

Project Description

Truck drivers moving goods nationwide require truck parking to meet basic human needs, such as resting, using the restroom, and eating. However, truck drivers face challenges finding safe and adequate truck parking along the nation’s major freight corridors, particularly along Interstate 5 (I-5) – the most significant freight corridor connecting California, Oregon, and Washington. To address existing truck parking needs, the Washington State Department of Transportation (WSDOT), jointly with the California Department of Transportation (Caltrans) and the Oregon Department of Transportation (ODOT), is **requesting a \$12.3 million grant** from the U.S. Department of Transportation (USDOT) to deploy a regional truck parking information management system (TPIMS) project at 54 truck parking facilities along the I-5 corridor. The I-5 TPIMS project will collect and disseminate real-time truck parking information to connect truck drivers with available truck parking, resulting in safety, economic, environmental, infrastructure, and quality of life benefits for truck drivers, businesses, and communities that depend on the corridor.

Project Need: Truck Parking Issue and Impacts

The safe and efficient movement of freight depends on truck parking. Truck drivers require truck parking to take federally required Hours-of-Service (HOS) rest, access basic amenities such as restrooms and food, stage for shipper/receiver appointments, and stop during emergencies. However, truck drivers face persistent truck parking challenges, with 75% of truck drivers nationwide reporting problems finding safe parking one or more times a week.¹ When truck drivers are unable to find truck parking, they are forced to make a difficult choice between limited options – stopping before their HOS expire, searching for designated parking while fatigued or beyond their HOS allowance, or parking in an unsafe, undesignated location.

According to recently completed state truck parking studies and the 2019 Jason’s Law Study, truck drivers report difficulties finding truck parking along I-5 in California, Oregon, and Washington. Truck GPS data analysis conducted in each state further identified truck parking issues – including concentrations of undesignated truck parking – occurring along this north-south corridor.² A shortage of truck parking leads to negative safety, economic, environmental, infrastructure, and quality of life impacts on truck drivers, as well as regional, national, and international businesses and communities that rely on freight movement along I-5.

Project Overview: Filling the Truck Parking Information Gap

In recognition of the critical need to improve truck parking conditions along the I-5 corridor, Caltrans, ODOT, and WSDOT began discussions to identify and assess regional opportunities to improve truck parking along the corridor. Through this coordination, the three state DOTs have partnered to advance a regional I-5 TPIMS project.

¹ Jason’s Law Commercial Motor Vehicle Parking Survey and Comparative Assessment, FHWA, December 2020.

https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/workinggroups/2020/mtg/jasons_law_results.pdf; ATRI, Critical Issues in the Trucking Industry, 2018-2022, <https://truckingresearch.org/wp-content/uploads/2021/10/ATRI-Top-Industry-Issues-2021.pdf>

² Jason’s Law Commercial Motor Vehicle Parking Survey and Comparative Assessment, FHWA, December 2020.

https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/workinggroups/2020/mtg/jasons_law_results.pdf; Caltrans, California Statewide Truck Parking Study, February 2022, <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/freight-planning/plan-accordion/catrpkpgstudy-finalreport-a11y.pdf>; ODOT, Oregon Commercial Truck Parking Study, Final Report, July 2020, <https://www.oregon.gov/odot/Projects/Pages/Commercial-Truck-Parking-Study.aspx>; WSDOT, 2022 Washington State Freight System Plan Update, Appendix H: Washington Truck Parking Assessment, 2022, https://wsdot.wa.gov/sites/default/files/2022-11/Appendix-H-FSP-Truck-Parking-Assessment_0.pdf; Washington Joint Transportation Committee, Truck Parking Action Plan, December 2021, https://leg.wa.gov/JTC/Documents/Studies/Truck%20Parking/Final_TruckParkingActionPlan_2021.pdf.

PROJECT DESCRIPTION | I-5 Truck Parking Information Management System

The I-5 TPIMS project will provide truck drivers with real-time information about truck parking availability at 54 truck parking locations³ along I-5 in California, Oregon, and Washington.

A TPIMS collects and disseminates real-time truck parking availability information to truck drivers, dispatchers, and other interested users. This enables truck drivers to make more informed decisions about truck parking, reducing time spent looking for designated spaces, parking in undesigned locations, and driving while fatigued and/or beyond driving time limits. This results in safety, environmental, economic, infrastructure, and quality of life benefits. The following details how the I-5 TPIMS project presents a unique opportunity to improve national and regional freight transportation:

- **Improve Use of Existing Capacity:** TPIMS is particularly effective in locations where undesigned truck parking occurs near available truck parking capacity. Recent analyses have identified undesigned truck parking occurring in proximity to available truck parking spaces on I-5.⁴ This signals an opportunity for TPIMS to fill an information gap and connect truck drivers to available spaces, in turn improving the use of existing truck parking and reducing undesigned truck parking, without the time-intensive and costly addition of spaces.
- **Regional Approach with National and International Benefits:** Caltrans, ODOT, and WSDOT have held dozens of planning meetings over the past year to develop a unified approach to deploying TPIMS. The three states are committed to advancing a corridor-wide TPIMS, in recognition of the importance and widespread impacts of I-5. The corridor connects major West Coast metropolitan areas (e.g., Los Angeles, Portland, Seattle), transcontinental interstate roadways (e.g., I-10, I-80, and I-90), border crossings in Canada and Mexico, and top international ports (e.g., Ports of Los Angeles, Long Beach, Oakland, Portland, Tacoma, and Seattle). The regional approach will also provide a consistent TPIMS data output and allow for a single, coordinated outreach effort with industry to support the effective use of the system.
- **Connected West Coast TPIMS Network:** This project is well-timed to build upon existing nearby truck parking information system efforts – in California, the I-10 Truck Parking Availability System (TPAS), and in Washington, a TPIMS pilot and ongoing Federal Motor Carrier Safety Administration (FMCSA)-funded TPIMS expansion. Coordination between projects will enable the I-5 TPIMS project to build upon existing systems and apply lessons learned, leading to maximum efficiency and seamless interoperability between the systems. Ultimately, the I-5 TPIMS project will connect two currently independent projects on the West Coast and contribute to the growing national network of truck parking information systems. Additionally, this project enables knowledge transfer between states, providing a robust approach to building out a statewide TPIMS.
- **Unique Partnership with Enforcement:** This project will share information about truck parking availability at weigh stations in Washington. The system will be designed to allow Washington State Patrol (WSP) to limit the number of truck parking spaces advertised to truck drivers as available during weigh station operation, to reserve spaces for inspection.
- **Advance In-Cab Information Sharing:** In addition to sharing information through websites/mobile applications, an application programming interface (API), and dynamic parking

³ The total number of I-5 TPIMS project locations includes: the deployment of data collection technology at and DPAS ahead of 26 public truck parking facilities in California; the deployment of data collection technology at 9 public truck parking facilities in Oregon; and the deployment of data collection technology and/or DPAS ahead of 19 public truck parking facilities (13 safety rest areas and 6 weigh stations) in Washington.

⁴ Caltrans, California Statewide Truck Parking Study, February 2022, <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/freight-planning/plan-accordion/catrkpkgstdy-finalreport-a11y.pdf>; ODOT, Oregon Commercial Truck Parking Study, Final Report, July 2020, <https://www.oregon.gov/odot/Projects/Pages/Commercial-Truck-Parking-Study.aspx>

PROJECT DESCRIPTION | I-5 Truck Parking Information Management System

availability signs (DPAS), the I-5 states will actively work with private sector partners to ensure in-cab system providers use the I-5 TPIMS API to share information with truck drivers on the road. While the American Transportation Research Institute (ATRI) has identified in-cab information sharing as an efficient and effective solution, and drivers have shared favorable reviews for this approach,⁵ state DOTs currently have limited insight into the extent to which TPIMS information is shared by in-cab applications. This presents a need and opportunity to work with in-cab applications to inform them about the availability of TPIMS information, as well as provide a tailored data feed that lowers the barrier to them using this information.

- **Future-Proofed System:** The I-5 states are preparing for future freight trends, with plans to set up the TPIMS to accommodate future integration of electric vehicle charging information. Additionally, the I-5 states anticipate using TPIMS as a source of data on current truck parking location utilization and to inform future assessments of charging needs.

Project Location

The I-5 TPIMS project will provide real-time truck parking information for 54 public truck parking facilities along I-5, which is part of the federally designated Primary Highway Freight System (PHFS) on the National Highway Freight Network (NHFN). Project construction activities will involve:

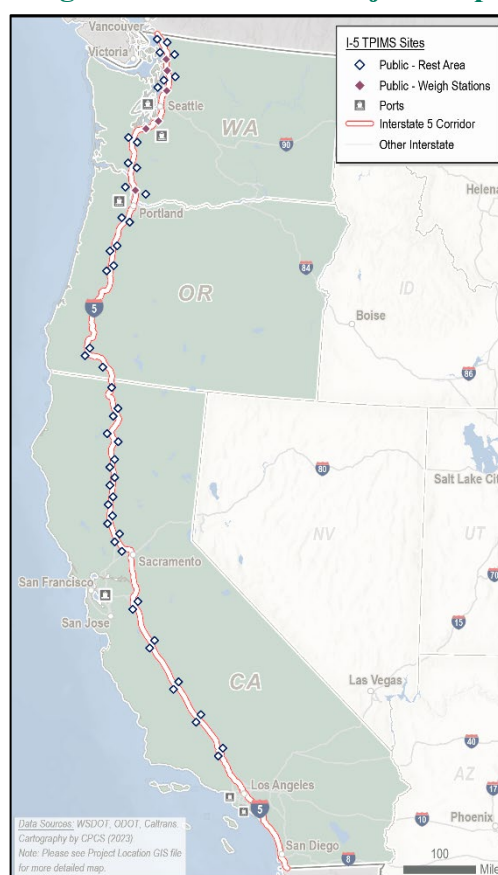
- Installation of data collection technology at four rest areas and two weigh stations in Washington, nine rest areas in Oregon, and 26 rest areas in California.
- Deployment of DPAS five and 20 miles ahead of 13 safety rest areas and six weigh stations in Washington⁶ and 26 rest areas in California.

The majority of I-5 TPIMS project activities will occur in rural areas. Some project activities will also occur in the urban areas of Seattle and Olympia in Washington, Portland in Oregon, and Sacramento and Stockton in California. In total, \$18.2 million will be spent in rural areas, with the remaining \$2.3 million spent in urban areas. Nearly a third (32%) of project costs will be spent in census tracts designated as Areas of Persistent Poverty, and over a third (36%) will be spent in those designated as Historically Disadvantaged Communities.

Proposed Project Scope and Work Plan

The I-5 TPIMS project will follow a coordinated work plan – developed in partnership with other public and private sector stakeholders – to deliver on schedule and within budget. The I-5 states will build on their history of regional partnership, including years of coordination on truck parking

Figure 1: I-5 TPIMS Project Map



⁵ ATRI, Truck Parking Information Systems: Truck Driver Use and Perceptions, June 2021, <https://truckingresearch.org/wp-content/uploads/2021/06/ATRI-Truck-Parking-Information-Systems-Driver-Use-and-Perceptions-06-2021.pdf>

⁶ In Washington, Silver Lake safety rest area southbound and Everett weigh station are located adjacent to one another, and therefore only require two DPAS upstream to share information for both locations.

topics. **Since October 2022, Caltrans, ODOT, and WSDOT have dedicated time and resources to the I-5 TPIMS project, holding dozens of internal and regional discussions to advance planning, approval, permitting, and system design activities.** This, combined with each state’s truck parking research efforts, matured ITS, and ongoing truck parking information projects will enable the I-5 TPIMS project’s successful implementation.

- **Caltrans** has conducted significant internal coordination to develop an I-5 TPIMS project scope that models after and will integrate with the state’s ongoing I-10 TPAS project.
- **ODOT** is a leader in Intelligent Transportation System (ITS) deployment and innovative data solutions and has taken steps to ensure the project will integrate with ODOT’s existing system.
- **WSDOT** has conducted significant internal coordination to develop an I-5 TPIMS project scope that models after and will integrate with the state’s ongoing FMCSA-funded TPIMS expansion.

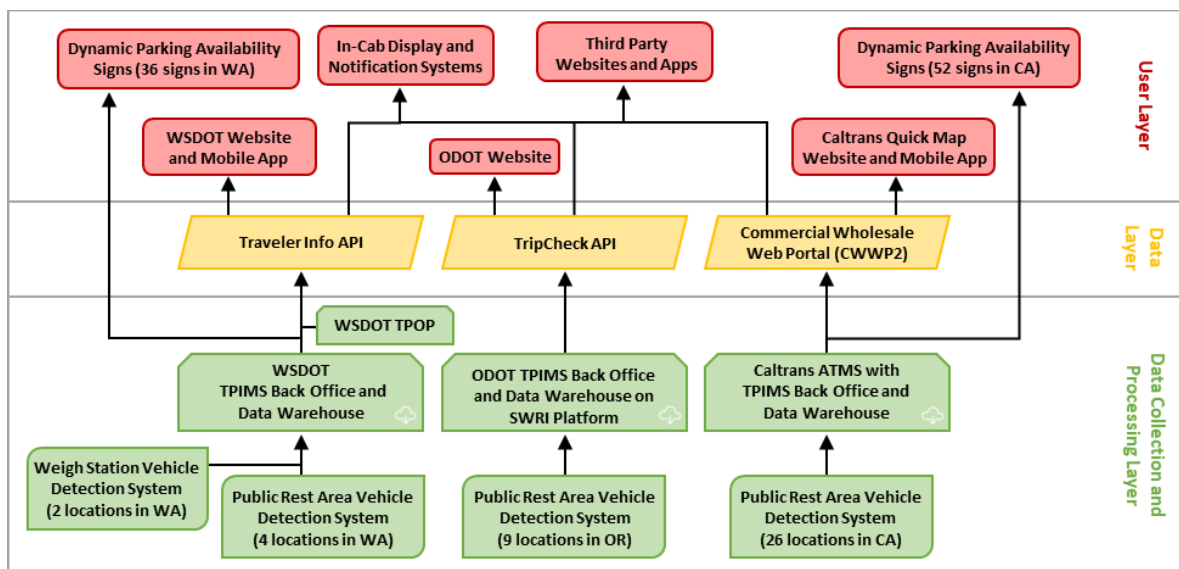
The award of funds will enable the I-5 states to continue these activities, targeting the obligation of funds by December 31, 2024.⁷ This will be followed by deployment activities: program planning and management, system design, procurement, construction and installation, and systems integration and testing. Corridor-wide program management will support the coordination of activities and documentation between Caltrans, ODOT, and WSDOT. Coordinated stakeholder outreach will occur throughout the project to inform design and implementation, and to promote TPIMS use by industry, with increased outreach upon deployment. With awarded funding, the I-5 TPIMS project is anticipated to be complete and operational by December 31, 2027.

Figure 2: I-5 TPIMS Project Activities



Figure 3 illustrates the draft I-5 TPIMS system diagram, which the state DOTs will continue to refine as project implementation advances.

Figure 3: I-5 TPIMS System Diagram



⁷ This assumes INFRA funding awards are announced Q1 of 2024.

PROJECT DESCRIPTION | I-5 Truck Parking Information Management System

As shown, the proposed project has been developed to provide states with the flexibility to develop their own systems – each state will be responsible for deploying technology to collect data, a data analytics and sharing system, and an information dissemination infrastructure. However, the data layer and user layer will follow consistent formatting to enable interoperability across state systems, as well as with other existing truck parking information system projects in the region.

Data Collection and Processing: Public truck parking locations will be outfitted with sensing technology to collect truck parking availability data. A range of technologies exists to collect this data, and each state has targeted a technology that aligns with existing DOT policies and systems.

- **Caltrans** anticipates deploying a hybrid solution that uses video detection to determine space occupancy and count entry/exit, in combination with in-ground sensors to validate space occupancy, at 26 locations. This approach aligns with the technology selected by Caltrans for the I-10 TPAS project, based on an evaluation of technologies conducted in the spring of 2023.
- **ODOT** anticipates deploying in-ground sensors to monitor space occupancy at nine locations, as well as installing video cameras in support of the parking monitoring system. The in-ground sensor technology ODOT plans to use integrates with central ITS software applications the agency currently uses.
- **WSDOT** anticipates deploying a radar and video system to detect the entry and exit of vehicles at six locations, in line with the technology selected for the ongoing FMCSA-funded TPIMS expansion in Washington. This selection is based on an evaluation of technologies conducted by WSDOT, in partnership with the University of Washington, in the spring of 2023.

Upon collection of truck parking availability data at each location, each state will undertake the data processing activity independently. Each state will determine whether this will be conducted in-house or through a vendor, in line with each DOT's existing capacity and processes.

Data Layer: The truck parking availability data will be added as a new feed within each state's existing data product. Users, including partner states, will be able to use data from each state's feed for their own use. A data manager and data management plan will provide guidance to the states to ensure the data layer is output in a format consistent across the corridor and with other existing truck parking information system data outputs.

User Layer: Real-time truck parking information will be shared with truck drivers, dispatchers, and other interested users through a variety of methods. To improve the effectiveness of the I-5 TPIMS project, each state will advance dissemination approaches that allow truck drivers to access information both while planning and while operating a vehicle.

- **Caltrans** will use its Commercial Wholesale Web Portal to populate the Caltrans Quick Map website and mobile application. Caltrans will also disseminate information through 52 DPAS, with signs located 5 and 20 miles ahead of each I-5 TPIMS truck parking location.
- **ODOT** will disseminate information through its TripCheck API and on the TripCheck website.
- **WSDOT** will disseminate information through its Traveler Information API to populate traveler information pages on the WSDOT website and mobile application, as well as through 28 DPAS, with signs located 5 and 20 miles ahead of each TPIMS-equipped truck parking location on I-5.

The I-5 states will also collectively engage in a unique partnership with the private sector – specifically, state DOTs will actively work with in-cab system technology and supporting application providers to ensure the I-5 TPIMS API is integrated into in-cab systems and shared with truck drivers on the road.

Change Management Request

Request Date:	10/21/24	CMR Number:	23416-00	Project Lead (TPM/RE-CP):	OBERLANDER ELI
Project Name:	NB Highland Dr to Barnett Rd				
KN:	23416	Region:	3	Area:	ROGUE VALLEY
				Project Delivery Phase:	DAP
Main Funding Program:	Fix-It Region 3				
Additional Funding Program(s):					
STIP Amendment:	Full	Approval Authority:	Delivery and Operations Administrator	MPO Amendment:	Yes
IGA Amendment:	No	A&E Contract Amendment:	No	Re-baseline Schedule:	No
				Re-baseline Budget:	No
Scope, Schedule & Budget Change - Reason(s):	Not Applicable Not Applicable Not Applicable				
Current Scope:	Widen the existing single right turn lane on Highland northbound to Barnett Road eastbound to a dual right turn lane and a shared multiuse path to improve traffic flow for the traveling public.				

Change Management Request

Describe Scope Change:	No scope change.
Justification for Scope Change:	N/A

Change Management Request

Describe the Risk of not Approving the Scope Change:	N/A
--	-----

	Current Dates	Proposed Dates		Current Dates	Proposed Dates
PE EA Open – 008	08/03/23	08/03/23	PS&E Submittal – 551	04/20/26	04/20/26
PDT Kick-Off – 018	09/20/23	09/20/23	Bid Opening – 560	06/25/26	06/25/26
Project Initiation Phase Complete - 050	01/07/25	01/07/25	Forecasted 1 st Note - 735	08/07/26	08/07/26
DAP Phase Complete–325	01/07/25	01/07/25	Forecasted 2 nd Note - 790	07/12/27	07/12/27
ROW EA Open - 470	01/07/25	01/07/25	Forecasted 3 rd Note - 796	01/04/28	01/04/28

Change Management Request

<p>Describe Schedule Change:</p>	<p>No schedule change.</p>
<p>Justification for Schedule Change:</p>	<p>N/A</p>

Change Management Request

Describe the Risk of not Approving the Schedule Change:	N/A
---	-----

	Current Budget	Requested Budget	Change
Planning	\$0	\$0	
Preliminary Engineering	\$935,000	\$1,035,000	\$100,000
Right of Way	\$100,000	\$250,000	\$150,000
Utility Relocation	\$100,000	\$100,000	
Construction	\$3,404,729	\$4,750,000	\$1,345,271
Other	\$0	\$0	
Total:	\$4,539,729	\$6,135,000	\$1,595,271

Describe Budget Change (Break down the change by Funding Program):	Increasing PE budget by \$100k, ROW budget by \$150k and CN budget by \$1,345,271. All funding will come from the cancellation of K23034 - I-5: Rock Slope Stabilization project.
--	---

Change Management Request

Justification for Budget Change:	Increasing CN and ROW phases based on DAP estimates.
----------------------------------	--

Describe the Risk of not Approving the Budget Change:	Will not be able to obligate ROW or complete DAP milestone if additional funding is not added.
---	--

	Signatures	Dates		Signatures	Dates
Funding Prg Manager:	Darrin Neavoll	11/12/24	Additional Signator:		
STIP Coordinator:	Naomi Birch	11/20/24	Additional Signator:		
Area Manager:	MARMON JERRY	11/12/24	Additional Signator:		
Project Sponsor:	Jeremiah Griffin	11/13/24	Additional Signator:		
Tech Center Manager:	Mark Thompson	11/12/24	Additional Signator:		
Region Manager:	Darrin Neavoll	11/13/24	Additional Signator:		
Additional Signator:			Additional Signator:		