port purposes.
 - Truck routes are provided to truckers from the respective cities in or near the Port land as well. Ports are not allowed to build housing, so cities cannot build housing there as land use is limited to industrial purposes.
- Public-private partnerships to build additional truck parking
 - SANDAG has held discussions with intent of collaboration with private entities as the agency is not in the business of maintaining facilities.
 - However, from a program standpoint, the agency is supporting private truck parking locations when it is being discussed.
- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - The SANDAG regions operates with a high concentration of tribal land and can make recommendations on different projects, but the tribal lands have the ultimate say for those projects. SANDAG has engaged the tribal communities in the region but is something that needs further work on. This collaborative effort is needed because of the importance of I-8.
 - Tribal areas have truck travelling facilities along I-8 or in proximity to it, but the agency needs to further the conversation with them. SANDAG has a tribal working group to have that relationship in and is an area they are wanting to expand in.
 - Electrification and zero emissions station upgrades are identified in other studies and work is done involving direct collaboration with Caltrans for adding those locations into Imperial county.
 - How do you identify opportunities for public-private partnerships?
 - The agency has existing relationships with GSA and CVP. In Otay Mesa, Caltrans and SANDAG are building a new port of entry and is scouting a partner such as GSA and CVP to hand over the facility and assist with maintenance.



- Mechanisms to implement construction for new truck parking?
 - SANDAG has been working with Caltrans on a project called “Harbor 2.0”, which focuses on Harbor Drive which connects the two marine terminals by having signal priority, truck only lanes, and other various improvements to the surrounding roadways.
 - The agency would own the strategies as SANDAG has a great collaborative relationship and work as one team with Caltrans. There are many initiatives and efforts happening and are working closely with the government of Mexico with port activity. Mexico has yards that supports quite a bit of truck parking. SANDAG does not own a ton of land or ROW, but Caltrans is very much on board with the strategies that were crafted together and Caltrans has a lot of right-of-way that is saved for construction staging or other uses that could be utilized for truck parking locations.
 - Rural areas are more focused on roadway safety projects and involve minimizing speed differences and curb turns – these focus areas have more support for truck parking. Charging stations in the rural areas for long-haul truckers is an important consideration as well.
- Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - SANDAG has been working on having a more collaborative and intentional effort with implementation on other projects like the Bayshore bikeway separated bike path that runs parallel to Harbor drive. Almost the entire route is a class 1 bike path and can support the effort. There is not an area or stretch of road where people are going on long walks. The bikeway is geared more towards cycling.
 - The agency notes that they desire implementing more zero emissions charging infrastructure and finding appropriate locations for them by retrofitting or finding new locations – this is at the top of the list.
- How to address site issues like security, lighting, traffic, and drainage?
 - SANDAG acknowledges that this is an issue with trucks staying for extended periods of time while parked but has not been able to provide additional information regarding addressing the issues as it relies more on maintenance of the facilities.
- How to handle public pushback on adding truck parking?
 - The agency does hear the pushback in the portside communities, especially near the 10th Avenue terminal. The Cities of San Diego and National City have implemented truck route restrictions to arterials unless they are making a delivery there. National City does not have the same type of restrictions as San Diego as there is a lot of on-street parking located in San Diego.
 - SANDAG has heard from many stakeholders that communities want to accommodate truck parking and are aware of their need, but they also do not want to be the magnet to have more trucks in their community. The surrounding communities of those properties are not very keen with having a huge facility with trucks coming in and out.
 - The agency notes that this is a very complicated issue involving the sounds of the trucks, damage to roads, and safety issues for communities



and the users. Trucks also need a lot of space for their parking. In the SANDAG region, it is very constrained with the land available and is expensive to acquire.

- No direct strategies were provided by the agency but are the ones who head many of the calls and complaints.
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesignated” parking areas?
 - SANDAG states there are ways to influence measures through incentive programs; however, the cities have the land use authority. San Diego county is involved to some extent – more minor. San Diego is in charge for most of the residential properties and regulates what vehicles can park where.
 - Any problematic regulations you have experienced you’d advise to do away with?
 - There is one rest stop in Imperial county out away from the region that was designated for trucks that has been problematic because of criminal activities and other issues in the past. Caltrans shut it down a few years ago and SANDAG revisited the site for improvements and the idea was shut down due to those past issues.
 - Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - Not specifically discussed.
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not specifically discussed.
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - The discussion of strategies does not change for short-term versus long duration parking needs for SANDAG.
 - How have you planned for the dropped trailers phenomenon?
 - Not specifically discussed.
 - Who typically bears the cost of providing truck parking or utilizing truck parking?
 - SANDAG notes this is dependent on the location. This is not something that the agency can directly speak to for the partnership, but are aware of a truck stop in Otay Mesa that got some funding from California Energy Commission.



- Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - A new port of entry has been in construction, in partnership with SANDAG and Caltrans District 11 to help alleviate freight traffic in the surrounding region.
 - How has your area effectively planned for trucking parking / movement? How has it been demonstrable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - The agency has been trying to find the right balance for providing the opportunities for the disadvantaged communities. Otay Mesa is the main POE for commercial vehicles and there is a lot of industrial areas around there as well. There are more truck yards and distribution areas, so there is more of an appetite for truck parking there. With only two truck stops in the area, this makes parking limited in capacity.
 - The first zero emission truck parking was constructed in Otay Mesa. Construction of second commercial crossing in Otay Mesa East and is led by SANDAG and Caltrans, both agencies have identified this as becoming the next largest commercial truck hub in the region.
 - There is a lot of more construction of distribution centers and right after Amazon built one and they are now building two larger ones in the Otay Mesa area. Much of the land in that area is zoned residential and are witnessing industrial taking over residential areas that the agency has been unprepared to address.
 - Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - SANDAG has taken the approach to try and encourage for zero emission vehicles and truck flex lanes for overweight or zero-emission vehicles. SANDAG wants to encourage trucks travelling to and from the ports to switch over to these types of vehicles as these provide additional funding and can help with popularizing truck parking locations with reduced neighborhood impact.
 - Are agreements made between private companies for the need of additional truck parking spaces?
 - Not specifically discussed.
- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - The Technology Planning Team has been working on a Concept of Operations for the next generation 511 system. The old system is out of date and the new system looks at new technology being provided to give the information to drivers. The agency had done some surveys to get the top priorities of users and one of the



desirable systems include better information on available truck parking locations.

- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - Not specifically discussed.



Illinois Department of Transportation (IDOT)

Illinois DOT has been increasingly more involved in the truck parking realm and as the issue becomes persistent, so is the DOT's approach. IDOT works in collaboration with its many partnering agencies. IDOT is one of the few agencies that have an implementation strategy for their Truck Parking Information Management System (TPIMS), which will soon go live and be available for the traveling public to view. Illinois as a state ranks 8th in the total amount of truck parking locations available, including public and private locations. Of those spaces, about 14.4% of them are public, which emphasizes the reliance that the private industry holds onto addressing the truck parking issue. IDOT has been working closely with several other Midwest states like Minnesota, Wisconsin, Indiana and Missouri with coordinated efforts and creating a system that works in unison with each other's 511 system to try and tackle the problem at a multi-state level as opposed to on a state or region wide level. By itself, IDOT is relatively new to approaching this topic and is becoming more involved with their freight advisory committees, where agencies all over the state that deal with freight in any capacity are encouraged to join and participate in creating solutions.

Interview with IDOT on 12-14-2023

Representatives: Adam Gabany (Intermodal Planning Chief), Janel M. Veile (Planning Services Chief)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - As part of the IDOT Freight Investment Plan, TPIMS systems are planned to be put in place at all rest areas in the state. The TPIMS system is operated and maintained by the IDOT ITS team. This includes four rest areas that are currently equipped with availability detection, CCTV camera viewing to share with the public, and DMS message signs sharing the availability information on the state-owned facilities approaching the rest area. No specific amenities are provided for truck parking at the rest areas beyond what the rest areas are already equipped with.
 - Increase visible no parking signage in unsafe parking areas
 - Not specifically discussed
 - Expansion or redesign of existing truck stops / rest areas
 - With expansions or inclusion of truck parking at these locations, the requirements that may be needed can be prohibitive to operate and maintain, such as ADA requirements if public funding were used. At rest areas, safety and internet are very important amenities the trucking industry is looking to be provided at spaces where they park. IDOT is looking into expanding 34 rest areas over the next few years as a repeatable process is being developed for expansion efforts.
 - Partner with retail establishments to allow for truck parking
 - While there has been no direct implementation or proven work with private industries, IDOT is pursuing an option with their state freight



advisory committee to provide tax incentives for private truck stops and various other forms of assistance with additional parking spaces.

- Increase enforcement of parking restrictions in conjunction with other solutions
 - Not specifically discussed
- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - Not specifically discussed
- Cooperate with owners of underutilized malls/shopping areas
 - The agency had been in talks previously with underutilized malls, and found that there were problems with arranging deals with specific malls, as other owners of the malls would like similar/the same deal. The issue comes with widespread implementation for a system that is not permanent and would need to disband temporarily during the holidays/peaks.
- Parking agreements with facilities with in-house fleets
 - Not specifically discussed
- Modify zoning ordinances to require provision of truck parking
 - Not specifically discussed
- Public-private partnerships to build additional truck parking
 - IDOT is looking to partner with the Bureau of Innovative Project Delivery to help with best practices for public-private partnerships in the state.
 - IDOT has partnered with the Toll Authority before for other purposes, not yet for truck parking, although that is an option.
- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - IDOT is the largest land owner in the state. There is no tribal land in the state, although they could see partnerships with other major land owners being beneficial. There is some right-of-way in the urbanized areas, not just in the rural parts of the state.
 - Illinois is ranked #8 in the country for number of public and private spaces available. 14.4% of the spaces are public spaces and the remainder are private spaces.
 - A Truck Parking Study was completed in 2018. IDOT attempted an update in 2022 which was not completed because more technology emphasis and benefits beyond state agencies was desired. IDOT will pursue an update to this study in the coming years.
 - All planning activities in the state are leveraged for their strengths to collaborate together toward a suite of strategies that complement one another rather than contradict or duplicate one another. This is accomplished through planning liaisons involved in each plan and a centralized plan manager to organize involvement from both the stakeholders as well as the general public for each of the planning areas.
 - How do you identify opportunities for public-private partnerships?
 - Not specifically discussed
 - Mechanisms to implement construction for new truck parking?
 - IDOT manages their state freight funding through a competitive funding process where local agencies are encouraged to identify needs and



solutions and apply for funding. This makes sure to get the local agencies involved as many times they are the ones needing to implement local solutions and a state or MPO would struggle to focus the energy on such a localized need. Minnesota also has a similar competitive funding program for freight implementation.

- The state has a state Freight Advisory Council mandated by law to exist and includes 250+ members, mostly including public sector agencies. IDOT desires more private members to be a part of that Council. A subcommittee is being started in January 2024 from that larger Council specifically to focus on truck parking. IDOT is putting together a framework for what that subcommittee should focus on.
- Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - IDOT focuses on rest areas and expanding existing facilities. This is a focus of the Freight Investment Plan.
- How to address site issues like security, lighting, traffic, and drainage?
 - Not specifically discussed
- How to handle public pushback on adding truck parking?
 - Not specifically discussed
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesigned” parking areas?
 - Not specifically discussed
 - Any problematic regulations you have experienced you’d advise to do away with?
 - Not specifically discussed
 - Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - Not specifically discussed
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not specifically discussed
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Not specifically discussed
 - How have you planned for the dropped trailers phenomenon?
 - Not specifically discussed
 - Who typically bears the cost of providing truck parking or utilizing truck parking?
 - Not specifically discussed
 - Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - Not specifically discussed



- How has your area effectively planned for trucking parking / movement? How has it been demonstrable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - IDOT has invested in staffing resources to be dedicated on the agency side to support implementation. This includes metro planning dedicated resources. There are nine IDOT District Freight Plans and it has been beneficial to have the local focus on freight planning implementation strategies rather than at a statewide level.
 - The freight topic includes ports, aviation, private sector, transportation, law enforcement, and all of the various components in the conversation to be most effective.
 - MAFC
- Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - Not specifically discussed
- Are agreements made between private companies for the need of additional truck parking spaces?
 - Not specifically discussed
- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - IDOT has an established TPIMS system at select rest areas that track the total number of available truck parking spots within the state. The information is not yet public but is available through the 511 system that provides that information. IDOT intends on going live with this system eventually with no real launch date.
- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - Not specifically discussed



Washington Department of Transportation (WSDOT)

WSDOT owns and maintains the transportation network within the State of Washington. Like Texas and Arizona, Washington is a state with an international border but on the northern side of the country with Canada. The state faces challenging weather with additional challenges to drivers that are not familiar with traversing through its inclement weather. The DOT acts as the facilitator between the major population centers in the state, working with the local municipalities, MPO's, and other local DOTs in the state. The state also boasts a major seaport in Seattle that has been facing the brunt of a lot of the truck parking issues in the state.

WSDOT is currently in the process of implementing a large-scale real time truck parking availability program as the DOT has recognized that drivers are less likely to check their phones for information regarding parking and rather rely on what they are able to view en-route. The project is in collaboration with the Oregon DOT and spans the entire I-5 corridor from border to border. For implementation, the state put focus on maximizing the total number of available spaces that can currently be provided, with one method being the update of safety rest areas. Safety rest areas are outdated and need to be brought to the 21st century by providing the amenities that all travelers should have access to.

Placing emphasis on safety, WSDOT is unique with their relationship with state patrol as the DOT owns land at the ports of entry, where the DOT has allowed truck drivers to park their vehicles, and state patrol makes their rounds to those locations to provide that security to truck drivers. WSDOT is not and should not be the sole provider of truck parking, as the responsibility is a shared burden on municipalities as much as it is on the roadways owned and maintained by them. WSDOT has successfully partnered with local tribes in providing additional truck parking locations.

Interview with WSDOT on 11-28-2023

Representatives: Scott McCollister (Multimodal Freight Systems Planner), Zhao Wenjuan (Multimodal Freight Systems Planning Engineer), Jason Beloso (Freight and Rail Planning Program Manager)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - WSDOT is currently in the process of completing a real time truck parking availability signage/communication project. In collaboration with Oregon Department of Transportation (ODOT), their focus is on the I-5 corridor and are currently waiting for the hotspot analysis to come out from the study. The challenge comes with ways to communicate with the drivers. WSDOT recommends that a technology solution provides a better option for addressing that concern. It is beneficial to do this in coordination with other states as opposed to only within your jurisdiction. Drivers still need information on availability and having the uniform information helps them to make it a border-to-border system. WSDOT researched ways to disseminate information to drivers and found that the majority of drivers consume messages through DMS signs with about 80% compared to the



10% that use their smartphone. Roadside signage is the easiest way to communicate this information.

- Increase visible no parking signage in unsafe parking areas
 - Not specifically discussed.
- Expansion or redesign of existing truck stops / rest areas
 - The agency thinks it is beneficial for states to maximize existing parking locations before pursuing a technology solution like real-time parking availability due to budgetary constraints of the resources necessary for operating and maintaining new equipment.
 - Safety rest areas have been underfunded and usage of those facilities are increasingly not being used what they were built for. It has become an outdated system in the 21st Century and can lead to a scenario where they continue to be underfunded and experience the same pressures, then you actually reduce the truck parking capacity. There are safety rest areas in the urban areas and state-owned facilities in the Puget Sound regions.
- Partner with retail establishments to allow for truck parking
 - Not specifically discussed.
- Increase enforcement of parking restrictions in conjunction with other solutions
 - No suggestions here. It is left up to the discretion of law enforcement. They err on the side of safety, but is at their discretion ultimately.
 - Because the alignment of Washington state law with federal regulations, WSDOT added more signage at safety rest areas where a vehicle gets towed if in violation of the time duration.
- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - Not specifically discussed.
- Cooperate with owners of underutilized malls/shopping areas
 - Not specifically discussed.
- Parking agreements with facilities with in-house fleets
 - The friction point in urban areas are maintenance. Who is liable, who is going to take care of it, and the cost of property. Shippers/receivers do not want to take on the burden.
 - Fleet profile changes needs quite a bit. Different truck profiles have different needs – some know their route and some do not. Yards might be set up for truck parking and are typically familiar with that route. Other profiles with smaller fleets that follow the freight and headed into area they are unfamiliar with, rely on signage for locating parking. Other challenges might be they are on a regular route and encounter a traffic jam/accident and limits their drivers' time.
- Modify zoning ordinances to require provision of truck parking
 - Truck parking has started being called a land use issue. A good reason truck parking is not readily available in the core area is because they are expensive. Some cities have taken action, as well as ports and private sector with some mixed results of the outcome.
- Public-private partnerships to build additional truck parking
 - WSDOT receives many calls from businesses asking where to begin. When fielding those calls, several of those calls are location specific.



Based on some of those experiences, WSDOT reflects back to strategize ways to help encourage development of those facilities. Suggestions included a Truck Parking Development Handbook for entrepreneurs that tell you the things you need to consider such as permitting, storm water issues, and environmental properties. WSDOT has not developed such a handbook but thought the idea would be worthwhile to pursue. Outlining that in some sort of handbook gives someone a good idea and sense that if the caller is really interested in starting up this business that these are things that they need to be aware of and maybe some things that need to answer.

- There is no silver bullet out there for addressing the need for zoning and development. The agency is looking at finding a better way to partner with private companies currently. One strategy would yield is understanding the truck parking problem in a system that drives the high need for truck parking. It is not enough to throw money at a problem. WSDOT wants to understand how to move the truck parking needle even a little bit and that has resulted in some band-aid effects that agencies are dealing with now. To understand how to solve this issue, the agency responsible should understand the origin-destination movements to help them can better identify the strategies for addressing the actual needs.
- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - From personal experience of Scott, the tribal areas are much more willing to support the trucking community and notes it as a happy medium. Some tribes are, but not all tribes are very enthusiastic about the idea.
 - How do you identify opportunities for public-private partnerships?
 - There is a potential for partnering with the innovative partnerships office.
 - Mechanisms to implement construction for new truck parking?
 - Not specifically discussed.
 - Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - Not specifically discussed.
 - How to address site issues like security, lighting, traffic, and drainage?
 - Washington state is a bit unique to other states with their relationship with state patrol. WSDOT owns the land at weigh stations but state patrol maintains/operates facility. State patrol is not opposed to having truck parking at weigh stations. Having a truck driver park there is safer for them than the general public.
 - No policy specifically, but WSDOT has had success with getting a facility to become truck parking and have state troopers patrol the areas. When they open, some spaces need to be reserved to mark trucks that are not permitted for them.
 - How to handle public pushback on adding truck parking?
 - Seattle DOT deals with this more, but a lot challenge with folks not wanting those parking facilities near their properties. When a new lot initially opened, no one was using it. Truck driver's talking to one another spread the awareness of the new place to park and then the facility was



utilized. There is a webinar where Seattle DOT discussed this challenging situation.

- WSDOT hears about complaints from partners, but only a call or two has been received by the agency. Not much that WSDOT could do, so they forward them to who is responsible.
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesignated” parking areas?
 - One example of this is a truck parking permit process in the City of Monroe. They set up the system and designated some areas as truck parking. Could create additional revenue for the city and manage where the trucks can park.
 - WSDOT did update their policy to be consistent with the national standards – 11 hour driving limit before required “rest period”.
 - Any problematic regulations you have experienced you’d advise to do away with?
 - Not specifically discussed.
 - Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - Not specifically discussed.
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - No particular changes for the most part. Staging and short-term parking has not been an issue compared to overnight parking. When evaluating for overnight parking however, WSDOT considers how to double dip in short-term parking.
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Not specifically discussed.
 - How have you planned for the dropped trailers phenomenon?
 - Not specifically discussed.
 - Who typically bears the cost of providing truck parking or utilizing truck parking?
 - DOT is not solely responsible for truck parking. Cannot place the need on the DOT specifically, it does take a village to solve this issue. DOT facilitates development of parking and encourages them to be away from state owned facilities.
 - Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - Not specifically discussed.



- How has your area effectively planned for trucking parking / movement? How has it been demonstrable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - The more resourced MPO's have the capacity to address the issue. Puget Sound MPO regional transportation plan looks at industrial centers and freight assets with truck parking being considered a "freight asset".
- Have any constraints made adding additional spaces to an existing location lead to "outside of the box" solutions?
 - Not specifically discussed.
- Are agreements made between private companies for the need of additional truck parking spaces?
 - Not specifically discussed.
- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - Not specifically discussed.
- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - Location, proximity to delivery and interstate, facilities matter. Truck drivers will forgo get food and services, just need a safe place to park.
 - Truck parking cannot be decoupled from the facility itself. Adding additional truck parking spaces to it may be mitigated or not quite as beneficial if it needs to be shut down and that includes shutting off water. Need to look at other groups such as preservation to maximize truck parking. Lack of preservation has shut down truck parking in the past. Winter weather/adverse conditions has led to a need for access to food and services and having that access is helpful when being stuck for a day or longer. No training or certification for winter weather driving, and that comes with challenges with drivers not utilizing their truck space(cabins to sleep in). High volume interstates not quite as different as urban areas.



Consulting Lessons Learned

A major player in the freight planning realm, Dan Andersen, with Cambridge Systematics (CS), was a common thread in a request to interview that was brought up by various peer regions that not able to conduct a direct interview. While he was not specifically representing the agencies during the interview process, he was able to speak on his experience in dealing with the truck parking phenomenon and demonstrably successful implementation strategies.

Working with a variety of agencies, he noted that many have not gone through the implementation stage for many of the plans that CS had been a part of. One major barrier to implementation was spillover due to facility restrictions and that facilitating the conversation between cities and facilities can help greatly in alleviating some of the stored stress that the industrial areas experience. However, capacity at facilities is not always the problem, and some of the issues are more related to who is able to park there and the amenities that are provided to drivers. State DOT's have had some success with expanding safety rest areas, and also struggle with providing the right amenities needed to attract drivers there instead. Rest areas are generally not located in urbanized areas, where there is a greater need for truck parking solutions. Plenty of data and analysis was conducted over the years to determine how many spaces will be needed, but providing those spaces is challenging and the only ones to turn to are the private truck stops for partnership. Regarding real-time truck parking availability, not every private truck stop wants to advertise the number of available spaces that they have, as that may dissuade business from them. One solution, that is not explored regularly enough, involves private lots that are not necessary truck parking, but can become truck parking and establishing a monthly fee to park at those locations. These areas are plentiful in older industrial areas that are removed from the new, larger industrial sites.

Interview with Cambridge Systematics on 12-11-2023

Representative: Dan Andersen (Principal and Practice Lead)

Summary Discussion:

- What are some lessons learned from your area on the following types of truck parking strategies – what has gone well, what would you not do again, and why?
 - Real-time truck parking availability signage and communications
 - Due to a TIGER grant, MAASTO states like Florida have implemented real time truck parking monitors to display the number of parking locations for trucks within the state. Drivers have found the information to not be reliable.
 - Increase visible no parking signage in unsafe parking areas
 - Not specifically discussed.
 - Expansion or redesign of existing truck stops / rest areas
 - Many private truck stops have been building on smaller footprint, especially in areas where the required amount of parking locations would be closer to 200 than the 50 that are provided – and this has become a real problem in the industry. Private industries lose money on more parking.



- Partner with retail establishments to allow for truck parking
 - In the town of Bay Town, just east of Houston and near the port of Houston, it was found that asking the private companies in the area to provide on-site parking worked to address the needs of the citizens living in the town by moving most trucks off the roads and into the facilities. Dan mentioned that asking the cities and private entities directly can lead to improved sites.
- Increase enforcement of parking restrictions in conjunction with other solutions
 - The city of Houston had implemented a strategy where truck drivers use an application and “checks-in” on the app, where they are then provided information on the rules of parking their truck and where there are spaces available. Law enforcement also utilizes this application for enforcement along with radar and CCTV.
- Reach out to owners of vacant parcels to encourage temporary truck parking use
 - NDOT had previously bought empty land next to a private truck stop and turned it into additional parking. The land was eventually bought by a private entity as NDOT could not maintain the lot with their funds.
 - Dan makes note that there is an entity that has not been utilized as much in the world of truck parking, and that is owners of empty lots that are not directly assigned as truck parking – to provide that parking at a fixed cost for drivers to leave their vehicles there.
- Cooperate with owners of underutilized malls/shopping areas
 - Not specifically discussed.
- Parking agreements with facilities with in-house fleets
 - Not specifically discussed.
- Modify zoning ordinances to require provision of truck parking
 - While not directly modifying the zoning code, Lehi Valley in Pennsylvania required private industries to provide parking in the amount similar to the number of bays each facility has. The code has been tweaked over time but remains in place today.
- Public-private partnerships to build additional truck parking
 - Dan notes that there is a timeline difference between the public and private world.
 - An example is of the state of Nevada, where a developer was in the process of creating a new truck stop and the state identified that area as having the greatest demand in the state for parking. NDOT worked to try and get an interchange built to handle the traffic where the DOT builds the interchange and the owner maintains it. Ultimately the plan did not fall through – playing favorites is not the right approach to addressing the issue.
 - Mt. Olive, a private firm, looked to the city for providing infrastructure improvements leading into their city in exchange for the facility to provide truck parking locations.



- What are some lessons learned on the implementation process for truck parking physical locations?
 - How do you identify potential truck parking locations?
 - Data is a big driver for identifying where parking locations should be located. An analysis that identifies the capacity of current locations with the overflow can be used to directly address where there is a lack of parking.
 - Dan recommends to not have an in-depth analysis on identifying truck parking locations as it is well understood where the truck parking problem is originating. Focus on implementation is key and helps address the issue now rather than waiting to address the problem.
 - How do you identify opportunities for public-private partnerships?
 - Not specifically discussed
 - Mechanisms to implement construction for new truck parking?
 - Dan recalls a case in Houston, with conducting traffic impact studies centered around truck parking has been successful.
 - Methods to reallocate or retrofit existing facilities like rest areas for truck parking?
 - Not specifically discussed.
 - How to address site issues like security, lighting, traffic, and drainage?
 - It does not take much on the public side. WeRealize, the company, that has built a lot of paved underutilized areas and secure a 5-to-10 acre lease from the property owner (such as the Las Vegas Speedway), and within less than 2 months they can create spaces for certain uses. They can put up fencing, security, lighting, and a trailer that has amenities. This can be a great portable and seasonal opportunity. Within two months they are 90% sold out in the Las Vegas Speedway – dedicated to owner/operator. WeRealize is a real estate developer that could use guidance on where a good place would be to encourage private partnerships in specific areas. Or some owner/operators can be owners of these spaces. Some examples of palette company that has excess space.
 - How to handle public pushback on adding truck parking?
 - Letting the private industry handle this issue is ideal, as they like to operate with no strings attached. Public opposition and offsite improvements are the carrot to do public-private partnerships.
 - Caltrans tried at developing a lot that would then turn into a private truck stop eventually, as a way to provide temporary parking. Public pushback for a new truck stop prevented this from falling through and was not pursued since.
- Additional questions for a lessons learned summary of your area:
 - Policy and Regulations
 - Any laws or policy changes to “designated” parking areas that has helped your region? Or “undesignated” parking areas?
 - City of Auburn, Washington had implemented a strategy in their industrial one that allows curbside parking of semi-trucks so long as the drivers “reset” every 32 hours.
https://www.auburnwa.gov/city_hall/public_works/transportation/co



Commercial vehicles -

trucks trailers#:~:text=Business%20licenses%20and%20commercial%20vehicle,email%20businesslicenses%40auburnwa.gov.

- Park Houston, a city in the Houston region, recently enacted an ordinance that trucks cannot be parked for more than 2 hours in designated curb locations. Currently, the plan is in its pilot stage with results imminent.
- Any problematic regulations you have experienced you'd advise to do away with?
 - Not specifically discussed.
- Operating Concerns
 - Is there a difference in truck parking needs based on NAICS level? Manufacturing, industrial, retail, etc.?
 - Not specifically discussed.
 - Has the industry adjusted to the delivery windows or hours mandates with changes to operating hours? What other TDM strategies have been deployed to help with the demand concerns in your area?
 - Not specifically discussed.
 - What strategies would you recommend for frequent short-term parking versus long duration targeted parking?
 - Not specifically discussed.
 - How have you planned for the dropped trailers phenomenon?
 - Not specifically discussed.
 - Who typically bears the cost of providing truck parking or utilizing truck parking?
 - Private industries should be providing the parking – as in most cases with parking. Curbside parking is dangerous for the drivers and road users and the source of the truck parking problem originates with shippers/receivers.
- Zoning and Development
 - Has your area had any major freeways added that has changed truck movement / parking demand?
 - Not specifically discussed.
 - How has your area effectively planned for trucking parking / movement? How has it been demonstratable that it has been effective – reduction of violations, increased parking space use with better en-route information, etc.?
 - Not specifically discussed.
 - Have any constraints made adding additional spaces to an existing location lead to “outside of the box” solutions?
 - Not specifically discussed.
 - Are agreements made between private companies for the need of additional truck parking spaces?
 - Not specifically discussed.



- Data and Technology
 - How does industry in your area prefer to receive information about truck parking for your area? How are you providing it – 511, Google / Waze, connected vehicle, static signage, dynamic signage, etc.?
 - Not specifically discussed.
- Amenities
 - How do you go about providing the amenities needed by the trucking community to utilized parking?
 - Dan recognizes this as a problem area with truck parking. Not all private industries allow the use of amenities/facilities unless the driver delivering to the site is an employee/fleet driver. Bathroom access should be a requirement like a law in Canada that requires shippers/receivers to allow restroom access for drivers.