Oregon Department of Transportation

*Stage 1 Research Problem Statement*

**Number***: 25-31*

**Proposed Title: Noise Reduction Retrofits to Improve Wildlife Crossing and Reduce Vehicle Collisions**

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

Roads and highways introduce significant noise pollution into natural habitats and can have various impacts on wildlife including communication interference, habitat avoidance, stress and behavioral changes and disruption of migration routes. One strategy to address noise issues is to incorporate or attach materials onto the structure that can absorb or deflect noise. By integrating noise considerations into the design of wildlife passage structures, it is possible to enhance the overall effectiveness of the structure.

Based on passage of HB 2834 (2019) there is a legislative expectation for ODOT to reduce wildlife-vehicle collisions where ODFW primary wildlife connectivity areas cross ODOT highways. If there is a way to increase wildlife use at existing ODOT bridges and culverts this will help ODOT meet this legislative requirement. This may be especially important given the conflicting budget constraint which will limit ODOT's ability to build new wildlife crossing infrastructure. To support this directive for reducing wildlife-vehicle collisions under budget duress, a pilot effort is needed to assess the effectiveness of noise reducing retrofitted crossing structures for enhanced wildlife usage.

**2.** Document how this **transportation issue** is important to Oregon and will meet the Oregon Research Advisory Committee Priorities

This need to improve wildlife passage meets the Oregon Research Advisory Committee Priorities 1) stewardship of public resources and 2) sustainability and climate action. As climates change so do the migratory patterns of wildlife. In order to adapt to changes in climate, wildlife must continue to access habitats critical to forage, reproduce and escape predators. By improving existing ODOT bridges and culverts to increase use by wildlife, ODOT will be meeting the requirements of HB 2834.

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

A pilot is proposed to install newly designed sound walls which will be placed underneath existing ODOT wildlife passage structures to test whether 1) sound is reduced significantly and 2) wildlife use increases as a result of reduced noise levels. In addition to an AASHTO survey of state DOTs or scan for best practices for improving existing structures, as well as a literature review to identify the best retrofitting strategy, a final report is expected. This documentation will evaluate the effectiveness of a retrofit strategy by assessing the extent to which modified sound walls improve overall use, including use by animal type. This effort supports ODOT's vision to reduce collisions through provision of wildlife passage structures.

**4.** (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 |
|---|---|---|---|
| Daniel Burgin | Noise Program Coordinator | Daniel.g.burgin@odot.oregon.gov | 503-509-7415 |
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**5.** Other comments:
NA

**6.** Corresponding Submitter's Contact Information: [1 individual]

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