

## 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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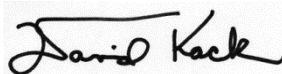
Recipient Organization: Montana State University  
Bozeman, MT 59717

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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?

During the period October 2021 – March 2022:

- 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 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.
- The project *Developing a Methodology for Implementing Safety Improvements on Low-Volume Roads in Montana*, which was conducted in conjunction with the Montana Department of Transportation (MDT), was completed and the report can be found at [Low-Volume Roads Project - Final Report \(mt.gov\)](#).
- The anticipated WTI/MSU project with MDT entitled *Use of Fluorescent Delineators in Temporary Traffic Control Work Zones*, was cancelled. Initially paused due to the COVID-19 pandemic and a lack of being able to identify suitable sites for the research, the decision was made to cancel the project and no funds were expended.
- Work continues on a WTI/MSU project which is identifying fiber-reinforced polymer (FRP) materials and systems suitable for a wildlife bridge superstructure and related design elements (e.g., fencing, sound barriers), and can be designed for bike/ped (and wildlife) crossings to meet American Association of State Highway and Transportation Officials (AASHTO) standards. WTI has been working 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. It has helped to identify challenges involved in the approval process of using this innovative material for 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. A

recommended FRP wildlife overpass and fencing design were developed by WTI 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 structural designs represent the most advanced use of FRP materials for wildlife infrastructure the WTI Team believes is capable of passing Caltrans' bridge approval process for construction along US-97.

- 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). The public transportation service in Idaho Falls should start in June or July (2022) and planning efforts, while slow, are continuing in Twin Falls.
- WTI/MSU finalized 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 included communities in the states of Florida, Kentucky, Minnesota, New Mexico, and Vermont. Those reports can be found [here](#).
- 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, whom WTI works with to increase the TDM efforts. In December of 2021 and in March of 2022 there were specific Go Gallatin events to encourage people to use mobility options other than single occupancy vehicles.
- 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") 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 on how future policies can better support women who work in STEM fields, including transportation.
- WTI/MSU is conducting 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 messages (i.e., increase safety behavior). While the pace of this project was slowed due to the COVID-19 pandemic, surveys are being conducted to determine the effectiveness of the various safety messages.
- 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 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 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 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 completed initial 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). The initial report can be found [here](#).
- 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 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 a cataloging of 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), began 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 (in Montana) and this project will assess the extent of wildlife-vehicle collisions along this corridor (a significant safety issue) and what solutions should be implemented.
- 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 to assist those operating and managing public transportation (transit) systems in rural areas and in tribal communities.
- 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 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 completed the project *Mobility & Access on American Indian Reservations in the Western United States: Phase I* which documented issues related to distance and access and established a framework for more detailed mobility analysis. The paper

highlights the transportation needs of American Indian reservations and notes the transportation systems and resources that serve them. The final paper/report can be found [here](#).

- *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 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 began an update for the *Web Application for State of Good Repair* because of new available data. The update will be finalized during the next reporting period and will be noted in the next SAPR.
- 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 completed the project, *Travel Behavior of Transportation-Disadvantaged Populations: Trends and Geographic Disparities*. 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, executive summary, and YouTube video were completed in February 2022 and can be accessed [here](#)
- 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. This project is nearing completion and will be finished during the next reporting period.
- 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. This project is out for review and will be published during the next reporting period.
- SURCOM/NDSU started and completed the *2022 Rural Transit Fact Book* during the current reporting period. The report is available [here](#).
- SURCOM/NDSU has a draft report ready for review, *COVID-19's Effect on Rural Veteran Mobility and Health Care*, which will be published during the next reporting period.
- SURCOM/NDSU started the research project, *Impacts on Health in Rural and Small Urban Areas*.
- SURCOM/NDSU started the research project *Designing an Electric Transit Bus Network*.

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

WTI/MSU, EWU and SURCOM/NDSU staff participated in the 2022 TRB Annual Meeting, through Committee Meetings, and Lectern and Poster Sessions, as well as Workshops.

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 October – December 2021, 88 participants completed eLearning sessions and during Jan-Mar 2022, 101 participants completed SURCOM eLearning courses for a total of 189 trainings 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 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). 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 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. 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 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.
- WTI/MSU was selected by FHWA to lead a team to continue the operations of the National Center for Rural Road Safety (also known as the "Rural Safety Center").

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:

Al-Kaisy, A. and Huda, K. T. (2021) “Empirical Bayes Application on Low-Volume Roads: Oregon Case Study” *Journal of Safety Science*, Elsevier, ISSN 0022-4375, <https://doi.org/10.1016/j.jsr.2021.12.004>.

Al-Kaisy, A. and Huda, K. T. (2021) “Network Screening on Low-Volume Roads using Risk Factors,” *Journal of Safety Research*, Elsevier, in review.

Hill, M., Habermann, P.E. (M), Suarez, E., et al. (2021). “The Contribution of State and Local DOTs to Disrupting Human Trafficking.” *Institute of Transportation Engineers (ITE) Journal*, A Community of Transportation Professionals. P.

40. <https://staging.nxtbook.com/ygsreprints/ITE/ite-journal-june-2021/stage.php?startid=40#/p/40>

Natalie Villwock-Witte’s project *Case Studies of Communities of Less Than 10,000 People with Bicycle & Pedestrian Infrastructure* was shared via VTrans’ Research and Innovation Newsletter, February 22, 2022, found [here](#).

##### **Conference Papers**

- None at this time

##### **Policy Papers**

- None at this time

## Presentations

September 27 – October 13 (2021). Andrea Hamre (WTI/MSU) taught a six-session course for the MSU Osher Lifelong Learning Institute titled *Transportation Policy and Planning: Strategies to Improve Sustainable and Equitable Outcomes* which had 11 people enrolled.

October 1. SURCOM/NDSU team members presented at the virtual National Transportation in Indian Country Conference. Jeremy Mattson presented *Tribal Transit Study: Demographic Needs Indicators, Funding Needs and Livability*; Ranjit Godavarthy presented *Shared Use Mobility in Rural Areas and Tribal Communities*; Jill Hough presented *Food Insecurity and Food Deserts*; and Dilip Mistry presented *Demonstration of Rural Transit eTool* to 21 participants.

On October 7, Rob Lynch presented *Strategic Planning* in Duluth, MN for the National RTAP/MN/WI Transit Association Meeting. There were 11 attendees and the training lasted for one hour.

October 14. Rob Lynch presented two sessions: *Hiring/Retaining* virtually and *Strategic Planning* for the Idaho Department of Transportation. Each session was 1.5 hours and there were 23 participants.

October 19. Jeremy Mattson and Ranjit Godavarthy presented *Tribal Transit Study: Demographic Needs Indicators, Funding Needs and Livability* for the NADTC. There were 50 participants on the webinar.

October 19. Rebecca Gleason (WTI/MSU) presented *Rural Pedestrian Safety* for a Transportation Safety Planning Workshop- Peer Exchange Webinar. This webinar is a forum for information sharing on transportation safety planning activities across four states (Tennessee, Indiana, Missouri and Kentucky) was led by FHWA, Cambridge Systematics and Burgess & Niple.

October 25, 26 and 27 (virtual TRB Rural and Intercity Bus Transportation Conference). In addition to being a “route leader” for the Policy, Funding and Finance route for the conference, David Kack from WTI/MSU was a moderator for session PFF5 – Customer-Focused Policies and Requirements. WTI/MSU staff member Rebecca Gleason presented *A Feasibility Study for a “Smart” Transit Hub in Rural Western Arkansas and Eastern Oklahoma* during the conference, while Natalie Villwock-Witte presented *Connecting Rural Residents in Eastern Georgia to Resources through Coordination*. SURCOM/NDSU team members presented during the conference. Rob Lynch presented *eLearning Training*; Del Peterson presented *ITS Technology Usage and Feasibility in Small Urban and Rural Transit*; Jeremy Mattson presented *Measuring the Benefits of Rural and Small Urban Transit Services in Greater Minnesota*; Dilip Mistry presented *State of Good Repair Predictive Model for Small Urban and Rural Transit System’s Rolling Stock Assets*; and Jill Hough & Jeremy Mattson presented *Mobility Services and Needs for North Dakota Residents*. Several members also acted as moderators in sessions during the conference.

November 9 & 10. SURCOM/NDSU Training Coordinator Rob Lynch participated in the CTAAs Expo by hosting a booth in Richmond, VA.

November 14 & 15. SURCOM/NDSU Director Jill Hough participated in the invitation only FHWA Policy Symposium.

December 2021 – January 2022. Andrea Hamre (WTI/MSU) taught a Winter Term course for Middlebury College’s Environmental Studies program, focused on pedestrian experiences, with an emphasis on pedestrian safety and the rise in pedestrian fatalities and serious injuries over the past decade.

December 2. WTI/MSU staff member Andrea was a guest lecturer in a MSU graduate course in and discussed *Land Use Planning and Transportation*.

January 8-13 (2022). TRB Annual Meeting, Washington D.C. Members from SURTCOM participated in the USDOT/CUTC meetings, as well as participating in Committee meetings and sessions during the meeting. SURCOM/NDSU’s Jill Hough helped facilitate TRB’s Workshop #1001 *Coordinating and Innovating at Both the Rural and City Level*. During the TRB Annual Meeting Ahmed Al-Kaisy presented *Challenges and Promising Approaches for LVR Network Screening, a Critical Step in the HSIP Programs*, during a workshop, and Dr. Al-Kaisy along with Kazi Tahsin Huda (WTI/MSU) also presented *Network Screening on Low-Volume Roads: A New Proposed Method,*” during a separate workshop. Kurtis Johnson (EWU) presented *Barriers & Facilitators in Tribal Transit Planning* during Lectern Session 1257.

January 22. Margo Hill (EWU) presented *Human Trafficking: Mobility and Missing and Murdered Indigenous Women* during the Eastern Washington Legislative Conference.

March 4. WTI/MSU member David Kack presented *Transportation, Energy and EVs* during a webinar regarding electric vehicle adoption in Montana.

March 8-10. Rob Lynch (SURCOM/NDSU) conducted *Transit I – The Foundations* training in Colorado. There were 20 participants for the 16 hours of training.

March 15. Margo Hill (EWU) visited the Wellpinit High School on the Spokane Indian Reservation to talk with juniors and seniors about colleges and transportation careers.

March 17. Rebecca Gleason (WTI/MSU) presented *Dynamic Warning Systems to Alert Motorists to the Presence of Bicyclists Pilot Project* for the FHWA Local Aid Support Innovation Webinar. There were 158 attendees.

March 21. Andrea Hamre (WTI/MSU) was a guest lecturer in a government affairs class and presented on *State and Local Policy Making Regarding Transportation*.

March 22. Rob Lynch (SURCOM/NDSU) presented *Manager’s Workshop* in Grand Island, Nebraska with 41 participants for the five hours of training.

March 22. David Kack (WTI/MSU) made a presentation to the Montana Legislature’s Interim Transportation Committee related to electric vehicle adoption in Montana. In addition to discussing financing options to have EVs pay for their impact on infrastructure, David noted that in general, EVs are 25-35 percent heavier than their internal-combustion engine counterparts.

March 23. Matt Madsen and Rebecca Gleason (WTI/MSU) gave a presentation to the ITE Student Chapter titled *The Intersectionality of the Built Environment & Health*.

March 29. Andrea Hamre (WTI/MSU) was a guest lecturer in a sustainability class and presented *Energy, Transportation and Sustainability*.

#### 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

SURTCOM/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. 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 the TRB Annual Meeting, 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 participation and presenting at the National Conference on Rural, Public, and Intercity Bus Transportation (October 25-27, 2021) and the TRB Annual Meeting (January 8-13, 2022).

#### Increased understanding and awareness of transportation issues

During the summer of 2021, the Eno Transportation Center challenged transportation students and professional to submit ideas for policies, innovations, and best practices that the nation should implement as we move from crisis to recovery and, ultimately, toward Eno's vision of a transportation system that fosters economic vitality, advances social equity, and improves the quality of life for all. At the conclusion of Eno's inaugural Martin Wachs Memorial Essay Contest

Dr. Andrea Hamre's (WTI/MSU) essay was selected for first place in the Professional Essay category. More information on the contest and Andrea's winning essay may be found [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 project *Case Studies of Communities of Less Than 10,000 People with Bicycle & Pedestrian Infrastructure* developed a method to identify small, rural communities that may have bicycle and pedestrian infrastructure. This removes the self-selection that is otherwise inherent when we discuss examples of such infrastructure.

#### 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.

#### 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)

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 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