Oregon Department of Transportation

Stage 1 Research Problem Statement

Number*: 25-85*
Proposed Title: Data-driven state-wide analysis of operational speeds with safety and equity applications

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

Excessive speed is a significant contributor to crashes and the main factor increasing their severity. To mitigate the risks associated with speed-related crashes, speed limits are implemented, enforcement measures are undertaken, and public awareness campaigns emphasize the importance of driving at safe and legal speeds.

However, there are many highways and work zones where speed limits are habitually ignored. ODOT counts with speed data at the network level, from vendors like INRX and other sources, that could be used to identify segments with low levels of speed limit compliance. Due to advances in computer processing and data availability it is now possible to proactively identify segments or areas of low compliance that can be used for many purposes such as: a) identify segments/corridors with posted speed limits that are not followed by most drivers, b) analyze the link between roadway and geometric conditions and speed level compliance at network level, c) identify segments with low speed level compliance proactively before maintenance or construction work is undertaken, d) understand the potential connections between speed level compliance and the presence of low-income or underserved communities.

2. Document how this **transportation issue** is important to Oregon and will meet the Oregon Research Advisory Committee Priorities
The results of this research are clearly linked to safety and aims to leverage existing data sources to proactively identify segments or corridors where long-term safety under normal operating conditions or work zone conditions may be compromised. There is also a clear connection to equity if speed limits violations are taking place mostly in low-income or underserved communities

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

The product of this research will identify segments or corridors with low levels of speed limit compliance at the statewide network level. Speed and safety studies tend to target a specific area or segment. Taking a wider, network view will allow a better understanding of trends, patterns and correlations that cannot be seen when analyzing one project at a time.

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.

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Nicole Charleson	Region 2 safety coordinator	Nicole.L.CHARLSON@odot.oregon.gov	
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5. Other comments:

By leveraging GPS-derived speed data and employing advanced network data analytics techniques, ODOT can effectively identify, monitor, and address corridors with discrepancies between posted speed limits and actual

operating speeds, leading to safer and more efficient transportation corridors. In particular, work zones can significantly benefit from proactively identifying corridors where speed limits are not observed by the majority of drivers.

6. Corresponding Submitter's Contact Information:

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