

SPR RESEARCH PROGRAM

SECOND-STAGE PROPOSAL SUMMARY

PROBLEM NUMBER & TITLE

26-42 | Impact Study on Increasing Truck Permit Weight Limits: Infrastructure & Economic Considerations (more weight, more problems and faster infrastructure degradation ODOT will need to fix)

PROBLEM SUMMARY

Oregon's current weight restrictions (105,500 lbs.) for divisible loads are less than neighboring states like Idaho and Nevada, which permit up to 129,900 lbs. In response to industry requests for alignment with these states, ODOT needs a comprehensive impact assessment of what raising the weight limits will mean in terms of sustaining the current operational infrastructure it's charged with maintaining. This study will evaluate infrastructure effects, highway safety, and maintenance costs, along with the implications for climate adaptation and community impacts. With neighboring states already designating heavier freight routes, increasing Oregon's truck permit weight limits may support freight fleet electrification and promote regional integration of the shipping network while assessing the costs to maintain and manage this increased infrastructural burden that's on ODOT's horizon. This feasibility and impact study will assess selective extended weight designations in Oregon and survey existing programs nationwide while evaluating potential risks to structural integrity (pavement and bridges), traffic safety impacts, as well as community and environmental considerations. The findings will provide ODOT with data-driven insights to guide policy decisions. This study will also examine vehicle configurations and length factors necessary to maintain legal axle weights in Weight [Tables 1](#) and [2](#) at a gross weight of 129,900 and determine if those lengths are consistent with the lengths allowed by the LCV (Longer Combination Vehicle) freeze in federal law.

ODOT OBJECTIVES & KEY DELIVERABLES:

1) A comprehensive report containing recommendations to support an informed evaluation of increasing weight limits for divisible loads, including an infrastructure impact assessment detailing the effects of heavier loads on bridges, pavements, and highway safety, with a focus on high-frequency freight routes in Oregon. 2) An economic impact assessment will quantify the contributions of oversized freight to Oregon's economy, balancing potential economic gains from increased freight capacity with the costs of infrastructure maintenance and safety considerations. 3) A strategic implementation plan will outline a phased approach to applying these findings, allowing ODOT to prioritize investments to engage communities and the public effectively.

BENEFITS

Key recommendations will likely address adjustments to the permitting structure to better align fees with maintenance needs, funding models to support fiscal sustainable infrastructure improvements into the future, and the identification of designated heavy-load corridors to minimize infrastructure impacts and improve safety. The report will also evaluate parking and staging facility needs for oversized and over-dimensional loads, ensuring efficient route planning. A strategic implementation plan will outline a phased approach to applying these findings, allowing ODOT to prioritize investments and engage stakeholders effectively. By supporting increased load limits in a balanced manner, the study will help identify key OS/D (Over-Sized/ Dimensional) load routes and enable policy considerations that are economically viable, infrastructure-conscious, and aligned with public safety objectives. The research findings will be compiled into a whitepaper summarizing potential pilot project routes, follow-up studies, and the broader impacts of heavyweight route designations. Specific recommendations may include necessary updates to the state transportation asset management plan, changes to weigh stations and weigh-in-motion systems, adjustments to bridge inspection plans and load rating processes, and the potential need for additional charging stations on designated routes, as well as weight mile tax rates and tables. Ultimately, the study could serve as a foundational guide or blueprint for updating Oregon's current weight limit policy, ensuring the state's transportation system remains efficient, sustainable, and competitive well into the future.

SCHEDULE, BUDGET & AGENCY SUPPORT

Estimated Project Duration: 18-36 months

Estimated Project Budget: \$190,000 - \$360,000

Internal ODOT Support: Carla Phelps, ODOT Commerce & Compliance Division Administrator; John Boren, ODOT Freight Program Manager; Erik Havig, Statewide Policy and Planning Manager; Amy Ramsdell, ODOT Delivery & Operations Administrator

FOR MORE INFORMATION

The complete Stage Two Research Problem Statement can be accessed online at:

<https://www.oregon.gov/odot/Programs/ResearchDocuments/26-42>

SPR RESEARCH PROGRAM

SECOND-STAGE PROBLEM STATEMENT

FY 2026

PROBLEM NUMBER & TITLE

26-42 | Impact Study on Increasing Truck Permit Weight Limits: Infrastructure & Economic Considerations (more weight, more problems and faster infrastructure degradation ODOT will need to fix)

RESEARCH PROBLEM STATEMENT

Oregon's current weight restrictions (105,500 lbs.) for divisible loads are less than neighboring states like Idaho and Nevada, which permit up to 129,900 lbs. In response to industry requests for alignment with these states, the Oregon Department of Transportation (ODOT) requires a comprehensive impact assessment of what raising the weight limits will mean in terms of sustaining the current operational infrastructure its charged with maintaining (including transport infrastructure expansion where ODOT will be called upon to more fully build out as well as maintain in the future). This study will evaluate infrastructure effects, highway safety, and maintenance costs, along with the implications for climate adaptation and community impacts. With neighboring states already designating heavier freight routes, increasing Oregon's truck permit weight limits may support freight fleet electrification and promote regional integration of the shipping network while assessing the costs to maintain and manage this increased infrastructural burden that's on ODOT's horizon. This feasibility and impact study will assess selective extended weight designations in Oregon and survey existing programs nationwide while evaluating potential risks to structural integrity (pavement and bridges), traffic safety impacts, as well as community and environmental considerations. The findings will provide ODOT with data-driven insights to guide policy decisions. This study will also examine vehicle configurations and length factors necessary to maintain legal axle weights in Weight [Tables 1](#) and [2](#) at a gross weight of 129,900 and determine if those lengths are consistent with the lengths allowed by the LCV (Longer Combination Vehicle) freeze in federal law.

RESEARCH OBJECTIVES

The final product of this research aims to provide ODOT with a comprehensive report containing recommendations to support an informed evaluation of increasing weight limits for divisible loads. The report will include an infrastructure impact assessment detailing the effects of heavier loads on bridges, pavements, and highway safety, with a focus on high-frequency freight routes in Oregon. By drawing insights from neighboring states with higher allowable weights, the analysis may help ODOT identify infrastructure upgrade needs and estimate associated costs to maintain system integrity. Additionally, an economic impact assessment will quantify the contributions of oversized freight to Oregon's economy, balancing potential economic gains from increased freight capacity with the costs of infrastructure maintenance and safety considerations.

Key recommendations will likely address adjustments to the permitting structure to better align fees with maintenance needs, funding models to support fiscal sustainable infrastructure improvements into the future, and the identification of designated heavy-load corridors to minimize infrastructure impacts and improve safety. The report will also evaluate parking and staging facility needs for oversized and over-dimensional loads, ensuring efficient route planning. A strategic implementation plan will outline a phased approach to applying these findings, allowing ODOT to prioritize investments and engage parties effectively. By supporting increased load limits in a balanced manner, the study will help identify key OS/D (Over-Sized/ Dimensional) load routes and enable policy considerations that are economically viable, infrastructure-conscious, and aligned with public safety objectives.

Beyond the final report, research findings will be compiled into a whitepaper summarizing potential pilot project routes, follow-up studies, and the broader impacts of heavyweight route designations. Specific recommendations may include necessary updates to the state transportation asset management plan, changes to weigh stations and weigh-in-motion systems, adjustments to bridge inspection plans and load rating processes, and the potential need for additional charging stations on designated routes. Ultimately, the study could serve as a foundational guide or blueprint for updating Oregon's current weight limit policy, ensuring the state's transportation system remains efficient, sustainable, and competitive well into the future.

WORK TASKS, COST ESTIMATE & DURATION *(Estimates Only)*

Task 1: Comprehensive Literature Review Background Assessment with Technical Advisory Kickoff Meeting (\$30K, 2-3 months): An assessment of background materials will be gathered/ compiled.

Task 2: Data Framework Integrated Development pre-methodology (\$30K, 3-4 months): A framework for the completion of the research project will be developed and compared for ODOT needs and final product expectations with internal ODOT technical advisory committee (TAC) input.

Task 3: Methodology Development/ Technical Advisory Meeting (\$30K, 3-4 months): Methodology will be developed to use before analysis phase of project work.

Task 4: Analysis Phase (\$30K, 3-4 months): Analysis phase to begin.

Task 5: Presentation of Research Results/ Technical Advisory Meeting (\$30K, 2-3 months): Present and interpret results of research findings.

Task 6: Draft Final Report (\$25K, 2-3 months): Draft Final Report

Task 7: Technical Advisory Input for changes within the Final Report (\$20K, 1-2 months): Technical Advisory Input for changes within the Final Report

Task 8: Final Report Delivered to Research Section (\$15K, 1-2 months): Final Report Delivered to Research Section

Task 9: Publication/ Dissemination Phase (\$10K, 1 month): Publication/ Dissemination Phase

KEY DELIVERABLES:

- 1) A comprehensive report containing recommendations to support an informed evaluation of increasing weight limits for divisible loads, including an infrastructure impact assessment detailing the effects of heavier loads on bridges, pavements, and highway safety, with a focus on high-frequency freight routes in Oregon.
- 2) An economic impact assessment will quantify the contributions of oversized freight to Oregon's economy, balancing potential economic gains from increased freight capacity with the costs of infrastructure maintenance and safety considerations.
- 3) A strategic implementation plan will outline a phased approach to applying these findings, allowing ODOT to prioritize investments to engage communities and the public effectively.

Estimated Project Duration: 18-36 months

Estimated Project Budget: \$190,000-\$360,000

IMPLEMENTATION

The research findings will be compiled into a whitepaper summarizing potential pilot project routes, follow-up studies, and the broader impacts of heavyweight route designations. Specific recommendations may include necessary updates to the state transportation asset management plan, changes to weigh stations and weigh-in-motion systems, adjustments to bridge inspection plans and load rating processes, and the potential need for additional charging stations on designated routes, as well as weight mile tax rates and tables. Ultimately, the study could serve as a foundational guide or blueprint for updating Oregon's current weight limit policy, ensuring the state's transportation system remains efficient, sustainable, and competitive well into the future while serving Oregon communities statewide with environmental consciousness.

POTENTIAL BENEFITS

This research proposal aligns with ODOT's strategic goals by exploring sustainable infrastructure management solutions that support economic growth in the freight sector. Raising the allowable weight limits for divisible loads to 129,900 lbs. may enhance the movement efficiency of goods, but it must be balanced with infrastructure longevity, safety, and environmental considerations. To achieve this balance, the study will conduct multi-state comparisons, drawing insights from Idaho, Nevada, and other states with higher weight allowances to develop an approach tailored to Oregon's infrastructure and policy needs.

A key component of this research is identifying viable funding mechanisms and exploring unique funding opportunities to offset infrastructure costs associated with increased weight limits. The study will also assess Oregon's current parking and staging infrastructure for oversized loads, an issue frequently highlighted in industry feedback and past research. Identifying gaps in available staging areas along high-frequency freight routes will help inform strategies to improve efficiency and safety for oversized vehicle movements. Safety considerations will also include evaluating risks posed by roadside parking for large loads, such as windmill blades, which can create hazards for oncoming traffic.

Additionally, this research supports ODOT's commitment to safety, equity, and environmental sustainability. The study will examine how increased weight limits impact traffic flow, infrastructure durability, and freight operator safety, while also ensuring that communities near major freight corridors are not disproportionately affected by increased truck activity. Fleet electrification impacts on transportation infrastructure will also be examined, if time and accurate data are available to forecast these future possibilities beyond mere theoretical speculation.

To address these transportation challenges, the study will employ network analysis and expert panel deliberations to identify optimal freight corridors for increased weight limits. Data collection will include load spectra, pavement and bridge condition assessments, and comparisons with high-weight routes in Idaho and Nevada. A risk-informed cost-benefit analysis will help rank and optimize candidate routes, considering both direct agency costs and externalities such as safety and environmental impacts. Ultimately, the study will identify priority corridors for a potential pilot project and provide a phased implementation plan for high- or extended-weight designations, ensuring an informed and strategic approach to ODOT's policy development.

PEOPLE

ODOT CHAMPION(s) (internal ODOT support):

Carla Phelps, ODOT Commerce & Compliance Division Administrator: Carla.D.PHELPS@odot.oregon.gov

or

Amy Ramsdell, ODOT Delivery & Operations Administrator: Amy.J.RAMSDELL@odot.oregon.gov

or

John Boren, ODOT Freight Program Manager: John.BOREN@odot.oregon.gov

or

Erik Havig, ODOT Statewide Policy and Planning Manager: Erik.M.HAVIG@odot.oregon.gov

PROBLEM STATEMENT CONTRIBUTOR(s):

Matt Bagwell, Principal Research Analyst: Matt.T.Bagwell@odot.oregon.gov

Sal Hernandez, Oregon State University: sal.hernandez@oregonstate.edu

David Yang, Portland State University: david.yang@pdx.edu

Principal Investigator (PI) to lead research will be chosen, if selected for funding by the RAC.

Currently: TBD.

STAFF REVIEW PAGE

LITERATURE CHECK OF TRID & RIP:

☒ A review of TRID & RIP databases found no existing research that answers the research question.

ODOT DECISION LENSES

Climate: This research does not directly investigate climate, but may touch on some aspects.

Equity: This research focuses on equity in an indirect way that may have indirect impacts. It is worth noting that more women and people of diversified ethnic and racial backgrounds are entering the freight trucking labor force. Therefore, this research has implications for diversity, equity and inclusion in this area.

Safety: This research focuses on public transportation safety directly, as it relates to investigating freight weight increases. Safety Implications: 1) A comprehensive report containing recommendations to support an informed evaluation of increasing weight limits for divisible loads, including an infrastructure impact assessment detailing the effects of heavier loads on bridges, pavements, and highway safety, with a focus on high-frequency freight routes in Oregon. 2) An economic impact assessment will quantify the contributions of oversized freight to Oregon's economy, balancing potential economic gains from increased freight capacity with the costs of infrastructure maintenance and safety considerations. 3) A strategic implementation plan will outline a phased approach to applying these findings, allowing ODOT to prioritize investments to engage communities and the public effectively.

TECHNOLOGY & DATA ASSESSMENT

☒ No Identified T&D output.

☐ At the end of this project, the implementing unit(s) within ODOT will need to coordinate the adoption of new technology or data in order to realize the full potential of this research.

TRANSAGENCY PARTNERS

List ODOT partners or affected units: ODOT Statewide, regional and local planning practices: PDAD-Freight, TPAU, Traffic Counts, Climate, Equity, Communications and Information dissemination to the public (senior ODOT leadership, statewide and local implications). One ODOT: How we assess planning inputs for decisionmaking.

Identify any issues of concern raised by an ODOT partners. Note expected mitigation that addresses these concerns: Added Time, Budget & Project Burden Considerations. But safety should be paramount in the public work we undertake as a state agency at ODOT.