



# Roadway safety in American Indian reservations

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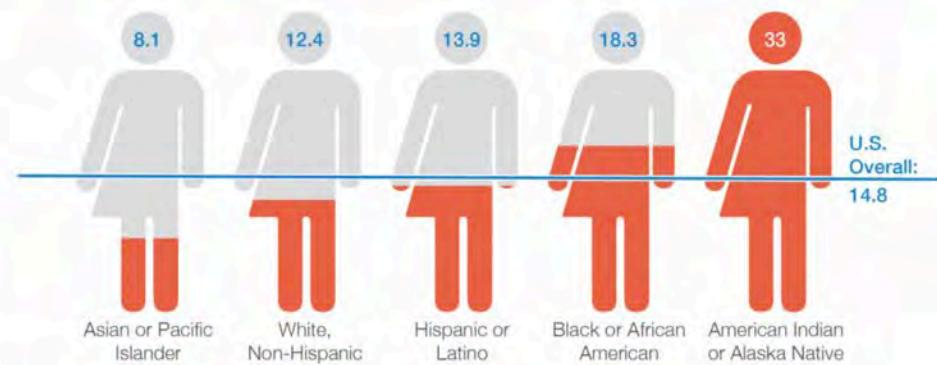
What's  
at  
stake?

## Roadway safety & American Indian people

- ▶ Motor Vehicle Crashes (MVCs) are the leading cause of unintentional injury for AIAN people aged 1 to 44.
- ▶ Their MVC fatality rate is the highest of any racial group in the US. It has risen at the same time rates for the whole US population have declined.

**People of color are disproportionately represented in fatal crashes involving people walking.**

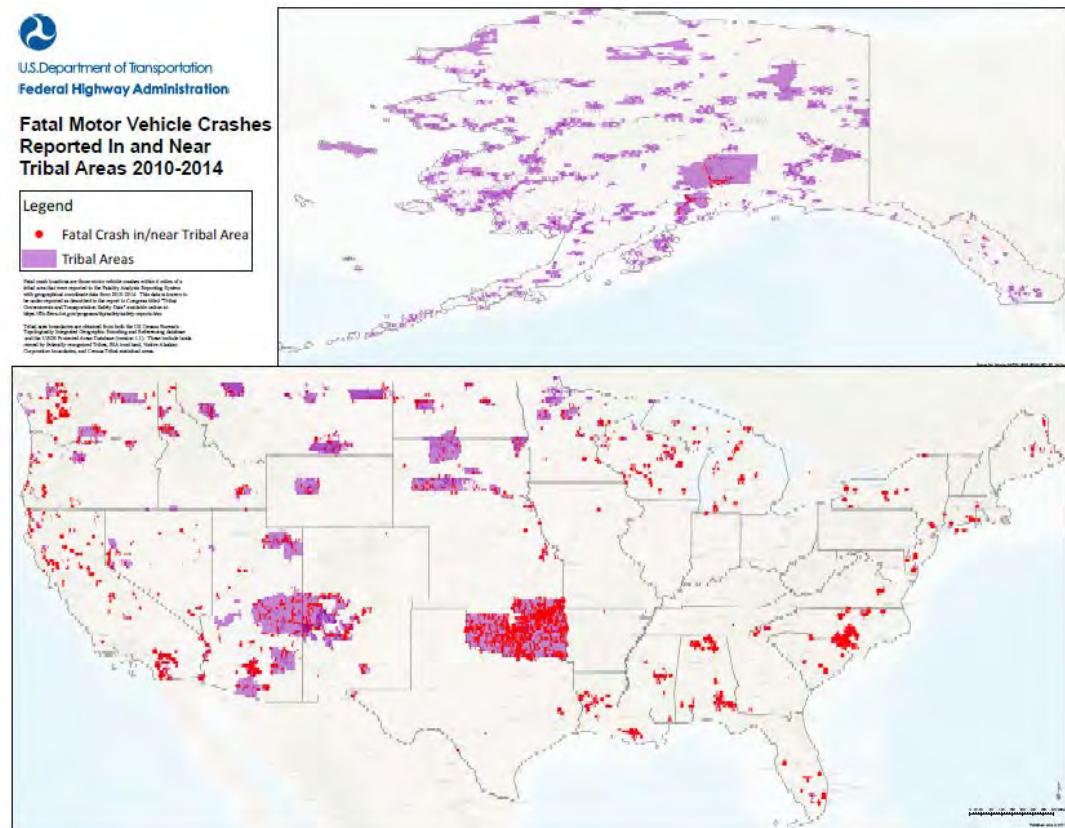
Relative pedestrian danger by race and ethnicity, 2008-2017



Source: National Complete Streets Coalition (2019)  
“Dangerous by Design” report

# Roadway safety & reservations

- ▶ 3,278 fatalities -- 655 per year -- were reported 2010-14 in areas where tribal governments have the greatest influence on roadway safety.
  - ▶ Fatalities on reservations are under-reported. And, NHTSA's method of focusing on formally recognized reservations understates these impacts.



# AIAN and reservation MVC fatalities, 2011-15

	AIAN fatalities	All fatalities in reservations	Tribal area fatalities
<b>All reported fatalities</b>	<b>2,840</b>	<b>1,439</b>	<b>3,278</b>
Roadway departures			2,065 (63%)
AIAN fatalities on reservations	777 (27%)	777 (54%)	
Occupant unrestrained	1,321 (47%)	703 (49%)	
Alcohol impairment, BAC .08+	1,200 (42%)	613 (43%)	
Speed-related fatality	944 (33%)	543 (38%)	
Pedestrian fatality	551 (19%)	197 (14%)	

# Common explanations

- ▶ **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

\* For discussion and references, see Quick and Narváez (2018).

# Our research



# Research question

- ▶ What are the roadway safety concerns and priorities of people with the most informed, direct knowledge of American Indian reservations and communities?



# Case studies

- ▶ Qualitative, collaboratively produced
- ▶ Privileges on-the-ground knowledge and perspectives from tribal governments, reservation communities, and 4E professionals
- ▶ Considers what – if anything – is special about reservations



# Red Lake key findings

- ▶ 13 interviews with tribal government leaders and 5 with public agencies; 88 surveys conducted at annual health fair and back-to-school night; school drop-off observations at 4 schools
- ▶ Concern about conditions on MN-1 and MN-89
- ▶ Emphasis on pedestrian safety, especially along MN-1
- ▶ Eagerness for greater coordination across jurisdictions, but complications in doing so
- ▶ Winter conditions pose risks to residents and transportation-related challenges
- ▶ Special attention paid to safe routes to schools for children

# Leech Lake key findings

- ▶ 18 interviews with tribal, county, or state government leaders; and spoke with 25 individuals at pow wows in Cass Lake and Onigum
- ▶ Positive feedback on recent roadway safety improvements
- ▶ Emphasis on pedestrian safety risks, especially along US-2
- ▶ Positive developments with safer routes to schools for students
- ▶ Collaboration and cooperation with local government
- ▶ Conflicting responses regarding driver behavior
- ▶ Challenges presented by non-residents driving on the reservation

# Fond du Lac key findings

- ▶ 19 interviews with tribal government leaders, 6 with expert drivers and stakeholders, & 11 with individuals from nearby jurisdictions; 31 surveys conducted at enrollee days and police barbecue
- ▶ Concern for pedestrian safety, especially at certain hotspots
  - ▶ Differing priorities for tribal leaders and residents vs. those from coordinating jurisdictions
- ▶ Positive assessments of road infrastructure, with winter weather-related concerns
- ▶ No difference in statistics or perceptions for driver behavior
- ▶ Concern related to impaired driving, but hesitancy in discussing
- ▶ Exceptional enforcement & education related to safety restraints
- ▶ High levels of satisfaction in coordination between jurisdictions

# Mille Lacs key findings

- ▶ 14 interviews with roadway safety specialists, 5 with individuals from nearby jurisdictions, 6 with state-level safety experts, & 89 with the general public; participation in 4 community health fairs
- ▶ Pedestrian safety found to be the highest priority area
  - ▶ Concerns related to a lack of paths, poor crossing infrastructure, and poor visibility
  - ▶ State Highway 169 and State Highway 65 of particular concern
- ▶ Concern related to high volume of non-local traffic in peak season
- ▶ Challenging relationship with county law enforcement, while strengthening relationships with other jurisdictions

# Key findings (all areas)



<https://www.youtube.com/watch?v=fa0hp8hHvHc&feature=youtu.be>

## Pedestrians? It depends who you ask.

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 member who lives off the reservation]

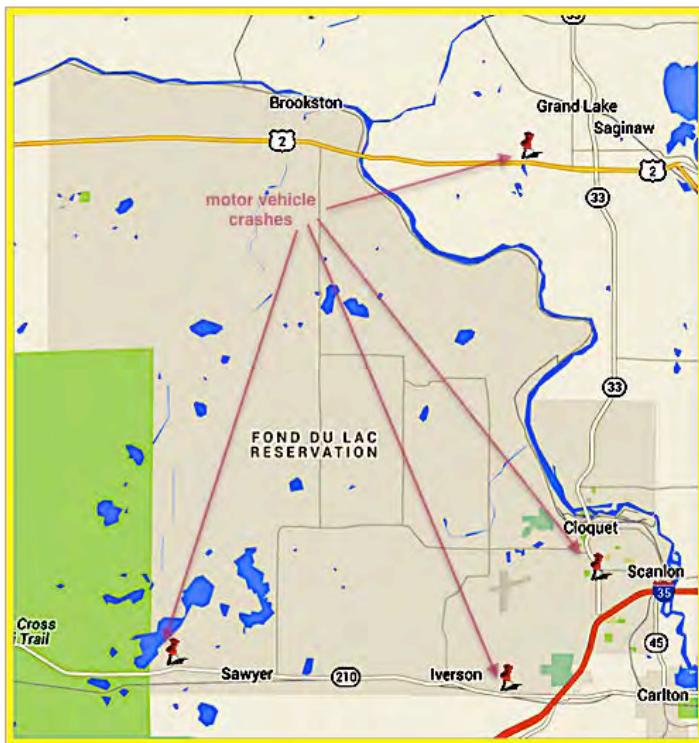
I do travel those roads off and on and you do see a lot of youngsters out and about there. I don't know if there's anything special about it because I am only up there about once or twice a year. [County commissioner]

KQ: You didn't mention pedestrian safety. We've heard it's an issue. Is that your impression? Response: That people are hitting pedestrians? KQ: Or that there are more pedestrians in the road? Response: Hm. I haven't heard that. [Law enforcement, non-tribal PD]

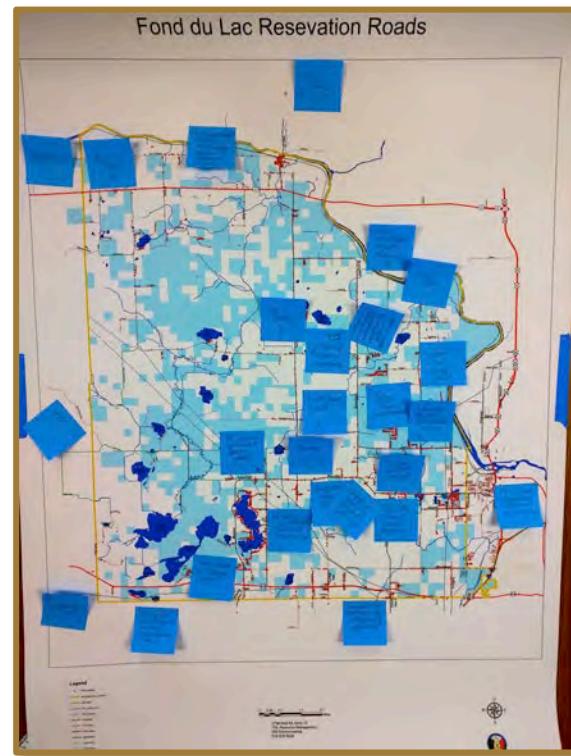
# Pedestrian safety is....

- ▶ A critical, distinctive, and under-recognized priority in reservations.
- ▶ **The single most distinctive feature of reservations, relative to rural areas more generally.** In reservation communities, many people move around on foot by necessity and preference.
- ▶ One of the highest priorities in a national survey of 151 transportation specialists from tribal governments.
- ▶ The greatest concern identified – repeatedly, by hundreds of people responding to an open-ended question – in all four case study reservations.
- ▶ Probably under-estimated by experts without direct knowledge of reservations who rely on MVC data.

# Perspectives on pedestrians: MVC data & expert drivers



FARS (USDOT & NHTSA)  
2011: 3 crashes



Map mark-up from focus  
group with expert drivers

# Road engineering? No big difference.

I don't think so.... As far as road maintenance and road condition, it's kind of the universal countywide, I guess, and citywide. [a county engineer]

I may be blind, but there's no obvious difference in the roads as you enter the reservation. [EMS responder]

Everything looks the same.... All the roads look like relatively good shape and all the signs and traffic lights, everything else, seems to be just fine. [state patrol]

# Impaired driving? Don't be so sure.

*It must be because of American Indians' high rates of alcoholism,  
and [therefore] drunk driving.*

State public health staff  
And... a dozen other people

# Perspectives on impairment: A “nervous area” of policy

We haven not seen that.

Emergency responder for region

Without looking at the numbers, I couldn't tell you.

Non-tribal law enforcement

The one thing we do have an issue with and it creates an issue with driving: we have a lot of drug issues, and I'm not saying it's a tribal thing or tribal only, it's [my whole county].

County commissioner

*I might say... [long pause]. It might be an overstatement on my part, but it seems to involve impairment. \*\**

Non-tribal law enforcement

*The crash report doesn't say that they were Native American, necessarily, but they're from those areas that have a higher population or risk of alcoholism. I mean, [the tribal staff person who works on injury prevention] would be the first one to say they have a problem with drinking and driving on [their] reservation. So if they were coming from that area.*

Crash prevention educator, non-tribal, explaining how they use crash data to identify priorities

# Cooperation? Sometimes.

- ▶ "The reservation" is a physical boundary, an attributed identity, and a web of overlapping, incomplete, and/or conflictual jurisdictions:
  - ▶ Road ownership and responsibilities
  - ▶ Funding streams
  - ▶ Assumptions and expectations about behavior
  - ▶ Applicable laws and policing and court jurisdiction
- ▶ Collaborating requires a huge amount of trust, legal sophistication, and resource interdependence.

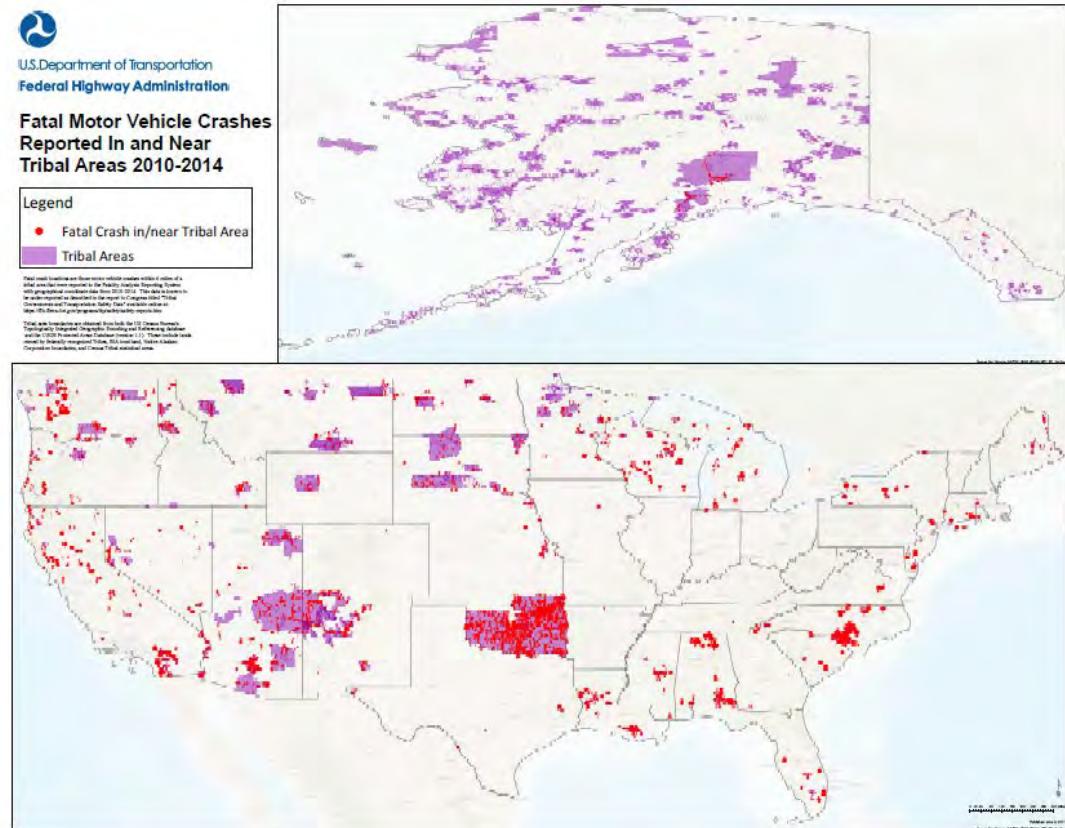


Jason Hollinday, Director of Planning for the Fond du Lac Reservation, and Patrick Boyle, St. Louis County Commissioner, celebrating bilingual Ojibwe and English road signs

Source: <http://www.howieblog.com/?p=34085>

# National surveys

- ▶ Tribal transportation safety and data quality risks (all tribes and state government liaisons)
- ▶ EMS response to MVCs in reservation areas (all tribes, responders, etc.)



# Tribes' roadway safety priorities

(national survey)

Unlicensed driving  
Speeding  
Data consistency&sharing  
Enforcement  
Dust control  
**Impaired driving**  
Striping Reckless driving ATVs  
Distracted driving Highway safety  
Animals in road Traffic  
Interagency cooperation  
**Road maintenance**  
School-access Education  
**Roadway engineering**  
Funding Congestion  
volume Access Signage  
Guardrails Child restraints  
Lighting Bicycles  
Emergency response  
Seatbelts  
**Pedestrians**

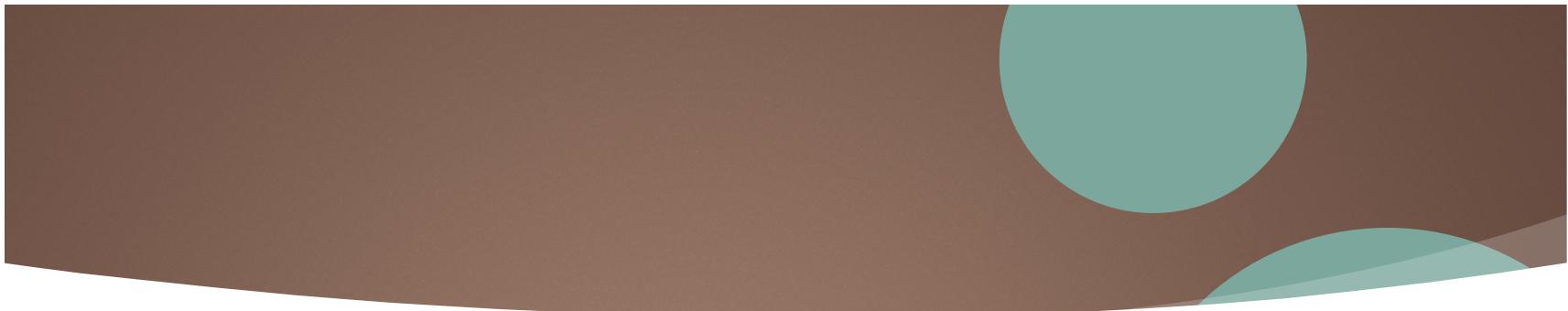
# Tribes' roadway safety priorities (national survey)

## Highest priorities

- ▶ Vulnerable roadway users: **pedestrians, cyclists, children**
- ▶ Road engineering and repair: road design, maintenance, signage, and lighting
- ▶ Driver behavior: impaired driving, speeding, and distracted driving
- ▶ Restraint use: seatbelt or car seat

## Other high priorities

- ▶ **Inter-jurisdictional coordination** among tribal, federal, state, and local governments
- ▶ Law enforcement





## Conclusions

Source: Cass Lake-Bena School District (2015)  
“Cass Lake-Bena Safe Routes to School Plan”

## Summary of key findings

- ▶ Pedestrian safety is a critical, distinctive, and under-recognized priority in reservations.
- ▶ Road engineering and repair need sustained resources.
- ▶ Impaired driving must not be assumed to be “the” explanation.
- ▶ Education and enforcement to increase seatbelt use are essential.
- ▶ Tribes need better cooperation with local, state, and federal agencies.
- ▶ Further research on reservation roadway safety needs to be sustained and supported.

# For more information

- ▶ Interview with tribal government collaborators: <http://www.startribune.com/report-shows-that-pedestrian-safety-is-a-major-concern-on-minnesota-s-american-indian-reservations/505941632/>
- ▶ Tribal Safety Management Systems steering committee prepared 2 extensive reports to Congress, available at [tribalsafety.org](http://tribalsafety.org)
  - ▶ Tribal Governments & Transportation Safety Data
  - ▶ Options for Improving Transportation Safety in Tribal Areas
- ▶ Quick, K.S., & Narváez, G.E. (2018) "Understanding roadway safety in American Indian reservations: perceptions and management of risk by community, tribal governments, and other safety leaders." Center for Transportation Studies Report 2018-20.
  - ▶ Blog: <http://www.roadwaysafety.umn.edu/publications/2019-summary-report/research/tribalsafety/index.html>
  - ▶ Podcast: <https://civios.umn.edu/podcast/advancing-roadway-safety-american-indian-reservations/>
- ▶ For references of literature cited, please contact the authors for copies of our papers and bibliographies.

# Thank you!

- ▶ We collaborated with Adam Larsen of FHWA on the national survey.
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- ▶ Thanks to research assistants Sara Dufour, Peder Garnaas-Halvorson, Victoria Fiorentino, and Ben Gronowski.

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The background features three large, semi-transparent teal circles of varying sizes. One circle is positioned in the lower-left foreground, another is in the upper-right background, and a smaller one is in the bottom-right corner.

# Additional resource slides

# Methods



# Methods: Key stakeholders

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

# Methods: Interviewing safety professionals

1. How are you and your agency involved in reservation roadway safety?
2. How would you describe roadway safety in the reservation?  
*[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 to improve roadway safety in the reservation?

## Methods: Expert drivers & residents

- ▶ 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