

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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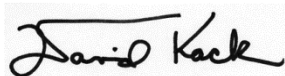
Recipient Organization: Montana State University
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Signature:



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. Montana State University (MSU) is the lead institution, with consortium members including Eastern Washington University (EWU) and North Dakota State University (NDSU).

What was accomplished under these goals?

During the period April – September 2021:

- Work was ended on a WTI/MSU project, *Autonomous Paratransit in Rural Areas*. This project had initiated a preliminary review (cost/benefit analysis) of using an autonomous paratransit vehicle in a rural setting. The project was ended due to the tragic and untimely death of the graduate student conducting the primary research on the project. However, SURTCOM partner NDSU is nearing completion on a related project, *ITS Technology Usage and Feasibility in Small Urban and Rural Transit*, and information about that project is noted later in this document.
- WTI/MSU continues providing technical assistance to rural and tribal communities that want to increase biking and walking in their towns. The *Building Active Communities Technical Support* project will identify 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 worked with the Human Resource Development Council and City of Bozeman Parks Department to obtain a Safe Routes to Parks grant. As part of this effort 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 is being finalized on the WTI/MSU project entitled *Developing a Methodology for Implementing Safety Improvements on Low-Volume Roads in Montana*. This project is being conducted in conjunction with the Montana Department of Transportation and should be completed by December.
- The WTI/MSU project with the Montana Department of Transportation entitled *Use of Fluorescent Delineators in Temporary Traffic Control Work Zones*, was initially paused due to the COVID-19 pandemic and did not begin this summer due to the lack of finding one or two suitable sites. A decision will be made in within the next two months whether this project will be conducted at all. If conducted, it is anticipated that the project will show that using these delineators will help enhance the safety of motorists, workers, and others in small urban work zones, as well as in rural and tribal areas.
- Work continues on a WTI/MSU project which will identify fiber-reinforced polymer (FRP) materials and systems suitable for bridge superstructure and related design elements

(e.g., fencing, sound barriers) that can be designed for bike/ped (and wildlife) crossings to meet American Association of State Highway and Transportation Officials (AASHTO) standards. Consideration will be given to the complete bridge system (superstructure, abutments, foundations, fencing, railings, sound barriers, etc.) to identify how FRP materials can be utilized for their design. The California Department of Transportation is currently in the design phase for a wildlife crossing using FRP materials, based to an extent on this project.

- WTI/MSU completed work on two projects in collaboration with the National Association of Development Organizations (NADO) to improve mobility in rural areas around Fort Smith, Arkansas and Augusta, Georgia. The reports for those projects can be found [here](#) and [here](#), respectively.
- WTI/MSU wrapped up work on additional projects with NADO related to transportation and its ties to economic development. The National Rural Technical Assistance Program (National RTAP) is also involved. This new effort includes working with the Hopi and Fort Belknap Tribal Governments, as well as with locations in Northcentral New Mexico, and the Big Sandy and Cumberland development areas in Kentucky. These projects were also extended due to the COVID-19 situation. New projects with NADO should start in October and will be included in the next SAPR.
- WTI/MSU continues work with the Idaho Transportation Department (ITD) on a project implementation of new transit services (likely microtransit services) both in Idaho Falls and Twin Falls (Idaho).
- WTI/MSU completed work on a transit study in Humboldt County, a coastal county in northern California, to provide the Humboldt County Association of Governments (HCAOG) and the Humboldt Transit Authority with a review of all current transportation services, and to investigate the potential for new service in the town of McKinleyville. Presentations were provided to four different community organizations while finalizing the project and report. The report for this project can be found here: [McKinleyville Transit Study Final Report](#)
- WTI/MSU continued work on a follow-on project to the initial study of *Bicycle and Pedestrian Infrastructure Improvements Realized in Communities of Less than 10,000 People*. The new study includes communities in the states of Florida, Kentucky, Minnesota, New Mexico, and Vermont.
- Work continues on 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 the SURTCOM UTC. As part of this on-going project, TDM efforts were re-branded to “Go Gallatin” to reflect the larger commuting patterns in the area, and in addition, the City of Bozeman hired a TDM Coordinator, whom WTI will be working with to increase the TDM efforts in the area. As part of this effort, five separate sites received temporary traffic calming installations over summer 2021.

- WTI/MSU continues its effort on a small research project (*Implication of School Format on Women in STEM*) that seeks to document the importance of K-12 school format (e.g., online, hybrid, in-person, “pandemic pod”) on women in science, technology, engineering, and mathematics (STEM) who have K-12 children. This will be accomplished by conducting three separate surveys administered to women in STEM at three discrete periods of time to capture how changes in K-12 school format have impacted their work and family lives. The results are intended to provide input regarding how policies in the future can better support women who work in STEM fields, including transportation.
- WTI/MSU is conducting a project with the Montana Department of Transportation 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 messages (i.e., increase safety behavior). The pace of this project was slowed down due to the COVID-19 pandemic, so the deployment of surveys was delayed until late this summer.
- 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 the Montana Department of Transportation (MDT), WTI/MSU began the *Statewide GNSS RTN System* project. The objectives are to perform an assessment of the various alternative business models and to recommend to MDT the most appropriate business model(s) to pursue in the planning and development of a Statewide Global Navigation Satellite System (GNSS) Real-Time Network (RTN) system.
- WTI/MSU completed the *Commercial Package Delivery through Public Transportation Systems in Rural Areas* project, which provides information and greater understanding of the feasibility of last mile package delivery for commercial entities via public transportation in rural and tribal areas. The final report can be found [here](#).
- WTI/MSU staff are 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 accounting 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/MSU began work with the Big Sky Passenger Rail Authority and the National Association of Railroad Passengers (aka, Rail Passengers Association) on a project examining the possibility of restoring passenger rail service to the North Coast Hiawatha, which provided service through southern Montana (connecting through North Dakota and Idaho).
- WTI's Community-engaged and Transformational Scholarship (CATS) program served as a liaison between the small urban community of Bozeman and Montana State University faculty to facilitate project-based coursework. Community-based projects completed in partnership with the City of Bozeman by multidisciplinary students during the Spring 2021 semester focused on community and transportation planning, parking management, and climate resiliency. Over 110 students from five academic departments gained experiential learning in small urban community planning through the CATS program.
- WTI hosted two weeklong summer camps for middle school students. The camps focused on mobility and each day participants explored a variety of science, engineering, and design topics related to promoting active, safe, and sustainable transportation systems. Activities included a bike rodeo, exploration of local trails by bike, field trips, and hands on design activities. Thirty-two students from grades 6-8 participated in the camps.
- WTI's Research Experience for Teachers (RET) Site in Innovative Transportation Systems provided twelve secondary school teachers with a six-week research and professional development experience. A key objective of the program was to involve teachers from rural and tribal areas with more limited access to teacher professional development opportunities. All twelve participants in the program were from communities of less than 40,000 residents. Eight participants came from schools located in communities with less than 10,000 residents. Teachers conducted transportation research and produced lesson plans based on their research experiences to take back to their classrooms and students.
- Work continued with an EWU project entitled *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 project team presented a synopsis of the work to date during the 2021 TRB Annual Meeting.
- *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.
- EWU staff are in final paper review for the project *Mobility & Access on American Indian Reservations in the Western United States: Phase I*. This initial study has documented issues related to distance and access and is establishing a framework for more detailed

mobility analysis. The paper will highlight the transportation needs of American Indian reservations and note the transportation systems and resources that serve them.

- *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 the analysis should be concluded within the next reporting period.
- 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 developed two Tribal Transit Training modules: “Customer Service for Rural and Tribal Transit Providers” and “Grant Writing for Rural and Tribal Transit Providers.” Both are available online at [SURCOM - eLearning Courses \(ugpti.org\)](https://www.ugpti.org/SURCOM-eLearning-Courses). This training was developed to improve the effectiveness and efficiency of tribal transit systems.
- SURCOM/NDSU completed the project *Tribal Transit Study: Demographic Needs Indicators, Funding Needs, and Livability*. The objectives of the study were to identify research needs for tribal communities and address challenges including: 1) determine ways to understand mobility needs of tribal communities, 2) analyze transit operations and service coverage, 3) study demographic livability indicators, and 4) understand ways to improve livability of residents in tribal communities. The final report, executive summary, and video summary are available [here](#).
- SURCOM/NDSU completed the study *Develop a Revenue Vehicle Rehabilitation or Replacement Predictive Model for Small Urban and Rural Transit Systems*. The primary objective of this research was to improve the process to maintain America's small urban and rural revenue vehicles in a good physical condition, in a cost-effective manner. The final report and video summary are available [here](#).
- SURCOM/NDSU finished the report for the NCHRP Project *Opportunities for State DOTs to Encourage Shared Use Mobility*. The final report and video summary are available [here](#).
- SURCOM/NDSU supports a Ph.D. student working on a *Cyclist Riding Behavior Rating System*. The student conducted a national survey to identify cycling behaviors that are perceived as reckless and risky by U.S. residents and to understand the perceived magnitude of each risky behavior. The study also simulated risky behaviors to evaluate and develop a new method for capturing the behaviors using sensors embedded in mobile phones. The student was completely funded by UTC dollars. The report and video summary are available [here](#).
- SURCOM/NDSU conducted a study for the North Dakota Department of Transportation (NDDOT) to look at the state’s mobility services and transit systems, and to evaluate how well they serve the needs of North Dakota residents. The study was completed and approved by the NDDOT and submitted to the ND Legislature. The report, completed and published in May 2021, is available along with an executive summary and video summary [here](#).
- SURCOM/NDSU completed the project *Improving Mobility Among America’s Aging Population to Combat Social Isolation*. This project quantified the cost of providing greater mobility options to aging adults in small urban and rural communities to lower social isolation. Published in May 2021, the report, executive summary, and video summary are available [here](#).
- 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. The case study portion of this study was delayed due to COVID-19 but did resume.

- SURCOM/NDSU completed a project to develop a *Web Application for State of Good Repair Reports for Small Urban and Rural Transit Systems*. The objective of the project was to develop a state of good repair predictive model for small urban and rural transit systems to be able to predict the service life of revenue vehicles and is based on the work from the *Develop a Revenue Vehicle Rehabilitation or Replacement Predictive Model for Small Urban and Rural Transit Systems* project noted herein. A financial analytical tool to estimate the current backlog and predict the yearly projected vehicle replacement cost was also developed. The goal of the project was to provide a tool that helps transit managers prioritize investment needs for rehabilitation and replacement of vehicles. This eTool and a demonstration video to use the web application were made available September 2021 and can be accessed [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.
- SURCOM/NDSU nearly finalized the project, *An Analysis of NHTS Travel Behavior Data for Transportation-Disadvantaged and Rural Populations*. Understanding trends in the travel behavior of transportation-disadvantaged populations in rural areas is important for understanding how well the mobility needs of these populations are being met and for informing policy and transportation investment decisions. The report is currently out for review and should be published during the next reporting period.
- SURCOM/NDSU continued work the project, *Pedestrian User Experience at Roundabouts* for the Minnesota Department of Transportation. 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.
- SURCOM/NDSU continued with 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 are being analyzed with a follow-up to identify some best practices.

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

WTI/MSU, EWU and SURCOM/NDSU staff participated in the 2021 TRB Annual Meeting, through Committee Meetings, and Lectern and Poster Sessions, as well as Workshops.

NDSU provided research experience to Ph.D. student Ali Rahim-Taleqani, who was recognized as a 2020 UTC Outstanding Student of the Year. During his doctoral studies, he worked on several projects relating to micro-mobility using simulation, optimization, and machine learning.

He is currently developing a web application that will help rural and small urban transit agencies identify and project the state of good repair of their vehicles.

WTI/MSU was awarded a \$5,000 seed grant through MSU's Outreach and Engagement Council and hired four MSU students to rebrand the Bozeman Commuter Project (TDM) and develop a social marketing campaign to encompass a broader audience across the Gallatin Valley. MSU students gained professional development in seeking solutions to transportation issues, interacting with faculty and staff, and growing existing collaborations with the City of Bozeman, Streamline Bus, MSU Sustainability groups, Gallatin College, and others. In addition, MSU Engineering student Bryce Grame has worked on transportation projects with three different researchers, gaining valuable experience with a variety of real-world transportation projects.

SURCOM/NDSU has eight eLearning courses designed to primarily help rural and tribal transit system operators. These courses (see [National RTAP Portal > Courses](#) for more information) include:

- *Customer Service* is a self-paced course designed to assist rural and tribal transit managers, drivers, and frontline staff in delivering great customer service to the communities where they operate.
- *Grant Writing* is an interactive, self-paced course designed to assist rural and tribal transit managers with grant writing. The course focuses on basic structure and best practices to include a list of personalized action steps.
- *FTA 101* (previously existing) Provides information about the history, background, and functions of the Federal Transit Administration as it relates to the work of transit managers in a state department of transportation.
- *Crisis Management* is an interactive, self-paced course designed to assist rural and tribal transit managers with the basics of crisis management.
- *Employee Recognition* is an interactive, self-paced course designed to assist rural and tribal transit managers with the basics of employee recognition.
- *Onboarding* is an interactive, self-paced course designed to assist rural and tribal transit managers with the basics of onboarding new employees.
- *Interview Questions* is an interactive, self-paced course designed to assist rural and tribal transit managers with developing transit interview questions (Published to NRTAP website).
- *Performance Appraisals* is an interactive, self-paced course designed to assist rural and tribal transit managers with transit employee performance appraisals (published to NRTAP website).

SURCOM/NDSU completed two more eLearning modules during this reporting period. The modules are available on the National Rural Transit Assistance Program's website along with the other eight modules as above mentioned. Those additional modules are as follows:

- *Financial Management Basics* is an interactive, self-paced course designed to assist rural transit agencies with financial management basics.
- *Strategic Planning* is an interactive, self-paced course designed to assist rural transit agencies with the basics of strategic planning.

So far during 2021 (January 1 – September 30) 769 people have completed the eLearning courses.

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 SURTCOM/NDSU reports published in 2020, and are available on the SURTCOM 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 will 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 National Association of Development Organizations (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). Further, the Neponset Valley Transportation Management Association (TMA), which currently operates National RTAP, is involved in two of the NADO projects.
- WTI/MSU is working with the Idaho Transportation Department (ITD) on projects to implement or modify public transportation in two Idaho communities.
- WTI/MSU is working with multiple communities in Montana on pop-up traffic calming projects. Further, WTI is working with multiple departments within the City of Bozeman (MT) on pop-up projects, as well as the City’s Climate Action Plan.
- 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.
- SURTCOM/NDSU works with the National Transit Institute (NTI) and National Rural Transit Assistance Program (National RTAP) on various projects.
- SURTCOM/NDSU is working 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.
- SURTCOM/NDSU is working with the Minnesota Department of Transportation to conduct a study on roundabouts.
- SURTCOM/NDSU worked with the Standing Rock Reservation in North Dakota (part of South Dakota) while conducting the recently published research project SURTCOM 21-05
- SURTCOM/NDSU worked with the Makah Indian Reservation in Washington State for the SURTCOM Project 21-05.

Have other collaborators or contacts been involved?

SURTCOM's Advisory Board, which consists of one representative (each) from the Montana, North Dakota, and Washington (state) DOTs, three tribal representatives, and one person from the National Association of Development Organizations (NADO), 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:

- SURCOM/NDSU published: Ndembe, Elvis, Ranjit Godavarthy, Jeremy Mattson, and Jill Hough. *Tribal Transit Study: Demographic Needs Indicators, Funding Needs and Livability*, SURTCOM 21-05, North Dakota State University, Fargo: Upper Great Plains Transportation Institute, April 2021.
- SURCOM/NDSU published: Mattson, Jeremy and Dilip Mistry. *Rural Transit Fact Book, 2021*, SURTCOM 21-07, North Dakota State University, Fargo: Upper Great Plains Transportation Institute, May 2021.
- SURCOM/NDSU published: Peterson, Del and Antonio Molina. *An Analysis of the Costs and Benefits of Providing Increased Mobility to Reduce Social Isolation Among America's Aging Population*, SURTCOM 21-06, North Dakota State University, Fargo: Upper Great Plains Transportation Institute, May 2021.
- SURCOM/NDSU published a report primarily conducted by graduate students: Molina, Antonio, Narendra Malagoda, Ali Rahim Taleqani, Jeremy Mattson, Kenechuwu Ezekwem, Taraneh Askarzadeh, and Jill Hough. *Surveys of Transit Riders and Agencies During the COVID-19 Pandemic* in August 2021.
- SURCOM/NDSU published a report primarily conducted by graduate students: Taleqani, Ali Rahim, Kenechuwu Ezekwem, Antonio Molina, Taraneh Askarzadeh, Narendra Malalgoda, Jill Hough, and Jeremy Mattson. *Using Topic Modeling to Identify Public Opinion on Public Transportation During the COVID-19 Pandemic* in August 2021.

SURCOM/NDSU created and released an eTool to accompany the Rural Transit Fact Book in May 2021. The intent of the Rural Transit eTool is to serve as a national resource for statistics and information on rural transit in America. This eTool can be used by agency managers, local decision makers, state directors, the FTA, and lawmakers to assist in policy making, planning, managing operations, and evaluating performance.

Conference Papers

- None at this time

Policy Papers

- None at this time

Presentations

- On April 15, David Kack (WTI/MSU) and Jill Hough (SURCOM/NDSU) presented their organization's research efforts as part of the National Mobility Summit, hosted by Carnegie Mellon University.
- On May 24, Margo Hill (SURTCOM/EWU) and Krysten Joiner, completed workshop on Human Trafficking and Missing and Murdered Indigenous Women/Persons. The training was provided to maintenance staff from the State of Washington DOT on the warning signs of human trafficking.
- On June 7 David Kack presented *Public Transportation (Tribal Transit) Planning* as part of the National RTAP Tribal Transit Mini-Conference (a hybrid event held in Kalispell, MT).
- On June 9, Ahmed Al-Kaisy (WTI/MSU) presented *A Closer Look into State-wise HSIP Practices* at the ASCE International Conference on Transportation and Development.
- On June 15 & 16, David Kack and Jill Hough participated in the U.S. DOT and CUTC Meeting and CUTC Summer Meeting, both of which were held online.
- On June 29th Jeremy Mattson (SURCOM/NDSU) presented *The Health Benefits of Rural and Small Urban Transit: Case Studies in Minnesota* virtually for the International Conference on Transport and Health. There were 100 attendees.
- On July 13 Jill Hough (SURCOM/NDSU) presented on UTC Research Projects including COVID, Technology, and Autonomous vehicles to the American Public Transportation Association Research and Technology meeting. There were 79 attendees.
- On August 12 Ranjit Godavarthy (SURCOM/NDSU) presented on *Interest of Transit Automation Technologies in Rural and Small Urban Communities in the U.S.* and Jill Hough moderated the session virtually for the Pennsylvania Automated Vehicle Summit. There were 50 attendees.
- On August 22, Ahmed Al-Kaisy (WTI/MSU) presented *Safety Management Practices on Low-volume Roads: A Survey* at the 30th CARSP Conference and the 14th PRI World Congress, Canadian Association of Road Safety Professionals. At the same event, on August 24, Dr. Al-Kaisy presented *Identifying Sites for Safety Improvements on Low-Volume Roads: Challenges and Potential Solutions*.
- On August 24, Margo Hill (SURTCOM/EWU) gave the Keynote presentation during lunch at the Western States Planning Conference in Scottsdale, Arizona. Margo's presentation was titled *Tribal Communities as Our Neighbors* and noted how planning is working and listening to our neighbors so we can build better communities.
- On August 31, Margo Hill (SURTCOM/EWU) in partnership with Tara Casanova Powell, presented *Drugged Driving, the Opioid Epidemic, and Highway Safety Planning in Washington and Tribal Communities* to the Transportation Research Board's Standing Committee on Impairment and Transportation

- On September 10, Rebecca Gleason (WTI/MSU) provided a guest lecture *Sustainable Transportation* for a Political Economy of Energy class at MSU, and then did a walk audit with the same class on September 13.
- On September 13-17, Rob Lynch (SURCOM/NDSU) presented *Transit I* at the CASTA Fall Conference in Grand Junction, Colorado. There were 19 attendees taking part in the 16 hours of training.
- On September 13, Margo Hill (SURTCOM/EWU) presented *History of the Spokane Tribe and Chronic Disease, Mobility, and the Disruption of Tribal Culture* to students and staff from the Washington State University College of Medicine
- On September 20, Karalyn Clouser, Andrea Hamre, David Kack, and Natalie Villwock-Witte (all from WTI/MSU) presented during the *Rural and Small Urban Mobility Innovations Workshop*, hosted by the National Association of Development Organizations (NADO).
- September 22, Andrea Hamre (WTI/MSU) guest lectured in a class on the Politics of Energy at MSU.
- On September 27, Andrea Hamre (WTI/MSU) gave the first lecture of a six-session course for the MSU Osher Lifelong Learning Institute (the last class will be October 13th). The course is titled *Transportation Policy and Planning: Strategies to Improve Sustainable and Equitable Outcomes*. This course has twelve people enrolled.
- On September 28, Rebecca Gleason (WTI/MSU) gave the lecture *Sustainable Transportation* to the Energy and Sustainability class at MSU and did a walk audit with that class on the same day.
- September 29, Rob Lynch (SURCOM/NDSU) presented *Emergency Management in Transit* at the Montana Department of Transportation Summit in Bozeman, Montana. There were 62 attendees that participated in eight hours of training.
- On September 29, Kurtis Johnson, Jason Scully, Margo Hill, Angelena Campobasso, and Matthew Anderson (SURTCOM/EWU) presented *Barriers and Facilitators to the Creation, Maintenance and Growth of Tribal Transit Services* as part of the 2021 National Transportation in Indian Country Conference (NTICC). A recording of that presentation can be found [here](#).
- September 30, Andrea Hamre provided a guest lecture in a class on Energy and Sustainability.

Website(s) or other Internet site(s)

- SURTCOM website (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

SURCOM/NDSU developed two new eTools for transit professionals. Each was mentioned earlier in this report.

- [Small Urban and Rural State of Good Repair Web Application](#)
- [Rural Transit eTool](#)

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; that 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. 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 participation and presenting at the National Mobility Summit (April 15) and participation and presenting at the National Transportation in Indian Country Conference (September 27-October 1).

Increased understanding and awareness of transportation issues

The analysis of travel behavior and transportation planning in Chittenden County, VT, provided an opportunity to compare public priorities for transportation spending with the allocations in the Metropolitan Area Organization's Transportation Improvement Program. In addition, it offered an opportunity to assess support for increasing gas taxes. The analysis indicated greater support for non-roadway spending and increased fuel taxes than is generally assumed.

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

Nothing to Report

Enlargement of the pool of trained transportation professionals

EWU, WTI/MSU and SURCOM/NDSU staff taught numerous classes related to planning and/or transportation. Further, 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.

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 hope 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)

The City of Bozeman continues to work with WTI/MSU to use “pop-up” installations to research the best methods for slowing traffic and improving safety for pedestrians and cyclists. In addition, other communities such as Ennis, Montana, are also using pop-up projects to determine how best to slow traffic and improve safety.

The California Department of Transportation is currently in the design phase for a wildlife crossing using fiber-reinforced plastic (FRP) materials, based to an extent on a WTI/MSU project which shows how FRP materials can be used for pedestrian/bicycle bridges/overpasses, as well as wildlife crossings.

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 situation has cancelled or delayed many conferences where SURTCOM staff were scheduled to present. Further, the COVID-19 has delayed some field work (gathering data), so projects will likely take longer to complete than originally planned. Finally, the COVID-19 pandemic may ultimately alter how people move within and between communities, which may affect comparing data gathered before and after the pandemic.

Further, classes at EWU have been taught online since April 2020, and travel, trainings, and development work with Graduate Student Assistants (GSAs) and faculty have been cancelled due to the pandemic. While some virtual conferences, presentations and trainings have taken place, they do not have the same impact as in-person opportunities.

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