



# Research Need Statement 529

<b>Date:</b>	7/13/18
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<b>Idea Originated from:</b>	IdeaScale

**Select Program:**

MnDOT    OR     Local Road Research Board (LRRB)

Research    OR     Implementation

**Need Statement Title:**

Understanding Non-Motorized Travel Behavior and Safety in Rural Tribal Communities

**Need Statement:** Describe the problem or the opportunity. Include background and objective.

**Research Need**  
 The research need is to have more refined methodologies for counting people walking and biking in rural tribal communities. These areas are identified because 1) many people walk and bike in these areas, and 2) there are safety concerns related to crossing and moving along high speed roadways. This project will work with Tribal Nations to identify rural bicycle and pedestrian sites for monitoring, identification and implementation of safety countermeasures, and follow up evaluation. Additional research tasks will include developing monitoring plans, conducting video surveillance, and reviewing and reducing footage for each site. This Phase (2 of 2) will also include evaluation (i.e. lessons learned) of implemented countermeasures for Phase 1 sites.

**Background**  
 Many rural communities in Minnesota, especially on tribal lands, are bisected by high speed roads (trunk highways and county roads) that make it difficult for people to safely walk, bike, or roll to where they need to go. Additionally, many of the existing crossings and paths people use are unmarked, unlit, and without advanced warning systems for motorists. While local communities are aware of the safety concerns, they often lack data to support their knowledge and help secure funding to address the issues.

Although the Phase 1 research project was written as “Understanding Pedestrian Travel Behavior & Safety in Rural Settings,” the study exclusively focused on safety concerns at ten sites in four Tribal Nations. At an Advisory Council on Tribal Transportation (ACTT) meeting in 2016, representatives from Mille Lacs, Grand Portage, Bois Forte, and Fond du Lac Tribal Nations expressed interest and became early partners. The project team then collaborated with representatives to identify sites of concern and develop a video monitoring plan to capture incidents of conflict involving people walking and biking on and across the roadway system. After the data was collected, the project team then worked



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with MnDOT district engineers to review the data and compile a list of safety countermeasures for possible implementation. The Phase 1 project scope stopped at identification of countermeasures and no implementation or evaluation was included in the needs statement.

As Phase 1 progressed, it became clear that the research was providing realistic and meaningful data for how, why, and how often people move through the four rural communities. This “new” data, showed that the observed volumes of people crossing and potential conflicts with motorists were higher than previously thought. This finding prompted discussions for how to expand the current scope including implementation of safety countermeasures. Currently, the project team is working with MnDOT Operations Division and State Aid to identify funding for design and implementation of countermeasures at the Phase 1 sites. Evaluation of countermeasures is being included as part of this research request – Phase 2.

### **Provide a summary of the potential benefits:**

This project is establishing a process for MnDOT to gather objective data to assist in addressing safety concerns for people walking and bicycling in rural areas where people are less likely to travel on pre-defined routes. Additionally, this project is working to help improve relationships between Tribal Nations and the State (i.e. MnDOT) by showing a vested interest in people that walk and bike along and across roadways, specifically trunk highways and county roads on tribal lands.

### **How does this project build upon previous research (include title or reference to a completed research effort)?**

This work stems from previous count research and the publication of Minnesota Walks, and aims to address the need to improve methodology for counting people walking and biking in order to assess safety, especially where we identify rural and tribal communities as priorities. Phase 2 of this project will improve the methodology created in Phase 1 for observing people’s travel behaviors in rural areas, apply it to new sites of local interest, and identify context specific safety countermeasures to help make it safer for people walking and biking along and across busy roads. Phase 2 will also go beyond the scope of Phase 1 to include implementation of countermeasures identified in Phase 2 and provide evaluation of all implemented countermeasures in Phase 1 and Phase 2. These additional pieces will be integral for understanding the cost and utility of safety options on high speed / volume rural roads, as well as improving government-to-government relations with Tribal Nations and local governments.

### **Provide names to consider for a technical advisory panel:**

Members of the Advisory Council on Tribal Transportation, MnDOT District staff, MnDOT safety engineers, county staff, and State Aid staff.