

## Semi-Annual Progress Report for University Transportation Centers

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Small Urban, Rural and Tribal Center on Mobility (SURTCOM)

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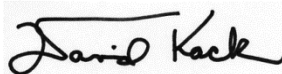
Recipient Organization: Montana State University  
Bozeman, MT 59717

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Signature:



## 1. Accomplishments

### What are the major goals and objectives of the program?

The mission of the Small Urban, Rural and Tribal Center on Mobility (SURTCOM) is to conduct research and provide leadership, education, workforce development and technology transfer in all transportation-related aspects of mobility for people and goods, focusing specifically on small urban, rural and tribal areas. The Western Transportation Institute (WTI) at Montana State University (MSU) is the lead institution, with consortium members including Eastern Washington University (EWU) and the Small Urban and Rural Center on Mobility (SURCOM) at North Dakota State University (NDSU).

### What was accomplished under these goals?

From April to September 2022:

- WTI/MSU continues providing technical assistance to rural and tribal communities who want to increase biking and walking in their towns. The *Building Active Communities Technical Support* project identifies changes in infrastructure that can increase the number of people using active modes of transportation. In addition, WTI/MSU continues to help with Safe Routes to School efforts in Montana and is working with the Human Resource Development Council and City of Bozeman Parks Department on a Safe Routes to Parks project. In addition, WTI/MSU staff are working with the Montana Area Health Education Center (AHEC) Program Office at MSU and the White Sulphur Springs (Montana) Hospital on options to increase access to the hospital and to provide connections to larger communities in the area.
- Work concluded on a WTI/MSU project that identified fiber-reinforced polymer (FRP) materials and systems as suitable for a wildlife bridge superstructure and related design elements (e.g., fencing, sound barriers, jump-outs, etc.). FRP superstructures have previously been designed for bike/ped crossings to meet American Association of State Highway and Transportation Officials (AASHTO) standards. These structures have been investigated to see which types are suitable for wildlife crossing infrastructure and WTI worked with the California Department of Transportation (Caltrans) to develop FRP options for the construction of a wildlife overpass along US-97 in Siskiyou County, California. Working with a state department of transportation (DOT) has helped to identify challenges involved in the approval process for using this innovative material in infrastructure along the U.S. road network. A design lab hosted road ecologists, engineers, biologists, and landscape architects to review and summarize potential uses of FRP in wildlife infrastructure and offered specific design considerations for the US-97 site. WTI developed a recommended FRP wildlife overpass and fencing design using a composite-tub girder system and FRP reinforced concrete deck superstructure. Non-structural elements (e.g., fence posts, barriers, jump-outs) are recommended to use FRP materials manufactured from recycled plastics. The WTI Team believes these structural designs represent the most advanced use of FRP materials for wildlife infrastructure capable of passing Caltrans' bridge approval process for construction along US-97. This

WTI design is economically competitive over its 100-year service life when compared to traditional materials (e.g., concrete, steel, and wood).

- WTI/MSU continues work with the Idaho Transportation Department (ITD) to implement new transit services in both Idaho Falls and Twin Falls (Idaho). The public transportation service, a microtransit service, in Idaho Falls began on June 3, 2022 (see [GIFT On-Demand Rides | Idaho Falls, ID \(idahofallsidaho.gov\)](https://idahofallsidaho.gov) for more information on the service in Idaho Falls). While planning efforts are slower in Twin Falls, the hope is that service will start in that community in late-fall or early-winter of 2023.
- Work continues with Transportation Demand Management (TDM) efforts in the greater Bozeman (Montana) area. WTI/MSU had assisted Gallatin County and the City of Bozeman with TDM efforts under the previous SURLC UTC and is continuing efforts through SURTCOM. As part of this on-going project, TDM efforts were re-branded to “Go Gallatin” to reflect the larger commuting patterns in the area. In addition, the City of Bozeman hired a TDM Coordinator, with whom WTI works to increase the TDM efforts. As part of this on-going effort, the City of Bozeman launched a Guaranteed Ride Home program for commuters on September 19 (see [Need a lift? Bozeman organizing guaranteed ride home program | City | bozemandailychronicle.com](https://bozemandailychronicle.com) for more information).
- WTI/MSU continues effort on a small research project (*Implication of School Format on Women in STEM*) documenting the importance of K-12 school format (e.g., online, hybrid, in-person, “pandemic pod”) for women in science, technology, engineering, and mathematics (STEM) who have K-12 children. The three separate surveys, administered to women in STEM-related jobs at three discrete periods of time to capture the impact that changes in K-12 school format have on their work and family lives are completed and data analysis is occurring. The results are intended to provide input on how future policies can better support women who work in STEM fields, including transportation.
- WTI/MSU is wrapping up a project with MDT entitled *Effectiveness of Highway Safety Public Education at Montana Motor Vehicle Division and Vehicle Registration Stations by Streaming a Variety of Safety Content*. The purpose of this project is to research which safety messages, if any, affect those who watch the videos (i.e., increase safety behavior). Four separate data captures (surveys) for two separate video sequences have been completed. A paper regarding this project was accepted for presentation at the 2023 Transportation Research Board (TRB) Annual Meeting and is being considered for publication in the Transportation Research Record. The project report should be completed in the next six months.
- WTI/MSU continued work on the *Montana MPO Travel Survey Analysis* project. The purpose of this study is to provide additional information and greater understanding of transportation planning and travel behavior in the areas served by the Billings-Yellowstone County Metropolitan Planning Organization and the Missoula Area Metropolitan Planning Organization, two of the three metropolitan areas in Montana.

- In conjunction with MDT, WTI/MSU continued work on the *Statewide GNSS RTN System* project. The objectives of this project are to perform an assessment of the various alternative business models and to recommend the most appropriate business model(s) for MDT to pursue in the planning and development of a Statewide Global Navigation Satellite System (GNSS) Real-Time Network (RTN) system. This project should be completed in the next three to four months.
- WTI/MSU staff continued working with the University of Florida on the NCHRP 08-135, *Reliability and Quality of Service Evaluation Methods for Rural Highways* project. The objectives of this research are to: 1) develop reliability and quality of service predictive methodologies for rural road facilities to account for the new context and functional classifications of the Green Book, and 2) develop a guidebook on application of the methodologies for a broad range of users.
- Working with Battelle, staff from WTI/MSU are working on the *Traffic Incident Management (TIM) Strategies for Rural Environments* project. The objectives of this FHWA research project are to research the unique challenges, good practices, and opportunities necessary to assist rural responders and motorists to improve safety and incident mitigation of rural roadways.
- WTI's Community-engaged and Transformational Scholarship (CATS) program facilitates course-based student projects based on community needs submitted by the City of Bozeman. One hundred and forty-one graduate and undergraduate students in ten courses, representing eight different academic disciplines, participated in CATS projects over the reporting period. Projects focused on sustainability issues, public participation, public education, and community planning in a fast-growing small urban community.
- WTI continued working with the National Association of Development Organizations (NADO) on technical assistance projects funded through the U.S. Department of Agriculture (USDA). On-going projects are currently located in communities in Southeast Arizona, Southern Ohio, Southeastern Utah, Southern Georgia, Southwest New Mexico, Southwest Missouri, the Upper Peninsula of Michigan, and the White Earth Indian Reservation in Minnesota.
- WTI began the project *In Search of Simultaneous Benefits of Infrastructure Provisions on Freight & Bicycle Movements*. The purpose of this project is to research rural roadway measures (e.g., wider shoulders, separated facilities) that could increase freight efficiency and safety (e.g., reduce run off the road incidents) while offering bicyclists simultaneous benefits (e.g., reduced traffic-related injuries and fatalities, reduced particulate matter inhalation). In addition to roadway measures, this project will also review vehicle characteristics (e.g., freight vehicle blind spot warnings) and related policy measures that could reduce freight-bicyclist conflicts on rural roadways.
- WTI began the *Transportation Equity in Rural and Small Urban Areas* project, with the purpose to provide information regarding: (1) mobility resources and needs across rural America with an emphasis on cataloging public mobility options in rural communities via the National Transit Database in relation to sociodemographic information available

from the US Census Bureau in terms of race, ethnicity, and income, as well as an overview of key knowledge gaps and future areas of inquiry for equitable transportation in rural America, such as the reasonable and equitable expectations for publicly supported travel in rural settings and the unique mobility challenges for mobility in rural settings; (2) innovative policies and programs to provide comprehensive support for access to opportunities – currently being developed and piloted in large metropolitan areas – such as universal basic mobility, targeted incentives for affordable housing residents, and new approaches to transportation pricing, and assess their potential for application in rural and small urban areas; (3) indices to operationalize and assess transportation equity and prioritize investments, with an emphasis on a comparative evaluation of their relevance for practical policymaking and planning in rural and small urban areas; and (4) a distillation on the state of microtransit with respect to suitability for implementation and unique challenges in rural and small urban settings.

- WTI/MSU, in conjunction with the Center for Large Landscape Conservation (CLLC), continues work on the project *US-191 Wildlife and Transportation Conflict Assessment: Preparing for Continued Growth*. US-191 is a two-lane highway that connects Bozeman to Big Sky (Montana) and this project is assessing the extent of wildlife-vehicle collisions (WVC) along this corridor (a significant safety issue) and what solutions should be implemented. This research is also investigating WVC data to assess how many years of data is required to correctly identify hotspots, how these locations move over time, and how they are affected based on when an analysis is conducted. The field review to locate the best mitigation sites will be conducted in October 2022.
- WTI/MSU has started work on the project West-wide Assessment of Cost-effective Opportunities for Mitigating Wildlife-Vehicle Collisions (WVCs). The aim of the project is to support the design and implementation of federal and state policies to reduce WVCs and improve wildlife movement. Taking a systematic approach to identifying WVCs with large mammals in the 11 western states (e.g., Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah Washington, and Wyoming) and applying cost values to each collision allows for the identification of highway segments where the economic benefits of providing mitigation for wildlife surpass the costs of collisions. The report will summarize where WVC mitigation opportunities are beneficial west-wide, by state and by county.
- WTI/MSU completed a project in conjunction with the Big Sky Passenger Rail Authority and the Rail Passenger Association that provided an economic impact analysis based on bringing passenger rail service back through southern Montana.
- WTI/MSU started a new project, *Technical Support to Increase Safety for People Walking and Biking in Big Sky*, that will help the Big Sky Community Organization determine what improvements may be needed to improve the safety of those walking and biking in the Town Center area of Big Sky.
- WTI/MSU started the project *Network Screening on Low-Volume Roads: Empirical Validation of a New Proposed Methodology*. The objective is to validate the newly

proposed low-volume roads network screening methodology using extensive field data to assess the effectiveness of the proposed method and its suitability for implementation in Montana and the northwest region.

- WTI/MSU, EWU and NDSU/SURCOM are all working as part of a team (with the KFH Group as the lead) on the NCHRP 08-147/TCRP B-49 project *Improving Public Transportation in Rural Areas and Tribal Communities*. The output of this project will be a guidebook that will assist those operating and managing public transportation (transit) systems in rural areas and in tribal communities.
- Work continued with the EWU project, *The Status and Issues for American Indian Transit in the West*. Beginning with a 2012 report, the EWU team has sought to conduct a “state of tribal transit” update, including the identification of critical issues and an assessment of western tribes in relation to transit.
- *The Impact of the Automobile on American Indian Reservations*, an EWU project, saw further progress. This report will assess the culture, use, and impact of the automobile on land use and reservation design, which will inform efforts to address unmet transportation needs.
- *Mobility on American Indian Reservations: A Tribal Context for Transportation*, an EWU project, continued its progress. This project will provide a perspective on mobility, including historic change from successful tribal specific cultures pre-contact to contemporary mobility related to American Indian reservations to other emerging transportation and key issues. An important component of this work is to understand the dynamics of mobility, particularly within tribal and community cultures, access, needs, and issues.
- EWU staff continued work on *Best Cases for Tribal Transportation Safety: Media, Planning and Action*. These small research projects are underway to support tribes on how to safely provide mobility and raise awareness of the importance of mobility.
- *Tribal-State Relations in Transportation: A Western States Analysis, Part 1: Evidence from Nine States* and *Part 2: Jurisdiction Overlaps* are two parts of a new project started by the EWU staff that will analyze how well states (and their departments of transportation) recognize the sovereignty of Tribal Governments, and how well these agencies work with the tribes to address their transportation needs. A survey related to the first part of the project is underway with tribes in the western United States to provide a quantitative approach/framework. The COVID-19 pandemic has delayed the survey analysis longer than expected, but it is currently being finalized.
- EWU staff continued work on the project *Data Driven Planning and Tribal Implementation for Tribal Safety on Reservations*. This project will analyze how Washington State traffic safety programs may empower tribal programs and implement a culture of safety.

- EWU staff continued work on the project *The Relationship between Reservation Geography & Jurisdiction Overlaps* to highlight why jurisdiction matters to Indian Country. This project attempts to correlate the effects of jurisdictional overlap with federally recognized continental American Indian Reservations and Tribal Lands through examination of how they are divided across states, counties, school districts, and congressional districts. This is mainly accomplished by using GIS. Staff are investigating instances of these jurisdictional overlaps with the 397 census-identified continental reservations and tribal areas.
- The EWU team is working on several additional research reports, including *Dangers Related to Mobility for Tribal Women (MMIW)*; *Human Trafficking as Related to Transportation*; *Effects of Climate Change on Tribal Mobility on Land & Water Based Tribes: Sustainability, Resiliency, & Mobilizing for Climate Change*; and an *Environmental Review on Colville Confederated Tribes Roads Damage Due to Climate Change: A Preventative Measures and Cost Analysis Report*.
- SURCOM/NDSU continued work on the project *Interest of Shared Mobility and Emerging Vehicle Technologies in Rural America*. This project will document and analyze the interest and adoption patterns for shared mobility, and emerging vehicle technologies in rural communities. This project is currently under review and will be published during the next reporting period.
- SURCOM/NDSU completed an update for the Web Application for State of Good Repair based on new available data in late 2021. The application is found [here](#).
- SURCOM/NDSU continued work on the project *Understanding How Bicycle Facility Characteristics and the Built Environment Influence Bicycle Use in a Small Urban Area: Case Study of Fargo-Moorhead*. The study will use bicycle count data and develop a model to estimate the relationships between bicycle facility and street characteristics and bicycle usage. A draft report is available and reviewer comments are being addressed. The final report will be available during the next reporting period.
- SURCOM/NDSU continued work the project, *Pedestrian User Experience at Roundabouts for the Minnesota Department of Transportation (MnDOT)*. The objectives of the research are to understand pedestrian user experiences at roundabouts, identify how they can be enhanced through various pedestrian treatments, and develop related decision tools and guidance. The research was completed during the April to September 2022 reporting period and the final report is being edited in to the MnDOT final report format. A link to the report will be included when it is available.
- SURCOM/NDSU completed the project, *What Role Does Public Transportation Play to Help Solve Access to Food Issues in Rural and Small Urban Areas of the United States?* To identify how public transportation can play a role, surveys were administered to rural and small urban transit agencies during the winter of 2020 and results were analyzed with a follow-up to identify best practices. This report was published in May 2022 and is available [here](#).

- SURCOM/NDSU completed the report *COVID-19's Effect on Rural Veteran Mobility and Health Care*, in May 2022. The report, executive summary, and video summary are available [here](#).
- SURCOM/NDSU started the research project, *Impacts on Health in Rural and Small Urban Areas* during the reporting period. This study is ongoing and may be completed by the next report.
- SURCOM/NDSU started the research project *Designing an Electric Transit Bus Network*. This project may also be completed by the time of the next report.

What opportunities for training and professional development has the program provided?

SURTCOM (WTI, EWU and NDSU) hosted the Council of University Transportation Centers (CUTC) Summer Meeting in Big Sky, Montana, June 13-15. Sessions focused on the following topics: 1) UTC/Tribal Partnerships – building successful collaborations with tribal colleges, governments, and other agencies; 2) Rural Safety – How is it different than Urban Safety? 3) Successful Course Delivery During the Pandemic; 4) What long-term impacts will we see as a result of the COVID-19 Pandemic? 5) The USDOT General Session; and 6) UTC Administrative Session. There were 85 in-person attendees at the summer meeting, and 45 participants who joined online.

SURCOM/NDSU has ten eLearning courses designed to primarily help rural and tribal transit system operators. These courses can be found on the National RTAP Portal (see [National RTAP Portal > Courses](#) for more information). During April-September 2022, 387 eLearning trainings were completed.

How have the results been disseminated? If so, in what ways?

Research results have been disseminated through the presentations and publications noted herein, the SURTCOM website, and the websites of the SURTCOM partners (EWU & NDSU). In addition, videos were created for all the SURCOM/NDSU reports published in 2020 and later, and are available on the SURCOM website and on the Upper Great Plains Transportation Institute's [YouTube channel](#).

What do you plan to do during the next reporting period to accomplish the goals and objectives?

- Additional projects will begin based on the SURTCOM UTC proposal, input from the SURTCOM Advisory Committee, and topics/issues noted by state DOTs.
- Dissemination of research results continue to occur through national conferences and webinars.



## 2. Participants & Collaborating Organizations

### What organizations have been involved as partners?

- Eastern Washington University and North Dakota State University are partners/collaborators in SURTCOM.
- MSU/WTI, SURTCOM lead, is working with the NADO on a total of three mobility/transit projects which incorporate ten communities/areas, which are fully funded by NADO (through a grant from USDA). The Neponset Valley Transportation Management Association (TMA), which currently operates National RTAP, is involved in many of the NADO projects.
- WTI/MSU is working with ITD to implement or modify public transportation in two Idaho communities.
- WTI/MSU is collaborating with multiple communities in Montana on pop-up traffic calming projects. In addition, WTI/MSU is working with multiple departments within the City of Bozeman (MT) on pop-up projects, as well as the City's Transportation Demand Management (TDM) efforts.
- The Washington State DOT (WSDOT) has worked with EWU for several years and continues that collaboration.
- Additional EWU partners include the Affiliated Tribes of Northwest Indians (ATNI), numerous individual tribes, the Bureau of Indian Affairs (BIA), and the Federal Highway Administration (FHWA).
- The Montana Department of Transportation (MDT) is working on four projects with SURTCOM lead, WTI/MSU.
- SURCOM/NDSU works with the National Transit Institute (NTI) and National Rural Transit Assistance Program (National RTAP) on various projects.
- SURCOM/NDSU worked with the North Dakota Department of Transportation (NDDOT) to look at North Dakota mobility services and transit systems and how well they serve the needs of North Dakota residents. SURCOM/NDSU is now working with NDDOT to examine the rankings of public transportation services for nearby rural states. This project should be completed by the end of 2022.
- SURCOM/NDSU worked with the Minnesota Department of Transportation to conduct a study on roundabouts.
- SURCOM/NDSU worked with the Standing Rock Reservation in North Dakota (the Reservation also has land in South Dakota), as well as the Makah Indian Reservation in Washington State, while conducting the recently published research project SURTCOM 21-05.
- WTI/MSU was selected by FHWA to continue leading the operations of the National Center for Rural Road Safety (also known as the "Rural Safety Center").

- WTI/MSU provided information to a new hire within the transit department of the New Mexico DOT, and in addition, is working with NMDOT to leverage their bicycle counters to enable longer-term counting of bicycle traffic on a state roadway (US180).
- The City of Bozeman and Gallatin Watershed Council were partners with the CATS program to engage GIS students on the Branch Out Bozeman – Urban Forest Network project. The students gathered data on urban waterways to identify areas in need of trees that will have the greatest impact on both water quality and equity by reducing the urban heat island effect.
- NDSU/SURCOM (Jill Hough) developed a proposal and submitted it for a TRB webinar titled “Microtransit – Innovation in Rural Mobility.” The webinar was selected and will take place on October 20, 2022.
- NDSU/SURCOM (Jill Hough) serves as the University Liaison for the American Public Transportation Association’s Research and Technology Committee. Monthly leadership meetings are held. Dr. Hough helped identify and select the keynote speaker for the APTAtech Conference held August 14-17. The speaker was Aaron Steinfeld from Carnegie Mellon University (a UTC). In addition, Hough provides lists of completed UTC public transportation related reports to the Research and Technology Committee meetings.
- NDSU/SURCOM had a conference/video call with CDC on May 4, 2022 to discuss the Access to Food projects underway.
- NDSU/SURCOM team members (Jill Hough and Hamad Al Qublan) attended the Turtle Mountain Chippewa Labor Day Powwow as part of a Mountain-Plains Consortium UTC project on Access to Food For Native American Tribes in North Dakota.

Have other collaborators or contacts been involved?

SURTCOM’s Advisory Board consists of one representative (each) from the Montana, North Dakota, and Washington (state) DOTs, three tribal representatives, and one person from NADO. The Board receives SAPR reports and is encouraged to submit topics/issues for potential research projects. Further, staff from SURTCOM organizations attend meetings of relevant TRB Committees and other organizations (such as ATNI), where issues/topics are discussed, and potential projects identified.

### 3. Outputs

#### Publications, conference papers, and presentations

##### **Publications**

Final project reports were noted in Section 1, Accomplishments. In addition, SURTCOM staff collaborated on the following publications, papers, and presentations:

Hill, M., (2022). Missing and Murdered Indigenous Women (MMIW) How Can Transportation Stop Traffickers? The National Academy of Sciences • Engineering • Medicine. Transportation Research Board. <https://onlinepubs.trb.org/onlinepubs/trnews/trnews338.pdf>

Hill, M., Houghton, F., & Hoss, M. A. K. (2022). Health Delivery Systems in Response To Covid-19: The Need for Indigenous Led Responses in the USA. *Social Medicine*, 15(1), 54-60.

Hill, M., Anderson, M., King, I. (2022). Human Trafficking as a Racialized Economy and the Exploitation of Indigenous Socio-Spatial (Im)Mobility in North America, *Frontiers in Sustainable Cities*, section Social Inclusion in Cities.

[http://journal.frontiersin.org/article/10.3389/frsc.2022.884195/full?utm\\_source=Email to authors &utm\\_medium=Email&utm\\_content=T1 11.5e1 author&utm\\_campaign=Email public ation&field=&journalName=Frontiers in Sustainable Cities&id=884195](http://journal.frontiersin.org/article/10.3389/frsc.2022.884195/full?utm_source=Email_to_authors&utm_medium=Email&utm_content=T1_11.5e1_author&utm_campaign=Email_publication&field=&journalName=Frontiers%20in%20Sustainable%20Cities&id=884195)

Raza, S., Al-Kaisy, A., Teixeira, R., and Meyer, B. (2022) "The Role of GNSS-RTN Transportation Applications." *Encyclopedia*. MDPI, 2(3), 1237-1249; <https://doi.org/10.3390/encyclopedia2030083>

Raza, S., Al-Kaisy, A., Washburn, S. (2022) "Investigation of Roundabout Influence Areas along Rural and Suburban Corridors," *Journal of Advances in Transportation Studies*, Issue 58, pp. 21-38.

##### **Conference Papers**

Gallagher, S., & Woolard, C. (2022, August), Professional Development Outcomes for Rural Teachers Participating in a Research Experience for Teachers Program in Innovative Transportation Systems (Evaluation) Paper presented at 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. <https://peer.asee.org/40562>.

##### **Policy Papers**

- None at this time

## Presentations

April 5, Eggs & Issues Breakfast by Big Sky Chamber of Commerce, Big Sky, Montana. Matt Madsen (WTI/MSU) presented on Transportation Demand Management (TDM) efforts in the region, including the use of the GoGallatin website.

April 22, Association of Collegiate Schools of Planning, a Roundtable on Indigenous Research, Scholarship and Education (online). Margo Hill (EWU) presented her SURTCOM work.

May 5th, Climate Smart Montana Conference (online event). Matt Madsen (WTI/MSU) presented on Transportation Demand Management (TDM) efforts in the Gallatin Valley, including the use of the GoGallatin website.

May 11, Physical Activity Policy Research and Evaluation Network (PAPREN), Rural Active Living Work Group webinar. Karalyn Clouser and Natalie Villwock-Witte (WTI/MSU) presented *Case Studies of Communities of Less Than 10,000 People with Bicycle & Pedestrian Infrastructure*.

May 18-20, Women's Transportation Seminar (WTS) Annual Conference, Seattle, Washington. Natalie Villwock-Witte (WTI/MSU) *Walking & Biking in the Smallest of U.S. Rural Communities*.

May 19, Indigenous Research Symposium, Northwest Indian College, Lummi Nation. Margo Hill (EWU) presented on their SURTCOM research.

June 2-3, Inland Empire Priest Lake Conference, Coolin, Idaho. Margo Hill (EWU) presented as part of a panel on *Planning for Collaboration-Tribal Planning Efforts*.

June 13-15, CUTC Summer Meeting, Big Sky, Montana. Margo Hill (EWU) presented during the session *UTC/Tribal Partnerships – building successful collaborations with tribal colleges, governments, and other agencies*; and Jaime Sullivan and Rob Ament, both with WTI/MSU, presented during the session *Rural Safety – How is it different than Urban Safety?*

June 15, Association of Pedestrian and Bicycle Professionals (APBP) webinar. Karalyn Clouser and Natalie Villwock-Witte presented *Bicycling & Walking in American Communities of Fewer Than 10,000 People: Current Status & Plans for the Future*.

July 9, Spokane River Keepers Paddle, Spokane, Washington. *Margo Hill presented Traditional Tribal Mobility and the Spokane River*.

July 19-21, National Regional Transportation Conference (NRTC), Kansas City, Missouri. Natalie Villwock-Witte (WTI/MSU) presented *Bicycle and Pedestrian Access in Small Communities*.

July 19th, City of Whitefish Transportation Task Force, Whitefish, Montana. Matt Madsen (WTI/MSU) presented *GoGallatin, TDM, and Community Partnerships in the Gallatin Valley*.

July 24 University of Montana School of Public and Community Health Sciences (online presentation). Jennifer MacFarlane (WTI/MSU) presented *Improving Pedestrian Safety through Pop-up Traffic Calming*.

August 16, Association of Pedestrian and Bicycle Professionals (APBP) meeting, Minneapolis, Minnesota. Natalie Villwock-Witte (WTI/MSU) presented *Lessons Learned & Successful Strategies in Small Communities*.

August 22-26, National Transportation in Indian Country Conference (NTICC), Louisville, Kentucky:

David Kack (WTI/MSU) presented *Public Transportation (Tribal Transit) Planning*; and Margo Hill (EWU) was part of a Plenary Session Panel that discussed *Tribal Transportation's Role in Addressing Human Trafficking and Missing & Murdered Indigenous People*.

Dale Heglund, North Dakota LTAP (NDSU) gave presentations on *Signing Made Simple*, *Pavement Preservation*, and *Culverts & Bridges*.

Jay Otto, Center for Health & Safety Culture at MSU, presented *Growing Traffic Safety Culture in Indian Country*.

Finally, Ron Hall, who is part of the Northern Tribal Technical Assistance Program (TTAP) Center (led by NDSU, with WTI/MSU as a partner) presented during a session on *Transportation Equity Challenges*.

August 31, Tools of the Trade Conference, Boise, Idaho. Natalie Villwock-Witte (WTI/MSU) presented *Case Studies of Walking and Biking in Small, Rural Communities Across the U.S.* Jeremy Mattson (NSDU/SURCOM) was to present *Measuring the Benefits of Rural and Small Urban Transit in Greater Minnesota* but needed to cancel at the last minute due to testing positive for COVID-19.

August 31, The Transportation Research Board's Standing Committee on Impairment in Transportation (ACS50), online presentation. Margo Hill (EWU) presented *Drugged Driving, the Opioid Epidemic, and Highway Safety Planning in Washington and Tribal Communities*.

September 13, 2022 International TRANSED Conference, virtual event. Jill Hough (NSDU/SURCOM) gave a welcome speech during the opening ceremony of the conference.

September 16, Western Planner Conference, Bismarck, North Dakota. Natalie Villwock-Witte (WTI/MSU) presented *Active Transportation in the Rural Context: Bridging the Dots in the Land of Enchantment, Case Studies*.

September 18-21, 2022 Northeastern Transportation and Wildlife Conference, online and in-person in Atlantic City, New Jersey. Rob Ament and Mat Bell presented *Standardizing Wildlife-Vehicle Conflict Data Across Boundaries Using ROaDS (Roadkill Observation and Data System)*.

September 28, Montana Association of Planners Annual Conference, Billings, Montana. Jennifer MacFarlane (WTI/MSU) presented *Pop-up Traffic Calming, WTI and the City of Bozeman*.

#### Website(s) or other Internet site(s)

- SURTCOM website ([www.surtcom.org](http://www.surtcom.org))
- EWU's SURTCOM related website (<https://www.ewu.edu/css/surtcom/>) has updated contact information, new lectures, outreach with lectures and PowerPoint presentations, and listings of on-going research.
- NDSU's Small Urban and Rural Center on Mobility website (<https://www.ugpti.org/surcom/>) includes project reports and video overviews.

#### New methodologies, technologies, or techniques

- WTI/MSU staff (Rob Ament and Mat Bell) presented during a panel session at the 2022 Northeastern Transportation and Wildlife Conference (online and in-person in Atlantic City, New Jersey), September 18-21. Their discussion focused on *Standardizing Wildlife-Vehicle Conflict Data Across Boundaries Using ROADS (Roadkill Observation and Data System)*.
- The bicycle and pedestrian case studies are tools that can be used by peer communities.
- WTI/MSU has purchased Eco-Counters that will enable the counting of bicycles and pedestrians along a rural state corridor in southwest New Mexico. These have been deployed in conjunction with bicycle counters along the roadway itself, as many pedestrians and cyclists have been observed along the corridor between Silver City, New Mexico and Hurley, New Mexico.

#### Inventions, patent applications, and/or licenses

Nothing to Report

#### Other products, such as data or databases, physical collections, audio or video products, application software or NetWare, analytical models, educational aids, courses or curricula, instruments, equipment, or research material

Nothing to add that was not noted in other sections.

## **4. Outcomes**

SURTCOM staff present the findings from research projects to the maximum extent possible, and present on all projects related to the SURTCOM theme. The Center has one performance measure to disseminate research deliverables for each research project. This target was met, as the research reports for all the completed projects are posted to the SURTCOM website and provided to the sponsor. Another performance measure was to plan or participate in technology transfer activities that offer implementation or deployment guidance at a broader scale. This was met through presentations at NTICC, as noted elsewhere in this report. The target of hosting or participating in at least one forum per year that offers implementation assistance on a key mobility topic was met through hosting and presenting at the CUTC Summer Meeting (June 13-15) and at NTICC (August 22-26).

#### Increased understanding and awareness of transportation issues

As noted earlier in this report, Dr. Margo Hill (EWU) was part of a Plenary Session Panel at NTICC and discussed *Tribal Transportation's Role in Addressing Human Trafficking and Missing & Murdered Indigenous People*. Dr. Hill was also the author of the cover story of the March/April TR News *Missing and Murdered Indigenous Women: Traffickers Use Transportation to Exploit the Vulnerable. How Can the Industry Stop Them?* (see the article [here](#))

#### Passage of new policies, regulation, rulemaking or legislation

Nothing to Report

### Increases in the body of knowledge

All completed projects, with their final reports posted or presentation made, increase the body of knowledge related to transportation issues.

### Improved processes, technologies, techniques and skills in addressing transportation issues

The updated information for the Web Application for State of Good Repair (SURCOM/NDSU) based on new available data in late 2021, allows the Federal Transit Administration and state DOTs to quickly see how their public transportation/transit fleets are aging, and the investment that may be necessary to keep these vehicles in a state of good repair.

### Enlargement of the pool of trained transportation professionals

EWU, WTI/MSU and SURCOM/NDSU staff taught numerous classes related to planning and/or transportation. Outreach efforts were made to grade school, middle school, and high school students to promote STEM activities and to highlight the need for professionals in the transportation field.

WTI's Community-engaged and Transformational Scholarship (CATS) program facilitates course-based student projects based on community needs submitted by the City of Bozeman. Seventy-two graduate and undergraduate students in ten courses, representing four different academic disciplines, participated in CATS projects over the reporting period. Projects focused on sustainability issues, public participation, and community planning in a fast-growing small urban community.

### Adoption of new technologies, techniques or practices

Nothing to Report

## **5. Impacts**

### The effectiveness of the transportation system

The main goal of SURTCOM is to enhance mobility of both people and goods in small urban, rural and tribal areas. Through our research and other activities, we seek to:

- Increase access to opportunities that promote equity and economic development through mobility;
- Implement innovative multi-modal solutions in these areas;
- Implement smart cities innovations in small urban, rural, and tribal communities;
- Increase active transportation modes, especially walking and cycling; and,
- Address mobility issues on Federal lands.

Technology transfer (including transfer results to entities in government or industry, adoption of new practices, or instances where research outcomes had led to the initiation of a start-up company)

Working with ITD, WTI/MSU was able to help facilitate the re-start of a public transportation (transit) system in Idaho Falls, Idaho. This new microtransit system/service was based on a WTI/MSU recommendation to implement this type of service instead of a more traditional fixed-route system.

The increase in the body of scientific knowledge

Nothing to Report

## **6. Changes/Problems**

Changes in approach and reasons for change

Nothing to Report

Actual or anticipated problems or delays and actions or plans to resolve them

The COVID-19 pandemic continued to impact conferences where SURTCOM staff were scheduled to present, although many simply switched to an online format. Further, COVID-19 has delayed some field work (gathering data), thus projects will likely take longer to complete than originally planned. Finally, the COVID-19 pandemic altered how people moved within and between communities, which will impact the ability to compare data gathered before and after the pandemic, although the data will likely indicate the impact of the pandemic.

Changes that have a significant impact on expenditures

Nothing to Report

Significant changes in use or care of human subjects, vertebrate animals, and/or biohazards

Nothing to Report

## **7. Special Reporting Requirements**

Not Applicable