

WASHINGTON STATE JOINT TRANSPORTATION COMMITTEE

TRUCK PARKING ACTION PLAN

Action Plan Supplement



prepared by

Cambridge Systematics, Inc.

with

WSP USA

DECEMBER 29, 2021

*Washington State Joint Transportation Committee
Truck Parking Action Plan*

Action Plan Supplement

prepared by

Cambridge Systematics, Inc.

with

WSP USA

date

December 29, 2021

Table of Contents

1.0	Introduction	1-1
1.1	Survey of Truck Drivers	1-1
1.2	Solutions Charrette	1-3
1.3	Follow-up Interviews	1-6
2.0	Summary of Actions for Addressing Truck Parking Needs.....	2-1
3.0	Strategy 1: Develop More Publicly-owned Truck Parking in High Demand Areas.....	3-1
3.1	Identify Most Feasible Sites for Truck Parking Facilities	3-1
3.2	Build Truck Parking Facility on/near I-5	3-3
3.3	Build Truck Parking Spaces on I-90	3-9
3.4	Build Small Parking Lot for Short-term Staging Only.....	3-14
4.0	Strategy 2: Better Utilize Existing Parking in Urban Areas.....	4-1
4.1	Develop Guidance for Managing Curbside Truck Parking	4-1
4.2	Pilot Project for Managing Curbside Truck Parking.....	4-3
4.3	Pilot a Truck Parking Partnership Program for Underutilized Infrastructure.....	4-4
4.4	Promote “Airbnb” Truck Parking (Parking on Underutilized Property).....	4-6
5.0	Strategy 3: Shippers and Receivers Provide Parking and Basic Amenities.....	5-1
5.1	Develop Guidance for Permitting Agencies to Require On-site Truck Parking at New Developments	5-1
5.2	Tax Incentives for Shippers & Receivers to Provide Truck Parking On-site	5-3
5.3	Require New Developments for Shippers and Receivers to Provide Truck Parking on-site.....	5-6
5.4	Mandate Restroom Access for Trucker Drivers.....	5-7
6.0	Strategy 4: Develop Truck Parking Information Systems.....	6-1
6.1	Develop Concept of Operations for Expansion of Truck Parking Availability System.....	6-1
6.2	Expand Truck Parking Availability System	6-3
6.3	Integrate Communication and Truck Parking Availability Information Systems	6-4
7.0	Strategy 5: Secure Federal Funding for Next-Gen Truck Parking	7-1
7.1	Prepare Federal Grant Application	7-2
8.0	Strategy 6: Better Utilize Existing Infrastructure along Mountain Passes.....	8-1
8.1	Explore Benefits and Risks of Truck Parking at Chain-up/off Areas	8-1

8.2	Pilot Project for Emergency Road Closure Truck Parking at Facilities with Large Car Parking Area	8-3
9.0	Strategy 7: Maintain Momentum	9-1
9.1	Establish and Facilitate Truck Parking Implementation Workgroup for 3 Years	9-1
9.2	Integrate Truck Parking into All Decision Making Processes	9-2
9.3	Collaborate with Neighboring States	9-4
9.4	Develop Innovative Partnership Action Plan for New or Expanded Commercial Truck Stops	9-5
9.5	Quantify Truck Parking Demand with Data-driven Study	9-8
9.6	Develop Education and Information Campaign for Local Jurisdictions	9-9

Appendix A: Stakeholder Survey Results

Appendix B: Truck Parking Issues and Potential Solutions

Appendix C: Truck Parking Feasibility Guide – Siting and Layout Considerations for Dedicated Truck Parking Facilities

Appendix D: Partnership Pilot Program Screening Tool

List of Tables

Table 2.1	Matrix of Actions	2-3
Table 2.2	How Well Each Action Addresses Truck Parking Needs	2-5
Table 3.1	Estimated Capital Expense I-5 Truck Parking Facility.....	3-7
Table 3.2	Effectiveness Score for a Potential I-5 Truck Parking Facility.....	3-8
Table 3.3	Estimated Capital Expense I-90 Truck Parking Facility.....	3-12
Table 3.4	Effectiveness Score for I-90 Truck Parking Facility.....	3-13

List of Figures

Figure 1.1	Lack of Truck Parking in Greater Washington State Area.....	1-2
Figure 1.2	Ranked Implementation Actions for Adding More Parking Spaces.....	1-4
Figure 1.3	Ranked Implementation Actions for Better Utilizing Existing Infrastructure	1-5
Figure 1.4	Ranked Policy and Program Implementation Actions	1-6
Figure 3.1	SeaTac Rest Area on I-5 NB	3-3
Figure 3.2	AASHTO WB-67 Design Vehicle Turning Pattern.....	3-4
Figure 3.3	WSDOT Parking Slot Requirement for Trucks	3-5
Figure 3.4	Slot Width Analysis, 15-ft (left) and 16-ft (right).....	3-5
Figure 3.5	I-5 Truck Parking Facility	3-6
Figure 3.6	Indian John Hill Rest Area on I-90 Westbound	3-10
Figure 3.7	I-90 Truck Parking Facility	3-11
Figure 3.8	Public Truck Parking Lot, Weed, CA	3-15
Figure 4.1	Informal Curbside Parking	4-2
Figure 4.2	TruckPark Partner: Jiffy Airport Parking	4-7
Figure 7.1	Next-Gen Truck Parking Lots and Information Systems	7-1

List of Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
B&O	Business and Occupation
BCA	benefit-cost analysis
BCR	benefit-cost ratio
DOT	department of transportation
FHWA	Federal Highway Administration
GPS	global positioning system
HOS	Hours-of-Service
INFRA	Infrastructure for Rebuilding America
JTC	Joint Transportation Committee
MFTE	Multifamily Housing Tax Exemption
MPO	metropolitan planning organization
P3	public private partnership
RAISE	Rebuilding American Infrastructure with Sustainability and Equity
RCW	Revised Code of Washington
ROW	right of way
RTPO	regional transportation planning organization
TIF	tax increment financing
TPAS	truck parking availability system
USDOT	U.S. Department of Transportation
WSDOT	Washington State Department of Transportation
WSP	Washington State Patrol
WTA	Washington Trucking Associations
ZEVIP	Zero Emissions Vehicle Infrastructure Partnerships

1.0 Introduction

The Washington State Joint Transportation Committee (JTC) has sponsored the development of this Truck Parking Action Plan, which provides specific recommendations for immediate next steps for near-term and lasting change in the availability of truck parking. This applies to both short-haul and long-distance commercial vehicle drivers who require accommodations for parking commercial vehicles, obtaining services (food, restrooms, lodging, etc.), and complying with federal and State rest requirements.

The need for truck parking in the State of Washington and the consequences of doing nothing about it, presented in pages 1 – 4 of the *Truck Parking Action Plan*, was gathered from prior truck parking studies conducted in Washington and elsewhere in the country.

This Supplement presents additional information on outreach activities conducted in support of the development of the Action Plan, and additional information on each of the strategies and actions recommended in the Action Plan. A series of three outreach activities was then conducted to validate the previous findings, identify the barriers to implementing solutions, and develop and prioritize specific actions for overcoming the barriers. The outreach activities—survey of truck drivers and trucking industry representatives, solutions charrette with key stakeholders, and several one-on-one interviews—are described below.

1.1 Survey of Truck Drivers

An industry-focused survey was conducted using the MetroQuest platform to collect feedback on truck parking issues and strategies needed to address near and long-term truck parking needs. A report of the survey, included in Appendix A, presents the results in four parts:

1. Mapping areas of concern
2. Rating potential strategies
3. Allocating resources to potential strategies
4. Demographics of survey respondents

Participants could take the survey online from September 16, 2021 to October 4, 2021. During this time, there were 136 participants to the survey website (a number of whom visited the site more than once). A total of 3,168 data points and 48 comments were received. Of the total respondents, 82 percent participated via the web while 18 percent participated via mobile device. Almost all of the survey respondents are involved in the trucking industry and most (59 percent) are truck drivers. Participants also represent a variety of company sizes and range of operations.

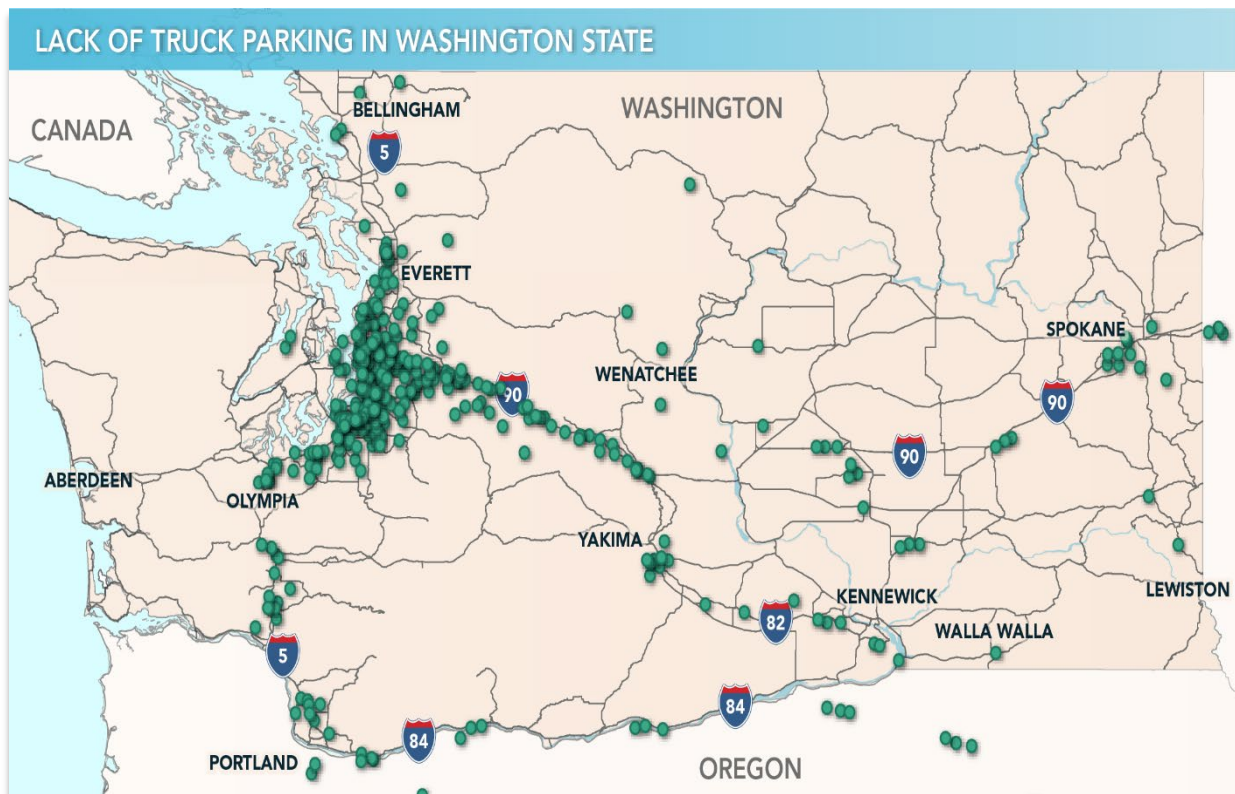
Survey participants were asked to place at least three markers on a map of Washington State to identify locations of truck parking issues. Six types of markers represent the following issues:

- Lack of staging/short rest parking
- Lack of 10-hour rest parking

- Lack of parking for 34-hour rest
- Undesignated parking
- Safety
- Lack of features/amenities

Each participant was asked follow-up questions to understand the parking issues in the specific location, such as why parking was needed at that location and what was the purpose of parking. Participants could also provide general comments. Figure 1.1 shows the location of each comment or truck parking marker. This same information is also displayed on Google Map allowing the viewer to zoom in on particular areas of interest and select individual markers to view comments and survey responses: [Google Map of Truck Parking Markers in Greater Washington State Area](#).

Figure 1.1 Lack of Truck Parking in Greater Washington State Area



The vast majority (79 percent) of respondents identified a lack of parking as an issue in the mapping question. Their parking needs are mainly for both 10-hour breaks (36 percent) and for logistical staging (27 percent). Lack of parking was identified in or near urban areas, at passes, and borders (particularly with Oregon).

In terms of strategies that could address truck parking issues, “Add more parking spaces” and “Delivery hours” (which included requiring shippers to provide parking spaces) were the most popular of the five proposed strategies. Each strategy included several sub-strategies that were also rated. The highest rated sub-strategy was “Build dedicated truck parking facilities (with basic amenities) in/near logistics centers,

seaports, ports of entry.” Other sub-strategies that were rated highly were “Expand safety rest areas” and “Require shippers and receivers to allow parking on-site for staging.” The lowest-rated strategy was “Paid parking.”

Participants were also asked how they would allocate resources among eight broad strategies. The most popular strategy was “Expand truck parking at rest areas.” Participants allocated the least amount of resources to “Paid reservation system for truck stops.”

1.2 Solutions Charrette

A 3-hour virtual workshop was held on October 18, 2021 with a group of legislative, agency, community, and industry leaders to identify the barriers to providing adequate truck parking in Washington, and the actions and champions needed to overcome them. Representatives from the following agencies and organizations participated:

- City of Auburn
- City of Lacey
- City of Seattle
- Federal Highway Administration (FHWA) Region 10
- Georgetown Community Council Board of Directors
- King County
- Teamsters Joint Council 28
- Truck Depot
- Truck drivers
- Washington Trucking Associations (WTA)
- Washington State Department of Transportation (WSDOT)
- Washington State Legislature – several Transportation Committee members & staff
- Washington State Patrol (WSP) Motor Carrier Safety Division

A number of implementation actions were identified and discussed, followed by a polling exercise to rank the actions in order of importance, shown below in Figure 1.2 through Figure 1.4. The below rankings are not comprehensive as actions needed to implement every solution were not discussed at the meeting. Follow-up interviews and additional research was conducted to complete the analysis.

Figure 1.2 Ranked Implementation Actions for Adding More Parking Spaces

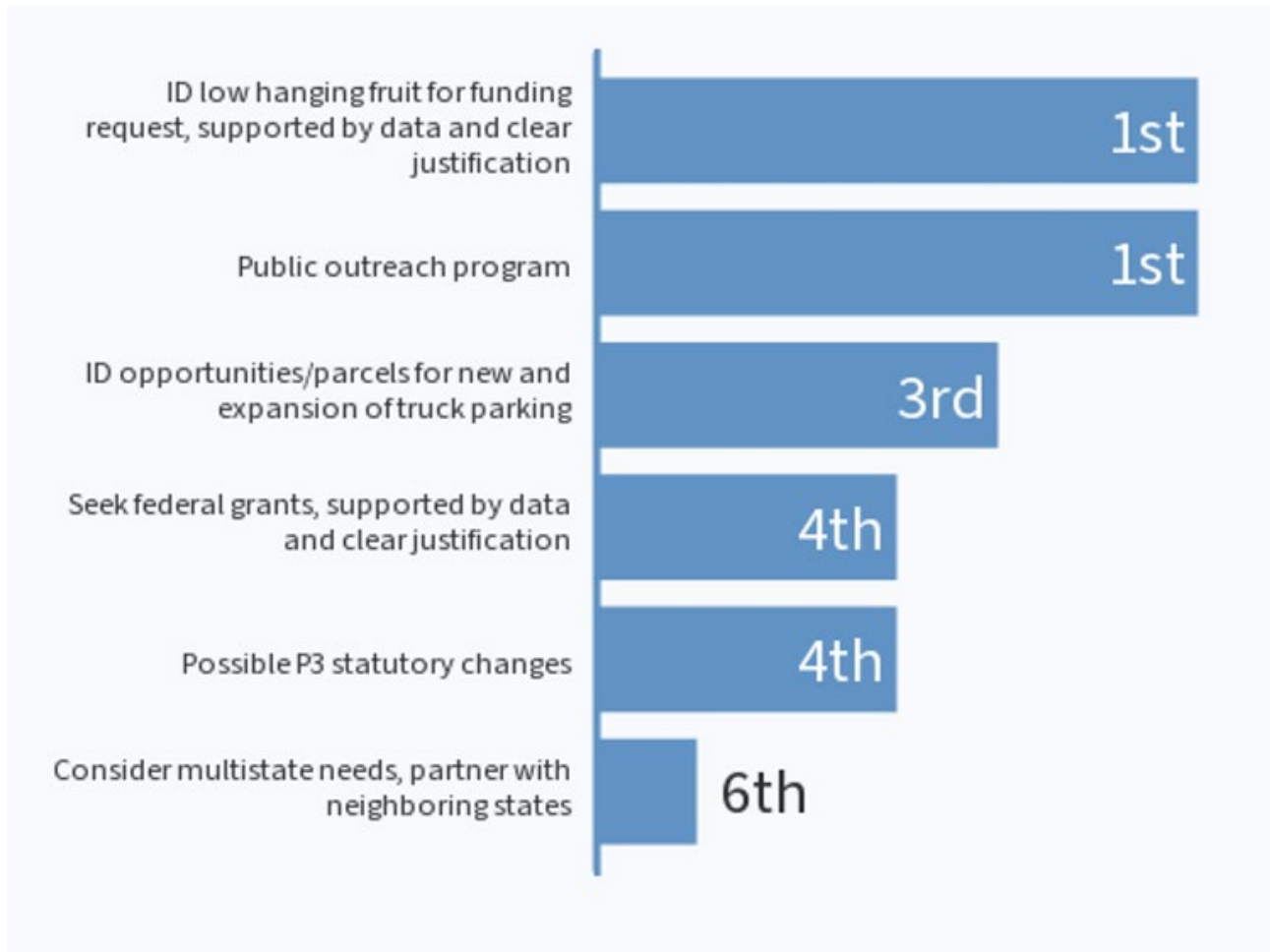


Figure 1.3 Ranked Implementation Actions for Better Utilizing Existing Infrastructure

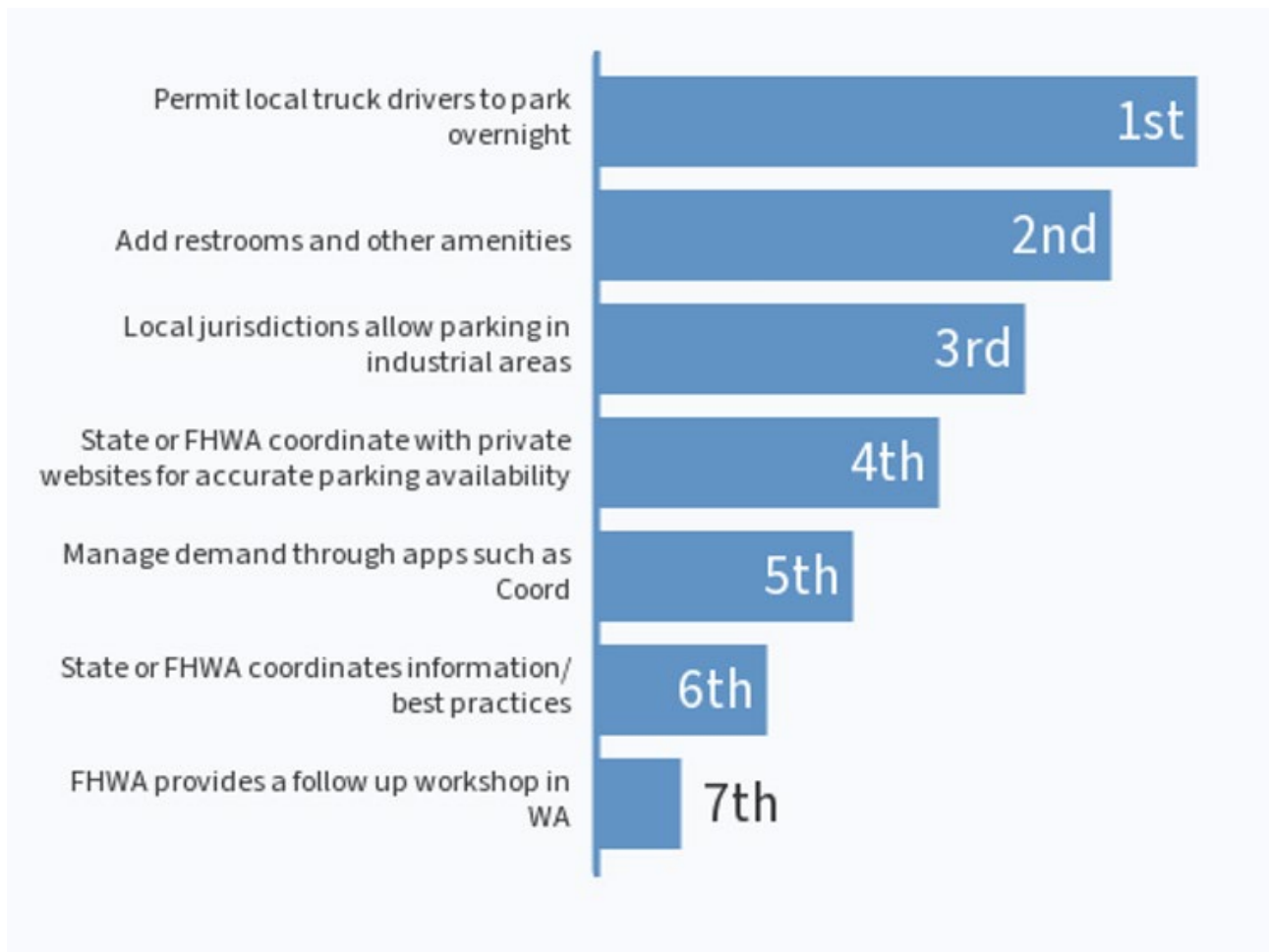
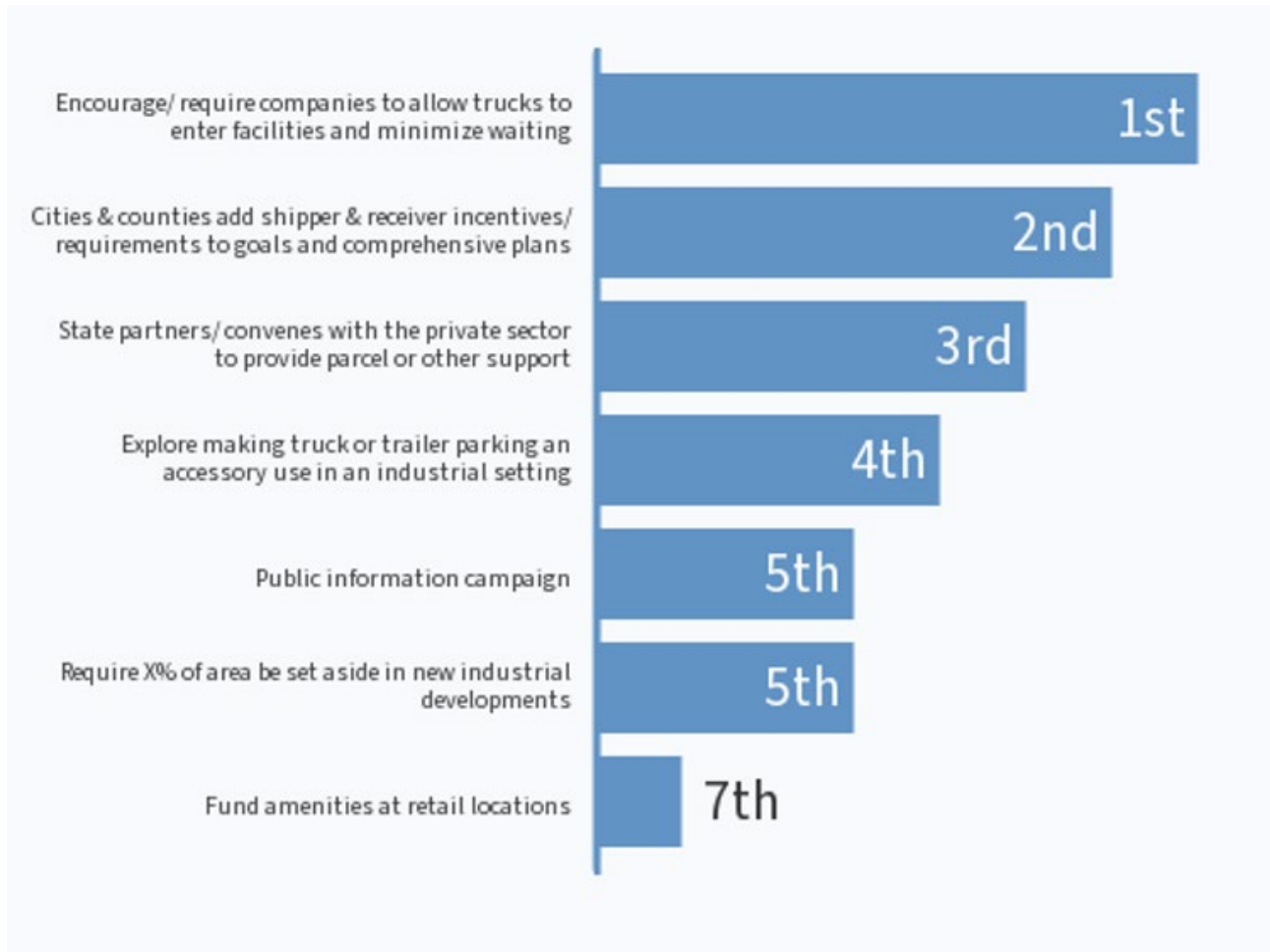


Figure 1.4 Ranked Policy and Program Implementation Actions



1.3 Follow-up Interviews

Follow-up interviews were held with representatives from the following agencies and organizations:

- Washington State Department of Transportation
 - Rail, Freight, and Ports Division
 - Traffic Operations Division (partner with University of Washington on the Truck Parking Availability System project that received grant funding)
 - Innovative Partnerships
- Washington Public Ports Association
- City of Auburn

- City of Seattle
- WSP Motor Carrier Safety Division
- TARRAGON (representing shippers and receivers)
- House of Representatives Transportation Committee, Office of Program Research
- Senate Transportation Committee, Senate Committee Services
- House of Representatives Local Government and Finance Committees, Office of Program Research
- Senate Local Government and Ways & Means Committees, Senate Committee Services

Those interviewed contributed additional information and insights to many of the action items described in this report.

2.0 Summary of Actions for Addressing Truck Parking Needs

The information gathered through research and outreach resulted in identifying seven broad strategies with 25 immediate, near- and mid-term implementation actions for addressing truck parking needs. Table 2.1 lists each of the strategies and implementation actions along with the following items:

- **Timing:**
 - **Immediate actions**, requiring approximately \$900,000 - \$1,900,000 in funding, set the foundation for subsequent actions and include creating guidance documents, conducting feasibility assessments, and developing incentives, policies and legislation.
 - **Near-term actions** would follow close on the heels of the immediate actions, and with an investment of approximately \$6,600,000 - \$11,800,000, would fund actions to provide more truck parking spaces including building several high priority facilities and pilot projects.
 - **Mid-term actions**, requiring approximately \$7,000,000 - \$12,000,000, would fund additional actions to provide more truck parking and help to guide and prioritize future actions.
- **Planning Level Cost Estimate:** The cost of each action could vary depending on several factors that would be determined during project scoping, therefore a planning level cost estimate range, based on 2021 dollars, is provided for each action.
- **Ease of Implementation:** A comparative and high-level assessment of the complexity of implementing each action on a scale of one to three.
 - 1: Less Complex
 - 2: Moderately Complex
 - 3: Very Complex
- **Legislature Role:** In most cases the Legislature's role would be to direct WSDOT on how to move forward, and to provide funding. In a few cases, new state laws would be needed.
- **WSDOT Role:** It is recommended that WSDOT take a lead role in implementing most of these actions. A coordinated focus within WSDOT that aligns priority truck parking actions along with other business priorities of the Department, would be the most effective way to ensure significant and meaningful truck parking needs are met within the State.
- **Local Jurisdiction Role.** Local jurisdictions would support many of these actions and would need to take the lead role on a few.

The needs for parking are described in Appendix B *Truck Parking Issues and Potential Solutions*, and include:

- **A Place to Rest** for:

- 30-minute Breaks
- 10-hour Breaks
- 34-hour Reset
- **A Place to Wait** (near shippers and receivers, seaports, international border crossings)
- **For Unplanned Events** (such as road closures on mountain passes)
- **Services & Amenities** (such as restrooms, food, fuel, security, showers, repairs, etc.)

Some actions are for a unique purpose to address a specific need. For instance, the action “Pilot Project for Emergency Road Closure Truck Parking at Facilities with Large Car Parking Area” only addresses the need for emergency parking. Most implementation actions have the potential to address several of the listed needs, and a few are targeted at addressing all needs. Table 2.2 provides a summary of how well each of the implementation actions addresses the each of the needs for truck parking on a scale of one to three:

1. Does little to address this need
2. Somewhat addresses this need
3. Addresses this need

The remainder of the report provides a summary of each action including:

- **Description:** A summary description of the action.
- **Collaboration:** The parties responsible for implementation
- **Cost:** Planning level estimates of costs and staff time needed to implement
- **Effectiveness:** A qualitative assessment of benefits that could be derived
- **Implementation:** Key actions needed for implementation

Table 2.1 Matrix of Actions

Actions	Timing	Planning Level Cost Estimate	*Ease of Implementation	Legislature Role	WSDOT Role	Local Jurisdiction Role
Develop More Publicly-owned Truck Parking in High Demand Areas						
Identify Most Feasible Sites for Truck Parking Facilities	Immediate	\$50,000 - \$150,000	1	(\$)	Lead	Support
Build Truck Parking Facility on/near I-5	Near-term	\$3,000,000 - \$5,000,000	3	(\$)	Lead	Support
Build Truck Parking Spaces on I-90	Near-term	\$3,000,000 - \$5,000,000	3	(\$)	Lead	Support
Build Small Parking Lot for Short-term Staging Only	Near-term	\$50,000 - \$500,000	2	(\$)	Support	Lead (\$)
Better Utilize Existing Parking in Urban Areas						
Develop Guidance for Managing Curbside Truck Parking	Immediate	\$25,000 - \$75,000	1	(\$)	Lead (with Dept of Commerce)	Support
Pilot Project for Managing Curbside Truck Parking	Near-term	\$200,000 - \$400,000	2	(\$)	Support	Lead (\$)
Pilot a Truck Parking Partnership Program for Underutilized Infrastructure	Immediate	\$500,000 - \$1,000,000	3	Legislative support (\$)	Lead	Support
Promote “Airbnb” Truck Parking	Near-term	\$0	1		Support	Lead
Shippers & Receivers Provide Parking & Basic Amenities						
Develop Guidance for Permitting Agencies to Require On-site Truck Parking at New Developments	Immediate	\$25,000 - \$75,000	1	(\$)	Lead (with Dept of Commerce)	Support
Tax Incentives for Shippers & Receivers to Provide Truck Parking On-site	Immediate	TBD	3	Establish incentives (\$)	Support	Support
Require New Developments for Shippers and Receivers Provide Truck Parking On-site	Immediate	\$0	3	Pass legislation	Support	Support
Mandate Restroom Access for Trucker Drivers	Immediate	\$0	2	Pass legislation	Support	Support
Develop Truck Parking Information Systems						
Develop Concept of Operations for Expansion of Truck Parking Availability System	Near-term	\$100,000 - \$200,000	2	(\$)	Lead	
Expand Truck Parking Availability System	Mid-term	\$5,000,000 - \$8,000,000	2	(\$)	Lead	

Actions	Timing	Planning Level Cost Estimate	*Ease of Implementation	Legislature Role	WSDOT Role	Local Jurisdiction Role
Integrate Communication and Truck Parking Availability Information Systems	Near-term	\$50,000 - \$150,000	3	(\$)	Lead	
Secure Federal Funding for Next-Gen Truck Parking						
Prepare Grant Application	Immediate	\$100,000 - \$150,000	1	(\$)	Lead	
State Matching Funds	Mid-term	\$1,500,000 - \$3,000,000	1	(\$)	Lead	
Better Utilize Existing Infrastructure along Mountain Passes						
Explore Benefits and Risks of Truck Parking at Chain-up/off Areas	Near-term	\$15,000 - \$50,000	1	(\$)	Lead	
Pilot Project for Emergency Road Closure Truck Parking at Facilities with Large Car Parking Area	Near-term	\$50,000 - \$100,000	2	(\$)	Lead	Support
Maintain Momentum						
Establish and Facilitate Truck Parking Implementation Workgroup for 3 Years	Immediate	\$150,000 - \$300,000	1	(\$)	Lead	Participate
Integrate Truck Parking into all Decision-Making Processes	Immediate	\$25,000 - \$75,000	1	(\$)	Lead	
Collaborate with Neighboring States	Immediate	\$25,000 - \$75,000	1	(\$)	Lead	
Develop Innovative Partnership Action Plan for New or Expanded Commercial Truck Stops	Near-term	\$25,000 - \$75,000	1	Support (\$)	Lead	Support
Quantify Truck Parking Demand with Data-driven Study	Mid-term	\$500,000 - \$1,000,000	2	(\$)	Lead	
Develop Education and Information Campaign for Local Jurisdictions	Near-term	\$100,000 - \$300,000	2	(\$)	Lead	Support

*Ease of Implementation

1. Less Complex
2. Moderately Complex
3. Very Complex

Table 2.2 How Well Each Action Addresses Truck Parking Needs

Actions	A Place to Rest for:			A Place to Wait	Unplanned Events	Services & Amenities
	30 Minutes	10 Hours	34 Hours			
Develop More Publicly-owned Truck Parking in High Demand Areas						
Identify Most Feasible Sites for Truck Parking Facilities	2	3	1	2	3	2
Build Truck Parking Facility on/near I-5	3	3	1	3	2	2
Build Truck Parking Spaces on I-90	3	3	1	1	3	2
Build Small Parking Lot for Short-term Staging Only	3	1	1	3	1	1
Better Utilize Existing Parking in Urban Areas						
Develop Guidance for Managing Curbside Truck Parking	3	1	3	3	1	1
Pilot Project for Managing Curbside Truck Parking	3	1	3	3	1	1
Pilot a Truck Parking Partnership Program for Underutilized Infrastructure	2	3	1	2	2	2
Promote “Airbnb” Truck Parking	1	2	3	1	1	1
Shippers & Receivers Provide Parking & Basic Amenities						
Develop Guidance for Permitting Agencies to Require On-site Truck Parking at New Developments	3	3	1	3	1	2
Tax Incentives for Shippers & Receivers to Provide Truck Parking On-site	3	3	1	3	1	2
Require New Developments for Shippers and Receivers Provide Truck Parking On-site	3	3	1	3	1	2
Mandate Restroom Access for Trucker Drivers	1	1	1	1	1	3
Develop Truck Parking Information Systems						
Develop Concept of Operations for Expansion of Truck Parking Availability System	2	2	1	2	2	1
Expand Truck Parking Availability System	2	2	1	2	2	1
Integrate Communication and Truck Parking Availability Information Systems	2	2	1	2	2	1
Secure Federal Funding for Next-Gen Truck Parking						
Prepare Grant Application	3	3	1	3	1	2

Actions	A Place to Rest for:			A Place to Wait	Unplanned Events	Services & Amenities
	30 Minutes	10 Hours	34 Hours			
State Matching Funds	3	3	1	3	1	2
Better Utilize Existing Infrastructure along Mountain Passes						
Explore Benefits and Risks of Truck Parking at Chain-up/off Areas	3	3	1	1	2	1
Pilot Project for Emergency Road Closure Truck Parking at Facilities with Large Car Parking Area	1	1	1	1	3	1
Maintain Momentum						
Establish and Facilitate Truck Parking Implementation Workgroup for 3 Years	3	3	3	3	3	3
Integrate Truck Parking into all Decision-Making Processes	3	3	3	3	3	3
Collaborate with Neighboring States	3	3	3	3	3	3
Develop Innovative Partnership Action Plan for New or Expanded Commercial Truck Stops	3	3	1	3	2	3
Quantify Truck Parking Demand with Data-driven Study	3	3	3	3	3	3
Develop Education and Information Campaign for Local Jurisdictions	3	3	3	3	3	3

Legend: How well does each implementation action address each of the needs for truck parking on a scale of one to three:

1. Does little to address this need
2. Somewhat addresses this need
3. Addresses this need

3.0 Strategy 1: Develop More Publicly-owned Truck Parking in High Demand Areas

The greatest need for truck parking is in urban areas, mountain pass corridors, and near borders. Two large scale truck parking facilities and one small staging lot should be constructed, following a site assessment to identify the most feasible sites.

3.1 Identify Most Feasible Sites for Truck Parking Facilities

Timing	Immediate
Planning Level Cost Estimate	\$50,000 - \$150,000
Ease of Implementation	1
Lead	WSDOT

3.1.1 Description

Selecting the best sites for development or expansion of truck parking facilities will involve an assessment of parcels that meet agreed upon criteria, and input from elected officials, local jurisdictions, and other limited public and private stakeholders. Parcels already under WSDOT control could be the most cost-effective and expeditious to develop.

Development of a truck parking facility is critically dependent upon identifying available property. Land purchase is as significant component of the cost of constructing a truck parking facility. WSDOT should review existing publicly owned properties, particularly those that are already under WSDOT control (although other available properties may also be considered). Below are some potential criteria to consider while identifying a site for a truck parking facility:

- **Location of facility:** Is the site located on or near a major truck route? Is it near to location of truck parking demand (e.g., metropolitan or industrial area, pass or border crossing)?
- **Available area:** Is the site large enough to efficiently provide safe parking slots for trailer trucks and tractors? Sites of at least five acres allow greater efficiency in terms of amenities, although properly configured sites as small as 2.5 acres could be considered, if necessary.
- **Property ownership/availability:** The site should ideally already be in local or State government property ownership, and then consider how easily it could be made available for truck parking (e.g., does it have an active use, would an agency transfer be required, etc.)?
- **Right of Way acquisition:** Does the site have any right of way or easements that might hinder its development?
- **Environmental Sensitivity:** Is the site located in an environmentally sensitive area (such as a park or wetland)?

- **Land Use Compatibility:** Ideally, sites would be in an area that allows truck parking but, at a minimum, should be at least 500 feet from residential or other sensitive land uses, preferably more.
- **Existing Use:** Does the site already handle trucks (e.g., an existing rest area or weigh station)?

Each site should be evaluated and prioritized based on the same criteria.

3.1.2 Collaboration

Identification of appropriate sites for a truck parking facility would require WSDOT to work with staff at agencies familiar with available properties, WSP, local jurisdictions, elected officials, and trucking organizations such as WTA.

More extensive stakeholder and community outreach would be required during the development process if a particular site were to move forward. Additional planning, design and environmental review would also be required during the development process.

3.1.3 Cost

The cost of identifying the sites depends on how extensive the review is (e.g., just WSDOT right of way (ROW) versus all public ROW), how accessible the information is, and the extent of collaboration in this review. The costs would range from \$50,000-\$150,000.

3.1.4 Effectiveness

Identifying a site is only one part of building new truck parking. However, the cost of land is a major component of truck parking. Identifying sites that are currently in public ownership and can be made available with little or no right of way costs would significantly aid in the ability to construct new truck parking spaces. This site identification action is of limited effectiveness in and of itself but could be quite effective if it leads to new truck parking.

3.1.5 Implementation

Implementation steps involve:

- Obtain funding for staff and/or consultant time.
- Determine scope of review (range of properties to be considered, criteria, and coordination process).
- Obtain property data in geographic information system format, where possible.
- Conduct screening and prioritize sites based on criteria.
- Review with identified stakeholders.

Once site identification is complete, the results can be used for further implementation actions including design, funding, and construction, of a dedicated truck parking facility.

3.2 Build Truck Parking Facility on/near I-5

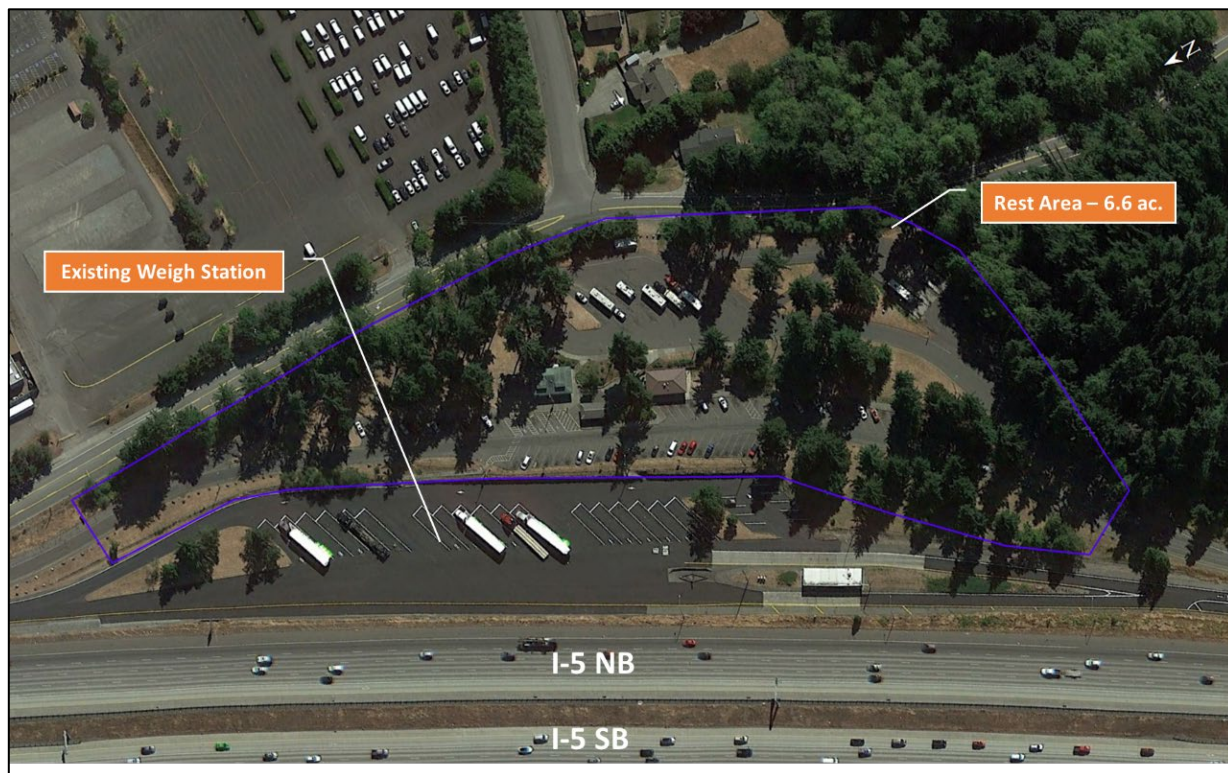
Timing	Near-term
Planning Level Cost Estimate	\$3,000,000 - \$5,000,000
Ease of Implementation	3
Lead	WSDOT

3.2.1 Description

WSDOT should build a truck parking facility on the most feasible site on I-5 as identified in the site assessment in 3.1. Additional parking could be developed in the future and as resources are available. Implementation actions include obtaining appropriate environmental clearances, design and construction. For illustrative purposes only, a concept drawing and cost estimate are shown below for closing the Sea-Tac Rest Area and converting it to a truck-only parking facility. The actual site for development should be determined following a thorough assessment.

Example Site: I-5 SeaTac State Rest Area- The site is located in Federal Way, WA on the north bound I-5 corridor. The site covers about 6.6 acres of existing rest area which is being considered for closure. The site is located next to an operational weigh station. Figure 3.1 shows the site boundary.

Figure 3.1 SeaTac Rest Area on I-5 NB



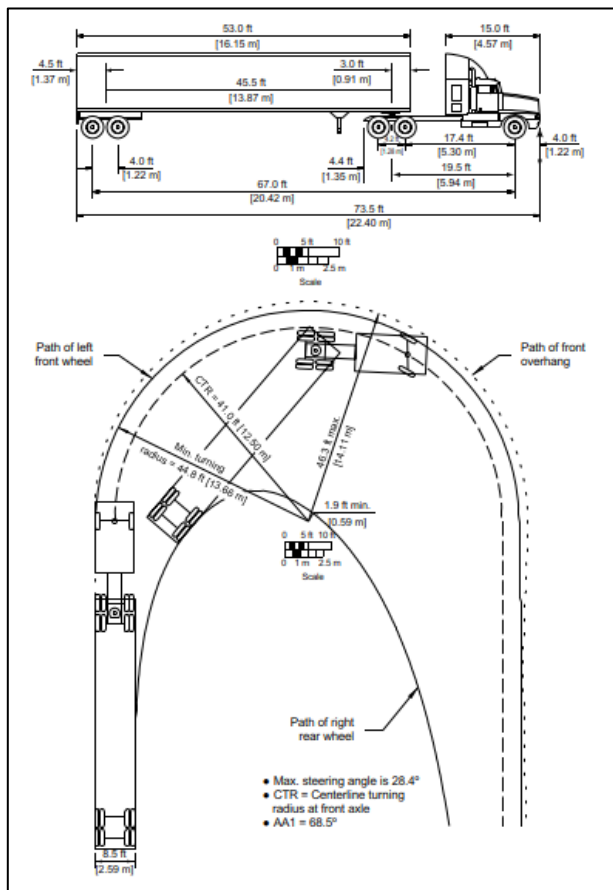
Source: Google Earth

Site Development Assumptions

In developing the identified site into a truck parking facility, the following assumptions were developed.

1. **Design Vehicle:** WSDOT Design Manual does not provide a specific design vehicle to be used to developing truck parking facilities. Section 1103.03(4) of Chapter 1103 Intersection Design Vehicle states that, “Select a design vehicle that allows the largest vehicles commonly encountered to adequately complete a required turning maneuver”. Researching in nearby areas suggests that the majority of trucks parked in nearby neighborhoods is the WB-67, which is also the American Association of State Highway and Transportation Officials’ (AASHTO’s) design vehicle. Figure 3.2 shows the dimensions and truck profile for WB-67. More information is provided in Appendix C.

Figure 3.2 AASHTO WB-67 Design Vehicle Turning Pattern

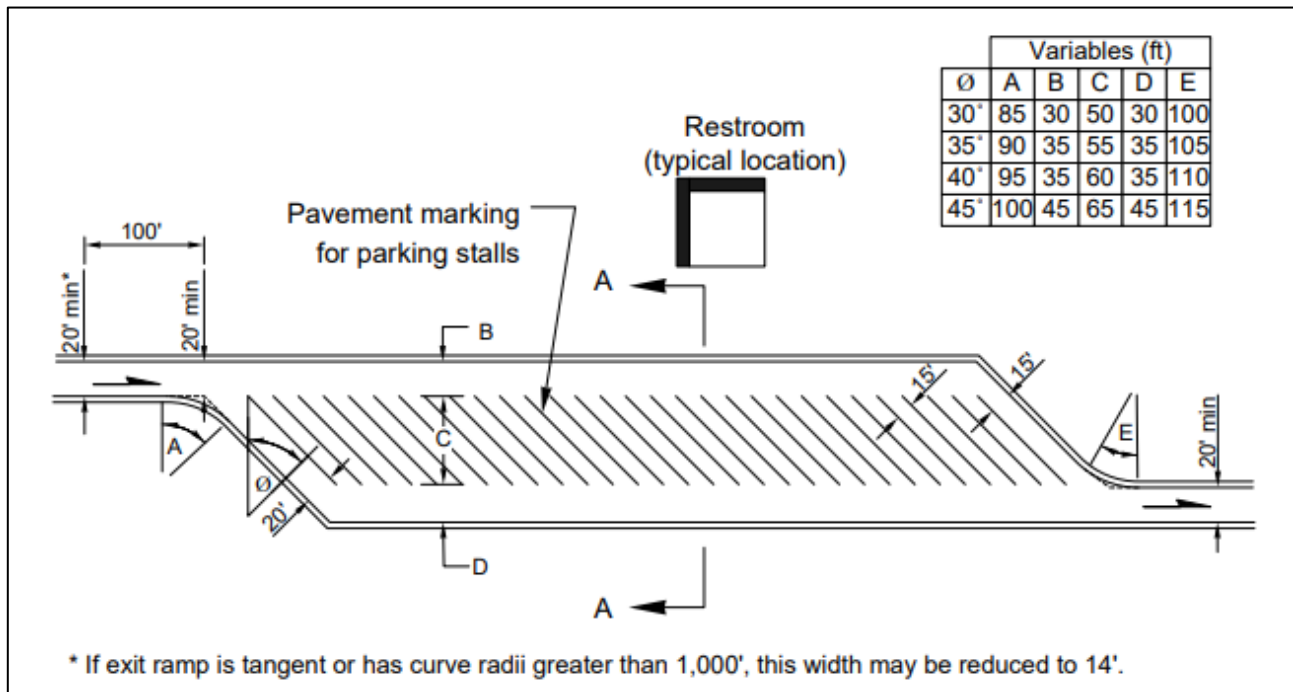


Source: AASHTO Green book Section 2.8.1

2. **Parking Slot Width:** WSDOT’s Design Manual Chapter 1710 Safety Rest Areas Section 1710.05(12) Parking Area Design states that, “Exhibit 1710-5 shows an example of a truck parking area layout. AASHTO’s Guide for Development of Rest Areas on Major Arterials and Freeways provides parking area design considerations”. Figure 3.3 shows a snapshot of Exhibit 1710-5 showing the slot width requirement for truck parking areas. Exhibit 1710-5 shows a slot width of 15 feet. However, further research using turn profiles of WB-67 design vehicle shows that 15 feet slot width is insufficient. Figure 3.4 shows a 15-foot slot width on the left and 16-foot slot width on the right. As can be seen in Figure 3.4, with 15-foot slots, the swept path on slot entry crosses the striping in the adjacent slot, and that’s if

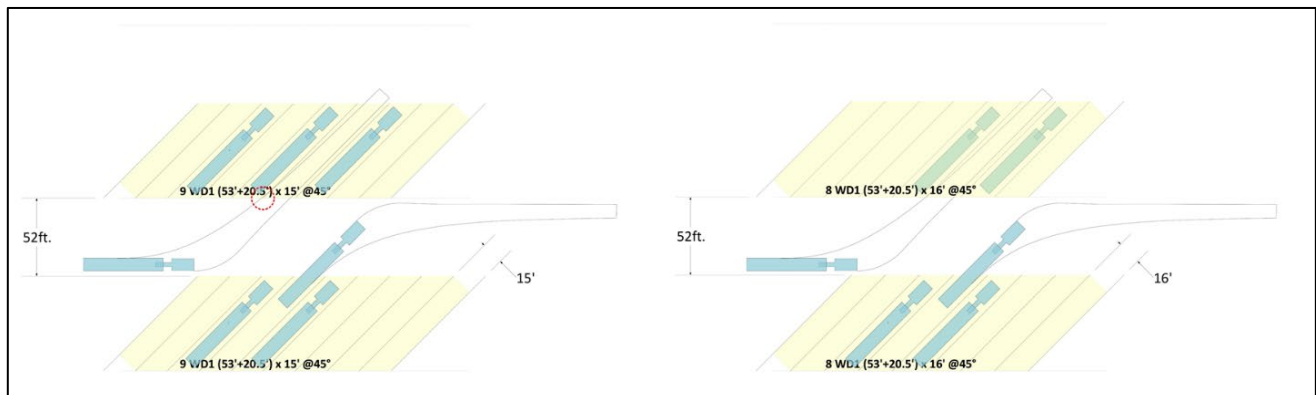
the driver is perfectly centered. This means the drivers cannot respect the striping. Focusing on driver safety and ease of maneuvering, 16-foot slots should be the minimum for these vehicles.

Figure 3.3 WSDOT Parking Slot Requirement for Trucks



Source: WSDOT Design Manual Chapter 1710, Exhibit 1710-5

Figure 3.4 Slot Width Analysis, 15-ft (left) and 16-ft (right)



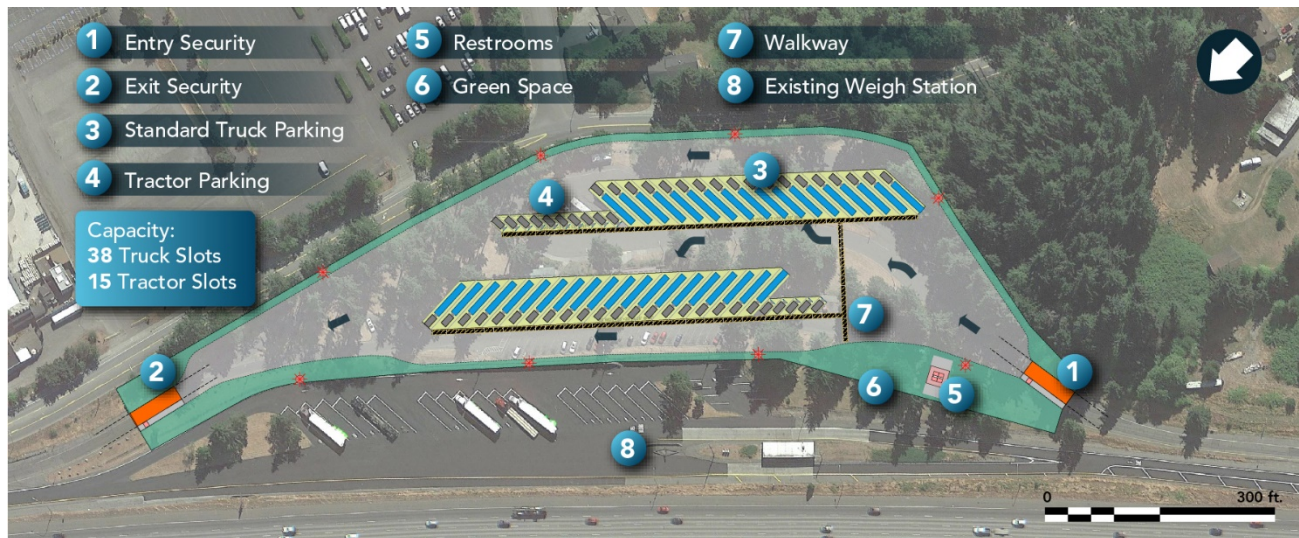
- 3. Services and Service Facilities:** Truck parking areas are intended for use by truckers taking mandatory rests. They may also be used by truckers awaiting access to a nearby destination facility or awaiting a new assignment at a nearby origin facility. Truck parking areas are not intended to supplement or replace the services provided by commercial truck stops, which may provide fuel, food, showers, restrooms, truck servicing, sleeping quarters, and other services on a commercial basis. Assumptions regarding security, control of use, lighting, toilet facilities communications services and open spaces are provided in Section 3 of Appendix C.

Truck Parking Planning

I-5 SeaTac State Rest Area: The example site contains an existing rest area that is being considered for closure. The plan calls for removal of existing buildings to maximize truck parking slots and overall maneuvering of trucks. Layout development focused on avoiding any encroachment on adjacent operational weigh station. Figure 3.5 shows the I-5 truck parking facility example. This site layout has following characteristics:

- New truck parking area – 38 truck slots, 15 tractor-only slots
- Entry and exit security booths
- Herringbone parking at 45 degrees
- Use of existing rest area footprint
- High mast light poles
- Removal of existing buildings and providing new restroom facility.

Figure 3.5 I-5 Truck Parking Facility



3.2.2 Collaboration

Development of a truck parking facility requires collaboration with various agencies and stakeholders. Facilities located on the Interstate would be led by WSDOT with support from the following agencies and stakeholders:

- WSP
- Local jurisdictions (City, County)

- Users (WTA, Independent Truckers, etc.)
- Environmental agencies and organizations
- Local communities

Stakeholder outreach and community involvement will assist in keeping all the involved parties informed and fast track permitting and approval processes.

3.2.3 Cost

A planning level capital cost analysis was developed for the example truck parking facility. Unit costs for various items identified were developed using previous estimates and WSDOT database of bid items. A contingency factor of 50 percent was applied to the overall estimate to account for the early stage of design and cost fluctuations related to the early stage of design and change in raw material cost and labor cost. Table 3.1 shows the cost breakdown of major items for the I-5 truck parking facility.

Table 3.1 Estimated Capital Expense I-5 Truck Parking Facility

Site	Location	Quantity	Unit	Unit Price (\$)	Cost (\$)
Site A2	I-5 SeaTac NB - MP 140.24				
1	Clear - Grub - Level	5.3	Acre	\$ 28,000.00	\$ 148,400.00
	Building Demo	1	LS	\$ 100,000.00	\$ 100,000.00
2	Low Voltage Conduit				
	Trench	2264	LF	\$ 21.00	\$ 47,540.00
	4" PVC Conduit	2264	LF	\$ 20.00	\$ 45,280.00
	Low voltage power conductors	2264	LF	\$ 10.00	\$ 22,640.00
	Backfill and cover	2264	LF	\$ 50.00	\$ 113,200.00
3	Substation for 2 to 5 MVA	1	LS	\$ 250,000.00	\$ 250,000.00
4	HM Pole .5M Lumens	8	LS	\$ 35,000.00	\$ 280,000.00
5	AC Pavement				
	HMA (Type A) 6"	2914	Ton	\$ 100.00	\$ 291,400.00
	Cement Treated Base 12"	8551	CY	\$ 40.00	\$ 342,040.00
	Treatment BMPs	11326	SF	\$ 1.61	\$ 18,230.00
6	Manned Booth Lane	2	LS	\$ 200,000.00	\$ 400,000.00
7	Chain Link Boundary Fence	2952	LF	\$ 30.00	\$ 88,560.00
8	Green Space	1.24	Acre		\$ -
	Trees [15 Gallon Box]	13	Ea	\$ 250.00	\$ 3,250.00
	Trees [24" Box]	13	Ea	\$ 250.00	\$ 3,250.00
	Sod Installation	6000	SY	\$ 20.00	\$ 120,000.00
	Irrigation System	0.6	Acre	\$ 100,000.00	\$ 60,000.00
9	Walkway	1261	LF	\$ 16.00	\$ 20,180.00
10	Water Closet	624	SF		
	ADA Stall = 7.5' x 7.5'	11	EA	\$ 20,000.00	\$ 222,860.00
11	Parking Striping	4032	LF	\$ 6.50	\$ 26,210.00
12	Base Cost			Base Cost:	\$ 2,603,040.00
	Contingency			Contingency:	150%
13	Total Cost w / 50% Contingency			Total Cost:	\$ 3,904,560.00

3.2.4 Effectiveness

Effectiveness of a truck parking facility will depend on, but not be limited to, the following elements:

- **Ease of Location:** Located in or near high truck traffic areas
- **Hours of Service:** Open 24 hours
- **Impact on Land Use:** Should be in commercial/industrial zone and should not have negative impact on residential areas
- **Safety and Security:** Secured entry/exit, proper illumination and striping at parking facility
- **Access to Amenities:** Easy access to restrooms and other amenities such as vending machines and communication network
- **Facility Type:** Whether the facility is temporary (for night operations or during road closures) or permanent
- **Site Enforcement:** Use of truck parking facility is enforced and prevents unauthorized parking in nearby neighborhoods

The above listed effectiveness elements are to be ranked low, moderate, or high. For example if a truck parking facility is located in a high truck use area, the effectiveness score will be high. If a truck parking facility has a negative impact on nearby communities, the effectiveness score will be low. Table 3.2 shows effectiveness scores for a potential I-5 truck parking facilities.

Table 3.2 Effectiveness Score for a Potential I-5 Truck Parking Facility

Elements	I-5 Facility
Ease of Location	High
Hours of Service	High
Impact on Land Use	Moderate
Safety and Security	High
Access to Amenities	High
Facility Type	High
Site Enforcement	High

Developing truck parking on a publicly-owned site in a high demand area along I-5 has the potential to be highly effective in addressing truck parking needs.

3.2.5 Implementation

Implementation will depend the following steps, among others:

- Obtaining legislative support and funding for the project

- Obtaining State and local agency and community support
- Conducting appropriate environmental reviews and mitigation
- Development of detailed design
- Development and adherence to a detailed construction and maintenance program

3.3 Build Truck Parking Spaces on I-90

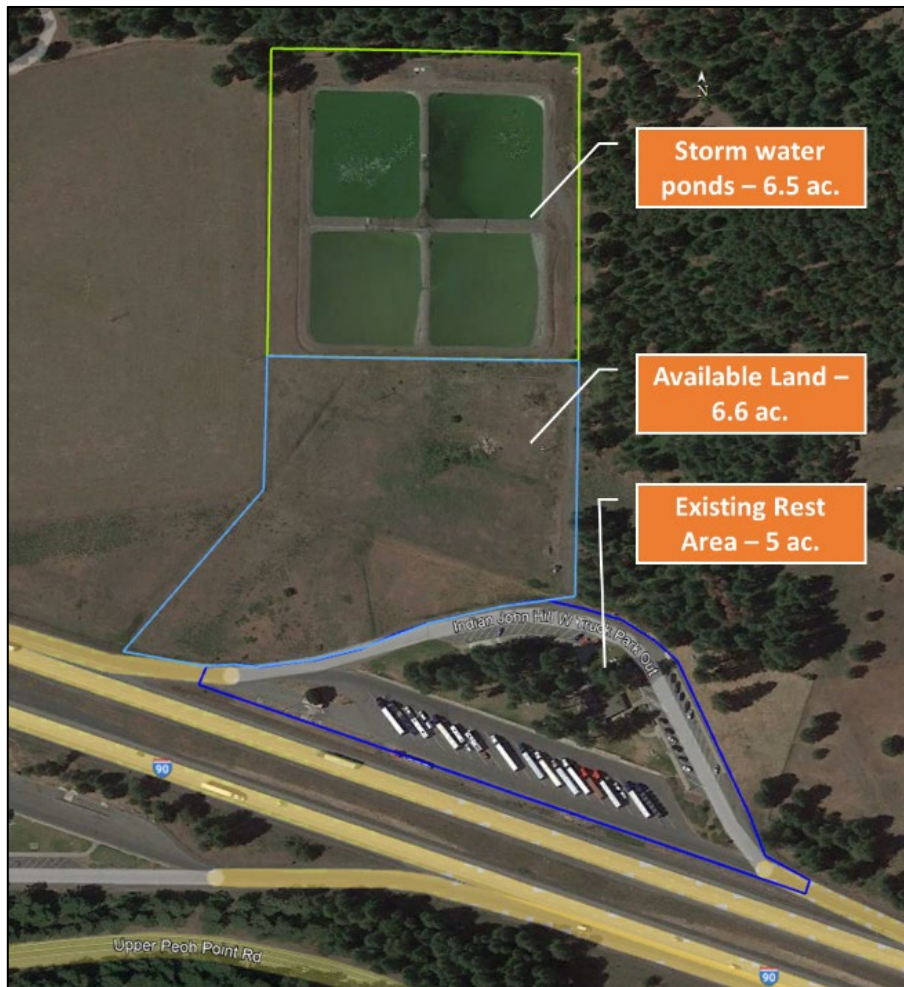
Timing	Near-term
Planning Level Cost Estimate	\$3,000,000 - \$5,000,000
Ease of Implementation	3
Lead	WSDOT

3.3.1 Description

Following recommendations from the site assessment in 3.1, WSDOT should build more truck parking on the top site identified on the I-90 corridor. Implementation actions include obtaining appropriate environmental clearances, design and construction. For illustrative purposes only, a concept drawing and cost estimate is shown below for expanding the truck parking at the Indian John Hill Rest Area on Westbound I-90. The actual site for development should be determined following a thorough assessment.

Example Site: I-90 Indian John Hills Rest Area - The example site is located in Ellensburg, WA on the Westbound I-90 corridor. The site covers about 18.1 acres out of which about five acres accounts for the existing rest area, 6.5 acres for existing storm water treatment ponds, and the remaining 6.6 acres of available land for development. Figure 3.6 shows the area breakdown of the site.

Figure 3.6 Indian John Hill Rest Area on I-90 Westbound



Source: Google Earth and Kittitas County tax Assessor website

Site Development Assumptions

The same site development assumptions were used for this site as for the I-5 site. These are described in section 3.2.1

Truck Parking Planning

I-90 Indian John Hills Rest Area: The site was laid out on the available area of 6.6 acres. About 1.1 acres of the area south of the storm water ponds were not used to avoid existing power lines passing through the site. Additionally, about 0.6 acre on the western end was not used to avoid an existing slough. The existing car parking remains as is and a new truck parking facility was developed in the area with available land. With this configuration, the trucks would arrive at the existing truck parking area, which consist of 19 truck slots. If no slots were available, the truck would proceed to the new “Overflow” area to find a parking slot. Figure 3.7 shows the I-90 truck parking facility example. This site layout has following characteristics:

- Existing truck parking area – 19 truck slots

- New truck parking area – 25 truck slots
- Additional restroom for added capacity
- High mast light poles
- Herringbone parking at 45 degrees

Figure 3.7 I-90 Truck Parking Facility



3.3.2 Collaboration

Development of a truck parking facility requires collaboration with various agencies and stakeholders. Facilities located on the Interstate would be led by WSDOT with support from the following agencies and stakeholders:

- WSP
- Local jurisdictions (City, County)
- Users (WTA, Independent Truckers, etc.)
- Environmental agencies and organizations
- Local communities

Stakeholder outreach and community involvement will assist in keeping all the involved parties informed and fast track permitting and approval processes.

3.3.3 Cost

A planning level capital cost analysis was developed for the example truck parking facility. Unit costs for various items identified were developed using previous estimates and WSDOT database of bid items. A contingency factor of 50 percent was applied to the overall estimate to account for cost fluctuations related to

change in raw material cost and labor cost. Table 3.3 shows the cost breakdown of major items for the I-90 truck parking facility.

Table 3.3 Estimated Capital Expense I-90 Truck Parking Facility

Site	Location	Quantity	Unit	Unit Price (\$)	Cost (\$)
Site A1	I-90 Indian John Hill WB - MP 89.40				
1	Clear - Grub - Level	4.75	Acre	\$ 10,000.00	\$ 47,500.00
2	Low Voltage Conduit				
	Trench	1303	LF	\$ 21.00	\$ 27,360.00
	4" PVC Conduit	1303	LF	\$ 46.00	\$ 59,940.00
	Low voltage power conductors	1303	LF	\$ 10.00	\$ 13,030.00
	Backfill and cover	1303	LF	\$ 50.00	\$ 65,150.00
3	Substation for 2 to 5 MVA	1	LS	\$ 250,000.00	\$ 250,000.00
4	HM Pole .5M Lumens	5	LS	\$ 35,000.00	\$ 175,000.00
5	AC Pavement				
	HMA (Type A) 6"	2556	Ton	\$ 150.00	\$ 383,400.00
	Cement Treated Base 12"	7502	CY	\$ 40.00	\$ 300,080.00
	Treatment BMPs	16379	SF	\$ 1.61	\$ 26,370.00
6	Manned Booth Lane	0	LS	\$ 200,000.00	\$ -
7	Chain Link Boundary Fence	1160	LF	\$ 72.00	\$ 83,520.00
8	Green Space				
	Trees [15 Gallon Box]	6	Ea	\$ 250.00	\$ 1,500.00
	Trees [24" Box]	6	Ea	\$ 250.00	\$ 1,500.00
	Sod Installation	640	SY	\$ 12.50	\$ 8,000.00
	Irrigation System	0.13	Acre	\$ 100,000.00	\$ 13,000.00
9	Walkway	1736	LF	\$ 16.00	\$ 27,780.00
10	Water Closet				
	ADA Stall = 7.5' x 7.5'				
11	Parking Striping	1971	LF	\$ 1.80	\$ 3,550.00
12	Base Cost			Base Cost:	\$ 1,486,680.00
	Contingency			Contingency:	150%
13	Total Cost w / 50% Contingency			Total Cost:	\$ 2,230,020.00

3.3.4 Effectiveness

Effectiveness of a truck parking facility will depend on, but not be limited to, the following elements:

- **Ease of Location:** Located in or near high truck traffic areas
- **Hours of Service:** Open 24 hours
- **Impact on Land Use:** Should be in commercial/industrial zone and should not have negative impact on residential areas
- **Safety and Security:** Secured entry/exit, proper illumination and striping at parking facility

- **Access to Amenities:** Easy access to restrooms and other amenities such as vending machines and communication network
- **Facility Type:** Whether the facility is a temporary (for night operations or during road closures) or permanent
- **Site Enforcement:** Use of truck parking facility is enforced and prevents unauthorized parking in nearby neighborhoods

The above listed effectiveness elements are to be ranked low, moderate, or high. For e.g.: if a truck parking facility is located in a high truck use area, the effectiveness score will be high. If a truck parking facility has a negative impact on nearby communities, the effectiveness score will be low. Table 3.4 shows effectiveness scores for a potential I-90 truck parking facility.

Table 3.4 Effectiveness Score for I-90 Truck Parking Facility

Elements	I-90 Facility
Ease of Location	High
Hours of Service	High
Impact on Land Use	High
Safety and Security	High
Access to Amenities	Moderate
Facility Type	High
Site Enforcement	Moderate

Using this site as an example, developing truck parking on a publicly-owned site in a high-demand area along I-90 has the potential to be highly effective in addressing truck parking needs.

3.3.5 Implementation

Implementation will depend the following steps, among others:

- Obtaining legislative support and funding for the project
- Obtaining State and local agency and community support
- Conducting appropriate environmental reviews and mitigation
- Development of detailed design
- Development and adherence to a detailed construction and maintenance program

3.4 Build Small Parking Lot for Short-term Staging Only

Timing	Near-term
Planning Level Cost Estimate	\$50,000 - \$500,000
Ease of Implementation	2
Lead	Local Jurisdiction

3.4.1 Description

Truck drivers often experience delays waiting for a customer to allow them to pick up or drop off goods, referred to as driver detention. It is among the most important issues facing truck drivers. Often times a truck will arrive to deliver or receive trailers only to be turned away from the facility for a short period of time because the facility is not prepared for the truck (e.g., all the loading docks are occupied). The driver will typically attempt to remain nearby to respond immediately when the facility is ready, and in the absence of designated parking facilities or parking availability will park in an undesignated area. Driver detention studies have found that many drivers will wait two to three hours to be serviced.¹

This action is to construct a small parking facility in or near major logistics center(s), close to truck drivers' origin or destination points, to be used for short-term staging. This type of parking facility does not need to provide fuel, food, or convenience store items available at most truck stops. It is envisioned that it would be located on small, vacant lots, sufficient to hold a dozen trucks. It would be unattended and located in an urban area, making it challenging to provide restroom facilities. However, by limiting parking to a maximum of 3-hours, for the sole purpose of staging, it is possible that restrooms might not be needed. The City of Weed, California, developed this type of lot on three-quarters of an acre, shown in Figure 3.8.

¹ <http://www.dat.com/blog/post/54-of-Drivers-Are-Detained-3-4-Hours-Per-Stop>

Figure 3.8 Public Truck Parking Lot, Weed, CA

Source: Google Maps. North is to the top of the images.

3.4.2 Collaboration

This pilot would be led by a local jurisdiction with support as needed from WSDOT.

3.4.3 Cost

In order to keep costs down for a pilot project, a lot that is already paved is preferable, it would only need striping and signing.

3.4.4 Effectiveness

One small lot will only provide about 10 spaces, not enough to make a significant difference. But if the pilot project proves successful—that is drivers use it regularly—then as described above, a network of connected truck parking and staging areas could be developed to serve a large number of trucks affordably.

3.4.5 Implementation

- Obtain support and funding for the project
- Locate an appropriate parcel
- Conduct appropriate reviews
- Site clean-up, signing and striping

4.0 Strategy 2: Better Utilize Existing Parking in Urban Areas

Underutilized areas where trucks could park, if appropriate and allowed, exist throughout urban areas including curbs, retail parking lots, and industrial properties. Some of these may only be appropriate during the overnight hours.

4.1 Develop Guidance for Managing Curbside Truck Parking

Timing	Immediate
Planning Level Cost Estimate	\$25,000 - \$75,000
Ease of Implementation	1
Lead	WSDOT (with Dept of Commerce)

4.1.1 Description

While local regulations often discourage on-street truck parking, it could be safely accommodated in the right context, such as locations with sufficiently wide streets, industrial or commercial land uses, lack of bicycle and pedestrian traffic, and distance from sensitive land uses such as schools. Smart urban parking zones could be used to designate multiple purposes over the course of the day for curb areas and other applicable parking locations. With use of a mobile app, drivers could locate parking, reserve a spot for a specific time window, and facilitate payment (if applicable). This strategy targets short-term (less than four hours) staging when the driver stays with the truck, and long-term parking for owner-operators who leave their truck unattended when home on breaks.

Owner-operator independent drivers own their own trucks instead of working for a company and driving a company vehicle. Lacking a warehouse or truck terminal to park their truck when off-duty, they often park in residential areas near their homes when off-duty. Although parking of this type is different from other long-haul parking (e.g., there is no need for restrooms, trucks are not typically idling), this can become a source of conflict with neighboring residents and puts the owner-operator at risk of vehicle or cargo theft. As complaints mount, jurisdictions commonly post signs restricting truck parking in residential areas, but this just leads to parking in other undesirable areas.

Recognizing the need to help owner-operators who live in the city, the City of Auburn designated four areas inside industrial zones where truck parking is acceptable, and issues parking permits to truck drivers who are residents of the city. The designated curbs are appropriately signed, and trucks are allowed to park there for a maximum of 72 hours without any occupants. This has helped to remove parked trucks from residential areas where drivers typically park when home. See the City's website for more information:

<https://www.auburnwa.gov/cms/one.aspx?portalId=11470638&pageId=15503832>.

Working with local jurisdictions and private industry, WSDOT should develop curbside parking guidance. Truck drivers already use these spaces for parking (see Figure 4.1 for an example), and they could be used more efficiently if managed appropriately.

Figure 4.1 Informal Curbside Parking



Source: Cambridge Systematics (photo taken in Las Vegas, NV)

Smart urban parking zones can be used to designate multiple purposes over the course of the day for curb areas and other applicable parking locations. Drivers can locate parking within a short time window and close geographic proximity to their destination, reserve a spot for a specific time window, and facilitate payment through a mobile app or other reservation system. This approach aims to make more efficient use of existing curb areas in commercial and industrial areas by communicating both location and availability, and then enabling the ability to reserve spaces. This strategy offers opportunities for cities to partner with private sector technology developers who are creating the business model and technologies (apps) to facilitate curb area parking solutions to truck drivers. Cities would need to designate curb areas near logistics centers.

4.1.2 Collaboration

WSDOT, in consultation with the Department of Commerce and local jurisdictions, would take the lead in developing guidance for local jurisdictions to implement at their discretion.

4.1.3 Cost

Implementation costs could vary depending on the level of analysis conducted. At a minimum, guidance developed by the City of Auburn for permitting resident owner-operators to park on designated curbs could be used. However, additional research and consultation with other jurisdictions might also be appropriate.

4.1.4 Effectiveness

This is a relatively low-cost solution. Because curb space would mainly be used for short-term staging, the turnover in parking would be high, allowing multiple trucks to park at the same location throughout the day. Therefore, this could provide parking options for a significant number of trucks each day, at a relatively low cost.

4.1.5 Implementation

- Develop criteria for curbs that are deemed appropriate for short-term and city resident truck owner truck parking use
- Identify options for managing the curb space, including static signs, meters, mobile apps, and others
- Seek input from WTA who would use it and cities that would implement it
- Draft the findings and recommendations into a guidance document
- WSDOT and Dept. of Commerce would offer this technical assistance to local jurisdictions to develop the Pilot Project for Managing Curbside Truck Parking (see next action)

4.2 Pilot Project for Managing Curbside Truck Parking

Timing	Near-term
Planning Level Cost Estimate	\$200,000 - \$400,000
Ease of Implementation	2
Lead	Local Jurisdiction

4.2.1 Description

While similar technology is widely used for urban curbside car parking, and is increasingly being used for curbside parcel deliveries, it is rarely used for heavy-duty truck parking. A pilot project could help to determine its acceptance by truck drivers, usefulness as a truck parking strategy, and the actual costs and resources needed to implement it. This information could inform revisions to the *Guidance for Managing Curbside Truck Parking* and be useful for determining if it is worth the costs to implement on a large scale.

4.2.2 Collaboration

Implementation would be led by a local jurisdiction with guidance and technical support from WSDOT.

4.2.3 Cost

The pilot project could range from 50 – 150 hours of staff time.

Installation costs would range between \$150K and \$350K for a two to four month pilot project, depending on the project scope. Staff time would also be need to manage implementation.

4.2.4 Effectiveness

This is a relatively low-cost solution. Because curb space would only be used for short-term staging, the turnover in parking would be high, allowing multiple trucks to park at the same location throughout the day. Therefore, this could provide parking options for a significant number of trucks each day, at a relatively low cost.

4.2.5 Implementation

- Identify curbs that are appropriate for short-term truck parking use.
- Procure the services of a technology provider.
- Physical installations are typically minimal. For instance, one technology provider only requires installing Bluetooth-based smart road signs on the selected curbs to inform drivers and enable an accurate and fast detection of the “zone code” without using global positioning system (GPS). Road signs installation can be easily performed by technicians. Drivers download an app and register their mobile phone number and basic data of their vehicle to start using it.
- Talk to nearby shippers and receivers to encourage them to inform truck drivers that service their facility that designated curb space is available for short-term staging.
- Prepare a press release or other materials to communicate this pilot to truck drivers who could benefit from it.

4.3 Pilot a Truck Parking Partnership Program for Underutilized Infrastructure

Timing	Immediate
Planning Level Cost Estimate	\$500,000 - \$1,000,000
Ease of Implementation	3
Lead	WSDOT

4.3.1 Description

WSDOT’s Innovative Partnership Office should develop a Truck Parking Partnership Program to promote truck parking at car and/or truck parking lots during overnight hours when not in use, such as large retail or industrial parking lots. This program could leverage public grants for private investment, similar to the Zero Emissions Vehicle Infrastructure Partnerships (ZEVIP) Program that WSDOT administers. The Truck Parking Partnership Program grant resources could be used to cover the construction of restroom facilities, EV charging infrastructure, and maintenance.

Public Private Partnership (P3) Overview and Transportation Innovative Partnership Program

WSDOT's Innovative Partnerships Office currently oversees the ZEVIP Program. The ZEVIP Program manages alternative fuel vehicle charging and refueling infrastructures, along highway corridors in Washington State and is supported by private financing. The ZEIVP awards grants to non-profit organizations and to State and local government agencies such as cities, towns, counties, transit agencies and tribes. Potential grant recipients are strongly encouraged to partner with private sector companies to develop and implement projects.² From 2017-2019, WSDOT awarded \$1 million in grants and leveraged \$1.5 million in matching funds for the installation of 15 new electric vehicle charging stations in the State. For the next funding window, WSDOT plans to award approximately \$8 million in grants for projects to be completed between July 1, 2021 through June 30, 2023.

Proposed Truck Parking Partnership Program

To increase the number of safe truck-resting and parking areas, WSDOT's Innovative Partnership Office can consider developing and piloting a Truck Parking Partnership Program that could be structured in a similar way to the ZEVIP Program. An example of the type of partnership that could qualify for a grant through the Truck Parking Partnership Program could include local cities partnering with retail partners (e.g. Walmart, Costco) along interstate corridors close to existing travel plazas. The local city or county could apply for the grant from the Truck Parking Partnership Program, using it to pay the selected private partner for usage and maintenance of its parking facility during off-peak hours of operation for truck drivers to park. Conditions of receiving the grant could include the construction of restroom facilities, and potential incentives in the way of EV charging and other infrastructure improvements. Furthermore, the grant can be dedicated towards facilities and equipment for maintenance (e.g. cleaning, trash removal, pavement conditioning and other services) onsite or on the adjacent road network to address additional road maintenance costs if applicable. It may also be possible for the grant to support the costs of providing additional infrastructure within the existing parking facility, including electric charging infrastructure for trucks as the demand for that type of infrastructure increases.

4.3.2 Collaboration

Under the proposed Truck Parking Partnership Program, potential collaborative opportunities exist with both public (Federal, State, and local) and private entities. Potential public partner entities could include metropolitan planning organizations (MPOs) and regional transportation planning organizations (RTPOs), counties, cities, ports and other public entities located along major truck thoroughfares. Additionally, the local public partners may also have resources at their disposal and can offer incentives to potential private parties, which can be part of the selection factor for this grant. For example, public entities that can offer jurisdictional tax incentives or enter into transit-oriented development partnerships with private entities may be more competitive in receiving the grant. Private entity partners could include large scale retail facilities, tech facilities or other employers that have large parcels of parking space. It would be ideal if they are close to travel centers that offer services for truckers (e.g., restaurants, showers). Grant funding available through the Truck Parking Partnership Pilot Program could serve as an incentive for private partners to collaborate with a public entity on targeted truck parking solutions.

² [Zero Emissions Vehicle Infrastructure Partnership](#). Washington State Department of Transportation.

4.3.3 Cost

Further analysis and research will be needed to determine an appropriate budget and appropriate grant amounts for this program over the long term. A pilot to test the program could be set up with \$500,000-\$1,000,000.

4.3.4 Effectiveness

The development and implementation of a Truck Parking Partnership Program will help incentivize collaborative opportunities between public and private partners to participate in developing truck parking solutions across Washington. The spaces may not be available at all times of days or necessarily permanent. However, over time, this strategy promises to be moderately effective in addressing truck parking issues in Washington.

4.3.5 Implementation

In the short term, a pilot should be carried out to test the viability of a Truck Parking Partnership Program. To do this, WSDOT would need to develop the grant requirements and obtain initial funding from the legislature. If successful, the pilot could lead to continuation of the program on an on-going basis. The program would need to be consistent, and in parallel, with existing Trucking and Truck Parking efforts undertaken by the WSDOT Freight offices, including priorities identified in WSDOT and FHWA 2021 Workshop.³

4.4 Promote “Airbnb” Truck Parking (Parking on Underutilized Property)

Timing	Near-term
Planning Level Cost Estimate	\$0
Ease of Implementation	1
Lead	Local Jurisdiction

4.4.1 Description

In urban areas, where land is most scarce and expensive, constructing large truck parking facilities may not be feasible. However, private industrial property owners may have underutilized land that could be used for shared parking. For example, an unloading staging area may be used during the day for normal operations while providing parking at night. Undeveloped land purchased for future expansion could also be initially developed for parking until the business is ready to otherwise utilize the area.

Mobile applications have been developed to allow property owners to market their available space, and truck drivers and companies to identify, reserve, and pay for parking at available locations, expanding the pool of inventory and providing a financial incentive for participating property owners. Truckers are directed to

³ 2021 [Washington State Truck Parking Workshop](#): overview and potential solutions for consideration. WSDOT. FHWA. June 2-23, 2021

parking in existing lots which are already zoned for commercial or industrial use and permitted for truck activity. To-date, these apps have primarily attracted local owner-operators or trucking companies who lease space for their fleet by the month.

The only implementation action needed is to let property owners, located in appropriate areas, know that apps are available to help them monetize their unused property, and to help get the word out to truck drivers and companies to encourage them to park at these designated locations instead of unsafe, undesignated areas.

TruckPark is one such platform for finding safe, secure and reservable parking. They have one parking partner in the State, Jiffy Airport Parking located at 18836 International Blvd, SeaTac, WA (see Figure 4.2).

Figure 4.2 TruckPark Partner: Jiffy Airport Parking



Image Source: Google Map

4.4.2 Collaboration

This solution already exists. The only implementation action needed is to let property owners, located in appropriate areas, know that apps are available to help them monetize their unused property, and to help get the word out to truck drivers and companies to encourage them to park at these designated locations instead of unsafe and undesignated areas.

4.4.3 Cost

Construction is not required, and no financial investment is required by public agencies. The technology provider bears the costs for initial development, regional publicity and engaging property owners, ongoing maintenance, and any upgrades required by changes to technology or regional policies. The technology provider's costs are recouped from membership, subscription, or transaction fees.

Staff time needed to promote this technology could vary widely depending on the level of effort.

4.4.4 Effectiveness

Across the state of California, SecurSpace, another successful mobile marketplace platform, has approximately 50 partners offering 6,000 spaces for lease. Unfortunately, they informed the study team in October 2021 that they will now only offer trailer and container storage—not truck parking or storage. Nevertheless, this provides a sense of the potential of this strategy once businesses and drivers know it is available.

4.4.5 Implementation

- Identify target areas, and businesses inside those areas, where this strategy could be appropriate and effective.
- Contact companies that offer this marketplace platform to let them know about the target opportunity areas. Coordinate with them appropriate outreach to businesses in those areas.

5.0 Strategy 3: Shippers and Receivers Provide Parking and Basic Amenities

Local ordinances routinely set employee and customer parking requirements for new developments; however, on-site truck parking and staging areas are rarely required, passing the costs for future mitigation on to the local jurisdiction. These costs include the cost of providing truck parking and costs associated with safety, congestion, and community disruption. Actions to encourage, incentivize, and/or require shippers and receivers to be a part of the solution are the most lasting and impactful actions the State could take.



5.1 Develop Guidance for Permitting Agencies to Require On-site Truck Parking at New Developments

Timing	Immediate
Planning Level Cost Estimate	\$25,000 - \$75,000
Ease of Implementation	1
Lead	WSDOT (with Dept of Commerce)

5.1.1 Description

WSDOT, working with Department of Commerce, should develop guidance for local permitting agencies to apply on-site parking requirements uniformly.

When land use and zoning decisions allow for new commercial and industrial development, but do not account for the increased demands for truck parking, the costs for future mitigation are often passed on to the local jurisdiction. These costs include the cost of providing truck parking and costs associated with safety, congestion, and community disruption. A common reaction is to pass ordinances restricting truck parking, which redistributes the need to another area in the community or a nearby community.

Local ordinances routinely set employee and customer parking requirements for developments; however, on-site truck parking for overnight and staging areas are rarely required. In 2017, the Township of Upper Macungie, Pennsylvania, in the Lehigh Valley became a notable exception to this rule. The Township passed

a new zoning requirement that requires one off-street truck parking space for every loading dock at a new warehouse or distribution facility.⁴ The new zoning regulations also mandate one truck staging space (with a 10-foot x 80-foot dimensions) for every two loading spaces at a distribution or warehouse facility. Further, the new requirements specified that applicants (developers) must present evidence that parking will be adequate to accommodate expected demand. The language is integrated into the city's general parking code, which applies to the passenger parking requirements for employees and visitors/customers of various land uses. This and the FHWA *Truck Parking Guidebook* could be valuable resources, supported by research into current development standards, for creating customized guidance for permitting agencies in the State of Washington.

Counties, cities, and jurisdictions across the nation already develop traffic impact assessments and review site plans for new developments. However, these processes do not always consider the specific transportation and truck parking needs generated by freight activity. Traffic impact assessment processes should be reviewed to include anticipated truck volumes at a site and the impacts of staging near the site.

FHWA will soon release the *Truck Parking Guidebook* which will include guidance, sample ordinance language, and various tools for estimating the demand for truck parking generated by new developments. In addition, the California Statewide Truck Parking Study will soon publish another tool for estimating demand. They each have different approaches based on available data.

5.1.2 Collaboration

FHWA is already leading this effort by developing the *Truck Parking Guidebook*. WSDOT and Department of Commerce would need to adapt the guidance to the State of Washington, working in conjunction with local jurisdictions.

5.1.3 Cost

Cost of developing the guidance is covered by FHWA. WSDOT and Department staff time would be needed to customize, develop, and implement the ordinance. The cost is estimated to be in the range of \$25,000-\$75,000.

5.1.4 Effectiveness

Requiring new developments to provide truck parking on-site, or to support a shared lot for that purpose, is one of the most effective tools for addressing future demand for truck parking in the long run. It would keep the problem from getting worse. However, it would not address existing developments. Additionally, providing model guidance to local jurisdictions does not mean they would implement it. Therefore, the effectiveness of this particular action is somewhat limited.

⁴ Township of Upper Macungie Municipal Code § 27-601. <https://ecode360.com/14517379>

5.1.5 Implementation

Develop new zoning requirements for truck parking, consistent with other requirements and in accordance with the FHWA *Truck Parking Guidebook*. Work with local jurisdictions to encourage them to pass the new zoning requirements.

5.2 Tax Incentives for Shippers & Receivers to Provide Truck Parking On-site

Timing	Immediate
Planning Level Cost Estimate	TBD
Ease of Implementation	3
Lead	Legislature

5.2.1 Description

In lieu of requiring shippers and receivers to either provide truck parking on-site, or to contribute to the development and maintenance of a shared off-site parking lot, the Legislature could establish incentives to encourage them to do so. Incentives could focus on making additional truck parking available at shippers and receivers, encouraging property owners with underutilized parking to make it available to trucks or encouraging them to include additional truck parking in new developments. Potential tax incentives that Washington State and local officials could explore to incentivize truck parking solutions include: business and occupation tax credit, property tax exemptions, construction related tax credits, and a potential statewide truck safety tax credit. These ideas should be explored with legislative and agency staff and elected officials to identify and refine those with the most merit.

Tax Credits and Exemptions

Tax credits and tax exemptions are a potentially useful tool to incentivize private partners in providing for more truck parking solutions. Providing tax credits or exemptions to business owners, developers and operators of truck parking facilities may help incentivize additional private sector partners to help provide more truck parking solutions. Additionally, tax incentives can also be offered and applied to existing business that have overflow parking areas which could be offered to freight truck drivers during off-peak hours where the businesses do not have a need for parking.

Below is a summary of potential tax credits that Washington State and local officials could explore to incentivize truck parking solutions.

Business and Occupation Tax

Washington, unlike many other states, does not have an income tax and instead has a Business and Occupation (B&O) Tax. The State's B&O tax is a gross receipts tax measured on the value of the products,

gross proceeds of sale, or gross income of business. Currently, there are several categories of businesses that can receive B&O tax credit based on the nature of their business, the services and goods they provide, or the population they serve.⁵

As an example, the State offers B&O tax credits for companies who use alternative fuels under the Clean Alternative Fuel Commercial Vehicle and Vehicle Infrastructure Tax Credit.⁶ Businesses are eligible for a B&O tax credit based on several factors, including businesses that purchase, lease, and incur costs related to installation and construction for alternative fuel related equipment.

As a means of incentivizing additional truck parking, the State Legislature could create a Truck Parking Tax Credit. A potential Truck Parking Tax Credit could be made available not just to businesses seeking to develop, construct and operate truck parking facilities, but also to existing businesses (e.g., retail or tech facilities) who offer overflow parking to truck drivers. For example, a retail business (e.g., Walmart or Costco) with available parking during off-peak hours can offer parking for freight trucks, possibly for a small fee. If they can document and show that they are providing for a certain number of truck parking on a monthly or yearly basis, they may qualify for a potential tax exemption or credit as determined appropriate by the legislative and tax authorities.

Construction Related Tax Credits

Under existing State tax laws, contractors and subcontractors in Washington are subject to different taxes while engaging in construction services. However, depending on the property being constructed, tax deferral and in some instances tax exemptions can be eligible to the contractors and subcontractors engaging in building or improvement properties that are municipal or State-owned.

Currently under the Revised Code of Washington (RCW) 82.60.010 in § 458-20-170, prime and subcontractors engaging in capital projects including parking lots, are subject to B&O tax, Retail sales tax, and Use tax.⁷ The State legislature and WSDOT could explore allowing contractors to receive tax credits when constructing truck parking facilities, and/or to businesses that offer more than the minimum zoning requirements for truck parking spaces.

Potential Statewide Truck Safety Tax Credit

Another potential avenue to incentivize the development, construction and operation of safe truck parking facilities can be the allowance of tax credits specific to businesses associated with truck parks. In 2012-2013, the New York State Senate attempted to pass a State Bill that would have created a corporate tax credit of 50 percent of the cost for purchase, installation and/or maintenance of safety and security improvements for owners or operators of private rest areas, truck stops and travel plazas. Additionally, the bill created a 20 percent corporate tax credit for shipping and receiving facilities that agree to provide truck drivers with a secure area to rest while waiting for pending appoints or to observe federal hours-of-service regulations.⁸

⁵ Credits, Department of Revenue. Washington State. <https://dor.wa.gov/taxes-rates/tax-incentives/credits#Main>

⁶ Clean Alternative Fuel Commercial Vehicle and Vehicle Infrastructure Tax Credit. Department of Revenue. Washington State. <https://dor.wa.gov/taxes-rates/tax-incentives/credits#CleanAltFuel>

⁷ RCW82.60.010. § 458-20-170. <https://app.leg.wa.gov/wAc/default.aspx?cite=458-20-170>

⁸ New York S3773: Creates various programs to protect safety of truck drivers. TrackBill. <https://trackbill.com/bill/new-york-senate-bill-3773-creates-various-programs-to-protect-safety-of-truck-drivers/393441/> ; New York State Senate,

(Footnote continued on next page...)

While this Senate Bill ultimately did not advance to the State assembly to be voted on, it can be used today as a model for other states, such as Washington, to consider.

Property Tax Exemption

Under existing tax laws, Washington commercial business owners that operate parking facilities are subject to Federal, State, and local property taxes. To incentivize the development of more truck parking, State and local officials could explore the designation of truck and freight parking facilities as an exempt category, like how the Multifamily Housing Tax Exemption (MFTE) program currently is available to developers.⁹ Under the MFTE program, property owners may apply for property tax exemption for buildings or rehabilitated multifamily housing for 8 or 12 years. Between 2007 to 2018, the MFTE program exempted 424 developments and created 34,885 new housing units, mostly within the Seattle, Tacoma, Spokane, and Renton areas.

Modeling a truck parking effort on the MFTE program, the State legislature and WSDOT could explore adding truck parking facilities as another exemption category to developers building truck parking facilities or for businesses that provide additional truck parking beyond the minimum zoning requirement.

5.2.2 Collaboration

Initial collaboration would be between State legislative, agency staff, and other stakeholders to determine which incentives have the most merit. Additional collaboration would be needed to develop, refine, and obtain legislative approval of specific incentives. The partners would depend on the particulars of the incentive proposed.

5.2.3 Cost

Cost depends on the nature and amount of the incentive program offered. Incentives would need to be significant enough to attract program usage. Incentives would need to be fairly significant if they are seeking development of new parking spaces. Lower amounts might be sufficient to encourage shippers and receivers to allow staging and parking on existing, underutilized parking areas. A fiscal note containing cost estimates will need to be developed by the Dept. of Revenue, the WA State Treasurer, and other impacted agencies.

5.2.4 Effectiveness

If programs successfully encourage development or availability of additional truck parking, they could be very effective. To be successful, incentive programs must match the size of the incentive with the costs or impacts that providing additional truck parking imposes on the target audience.

5.2.5 Implementation

Implementation will require the following steps:

Senate Bill S2359A: Creates various programs to project safety of truck drivers.

<https://www.nysenate.gov/legislation/bills/2011/S2359>

⁹ Preliminary Report: 2019 Tax Preference Performance Reviews. Property Tax Exemption for Multifamily Housing in Urban Areas. Washington Joint Legislative Audit and Review Commission (JLARC). July 2019.

https://leg.wa.gov/jlarc/taxReports/2019/MFTE/p_a/default.html

- Review incentive program candidates to identify those that have the most potential
- Further develop and refine selected program idea(s)
- Legislation is required, a Member (or Members) would need to introduce a bill to make these tax related changes to State law
- If the bill passes and the incentive(s) is/are funded, the Department of Revenue and/or local taxing authority would administer the incentive program

5.3 Require New Developments for Shippers and Receivers Provide Truck Parking on-site

Timing	Immediate
Planning Level Cost Estimate	\$0
Ease of Implementation	3
Lead	Legislature

5.3.1 Description

The proposal to require new developments for shippers and receivers to also provide truck parking options for trucks that service them is almost universally supported by cities and counties as a means of reducing the number of trucks parked in undesignated areas. However, just as universal is the response that they don't want to be the only jurisdiction with that requirement, fearing that developers will go to a nearby city with fewer development requirements. To be effective and widely adopted the Legislature should consider passing a statewide requirement that new developments for shippers and receivers provide truck parking on-site.

5.3.2 Collaboration

This is an action for the Legislature. An interested Member could work with non-partisan staff on the Local Government Committee to draft legislation that would make this update to RCW 36.70A and create equal requirements for developments in most jurisdictions.

5.3.3 Cost

Legislative Committee fiscal and counsel staff time

5.3.4 Effectiveness

Requiring new developments to provide truck parking on-site, or to support a shared lot for that purpose, is one of the most effective tools for addressing future demand for truck parking. It also helps to keep the problem from getting worse.

5.3.5 Implementation

- Stakeholders request a Member (or Members) to champion this bill
- Non-partisan Local Government Committee staff (including counsel staff, and perhaps the applicable Assistant Attorney General) work with the Member(s) and stakeholders (identified by the Member(s)) to draft the bill
- Legislative process begins, and the bill is introduced
- If the bill passes, the Department of Commerce would be the lead State agency working with impacted local jurisdictions to implement the change in law for future developments

5.4 Mandate Restroom Access for Trucker Drivers

Timing	Immediate
Planning Level Cost Estimate	\$0
Ease of Implementation	2
Lead	Legislature

5.4.1 Description

Truck drivers report that it is all too common for their customers to prohibit them from entering their facility to use the restroom. Any other industry that denied restroom access to its workers would be fined by the Occupational Safety and Health Administration, and yet it is a common occurrence in the trucking industry. The Legislature should pass a measure that would require restroom access for truckers and delivery drivers at businesses where they are picking up or delivering. The Ontario government is considering similar legislation that is supported by the Owner-Operator Independent Drivers Association. Such legislation would reinforce the message that shippers and receivers need to be actively involved in providing for the needs of the truck drivers that service them.

5.4.2 Collaboration

Legislative action would be required.

5.4.3 Cost

The level of legislative staff time is uncertain.

5.4.4 Effectiveness

This is a tool in a broader information campaign (see Section 9.6) to bring attention to the daily trials truck drivers deal with as they strive to bring us the goods we consume and depend upon.

5.4.5 Implementation

- Considerations for this type of legislation should be vetted with all stakeholders in advance of drafting a specific bill
- Topics to explore could include but should not be limited to, feasibility of a phased-in approach; applicability to existing or only to new facilities; etc.

6.0 Strategy 4: Develop Truck Parking Information Systems

Truck parking availability systems (TPAS) deploy sensors at parking facilities to detect available (and occupied) spaces and disseminate that information to truck drivers via roadside signs and mobile apps. Armed with this real-time information drivers are able to make better-informed decisions about whether to continue driving or choose available parking nearby despite the loss of driving hours. These systems also better distribute parking where capacity exists, thereby reducing the frequency of undesigned parking.



6.1 Develop Concept of Operations for Expansion of Truck Parking Availability System

Timing	Near-term
Planning Level Cost Estimate	\$100,000 - \$200,000
Ease of Implementation	2
Lead	WSDOT

6.1.1 Description

WSDOT's Traffic Operations Division, in collaboration with the University of Washington STAR Lab, recently received a \$2.3M grant from the Federal Motor Carrier Safety Administration to deploy a TPAS at existing weigh stations and rest areas along I-5 and I-90 (470 stalls at 28 locations). Planning to expand the initial system to incorporate the remaining rest areas and expand to commercial truck stops should begin immediately with development of a concept of operations, and coordination with neighboring states for an integrated and expanded multistate system.

6.1.2 Collaboration

WSDOT's Traffic Operations Division will lead this action, in collaboration with the University of Washington STAR Lab.

6.1.3 Cost

Developing a Concept of Operations for a statewide TPAS can range from \$250,000 to \$500,000, however, because this will be adding on to an existing system it is assumed that the cost range will be \$100,000 - \$200,000.

6.1.4 Effectiveness

Concepts of Operation are very useful for clearly defining the system in order to receive more accurate and consistent bids during procurement.

6.1.5 Implementation

- Develop technology concept specification
 - Conduct data assessment –determine data concept, ownership of data, data sharing, data repository, and interaction with potential private sector truck parking data.
 - Conduct operations assessment – determine detailed TPAS operations and maintenance regime
 - Determine expected system types, system options, performance goals, cost ranges, and operations regimes for TPAS implementation options (including annual operations and maintenance)
- Develop site descriptions
- Develop system requirements
 - Develop Functional Requirements
 - Develop Communications Requirements
 - Develop Interface Requirements compatible to WSDOT's existing traffic management system
 - Develop Non-Functional Requirements

6.2 Expand Truck Parking Availability System

Timing	Mid-term
Planning Level Cost Estimate	\$5,000,000 - \$8,000,000
Ease of Implementation	2
Lead	WSDOT

6.2.1 Description

Following implementation of the initial TPAS and development of the concept of operations for expanding it, WSDOT should proceed with plans for the expansion.

6.2.2 Collaboration

WSDOT's Traffic Operations Division will lead this action, in collaboration with the University of Washington STAR Lab.

6.2.3 Cost

Cost will vary depending on the scope of the effort and any Federal funding support.

6.2.4 Effectiveness

TPAS systems have proven to increase parking at lesser-known facilities that historically had excess capacity, and help drivers find available parking.

6.2.5 Implementation

Build on the system currently under development.

6.3 Integrate Communication and Truck Parking Availability Information Systems

Timing	Near-term
Planning Level Cost Estimate	\$50,000 - \$150,000
Ease of Implementation	3
Lead	WSDOT

6.3.1 Description

There are many publicly and privately operated information systems and mobile apps that provide parking information. This includes Airbnb type marketplace apps that provide crowd-sourced availability information, apps that only display the total number of spaces (not the availability), and hopefully in the future, apps to direct drivers to available curb space. Drivers could benefit from a single source of information, regardless of the state they are in or the type of parking they need. WSDOT should prepare a grant application to fund and execute the research for this action.

6.3.2 Collaboration

WSDOT's Traffic Operations Division will lead this action, in collaboration with the University of Washington STAR Lab.

6.3.3 Cost

The major cost associated with this action is the estimation of project benefits and costs, as well as staff hours and consultant costs required in developing the grant application narrative and obtaining requisite documents (such as letters of support from State and local agencies) for submission.

6.3.4 Effectiveness

In itself a grant application would have limited immediate effect on truck parking. But a successful grant application could be quite effective in addressing the truck parking shortage.

6.3.5 Implementation

- Develop the concept and line up partners in advance of the Notice of Funding Opportunity
- Prepare and submit the application

7.0 Strategy 5: Secure Federal Funding for Next-Gen Truck Parking

A remote parking facility could serve as a staging lot if connected via information systems to the truck drivers' customer and to other short-term staging options close to their customer—similar to hub and spoke networks commonly used by airlines and railroads. Drivers could “check-in” with their customers at the remote lot and wait there, with access to needed amenities, until their customer is ready to receive them. They could also access information on small staging lots and curbside parking options throughout the region with information on how to reserve space when possible and needed. Using real-time traffic data, the receiving facility could inform the truck driver what time to depart the remote staging lot in order to arrive when they are ready to receive them and direct the driver to the appropriate routing information. GPS signals from the driver's smartphone could enable the receiver to track the driver's progress, be aware of any unforeseen delays, and be prepared to receive them upon arrival. Figure 7.1 illustrates this concept.

Figure 7.1 Next-Gen Truck Parking Lots and Information Systems



The remote parking facility could also provide zero emission fuel, which combined with information on connected parking options and customer appointment times, could create a next-gen parking facility and system that has a higher probability of securing FHWA grant funding support.

This action has two parts: prepare a federal grant application which would involve developing a concept of operations for the project and securing support from public and private partners; and if successful, build the project which would require State matching funds.

7.1 Prepare Federal Grant Application

Timing	Immediate
Planning Level Cost Estimates	Grant Application: \$100,000 - \$150,000 State Matching Funds: \$1,500,000 - \$3,000,000
Ease of Implementation	1
Lead	WSDOT

7.1.1 Description

Constructing new publicly owned truck parking facilities or expanding existing facilities to match driver demand have the potential to generate substantial benefits to drivers and other stakeholders, such as reducing both the time spent searching for parking and the length of detours to a designated truck parking facility (i.e. truck stop, safety rest area, etc.) needed to reach an open space. These benefits reduce private-sector trucking costs as well as the negative impacts of trucking on local communities such as safety, congestion and emissions. Making it easy to find parking will also reduce the need for truck drivers to park in undesignated locations, many of which are unsafe and pose a problem to both truck drivers and other roadway users.

State and local agencies may have access to grants and funding at both the state level as well as the federal level through block grants (such as the Surface Transportation Block Grant) or discretionary competitive grants, such as Rebuilding American Infrastructure with Sustainability and Equity (RAISE) and Infrastructure for Rebuilding America (INFRA).¹⁰ However, applying for and receiving funding through these programs is generally challenging for truck parking projects as the benefits accrued from such improvements are harder to estimate at the state or local level.

This section provides an overview of some key benefit categories that are impacted by improved access to truck parking projects and identifies data sources and benefit-cost analysis (BCA) best practices such projects would need to consider in order to achieve a higher benefit-cost ratio (BCR) and be competitive in grant applications. Key benefit categories that can be quantified within truck parking grant application BCAs include:

- Decreased undesignated parking
- Avoided detours
- Improved trucking productivity
- Improved trucking reliability

¹⁰ RAISE/INFRA - <https://www.transportation.gov/RAISEgrants>

Within each category, benefits should be considered that can be monetized across the following dimensions:

- Safety and Security
- Emissions of pollutants
- Trucking costs
- Congestion
- Infrastructure deterioration

For reference, the most up-to-date guidance on conducting any transportation-related BCAs is provided by the U.S. Department of Transportation (USDOT) in their Benefit-Cost Analysis Guidance for Discretionary Grant Programs.¹¹ An upcoming FHWA Truck Parking Guidebook provides more detail on how to conduct BCAs for truck parking projects, including two case studies.

Undesignated Parking and Safety

Limited availability of parking spaces is also associated with an increase in safety incidents due to a variety of factors. Many drivers park in undesignated locations along their route such as on highway shoulders, interchanges, ramps, and/or vacant lots to avoid costs associated with long detours or because they ran out of Hours-of-Service (HOS). Drivers are more likely to be fatigued when searching for parking, as this comes at the end of their shift, and drivers might even be distracted if they have difficulty finding a place to rest. Further, projects that perform well in avoiding such safety incidents will receive additional credit in a BCA. An analysis of fatigue-related truck crashes or crashes associated with parked trucks could be used to estimate the benefits associated with this category.

Avoided Detours

Truck parking projects that increase the availability of spaces where they are needed will reduce the detours that truck drivers must make to find an open space or access needed amenities and services (such as restrooms and restaurants). This translates into decreased truck travel on the roadway system, which can be calculated in terms of Vehicle Miles Traveled and Vehicle Hours Traveled. Decreased truck travel generates the following key benefits:

- Decreased Trucking Costs
- Reduced truck operating costs
- Reduced congestion
- Improved safety

¹¹ USDOT. Benefit-Cost Analysis Guidance for Discretionary Grant Programs. 2021. Accessed from: <https://www.transportation.gov/office-policy/transportation-policy/benefit-cost-analysis-guidance-discretionary-grant-programs-0>

- Reduced emission of pollutants

Improved Trucking Productivity

The lack of parking availability often leads truck drivers to end their day early to avoid running out of driver time under HOS regulations. Recent studies have found that drivers often end their day early by 30 minutes or more, with some ending their day early by more than one hour.^{12, 13} The recent implementation of a federal mandate on the use of electronic logging devices dramatically reduces driver flexibility on HOS regulations. Now drivers are reluctant to wait until the very end of their day to seek parking, instead ending their shift early if they see available spaces along their route.

Parking projects that make it easier to find a space and allow truck drivers to work more hours each day will reduce the time that it takes to complete shipments. The additional driving time will allow the shipment to be completed sooner, reducing time-dependent costs per shipment, such as driver wages, permits, licenses, insurance premiums, and overhead, among other costs.

Using data from the American Transportation Research Institute,¹⁴ it is estimated that each hour of additional drive time per day (within HOS limits) reduces daily trucking costs by 0.8 percent. This value was estimated using conservative assumptions and could be significantly higher for certain types of trucking. The limited availability of parking, over a region or corridor, will directly reduce the productivity of trucking. Over time, the lower productivity of trucking will lead to higher transportation costs, and, ultimately, higher consumer prices.

Improved Trucking Reliability

The reliability of shipments is an important variable for trucking companies and shippers.¹⁵ Modern supply chains are highly optimized and depend on freight arriving at its destination on time. Projects that increase the availability of truck parking can improve the reliability of transport services along a corridor, especially in dealing with unforeseen events, such as snowstorms or vehicle breakdowns. More parking options could allow the truck driver to deal with these circumstances and return to the road as quickly as possible. Increasing reliance on just in time supply chains for reducing inventory costs places a premium on shipments arriving during their appointment delivery windows. Truck drivers respond by increasing the “slack” or buffer time in their schedule to ensure on-time performance in the face of traffic congestion and unexpected issues. Trucks that arrive early for a pickup or delivery are often not allowed to wait on premise, which creates a need for “staging” or temporary parking in or near industrial and commercial areas. Difficulties finding parking can make it harder for truck drivers to meet their appointments and decrease the reliability of supply chains.

¹² Oregon Commercial Truck Parking Study, 2019. Accessed from: <https://www.oregon.gov/ODOT/Projects/Pages/Commercial-Truck-Parking-Study.aspx>.

¹³ Texas Statewide Truck Parking Study. April 2020. Accessed from: <https://ftp.txdot.gov/pub/txdot/move-texas-freight/studies/truck-parking/final-report.pdf>.

¹⁴ American Transportation Research Institute. An Analysis of the Operational Costs of Trucking: 2020 Update. Accessed from: <https://truckingresearch.org/2020/11/24/an-analysis-of-the-operational-costs-of-trucking-2020-update/>.

¹⁵ Guerrero, S. E., Hirschman, I., Bryan, J., Noland, R., Hsieh, S., Schrank, D., and Guo, S. 2019. NCHRP Research Report 925: Estimating the Value of Truck Travel Time Reliability, Transportation Research Board, National Academies of Science.

Other Non-Monetizable Benefits

Improved access to truck parking directly improves driver productivity, reduces direct costs of operations for trucking companies and directly reduces likelihood of truck-related crashes as well as truck-related emissions. BCAs are focused on such direct benefits arising from the project but do not consider broader economic impacts of productivity improvement, such as increased economic development in the form of new-business and job creation and impacts on tax revenues. While not included in BCAs, these impacts can have significant influence on how a project is viewed at the local level and must be noted qualitatively as part of the grant application narrative. Other non-monetizable benefits associated with increased access to truck parking that could be referenced in the application include freeing up parking capacity, reduced emissions from idling, improved driver retention, and improved compliance with HOS rules.

7.1.2 Collaboration

Both local and state agencies may apply for federal grants, however it is generally state departments of transportation (DOTs) that have the access to the data sources necessary to estimate all the various benefits referenced in the prior section. Developing grant application narratives and BCAs that fully characterize and appropriately value the public benefits of improved truck parking should assist in making a better case for funding such projects, particularly relative to other types of projects that have well-established approaches for evaluating their benefits. As such, while applications generally need to be submitted by one or more entities involved in the proposed project, state DOTs should generally take the lead in either developing such applications or in providing data support to the applicant.

Design and contractor firms involved in the planning and construction phases of the project are other sources of relevant application data (such as schedules and costs) who may be consulted in development of the application. Further, the obligation of certain federal grant funds for construction or other activities may be contingent on completion of right-of-way acquisition and final design approval, and applicants may need to coordinate with local agencies and the designer to demonstrate that they will receive the required approvals.

Grant applicants and DOTs are also encouraged to collaborate with local jurisdictions, private partners (if any) and other stakeholders to compile a shortlist of potential projects for grant applications well in advance of the annual grants cycle. Well-rounded projects with involvement from multiple stakeholders stand a higher chance of success. Applicants may also require approval from the local MPO or DOT if the proposed project is part of a State/regional Transportation Improvement Program/Statewide Transportation Improvement Program. Applicants should coordinate with the relevant planning authority to ensure that the project will be included in the appropriate plan if required before an operating administration may obligate funds to the project. Further, under the terms of some federal grant programs, proposed projects may be required to have completed the federal, State, and local environmental approvals or National Environmental Protection Act analysis prior to the submission of application or demonstrate that such approvals will be completed by the statutory funding obligation date of the grant. Applicants may need to coordinate with the local planning authority to assess the status of environmental approvals required for the project or to demonstrate, within the application, that they can meet the requisite grant program requirements.

Depending on the terms of the grant program, federal grant dollars may be used to cover only a certain portion of project costs. Applicants must coordinate with State and local authorities to demonstrate in their grant applications that they possess the requisite State and local matches to fund the project. Further, letters of support are another important element of grant applications as they demonstrate to the review committee that the proposed project has the backing of stakeholders and the community (if applicable). Grant

applications typically include letters of support from relevant public and private partners, such as State agencies, mayors, MPO officials, congressional delegation members, and private operators of the proposed facility (if applicable).

7.1.3 Cost

The major cost associated with this action is the staff hours required to source accurate data from across the organization to support estimation of project benefits and costs, as well as staff hours and consultant costs required in developing the grant application narrative and obtaining requisite documents (such as letters of support from State and local agencies) for submission.

If the grant application is successful, State matching funds would be required to build the project, which could range from \$1,500,000 - \$3,000,000.

7.1.4 Effectiveness

Submitting grant applications is only one of many steps involved in getting a truck parking project built. However, given the general lack of dedicated funding for parking expansion in State and local transportation budgets, a successful application could determine whether any individual project(s) get built. In itself, a grant application would have limited immediate effect on truck parking. But a successful grant application could be quite effective in addressing the truck parking shortage.

While truck parking projects will be considered against applications for other types of infrastructure projects, specific factors that may increase the likelihood of a successful truck parking grant application include:

- Demonstrating high BCRs
- Demonstrating significant safety benefits
- Demonstrating that projects are either located in rural areas or Areas of Persistent Poverty or provide benefits to such areas
- Including parking projects within a program of projects that provide other highway improvements on important freight corridors

7.1.5 Implementation

- Gain understanding of available grant opportunities at both the federal and State level. Truck parking is eligible under the following federal programs that provide funding by formula to states:
 - Surface Transportation Block Grant – for the construction of truck parking on Federal-aid highways
 - National Highway Freight Program - truck parking facilities and real-time traffic, parking, roadway condition, and multimodal transportation information systems are all eligible activities. Must be on the National Highway Freight Network, but this incorporates Critical Urban and Critical Rural Freight Corridors, which are designated within each state and can be changed according to need.

- Highway Safety Improvement Program – truck parking facilities may be funded through this program, provided the need for truck parking is consistent with the State Strategic Highway Safety Plan and improves a roadway feature that poses a safety issue to highway users.
- National Highway Performance Program – truck parking projects improving the performance metrics of the National Highway System (such as safety, congestion, reliability and freight movement) may be eligible for grants under this program.
- Congestion Mitigation and Air Quality Improvement Program – truck stop electrification systems are eligible under the federal guidelines if they primarily benefit a non-attainment or maintenance area. In general, projects are eligible if they provide a high level of effectiveness in reducing air pollution and are included in an MPO’s current transportation plan and transportation improvement program. The program places increased emphasis on diesel engine retrofits and alternative fuel infrastructure in designated alternative fuel corridors.
- Truck parking is also eligible under the following federal competitive grant programs:
 - INFRA Grants cover up to 60 percent of total project costs for critical freight and highway projects. Freight projects on the National Highway Freight Network or the National Highway System, as well as other specified intermodal projects are eligible for this program.
 - RAISE Grant funds are intended to support innovative projects that generate economic development and improve access to reliable, safe and affordable transportation.
- Develop shortlists of grant application candidates in advance based on internal understanding of truck parking projects likely to be the best candidates for a high BCR (e.g., that generate significant vehicle miles traveled/vehicle hours traveled savings and with high-impact safety improvements).
- Keep track of federal and State Notice of Funding Opportunities.
- Maintain key project data in easy-to-access locations and know which resources to contact for specific data requests as competitive grant applications may occur on a compressed schedule.

8.0 Strategy 6: Better Utilize Existing Infrastructure along Mountain Passes

Chain-up/chain-off areas along mountain passes could be used for truck parking during non-winter months, while large car parking lots, such as fairgrounds, could be used for temporary overflow parking during winter road closures. The feasibility and safety of each needs to be explored first.

8.1 Explore Benefits and Risks of Truck Parking at Chain-up/off Areas

Timing	Near-term
Planning Level Cost Estimate	\$15,000 - \$50,000
Ease of Implementation	1
Lead	WSDOT

8.1.1 Description

During winter months, WSDOT, as per Washington State Legislature WAC 204-24-050, requires all commercial vehicles to mount traction devices or chains in the event of adverse road conditions. These requirements are enforced for five months between November 1 to April 1 on 12 routes. Dedicated chain-up/chain-off areas are provided in order for vehicles to put-on or take-off the chains. These chain-up/chain-off areas are not in use during remaining seven months of the year.

This action calls for consideration of whether these chain-up areas could be utilized for truck parking when not in use. Research into the feasibility and safety implications of utilizing these chain-up areas for truck parking when not in use, and under what conditions it might be appropriate, should be evaluated.

Use of these chain-up/chain-off areas as a truck parking facility will depend on the following factors:

- **Width of area:** The lanes in this area should be wide enough for inline parking of trucks. As trucks are parked in parallel configuration, the stall width required for parking will be 25 feet, plus a 35-foot bypass lane for safe maneuverability, for an overall total width of 60 feet.
- **Safety Barrier:** A physical barrier is needed between the pull-off and travel lanes to prevent vehicles traveling at high speeds from veering out of their lane and into the parked trucks.
- **Amenities:** The areas will require restrooms (permanent or a portable temporary facility) and trash receptacles.
- **Site Enforcement:** Coordination between WSDOT and WSP to let truckers park in these areas.

8.1.2 Collaboration

Development of a truck parking facility at chain-up/chain-off areas will require collaboration between the following agencies:

- WSDOT
- Washington State Patrol
- Local jurisdictions (City, County)
- Users (WTA, Independent Truckers, etc.)

8.1.3 Cost

The cost of exploring the potential for truck parking at chain-up/chain-off areas will be the cost of staff and/or consultant time to perform the study. The study would identify various site locations and development requirements such as widening, pavement improvement, and providing amenities.

8.1.4 Effectiveness

Whether chain-up areas are effective for truck parking would be determined by the study. The study would not result in opening these areas for truck parking. However, if the study recommended opening one or more areas to truck parking, it could be an effective strategy.

8.1.5 Implementation

Study steps involve:

- With stakeholders input, establish criteria for appropriate and safe use of chain-up/off areas for truck parking
- Obtain parcel data at and immediately surrounding chain-up/off areas
- Review sites against criteria and determine whether any of the sites might be suitable, or could be made suitable, for truck parking

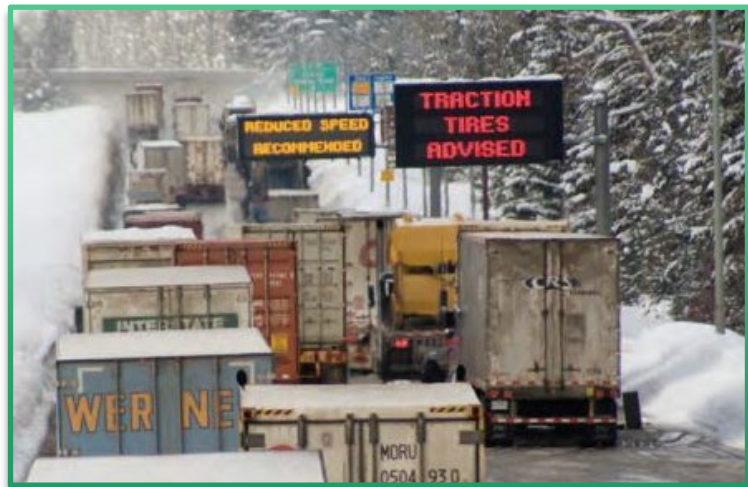
Once the exploration study is complete, it can be utilized as a basis of developing a pilot project to test the effectiveness of whether such project is beneficial to truckers and if so, additional projects can be implemented at other chain-up/chain-off locations throughout the State of Washington.

8.2 Pilot Project for Emergency Road Closure Truck Parking at Facilities with Large Car Parking Area

Timing	Near-term
Planning Level Cost Estimate	\$50,000 - \$100,000
Ease of Implementation	2
Lead	WSDOT

8.2.1 Description

Extreme weather conditions, hazardous spills, and other unplanned events can close roads temporarily, creating a temporary and large demand for truck parking until the road re-opens. Building truck parking lots solely for the purpose of accommodating this large but infrequent demand is often not a practical use of limited transportation funding. Many shopping malls, sports venues, and fairgrounds have large parking areas, are easily accessible from the highway, and could provide safe emergency parking for trucks if they are allowed to park there temporarily. An example can be found on I-80 on the western slope of Donner Pass in California. Caltrans has an arrangement with the Gold Country Fairgrounds and Event Center in Auburn to allow trucks to park in their lot during winter closures of I-80.



Implementation actions include identifying candidate sites and discussing with the property owner, local jurisdiction, and local community the terms under which such use of the facility would be acceptable. An agreement between WSDOT and the property owner for a one year pilot period would be needed, which could be extended if the pilot is successful. Provisions of the agreement might include liability, snow removal, maintenance, clean-up, etc.

Conducting a pilot project for a truck parking facility during road closures will require focus on the following elements:

- **Site Identification:** The pilot project should be in an area where there are frequent road closures, such as mountain passes. It can be sited at locations that provide ample parking space but are not open around the year. These locations can be county fairgrounds, recreational areas, campground parking lots, etc.

- **Time of Year:** The pilot project should take place in winter months when road closures are more frequent. A winter project can often be sited at campgrounds and fairgrounds which are typically closed during colder months.
- **Amenities:** The pilot project should provide restrooms and sufficient lightning. Locations such as campground parking lots have permanent restrooms. Similarly, temporary restrooms can be arranged easily at county fairgrounds.

8.2.2 Collaboration

Development of a truck parking pilot project at road closures will require collaboration by the following agencies:

- WSDOT
- WSP
- County and City agencies
- Washington State Parks and Recreation Commission
- Users (WTA, Independent Truckers)

8.2.3 Cost

The cost of developing a pilot project will depend upon the site location. As these are temporary parking spaces, no land acquisition cost will be incurred. Infrastructure cost such as pavement improvement or replacement will be a major line item of a capital cost estimate. Providing amenities such as restrooms, signages, etc. will also need to be accounted for in the cost estimate. Overall, the cost of the pilot would be relatively low since these properties are already public and have at least some infrastructure in place.

8.2.4 Effectiveness

Developing a pilot project would demonstrate the effectiveness of the use of public facilities during road closures. Effectiveness of a truck parking facility will depend on, but not be limited to, elements described in Section 3.1.4. The scores would vary depending on the site location and amenities. However, as a temporary facility with limited amenities this action would be expected to have low to moderate effectiveness at solving the overall truck parking problem. If the pilot is successful, it could provide an important solution during emergency situations.

8.2.5 Implementation

Developing a pilot project for truck parking during road closures will require funding for the following steps:

- Identification of potential sites in high road closure areas
- Site review
- Identification of infrastructure and amenities required

- Development of a cost estimate & funding
- Make any needed improvements and establish a maintenance plan

During the pilot, information should be provided to users to make them aware about availability of the site during road closures.

9.0 Strategy 7: Maintain Momentum

There are a number of actions needed to maintain focus on truck parking, track progress, measure performance, and maintain momentum.

9.1 Establish and Facilitate Truck Parking Implementation Workgroup for 3 Years

Timing	Immediate
Planning Level Cost Estimate	\$150,000 - \$300,000
Ease of Implementation	1
Lead	WSDOT

9.1.1 Description

An implementation workgroup, led by WSDOT and comprised of legislative, agency, community, and industry leaders, is needed to maintain focus this Action Plan and accountability for implementation. The workgroup could meet quarterly to review progress on specific actions, modify actions as needed, and make assignments for next steps. It could also serve as a forum for exchange of ideas.

9.1.2 Collaboration

The workgroup would be led by WSDOT and comprised of legislative, agency, community, and industry leaders.

9.1.3 Cost

Staff time is needed to prepare for and facilitate each meeting. It is foreseeable that the workgroup may need additional research on specific topics which would then require additional staff time and resources. Thus, the cost could range from \$50,000 to \$100,000 per year, or \$150,000 to \$300,000 for a three-year period.

9.1.4 Effectiveness

This is critical to ensuring that the actions identified in the plan are implemented.

9.1.5 Implementation

- Secure funding for staff or consultant facilitation
- Collaboration partners agree on workgroup participant organizations
- Invite participants, schedule and facilitate meetings

- Develop charter
- Meet regularly and track progress
- Keep transportation legislative committees apprised of progress (no formal report required)

9.2 Integrate Truck Parking into all Decision Making Processes

Timing	Immediate
Planning Level Cost Estimate	\$25,000 - \$75,000
Ease of Implementation	1
Lead	WSDOT

9.2.1 Description

WSDOT should consider truck parking as a routine part of all planning efforts and decisions, including but not limited to roadway project development, the purchase or sale of right-of-way, and decisions regarding public facility closures such as rest areas. Cities and counties could follow WSDOT's lead by incorporating similar procedures for handling public properties, facilities, and roadway development projects. Implementation could include interagency discussions to learn or document current procedures, identify opportunities for modifications, and update procedures as needed.

Integrate Truck Parking Needs into Agency Roadway Project Development Processes

Integration of truck parking in the roadway project development process increases efficiency of projects by coordinating issues and needs early and preventing the need for re-design, re-work, delays to the schedule, and increases to the budget. Guidelines for integrating truck parking into the project development process should be developed and include early involvement of all necessary parties. Guidelines should also be developed for including truck parking in all short- and long-range planning efforts such as local and regional transportation and land use plans.

Consider Truck Parking Needs Prior to the Purchase or Sale of Right-Of-Way

Truck parking needs should be taken into account as ROW decisions are being considered for planning and implementation. Identified ROW should be reviewed against truck parking high-need areas to ensure that opportunities for expansion or new development are not overlooked. Guidelines governing ROW transactions should be revised to include truck parking in the process and long-range ROW planning processes should be revised to include truck parking.

Re-assess Public Facility Closures in High Demand Areas

Converting public facilities such as weigh stations, maintenance yards, rest areas, and picnic areas to truck parking may be an economical way to provide more truck parking inventory in lieu of new site construction. Guidelines should be developed for assessing and repurposing sites - including identifying potential maintenance or site upgrade requirements (such as paving, utilities, debris clearance, signing, etc.) and should include assessment by WSDOT to determine truck parking demand levels in that area - before any closure.

9.2.2 Collaboration

This action is most applicable to WSDOT which can set the example by developing appropriate procedures. Cities and counties can follow WSDOT's lead by incorporating similar procedures for handling public properties, facilities, and roadway development projects in their jurisdictions.

9.2.3 Cost

Funding is needed to research, develop, and implement the procedures.

9.2.4 Effectiveness

While these actions won't automatically increase the number of truck parking spaces, they will help to lower the cost of developing more truck parking by integrating those facilities into other projects and by using existing property and facilities wisely.

9.2.5 Implementation

- Hold interagency discussions to learn or document current procedures and identify opportunities for modifications to incorporate truck parking into planning processes.
- Update procedures as needed

9.3 Collaborate with Neighboring States

Timing	Immediate
Planning Level Cost Estimate	\$25,000 - \$75,000
Ease of Implementation	1
Lead	WSDOT

9.3.1 Description

Truck parking is a national issue, making multi-state efforts to address it particularly effective. WSDOT has a long history of coordinating, and strong relationships with neighboring States that should be continued. Stronger solutions may be found when addressed at a regional or multi-state level, especially applicable for truck parking availability systems.

Among others, WSDOT is currently active in the following coalitions:

- Western Association of State Highway Transportation Officials, Freight Planning Committee (formerly the Western States Freight Coalition)
- I-5 Corridor Coalition
- North/West Passage Corridor

9.3.2 Collaboration

WSDOT will lead this effort and involve others from within the State as appropriate.

9.3.3 Cost

Staff time and resources are needed for this action.

9.3.4 Effectiveness

There are several examples of multistate coalitions receiving project funding through Federal discretionary grants which typically have evaluation criteria that favor multistate projects.

9.3.5 Implementation

WSDOT should continue current involvement.

9.4 Develop Innovative Partnership Action Plan for New or Expanded Commercial Truck Stops

Timing	Near-term
Planning Level Cost Estimate	\$25,000 - \$75,000
Ease of Implementation	1
Lead	WSDOT

9.4.1 Description

Using P3 arrangements, WSDOT could have a variety of potential opportunities to address truck parking challenges in partnership with either the private sector or other public sector entities. For example, these partnerships could resemble traditional P3 arrangements of design, build, finance, operate and maintain, or more unique arrangements such as sharing private retail and commercial use parking spaces in off-peak hours. These partnership concepts typically vary with respect to the purpose, location, structure, costs, and potential funding sources, so it is often challenging to compare opportunities using similar metrics and advance a clear approach that aligns with organizational priorities and resources.

To advance an effective Innovative Partnership Action Plan, both in the short-term and the long-term, it is important for WSDOT to have a consistent and flexible tool to assess the feasibility of potential partnerships through the lens of different priorities and considerations, whether it is policy goals, risk considerations, financing and funding availability, or other considerations. Other jurisdictions use similar tools to assess a range of potential partnerships across sectors and functions and find it to be an effective way to support a list of priority projects.

The screening tool should be used initially to help WSDOT identify the types of P3 arrangements that would be most effective and appropriate given local considerations. WSDOT should then develop an innovative partnership program around those types of partnerships that are of most interest. Additional funding would be needed for staff and to incentivize private sector participation. One important potential funding source that is available in Washington State is tax increment financing, described below, although other potential funding sources should be explored.

Tax Increment Financing District

Local jurisdictions may explore opportunities to use tax increment financing (TIF) as a tool to help encourage private development in targeted areas by financing public infrastructure and improvements. TIF is a method of redistributing property tax collections within a designated area to finance infrastructure improvements within the area. For example, under TIF, the taxing district establishes a geographic area that is expected to benefit most from the proposed new infrastructure (increment area) and then utilizes the increased tax revenues from that increment area to pay the private entity back for the initial investments on the infrastructure.

Washington State recently passed HB 1189 in 2021 which allows counties, cities, towns and port districts to use TIF structures to partner with private entities in developing infrastructure projects, which can include truck parking.¹⁶

Across the United States, there have been examples of developers and local governments using TIF for the development of truck parking. The City of Hays, Kansas in 2020 approved a city resolution to establish a TIF District for a developer constructing a truck parking facility and a travel plaza.¹⁷ Under this structure, the developer enters into an agreement with the City and finances the development and construction of the envisioned truck parking and travel plaza facility. The travel facility is anticipated to offer space for many a number of different restaurants and other businesses. Once developed, portions of the collected tax revenue from businesses within this TIF District will be used to repay the Developer for the upfront costs.

The Hays TIF District will cover a 33-acre area and include a travel plaza with a service shop, parking available for 70 to 80 trucks, hotels, restaurants, an RV park and other commercial uses. The developer has estimated that the proposed TIF district will generate approximately \$15 million in revenue over an agreed upon 20-year period, which would provide funds to reimburse the Developer for TIF-eligible project costs. The revenue is forecast to be made up in part due to the increase in business activity associated with the travel plaza.^{18 19}

9.4.2 Collaboration

This screening tool is broad enough to be used in a variety of contexts and should also provide more detailed-level considerations that can support informed decision-making. This screening tool is flexible enough to use for potential partnerships that may not necessarily be defined as formal “Public-Private Partnerships,” which may be less common in the freight context. Potential partnerships that may not be formal P3s may include, but are not limited to long-term property leases, joint development agreements, targeted financial assistance for specific initiatives, and other types of collaborative initiatives between various parties to enhance truck parking infrastructure.

An example of the Tool (see Appendix D) provides a high-level description of the proposed partnership approach including the potential contractual partners or types of contractual partners, and may also consider what type of contractual arrangement is under consideration and potential entities or agencies that would serve as less formal (non-contractual) partners, which may include private sector entities and/or other public agencies, potentially at the local or regional levels, and the possible roles of these partners.

9.4.3 Cost

Developing the Screening Tool will require administrative costs and dedicated resources; either with increased WSDOT staff in the Innovative Partnerships Office or consultant resources. After developing the tool, WSDOT will likely need to conduct some public workshops and external outreach programs to pilot test

¹⁶ Tax Increment Financing Now Available to Some Washington Local Governments. Municipal Research and Services Center. September 16, 2021. <https://mrsc.org/Home/Stay-Informed/MRSC-Insight/September-2021/Tax-Increment-Financing-Now-Available-in-WA.aspx>

¹⁷ City of Hays, Office of the City Manager Memo. January 20, 2020. <https://www.haysusa.com/AgendaCenter/ViewFile/Agenda/01022020-1167>

¹⁸ Work begins on west Emporia travel Plaza, The Emporia Gazette. January 16, 2021. http://www.emporiagazette.com/gaz/article_140eee9c-54f2-11eb-8903-5b3c185452d6.html

¹⁹ City: ‘Developer improvements expected to begin soon for Hays Travel Plaza’, Hays Post. May 15, 2020. <https://hayspost.com/posts/5ebdee2feb7f170536050518>

the tool with various stakeholders. Once finalized, WSDOT will need to dedicate resources to implement the Screening Tool.

The screening effort itself would be relatively low cost (\$25,000-\$75,000). However, if WSDOT went on to implement the full innovative partnership program, the effort would be moderately time intensive. The costs to establish and maintain the innovative partnership program would vary considerably depending on program specifics and remain to be determined.

9.4.4 Effectiveness

The screening tool provides an annotated checklist of both high-level and detailed-level considerations to optimize the potential for a successful partnership approach and ultimate delivery of the project. Going forward, it is intended that this tool will serve as an ongoing reference guide for WSDOT and its partners to evaluate and develop potential truck parking partnerships.

The screening tool itself will not immediately result in additional truck parking spaces. However, development and use of the screening tool could lead to multiple partnership opportunities that leverage public and private resources. In the longer term, especially if an on-going program is established, the screening tool could result in partnerships that are a highly effective strategy in addressing the truck parking shortage.

9.4.5 Implementation

In the immediate term, WSDOT will need to optimize and develop the tool to its suited priorities and screening factors. Different factors will identify aspects of the potential partnership that are critical to WSDOT's P3 truck parking efforts. These factors could include, Policy Goals, Organizational Capacity, Legal, Public Support, Risk Allocation and Financial Viability (see Appendix D). WSDOT can conduct public workshops to pilot test the Screening Tool and refine it. Once refined, WSDOT should develop an innovative partnerships program which could issue a Request for Information to gather a list of potential partners to run through the screening tool and ultimately implement one or more partnerships.

9.5 Quantify Truck Parking Demand with Data-driven Study

Timing	Mid-term
Planning Level Cost Estimate	\$500,000 - \$1,000,000
Ease of Implementation	2
Lead	WSDOT

9.5.1 Description

Truck parking studies conducted in Washington have relied on stakeholder input to categorize, locate, and quantify truck parking needs. This input is more than sufficient to identify and initiate the actions recommended in this Action Plan. However, as the near-term projects are completed, data would be instrumental in prioritizing future actions, evaluating trade-offs, and preparing cost-benefit analyses to ensure a wise use of public resources. In addition, the Infrastructure Investment and Jobs Act requires that state freight plans include an assessment of truck parking facilities and shortages within the State.

9.5.2 Collaboration

WSDOT will lead this effort.

9.5.3 Cost

Collecting or purchasing statewide data, processing them, validating the results, running the analyses, and reporting the findings in a meaningful way can range from \$250,000 to \$500,000. Conducting additional outreach and developing preliminary concepts and cost estimates can double the cost to \$500,000 - \$1,000,000.

9.5.4 Effectiveness

Data won't add more parking spaces, but the proper interpretation of data will improve the effectiveness of the recommendations for where to add additional parking in the future.

9.5.5 Implementation

- Identify desired outcomes and the data needed to support them
- Prepare a scope of work and procure consultant support

9.6 Develop Education and Information Campaign for Local Jurisdictions

Timing	Near-term
Planning Level Cost Estimate	\$100,000 - \$300,000
Ease of Implementation	2
Lead	WSDOT

9.6.1 Description

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

Changing this public perception is a critical piece of outreach. One of the largest challenges private truck parking operators face when trying to expand or build new inventory is opposition from residents who do not want trucks parking near them. An awareness campaign could provide local elected officials and agency staff the tools they need to explain the need for truck parking in their community, and the range of actions within their control for addressing the need. The guidance documents described in other actions could be included.

This information campaign could involve preparing infographics, presentation materials, and briefing documents for use by city and county staff and elected officials to help them make the case for truck parking actions in their communities. Outreach to community leaders would be needed during preparation to ensure the material is useful, and post development to inform and encourage community support.

9.6.2 Collaboration

WSDOT would lead this effort in partnership with other agencies and the private sector.

9.6.3 Cost

The cost will vary on the comprehensiveness and complexity of the materials, as well as the level of outreach and training provided to cities and counties in the State.

9.6.4 Effectiveness

Private investment in truck parking is the ideal. Drivers prefer to park at full-service truck stops, government agencies are spared the capital and operational costs of public truck parking facilities, and the private operators generate a return on their investment and stimulate the local economy. Public opposition is one of two primary obstacles to development of commercial truck stops. Anything to help lower that opposition will be effective.

9.6.5 *Implementation*

- Research and prepare a draft set of materials
- Share it with two or three local jurisdictions for comment
- Revise the materials
- Conduct outreach and training

Appendix A

Stakeholder Survey Results

Appendix B

Truck Parking Issues and Potential Solutions

Appendix C

*Truck Parking Feasibility Guide – Siting and Layout
Considerations for Dedicated Truck Parking Facilities*

Appendix C

Partnership Pilot Program Screening Tool