

# Research Stage 1 Problem Statement

**PROPOSED TITLE: OREGON Work Zone Crash and Intrusion Analysis and Reporting Database**

## **1. Concisely describe the transportation issue (including problems, improvements, or untested solutions) that Oregon needs to research.**

Risky behaviors are recognized by the Oregon Department of Transportation's (ODOT) Transportation Safety Action Plan as a contributor to fatal and severe traffic injury. It is the objective of the DMV's risky driver diversion program to reduce the frequency of crashes caused by repeat traffic offenders by removing them from the roadway until they are deemed safe to return. Until recently, based on research performed by ODOT's research office and the Oregon Driver & Motor Vehicle Services supported by NHTSA, it was not possible to robustly evaluate how ODOT's risky driver diversion program strategies such as the habitual traffic offender (HTO) program, the Oregon driver improvement program (DIP) – both provision and adult, The driving under the influence of intoxicants (DUI) program, and the at-risk driver program perform in making our streets safety. There is a need to evaluate the effectiveness of these programs to maximize our efforts to improve the safety of road users in Oregon.

## **2. What final product or information needs to be produced to enable this research to be implemented?**

The final product of this research will include an evaluation of the risky driver diversion programs, e.g., HTO, DIP provision and adult, DUI program, and at-risk driver program. The effectiveness of the diversion programs will be measured by shifts in frequencies and types of citations and crashes that occur before and after the program interventions for all program participants. This evaluation will confirm which programs are producing positive safety improvements. Policy recommendations for shifting the triggering thresholds for certain diversion programs or modifying their delivery in other ways based on the risk profiles of Oregon drivers, specifically the relationships between citations and crashes experienced in Oregon, will be developed.

## **3. (Optional) Are there any individuals in Oregon who will be instrumental to the success of implementing any solution that is identified by this research? If so, please list them below.**

| Name             | Title           | Email  | Phone        |
|------------------|-----------------|--|--------------|
| Tina Tozer       | Program Analyst | <a href="mailto:Tiana.TOZER@odot.oregon.gov">Tiana.TOZER@odot.oregon.gov</a>         | 503-731-3150 |
| Johnathan Munson | Senior Analyst  | <a href="mailto:Jonathan.MUNSON@odot.oregon.gov">Jonathan.MUNSON@odot.oregon.gov</a> | 503-945-5221 |
|                  |                 |  |              |

## **4. Other comments:**

This work will leverage a merged crash data base of four elements (driver, crash, accident, verdict) constructed for the agency through a NHTSA sponsored research effort under contract 24-07. That merged data base will allow for the identification of individual driver records matched against crashes and citations.

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## 5. State of Oregon Decision Making Lenses

State decision making lenses are a part of the state of Oregon's policy structure. State policy and federal policy are not always aligned. The state will prioritize research according to state policy, however ODOT may be required to skip prioritized proposals based on constraints placed on the use of federal funds. If state funds are available ODOT will attempt to fund prioritized research that is deemed ineligible for federal funding.

Please complete the following three sections. Your answers to these questions will be applied on a programmatic basis to support agency decisions. Answering yes to the questions below is not required. Resolving a narrowly focused technical research problem may meet agency needs without answering yes to any of the following questions. The ODOT Research Section will seek a balanced portfolio some projects will answer yes to one of the three categories below (e.g. climate, equity, and/ or safety) and other projects in a different category.

We are looking for an overall program balance and no one project is expected to balance all categories. Generally, a research problem statement is expected to be able to answer yes with clear and verifiable information in only one of the three categories below, some projects may be able to answer yes in two or even three categories. Some projects (i.e. needs focused on specific elements of infrastructure design), may have no 'yes' answers but may still be a high value research need.

### *Climate*

Oregon recognizes the climate crisis and makes systemic changes to reduce emissions caused by travel. To that end, we seek research that reduces carbon emissions from construction activities and materials, and from maintenance equipment and operations. Oregon envisions a transportation system that is resilient, this means a system that is durable in the face of seismic events and extreme weather to avoid negative impacts, withstand them or bounce back quickly to resume system function. We seek research that improves the ability of the transportation system to adapt or cope with more frequent and extreme weather events. This may include innovations in data and data sharing, construction materials and project design, communication, emergency planning and response, and more. Similarly, we seek research that avoids negative impacts on key habitats and ecosystems that can buffer or reduce damage to infrastructure and improve environmental conditions for wildlife and native vegetation. For definitions and details please review the equity vision, goals, and objectives of the [ODOT Strategic Action Plan](#) and [Oregon Transportation Plan](#).

5a. Will addressing the transportation issue identified as a need in Question 1 develop, or **validate methods for the estimation, measurement, or monitoring** of transportation generated greenhouse gases (GHG)?

☐ Yes

☒ No

☐ Unsure

5b. If climate or GHG is not the focus of this **transportation issue** identified in this problem statement, will the research apply a GHG analysis to transportation infrastructure, planning, operations, maintenance, or materials?

☐ Yes

☒ No

☐ Unsure

5c. Will addressing the **transportation issue** include development or testing of construction practices, methods, or materials to establish potential reductions in greenhouse gas emissions?

☐ Yes☒ No☐ Unsure

5d. Will solving the **transportation issue** in question 1 study or support the reduction of vehicle miles traveled and single occupancy vehicle travel or support transition to electric vehicles (or other types of zero emission vehicles) or low-carbon alternative fuels?

☐ Yes☒ No☐ Unsure

5e. Will the solving the **transportation issue** in question 1 lead to work that will support, measure, or monitor, transportation system resilience in response to expected climate events, effects, or natural disasters in general?

☐ Yes☒ No☐ Unsure

5f. Will solving the **transportation issue** in question 1 lead to work that may result in better environmental conditions for wildlife and native vegetation?

☐ Yes☒ No☐ Unsure

5g. If you answered yes to any of the climate questions above or can provide alternative details related to climate, please provide additional information:

### Equity

Equity can have many dimensions and impacts relating to communities and transportation. It is important that problem statement proposals clearly explain the equity dimensions or impacts being examined. Oregon commits to social equity in the OTP, specifically to *improve access to safe and affordable transportation for all, recognizing the unmet mobility needs of people who have been systemically excluded and underserved. Create an equitable and transparent engagement and communications decision-making structure that builds public trust.* We seek research that studies elements of this goal or applies analysis to specific transportation topics to ensure the resulting research recommendation is consistent with agency equity goals. For definitions and details please review the equity vision, goals, and objectives of the [ODOT Strategic Action Plan](#) and [Oregon Transportation Plan](#).

5h. Is the **transportation issue** identified as a need in Question 1 specifically focused on transportation equity?

☐ Yes☒ No☐ Unsure

5i. If the **transportation issue** is not focused on transportation equity, will the primary topic be assessed for equity benefits or impacts within the research project?

☐ Yes☒ No☐ Unsure

5j. Is the implementation of potential findings from this research likely to directly involve participation from an identified group that would benefit from an equitable process or outcome?

☐ Yes☒ No☐ Unsure

5k. Is the intended final product or information expected to support ODOT's equity efforts (Including but not limited to supporting one of the equity related objectives of the [ODOT's Strategic Action Plan](#) or [Oregon Transportation Plan](#)) ?

☐ Yes

☒ No

☐ Unsure

5l. If you answered yes to any of the equity questions above or can provide alternative details related to equity, please provide additional information:

### *Safety*

Research outcomes may include interventions and countermeasures to prevent or reduce the frequency of crashes or other causes of transportation-related injury or death; or may include measures to reduce severity of injury (including prevention of death) after a crash or other injurious event. For definitions and details please review the equity vision, goals, and objectives of the [ODOT Strategic Action Plan](#), [Oregon Transportation Safety Action Plan](#) and [Oregon Transportation Plan](#).

5m. Will solving the **transportation issue** in question 1 support improving **safety culture** for either transportation workers or the traveling public?

☒ Yes

☐ No

☐ Unsure

5n. Will the solving the **transportation issue** support improving safety through **healthy and livable communities**?

☐ Yes

☒ No

☐ Unsure

5o. Will solving the **transportation issue** support improving safety through using **best available technologies**?

☒ Yes

☐ No

☐ Unsure

5p. Will solving the **transportation issue** support improving safety through **communication and collaboration**?

☐ Yes

☒ No

☐ Unsure

5q. Will solving the **transportation issue** support improving safety through **investing strategically**? 5r. If you answered yes to any of the safety questions above or can provide alternative details related to safety, please provide additional information:

The merged database approach proposed here is a shift in the application of technology. This is a resource previously unavailable in the State of Oregon that will allow for new safety knowledge to be produced. It's systemic in nature in that the analysis considers every licensed driver in our state, an analysis that was previously unavailable to us as we were only able to analyzed drivers who had been involved in a reported crash.

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## 6. Corresponding Submitter's Contact Information:

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| Name:  | David Hurwitz |
| Title: | Professor     |

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## 7. ODOT Sponsor Contact Information (Required if Submitter is not an ODOT employee)

|              |  |
|--------------|--|
| Name:        | Tracy Pearl  |
| Title:       | Manager, Transportation Safety Office  |
| Crew Number: |  |
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This form is not a grant application or contract document. Please do not include proprietary information on this form. Once this form is received ODOT may revise and publish the problem statement. If selected, ODOT will assign investigator(s) of the department's choosing to conduct research.