

The Pedestrian Crossing Experience in Minnesota

Pedestrian Crossings and Safety on Four Anishinaabe Reservations

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MnDOT Mission

Plan, build, operate, and maintain a safe, accessible, efficient, and reliable multimodal transportation system that connects people to destinations and markets throughout the state, regionally and around the world.

MnDOT Programs & Policies for Pedestrian Safety

- Toward Zero Deaths
- Safe Routes to Schools
- Statewide Multi-modal Plan
- MnDOT equity initiatives
- Minnesota Walks
 - “... framework for creating safe, desirable, and convenient places to walk...”

MnDOT Minnesota Walks

Priority Populations

- Small Rural Communities
- Children and Youth
- Native American Populations
- People with Disabilities
- Older Adults
- Urban, lower income populations

MnDOT Bike & Ped Counting Program

- Limited Rural & Pedestrian Data
- Not as Simple as a Screenline
- No Best Practices
- Warrants vs. Risk Exposure
- Implement Data-Driven Decisions
- Connect People & Places

MnDOT Initiatives with Tribes

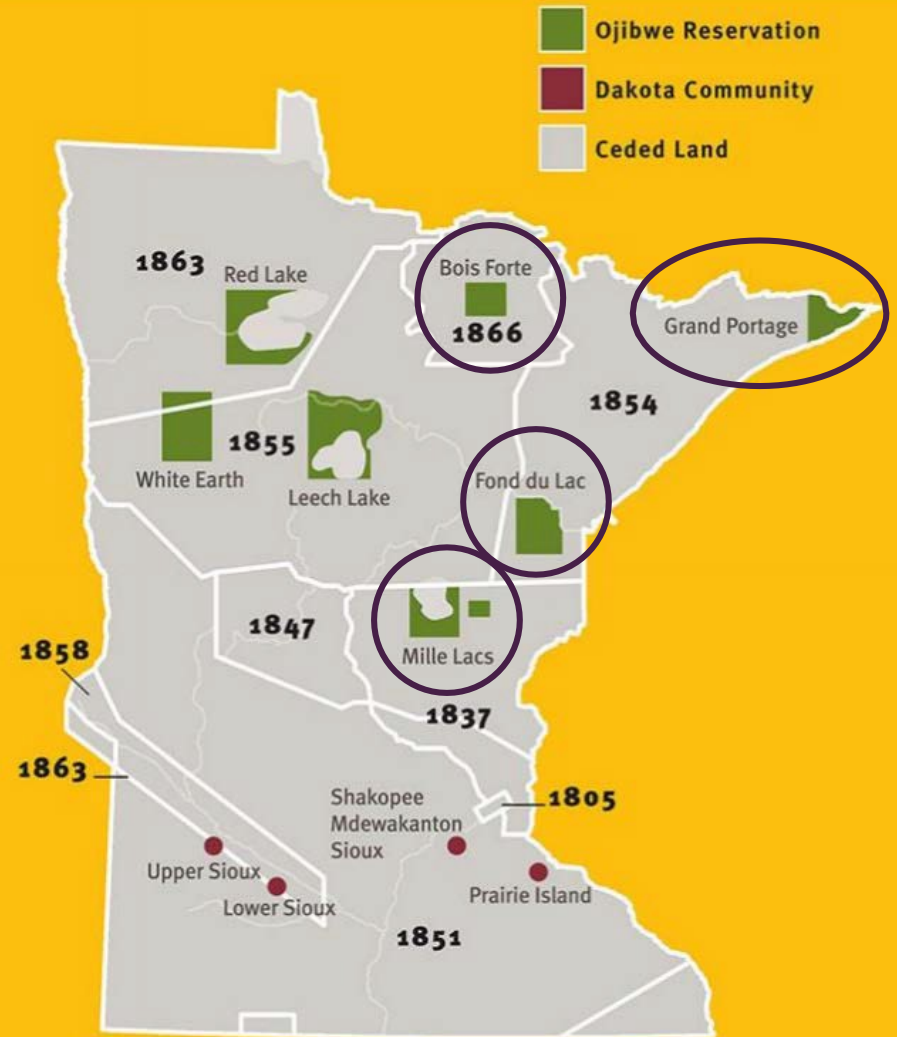
- [Advocacy Council for Tribal Transportation](#)
- [Agreements](#) (MOUs, guidance on cooperations)
- [Treaty Boundary Signing Guidance \(PDF\)](#)
- [Dakota and Ojibwe Language Signing Program \(PDF\)](#)
- [Environmental and Right of Way Regulations](#)
- Projects (research and implementation)

Traffic Safety Context on Reservations

- Culture of walking and low car ownership
- Large roadway networks; often not walk-friendly
- High speeds, big trucks, limited lighting, vegetation up to roadway
- Low population densities
- Highest rates of roadway fatalities and injuries of any race
- Vacation and pass-through traffic unaware of the community context
- Limited trust with state institutions due to historic marginalization and trauma

Tribal Partners

- Fond Du Lac Band of Ojibwe
- Mille Lacs Band of Ojibwe
- Grand Portage Band of Chippewa
- Bois Forte Band of Chippewa



Pedestrian Crossings and Safety on Four Anishinaabe Reservations

- Scope (Phase 1)
 - Monitor pedestrian crossings at 10 intersections on four Anishinaabe reservations (Boise Forte, Fond du Lac, Grand Portage, Mille Lacs)
 - Identify potential countermeasures
- Approach
 - Identify monitoring sites in consultation with Advocacy Council on Tribal Transportation and Tribal representatives
 - Prepare monitoring plans and monitor pedestrian road crossings (Minnesota Traffic Observatory)
 - Reduce video and analyze data
 - Identify potential countermeasures in consultation with Tribes

Overview of Phase 1 Results

- Pedestrian crossings at 10 sites: 4 to 136 per day
- Interactions with vehicles: 9% to 54%
- Potential countermeasures identified: 6 locations
- Countermeasures scheduled: 3 locations
- Countermeasures implemented (2021): Mille Lacs and Grand Portage
- Increased collaboration among Tribes, MnDOT, Counties, University
- Phase 2 implemented
 - Leech Lake, Red Lake, White Earth monitoring
 - Post-construction evaluation of Phase 1 countermeasures

Grand Portage Reservation

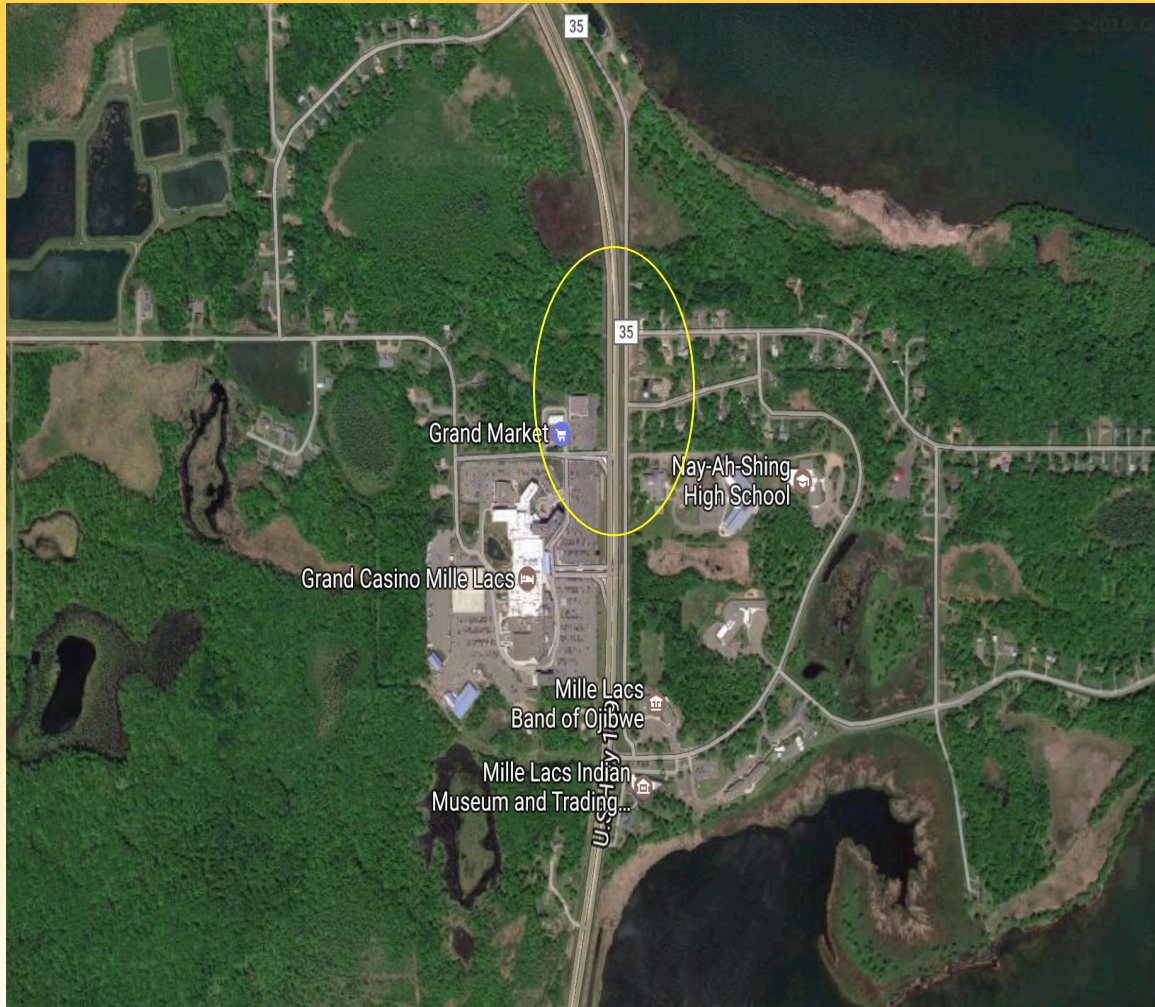


Location	Days Counted	Total Peds Observed	Average Peds / Day	Maximum Peds / Day	Crossings with Interactions
HWY 61 & Blazes Pit Rd	16	218	13.6	38	21.1%
HWY 61 & Stevens Rd	13	147	11.3	23	19.0%

New Countermeasures (September 2021)

- Implemented during Hwy 61 resurfacing
- Marked crosswalks at two locations
 - Gate-posted crossing signs
 - Continental block pavement markings at both crosswalk locations
 - Sidewalk/trail facilities constructed to lead to the crosswalks
- LED blinker signs indicating PEDS/BIKES NEXT 1 MILE on northbound and southbound TH 61.
 - Two crossing locations
 - Road segment where pedestrians/bikes observed along road shoulder

Mille Lacs Reservation

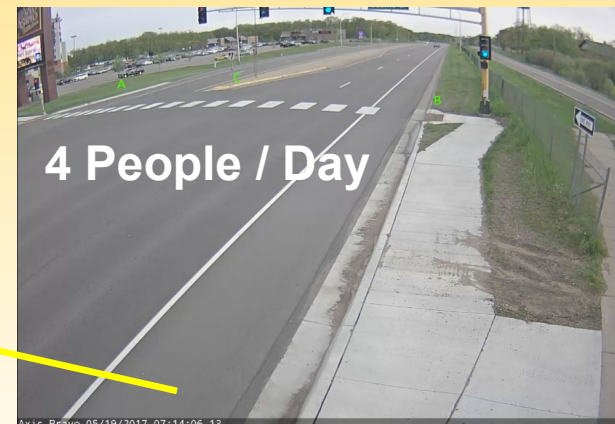


Long-term concerns about pedestrian crossings on TH 169; no systematic data

Options:

- HAWK Signal
- Pedestrian Bridge
- New Stoplight

Mille Lacs: Hwy 169 Informal Crossing



Examples of Pedestrians Crossing

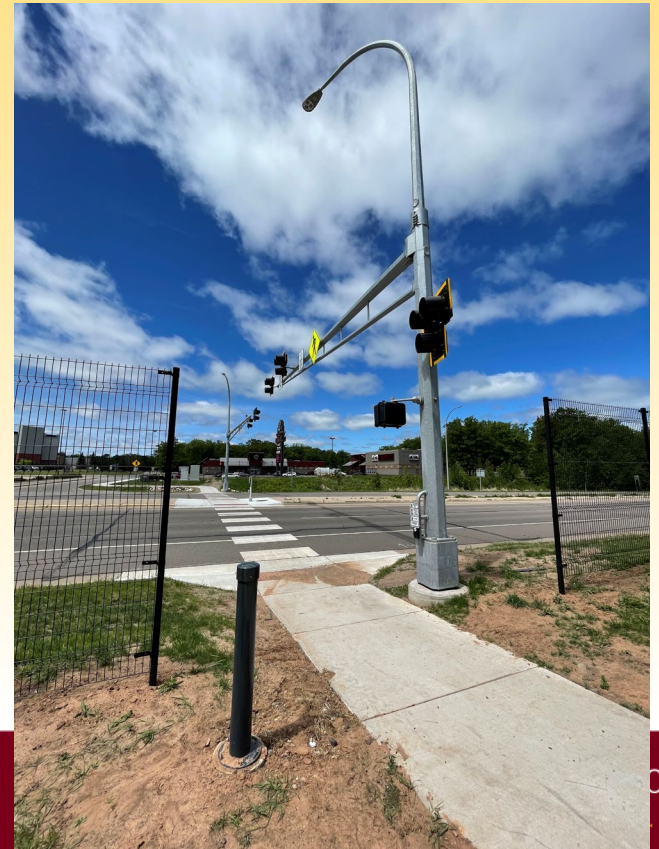


Mille Lacs Band
received TAP Funding
for HAWK signal (2019)



HAWK Constructed in Fall 2021

- Monitoring results: 2017
- Tap funding: 2019
- Design: 2020
- Construction: 2021
- Mille Lacs Band training video
- Phase 2 post-evaluation underway



Insights from Project

- Daily crossing volumes low
 - None meet warrants)
 - None identified in county safety plans
- Risk is real
 - Unanticipated presence of pedestrians
- Lived experience, concerns of Tribal residents can be addressed
- Collaboration is essential
- Lower-cost countermeasures can be integrated into roadway improvement projects
- Implementation addresses equity concerns

Acknowledgements and Disclaimer

- Thanks to institutional funders and collaborators
 - MnDOT, Bois Forte Band of Chippewa, Fond du Lac Band of Lake Superior Chippewa, Grand Portage Band of Ojibwe, Mille Lacs Band of Ojibwe, Center for Transportation Studies, Roadway Safety Institute, Minnesota Traffic Observatory
- These agencies have no responsibility for anything I say
 - MnDOT, Bois Forte Band of Chippewa, Fond du Lac Band of Lake Superior Chippewa, Grand Portage Band of Ojibwe, Mille Lacs Band of Ojibwe, Center for Transportation Studies, Roadway Safety Institute, Minnesota Traffic Observatory

Reflections Research & Practice

- MnDOT District and County engineers
 - Why were these sites on the reservations studied?
 - None of these sites are priority (high-risk) sites in safety plans.
 - If you document risk, you create expectations we will do something. We haven't resources for all sites. We have an objective process. Squeaky wheels shouldn't be greased.
- Tribal Transportation representatives
 - Historical trauma and lack of investment has reduced trust
 - “We are more than just small numbers.”
 - Pedestrian risk is lived experience
 - Equity considerations are important
 - Addressing risk is the right thing to do

Observations

- Public transportation officials work hard to be efficient & fair
- Systematic approach does not always capture lived experience
- Limited data about demand for walking & exposure to risk
 - Efficiency and equity of investments often is unknown.
- Methods and tools for measuring demand and assessing exposure to risk increasingly are available.
- Better information
 - Illustrates relative efficiencies
 - Illuminates inequities
 - Can complicate decisions

Fodder for Discussion

- Systematic approach to risk ranking in county safety plans did not identify any of 10 sites identified by Tribes through lived experience
- Strict adherence to efficiency criteria (i.e., most pedestrians, greatest risk) means most rural & reservation sites always low priority
- Trade-offs between efficiency and equity in prioritizing investments are inherently value-laden and subjective
- Technical analyses inform and bound debates,
 - Do not eliminate subjectivity,
 - Do not eliminate role of values in decision-making

Questions and Discussion

Thank you!