

Project Title

Supporting Tribal Crash Data Utilization and Strengthening Institutional Capacity for Effective Traffic Safety Programs

University

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Research Needs

Motor vehicle crashes are the leading cause of unintentional injury for the American Indian population ages 1 to 44 (Centers for Disease Control and Prevention [CDC] 2016). A national study of fatal crashes in 1975 and 2002 showed a disheartening trend as fatal crashes per year on Indian reservations increased 52.5% in the comparison while nationally fatal crashes declined 2.2% nationally (Poindexter 2004). These motor vehicle injuries continue as a critical public safety issue. The Indian Nations' Highway Safety Plan (HSP) goal 'is to reduce fatal and serious injury crashes on Indian Country highways' using evidence-based programs and projects (U.S. Department of Interior, 2015).

A fundamental aspect in this injury prevention is the ability to select evidence-based interventions based on high-quality data documentation of the injury events. Unfortunately, tribal crash events recorded by law enforcement are often limited to fatal events and, in some cases, no standardized reporting occurs (FHWA, 2017). While fatalities do provide insight for evidence-based strategies in traffic safety, full crash data would empower decision-makers and the public with a much greater understanding of critical issues and strengthen abilities to be preemptive in decisive actions rather than reactive in less-informed responses. A recent survey of tribes showed that tribes shared data with a state agency in only 37% of the cases (Federal Highway Administration, 2017). Twenty percent of the tribes reported they did not have a crash report form.

Between 2012 and 2014 60 American Indians died in traffic crashes within North Dakota borders. These lives lost within attributed 14.1% of traffic deaths in the state when the Native Americans accounted for only 5.5% of the residents. The incidence rate for American Indian death in motor vehicle crashes within North Dakota was 2.6 times greater than for other residents (FARS and U.S. Census 2016). This figure is consistent with other national and state estimates for an incidence rate about three times that of other populations. Similar to the national FARS analysis, driving impaired, unrestrained occupants, and pedestrian involvement were higher in occurrence for American Indians than for other drivers in the state. The economic cost loss to tribes in North Dakota from these traffic deaths was estimated to be \$90 million between 2012 and 2014, based on figures from the National Safety Council (2016). In addition, social and emotional impacts to tribal families and communities were immense.

Tribes in North Dakota recognize traffic safety as an endemic public safety issue as exemplified in efforts they forgo independently as well as in collaborative efforts. Some examples include passage of a primary seat belt laws and the recent efforts to improve crash reporting. The crash reporting process for four tribes in North Dakota were documented in the earlier study of tribal crash reporting (MPC Project 518). During that project, researchers were able to supplement the state crash records with crash records held locally by some tribes. In addition, the project provided an opportunity for renewed communications among the crash data stakeholders. The previous study documented crash reporting practices for each tribe, and produced unexpected benefits in the ancillary discussions related to planning and program activities related to the crash data and traffic safety efforts. The challenges that were highlighted for the crash reported systems such as communication, succession planning, agency commitment, and isolated traffic safety programs were concerning theme throughout the larger traffic safety space.

Research Objectives

The goal in this study is to continue work with tribes to strengthen institutional capacity for effective traffic safety programs to improve the understanding and scope of tribal crash reporting by tribes in North Dakota.

Objective 1: Assist tribes in efforts to collect and/or document crash records in the crash reporting system.

Objective 2: Pilot and document systematic processes that utilize the crash data in planning and programming such as annual traffic safety program activities and program monitoring metrics, grant application data requirements; and local road safety audit and countermeasure selection activities.

Objective 3: Investigate the nature of active transport and motor vehicle crashes involving American Indian pedestrians, as a relatively high-risk population in these pedestrian-involved events.

Objective 4: Improve community safety by strengthening institutional capacity in traffic safety program activities, including continuity of agency commitment and community recognition of traffic safety as a priority through program documentation and succession strategies. Attention will be given to monitoring the impact of the ongoing COVID-19 pandemic in tribal communities will also be considered in supporting public health and economic aspects of transportation.

Research Methods

- Demonstration Project
- Statistical Analysis
- Case Study Documentation
- Focus Group/Roundtable Discussion(s)

Expected Outcomes

This research will build on an ongoing effort to improve public safety by preventing American Indian motor vehicle crashes. Findings from this research will be used by policymakers and program administrations to refine programs training and interventions. The knowledge may also be useful when shared with other tribes seeking to strengthen institutional capacity in traffic safety.

Relevance to Strategic Goals

Safety: Improving public health and safety is a top priority for the USDOT.¹ Among states, progress is possible by understanding and addressing crash risk by identifying priorities based on

¹https://www.transportation.gov/sites/dot.gov/files/docs/Draft%20Strategic%20Plan%20OMB%20submission%20public_comment_508.pdf

risk and using high-quality data to optimize policy decisions and strategic countermeasure investment.

Educational Benefits

Professional development in stakeholder education related to research findings.

Technology Transfer

Demonstration project results, projects summary, and presentations to academic and practitioner audiences will be used to disseminate research findings. A tribal traffic safety toolbox will be initiated as a program asset for local stakeholders.

Work Plan

- 1) Further assist tribes in establishing the process to document and electronically capture crash records.
- 2) Perform crash data entry as needed to supplement the support provided by the NDDOT Safety Division.
- 3) Work with the tribes to promote and encourage use of crash data analysis and performance metric development for planning and programming activities.
 - a) Engineering applications such as road safety audits and traffic speeds.
 - b) Behavioral applications such as seat belt observation surveys, Alive at 25, and car seat clinics. Defensive driving course is available using course work provided through The North Dakota Safety Council. A highly interactive program targeted toward drivers under 25 helping young drivers take greater responsibility for their driving. Alive at 25 focuses on behavior, judgment, decision making and consequences, and provides tools for making positive choices.
 - c)
 - 1 Schedule and conduct up to four AA25 course sessions in collaboration with tribes, and tribal educational institutions such as United Tribes Technical college and other tribal colleges and high schools, with a goal to reach 80-150 enrolled tribal teens.
 - 2 Collect data via live polling and pre and post surveys at the close of each session.
 - 3 Compile and store data to use in analysis related to safety outcomes and for future use in the tribal traffic safety toolbox.
 - 4 Promote and assess response to CPS in car seat clinics, CPS certification, and youth seat belt education programs. Encouraging and promoting passenger safety for children by conducting classing using the Basic Child Passenger Safety Awareness Course curriculum by Safe Kids Worldwide.
 - 5 Support tribes as they work to implement and sustain traffic safety programs.

- 4) Investigate the nature of active transport and potential to enhance safety community and health.
 - a) Conduct and document walkability study as demonstration for an at-need location on tribal lands, in collaboration with the tribe for an at-need site.
 - b) Investigate the nature of Indian lands' pedestrian-involved crashes through crash data analysis and exploration of an associated health impact assessment.

- 5) Strengthen institutional capacity in traffic safety programs
 - a) Initiate a local tribal toolbox for traffic safety based on local safety priorities and requests for support from tribes.
 - b) Encourage succession planning for traffic safety activities/responsibilities.
 - c) Promote GRIT as a tribal road asset management tool.
 - i) Liaison activities in MHA GRIT participation in collaboration with the DOTSC and ND LTAP.
 - d) Participate in tribal transportation conference planning and delivery for the Great Plains Tribal Transportation Workshop and National Transportation in Indian Country Conference.
 - e) Contribute regional perspective in the TRB Committee on Native American Transportation Issues/AME30 as Member.
 - f) Future workforce engagement by participating in NDSU associations and activities aimed at inclusivity for Native American students.
 - g) This year's sign protection awareness program (The Tribal Sign Warrior) through The North Dakota Local Technical Assistance Program (NDLTAP) utilized 4th grade students from native schools across North Dakota. The student used the theme "RESPECT" that would provide important visual cues to drivers about how road signs protect and save lives. A "Tribal Sign Warrior" encourages 4th grade youth to focus on the four major dangers to North Dakota road signs: shooting, stealing, graffiti, and other damage. Young artists helped illustrate the dangers and the efforts of the Tribal Sign Warrior to protect the state's signs.
 - h) Promote Tribal Transportation Scholarship to elicit applications. Funding provided by the Mountain-Plains Consortium through the U.S. Department of Transportation's University Transportation Centers Program allows for a \$2,000 Tribal Transportation Scholarship recognizing outstanding Native American students with an interest in transportation engineering, economics or agriculture who are enrolled at North Dakota State University.
 - i) Seek other opportunities to contribute to tribes' abilities to successfully identify traffic safety priorities and effectively engage the community in solutions to prevent motor vehicle crashes.
 - j) Propose tribal-led traffic safety roundtable a knowledge sharing/building function during a future event, as opportunities arise, in coordination with ND LTAP and/or other stakeholder groups.

Project Cost

Total Project Costs:	\$278,722.90
MPC Funds Requested:	\$139,359.05
Matching Funds:	\$139,363.85
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