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ENCOURAGING TRIBAL COMMUNITY CRASH REPORTING

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ABSTRACT

The American Indian population is at high risk for motor vehicle (MV) crash injury. Although preventable, a majority of these indigenous populations lack fundamental data needed to understand these events and effective countermeasures. This cross-case study sets a framework for exploring Indian Nations' crash reporting systems in an effort to fill this information void. An inventory process and experience gained in working with four tribes produced a pragmatic approach that tribes can refine based on objectives with regard to accountability, sovereignty, and system integrity. Enormous benefits can be derived from a crash reporting system that holds essential, non-personally identifiable information. The study shows that electronically documenting MV crash event data is plausible with commitment from tribes and support from other stakeholders.

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1. INTRODUCTION

Motor vehicle crashes are the leading cause of American Indian unintentional injury for 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 fatal crashes declined 2.2% nationally (Poindexter, 2004). A fundamental aspect of addressing public safety priorities with evidence-based interventions is high-quality data. Unfortunately, the Indian Nation lacks comprehensive and reliable crash reporting systems (U.S. Department of Interior 2015; Iragavarapu et al., 2015; Noyce et al., 2014).

A recent FHWA survey of tribes showed that respondents shared data with a state agency in only 37% of the cases (FHWA, 2017). Twenty-percent of the tribes reported they did not have a crash report form. This survey was part of a report to Congress conducted per a directive in the Fixing America's Surface Transportation Act (FAST), which was passed in December 2015. The FAST Act brought important changes with regard to tribal crash data reporting requirements and use in eligibility for traffic safety project funding. Annual crash data reporting is now required for tribes that participate in the Tribal Transportation Program. Therefore, it seems prudent to take this opportunity to better understand tribal traffic safety and the crash data that form a critical resource in administering effective, evidence-based interventions.

Tribal traffic safety often shares many of the same risk factors and interventions as traffic safety in other environments. The sovereign nature of political engagement with tribes and cultural nuances, however, introduces challenges not typically experienced. Native American tribes were considered to be in a nation-to-nation relationship with the U.S. government when the U.S. Constitution was signed in 1787. The Indian Reservation Roads program had the first federal government role in tribal transportation planning in 1928. Shortly thereafter, the Bureau of Indian Affairs (BIA) was given final decision-making authority in use of tribal funds or tribal lands.

Decades later the Indian Self-Determination and Education Act (ISDEA) gave tribal governments the authority to assume federal actions and make those actions tribal functions when enacted in 1975; tribes were given the authority to perform transportation planning previously handled by BIA. In 1991, ISTEA legislation increased IRR funding and stipulated a 2% set-aside for planning, as well as establishing TTAP. TEA-21 (1998), the Federal Lands Highway Program (FLHP), set requirements for tribes similar to the state in transportation management with SAFETEA-LU (2005) taking it a step further by establishing a process for direct agreement between tribes and FHWA, which did not require BIA involvement. Public Law 280 (1953) extended state jurisdiction on tribal reservations giving six states mandatory and substantial criminal and civil jurisdiction over tribes in Alaska, California, Minnesota, Nebraska, and Oregon. The law is accepted to some degree in North Dakota (ATR Institute 2011). Shifts and evolution in the relationship between U.S. government entities and American Indian tribes have generated barriers in terms of trustful engagement in mutually beneficial agreements.

Tribes are sovereign nations, so they have a formal relationship with the federal government and not the state. They do not often seek to participate in state crash reporting systems that form the foundation for traffic safety analysis related to resource and policy decisions. Crash data reporting by tribes is often limited to fatal events. For example, it was determined that nonfatal crashes were underreported by 64% in a representative sample of tribes in South Dakota (Quick and Bailey, 2007). Montana's only fatal events were reported to the state (Cambridge Systematics, Inc., 2013). The Colville Indian Reservation in Washington found that six of their 16 fatal crashes on their roads did not have crash reports. Although crash reports were complete, none were shared with the state or reported to FARS for the six fatal crashes that occurred on the Salt River Reservation in Arizona between 2010 and 2014 (FHWA, 2017).

Huge safety benefits could result from more comprehensive reporting of tribal crashes. Complete systematic crash data would allow tribes to understand traffic safety priorities so they can make resource and policy decisions to most effectively address local needs. Indian Land traffic safety priorities have been set at a national level. 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.

Priority areas identified in the 2016 HSP include occupant restraint, impaired driving, and speeding based on national statistics from the Fatality Analysis Reporting System (FARS). The trend in unrestrained occupants on BIA lands between 2009 and 2013 appears to be increasing (Figure 1.1). The share of unrestrained fatal crash occupants on BIA lands dipped in 2010 but increased to its greatest share in the five years before 2014. In contrast, a BIA-sponsored seat belt observation survey shows an increase in observed seat belt use on BIA lands from 55.4% in 2004 to 73.4% in 2013 (Figure 1.2). The positive trend is good news, but the average use rate of 67.8% between 2010 and 2014 is well below the national rate of 85.0% during the same period (U.S. Department of Interior, 2015, U.S. Department of Transportation).
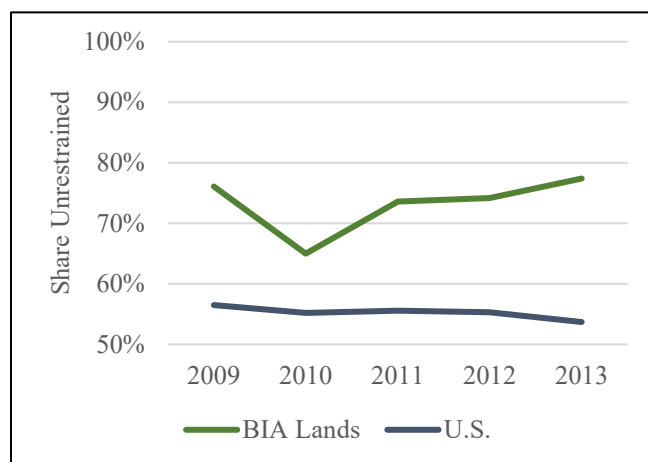
Figure 1.1 Unrestrained Occupants in Fatal Crashes
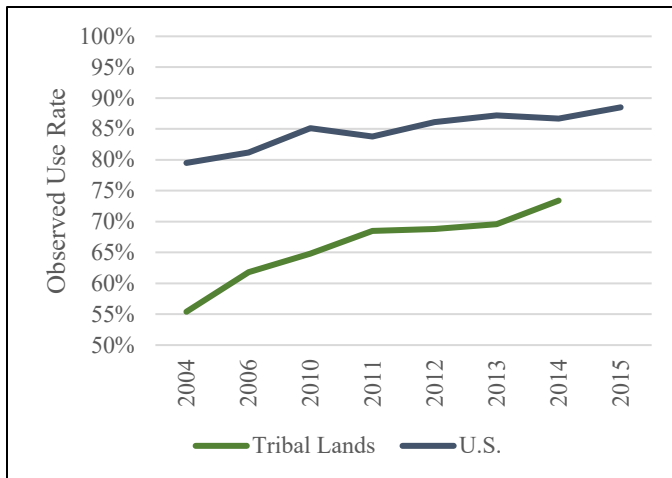
Figure 1.2 Seat Belt Use, Observation Surveys

The trend for alcohol as a crash factor in fatal crashes seems steady, while speed-related incidence shows an increasing trend from 2009 to 2013 (Figure 1.3 and Figure 4). Alcohol was a factor in 43.3% of BIA-land fatalities between 2009 and 2013. Speeding was a factor in 33.3% of BIA-land fatalities in 2009 compared with 40.2% in 2013, a 20% increase in the share over five years. While tribes continue to strive to reduce traffic death and injury, incidence metrics in the HSP suggest it remains a critical issue nationally for Native American health, and includes several prevalent issues that are candidates for safety improvements with evidence-based interventions. Quality tribal crash data would provide greater opportunity to understand the multifaceted issues that involve roadway, driver, vehicle, and environmental risk factors.
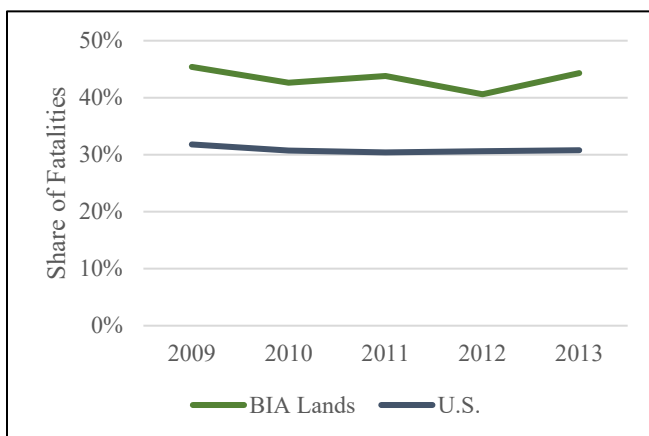
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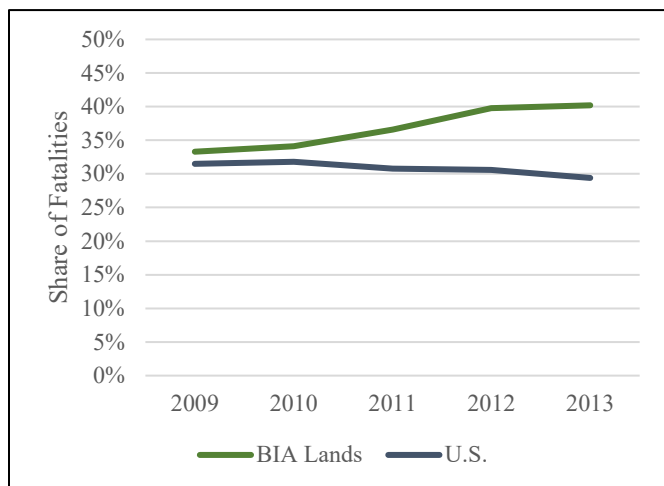
Figure 1.4 Speed-Related Factor, Fatal Crashes

It is essential to promote strong crash reporting for all tribes by helping to build capacity where needed and engendering stakeholder interest in high-quality crash data. North Dakota has a strong interest in the tribal crash reporting since five tribal nations are within or adjacent to state jurisdictional boundaries. The state has extended opportunities and invested resources to make the state system inclusive of these MV crashes, but with limited success. This stakeholder-conceived project was an opportunity to better understand local tribes' current processes and protocols for reporting MV crash events. They envisioned it would provide a foundation for progress within tribal communities and in strengthening the coordination between the state and the tribes.

2.   BACKGROUND

Between 2012 and 2014, the national Fatality Analysis Reporting System (FARS) showed 60 American Indians died in traffic crashes within North Dakota borders (National Highway Traffic Safety Administration, [NHTSA], 2016). These lives lost represented 14.1% of traffic deaths in the state when the Native Americans accounted for only 5.5% of the residents (NHTSA, 2016; U.S. Census, 2016). This higher incidence rate is consistent with national trends for American Indian fatalities in MV crashes, where rates are about twice that of non-Hispanic populations (CDC, 2016).

Crash data reporting, if done by tribes, is often limited to fatal events. The ND crash reporting system (CRS) shows that reports for the tribal lands are largely attributed to submissions from state and county law enforcement agencies when they are involved in MV crash response involving fatalities and injuries. This shortcoming is also evident in other studies. It was determined that nonfatal crashes were underreported by 64% in a representative sample of tribes in South Dakota, considering injury and non-injury events (Quick & Bailey, 2007). In Montana, only fatal events were reported to the state (Cambridge Systematics, Inc., 2013). The Colville Indian Reservation in Washington found that six of 16 fatal crashes on their roads did not have crash reports. In another case, although crash reports were complete, none were shared with the state or reported to FARS for six fatal crashes that occurred on the Salt River Reservation in Arizona between 2010 and 2014 (FHWA, 2017).

Inconsistency in crash reporting by Indian Nations locally and in sharing reports with the state is attributed to several factors, including tribal story-telling record traditions rather than empirical records, poor communications between the tribe and state agencies, mistrust in how crash records may be used, and stringent agency policies for crash reports (Bailey and Huft, 2008; FHWA, 2017; Noyce, 2014; Wong & Trost, 2012). The fatal crashes provide important insight, but the incomplete data and the random nature of fatal events make it difficult to conduct rigorous crash data investigations. It also limits any proactive measures that may be implemented based on injury or property damage only crash events to prevent a future fatality.

Huge safety benefits could accrue to tribal communities from more comprehensive crash reporting. The key to preventing future deaths lies in understanding crash factors and effectively implementing appropriate prevention measures. Crash data sharing enables tribes to optimize local spending on traffic safety in a systems context, considering local mobility along with system accessibility. In addition, access to data-driven grant and funding applications in statewide planning processes are needed.

Complete systematic crash reporting would allow tribes to prioritize traffic safety issues to produce the greatest local benefit. Indian Land traffic safety priorities have been set at a national level. The Indian Nations Highway Safety Plan (INHSP) goal "is to reduce fatal and serious injury crashes on Indian Country highways" using evidence-based programs and projects (Bureau of Indian Affairs, 2015). Priorities areas identified in the 2016 INHSP include occupant restraint, impaired driving. and speeding. These emphasis areas were based on national statistics from the FARS.

2.1   Indian Lands Crashes in North Dakota

Tribes in North Dakota do recognize traffic safety as an endemic public safety issue, as exemplified in efforts they implement independently as well as in collaborative efforts. Some examples include recent passage of a primary seat belt law by the Mandan, Hidatsa, Arikara Nation [MHA], which is also known as the Three Affiliated Tribes. MHA Nation joined the Spirit Lake Nation, which also had a primary seat belt law in its tribal code. The Standing Rock Nation was recently recognized for excellence in crash reporting at a national tribal meeting. In addition, the ND Department of Transportation supported work by tribes to develop tribal traffic safety plans by the Mandan, Hidatsa, Arikara Nation, Standing Rock Sioux Tribe, Spirit Lake Nation, and Turtle Mountain Bank of Chippewa Indians (ND Department of Transportation 2015). Spirit Lake Nation contracted with KLJ to conduct a supplemental update for its traffic safety management plan in 2016. The location of the Indian reservations is illustrated in Figure 2.1.
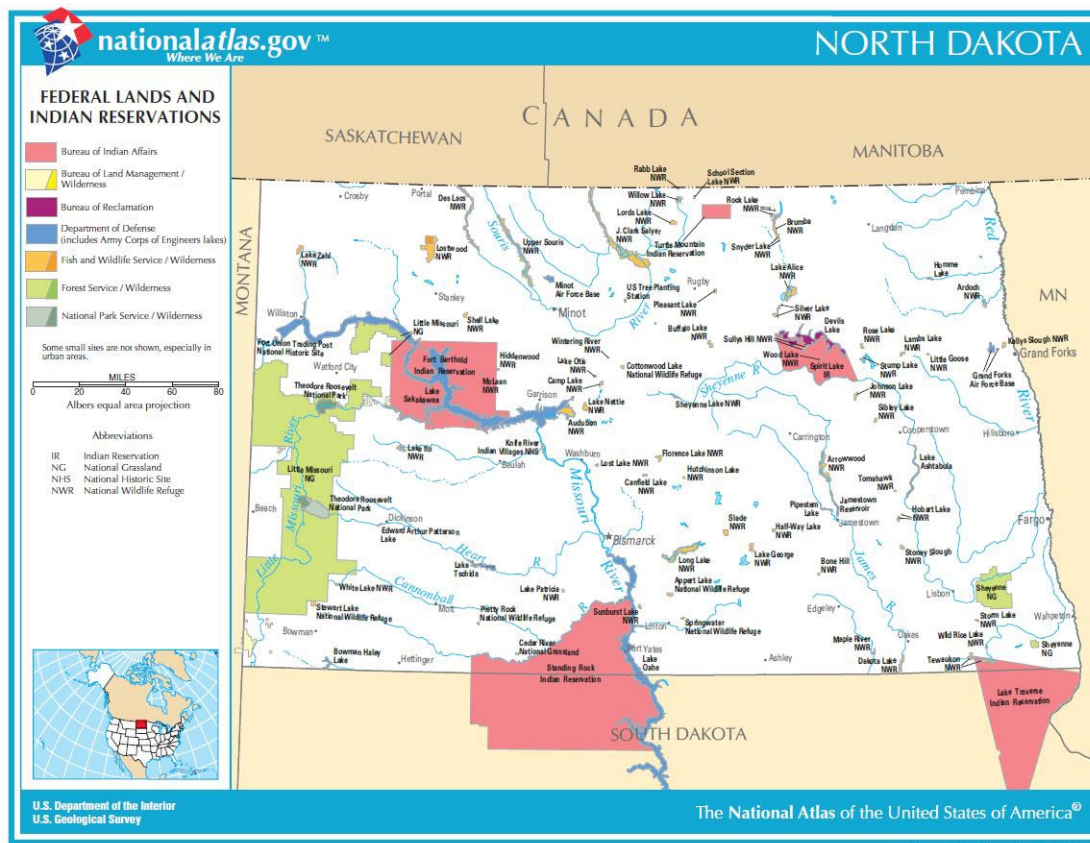
Figure 2.1 Federal Lands and Indian Reservation Map

2.1.1 Ethnic Traffic Injury Risk Perspective

Two high-risk areas identified in the Indian Nations HSP were explored for tribes in North Dakota. Similar to the national findings, low proclivity for seat belt use and high likelihood for alcohol involvement were substantial factors in a majority of tribal traffic fatalities during recent years (Figure 2.2 and Figure 2.3). 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.
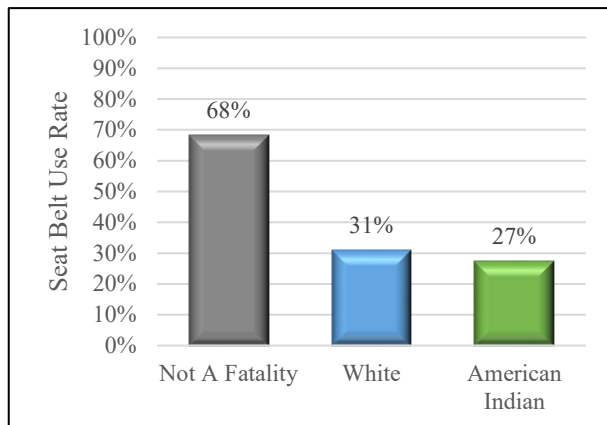
Figure 2.2 Seat Belt Use in ND Traffic Fatalities (FARS 2012-2014)
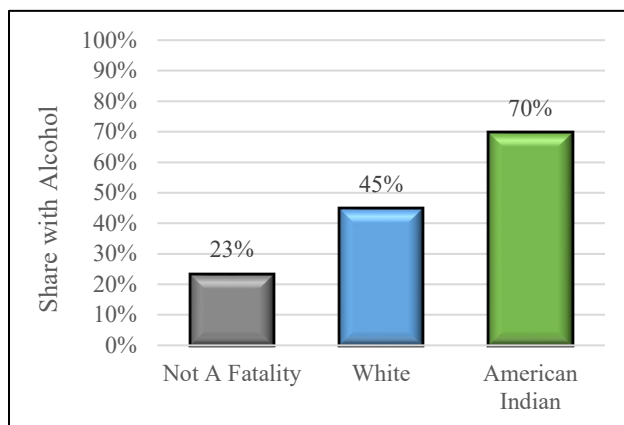
Figure 2.3 Alcohol Involvement in ND Traffic Fatalities (FARS 2012-2014)

2.2.2   Tribal Traffic Injury Prevention Planning

In addition to insight from fatal crash events, NDDOT worked with four tribes to develop local road safety plans (LRSP) as a part of their Strategic Highway Safety Plan (SHSP) activities. NDDOT posed several potential benefits for tribal participation in the SHSP and LRSP, including state awareness of tribal traffic concerns, potential for additional collaboration/coordination, data-driven low-cost safety improvements, and simplified application for HSIP funds (U.S. Department of Transportation, 2015).

MHA had events sufficient for empirical analysis, but a summary of results for all crash emphasis area results are presented by tribe in Table 2.1. Results for many of the higher emphasis areas were similar to the statewide average considering events between 2009 and 2013. While not statistically substantiated, figures show a much higher level of severe crashes were alcohol-related compared with the statewide average with a range from 44% to 77% of events, compared with 28% statewide. Intersections, motorcycles, and weather were reported to be less problematic in tribal crash samples while pedestrian, work zone, and head-on events occurred at a greater rate. Some of these issues seemed tribe-specific considering the incidence range. For example, 77% of serious crashes were alcohol related for the small number reported by the SRST, and 38% of serious crashes were heavy vehicle for the MHA.

As with many other investigations into the tribal crashes, the NDDOT report stated that data quality is a challenge in SHSP work with the tribes. Only one of the four tribes in North Dakota had equipment compatible with the state crash reporting system at the time of the LRSP and it was not yet reporting. Wider reporting participation by tribes in the state has met resistance related to equipment costs, federal security requirements, and extra work involved in duplicate crash data entry.

Table 2.1 LRSP Safety Severe Crash Emphasis Areas, 2009-2013

	Statewide	Turtle Mountain	Standing Rock	Spirit Lake	MHA Nation	Tribal Avg.
Emphasis Area	Share of Crashes/Occupants					
Number of Severe Injury Crashes	*2,340*	*13*	*13*	*27*	*79*	*132*
Alcohol-Related	28%	54%	77%	56%	44%	58%
Lane Departure	46%	54%	54%	59%	52%	55%
Run-off-the-Road Crashes	38%	23%	46%	48%	35%	38%
Unbelted Vehicle Occupants	30%	31%	46%	30%	32%	35%
Excessive Speed/Aggressive	25%	31%	15%	22%	24%	23%
Involving Drivers < Age 21	21%	23%	15%	26%	16%	20%
Head-On	8%	31%	8%	11%	16%	17%
Pedestrian Crashes	5%	31%	15%	7%	4%	14%
Intersection Crashes	23%	15%	8%	15%	15%	13%
Heavy Vehicle Crashes	18%	0%	0%	0%	38%	10%
Train-Vehicle Collisions	1%	0%	0%	0%	0%	10%
Involving Drivers Over Age 64	12%	15%	8%	7%	8%	10%
Distracted, Asleep, or Fatigued	9%	0%	15%	0%	11%	7%
Adverse/Winter Weather	17%	8%	0%	4%	13%	6%
Work Zone Crashes	2%	0%	0%	7%	14%	5%
Motorcycle Crashes	11%	0%	0%	7%	3%	3%
Bicycle Crashes	1%	0%	0%	4%	0%	1%
Deer Collisions	1%	0%	0%	0%	0%	0%

Lane Departure: Including both lane-departure and head-on/sideswipe-opposing crashes.
Heavy Vehicle Crashes: Figures were only reported for the MHA Nation so other tribe incidence set to 0%, but may be higher.

Information is from the 2009-to-2013 North Dakota crash data records, which is an update to the information in the 2013 North Dakota SHSP that used 2007-to-2011 crash records.
Source: ND Department of Transportation 2016

While community well-being seems to be a next natural nexus for agreements and collaboration in traffic safety, several challenges have been identified in previous work, including tribal-state trust, tribal law enforcement resources/capacity, and tribal crash reporting process standardization (Bailey and, Huft, 2009; Herbel & Kleiner, 2010; Noyce et al., 2014; Redinger, 2012). The Tribe/Agency Collaboration Toolbox (TACT) and best practices/successes presented in case studies offer suggestions to successfully overcome these challenges (ATR Institute, 2011; West & Naumann, 2014; Iragavarapu et al., 2015). The literature review, however, shows little recent progress.

Tribes in North Dakota do recognize traffic safety as an endemic public safety issue in policy and program activities. For example, Mandan, Hidatsa, Arikara Nation (MHA) was the last of the four tribes to pass a primary seat belt law in 2015. This legislation puts tribes ahead of the state where drivers must still be stopped for another offense before they can be ticketed for not using seat belts. The Standing Rock Sioux Tribe (SRST) has been recognized for efforts to improve its crash reporting (FHWA, 2017a). In addition, NDDOT supported work by tribes to develop tribal traffic safety plans by MHA Nation, SRST, Spirit Lake Nation, and Turtle Mountain Bank of Chippewa Indians (ND Department of Transportation, 2015). SL Nation

contracted with an engineering firm to conduct a supplemental update for its traffic safety management plan in 2016. None of the tribes, however, have established systematic crash reporting, including a succession plan.

The goal here is to establish facts about crash reporting by tribes in North Dakota so recommendations can be made to promote improvement. This shared knowledge will create a platform for strengthening tribal crash reporting in the state. Best practices and textual themes can be used to encourage tribal and state collaboration in improving crash data quality.

3.   METHOD AND DATA

Geospatial, descriptive statistical, and interview research methods were used in case study analysis of the current status of crash data and collection processes. Geospatial analysis was used to segregate the Indian Lands crashes within the state crash database. Descriptive analysis was conducted to gain insight into traffic safety issues, revisiting the initial SHSP emphasis exercise.

Descriptive statistical analysis was conducted as possible with NDDOT crash data and field data collected from tribes. The case study includes a crash data system visualization. In addition, a simplified field crash reporting system was designed to test as a tool that could be tailored to meet tribal needs, including data security and accessibility. Collaboration with the Northern Plains Tribal Technical Assistance Program, which was terminated on September 30, 2017, and NDDOT were essential partners in launching the case study analysis.

The greatest effort was devoted to interviews designed understand tribal-state relations, inventory current process/practices, and gauge tribal law enforcement resources/capacity. The initial interview group, which included the traffic safety resource officer for each tribe, morphed into an investigative process to draw on knowledge from participants in the crash reporting system that were identified in the sequence of interviews.

Case study analysis established the crash reporting status by tribes. The scope was geographically bounded by tribal nations contained or intersecting the North Dakota border. The crash report system was defined to start with law enforcement dispatch to an MV crash event and end with the validation of a crash report. Case study research is a qualitative approach in which the investigator explores a system (Stake, 1995 and 2005; Yin, 2003; Creswell, 2007). This cross-case study used field visits, electronic interviews, phone interviews, and data collection to gain a better understanding of the MV crash reporting system for each tribe. The design was explanatory since the basic functions of this type of system are understood through previous tribal studies and synergistic work with state crash reporting. This study contributes to the understanding by detailing the process for each individual tribe and identifying shared and distinct characteristics (Ridder, 2017).

Interviews were conducted with tribal, county, state, and federal stakeholders for four of the five federally recognized tribes in the state. These tribes include MHA, SL Nation, SRST, and TMBCI. A fifth tribe, Sisseton-Wahpeton Oyate Nation, has a very small footprint in North Dakota. It was also involved in a similar effort led by South Dakota, so they were not included in the scope of this study.

The interview was designed to inventory current process/practices, understand tribal-state relations, and gauge resources/capacity. Initially, the traffic safety program manager for each tribe was to be interviewed. In some instances, the position was vacant or nonexistent so other stakeholders were asked to recommend a point of contact. The crash reporting system was a complex coordination effort for all tribes, involving multiple stakeholders and few dedicated resources. This interview strategy morphed into an investigative process to identify and draw out knowledge from key participants in the crash reporting system. As a part of the interview sequence, an attempt was made to collect sample crash data and a description of crash data fields. State and tribal crash data offered insight into current data scope and quality.

The interview framework was drawn largely from the NCHRP Report 788, but also considered what was drawn from previous research into tribal crash reporting processes in South Dakota (ICF International, Inc., 2007; Quick & Bailey, 2007; Bailey & Huft, 2008) and Wisconsin (Redinger, et al., 2012). Both states conducted extensive studies to understand and engage tribes in a discussion of their crash reporting. The draft interview instrument was refined based on feedback from the SRST's tribal traffic safety program manager. The final version is presented in Figure 3.1.

The crash reporting case study scope was outlined to identify crash event stakeholders, reporting protocol, communication processes, and documentation. The interview protocol was sent to each tribe with a message requesting a site visit or phone interview to be completed with the local expert(s). During this interview, the protocol was used to facilitate a loosely structured discussion. In two cases, the local traffic safety program manager and BIA policy responded to several questions ahead of the interview when the survey was shared electronically. In other cases, it was completed on-site or in a phone interview with key stakeholders. Supplemental interviews were required in all cases. The interview protocol captured essential baseline information in each interest area, broadly outlined as:

1) Stakeholders
2) Communication
3) Protocol
4) Crash report fields/sample data
5) Tribal reporting capacity

These questions established a collective element for the crash data reporting system interview. The discussions often ranged beyond the crash reporting to a broad range of traffic safety topics. These supplemental discussions were captured in textual analysis and reported as thematic findings based on a coding of interview notes.

Tribal Crash Data Reporting System Interview

1. Who has police jurisdiction over tribal lands?
2. When a crash happens on tribal land, which agency(s) responds to the crash?
3. Which agency(s) is dispatched to the crash?
4. Does your tribe's primary police agency have a standard crash report form?
5. Does the crash report <u>require</u> vehicle, occupant(s), roadway and collision factors?
6. Does your tribe maintain a crash report file?
7. Are paper copies of each crash report kept/stored in addition to the tribal crash database?
8. Is there an established time historical crash reports are retained?
9. Is the initiation and completion of a crash report form dependent on who is involved in the crash or level of injury?
10. When are crash reports collected for property damage only (PDO) crashes?
11. What is your current crash data collection method(s)?
12. Is there a method documenting the location of the crash on the report? If yes, what is it?
13. What is the chain of events from the time of a crash to when the data is submitted?
14. Is there an established timeframe requirement for submission of crash reports?
15. Is there formal training available for officers to fill out crash reports or to use the crash data collection system?
16. Are there methods in place to evaluate accuracy and completeness of crash data in the database?
17. Do you have a tribal road inventory system?
18. Does your tribe have a "mutual aid agreement," providing or receiving emergency services with neighboring law enforcement agencies?
19. Is your tribe involved with the state's Traffic Records Coordinating Committee?
20. Is your tribe involved with the state's Strategic Highway Safety Plan stakeholder group?
21. What issues/barriers do you see in the crash data reporting process? Training Issues? Software Issues? Staffing Issues?
22. Is there any fear of double jeopardy for tribal members?
23. Are there privacy concerns with regards to information in the crash report?
24. In what format does your tribe submit the crash data to the state agency?
25. Does your tribe withhold or not populate any data elements from crash reports submitted to state agencies?
26. Is your tribe able to access the state crash database for purposes of accessing the submitted crash data at a later time?
27. Is there an agreement (e.g., MOU) in place between your tribe and the state agency for crash data sharing?
28. Does your tribe use crash data to identify the locations with a high number of crashes?
29. Does your tribe work with the state agency or other agencies to evaluate and improve the problem locations/areas?
30. Has your tribe requested federal/BIA POLICE/state support for improving the traffic safety issues on tribal roads?

Figure 3.1 Interview Protocol

4.   RESULTS

Key stakeholders in the crash reporting process included law enforcement, traffic safety program managers, roads departments, and traffic planners. While the tribal council and other community leaders play a role, it seems they largely enable or inhibit system participants through tribal resolutions, resource commitments, and policies. Law enforcement was the primary data holder in all cases as the primary documenters of crash events. Some tribes did have a traffic safety program manager position. This position's role ranged from crash data entry to utilizing aggregate crash figures in grant applications and program implementation. Road departments and planners had a high interest in good crash data and were primary users where it was available. It was evident early in the study that a single crash reporting protocol was not possible due to differences in how the crash event systems functioned and were utilized by the tribes. A description of the individual tribe's crash reporting system was developed to identify stakeholders, roles, and current protocol. An inventory of the crash data within the system was developed, as possible, with samples that were collected during the study. Best practices, needs, and challenges are presented in a subsequent section.

4.1   System Description

4.1.1   Standing Rock Sioux Tribe

SRST has a population of 15,000 in a land area of 3,625 that spans North Dakota and South Dakota. The state CRS shows that 53 crashes were reported in the North Dakota portion of the SRST geography between 2012 and 2016. Nine of these crashes involved fatalities (NDDOT 2017).

BIA Police are contracted to provide law enforcement for SRST. BIA dispatch is the primary dispatch with the SRST; Mobridge 911 dispatch handles calls as needed based on proximity to the event. When a crash is reported at a location within North Dakota, BIA Police typically respond because they are cross-deputized. Both BIA Police and the state patrol are dispatched when a crash is reported in the South Dakota area of SRST. Consistent with the other tribes, when a non-tribal member is involved in a crash, the sheriff's office responds to the crash.

Every BIA Police response to a crash, injury, or PDO has an incident report with a bulletin of occurrence number (BO#) in the BIA Incident Management and Reporting System (IMARS) that is initiated by dispatch regardless of damage level. The incident log is created by the dispatch center when the officers are alerted to a crash. The incident reports are created for every logged activity an officer completes.

The incident report has basic header information, such as the date, time, street address, and nature of the activity. The remainder is narrative description about the crash or other event, such as impaired driving arrest, that occurred. The incident report is a general description of the event, and it will usually indicate severity and lead investigation agency. These reports are completed when the officer is at a BIA agency computer. IMARS reports are required to be submitted within 24 hours. Training on the IMARS reports occurs during the U.S. Indian Police Academy.

SRST receives software, equipment, and training from NDDOT to enable them to participate in the state CRS. Unfortunately, agency rules prohibit BIA Police from having the CRS equipment in their vehicles, loading the software onto their computers, or locating any non-BIA police equipment at an agency office. Therefore, it would require some type of dual, off-site entry to manually transform the written narrative into CRS report field entries.

The BIA crash events were not accessible to SRST until recently. In 2014, a determined traffic safety coordinator devised a protocol to access the files. The manager worked with the BIA Office of Regional Director and local BIA Police to submit a Freedom of Information Act (FOIA) routine use request (Appendix C). The SRST Tribal Council passed a resolution to recognize leadership commitment to traffic safety, specifically assigning the traffic safety coordinator to enter crash data in state CRS reports (Appendix D). Under this agreement, SRST collects paper crash reports from BIA Police for the previous year each January.[1] This lag is obviously not optimal and often means the tribe is unable to complete the electronic entry in time to meet state deadlines for crash data analysis used in federal and state planning. Nonetheless, it established a successful, systematic approach for the first time. Quarterly updates were planned in the future.

Through a process the BIA Police and tribe collaborated in developing, IMARS incident reports were queried by the local agency to extract those indicating vehicular homicide, accident incident investigation, or driving under the influence (DUI) events. Sporadic incident report details were supplemented with the dispatch log records to partially complete CRS reports where information coincides. At maximum, roughly 34 of the 92 fields in the CRS were potentially reported (Table 4.1). Two emphases in this effort was filling the longitude and latitude fields to enable geospatial location of the crash events and correctly indicating the crash severity according to the most serious injury. The nature of all fields is non-personally identifiable information (Non-PII).

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[1] The BIA offices do not have the ability to share these reports in electronic format due to prohibitions related to federal security protocols.

Table 4.1 Common SRST Crash Report Fields

Event		Unit	
	County		Number Of Occupants
	Number Of Vehicles		Unit Sequence Number
	Law Enforcement Agency		Unit Configuration
	Crash Number		Manner of Collision
	Crash Date		1st Harmful Event
	Crash Time		2nd Harmful Event
	Rural/Urban Road		3rd Harmful Event
	Weather		
	Surface Type	Occupant	
	Surface Condition		Occupant Number
	Crash Severity		Injury Class
	Manner of Collision		Driver Indicator
	Alcohol Related		Seat Position
	Latitude		Licensing Agency
	Longitude		Age
	Date Entered		Occupant Safety Eqpt.
	Most Harmful Event		Gender
	Alcohol Drug		Alcohol Test
	Intersection Related		Ejection/Extraction

An issue that exacerbates the inefficiency of this system is crashes that occurred in North Dakota and South Dakota had to be entered into each respective state's crash record system. In addition, South Dakota did not make exceptions to the required MMUCC fields for the tribal crashes, so they could not be accepted into the system as valid records. The CRS records provided to SRST by the states were difficult to use since they were shared multiple files related to the event, unit, operator, occupant, and pedestrian fields in the records. In addition, many CRS field response lists did not match in the two states. During this study, crash data from both states were recoded, combined, and geospatially presented in Google Earth[©]. This was the tribe's first opportunity to see crash locations, injury severity, and selected fields across SRST. A sample map from this exercise is illustrated in Figure 4.2.
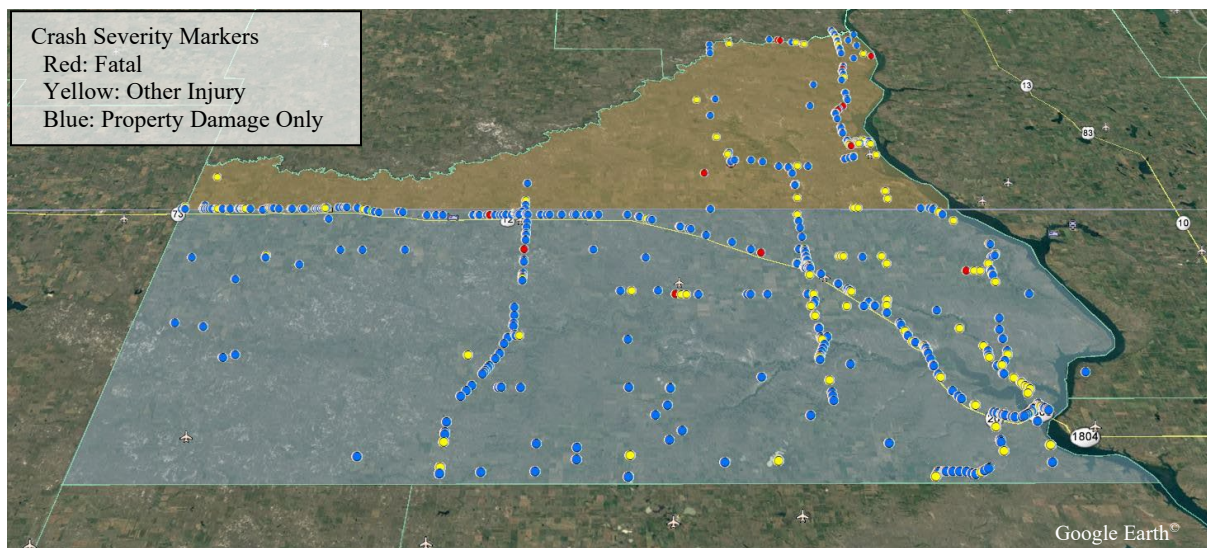
Figure 4.2 SRST Crash Mapping Exercise

Turnover in the traffic safety coordinator position occurred during this study. While the SRST had made impressive progress, lack of a succession protocol impacted CRS reporting. No crash incident reports were entered into the state reporting system after the initial coordinator left. The study team stayed in contact with the tribe, inquiring about the status of the crash reporting. About a year later, the crash reporting was resurrected when another office picked up the duties in a reassignment. That individual departed unexpectedly, but the crash report entry duty had been shared with the university through efforts of the research team to assist in bringing the crash report entry up to date. Crash reports are currently being entered by the university under a plan that was already in place.

4.1.2 Spirit Lake Nation

SL Nation includes 406 square miles with a population of 4,500. It is located in the northcentral region of the state. The geospatial capture of state crash records showed 71 crashed occurred with SL Nation borders.

The BIA is contracted by SL Nation for law enforcement services. When a crash occurs on tribal land, the BIA Police are dispatched to the scene. They use the state crash report, in paper format, to document events on scene. The street address or highway mile marker identifies the location. Crash reports are filed by the BIA Police when an occupant with Indian status is involved in a crash resulting in serious bodily injury or death. When a non-Indian is involved in an injury crash, the state patrol or neighboring sheriff will be dispatched depending on crash severity. Police sporadically enter non-injury or property damage only (PDO) crashes with at least $1,000 in damages into the IMARS.

The BIA Police submit a CRS report as an attachment to the incident report in IMARS. Officers are required to upload reports prior to the end of their shift. Paper copies of the crash reports are expunged. The BIA Police indicated training on completing the crash report is available for officers through the U.S. Indian Policy Training Academy. It was unclear where this instruction was included, in the basic training or only with higher-level crash investigation training that was optional. The supervising officer does review crash reports for accuracy and completeness. The BIA Police identified a lack of connection between the BIA IMARS and state crash data systems as the major barrier to the reporting.

In 2016, SL Nation had worked with a consultant to transition a series of road safety audits that had been conducted in 2012 into a cohesive transportation safety management plan. During this effort, the SL Nation road department and consultant worked with the BIA Police to collect historical crash data. Since the consultant maintains the tribe's road inventory and lends expertise in planning and programming activities, they were able to facilitate geocoding locations for the series of crash events the BIA Police supplied in spreadsheet format. The fields included date, time, location, gender, incident nature, arrest indicator, and drug/alcohol involved. The file included records for 214 crash events that occurred between August 1, 2012, and July 31, 2015.

The consultant also collected the state crash records for the same period. Deficiencies in representing SL Nation's crashes from the state's record system are evident. For the two complete years captured from each record system, only about 12% of the crashes were reported in the state crash system. While the quality of the records in the state crash system were superior with regard to vehicle, occupant, roadway and collision factors, the sheer magnitude of the unrepresented BIA crashes makes it an essential information source in documenting crashes for resource and policy decisions. An illustration of the how the addition of the BIA Police crash reports impacts the geography of crash events in SL Nations is presented in Figure 4.3.
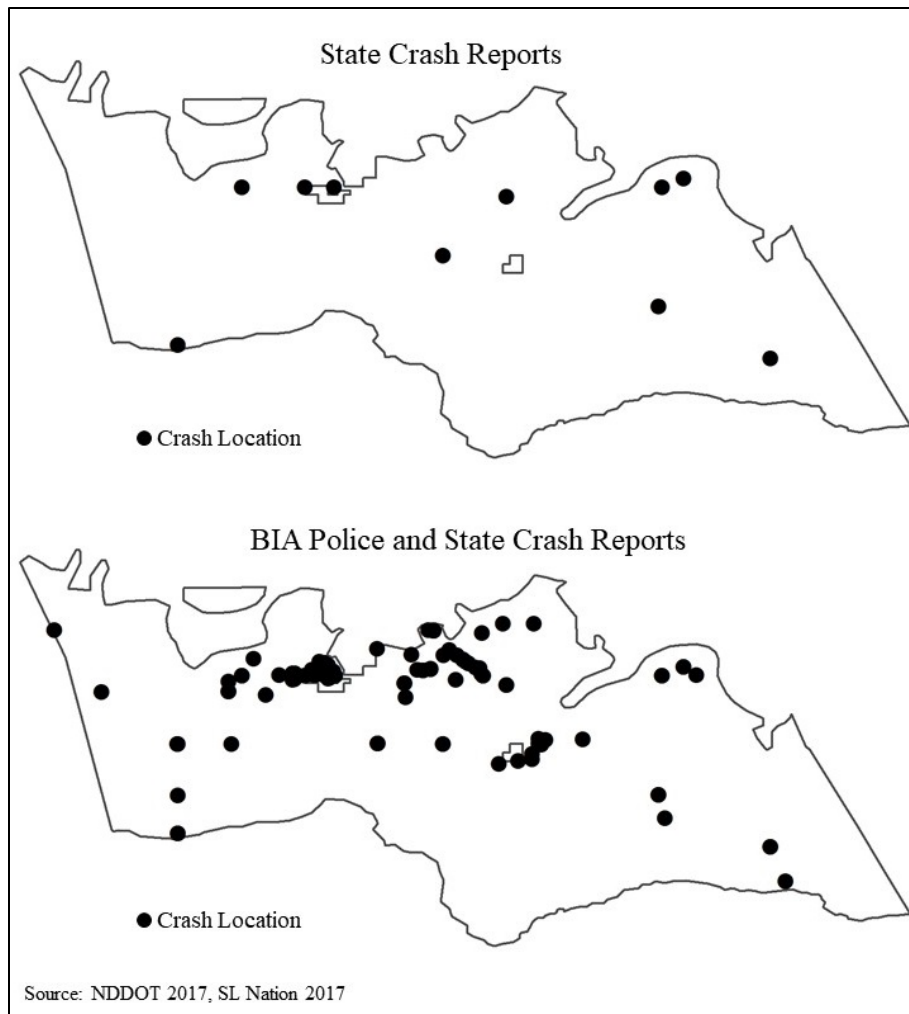
Figure 4.3 SL Nation Crash Location, by Report Source

4.1.3   Mandan, Hidatsa, and Arikara Tribe

The MHA Tribe is located in the northwest area of the state. The energy development over recent years has impacted all tribes, but the MHA Tribe has borne the brunt with its location in the core development area (ND Oil and Gas Division, 2016). It has the largest tribal land area in North Dakota at 10,400 square miles. It has a population of 5,915 residents (ND Indian Affairs Commission, 2018). Geospatial crash analysis of the state CRS reports shows that the MHA Tribe reported 734 crashes between 2012 and 2016, including 31 fatal crash events (NDDOT, 2017).

Tribal law enforcement officers are the primary law enforcement agency for MHA Nation. The force comprises city police and tribal highway patrol (MHA HP) officers. The MHA HP did not have a traffic enforcement function beyond motor carrier at the time of the study. Their duties were solely traffic enforcement when formed about five years ago, but agency relocation from the transportation to the law enforcement department, staff reduction, and heavy criminal caseload have substantially diminished traffic enforcement activities.

MHA Nation received software, equipment, and training from NDDOT to enable them to use the state CRS at the crash scene, per a memorandum of agreement (Appendix B). The system can also be used for citations. The crash reporting requirements for the tribe were modified to minimize required fields the essential facts that omit occupant identifiers. The MHA HP has used the software in a limited capacity. One officer was able to enter and query crash and citation data that was held locally but most records were not being shared with the state. Agency information in the state CRS confirms this, since nearly all reports were from state and county law enforcement officers.

No MHA HP crash reports were used prior to the CRS. The state CRS report complies with the Model Minimum Uniform Crash Criteria (MMUCC), but the incomplete fields in the tribal reports invalidate this compliance (NHTSA, 2017). Use of the web-based state CRS system does, however, ensure compatibility of tribal reports for the subset of fields used by the tribes. The state agency managing the CRS created a special-case process that allows tribal crash reports validation with limited, non-identifiable fields.

The tribe has its own dispatch system that is used with state radio. Several agencies may respond to a crash dispatch. In addition to emergency medical services (EMS), the tribal police may respond to dispatch for crash events. Sheriff's departments from the five neighboring counties may also respond. The first agency on-site determines if the crash involves a tribal member. For tribal member crashes, the tribal police will take the lead in the crash. The sheriff's departments will take the lead in crashes if occupants are non-tribal, with a crash report always created in the state CRS system in these cases for all injury and property damage crashes with over $1,000 in property damage. If the crash involved a serious, disabling injury or a fatal injury, the North Dakota Highway Patrol (NDHP) is called in for the investigation. The tribal agencies have limited capacity in crash reconstruction they so defer to the NDHP in the serious crash events. They also mentioned deferring to the NDHP to avert potential court testimony. A state CRS report is created by the NDHP in these cases. Beyond the fatalities, there was no protocol, such as a minimum property damage value, for when crash reports were needed.

4.1.4 Turtle Mountain Band of Chippewa Indians

The smallest land area among the tribes is attributed to the TMBCI, with 72 square miles. It is located in the north-central area of the state. It is the most densely populated with 135 residents per square mile compared with 4.5 residents per square mile for the other tribal lands in the state. State crash records show 16 crashes occurred on the TMBCI lands between 2012 and 2016.

TMBCI contracts with the BIA for law enforcement. They also have a small tribal police agency. The BIA Police is the agency dispatched when a crash is reported. The BIA dispatch radio channel is encrypted to prohibit unapproved agencies from monitoring it. The BIA Police dispatch office alerts state radio. The local tribal police, which is under the supervision of the BIA Police, may be first responders to a crash if in closest proximity but they do not take the lead. If the crash is on tribal lands and involves tribal members, the BIA Police is the lead in non-fatal crashes. The state patrol and the neighboring county sheriff are called in other crashes. State patrol always has the lead in fatal crash investigations. The BIA does have an agent trained on crash reporting and investigation but the person in that position needs to be recertified. When

the state patrol is asked to assist, BIA law enforcement includes the state CRS report as a supplement to its own incident report in IMARS.

The BIA Police does crash reporting as incidents in IMARS. Any reports given to the BIA Police from other agencies are uploaded as attachments to the incidence report. The crash location may not be documented in the incident report. The BIA Police agent indicated that agents do some geo-reference locations for criminal incidents using phones. Thus, inferring impaired driving arrest sites would indicate the location. These locations are not compiled at the agency level in any prescribed process and are not shared outside the agency.

4.2   Key Crash Reporting Factors

Indian Nations' fatal crash incidence was 4.02 per 10,000 residents compared with 0.90 for other areas in North Dakota. Successfully addressing crash issues in the tribal areas with reliable crash reporting would be influential for statewide road safety improvement. Key factors needed in crash reporting are summarized in Table 4.2. The lead law enforcement agency in crash response was identified as the critical distinguishing factor in understanding the crash reporting systems for the tribes. A common denominator was fatal crash event reporting to the state, but since the state patrol leads these investigations that is not surprising.

Since all tribes have electronic crash reports, it seemed plausible to work on sharing these records or selective fields in these records. Unfortunately, the electronic reports held by the BIA Police are narratives held in image files, so manual record transformation is required to identify and enter MMUCC equivalent crash report fields, as possible. Lack of crash event and occupant detail in the BIA reports severely hinders the tribes' ability to use these reports effectively in decisions intended to improve public safety.

Table 4.2 Tribal Crash Data Reporting, 2012-2016

	Tribal Nation			
	MHA	SLN	SRST (ND Side)	TMBCI
Population	*5,915*	*4,500*	*4,243*	*9,710*
Fatal Crash Incidence, Avg. 2012-2016	8.45	4.00	3.30	1.65
Tribal Resolution to Assign Crash Data Collection Responsibility with the Tribe	No	No	Yes	No
Tribal Resolution to Share Crash Data with the State	No	No	Yes	No
Lead Agency in Crash Response*	MHA HP	BIA Police	BIA Police	BIA Police
Lead Agency in Crash Data Reporting System	MHA HP	None	SRST Transport-ation Dept.	None
Primary Crash Report Format	Electronic/ Paper	Image	Image/Elec-tronic	Image
Software (primary/secondary)	CRS/IMARS	IMARS	IMARS/CRS	IMARS
Fatal Crash Reporting to State*	Yes	Yes	Yes	Yes
Geolocation	Yes	Limited	Post Event	Limited
*State Patrol leads investigations in most serious & fatal injury crashes. The BIA Police remain involved when a tribal member is involved in the event. Source for Population: ND Indian Affairs Commission; South Dakota Tribal Relations.				

4.3 Sample Crash Data and Characteristics

As indicated, a spatial query of state crash data was constructed to parse the population of crashes on tribal lands. Descriptive statistics were developed for cursory insight into tribal crash prevalence and factors. In addition, crash data held by two tribes were explored with regard to representation in the state CRS system. It is hoped these exercises inform constructive discussions about the tribal crash data in North Dakota and strategies to improve it.

Crash incidence rates for state crash data from 2012 to 2016 suggest that traveling on tribal lands is safe relative to a statewide risk for rural road crashes (Figure 4.4). The risk for crash injury events was nearly four times greater on state roads. Given the health risk facts for population groups in the state, this is not reasonable. The cause is gross underreporting for non-fatal injury events. Sample crash report data collected from individual tribes and the fatal crash report data submitted to the state support this premise. This relatively low risk is not evident in the fatal crash incidence.
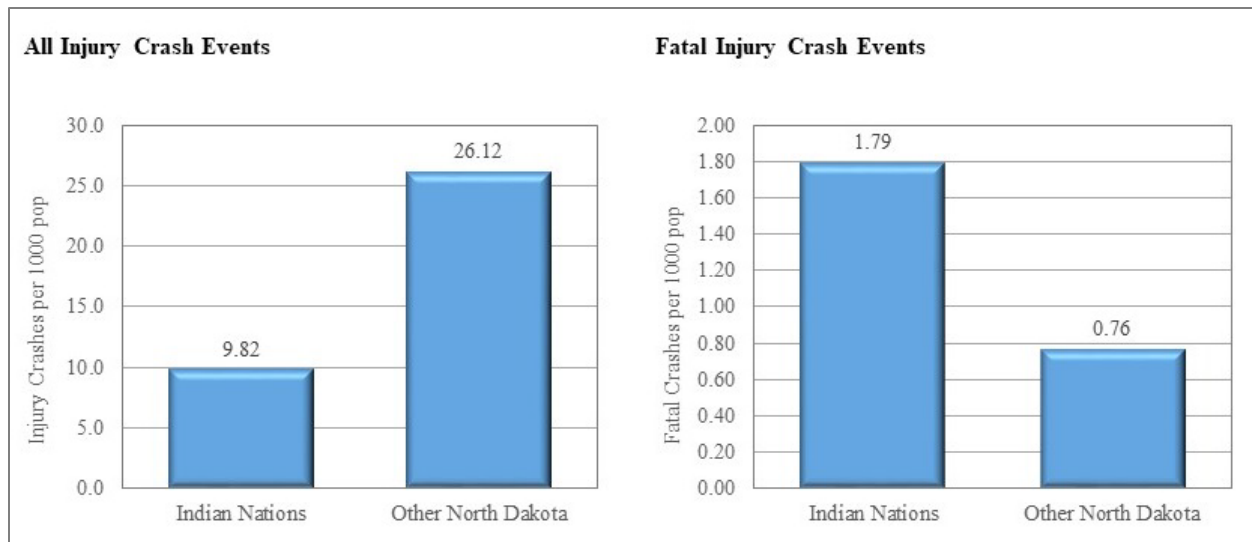
Figure 4.4 Crash Incidence by Location, State CRS Reports 2012-2016

The inadequacies of the state crash data were evident in the crash data samples collected from two tribes. Table 4.3 summarizes sample crash counts collected from the state and the tribe for SL Nation and SRST. As noted, the SRST and SL Nation augmented the state crash data for select time periods related to fulfilling their own planning needs. Both datasets had limited fields and did not contain occupant identifiers. SRST did share these crashes with the state through the crash reporting system. The state, however, locks annual crash data files and the tribe did not have its reports entered into the system to meet that deadline for 2015. Thus, the reports are not represented in the state's annual reports or planning activities. SL Nation holds its supplemental crash data in a spreadsheet incompatible with the state crash reporting system. They did indicate willingness to share the records with the state but not have anyone, such as the SRST traffic safety coordinator, designated to enter crashes into the state system. The SRST effort was established as a systematic process, while SL Nation did it as a special request.

Table 4.3 shows that less than 15% of the crash events reported to law enforcement were included in the state CRS. Based on interviews, these reports would be from the state patrol responding to serious or non-Indian crashes on the reservation. The insufficiencies in the state crash reporting system representative of tribal land crashes are consistent with other states.

Table 4.3 Sample Crash Counts, State and Tribal Sources

		NDDOT CRS (count)	Tribe BIA IMARS	Estimated % of Crashes in CRS
Spirit Lake Nation	2013	10	92	11%
	2014	10	71	14%
Standing Rock Sioux Tribe (Sioux County)	2015	6	53	11%

# 5. WEB-BASED TRIBAL COMMUNITY CRASH RECORD MANAGEMENT

As noted, tribal stakeholders were asked about their use of or interest in a supplemental reporting option. Previous research has shown many Indian Nations are reluctant to share crash information with states. In addition, this investigation showed that BIA crash incident reports are not shared electronically due to the narrative nature of the reports and strict agency regulations. Therefore, the state CRS may not be a pragmatic alternative for many tribes. In fact, it may be prohibitive if it is the only crash reporting option.

A pilot tribal web-based crash reporting system (WTCR) was devised based on the most commonly reported non-PII (Table 4.1). Field definitions were based on the state CRS reports to ensure compatibility for systematic crash data analysis. Figure 5.1 illustrates the log-in portal to the system. When fully functional, individual accounts would be set up based on a primary contact supervisor who would hold system authority within each tribe to approve participant accounts in the system.
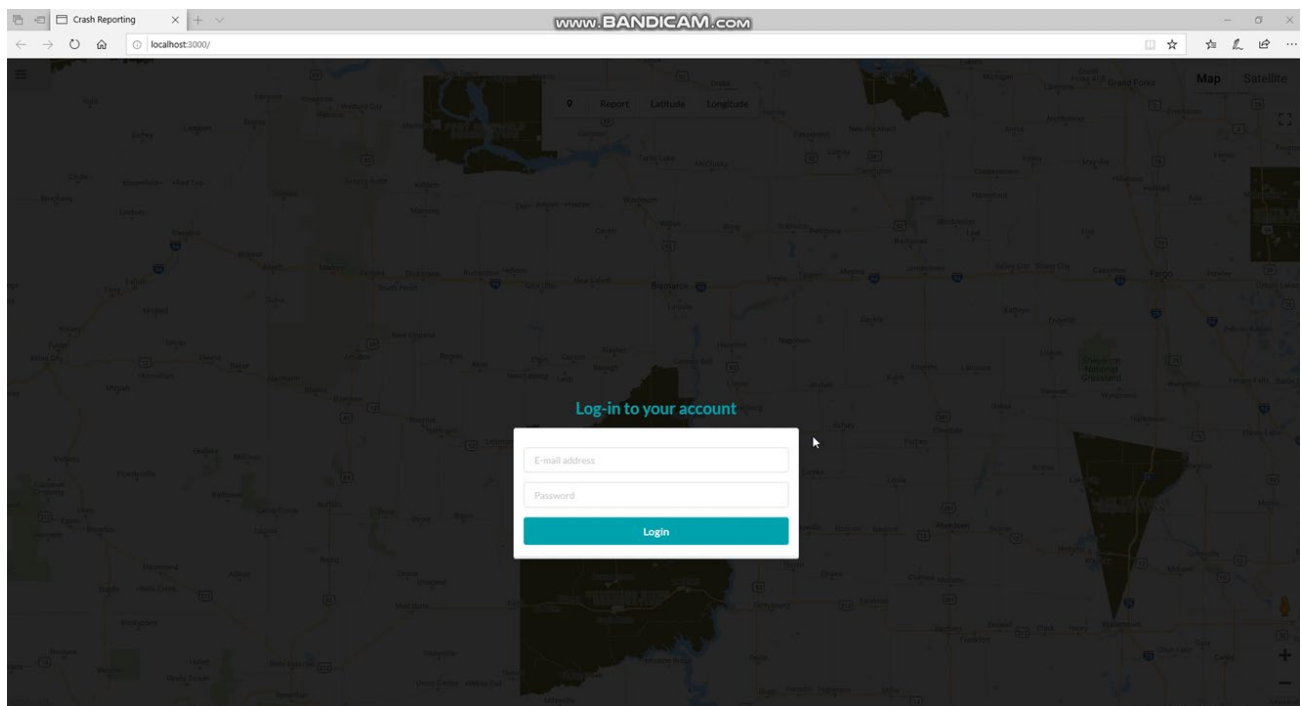
Figure 5.1 Web-Based Tribal Crash Reporting Portal

The beta version of the WTCR was based on a location-driven menu that would allow law enforcement, or other authorized personnel, to enter information about an MV crash. A location marker would be dropped to initiate a new crash report associated with a crash identification number, location, date, and time. The beta version had not fully developed these fields to be partially autogenerated, but it would be possible to do so with additional development.
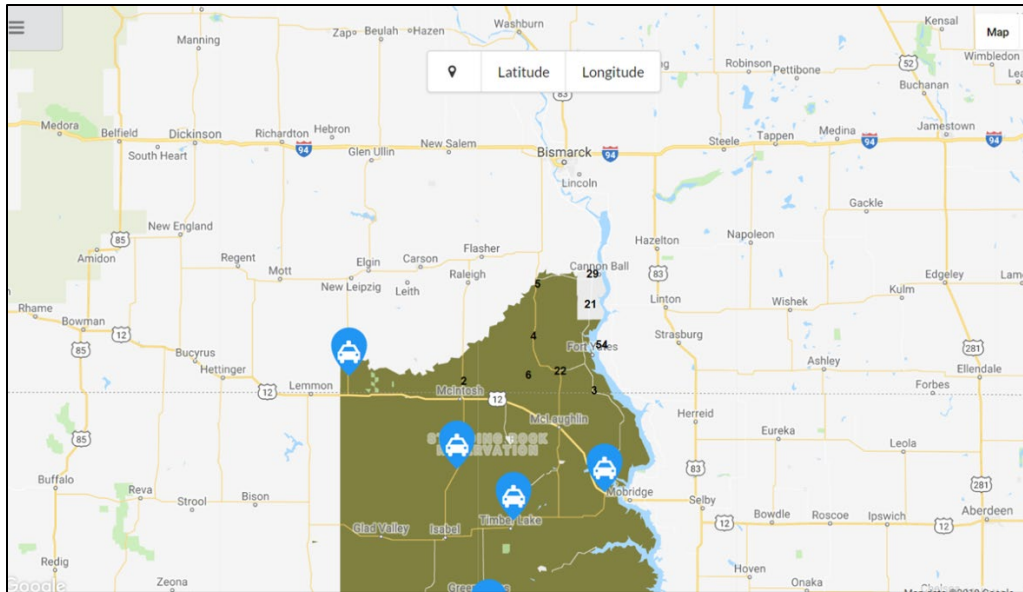
Figure 5.2 WTCR Screenshot for Crash Event Entry Based on Location Marker

The new marker would automatically open a sidebar menu with master event and submenu paths to record driver, vehicle, occupant, and pedestrian information (Figure 5.3 and Figure 5.4). The fields were defined based on field experience in the SRST crash reporting to the state and discussions with other local tribes. The responses were defined to be consistent with the state crash reporting system for fields that tribes most commonly reported. The beta field composition and responses are expected to be refined based on future pilot project implementation.
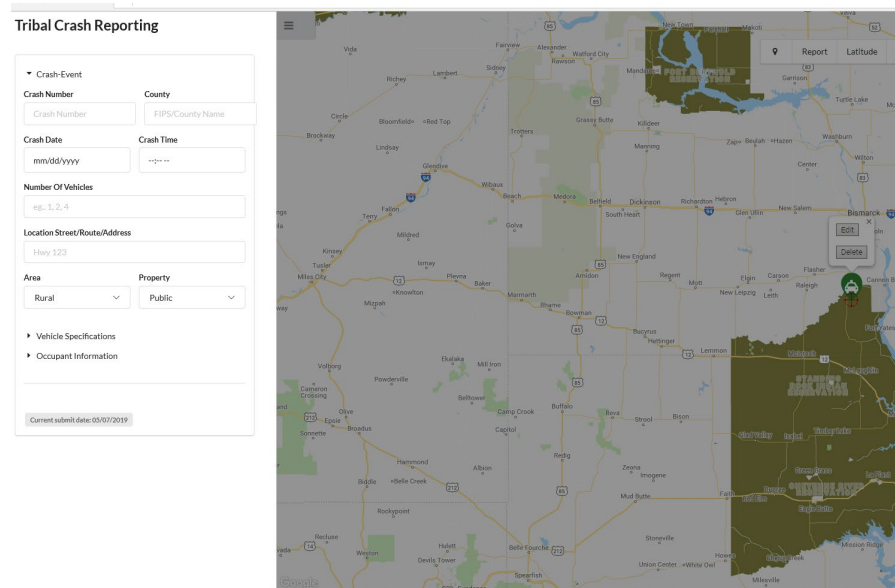
Figure 5.3 Main Menu in WTCR, with Location Marker Creation

Figure 5.4 WTCR Driver, Vehicle and Occupant Beta Submenu View

6. SUMMARY

MV crashes are one of many public health epidemics that distress tribal communities. Therefore, motivating communities and attracting resources to address inadequate crash information is not a simple task. During this investigation into tribal crash reporting, a few themes and several best practice recommendations that emerged may be helpful for stakeholders in moving this effort forward.

One evident theme was that the sovereign nation status of tribes means they tend to operate independently. Therefore, consensus on a single tribal crash reporting system and/or form seems very unlikely. Each tribal community has its own culture and structure that influences crash reporting. Relationship issues between the state and tribes, such as data privacy concerns, intergovernmental communications, and fears crash data could be used against tribal members, are barriers to collaborations on crash reporting. In addition, a lack of tribal leadership support for crash reporting was observed in some cases. Stability in leadership and stakeholder participants could potentially diminish these issues, but a high rate of turnover was observed during this case study investigation.

With regard to stakeholders, an evident theme was that law enforcement agencies are a critical partner in crash reporting as the first responders to these events. These agencies, however, were not found to be users of the data in most cases. Thus, it creates a challenge in how to prioritize high-quality crash data in the larger scope of law enforcement responsibilities. In one case, a concerted effort was used to engage law enforcement in defining the crash reporting process. Training for not only crash reporting, but also querying the crash data, did increase engagement with this agency.

With regard to communication, the basis for this study was misconceived notions and misunderstandings within tribal communities and with the state. Thus, the underlying theme for the study was evident in a need for greater transparency for the crash reporting process. Uncertainty within tribes was evident in key stakeholder interviews. Many participants did not have a good understanding of the crash response and reporting process beyond their own role. Misgivings were evident between the tribes and the state regarding organizational capacities and crash reporting processes. The state granted tribes equipment and training for crash reporting with neither party seeming to understand that federal rules prohibit BIA Police participation.

The tribes' BIA Police departments provided valuable contributions in interviews. Cooperation from the regional BIA office with regard to tribal MV crash incident reports was not as forthcoming. Initially, contacts shared information about collecting crash incident reports but were slow to respond or nonresponsive to later inquiries. Several discussions were also held with individuals among federal BIA stakeholders to follow up on an IMARS crash report that was reportedly available to tribes. Budget limitations, legacy software, and administrative delays were all mentioned as contributors in the agency's continued failure to offer the crash report form in IMARS. Improved communication for tribes with the regional and federal BIA offices regarding crash reporting is needed. Greater transparency would ensure a shared understanding and expectations with regard to crash reports completed by BIA officers on behalf of the tribal communities they serve.

With regard to the crash reporting protocol, a couple of themes emerged. First, tribal capacity is limited and challenged due to staff shortages and turnovers. Closely related to this issue is a lack of succession planning in traffic safety programs and MV crash reporting. External support for a crash reporting system should be considered to ensure continuity for tribal communities willing to commit to improving their crash data. A memorandum of agreement to resolve crash data concerns can be used to establish each party's responsibility in the relationship for crash reporting.

Native American populations are at relatively high risk for MV crash injury. High-quality crash data are used to prioritize traffic safety issues and select effective engineering, enforcement, and education strategies to prevent future injuries. The crash reporting practices of four tribes were documented to better understand these data as essential decision resources. All four tribes reported that the state patrol investigates fatal crashes so those events are reported in the state CRS. All four tribes had been granted software and equipment to access the state CRS for crash reporting. Only one of the tribes reported using the state CRS report as its standard crash report form. Those CRS reports, however, are not shared with the state but held as an image file by the BIA law enforcement agency. In another case, the agency made limited use of the CRS report locally but did not upload to the state.

In all cases, law enforcement has the primary responsibility for collecting information in crash events. In the three cases where law enforcement services were provided by the BIA, the police were not permitted to access the state CRS due to agency restrictions that prohibit software and/or equipment from outside the agency. The lack of connection between the BIA IMARS and state crash systems was identified as a major barrier to crash reporting. It appeared unlikely that this policy would change. The BIA crash reports were timely with a 24-hour agency submission requirement. Those reports, however, are in image format so not conducive to a format that captures data fields for a crash reporting system.

One tribe successfully established a protocol to collect and enter its crash data. Weaknesses in that system became evident with department turnover. Tribes reported little with regard to a training or succession planning for crash reporting. The state did offer training for the CRS but the agencies were largely unable to use that system. BIA officers noted training included in their education program, but it was unclear if it was for all officers or only those who completed the crash investigation training.

It was evident that tribes are interested in crash data. The experiences of four tribes in crash reporting provided several insights for establishing or improving crash reporting by Indian Nations. For example, in cases where the BIA provides law enforcement service, an FOIA request can be created to collect image files for crash reports. In addition, permitting tribes to enter reports that are not MMUCC compliant clears a major barrier to sharing information with the state CRS. A simplified, minimum core standard set for data fields, with no personally identifiable information, was successfully defined and used to engage tribes in crash data improvement. This minimum standard was used to initiate a tribal, web-based crash reporting system. The institutional capital and community willingness to invest time in high-quality crash data will require ongoing commitment from traffic safety partners in working with Indian Nations.

7. LIMITATIONS

The study is limited to the crash reporting processes for four tribes in North Dakota. The approach did allow for detailed investigation with a larger number of stakeholders. Others may use findings as they strive to establish or improve processes for systematic reporting for high-quality crash data by Indian Nations.

8. FUNDING

REFERENCES

ATR Institute, Migliaccio, G. C., Knoebel, G., Martinez, R., Albert, D., and J. Hurd. 2011. *NCHRP Report 690: A Guidebook for Successful Communication, Cooperation, and Coordination Strategies Between Transportation Agencies and Tribal Communities.* Transportation Research Board of the National Academies, Washington. DC.

Bailey, L., and Huft, D. (2008). "Improving Crash Reporting: A Study of Reporting Practices on Nine South Dakota Indian Reservations." *Transportation Research Record*, 2078, 72-79.

Bureau of Indian Affairs, U.S. Department of Interior. (2015). *2016 Indian Nations Highway Safety Plan*. Washington, D.C:

Centers for Disease Control and Prevention. (2016, May 4). *Tribal Road Safety: Get the Facts*. http://www.cdc.gov/motorvehiclesafety/native/factsheet.html.

Cambridge Systematics, Inc. (2013). *2013 Montana Tribal Transportation Safety Summit, Summit Report*. Retrieved from: https://www.mdt.mt.gov/visionzero/docs/2013_TRIBAL_SUMMIT_REPORT.PDF.

Herbel, S., and Kleiner, B. (2010). *National Tribal Transportation Safety Summit Report* (FHWA-FLH-10-007). Cambridge, MA: Cambridge Systematics.

Federal Highway Administration, U.S. Department of Transportation. (2017a). *Tribal Governments and Safety Data*. Washington, DC.

Federal Highway Administration, U.S. Department of Transportation. (2017b). *Proven Safety Countermeasures*. https://safety.fhwa.dot.gov/provencountermeasures/.

Federal Highway Administration, U.S. Department of Transportation. (2015). *Tribal SHSP Involvement in North Dakota Leads to Continuous Efforts to Improve Tribal Road Safety*. rspcb.safety.fhwa.dot.gov/noteworthy/Default.aspx.

Goodwin, A., Thomas, L., Kirley, B., Hall, W., O'Brien, N., and Hill, K. (2015). *Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices, Eighth edition.* (Report No. DOT HS 812 202). Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration.

ICF International, Inc. (2007). *Improving Motor Vehicle Crash Reporting on Nine South Dakota Indian Reservations* (Report No. 2005-14). Pierre, SD: South Dakota Department of Transportation, Office of Research.

Iragavarapu, V., Carlson P., and Schertz, G. (2015). *Review of Tribal Transportation Safety*, 94th Annual Meeting Proceedings, Washington, DC: Transportation Research Board,

National Highway Traffic Safety Administration, U.S. Department of Transportation. (2016). *Fatality Analysis Reporting System*. Washington, DC: U.S. Department of Transportation. Retrieved from http://www.nhtsa.gov/FARS.

National Highway Traffic Safety Administration, U.S. Department of Transportation. (2017). *Model Minimum Uniform Crash Criteria*. Retrieved from: https://www.nhtsa.gov/mmucc.

ND Indian Affairs Commission. (http://indianaffairs.nd.gov/tribal-nations/).

ND Department of Transportation. (2015). *Local Road Safety Program, Tribal Plans.* Retrieved from https://www.dot.nd.gov/divisions/safety/trafficsafety.htm#safetyprogram.

ND Department of Transportation. (2017). North Dakota State Crash Reports, Unpublished raw data, Bismarck, ND.

ND Pipeline Authority. (2016). Industrial Commission of North Dakota, *Oil and Gas: ArcIMS Viewer*. Retrieved from www.dmr.nd.gov/OaGIMS/viewer.htm.

Noyce, D., Li, Z., Chesnik, K., Macy, A. and Qin, X. (2014). *Guide for Effective Tribal Crash Reporting* (Report No. NCHRP Report 788). Washington, DC: Transportation Research Board.

North Dakota State University. (2016). *County, Township, and Tribal Road and Bridge Study*, Retrieved from https://www.ugpti.org/downloads/road_needs/.

Poindexter, K. (2004). *Fatal Motor Vehicle Crashes on Indian Reservations 1975-2002* (Report No. DOT HS 809 727). Washington DC: US Department of Transportation, National Highway Traffic Safety Administration.

Quick, P., and Bailey, L. (2007). *Improving Motor Vehicle Crash Reporting on Nine South Dakota Indian Reservations* (Report No. SD2005-14-F). Pierre, SD: South Dakota Department of Transportation.

Redinger, C., Woods, M., Bagdade, J. S., and Bowman, N. (2012). *Improving Crash Reporting on Wisconsin Indian Reservations, Phase I: Review of Crash Reporting Procedures* Madison, WI: Wisconsin Department of Transportation.

Spirit Lake Nation. (2016). Transportation Safety Management Plan. Unpublished raw data.

U.S. Census. (2016) *American FactFinder*. Retrieved from: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml.

West, B. A., and Naumann, R. B. (2014). *Tribal Motor Vehicle Injury Prevention Programs for Reducing Disparities in Motor Vehicle-Related Injuries*. Morbidity and Mortality Weekly Report. Centers for Disease Control and Prevention, US Department of Health and Human Services, 63(1), 28-33.

Wong, T., and Trost, C. (2012). *Deadly Roads: An Analysis of Traffic Safety in or Near Indian Country in Homboldt County*. Berkeley, CA: University of California at Berkeley,

APPENDIX A. SAMPLE MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT
BETWEEN

THE NORTH DAKOTA DEPARTMENT OF TRANSPORTATION,
FEDERAL HIGHWAY ADMINISTRATION
AND
THE TRIBE

This memorandum of agreement (MOA) by and between the Department of Transportation (DOT), the Federal Highway Administration Office of Federal Lands (FHWA) and The Tribe, sets forth the roles and responsibilities of each agency to complete the deployment of an electronic crash records system (software) at the Tribe.

To facilitate the completion of this safety project in the shortest time, the parties agree to the following:

The DOT agrees to:
1. Payment of the statewide annual fee for use of the CRS system.
2. Provide the CRS software package to the Tribe, which includes crash reporting, citations and warning tickets.
3. Complete the initial installation of the CRS software program on the computers to be used by the Tribal Law Enforcement.
4. Provide initial and ongoing training for officers, tribal transportation staff and other users of the program.
5. Provide CRS training manual.

The Federal Highway Administration, Office of Federal Lands agrees to:
1. Provide technical assistance and support to the tribe in initiating and expanding the use of the CRS program.
2. Help coordinate with Bureau of Indian Affairs (BIA POLICE), DOT and any other outside agencies to ensure a successful implementation.

The Tribes agrees to:
1. Purchase the agreed computers and other hardware outlined in attachment A.
2. Have the equipment installed in the Tribal Law Enforcement vehicles.
3. Use the software package and have data entered for each crash that occurs and they investigate or are called out too. It is further agreed that the computers will only be used for official business and will remain in use and in the possession of the Tribal Police for the duration of the agreement period.

4. Share pertinent data to the DOT and other agencies that may request crash data, such as, but not limited to National Highway Traffic Safety Administration (NHTSA), BIA POLICE or Indian Health Service (IHS).

Supplements or Amendments
1. This agreement may be amended in writing with the approval of all parties.
2. This MOA shall remain in effect for (5) years from the date of final execution or until terminated in writing by any party.
3. At the completion of the MOA, the parties will jointly decide how to dispense of the remaining equipment.

APPROVED:

By:_____   Date:_____
    Office of Federal Lands Highway

APPROVED:

By:_____   Date:_____
    Director, Department of Transportation

APPROVED:

By:_____   Date:_____
    Chairman, Tribe

APPENDIX B. SAMPLE FREEDOM OF INFORMATION ACT REQUEST FOR BIA POLICE REPORTS

Dave Archambault II
Chairman

TRIBAL COUNCIL (AT LARGE)

Paul Archambault

Mike Faith

Chad Harrison

Kory McLaughlin

Charles Walker

Dana Yellow Fat

Jesse McLaughlin
Vice Chairman

Adele M. White
Secretary

Cody TwoBears
Cannonball District

Joe Dunn
Long Soldier District

Duane Claymore
Wakpala District

Frank A. White Bull
Kenel District

Joe White Mountain Jr.
Bear Soldier District

Caroline Thompson
Rock Creek District

Robert Taken Alive
Running Antelope District

Samuel B. Harrison
Porcupine District

February 8, 2016

☐ Chief of Police
BIA Law Enforcement - Standing Rock Agency
PO Box E, Fort Yates, ND 58538

Dear Chief ☐:

The Standing Rock Sioux Tribe Transportation Planning & Development Department (hereinafter SRST-TPDD) is requesting to access police reports to Traffic Citations and Crash Data reports for the Standing Rock Sioux Reservation for reporting and grant writing purposes. The SRST will ensure the following:

- That any documents received pursuant to this request and any documents pursuant to any future request shall be used solely and exclusively for the purpose of traffic citation and crash data reporting.

- That all records received will be recorded the same day and will be returned before the close of business on the day received and will be accessible to ☐, Traffic Safety Coordinator, and ☐ NEPA Coordinator, who have the primary responsibility for reporting this data.

- That the individuals requesting reports in the future are SRST-TPDD employees, and are authorized to request such reports. At this time, until amended or modified by a subsequent notification to you by the Transportation Director of the SRST-TPDD, the two individuals authorized to request reports from the BIA-OJS are to be ☐ Traffic Safety Coordinator and ☐, NEPA Coordinator.

- ☐ Traffic Safety Coordinator and ☐ NEPA Coordinator, will appear in person to receive the requested reports and to sign a release as required by BIA-OJS, certifying that the records are being received in the performance of official duties and responsibilities and that the SRST-TPDD will protect the integrity of the records.

If you have any questions about this request, please do not hesitate to contact me at ☐.

Sincerely,

Transportation Director

BLDG. 1 NORTH STANDING ROCK AVE. P.O.BOX D • FORT YATES, NORTH DAKOTA 58538

APPENDIX C. SAMPLE TRIBAL RESOLUTION

RESOLUTION

AMENDED No. xxx
NO. xxx

[Approving the Tribe's Execution of a Memorandum of Agreement between the
Tribe, the State] [the State Department of Transportation for the deployment of an
electronic crash records system [software]] [to be used on the Reservation to collect
data pertinent to public safety.]

WHEREAS, the Tribe is an unincorporated Tribe of Indians, having accepted the Indian
Reorganization Act of June 18, 1934 [48 Stat. 984], with the exception of Section 16; and the
recognized governing body of the Tribe is known as the Tribal Council; and

WHEREAS, the Tribal Council is empowered by appropriate motion, resolution or ordinance,
under Article IV, Section 1[a] and 1[b], to negotiate with Federal, State and local governments
and others on behalf of the Tribe, to advise and consult with the representatives of the
Department of interior on all activities of the Department which may affect the Tribe; and

WHEREAS, the Tribal Council finds that transportation infrastructure and transportation safety
is vital to the future economic prosperity and safety of Tribal members living on and near the
Reservation; and

WHEREAS, the Tribe has also been a strong advocate for highway motor vehicle and pedestrian
safety programs for Indian Tribes and urges the Administration and the Congress to increase
highway safety funds for Indian Tribes which have some of the most dangerous road systems in
the Nation; and

WHEREAS, effective April 2012, the Tribe employs a Traffic Safety Coordinator to carry out
highway safety initiatives on the Reservation, including providing data collection and analysis
for traffic safety related information, to improve safety among the Tribe's members and all
motorists and pedestrians who share our transportation systems and to coordinate highway safety
Initiatives with local, state and Federal agencies; and

WHEREAS, law enforcement for the Bureau of Indian Affairs currently enters data from crashes
on BIA and local roads into an IMARS database while the state of North Dakota enter data from
crashes on state roads into a software database, each incompatible with the other; and

WHEREAS, there exists no process in place for combining the two datasets in order in order to
get a complete picture of crash data on Tribal Lands; and

WHEREAS, the benefits to the Tribe such as a process would include better data for use in grant
writing, planning, and collaborations with State Agencies and better working relationships
between the Tribe, BIA, and State Transportation Safety Departments at no additional financial
expense to the Tribe; and

WHEREAS, the Transportation Planning and Development Department has a current Freedom of Information Act Agreement with BIA to receive access to crash records on Tribal Lands and is allowed to use crash data in the interest of public safety as long as no names or other personal identifiers are entered;

NOW THEREFORE BE IT RESOLVED, that the Tribal Council does hereby approve entering into a Memorandum of Agreement by and between the Department of Transportation [DOT] and the Tribe that sets forth the roles and responsibilities of each party to complete the deployment of an electronic crash records system [software] for use on the Reservation; and

BE IT FURTHER RESOLVED, that the Tribe's roles and responsibilities in the Memorandum of Agreement will be limited to 1] having the required software installed on appropriate computers in accordance with the Tribe's procurement policy; 2] direct the Tribal Transportation & Development Department, specifically the Tribal Transportation Safety Coordinator, and other Tribal personnel who receive the software name software to use the software name system of software package in enter data for crashes that occur on the Reservation when received from the BIA or which such personnel are called to investigate a crash; 3] direct all Tribal personnel who receives the software name software to use the software only for official business; 4] direct the Tribal Transportation & Development Department, specifically the Tribal Transportation Safety Coordinator, to share pertinent crash data [without including any personal identifiers] with the NDDOT, the Tribe, and any other agencies that may request crash data, such as, but not limited to the National Highway Traffic Safety Administration [NHTSA] and the Indian Health Service [IHS]; and 5] convene, at the Tribe's discretion, a meeting of highway safety stakeholders to assess the success of the software program, identify best practices and areas for improvement; and

BE IT FURTHER RESOLVED, that the Chairman and Secretary of the Tribal Council are hereby authorized and instructed to sign this resolution for and on behalf of the Tribe.

CERTIFICATION

We, the undersigned, Chairman and Secretary of the Tribe, hereby certify that the Tribal Council is composed of 17 members, of whom 14 constituting a quorum, were present at a meeting duly and regularly called, noticed, convened and held on the date, and that the foregoing resolution was duly adopted by the affirmative vote of 12 members, with 0 opposing, and with 2 not voting. THE CHAIRMAN'S VOTE IS NOT REQUIRED EXCEPT IN CASE OF A TIE.

DATED THIS DAY_____.

[Signatures and Official Tribe Seal]