



CMMM

Center for Multi-Modal
Mobility in Urban, Rural
and Tribal Areas

**Semi-Annual Progress Report for University Transportation Centers:
Center for Multi-Modal Mobility in Urban, Rural and Tribal Areas (CMMM)**

Submitted to the USDOT BIL UTC
US Department of Transportation
Office of the Assistant Secretary for Research, and Technology
1200 New Jersey Ave SE, Washington, DC, 20590

Federal Grant Number: 69A3552348334
Submission Date: 04/30/2024
EIN Number: 1520710851-A1
Project/Grant Period: 06/01/2023 to 05/31/2028
Reporting Period End Date: 04/30/2024

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1. Accomplishments

What are the major goals and objectives of the program?

- Developing more refined models of travel behavior and the factors that influence travel demand;
- Assessing the potential for unmanned and autonomous vehicles (both ground and air) to streamline the delivery of goods and facilitate the movement of people;
- Investigating a wide array of congestion-reduction strategies, including incentivization of public transit, and the use of toll and HOV lanes;
- Identifying the key contributors to transportation-related inequity and presenting solutions that support mobility justice, as well as better understanding the equity implications of travel barriers, including constrained access to food, healthcare, and employment;
- Evaluating the potential of modalities such as rideshare, vanpool and microtransit to improve mobility while meeting the ever-evolving demand for efficient, reliable transportation;
- Exploring the feasibility and impact of infrastructure-based solutions such as “complete streets” in reducing congestion and addressing inequity;
- Exploring innovative approaches to project finance and delivery and providing technical assistance to stakeholders.

What was accomplished under these goals?

Under these goals, 12 different core projects have been selected for funding. Additionally, three collaborative competitive proposals were selected for funding, each receiving \$160,000. These projects range across transportation goals including improving the mobility of people and goods, promoting safety, reducing congestion, and more. Each project reflects the values of the CMMM as well as the USDOT UTCs.

The website for CMMM remains updated with these projects, seminar information, USDOT paperwork, and other information: www.mti.umd.edu/cmmm

The director of CMMM worked to engage with and establish an advisory board with 10 members (including PI, Cinzia Cirillo). This interdisciplinary list ensures a robust and active team that reflects the values of CMMM. The team will meet twice a year to foster collaboration and innovation. So far, the board has met on December 13, 2023, and plans to meet on May 3, 2024.

See the list of members below:

- Marcia Argust
- Elisabetta Cherchi
- Christopher Conklin
- Christian Dorsey
- Dan Goldfarb
- Robbyn Lewis
- Arben Shasho
- Neil Pedersen

- Jason Wang

The CMMM also met with the Maryland Department of Transportation (MDOT) on February 13, 2024, and the following attendees from MDOT were present: Paul Wiedefeld, William Pines, and Samantha Biddle. During this meeting CMMM established a working relationship with the MDOT in order to establish transportation needs across the state and to promote future collaboration.

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

CMMM has hosted five educational seminars for students, faculty, and staff at the University of Maryland. Each seminar has had a Zoom link included so that consortium members as well as members of the advisory board are able to participate.

- April 25, 2024, Dr. Prateek Bansal, National University of Singapore
Harnessing Household Travel Survey with Smartcard Data to Generate Spatiotemporally Heterogenous Activity Plans for Transit Users
- March 25, 2024, Shari Schafflein, Federal Highway Administration
Serving All People, All Abilities
- April 4, 2024, Dr. Brian Park University of Virginia
Transformative Traffic Management Harnessed by Proactive Route Guidance
- October 27, 2023, Dr. Neda Masoud University of Michigan
Incentive Design for Promoting Ridesharing
- December 5, 2023, Guangchen Zhao, University of Maryland
Measuring Mobility in the 21st Century: What Can We Learn from Mobile Device Location Data?

The consortium members also met to begin the development of a career fair and other educational opportunities at the White Earth Tribal College during the summer of 2024.

How have the results been disseminated? If so, in what way/s?

The results have been disseminated through the website. The 12 core projects, the competitive projects, the educational seminars, and more have been reflected on this page:

www.mti.umd.edu/cmmm

Additionally, CMMM sent out a newsletter to all of the consortium members, their students, faculty, staff, and to members of the advisory board.

CMMM also hosted an educational booth at the Transportation Research Board 2024 conference.

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

CMMM plans to continue hosting their seminar series, will put out a newsletter twice a semester, and will work to host a career fair at the White Earth Tribal College.

2. Participants and Collaborating Organizations

What organizations have been involved as partners?

CMMM performed collaborative educational support with the University of Maryland, Morgan State University, San Jose University, North Dakota State University, White Earth Tribal and Community College, the University of Michigan, the Federal Highway Administration, MDOT, USDOT, the University of Virginia, and the National University of Singapore.

Have other collaborators or contacts been involved?

CMMM worked with several collaborators via the competitive and core projects. These are all professors from various universities including the University of Maryland, Morgan State University, San Jose State University, and North Dakota State University. The professors are listed here: Ali Haghani, Gang Len Chang, Paul Schonfeld, Xianfeng Yang, Mehdi Shokouhian, Celeste Chavis, Young-Jae Lee, Ahoura Zandiatashbar, Susan Shaheen, Adam Cohen, Ying Huang, Ilya Ryzhov, Anna Alberini, Di Yang, and Kofi Nyarco.

3. Outputs

The outputs from this reporting period include five seminars, a newsletter, and an updated website.

4. Outcomes

The outcomes for this reporting period include increased understanding and awareness of transportation issues. This outcome was achieved via five educational seminars, the review and funding of 12 core projects, the review and funding of three competitive projects, and the meeting of the CMMM advisory board. Additionally, awareness was raised about CMMM and our research via our booth and presentations at TRB.

PI Cinzia Cirillo also spoke at two different conferences, an Industrial AI event at the University of Maryland and the Board of Trade 2023 Capital Regional Transportation Forum.

5. Impacts

What is the impact on the effectiveness of the transportation system?

There is raised awareness on transportation goals, projects, and data. The funded projects also provide research into areas of transportation that could use improvement.

What is the impact of technology transfer on industry and government entities, on the adoption of new practices, or on research outcomes which have led to initiating a start-up company?
Nothing to report.

What is the impact on the body of scientific knowledge? Nothing to report.

What is the impact on transportation workforce development?

A group of researchers has been educated via our seminar series on different transportation needs and goals. We are also planning a career fair and educational training for the White Earth Tribal college in the summer of 2024.

6. Changes/Problems

Nothing to report

7. Special Reporting Requirements

Nothing to report