

Safety Management Practices on Low-volume Roads: A Survey

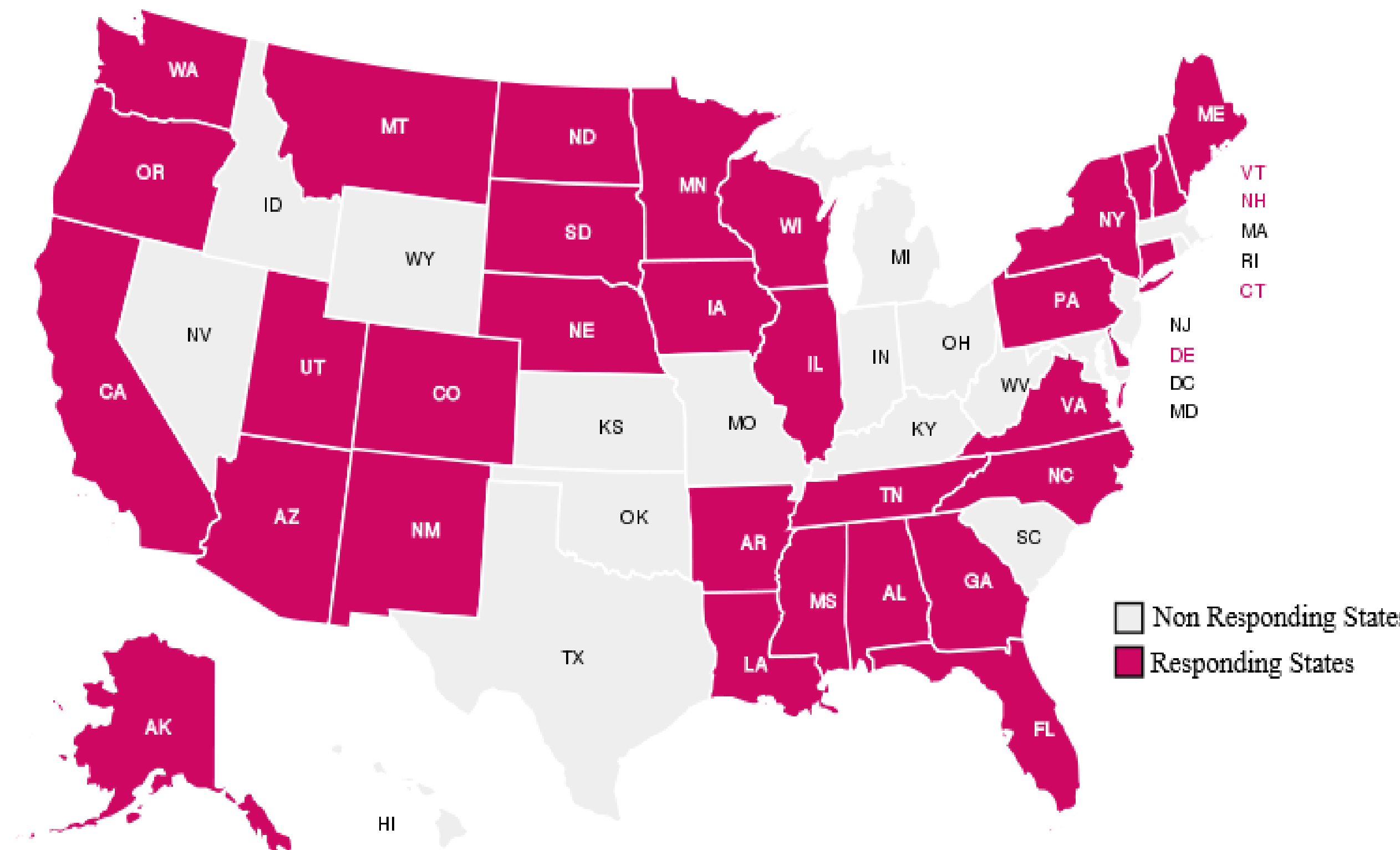
Ahmed Al-Kaisy and Kazi Tahsin Huda
Montana State University

Background

- **Low-volume roads (LVRs)** are an integral part of the US highway system **providing critical access** to remote rural areas and tourist attractions.
- These roads generally have **high fatality rates** with most of its design being **substandard** compared to modern safety standards.
- The **Highway Safety Improvement Program (HSIP)** is a federally mandated program in the US whose main aim is to **reduce fatal and serious injury crashes significantly**.
- HSIP **requires a data-driven strategic approach** for the reduction of fatal and serious injury crashes.
- **Most states use these data-driven strategic approaches** but most of these funds and efforts end up being **focused on major highways and primary route networks**.
- Therefore, LVRs **do not receive attention because of their low traffic exposure and the small number of sporadic crashes** occurring on them.
- Further many of the LVRs are **owned and operated by local agencies** because of which only a little information is available for safety management on LVRs.
- The HSIP annual reporting provides **good high-level information** regarding safety management practices of different states.
- However, **detailed information regarding safety management on LVRs** is not available.

Aim and Method

- The aim of this research is to **collect detailed information regarding the safety management practices for LVRs** by different state agencies.
- A survey was designed and sent to all **50 states**.
- The survey had **two parts**. The **first part** inquired about **the safety management practices for state-owned LVRs**. The **second part** inquired about **the safety management practices for non-state-owned LVRs**.
- Out of these 50 states, **32 responded** resulting in a response rate of **64 percent**.
- The following figure shows **the responding states** in maroon color.



Results

- **Crash severity is the most frequently used criterion** for site identification on LVRs. Also, around **48 percent of the respondents use the FHWA systemic approach** in combination with one or more of other network screening criteria.
- **Cost effectiveness was the most frequently reported criterion in justifying safety improvement projects** on state-owned as well as non-state owned LVRs.

Results

- Around **two thirds of the responding agencies reported having access to crash, traffic, and roadway data** for LVRs. However, only **one third of those agencies** reported having **access to roadside data** as well. Further, half of the respondents reported that roadway and traffic data for non-state-owned local roads are **collected by both the state and the local agency**.
- **About 80 percent** of respondents have a **separate method for selecting sites on state-owned LVRs** than from other state-owned conventional roads.
- **Around 90 percent** of the respondents **involve local agencies in identifying safety improvement sites on non-state-owned LVRs**. **Crash experience at sporadic sites was the most frequently reported method** for identifying safety improvement sites on non-state-owned local roads.
- **About 55 percent of the respondents** reported using **one process for site selection** on state-owned and non-state-owned LVRs.
- **Most of the respondents (70 percent)** reported **not allocating a set amount of funds** for safety projects on non-state-owned LVRs. Further, **similar percentage** reported allocating **less than 20 percent of total safety funds** to systemic improvements on non-state-owned local roads.
- **Around 90 percent** of the responding agencies have the **same personnel leading the safety improvement program for state-owned and non-state-owned LVRs**.
- **Unpaved roads are not involved in safety improvement programs** on non-state-owned local roads for **61 percent of the respondents**. This is a major safety concern given that many of the low-volume local roads in remote rural areas are unpaved.