# REACHING OUT TO TRIBAL COMMUNITIES: LESSONS LEARNED AND APPROACHES TO CONSIDER

**FINAL PROJECT REPORT**

**by**

**Rula Awwad-Rafferty**
**Interior Architecture and Design Program; University of Idaho (UI)**


**Kevin Chang**
**Department of Civil and Environmental Engineering; UI**


**Helen Brown**
**Movement Sciences, Exercise, Sport, and Health Sciences; UI**

**for**

**Center for Safety Equity in Transportation (CSET)**
**USDOT Tier 1 University Transportation Center**
**University of Alaska Fairbanks**
**ELIF Suite 240, 1764 Tanana Drive**
**Fairbanks, AK 99775-5910**


**In cooperation with U.S. Department of Transportation,**
**Research and Innovative Technology Administration (RITA)**

rural · isolated · tribal · indigenous

**DISCLAIMER**

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein. This document is disseminated under the sponsorship of the U.S. Department of Transportation's University Transportation Centers Program, in the interest of information exchange. The Center for Safety Equity in Transportation, the U.S. Government and matching sponsor assume no liability for the contents or use thereof.

# TECHNICAL REPORT DOCUMENTATION PAGE

| 1. Report No. | 2. Government Accession No. | 3. Recipient's Catalog No. |
|---|---|---|
| | | |

| 4. Title and Subtitle | 5. Report Date |
|---|---|
| Reaching Out to Tribal Communities: Lessons Learned and Approaches to Consider | December 2019 |
| | **6. Performing Organization Code** |

| 7. Author(s) and Affiliations | 8. Performing Organization Report No. |
|---|---|
| Rula Awwad-Rafferty, Kevin Chang, and Helen Brown; University of Idaho | INE/CSET 20.02 |

| 9. Performing Organization Name and Address | 10. Work Unit No. (TRAIS) |
|---|---|
| Center for Safety Equity in Transportation<br>ELIF Building Room 240, 1760 Tanana Drive<br>Fairbanks, AK 99775-5910 | |
| | **11. Contract or Grant No.** |

| 12. Sponsoring Organization Name and Address | 13. Type of Report and Period Covered |
|---|---|
| United States Department of Transportation<br>Research and Innovative Technology Administration<br>1200 New Jersey Avenue, SE<br>Washington, DC 20590 | |
| | **14. Sponsoring Agency Code** |

**15. Supplementary Notes**

Report uploaded to:

**16. Abstract**

When transportation safety decision-making is desired, the involvement and engagement with a community is essential. A streamlined delivery of a project or program is more likely to occur when active dialogue and an exchange of ideas occurs in advance and occurs frequently. This is particularly important in tribal communities, who value sustained relationships and represent the focus population of this study. The research team, on six separate occasions, met with local and regional tribal leaders to explore and discuss transportation safety needs within and outside tribal communities, as well as discern the recommended approaches to foster ongoing dialogue about these needs. In all cases these discussions closely correlated with existing research studies or activities; transportation safety and equity is not seen as separate from other tribal foci and community needs. Specific recommendations to consider, in no particular order, included the following: invest respectfully enough time for people to talk; tribes think long-term and consider the impact of any decision from a long-term viewpoint so an iterative process and re-sharing of ideas is critical; the power of decision is in the hands of the tribe and its members; do not lump tribes together as each tribe is sovereign and unique and every community should be expected to think differently; all tribes are unique as is the environmental and social context; to disseminate information widely and iteratively, do so when there is a large group or event; be sure to understand the Tribal governance, decision making, and organizational structure; know who is the tribal Chairman or Chairwoman; and develop an emic and etic understanding of the community.

| 17. Key Words | | 18. Distribution Statement | |
|---|---|---|---|
| Outreach, tribal, transportation safety | | | |
| **19. Security Classification (of this report)** | **20. Security Classification (of this page)** | **21. No. of Pages** | **22. Price** |
| Unclassified. | Unclassified. | 21 | N/A |

**Form DOT F 1700.7 (8-72)**      **Reproduction of completed page authorized.**

# SI* (MODERN METRIC) CONVERSION FACTORS

## APPROXIMATE CONVERSIONS TO SI UNITS

| Symbol | When You Know | Multiply By | To Find | Symbol |
|---|---|---|---|---|
| **LENGTH** | | | | |
| in | inches | 25.4 | millimeters | mm |
| ft | feet | 0.305 | meters | m |
| yd | yards | 0.914 | meters | m |
| mi | miles | 1.61 | kilometers | km |
| **AREA** | | | | |
| $in^2$ | square inches | 645.2 | square millimeters | $mm^2$ |
| $ft^2$ | square feet | 0.093 | square meters | $m^2$ |
| $yd^2$ | square yard | 0.836 | square meters | $m^2$ |
| ac | acres | 0.405 | hectares | ha |
| $mi^2$ | square miles | 2.59 | square kilometers | $km^2$ |
| **VOLUME** | | | | |
| fl oz | fluid ounces | 29.57 | milliliters | mL |
| gal | gallons | 3.785 | liters | L |
| $ft^3$ | cubic feet | 0.028 | cubic meters | $m^3$ |
| $yd^3$ | cubic yards | 0.765 | cubic meters | $m^3$ |
| NOTE: volumes greater than 1000 L shall be shown in $m^3$ | | | | |
| **MASS** | | | | |
| oz | ounces | 28.35 | grams | g |
| lb | pounds | 0.454 | kilograms | kg |
| T | short tons (2000 lb) | 0.907 | megagrams (or "metric ton") | Mg (or "t") |
| **TEMPERATURE (exact degrees)** | | | | |
| °F | Fahrenheit | 5 (F-32)/9 or (F-32)/1.8 | Celsius | °C |
| **ILLUMINATION** | | | | |
| fc | foot-candles | 10.76 | lux | lx |
| fl | foot-Lamberts | 3.426 | candela/$m^2$ | cd/$m^2$ |
| **FORCE and PRESSURE or STRESS** | | | | |
| lbf | poundforce | 4.45 | newtons | N |
| lbf/$in^2$ | poundforce per square inch | 6.89 | kilopascals | kPa |

## APPROXIMATE CONVERSIONS FROM SI UNITS

| Symbol | When You Know | Multiply By | To Find | Symbol |
|---|---|---|---|---|
| **LENGTH** | | | | |
| mm | millimeters | 0.039 | inches | in |
| m | meters | 3.28 | feet | ft |
| m | meters | 1.09 | yards | yd |
| km | kilometers | 0.621 | miles | mi |
| **AREA** | | | | |
| $mm^2$ | square millimeters | 0.0016 | square inches | $in^2$ |
| $m^2$ | square meters | 10.764 | square feet | $ft^2$ |
| $m^2$ | square meters | 1.195 | square yards | $yd^2$ |
| ha | hectares | 2.47 | acres | ac |
| $km^2$ | square kilometers | 0.386 | square miles | $mi^2$ |
| **VOLUME** | | | | |
| mL | milliliters | 0.034 | fluid ounces | fl oz |
| L | liters | 0.264 | gallons | gal |
| $m^3$ | cubic meters | 35.314 | cubic feet | $ft^3$ |
| $m^3$ | cubic meters | 1.307 | cubic yards | $yd^3$ |
| **MASS** | | | | |
| g | grams | 0.035 | ounces | oz |
| kg | kilograms | 2.202 | pounds | lb |
| Mg (or "t") | megagrams (or "metric ton") | 1.103 | short tons (2000 lb) | T |
| **TEMPERATURE (exact degrees)** | | | | |
| °C | Celsius | 1.8C+32 | Fahrenheit | °F |
| **ILLUMINATION** | | | | |
| lx | lux | 0.0929 | foot-candles | fc |
| cd/$m^2$ | candela/$m^2$ | 0.2919 | foot-Lamberts | fl |
| **FORCE and PRESSURE or STRESS** | | | | |
| N | newtons | 0.225 | poundforce | lbf |
| kPa | kilopascals | 0.145 | poundforce per square inch | lbf/$in^2$ |

*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.
(Revised March 2003)

# TABLE OF CONTENTS

# LIST OF FIGURES

# LIST OF TABLES

# EXECUTIVE SUMMARY

When transportation safety decision-making is desired, the involvement and engagement with a community is essential. A streamlined delivery of a project or program is more likely to occur when active dialogue and an exchange of ideas occurs in advance and occurs frequently. This is particularly important in tribal communities, who value sustained relationships and represent the focus population of this study.

The research team, on six separate occasions, met with local and regional tribal leaders to discuss transportation safety needs and identify the recommended approaches to fostering ongoing dialogue about these issues and partnerships for safety and equity. In all cases these discussions closely correlated with existing research studies or activities, and built on existing relationships. Specific recommendations to consider, in no particular order, include the following:

- Transportation safety and equity is not seen as separate from other tribal foci and community needs. Take the time to identify active efforts that address transportation issues and seek out tribal personnel involved to learn what is desired. Many tribes are working on these issues as a part of planning and community health-related projects.
- Acknowledge and recognize tribal sovereignty.
- Develop greater and humbled familiarity of the tribe and locations of any project needs. Be sure to understand the Tribal governance, decision making, and organizational structure, know who the tribal Chairman or Chairwoman is, and develop an emic and etic understanding of the community. For these reasons, onsite visits with tribal members are essential.
- Invest the necessary respectful time for people to talk; tribes think long-term and consider the impact of any decision from a long-term viewpoint, so an iterative process and re-sharing of ideas is critical.
- The power of decision-making is in the hands of the tribe and its members. Having a preconceived solution is not a solution, so work with the tribe to arrive at the solution/s.
- Do not lump tribes together as each tribe is sovereign and unique and every RITI community should be expected to think differently.
- All tribes are unique as is the environmental and social context. For example, larger tribes may have multiple resources (e.g., engineering and planning departments, more income generating enterprises) while smaller tribes may not.
- Each tribe has different geographical issues and challenges as they may be more or less remote and geographically isolated, or within close adjacency of urban centers that may present other challenges.
- Even if a tribe may not have many physical or economic resources, they possess important insight and understanding of the issues important to them.
- Disseminate information widely and frequently, and do so when there is a large group or event; similarly, modify the information with an understanding of ongoing issues at the tribal location.

This study also provides an overview of a framework to build these important relationships and partnerships. It is important to note that this discussion is not intended to be prescriptive; rather, it

should be viewed as guidance that is supported with documented experiences. A core team of tribal members/responsible parties and faculty/collaborators and interested parties is assembled after a project or need is identified. In any project tribal leadership is critical. Tribal approval or agreement to engage in a project is developed/signed/agreed upon, which initiates the process for engagement. Initial planning and brainstorming then takes place in preparation for outreach to the tribal community. After this outreach occurs, the results are analyzed by the collaborative team which includes community members to understand and refine a project plan or need prior to implementation. Throughout this process, conversations with the leadership team are frequently held and open lines of communication are maintained with the tribal community.

# CHAPTER 1.  INTRODUCTION

When transportation safety decision-making is desired, the involvement and engagement with a community is essential. A streamlined delivery of a project or program is more likely to occur when active dialogue and an exchange of ideas occurs and occurs frequently. This is particularly important in tribal communities, who value relationships and represent the focus population of this study.

To build meaningful relationships, many important factors exist.  As part of a community health study, Wood (2003) suggested developing a "mental image or picture of the community" and making regular visits to the land. He also suggested collecting appropriate demographic, topical, and infrastructure data. This approach can be extended to any community; understanding the structure and history of how each community runs and values its priorities is essential. As an example, during one collaboration meeting, the meeting leader initiated the conversation by openly stating that no "pretend" collaboration would take place. Being completely open-minded with no "hard" ideas was essential to allow participants the freedom of knowing that all ideas would be considered, and by slowing down, paying attention, and listening to others, mutual respect would ideally be established from the outset.

From an implementation standpoint, building strong relationships will make any plan more productive. For example, from the Forest Service's point of view, initial collaboration can prevent legal action and potential work delays from occurring in the future. The Federal Highway Administration (FHWA) acknowledges that other benefits, such as considering a wide range of perspectives, can minimize environmental and sensitive impacts, protect important properties, increase understanding of cultural values, and build positive long-term partnerships with agencies (Dunn, 2004). From a Native American perspective, it is important to remember that each tribe has its own history, values, government, and rights (Bradbury, 2018). For this reason, project efforts involving multiple tribes should consider and fully integrate the efforts of each tribe.

## CHAPTER 2. BACKGROUND

Every rural, isolated, tribal, and indigenous community should be expected to think and act in unique ways relative to their context. Pierotti and Wildcat (2000) examined what they called Traditional Ecological Knowledge (TEK). TEK is a general way of describing how Native Americans relate to their environment. TEK notes that humans are part of the natural cycle. There is no separation between people and nature, though "nature exists on its own terms." Everything is connected and not compartmentalized. For example, science and religion and diet and math are not separate topics but affect each other, and life is about figuring out how people relate to each factor. TEK ties history and stories to a geographic/spatial location, whereas Western culture typically ties history and stories to a time period. To a Native American, different places are different parts of their home (Pierotti and Wildcat, 2000). These ideas are important to consider when looking to make improvements to a community's land and how that spatial relationship is considered can vastly vary from community to community.

A sustained authentic relationship is necessary while working with any community, and specifically critical when working with tribal communities. Such a relationship requires time and a willingness to learn about power and cultural and indigenous imperatives. Previous research gives tips for establishing good protocols that assist in humanizing and expressing such relationships while working with Native Americans. The Wisconsin Department of Transportation (WisDOT) had an effective program working with Native Americans. WisDOT provided guidance to expect unanticipated setbacks, make realistic promises, plan self-sustaining projects or projects to be adopted by tribal members, and find the right persons in the tribe to work with. In their interactions, WisDOT was sensitive to cultural differences, so promoting an inclusive, comfortable, welcoming environment that honored and harmonized with traditional Native American values of sharing and caring was important. An informal dress code and active listening presentation at a U-shaped table to minimize power differential were used, and a successful Native American Highway contractor was invited to tell his story (Williams and Carroll, 2002). Other recommendations were suggested at a Transportation Research Board conference in Albuquerque, New Mexico. Responses and decisions from tribes can take time, so developing respect for tribal elders and avoiding dependence on consultants was important. It was important to identify the preferred ways to communicate with tribes, but telephone calls, emails, mailed letters, newsletters and conferences worked also (Fiandaca and Thomas, 2017).

The next section of this report provides an overview of a framework to build these important relationships and partnerships. It is important to note that this discussion is not intended to be prescriptive; rather, it should be viewed as guidance that is supported with documented success stories from previous experiences. A core team of tribal members/responsible parties and faculty/collaborators and interested parties is assembled after a project or intent is identified. Tribal approval or agreement to engage in a project is developed/signed/agreed upon, which initiates the process for engagement. Initial planning and brainstorming then takes place in preparation for outreach to the tribal community. After public outreach occurs, the results are analyzed by the collaborative team that includes community members to refine a project or program plan prior to implementation. Throughout this process, conversations with the core team are frequently held and informing the tribal community maintains open lines of communication.

## 2.1. Core Team Assembly

Each study typically begins by assembling a core group of people. For example, the Ak-Chin Study formed a Technical Advisory Committee (TAC) consisting of medical service providers, representatives from Ak-Chin Farms, Ak-Chin Casino, Industrial Park Board, City of Maricopa, Pinal County Public Works, Maricopa Unified School District, and the Senior Center (HDR, 2011). For the transportation plan in Picture Rocks, Arizona formed a team of stakeholders that included the Sheriff's Department, County Supervisor, Congress Representative, Fire District, State Lands, Citizens for Picture Rocks, School District, National Park Service, and members from the Department of Transportation's Traffic Engineering Division (Kimley-Horn, 2014). An initial collaboration meeting with the Forest Service included scientists, National Environmental Policy Act (NEPA) planners, senator representatives, a biologist from the Coeur d'Alene Tribe, an Idaho Forest Group representative, and interested community members. The Federal Highway Administration (FHWA) suggested that a variety of transportation and safety experts, law enforcement, Emergency Medical Services (EMS) be present along with maintenance experts and human factors analysts with regard to transportation safety program and project discussions (Gaughnour, Revilla, and Pitts, 2016). Similarly, another study recommended including tribal leadership, law enforcement, EMS, education, and infrastructure engineering personnel on a steering committee (USDOT-FHWA, 2017).

An initial meeting is typically scheduled and held once the team of stakeholders has been assembled; meetings typically begin with a prayer or some form of spiritual component. During this meeting, quantifiable data integration and any issues of importance should be identified. Data integration from a variety of expert sources (see Table 1) is important because it "improves accuracy and integrity, consistency and clarity, completeness, informed and defensible decisions, enhanced program development, and greater accountability" (Scopatz, et al., 2016). At a Forest Service meeting, the NEPA planner prepared and provided cursory data and maps to stakeholders. Having some information ready helped start and direct the meeting. Each scientist came prepared with general data for their specialized area in case there were questions (Wethington, 2018).

Daley-Laursen discussed how focus groups and stakeholder interactions can help foster conversations. Focus groups encourage group dialogue and result in rich, empirical data that can elicit a variety of perspectives, though labor and financial constraints must be considered. Stakeholder interviews are more cost-effective and allow for follow-up questions, but it can be difficult to attain generalized information within a particular framework using this interview format (Daley-Laursen, 2017). Gathering information from stakeholders before a focus group may be an effective strategy to maximize the strengths of both methods, depending on the scope of the project. Tribal institutional review board (IRB) approval or agreement to engage in the project is developed/signed/agreed upon, which initiates the process for engagement. Initial planning and brainstorming then takes place before outreach to the tribal community.

Table 1 Potential Data Integration Effort Partners

| State and Tribal Personnel | Local Personnel | Others |
|---|---|---|
| Executive staff in DOT roles | Executive leaders | FHWA division offices |
| Executive staff in IT roles | GIS managers | FHWA HQ staff |
| Safety Engineers | IT staff | NHTSA regional offices |
| Safety program managers | Public works managers | FMCSA regional offices |
| GIS managers and staff | MPO staff | NHTSA HQ staff |
| Enterprise data stewards | RPC staff | FMCSA HQ staff |
| Roadway inventory data stewards | Designers | US Parks Service |
| Crash data stewards | Planners | Bureau of Land Management |
| Traffic volume data stewards | Traffic engineers | Bureau of Indian Affairs |
| Planners | Maintenance engineers | Engineering consultants |
| Design engineers | Asset managers | Safety advocates |
| Design managers | E911 managers | Safety educators |
| Maintenance engineers | County appraisers | News media |
| Maintenance managers | County auditors | General public |
| Asset managers | Local law enforcement agencies | |
| State law enforcement agencies | | |

## 2.2. Outreach Activities

To prepare for initial public outreach, a plan must be created from the stakeholder meeting. Infrastructure issues may have been identified. The aim of the public outreach is to answer several important questions. Why do these issues exist? What cultural sensitivities or other concerns should be considered when developing solutions to these issues? Are there other issues that have not been considered? When gathering this qualitative information from the community, it is essential to remember that it is their community, and not the community of the researchers, and creative ways to work across any boundaries must be acknowledged (Wood, et al., 2003).

When a project impacts Native Americans, it is imperative for them to be involved in all aspects of a project, from start to finish. Traffic safety efforts aimed at Native Americans, as noted by Sirmin, "need to be comprehensive, include environmental changes, actively involve the community and be tailored to local tribal culture and practice in their design and implementation" (Sirmin, 2016). An effort to improve the transportation safety of the reservation must include consulting tribe members first to hear what they would like to see happen and to gain their perspective about the agency's plans. Long-term partnerships are important. Wisconsin Department of Transportation (WisDOT) partnered with a Native American-specific community college for longer than 10 years before starting to work with tribes (Williams and Carroll, 2002). WisDOT went around to tribes to present and listen to transportation issues. One tribe initially would not listen to the presentation and were not interested in federal and state programs until they had heard about WisDOT's work with the community college. Maintaining an ongoing relationship with Native Americans and not limiting relationships to project-specific activities is a suggested method (TRB, 2002). A listen-first approach might have also yielded a more favorable first impression.

The Ak-Chin research group developed a concept map (see Figure 1) and project overview to present at their community meeting. The concept map approach encouraged participants to draw or write where, when, and how they travel on the land. Display boards and copies of the study maps were used and then made available for two weeks to encourage participation. One interesting outcome of this approach was that researchers were able to obtain insightful qualitative information; for example, some children did not want sidewalks in the village because they did not object to walking on dirt and were fearful that the construction of sidewalks would cut into existing yards (HDR, 2011).



Figure 1 Ak-Chin Indian Community Concept Map (HDR, 2011)

In a separate case study, when transit funding was lost as a result of a public vote, an outreach effort was initiated. The project team sought to find out what the public really wanted, so they reached out for three years through community groups, employers, transit groups, and "outside the box" groups. Some project members joined riders on their buses in order to talk with them and find out what they needed from their transit system. The result of this multi-dimensional outreach effort was drastic changes to the transit plan, restored funding, and "the smoothest transition" because, as the author concluded, the focus was always on what the citizens needed (Dunn, 2004).

The collection and availability of data is also an important component when assessing transportation safety. As part of a road safety audit (RSA), a field review can be conducted to gather information about site geometries, operating traffic conditions, and how these factors connected to surrounding transportation networks (USDOT-FHWA, 2017). Another approach is the direct observation of transportation habits; this was determined to be the best method for unbiased observation, particularly for 17-19 year-olds in one study (Vachal and Kubas, 2017). On the other hand, researchers studying driver behavior on the Nez Perce Reservation used in-depth interviews and focus groups to gather qualitative information about residents' resistance to using their seatbelts (Native CARS, 2019).

It is worth emphasizing that limited staff or staff with limited expertise with applications such as a geographic information system (GIS) could hinder a tribe's ability to provide the necessary data thereby

limiting the tribe's potential to compete for funding opportunities requiring such information. Tools such as GIS can be used in a multitude of ways to map crash reporting, minimize emergency vehicle response times, and determine more efficient school bus routes and delivery services (Taylor, et al., 2017). The Indian Reservation Roads program allocates federal funding based on road systems, and these resources typically require some form of an evaluation criteria used to determine eligibility. After the Navajos created a roadway inventory for their reservation on GIS, their funding increased 30% (Taylor, et al., 2017).

Effective change to rural communities occurs when the public is provided with an opportunity for input. Communicating the concerns that flagged the initial need to improve conditions, often with qualitative data, will encourage buy-in from the largest number of community members. Specific to transportation safety, a public meeting with concept maps and rapid market assessment (RMA) techniques can be both interactive and fun, and be a straight-forward method to obtain a diverse range of feedback from participants.

## 2.3. Plan Refinement and Public Implementation

At this point, data must be compiled, prioritized, and assembled into a final plan including any transportation safety components, followed by outreach informing the community of that plan. Core team meetings, with community involvement, must be held as data are sorted. Once a draft plan is created, it should be submitted to the stakeholder team for comment prior to the final plan (HDR, 2011). If changes are recommended or needed, a response to the core team providing feedback should be drafted; correspondence should address each issue identified and offer an official recommended solution (Goughnour, Revilla, and Pitts, 2016).

Public implementation of the plan can vary in format. Educating the communities with brochures and signs is one effective option (Dunn, 2014). To encourage seat belt law compliance, a massive media campaign was launched to educate the Nez Perce community. The campaign involved newspaper articles, posters, billboards, mass emails, check inserts for tribal employees, and information provided during child wellness checks with some focus on grandparents (a key demographic whose compliance was surveyed to be the weakest). The Native CARS survey reported an increase in seat belt use from 41 to 60% (Native CARS, 2019). Alternately, financial incentives through work may encourage changes in behavior such as increased transit use (HDR, 2011). In essence, intensive stakeholder integration and media involvement to activate public awareness will increase the likelihood of plan adoption and implementation of action items.

Wood (2003) identified fourteen key elements to keep in mind when initiating (public) discussions with communities:

- Stop, look, and listen; enter with respect.
- Develop a mental image or picture of the community; onsite visits are essential.
- Do your homework; review in advance what is known about the demographics, health status and issues, local leadership, technical infrastructure, etc.
- Your goal is to understand the local community – its history, governance, members, interests, needs, priorities, and spirit.
- Identify, search out, and connect with local organizations, leaders, and advocates – both health and information technology (IT)-related.

- Understand the health information needs and users in the community and the facilitators and barriers to use.
- Benchmark the current technical infrastructure in the community and specifically the health sector and related organizations.
- Get feedback through discussions with leaders, key contacts, elders, and users.
- Look for partnership opportunities; be creative, work across boundaries.
- Create a partnership plan – with emphasis on sustainability and capacity-building.
- Prepare technical, training, and outreach plans in collaboration with community leaders, and the health and IT staff. Remember it is their community, not yours.
- Build on already existing community initiatives and activities to the extent possible.
- Be prepared to be adaptive, iterative, supportive, and open-minded, yet be honest and realistic; balance vision with practicality.
- Build flexibility into the project schedule; the pacing and timing should give priority to the community's needs, capabilities, and readiness.

Increased communication typically translates to a higher likelihood of project success. In a follow-up with the Ak-Chin Indian Community, the feedback provided indicated that the overall project, which was part of a five-year transportation plan, went well. Initially, the community was uncomfortable with how the "conditioned" relationship would go, but there were many work-sessions that developed the scope of the project with the community. In the end, the community wished for even more stakeholder meetings (Smith, 2018). Using the key elements and other ideas presented in this review can aid in healthy communication among interested parties and result in improved transportation safety and infrastructure for each community.

There are several key questions that remain. When discussion is initiated, what can actually be done with a tribal community? As tribes are their own sovereign nations with their own government, assisting them can be challenging. What do Native Americans know, believe, and think about transportation safety? What have been their experiences in the past? Previous research has shown that Native Americans do not support one-sided, government-dominated projects. For this reason, thoughtful questions must be asked to each tribe so that particular issues can be addressed and a collaborative approach developed. Outreach challenges to be considered may include administrative burdens and relevance outside the project area (Wood, 2003). Tribes may also prefer confidentiality, as undesired publicity brings people out to their sacred sites (TRB, 2002). A crucial sensitivity that exists for some tribes is discussing death; discussing negative outcomes can be viewed unfavorably (Sirmin, 2010). Since many safety improvements begin with examining fatality crashes, certain sensitivities and precautions would need to be taken in these instances.

## 2.4. Transportation Safety Statistics

Potential concerns about transportation safety in RITI communities are based on a wide range of documented statistics. For example, fatality rates on reservations from 1975 to 2002 rose by 52.5% compared with a 2.2% decrease throughout the entire United States (TTSMSSC, 2017) and Native Americans have been overrepresented in fatal crash rates by as much as four times the general population in some states (TTAP, 2019). With regard to fatal crashes on reservations, 63% were roadway departure, compared to 25% across the United States, and 44% of those involved an impaired driver with a blood-alcohol content (BAC) higher than 0.08 (TTSMSSC, 2017). Roadway departure crashes have

higher percentages of alcohol-impaired and distracted drivers than other crash types. A Wind River Reservation study found that 24.7% of fatalities on local reservation roads were related to alcohol use, compared to 8.9% on reservation highways (Terrill, Shinstine, and Ksaibati, 2016). The highway percentage was similar to results collected on highways outside reservations. Anecdotally, this percentage may be caused by a number of factors including, but not limited to: limited ride-sharing or designated driving options, longer travel distances, limited or non-existent taxi services, and dry reservation policies that force those wishing to imbibe to travel further away from home. It is worth noting that most tribes are located in rural areas where crash rates are historically higher. In 2007, 23% of U.S. population lived in rural areas, but accounted for 57% of crashes (Terrill, Shinstine, and Ksaibati, 2016). Crash-related injuries can be more life threatening due to an inability for emergency medical service (EMS) teams to arrive and respond in a timely manner.

American Indian and Alaska Native children from age 0 to 19 had a motor vehicle death rate nearly 2.3 times higher than the overall domestic rate (LeTourneau, et al., 2008). One contributor may be vehicle restraints; a 2009 American Journal of Public Health report found that 29% of American Indian children were unrestrained in vehicles and 22% were improperly restrained (Lapidus, 2013). Specific laws regarding child safety seats vary from state to state. Over half of drivers surveyed on Indian Reservations in one study stated that people in their community did not wear seat belts (Iragavarapu, 2015). In response to the low seatbelt use among Native Americans, five out of the six tribes in one particular outreach project started their own Native Children Always Ride Safe (Native CARS) program (Lapidus, 2013). This intervention sought to bring attention to the lack of seat belt use, but recent studies indicate that opportunities remain to educate and encourage seat belt usage.

Speed control, programs to address alcohol-impaired driving, distribution of car seats and signage for safety are important tribal priorities. In one survey, the most common traffic concerns were identified as DUI (67%), seat belt non-use (22%), lane departures (7%), speeding (5%), and pedestrian safety (3%) (Iragavarapu, 2015). A local tribe, in partnership with its DOT, developed its own list of roadway issues: routes used as roads but lack legal right of way, too many roadway access points, need to add roads to tribal transportation facility inventory, maintaining safety within rights of way, over engineered projects and problems coordinating with engineers, and lack of standards for design and construction (Fiandaca and Thomas, 2017).

As transportation safety and equity may be a topic of importance, its significance should not be viewed as independent of other crucial elements for each tribe. Tribes value the protection of their cultural resources as they are the beginning and the future for their tribal identity and sovereignty, for many generations to come. Land is very important to the Native Americans; it is their history with myths and legends intertwined, and development may affect these core values (TRB, 2002). Tribes also value the intergenerational dynamics typical of tribal communities, which demand integrated access and connectivity. As such, road realignment or widening projects may not be desirable despite externally perceived safety benefits.

For Native Americans, travel does not always translate into the use of an automobile. In colder climates, Native Americans often utilize snowmobiles or other non-motorized methods. On unlit rural roadways, which may serve as the only routes on a reservation, walking can be particularly dangerous. Three-quarters of pedestrian fatalities on reservations occur after dark and 77% occur in rural areas (TTAP,

2019). Fifty-six percent of pedestrian fatalities on reservations were under the influence of alcohol (Iragavarapu, 2015).

Unique modal and behavioral decisions can also influence the crash reporting process. As an example, the state of North Dakota found that only 37% of all crashes on Indian reservations were shared with authorities, and 20% of tribes did not have crash report forms (Vachal, 2018). Since the data from crash reporting are often needed to support transportation improvements and funding decisions, limitations associated with collecting and reporting data need to be addressed so that proper attention, where needed, can be given.

Many tribes have transportation programs, but lack funding and staff, which can make reservation improvements difficult. The Coeur d'Alene tribe has 0.9 transportation staff for their 6,511 person reservation (Meck, Retzlaff, and Schwab, 2007). Nonetheless, the tribe has developed a transportation plan and has made important infrastructure improvements on its property. An Arizona DOT survey of twenty-one tribes found that all except one have project priority lists the tribe had identified (Fiandaca and Thomas, 2017). Tribes with long term transportation plans commonly update them every three to five years.

# CHAPTER 3. METHODOLOGY

Based on the results from the literature review and the personal experiences of the researchers, the team conducted a series of listening sessions with local communities and individual interviews throughout the area to further explore the foundational concepts associated with culturally sensitive and appropriate public outreach.

For this study, these sessions included participation in the following events:

> Indigenous People's Day (University of Idaho)
> October 8, 2018
> University of Idaho
> Moscow, ID
>
> Food Friday (University of Idaho Native American Students)
> October 26, 2019
> Native American Student Center
> Moscow, ID
>
> Meeting with Lewis-Clark State College students
> November 7, 2018
> Pi'amkinwaas
> Lewiston, ID
>
> Meeting with Dr. Yolanda Bisbee, Executive Director of Tribal Relations
> February 13, 2019
> Administration Building
> Moscow, ID
>
> University of Idaho President's Native American Advisory Council Meeting
> April 16, 2019
> 1025 Plant Science Road
> Moscow, ID
>
> Campus Community Forum 2019
> April 24, 2019
> Courtyard by Marriott
> Pullman, WA

> These listening sessions enabled the research team to, in most cases, confirm the themes described earlier in the background section of this report and also to identify complementary concepts and approaches associated with developing a culturally responsive and authentic relationship with tribal communities. Of critical importance, the 4-Rs (Respect, Relationality, Reciprocity, and Responsibility) are the four pillars for successful ongoing partnerships with tribal communities (as shared by Dr. Bisbee during one of the listening sessions).

In addition, the research team discussed transportation safety needs with these local and regional tribal leaders and identified recommended approaches to fostering ongoing dialogue about these issues and partnerships for safety and equity. Specific recommendations to consider, in no particular order, included the following:

- Transportation safety and equity are not seen as separate from other tribal foci and community needs. Take the time to identify active efforts that address transportation issues and seek out tribal personnel involved to learn what is desired. Many tribes are working on these issues as a part of planning and community health-related projects.
- Acknowledge and recognize tribal sovereignty.
- Develop greater and humbled familiarity of the tribe and locations of any project needs. Be sure to understand the Tribal governance, decision making, and organizational structure, know who the tribal Chairman or Chairwoman is, and develop an emic and etic understanding of the community. For these reasons, onsite visits with tribal members are essential.
- Invest the necessary respectful time for people to talk; tribes think long-term and consider the impact of any decision on the long view for the tribe, so an iterative process and re-sharing is critical.
- The power of decision-making is in the hands of the tribe and its members. Having a preconceived solution is not a solution, so work with the tribe to arrive at the solution/s.
- Do not lump tribes together as each tribe is sovereign and unique and every RITI community should be expected to think differently.
- All tribes are unique as is the environmental and social context. For example, larger tribes may have multiple resources (e.g., engineering and planning departments, more income generating enterprises) while smaller tribes may not.
- Each tribe has different geographical issues and challenges as they may be more or less remote and geographically isolated, or within close adjacency of urban centers that may present other challenges.
- Even if a tribe may not have many physical or economic resources, they possess important insight and understanding of the issues important to them.
- Disseminate information widely and frequently, and do so when there is a large group or event; similarly, modify the information with an understanding of ongoing issues at the tribal location.

# CHAPTER 4.    CONCLUSIONS

For this study, the research team met with local and regional tribal leaders on six separate occasions to discuss transportation safety needs and identify recommended approaches. These engagements, in addition to review of previous literature, identified that when transportation safety decision-making is desired, the involvement and engagement with a community is essential. This is particularly important in tribal communities, who value sustained relationships. When working with Native Americans, tribal participation as equal and sovereign members is critical, and sensitivity to customs and local processes must be acknowledged.

Each tribal government prioritizes and approaches road safety differently. There have been concerns with regard to law enforcement shortages, jurisdictional issues with non-native traffic offenders, limited funds for road improvements, limited training in data collection, limited management and analysis resources, and ineffective or limited public awareness campaigns (Iragavarapu, 2015). In some cases, a tribe may not have jurisdiction over a public highway that is managed and maintained by a state department of transportation, and this lack of control creates uncertainty about the process from the outset.

Both positive and negative relationships have formed when changes or improvements have been made to reservation road networks. While these efforts have consisted of gathering additional data, learning more about Native American culture and thought, and focusing on project collaboration, past history indicates that there has not always been a strong relationship between the government collaborating with tribes and enhancing road safety (Sirmin, 2010). For these reasons, more care and attention are needed to foster trust and confidence, and any lack of coordination between states and tribes must be remedied. The decision-making process of activities should thoughtfully involve not only engineers and planners who bring technical expertise but also social scientists who understand cultures and norms; this make-up should also prioritize members of the tribal community when possible. Based on the findings from this study and others in the past, local agencies, tribal communities, and researchers alike should spend more time and diligence to determine how these entities can synergistically work together, not only for a singular project but over the course of a long-term period.

Tribal transportation programs, given their limited staff and budget, have the ability to address small issues but rely on the support of outside entities for large projects. The Tribal Technical Assistance Program, or TTAP, is a resource available to increase transportation safety knowledge and share Native American-specific tools to build expertise and skills to ensure the sustainability of tribal transportation systems (TTSMSSC, 2017). Federal aid programs provide financial support, and the passage of FAST 21 prioritizes reservation safety (Quick and Narvaez, 2016). Additional resources, such as using apps to crowdsource safety concerns and generate user feedback, particularly with younger members who are increasingly technology savvy, may also net useful information about transportation safety and equity needs and serve to increase engagement in the future.

# CHAPTER 5.    REFERENCES

Bradbury, C. 2018. Personal Interview.

Daley-Laursen, S. 2017. Methods in Human Dimensions (NRS 235) – Course Slides.

Dunn, T. 2004. Mick Jagger Sings, 'You Can't Always Get What You Want', But Community Transit Customers Actually Did". Bus and Paratransit and Bus Rapid Transit Conference. American Public Transportation Association. Denver, CO.

Fiandaca, P. and Thomas, A. 2017. The Role of Tribes in Arizona Transportation Decision Making (2012-2015). Arizona Department of Transportation Research Center. Phoenix, AZ.

Goughnour, E., Revilla, J., and Pitts, C. 2016. Improving Access to Transit Using Road Safety Audits: Four Case Studies. Federal Highway Administration. Washington, DC. Report No. FHWA-SA-16-120.

HDR. 2011. Ak-Chin Indian Community Transit and Non-Motorized Transportation Study.

Iragavarapu, V. 2015. Review of Tribal Transportation Safety. Transportation Research Record. 2531, pp. 153-160.

Kimley-Horn. 2014. Picture Rocks Multimodal Transportation Study. Final report.

Lapidus, J. 2013. Trends and Correlates of Child Passenger Restraint Use in 6 Northwest Tribes: The Native Children Always Ride Safe. American Journal of Public Health. 103(2), pp. 355-361.

Letourneau, R. et al. 2008. Ride Safe: A Child Passenger Safety Program for American Indian / Alaska Native Children. Maternal and Child Health Journal. 1, pp. 55-63.

Meck, S., Retzlaff, R., and Schwab, J. 2007. Tribal Transportation Programs. NCHRP Synthesis 366. Transportation Research Board. Washington, DC.

Native CARS (Children Always Ride Safe). 2019. Big Improvements on the Nez Perce Reservation. < nativecars.org/nez-perce/>. Accessed October 2019.

Pierotti, R. and Wildcat, D. 2000. Traditional Ecological Knowledge: The Third Alternative (Commentary). Ecological Applications. 10(5), pp. 1333-1340.

Quick, K. and Narvaez, G. 2016. New Methods for Identifying Roadway Safety Priorities in American Indian Reservations. Transportation Research Board Presentation. Washington, DC.

Scopatz, R., et al. 2016. Informational Guide for State, Tribal, and Local Safety Data Integration. Federal Highway Administration. Washington, DC. Report No. FHWA-SA-16-118.

Sirmin, L. 2010. Collaboration and Road Safety on Indian Reservations. Masters Thesis. Clemson University.  Clemson, SC.

Smith, B. 2018. Personal E-Mail Correspondence.

Taylor, A. et al. 2017. Tribal GIS: Supporting Native American Decision-Making. Esri Press.

Terrill, T., Shinstine, D., and Ksaibati, K. 2016. Methodology to Assess and Compare the State Highway System with the Local Roadway System on the Wind River Indian Reservation. Transportation Research Board 95th Annual Meeting. Washington, DC.

Transportation Research Board. 2002. Conference on Transportation Improvements: Experiences Among Tribal, Local, State, and Federal Governments. <onlinepubs.trb.org/onlinepubs/circulars/ec039.pdf>. Accessed October 2019.

Tribal Technical Assistance Program. 2019. Classroom Instruction, Distance Learning, and Injury Prevention. <ttap-center.org>. Accessed October 2019.

Tribal Transportation Safety Management System Steering Committee. 2017. Tribal Transportation Strategic Safety Plan. <tribalsafety.org>. Accessed October 2019.

United States Department of Transportation, Federal Highway Administration. 2017. Report to Congress: Options for Improving Transportation Safety in Tribal Areas.

Vachal, K. 2018. Supporting Tribal Crash Data Utilization and Strengthening Institutional Capacity for Effective Traffic Safety Programs. Upper Great Plains Transportation Institute Project. <www.mountain-plains.org/research/projects/downloads/2018-mpc-566.pdf>. Accessed October 2019.

Vachal, K. and Kubas, A. 2017. Assessment of Three Affiliated Tribes Primary Seat Belt Intervention. Transportation Research Record. 2605, pp. 118-123.

Wethington, H. 2018. Forest Service Field Trip.

Williams, M. and Carroll, J. 2002. Outreach to Native Americans: A Comprehensive Look at Wisconsin's Efforts. U.S. Department of Transportation, Federal Highway Administration. Washington, DC.

Wood, F. et al. 2003. Tribal Connections Health Information Outreach: Results, Evaluation, and Challenges. Journal of the Medical Library Association. 91(1), pp. 57-66.