

NDSU UPPER GREAT PLAINS
TRANSPORTATION INSTITUTE

Engagement with Tribal Communities

- Tribal governments, with sovereign regulatory and judicial authority require evidence-based research that supports self-determination priorities and goals.
- Conduct foundational research into the legal/regulatory, economic, land use, and workforce capacity environment of AV implementation.
- Develop Tribal RAV demonstration and deployment tools and opportunities.
- Novel adaptation and use of Community Readiness Theory and Tools to assess the organizational and social awareness of and barriers to engagement with AV technology and opportunities.

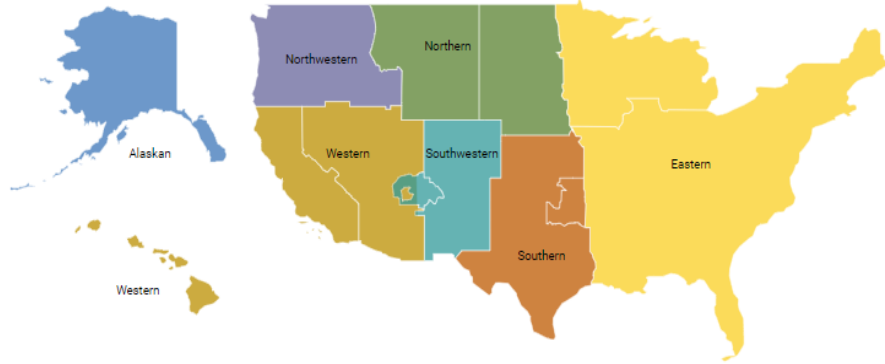
Goals

- Build internal capacities within Tribal Nations to plan and manage transportation systems
 - *Means*: technology transfer, training, technical assistance and context-sensitive research
- Support transportation research and education capabilities within Tribal College partners
 - Means: collaborative research, mentoring of faculty, joint workforce development programs
- Build technical and leadership skills needed to be successful in a highly-automated future based on data-driven decision-making
- Listen more than you talk to know how and where to begin

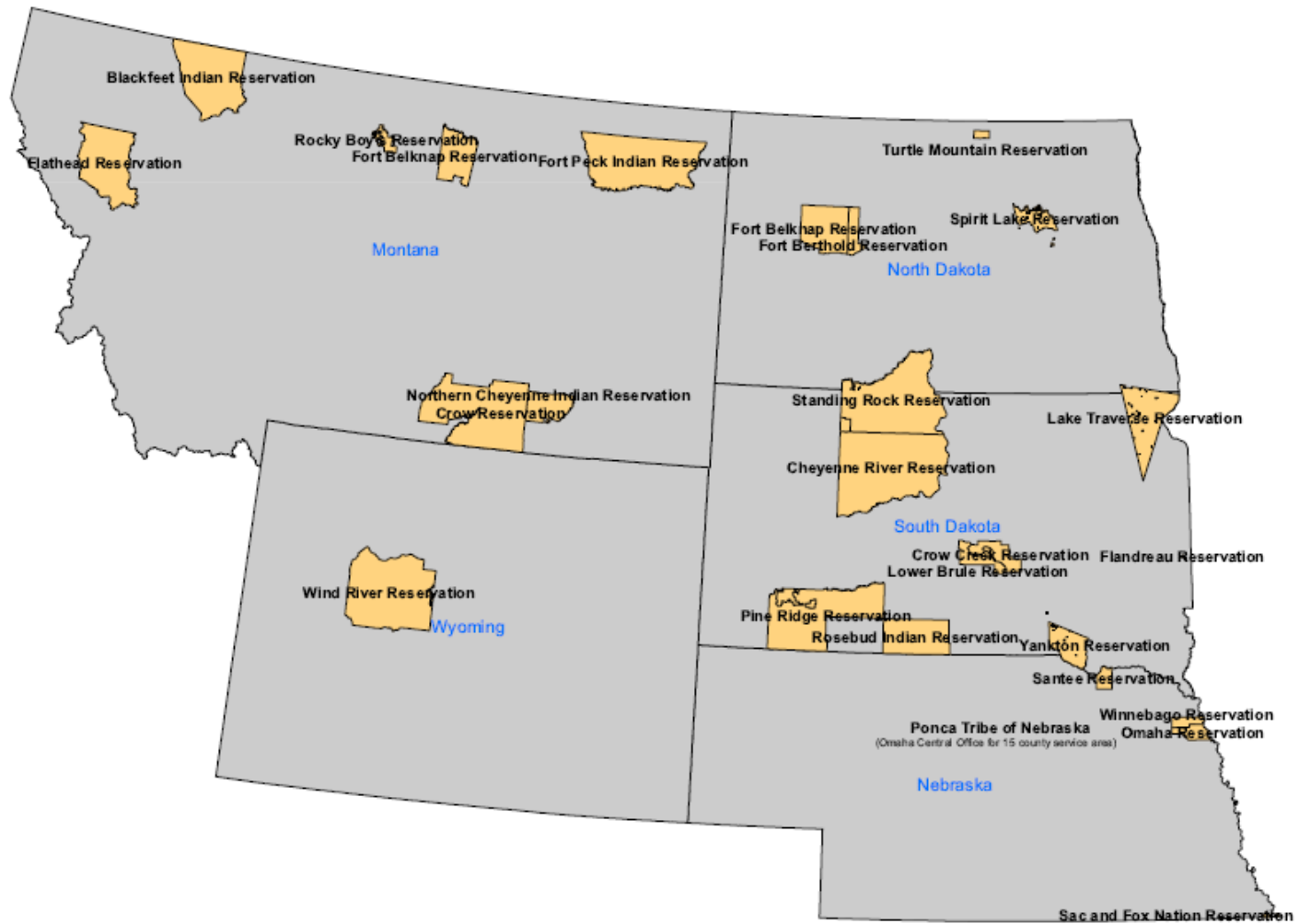
Northern Tribal Technical Assistance Program

- Co-Directed with Bryon Fuchs
- Completing year 2 of a 5-year agreement with FHWA
- North Dakota, South Dakota, Nebraska, Wyoming, Montana
- The program works with American Indian tribal governments to build tribal capacity in program management, grow the tribal workforce, cultivate and coordinate partnerships, facilitate technology transfer and the implementation of innovations, and share results of similar initiatives across the country.

Northern Tribal Technical Assistance Program



- Funded by FHWA
- Managed by FHWA Tribal Transportation Program
- 7 Regional Centers
- NTTAP is a consortium of 5 state LTAP Centers and part of UGPTI

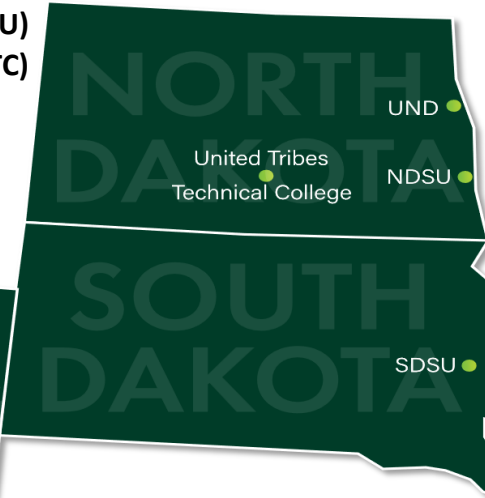


CTIPS Approach

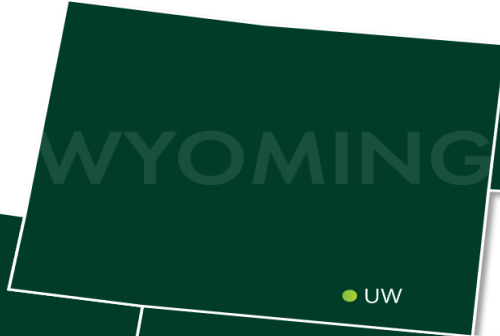
Center for Transformative Infrastructure Preservation and Sustainability

- Go to Tribal officials
- Build trust by listening first and start engagement with informed content
- Participatory Research Models
- Transportation Research Board
- University Transportation Centers
- Regional and National Tribal Organizations

North Dakota State University (NDSU)
United Tribes Technical College (UTTC)
University of North Dakota (UND)

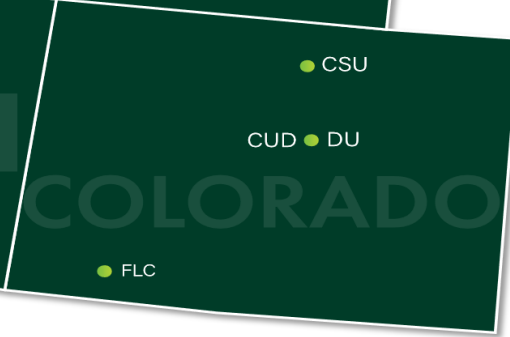
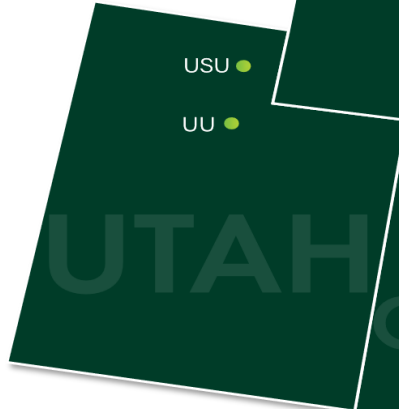


University of Wyoming (UW)



South Dakota State University (SDSU)

University of Utah (UU)
Utah State University (USU)



Colorado State University (CSU)
Colorado University Denver (CUD)
Denver University (DU)
Fort Lewis College (FLC)

Goals

- Build human capacity in Tribal nations to manage and improve their surface transportation systems through collaborative/supportive programs
 - Leadership (roles, funding, stakeholders and importance of transportation in public safety, economic and community development)
 - Practitioners (road and transit planning knowledge and skills)
 - Resources (accessing Federal, State, and private funds)
- Train future transportation workforce
- Identify context-sensitive affordable solutions
- Serve as trusted source of expertise and support

Tribal Specific Curriculum and Field Guidance

- Need for Tribal Transportation Program-specific education and field support material
- Uniquely complex administrative options and requirements
 - Several funding source options
 - Complex land ownership
 - Road ROW ownerships – partners/coordination
- Equity regarding resources provided through AASHTO, NHI, and other resources.

Tribal Transportation Workforce Peer Exchange

- 20 – 30 Tribal Transportation Professionals from across the nation
- ESRI headquarters in Redlands, CA
- Assess current and future workforce needs and gaps
- Assess the current and future technology and program environment
- How do you accomplish Self-Determination while meeting Federal Aid policies and requirements
- Identify research problem statements
- Collaboration with other University Transportation Centers

Perception is Everything

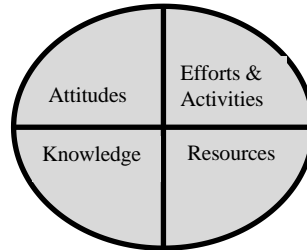
- Autonomous Trucking is potentially disruptive
- Threat
 - Safety
 - Jobs
- Opportunity
 - Benefits
 - Burdens

Tribal Community Readiness for Autonomous Trucking

- A self-assessment tool for use by the Community
- Identify a starting point on the readiness spectrum and develop a plan to move forward
- The plan inevitably means education and engagement with leadership support

The Community Readiness Model (CRM)

Measures



of

Community
Members

+

Leadership

in order to assess

A community's readiness to address
an issue on 5 key dimensions:

- Community Knowledge of the Issue
- Community Knowledge of Efforts
- Community Climate
- Leadership
- Resources



Crawl, Walk, Run

- Good for everyone at this stage, including Tribes

Policy Issues

- Scope of deployment, what is and is not within the operational design domain?
- Who regulates:
 - Registration
 - Permits
 - Weight and Size
 - Security
- Data access and for what purpose?
- Distribution of benefits and burdens

Core Competencies for Autonomous Trucking

- What does a Tribal or rural community need to know at what levels to engage with this technology?
 - Leadership
 - DOT – Infrastructure, Regulatory/Permitting,
 - Law Enforcement
 - EMS

Central North American Trade Corridor



Central North American Trade Corridor

- Most north/south route between Canada and the populated Mexico sections.
- Low-level geography for rapid movement of goods.
- No mountains to climb or great water barriers to span.
- Improvement of U.S. 83 and connecting Canadian and Mexican highways would enhance traffic and existing trade.
- Aid to rural revitalization and youth retention.
- Increased facilities for trade and tourism support would add new dollars and broaden tax base for communities along corridor highways.
- U.S. 83 intersects with all major east/west transcontinental railroads and interstate highways.

Intermodal Surface Transportation Efficiency Act Of 1991 (ISTEA)

- Proclaims completion of interstate highway system.
- Promotes and helps to fund the united effort of sea, air, rail and highway transportation to expedite the flow of people and goods in a global economy.



Central North American Trade Corridor Association Bulletin Board Service

The Central North American Trade Corridor Association operates an international computer Bulletin Board Service (BBS). The BBS is vital part of the communications link of the trade corridor. The benefits of the BBS include:

- Access updated information immediately as it becomes available using a computer and modem
 - Receive the latest news releases which the CNATC international office has released
 - Utilize the BBS as a central e-mail location for the entire corridor
 - Download or view meeting reports
 - View upcoming meeting dates and register on-line for meetings
 - Start and maintain trading alliances with other cities or businesses
 - Advertise your business, service, product, or city to the rest of the world
 - Download useful software
 - Order chapter development kits and accessories on-line
 - Become a CNATC member on-line
- BBSs are fast becoming a vital link on the information superhighway. The CNATCA realizes there is a need for "real time" information as a tool for developing and strengthening the trade corridor.

Some very active communities in the Trade Corridor are not shown on this map due to map scale and technical space.

NDSU UPPER GREAT PLAINS TRANSPORTATION

Thank you!