Collaborating with American Indian Nations in Minnesota to Re-Interpret and Strategize about Reservation Roadway Safety

Kathryn Quick & Guillermo Narváez
Humphrey School of Public Affairs, University of Minnesota

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A high-stakes issue

• There are unusually high rates of MVC fatalities and injuries among American Indians, nationally:
  • Rate increased by 52%, compared a nationwide decrease of 2% (Poindexter 2004, 1975-2002 data)
  • MVC fatality rate is higher than for any other American population group (Pollack et al. 2012)
  • MVC are leading cause of unintentional injury for American Indians aged 1-44 (Raynault et al. 2010)
• Tribal, USDOT, and many state and local governments increasingly recognize that improving tribal transportation safety is a priority.
Common explanations in prior research**

- **Individual behaviors**: impaired driving, low rates of safety restraint use, speeding

- **Road conditions**: signage, lighting, signals, roadway design, surface repair, ice and vegetation management

- **Historic and structural disparities**: unmet health needs, poverty, distance to travel to jobs and services, limited or delayed access to emergency medical care

- **Institutional resources and policies**: enforcement, conflicts or gaps in road ownership and responsibility, possibly dry reservation policies
Study context and process

Existing literature
- Only 20 peer-reviewed studies
- National, population-level, epidemiological studies
- No differentiation of reservation and urban areas
- Lots of “conventional wisdom” to address

Need for situated, qualitative, collaboratively produced data
- Attention to contextual conditions (legal, geographic scale, climatic, etc.)
- Probe distinctions of tribal and other rural transportation issues
- Be inclusive of American Indian communities, tribal governments, academics

Collaborating with American Indian Communities to Re-Interpret Transportation Safety Risks in Tribal Lands
- Focus on local interpretation and management of risk
- Identify safety risk priorities and options
- Share success stories
- Build and sustain relationships with tribal governments
Collaborative, engaged scholarship

- Coordination with MN Advocacy Council on Tribal Transportation (ACTT)
- Review of crash data
- Interviews with key stakeholders
  - 7 tribal governments
  - Interest groups; state, federal, county governments
  - Other researchers
- Partnerships with 4 tribal governments to gather local expertise on sources and management or risks
  - Reviewing existing data
  - 77 researcher days in reservations
  - Interviews w/key “5E” leaders (tribal government & other)
  - Focus groups and “virtual tours” with expert drivers
  - Gathering input from interested public at community fairs
Interviews – *road & safety experts*

1. How are you and your agency involved in reservation roadway safety?

2. How would you describe roadway safety in the reservation?
   [Follow up: How much of a concern is roadway safety in the reservation? How does this compare with other areas?]

3. What are the major risks or hazards for roadway safety in the reservation?

4. What are you *most* interested in doing to improve safety?
   [Note: continuing or new activities]

5. What do you wish other people or organizations would do (or do more) to improve roadway safety in the reservation?

6. Please summarize your 1 or 2 key points from this conversation.

7. Are there other people we should contact?
Expert drivers’ and community members’ views

• Do you have any concerns, suggestions, or ideas about safety on the roads in the reservation?

• Are there times, places, or conditions where you avoid being on the road? Where? Why?

• What would you want a person whom you care about to know about being safe on the roads?

• Stories of accidents and near misses they, friends, & family have had
# Key stakeholders

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<thead>
<tr>
<th></th>
<th>Fond du Lac</th>
<th>Red Lake</th>
<th>Leech Lake</th>
<th>Mille Lacs</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Road &amp; Safety Experts – tribal government &amp; associated entities</strong></td>
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<tr>
<td>Road Construction and Maintenance</td>
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<td>Planning department</td>
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<td>Law enforcement (chief, highway safety officer)</td>
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<td>X</td>
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<tr>
<td>Car Seat &amp; other Injury Prevention</td>
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<td>X</td>
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<td>Emergency responders and/or ER room team</td>
<td>X</td>
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<td>Tribal government executive director</td>
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<td>Other: Tribal Council member, drivers’ ed. courts</td>
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<td><strong>2. Expert drivers</strong></td>
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<td>Transit service, school bus drivers, casino shuttle drivers</td>
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<td>Propane delivery</td>
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<td>Road / snow crews</td>
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<td><strong>3. Related Jurisdictions</strong></td>
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<td>County, city, and township public works dept</td>
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<td>MDOT regional staff</td>
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<tr>
<td>County sheriff, city police, state highway patrol</td>
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<tr>
<td>Regional TZD &amp; other related entities</td>
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<td>US Forest Service</td>
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<td><strong>4. Centers of Activity</strong></td>
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<td>Casino, schools, other community centers</td>
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<td><strong>5. Interested reservation residents / enrollees</strong></td>
<td>Yes, 30</td>
<td>Yes, 76</td>
<td>tbd</td>
<td>Yes, 85</td>
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What we see from conventional data

Standard practice is to use data submitted by enforcement agencies to state and federal agencies. These are valuable data on what has happened and been reported.

MnCMAT (MNDOT & MN DPS)
2011: 23 crashes

FARS (USDOT & NHTSA)
2011: 3 crashes
What these data make visible

“Well, as soon as I get on the rez I know I need to start looking out for pedestrians. That’s really the only difference between off and on the rez when it comes to being safe on the roads.”
– Fond du Lac enrollee who lives off the reservation

Real road conditions in different communities, times of day, & seasons

Resident using map to point out areas of concern, including 3 pedestrian safety issues

Map mark-up from focus group with expert drivers, Fond du Lac Band
Learnings

• Methodological innovations to unearth new kinds of data → “Technology transfer” and research papers

• *What’s special about reservation roadway safety?*
  
  • Elevated concerns about pedestrian safety → support for safety program implementation, advocacy, and policy development
  
  • Divergent views between tribal and non-tribal parties → attention to inter-jurisdictional relationships in data collection, re-thinking our curriculum and developing partnerships with MTAG, other entities
  
  • A “contact zone” (Barry & Porter 2011) or “boundary zone” (Quick & Feldman 2014) for a thoughtful exploration of methods, theoretical frameworks, and the politics of engagement by mainstream planning, public management, and governance scholars
New directions: multi-method, multi-site, collaboration

Approach
- Collaborate with TTAP & tribal governments
- Combine researchers’ expertise to bring multiple methods to each case study
- Comprehensive, in-depth picture from diverse reservations in US

Collaborators & Expertise
- **Guillermo Narváez & Kathy Quick**, Humphrey School of Public Affairs, University of Minnesota
  - Policy & management study
  - Qualitative analysis of 5E sources
- **David Ragland**, School of Public Health, UC Berkeley
  - Geospatial analysis
  - Special focus on emergency response
- **Debbie Shinstine & Khaled Ksaibati**, Civil Engineering Department, University of Wyoming
  - Crash hot spot analysis
  - Road quality surveys

National study + 4-6 Focal case studies = Comprehensive, multi-method study to provide more robust explanations and support effective policy
Thank you!

Kathy Quick, Assistant Professor, ksquick@umn.edu

Guillermo Narváez, Research Associate, gnarvaez@umn.edu

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