



Mineta  
Consortium  
for Transportation  
Mobility

# Semi-Annual Progress Report

## Mineta Consortium for Transportation Mobility

October 1, 2020 - March 31, 2021





## Semi-Annual Progress Report for University Transportation Centers Mineta Consortium for Transportation Mobility (MCTM) Led by San José State University

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- **Center Director:**  
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210 N. Fourth Street, 4<sup>th</sup> Floor, San Jose, CA 95112
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- **Report Term or Frequency:** Semi-annual
- **Signature of Submitting Official:** *Karen Philbrick*

## Introduction

The Mineta Consortium for Transportation Mobility (MCTM), led by the Mineta Transportation Institute (MTI) at San José State University, conducts research, education, workforce development, and technology transfer activities to improve mobility of people and goods. MCTM unifies and focuses the efforts of four outstanding institutions that represent and support the geographical, cultural, racial, and socioeconomic diversity that makes our nation strong: Howard University; Navajo Technical University (NTU); San José State University (SJSU); and the University of North Carolina Charlotte (UNCC).

### MCTM Director's Leadership Activities

MCTM partners bring an outstanding record of national and international leadership and success in advancing transportation policy and generating solutions. Over the past several years, our directors have advised our nation's policy makers through such diverse venues as congressional testimony; conference panels; briefings of senior policy makers and through board and committee service. Details have been provided in a [previous progress report](#).

### 1. Accomplishments

#### **Emerging Leaders Seed Grant Program**

The Emerging Leader Seed Grant Program engages and develops leadership capacity among junior faculty at SJSU. This program supports faculty in the first five years of an academic position who are interested in exploring transportation research problems aligned with MTI's research goals and objectives and encourages multidisciplinary participation. To date, MTI has awarded ten seed grants to faculty from five of the seven academic Colleges at SJSU.

During this period of performance one seed grant project was funded: [Understanding the Role of Transportation in Human Trafficking in California](#) (Kezban Yagci Sokat, Assistant Professor, Department of Marketing and Business Analytics).

#### **Ongoing Research**

Since January 6, 2017, MCTM has funded 80 research projects. Of these, 34 projects were competitively selected or underwent peer review prior to selection, 10 were emerging leader seed grants, and 36 projects were commissioned white papers and research projects. Details on all MCTM projects can be found in the [UTC project information sheets](#).

#### **Leveraging Federal Funds**

USDOT has made, and continues to make, a significant investment in developing and sustaining the UTC program and MCTM researchers and staff work tirelessly every day to leverage that federal investment to dramatically increase its return. To that end, in 2018 MTI was competitively-selected to lead the California State University Transportation Consortium, funded at \$2 million annually. In Fall 2020, MTI received notification that they had been

awarded another 3 years of funding (\$6 million) to continue to lead this Consortium. In addition, MTI has received grants from the California High-Speed Rail Authority to research high priority needs, the Department of Homeland Security to conduct research on terrorist and serious criminal attacks against public surface transportation, funding from TRB to develop and deliver incident command training for eight states, funding from Google to conduct evaluations of their eBike program and microtransit pilot, as well as funding from transit agencies to deliver the successful MTI Leadership Academy.

### Dissemination of Results

MCTM utilizes a diverse array of dissemination methods and media to ensure research results, conference proceedings, and expert interviews reach those responsible for managing change. These methods include publication, seminars, workshops, websites, social media, webinars, and other technology transfer mechanisms.

MCTM continued its #MTIResearchSnaps webinar program. This program provides a diverse audience with access to the latest MCTM research during a short, 30-minute period. This “mini” format allows individuals to learn from the researchers for 15-minutes followed by a moderated Q&A for the last 15-minutes. Recordings and accessible transcripts for each webinar are available online at <https://transweb.sjsu.edu/research/webinars/past> and are widely promoted through social media, newsletters, and other MTI communication opportunities.

### Consortium Website

In compliance with the Grant Deliverables and Reporting Requirements for 2016 University Transportation Centers, MCTM has a website that features all consortium activities: <https://transweb.sjsu.edu/mctm>. This website is updated regularly with event information, media coverage, and research activities.

### Media Coverage

During the reporting period, there were 198 MTI stories featured in print, radio, and television media, bringing the total number of MCTM stories to 1,386 since inception. \*Of note: MTI’s National Transportation Security Center Director, Brian Michael Jenkins, is a world renowned counter terrorism expert who is frequently interviewed and cited. In fact, his expertise on the Capitol insurrection was cited in 756 media outlets. Since this was not specifically transportation focused we did not count those citations in our metrics but we did want to note this significant work because it elevates the reputation of the Institute. Links to many of these articles are featured on the [Consortium website](#) and below is a snapshot of activity:

Article	Media Outlet
<a href="#">No, We’re Not Getting a Federal VMT Tax (But Maybe We Should)</a>	Streetsblog USA
<a href="#">Californians want state to invest in all forms of transportation</a>	Transportation Today
<a href="#">Study weighs use of AV fleets as first, last mile solution</a>	Metro Magazine

Article	Media Outlet
<a href="#">California tests mileage fee plan as answer to dwindling gas tax</a>	Bloomberg Law
<a href="#">How does transit prepare for the next pandemic?</a>	ITS International
<a href="#">Transportation Groups Push for Stimulus Funding, Support from New Administration</a>	Engineering News Record
<a href="#">Harnessing public and private contributions proposed as key to advancing major infrastructure projects</a>	Transportation Today
<a href="#">A tale of two responses to pandemic travel</a>	Politico
<a href="#">Only 60 per cent of transit agencies have a cybersecurity preparedness plan</a>	Smart Cities World
<a href="#">Would \$15 a day persuade you to carpool</a>	East Bay Times

### Continuing Education: Opportunities for Growth and Engagement

MCTM is providing thought leadership and contributing to solutions for some of our nation's most pressing transportation problems. Through regional forums, national summits, mid-career leadership training, and K-12 workforce development initiatives we help create a connected world. To that end, and during this period of performance, MCTM sponsored/co-sponsored 14 technology transfer activities that reached 1,153 attendees; a selection follows:

### MTI Research Snaps presents “Carpooling for Cash & Congestion Clearing” October 7, 2020 •



[Online](#): Traffic congestion is a serious challenge for transportation professionals. It is also linked to negative environmental impacts, economic drawbacks, and a reduced quality of life. As successful urban areas expand, so do roads, and congestion increases. Unfortunately, no long-term solutions have been found, and many commuters are reluctant to alter their traditional driving habits in favor of carpooling. A recent case study, however, found that at \$15 a day, half of people driving on a busy road would be willing to travel as passengers and another 23% would be willing to serve as drivers. Congestion-clearing Payments to Passengers looks at a long-standing bottleneck location on Highway 92 in Half Moon Bay, California and suggests a potential solution for the continuing problem of traffic congestion.

### Women's Perspective on Transportation in Downtown San José October 19, 2020 • Online:

Historically, cities have often been planned by and for white men. Studies show that women often have different needs and travel patterns, and different concerns about safety, particularly when walking, biking, and taking transit. Our panel has explored the experience of women traveling within and to downtown San José, how the current transportation options do and do not serve them and identified solutions to make our streets safer in order to create a transportation system that truly serves everyone. These engaging conversations with [San José](#)



[community leaders](#) and thought partners are sparking innovative thinking around the future of San Jose's downtown transportation.

**MTI Research Snaps presents "How Prepared is Transit for a Cyber Attack?" October 29, 2020**



• [Online](#): Ransomware, data breaches, phishing incidents and other cyber threats are on the rise, including among public transit agencies. Such threats leave the transportation sector—one of 16 critical infrastructure sectors whose disruption would have a debilitating effect on our nation's security—in a vulnerable position. Decision makers need to be prepared to upgrade, patch, and secure transit systems to ensure that this essential service remains safe and operational. Yet new MTI research found that only 60% of transit agencies have many of the basic policies or personnel in place to respond to a cyber incident. In recognition of Cybersecurity Awareness month, MTI researchers discussed this critical research and the policy recommendations needed to understand, mitigate, and respond to cyber threats.

**Make the Connection: Next Stop Your Career** November 4, 2020 • Online: WTS-SF Bay Area and the Mineta Transportation Institute (MTI) of San Jose State University hosted "Make the Connection: Next Stop Your Career." At this event, Bay Area university students studying transportation (all disciplines) were introduced to the many wonderful professional organizations in our region, including:

- Women's Transportation Seminar (WTS)
- American Planning Association (APA)
- American Public Works Association (APWA)
- Association of Environmental Professionals (AEP)
- Conference of Minority Transportation Officials (COMTO)
- Institute of Transportation Engineers (ITE)
- Latinos in Transit (LiT)
- Young Professionals in Transportation (YPT)

**Effective Interpersonal "Virtual" Communication** November 18, 2020 • Online: The COVID-19 pandemic has impacted every facet of modern-day life, single-handedly altering the way we communicate and engage with our colleagues and social support networks. Though face-to-face interaction has significantly decreased, or even become nonexistent, one thing has remained clear – the link between continuous communication, a healthy workforce, and productivity. This workshop, focused on effective interpersonal communication in a virtual world, presented techniques to adjust communication style, content, and frequency to maintain a personal touch. Best practices for building and solidifying relationships using a variety of mediums (phone, chat, video, etc.) were documented and breakout rooms were used to facilitate an interactive exchange, allowing participants to share their experience and communicate in a safe space.

### **MTI Research Snaps presents “Will Ride-hailing Enhance Mobility for Older Adults?”**

December 3, 2020 • [Online](#): This webinar discussed the explored potential for ride-hailing services like Lyft and Uber to help meet the travel needs of older Californians. Using data from a survey of almost 3,000 Californians 55 and over, researchers analyzed how many older Californians have used ride-hailing, how they booked trips, what concerns they have about ride-hailing services, and their interest in potential new options for how to book and pay for trips.



### **Women Advancing Transportation for Our Mobility Needs**

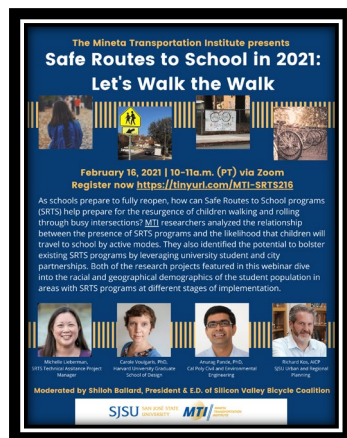
December 9, 2020 • Online: Representation of women in the transportation workforce is stunningly low. What would happen to our mobility with more women driving transportation policies, planning, operations, and maintenance? During TRB's 6th International Conference on Women's Issues on Transportation, panelists discussed best practices for recruitment, support, and advancement of women in the transportation sector. In this webinar, conference speakers continued their discussion about workforce challenges and overcoming them; approaches to attract, retain and advance women in transportation, and how these leaders see COVID-19 changing the workforce and work environment.

**Navigating TRB: Getting the Most Out of the Conference** December 9, 2020 • Online: CSU students participated in an informal information session with Drs. Asha W. Agrawal and Hilary Nixon to learn how to make the most of their [TRB](#) experience.

### **MTI Research Snaps presents “Local Policy for Automated Mobility”** January 14, 2021 •

[Online](#): Autonomous and automated vehicles, which are both electric and shared—promise to reduce reliance on the personally-owned gasoline-powered car and have the potential to make our cities safer, cleaner, more inclusive, and more sustainable. Yet this vision can only be achieved with policy support at the city, state, and federal levels of government. Local policymakers specifically are uniquely positioned to harness these technological innovations. Attendees learned how curb use and demand management; parking redesign; asset maintenance; right of way standardization; and cyclist and pedestrian-friendly projects can help cities meet emerging transportation demand more efficiently.

**Garrett Morgan- Caltrans Information Session** January 19, 2021 • Online: In an effort to encourage Caltrans employees to participate as mentors for the annual Garrett Morgan Sustainable Transportation Competition, MTI hosted an information session featuring Caltrans Director Toks Omishakin. During this information session, Caltrans employees heard from past participants and MTI staff on the merits of the middle school program and had the opportunity to ask questions regarding this year's program.



**Safe Routes to School in 2021: Let's Walk the Walk** February 16, 2021 • [Online](https://tinyurl.com/MTI-SRTS216): As schools prepare to fully reopen, how can Safe Routes to School programs (SRTS) help prepare for the resurgence of children walking and rolling through busy intersections? MTI researchers analyzed the relationship between the presence of SRTS programs and the likelihood that children will travel to school by active modes. They also identified the potential to bolster existing SRTS programs by leveraging university student and city partnerships. Both of the research projects featured in this webinar dive into the racial and geographical demographics of the student population in areas with SRTS programs at different stages of implementation.

### **MTI Research Snaps Webinar "TODs and Park and Rides, Which is Appropriate Where?"**

March 4, 2021 • [Online](#): In the quest for environmental quality as the pandemic subsides, many urban planners understand and appreciate that housing located within walking distance of rail stations and bus stops motivates many local residents to choose commuting on buses and trains rather than driving. But what about those park-and-ride (PnR) facilities for the commuters who choose to live in places beyond walking distance to transit? Attendees listened to the new research-based evidence on where parking provides a boost to bus and train ridership that is double to four times the impact of transit-adjacent housing. This webinar started the discussion of how transit agencies should react to the research.

### **MTI Research Snaps Webinar "Digital Butts in Seats: Creating Interesting, Engaging Virtual Events"**

March 18, 2021 • [Online](#): By now, we've all adjusted to Zoom meetings and online events, but are you utilizing technology's potential or was there a scramble to move everything digital with a "Phew! That'll do." attitude? In a survey by HubSpot, only 23% of companies were set up for remote work prior to COVID-19; 51% of companies weren't prepared for remote work at all and had to quickly pivot their in-person strategies. However, online events and in-person events were not created equal. This misunderstanding has led to day-long, butt-numbing virtual conferences, Zoom fatigue, and challenges maintaining team enthusiasm and participation. Sound familiar? With a few simple tips, you can learn the formula for effectively engaging your online community.

**Calcog Leadership Forum: Resilient Regions** March 22-23, 2021 • MTI was proud to co-sponsor this year's Calcog Leadership Forum, focusing on "Resilient Regions." The conversation and top leaders discussed what California should be doing for "Pete's sake." This virtual conference completed with networking opportunities and roundtable discussions featuring a wide array of knowledgeable and enthusiastic speakers on pandemic challenges and recovery.

### **Student Scholarships**

Each year, MTI hosts an annual awards banquet and convocation celebration to recognize students graduating with their Master of Science in Transportation Management (MSTM) degree. This celebration also serves as a fundraising opportunity whereby MTI secures



sponsorships that support scholarships for MSTM students. During this period of performance, MTI awarded \$29,830 to deserving students.

### **Plans During the Next Reporting Period to Accomplish the Goals?**

No change to the agency-approved application.

## **2. Participants & Collaborating Organizations**

### **What Organizations Have Been Involved as Partners?**

During this period of performance, MCTM universities partnered with the 32 organizations listed below. Due to COVID-19 and significant restrictions on the Navajo Nation, regular partnerships with local middle schools and high schools could not occur. These partnerships are expected to resume in Fall 2021.

1. Organization Name and Location: **Accelerated Bridge Construction University Transportation Center (ABCUTC)** (Miami, FL)
  - Partner's Contribution to the Project: In-kind support co-sponsoring webinar
  - Project/Program: Women Advancing Transportation for Our Future Mobility Needs
2. Organization Name and Location: **Alabama A&M University** (Huntsville, AL)
  - Partner's Contribution to the Project: Fabricated structural components for Formula SAE competition vehicle
  - Project: Navajo Technical University Workforce Development Components
3. Organization Name and Location: **American Planning Association (APA)** (San Francisco Bay Area Chapter)
  - Partner's Contribution to the Project: In-kind sharing of information
  - Project: Make the Connection: Next Stop Your Career
4. Organization Name and Location: **American Public Works Association (APWA)** (San Francisco Bay Area Chapter)
  - Partner's Contribution to the Project: In-kind sharing of information
  - Project: Make the Connection: Next Stop Your Career
5. Organization Name and Location: **Association of Environmental Professionals (AEP)** (San Francisco Bay Area Chapter)
  - Partner's Contribution to the Project: In-kind sharing of information
  - Project: Make the Connection: Next Stop Your Career
6. Organization Name and Location: **Bachrodt Elementary School** (San Jose, CA)
  - Partner's Contribution to the Project: In-kind support promoting
  - Project/Program: MTI Poster Contest

7. Organization Name and Location: **California Association of Councils of Government (Calcog)** (San Jose, CA)
  - Partner's Contribution to the Project: In-kind support sponsoring webinar
  - Project/Program: Calcog Leadership Forum: Resilient Regions
8. Organization Name and Location: **California Department of Transportation** (Caltrans-Sacramento, CA and several district offices)
  - Partner's Contribution to the Project: In-kind support providing internal promotion of MSTM program
  - Project: MTI Master of Science in Transportation Management
  - Project: Garrett Morgan Information Session
  - Project: Effective Interpersonal "Virtual" Communications
9. Organization Name and Location: **Capital Area Metropolitan Planning Organization** (Raleigh, NC)
  - Partner's Contribution to the Project: In-kind support (project-related data)
  - Project: UNCC Research Projects
10. Organization Name and Location: **City of Charlotte and Charlotte Regional Transportation Planning Organization** (Charlotte, NC)
  - Partner's Contribution to the Project: In-kind support (project-related data)
  - Project: UNCC Research Projects
11. Organization Name and Location: **CommUniverCity San José** (San Jose, CA)
  - Partner's Contribution to the Project: In-kind support facilitating College Day collaboration
  - Project/Program: 10<sup>th</sup> Annual College Day
12. Organization Name and Location: **Conference of Minority Transportation Officials (COMTO)** (Oakland Bay Area Chapter)
  - Partner's Contribution to the Project: In-kind sharing of information
  - Project: Make the Connection: Next Stop Your Career
13. Organization Name and Location: **District Department of Transportation** (DDOT: Washington, DC)
  - Partner's Contribution to the Project: In-kind support (access to signal timing and other field-related-data; traffic control for the safety of students and field technicians during data collection efforts)
  - Project: Howard University Research Projects
14. Organization Name and Location: **East Side Union High School District (ESUHSD)** (San Jose, CA)
  - Partner's Contribution to the Project: In-kind support co-hosting science fair
  - Project/Program: Sciencepalooza!2021

15. Organization Name and Location: **Escondido Elementary School** (Stanford, CA)
  - Partner's Contribution to the Project: In-kind support promoting
  - Project/Program: MTI Poster Contest
16. Organization Name and Location: **French Broad River MPO** (Asheville, NC)
  - Partner's Contribution to the Project: In-kind support (project-related data)
  - Project: UNCC Research Projects
17. Organization Name and Location: **Institute of Transportation Engineers (ITE)** (San Francisco Bay Area Chapter)
  - Partner's Contribution to the Project: In-kind sharing of information
  - Project: Make the Connection: Next Stop Your Career
18. Organization Name and Location: **Latinos in Transit (LiT)** (Covina, CA)
  - Partner's Contribution to the Project: In-kind sharing of information
  - Project: Make the Connection: Next Stop Your Career
19. Organization Name and Location: **Los Alamitos Elementary School** (San Jose, CA)
  - Partner's Contribution to the Project: In-kind support promoting
  - Project/Program: MTI Poster Contest
20. Organization Name and Location: **Montague Elementary School** (Santa Clara, CA)
  - Partner's Contribution to the Project: In-kind support promoting
  - Project/Program: MTI Poster Contest
21. Organization Name and Location: **National Advanced Driving Simulator** (University of Iowa)
  - Partner's Contribution to the Project: In-kind support (maintenance and support for the miniSim simulation software and assistance with AV scenario development)
  - Project: UNCC Research Projects
22. Organization Name and Location: **North Carolina Department of Transportation** (NCDOT: Raleigh, NC)
  - Partner's Contribution to the Project: In-kind support (project-related data)
  - Project: UNCC Research Projects
23. Organization Name and Location: **Safe Routes to School - California (SRTS)** (Sacramento, CA)
  - Partner's Contribution to the Project: In-kind support promoting webinar and providing speaker to share organization information
  - Project/Program: Safe Routes to School in 2021: Let's Walk the Walk

24. Organization Name and Location: **Santa Clara Valley Transportation Authority (VTA)** (San Jose, CA)
- Partner's Contribution to the Project: In-kind support facilitating College Day collaboration
  - Project/Program: 10<sup>th</sup> Annual College Day
25. Organization Name and Location: **Sciencepalooza2021! By Synopsis Outreach Foundation** (San Jose, CA)
- Partner's Contribution to the Project: In-kind support hosting science fair
  - Project/Program: Sciencepalooza!2021
26. Organization Name and Location: **Silicon Valley Bicycle Coalition (SVBC)** (San Jose, CA)
- Partner's Contribution to the Project: In-kind support hosting webinar
  - Project/Program: Safe Routes to School in 2021: Let's Walk the Walk
27. Organization Name and Location: **Silicon Valley Education Foundation (SVEF)** (San Jose, CA)
- Partner's Contribution to the Project: In-kind support sponsoring College Day
  - Project/Program: 10<sup>th</sup> Annual College Day
28. Organization Name and Location: **Southern Plain Transportation Center (STPC)** (Norman, OK)
- Partner's Contribution to the Project: In-kind support sponsoring webinar
  - Project/Program: Women Advancing Transportation for Our Future Mobility Needs
29. Organization Name and Location: **Oklahoma Department of Transportation (ODOT)** (Oklahoma City, OK)
- Partner's Contribution to the Project: In-kind support sponsoring webinar
  - Project/Program: Women Advancing Transportation for Our Future Mobility Needs
30. Organization Name and Location: **Washington Metropolitan Area Transit Authority (WMATA)** (Washington, DC)
- Partner's Contribution to the Project: In-kind technical support, AVL data, and other transit-related data
  - Project: Howard University Research Projects
31. Organization Name and Location: **Women's Transportation Seminar (WTS)** (San Francisco Bay Area Chapter)
- Partner's Contribution to the Project: In-kind support hosting webinar activities and sharing of information
  - Program: Women's Perspectives on Transportation in Downtown San José
  - Program: Make the Connection: Next Stop Your Career

32. Organization Name and Location: **Young Professionals in Transportation (YPT)** (San Francisco Bay Area Chapter)

- Partner's Contribution to the Project: In-kind sharing of information
- Project: Make the Connection: Next Stop Your Career

#### Have Other Collaborators or Contacts Been Involved?

MTI collaborates with a wide range of departments/programs on campus at SJSU. Additionally, several organizations have participated as experts in MCTM summits, conferences and events.

### 3. Outputs

Performance Measures for Research Outputs	2021 <sup>a</sup>	2020	2019	2018
Number of completed research reports, including two-page research briefs	5	19	16	8
<i>Target goal: 12 reports, including research briefs, <u>annually</u></i>				
Number of research presentations at professional meetings and conferences	20	117	107	53
<i>Target goal: 35 presentations <u>annually</u></i>				
Number of downloads of research reports as tracked through Google Analytics (GA) and ScholarWorks (SW) annually (see Figure 1 below for geographic distribution)	4,849 (GA)	14,248 (GA)	15,380 (GA)	13,597 (GA)
	4,238 (SW)	12,955 (SW)	8,782 (SW)	6,198 (SW)
<i>Target goal: 3,000 downloads <u>annually</u></i>				

<sup>a</sup> Number reported through March 31, 2021





Figure 1 Distribution of MTI Report Readers via ScholarWorks, January 1, 2018-March 31, 2021 [32,173 downloads from 2,345 Institutions in 157 countries]

### Published Research Reports

During this period of performance, nine research reports featuring the results of MTI-funded research, were published on the MCTM website. All reports are peer-reviewed prior to publication.

1. Mathur, S. & Gatdula, A. (2020, October). [Promoting Transit-Oriented Developments by Addressing Barriers Related to Land Use, Zoning, and Value Capture.](#)
2. Rodier, C, Broaddus, A., Jaller, M, Song, J, Bischoff, J & Zhang, Y. (2020, October). [Cost-Benefit Analysis of Novel Access Modes: A Case Study in the San Francisco Bay Area.](#)
3. Kim, C. & Khan, G. (2020, December). [Development of a Statistical Model to Predict Materials' Unit Prices for Future Maintenance and Rehabilitation in Highway Life Cycle Cost Analysis.](#)
4. Appleyard, B., Stanton, J. & Allen, C. (2020, December). [Toward a Guide for Smart Mobility Corridors: Frameworks and Tools for Measuring, Understanding, and Realizing Transportation Land Use Coordination.](#)
5. Alexander, S., Agrawal, A.W., & Clark, B. (2021, January). [Local Climate Action Planning as a Tool to Harness the Greenhouse Gas Emissions Mitigation and Equity Potential of Autonomous Vehicles and On-Demand Mobility.](#)
6. Kodupuganti, S., Mathew, S., & Pulugurtha, S. (2021, January). [Modeling Operational Performance of Urban Roads with Heterogeneous Traffic Conditions.](#)

7. Hsueg, G., Czerwinski, D., Becker, T., Hughes, A., Chen, P., & Benn, M. (2021, January). [Using BEAM Software to Simulate the Introduction of On-Demand, Automated, and Electric Shuttles for Last Mile Connectivity in Santa Clara County.](#)
8. Niles, J. & Pogodzinski, J.M. (2021, January). [TOD and Park-and-Ride: Which is Appropriate Where?](#)
9. Lederman, J., Kellogg, S., Haas, P., Wachs, M., & Agrawal, A.W. (2021, February). [Do Equity and Accountability Get Lost in LOSTs? An Analysis of Local Return Funding Provisions in California's Local Option Sales Tax Measures for Transportation.](#)

### **Publications, Conference Papers, and Presentations**

During this period of performance, 50 academic and professional presentations/briefing featured MCTM-federal or match funded research and researchers. Four additional presentations occurred in prior reporting periods but had not been included in those reports. (Full citations for all presentations available upon request, a select example appears below).

Academic Presentations				
	Presentation Title	Audience/Conference	Location	Date
1	*Measuring Walkability using a Mobile Phone Sensors and Applications	Transportation Research Board 98th Annual Meeting	Washington, DC	1/13-1/17/19
2	*Is the Transit Industry Ready for the Cyber Revolution: Policy Recommendations to Enhance Surface Transit Cyber Preparedness	Move America 2020	Online	9/1/20
3	Local Government Policy and Planning Considerations for UAS	University Aviation Association	Online	10/02/20
4	Impact of Connected and Automated Vehicles on Traffic Safety	Virtual 2020 NCDOT Research & Innovation Summit, Durham, NC	Online	10/13/20
5	Evaluating the Effectiveness of a Connected Vehicle Environment Using the Trajectory Data	Virtual 2020 NCDOT Research & Innovation Summit, Durham, NC	Online	10/13/20
6	The Impact of COVID-19 on Public Transportation	Bay Area Legislative Caucus	Online	10/14/20
7	Women's Perspectives on Transportation in Downtown San José (panel speaker)	City of San Jose Downtown Speakers Series (co-sponsored by Walk San José, Mineta Transportation Institute, and WTS)	Online	10/17/20
8	Evaluating the Demand for Truck-Only Toll Lanes in Southern California Freeways with Owner-Operator Truck Drivers	2020 SACNAS - The National Diversity in STEM Conference	Online	10/19/20

9	Impacts to Transportation Finance in California	UCLA Lake Arrowhead Symposium on the Transportation – Land Use - Environment Connection	Online	10/23/20
10	Resilience of the Transportation Sector and Drivers' Safety in the US (Keynote)	RESIST Virtual Workshop	Online	11/03/20
11	The Allocation of Transportation Investments Using a Multi-Objective Optimization Approach: Balancing Efficiency and Equity in Accessibility to Multi-Use Paths	ACSP 60th Annual Conference	Online	11/05/20
12	Integrate Climate Action: How Cities in California Plan for Climate Mitigation and Adaptation through Transportation and Land-use	ACSP 60th Annual Conference	Online	11/05/20
13	Is the Transit Industry Ready for the Cyber Revolution: Policy Recommendations to Enhance Surface Transit Cyber Preparedness	TRB Transit Safety and Security Conference and APTA Mid-year Safety and Security Seminar	Online	11/06/20
14	Big Data Dig: How Public Opinion of Transit Has Changed and Other Demographic Insights	California Transit Association 55th Annual Fall Conference & Expo	Online	11/18/20
15	A Framework for Integrating Transportation into Smart Cities	2020 Caltrans Innovation Expo	Online	11/20/20
16	The Impact of Park-and-Ride on Public Transit Ridership	Transport Problems 2020 Conference at Silesian University of Technology	Online	12/02/20
17	Transit Finance and Ridership	Interstate Transit Research Symposium	Online	12/02/20
18	Is the Transit Industry Ready for the Cyber Revolution: Policy Recommendations to Enhance Surface Transit Cyber Preparedness	AASHTO's Council on Public Transportation and Multi-State Transit Technical Assistance Program 2020 Winter Meeting	Online	12/05/20
19	Is the Transit Industry Ready for the Cyber Revolution: Policy Recommendations to Enhance Surface Transit Cyber Preparedness	APTA's Safety Management Systems (SMS) in Technology and Cybersecurity	Online	12/08/20
20	Applicability of Variable Speed Limits Using Supervised Machine Learning and Travel Time Data	13th International (Online) Conference on Transportation Planning and Implementation	Online	12/10-12/11/20

		Methodologies for Developing Countries (TPMDC)		
21	Contemporary Approaches and Evolving Trends for Unraveling Road Safety Problems	7th Conference on Transportation Systems Engineering and Management (CTSEM)	Online	12/29-12/30/20
22	Green Up pavement rehabilitation decision tool	International Symposium on Pavement, Roadway, and Bridge Life Cycle Assessment 2020	Online	01/13/21
23	Life Cycle Assessment of Intelligent Construction Techniques for Highway Pavements	International Symposium on Pavement, Roadway, and Bridge Life Cycle Assessment 2020	Online	01/13/21
24	Exploration of Transit Station-Oriented Active Transportation Safety Using Bivariate Spatial Models with Different Covariate Inputs	Transportation Research Board 100th Annual Meeting	Online	1/5/21-1/29/21
25	Exploring the Influence of Off-network and On-network Characteristics on Truck Crash Injury Severity	Transportation Research Board 100th Annual Meeting	Online	1/5/21-1/29/21
26	Modeling and Predicting Smoothness of Asphalt Overlays Using Network and Project Level Data	Transportation Research Board 100th Annual Meeting	Online	1/5/21-1/29/21
27	Neighborhood Effects of Safe Routes to School Programs on the Likelihood of Active Travel to School	Transportation Research Board 100th Annual Meeting	Online	1/5/21-1/29/21
28	Achieving Excellence for California's Freight System: Developing Competitiveness	Transportation Research Board 100th Annual Meeting	Online	1/5/21-1/29/21
29	How Cities Help and Hinder the Provision of Surface Public Transit	Transportation Research Board 100th Annual Meeting	Online	1/5/21-1/29/21
30	Is the Transit Industry Ready for the Cyber Revolution: Policy Recommendations to Enhance Surface Transit Cyber Preparedness	Autonomous Vehicles and Public Transport Virtual Conference	Online	2/02/21
31	Polling and Public Opinion on Mileage Based User Fees Nationwide	Mileage Based User Fees Association Radio	Online	2/02/21

32	Hazard Level for Safety Monitoring and Informed Interventions	SAE ORAD Verification and Validation Task Force - J3237 sub-committee	Online	2/03/21
33	Will Ride-Hailing Enhance Mobility for Older Adults? A California Survey	Traffic Safe Communities Network (TSCN) quarterly meetings, Santa Clara County Public Health Department	Online	2/11/21
34	Southern California Middle Skills Workforce Needs in the Goods Movement Sector	LA Metro External College/University Partners meeting	Online	2/26/21
* Occurred during a previous reporting period, but had not been reported.				

### Published Conference Proceedings

During this period of performance, two articles in conference proceedings were published.

1. Satani, S., Aval, S. F., Garrido, J., & Mazari, M. (2020). "Preliminary Evaluation of Using Intelligent Compaction for Life Cycle Assessment and Life Cycle Cost Analysis of Pavement Structures." J. Harvey, I. L. Al-Qadi, H. Ozer, G. Flintsch (eds.), *Pavement, Roadway, and Bridge Life Cycle Assessment 2020. Proceedings of the International Symposium on Pavement, Roadway, and Bridge Life Cycle Assessment 2020*, 460. CRC Press.
2. Saadeh, S., Alzubi, Y., Zaatarah, B., & Fini, E. (2020). Performance testing of Hot Mix Asphalt containing Biochar. Proceedings of the International Symposium on Bituminous Materials. Lyon, France. December 14 – 16, 2020.

### Journal Publications

During this period of performance, 11 journal articles were published.

1. Agrawal, A.W., & Fang, K. (2020). Evolution of the American Street: A View from 2070. *TR News*, September-October, no. 320. <http://onlinepubs.trb.org/onlinepubs/trnews/trnews329.pdf>.
2. Arhin, S., Manandar, B., & Baba-Adam, H. (2020). Predicting Travel Times of Bus Transit in Washington, D.C. Using Artificial Neural Networks. *Civil Engineering Journal*, doi: [10.28991/cej-2020-03091615](https://doi.org/10.28991/cej-2020-03091615).
3. Brown, Darius & Edwards, Frances L. (2021) Sheltering the Homeless during COVID-19 in San Jose, California, *International Journal of Public Administration*, doi: 10.1080/01900692.2021.1896546.
4. Duvvuri, S., S. Mathew, R. Gouribhatla and S. S. Pulugurtha. (2020). Identifying Road Links and Variables Influencing the Applicability of Variable Speed Limits Using Supervised Machine Learning and Travel Time Data. *Journal of Modern Mobility Systems*, 1, 125-130, <https://doi.org/10.13021/jmms.2020.2931>.
5. Faisal Kabir, S., Sukumaran, S., Moghtadernejad, S., Barjasteh, E., & Fini, E. H. (2021). End of Life Plastics to Enhance Sustainability of Pavement Construction Utilizing a Hybrid Treatment of Bio-oil and Carbon Coating. *Construction and Building Materials*, 278, 122444. <https://doi.org/10.1016/j.conbuildmat.2021.122444>.



6. Horstman, R., & Rahai, H. (2021). A Risk Assessment of an Airborne Disease inside the Cabin of a Passenger Airplane. *SAE International*. doi:10.4271/2021-01-0036.
7. Loukaitou-Sideris, A., & Peters, D. (2020). What is Good Station-Area Planning? Lessons from Experts and Case Studies. *Built Environment*, 46(3), 422–439. <https://doi.org/10.2148/benv.46.3.422>.
8. Mathew, S. and S. S. Pulugurtha. (2021). Systemic Evaluation of Spatio-Temporal Variations in Travel Time Reliability Due to a Toll Road Over Time. *Urban, Planning and Transport Research Journal*. <http://dx.doi.org/10.1080/21650020.2020.1853601>.
9. Mathur, S., & Gatdula, A. (2021). Addressing Barriers to the Use of Value Capture to Fund Transit-oriented Developments. *Case Studies on Transport Policy*. doi:10.1016/j.cstp.2021.02.007.
10. Pulugurtha, S. S. and K. Koilada. (2020). Exploring Correlations between Travel Time Based Measures by Year, Day-of-the-week, Time-of-the-day, Week-of-the-Year and the Posted Speed Limit. *Urban, Planning and Transport Research Journal*. <http://dx.doi.org/10.1080/21650020.2020.1845230>.
11. Rostami, A. D., Katthe, A., Sohrabi, A., & Jahangiri, A. (2020). Predicting Critical Bicycle-Vehicle Conflicts at Signalized Intersections. *Journal of Advanced Transportation*, 2020, 1–16. <https://doi.org/10.1155/2020/8816616>.

#### **Books or other non-periodical, one-time publications**

MCTM documents four publications in this category during this period of performance.

1. Ceccato, V. & Loukaitou-Sideris, A. (2020). *Transit Crime and Sexual Violence in Cities: International Evidence and Prevention*. Routledge.
2. Jenkins, B. & Butterworth, B. (2020, October). [Metal Against Marchers: An Analysis of Recent Incidents Involving Vehicle Assaults at U.S. Political Protests and Rallies](#). (MTI Security Perspective).
3. Talbott, S. (2021, March). [How will State Motor Vehicle Violation Fines be Impacted by Widespread Use of Autonomous Vehicles?](#) (MTI Perspective).
4. Agrawal, A.W. & Nixon, H. (2021, March). [What Do Americans Think about Federal Tax Options to Support Transportation? Topline Results from Year Twelve of a National Survey](#). (MTI Perspective).

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

- An MCTM website is maintained at <http://transweb.sjsu.edu/mctm/index.html>
- An MCTM presence has been established, and continues to grow, in conjunction with the existing MTI Facebook page - <https://www.facebook.com/MinetaTransportation/> and Twitter feed - [@MinetaTrans](https://twitter.com/MinetaTrans)

**Technologies or Techniques:** Nothing to report

**Inventions, Patent Applications, and/or Licenses:** Nothing to report

#### **Other Products**

- [Dataset on local option sales taxes in California](#) is publicly available through SJSU ScholarWorks archive.

- [Dataset on parking near transit centers](#) for three large metropolitan transit agencies (Los Angeles, San Jose, Seattle) is publicly available through SJSU ScholarWorks archive.
- [Dataset on travel time before-and-after light rail implementation](#) in Charlotte, North is publicly available through SJSU ScholarWorks archive.
- [Smart Mobility Calculator](#) online tool developed for Caltrans.
- [Mileage Fee Research and Information Directory](#) provides a comprehensive directory of research and information on mileage fees. Developed at the request of Caltrans.
- [Datasets from a survey of local governments and transit agencies](#) in the U.S. on transit-oriented development policies is publicly available through SJSU ScholarWorks archive.

#### 4. Outcomes

- Performance Measures for Research Outcomes

Performance Measures for Research Outcomes	2021 <sup>a</sup>	2020
Number of technology transfer events (workshops, seminars, webinars, etc.)	7	29
<i>Target goal: 12 annually</i>		
Number of technology transfer event participants	796	2,382
<i>Target goal: 500 participants annually</i>		

<sup>a</sup> Number reported through March 31, 2021

Performance Measures for Research Outcomes	Current Period	Previous Period
Number of organizations participating in consortium activities	32	27
<i>Target goal: 10 during each semi-annual performance reporting period</i>		

#### 5. Impacts

- Performance Measures for Research Impacts

Performance Measures for Research Impacts	2021 <sup>a</sup>	2020
Number of instances of research influencing policy or practice	1	6
<i>Target goal: 3 annually</i>		
Evidence of impact and exposure based on number of media articles covering MCTM activities	72	334
<i>Target goal: 50 annually</i>		
Evidence of impact on transportation workforce development based on number trained and/or educated individuals (K-12 level)	300	1,063

<i>Target goal: 50 K-12 students <u>annually</u></i>		
Evidence of impact on transportation workforce development based on number trained and/or educated individuals (college level/working professionals)	516	1,417
<i>Target goal: 75 college students and/or working professionals <u>annually</u></i>		
Percent of surveyed participants attending MCTM technology transfer events and training programs reporting that MCTM research and training is useful, effective, and impactful	85%	90%
<i>Target goal: 60% with an average survey score of more than 4 out of 5 indicating that the event was useful, effective, and impactful</i>		

<sup>a</sup> Number reported through March 31, 2021

MCTM documents the following instances of research influencing policy or practice during the current period of performance (October 1, 2020 – March 31, 2021):

- Scott Gibbons (member of the Metropolitan Police Service in the United Kingdom) contacted MTI in response to our latest Security Perspective on vehicle rammings. He noted that the report was extremely useful for his agency. [November 2020]
- MTI's security research continues to provide valuable insight for professionals. Recent work in response to vehicle-related incidents during racial justice protests was highlighted in TRIAD (Transit and Rail Intelligence Awareness Daily). TRIAD is produced by the Surface Transportation and Public Transportation Information Sharing & Analysis Centers. [November 2020]
- [AASHTO's Aviation Council](#) highlights MTI's research on [Unmanned Aerial Systems](#) on their website as key reference materials for the industry on this emerging area of interest. [March 2021]

#### **What is the Impact on the Effectiveness of the Transportation System?**

- MTI Research Associate, Dr. Peter Furth, received the 2020 Lifetime Achievement Award from the Association of Pedestrian & Bicycle Professionals. Dr. Furth's MTI-funded research [Low Stress Bicycling Connectivity](#) led to the development of the Bicycle Level of Traffic Stress tool which gave practitioners a new approach to assess community bicycling conditions. This tool has been used by countless professionals across the U.S. and internationally and has become the standard for evaluating bicycle networks.

#### **What is the Impact on the Adoption of New Practices, or Instances Where Research Outcomes Have Led to the Initiation of a Start-up Company?** Nothing to report

**What is the Impact on the Body of Scientific Knowledge?** Collectively MCTM partners are impacting the body of scientific knowledge through the publication of reports, journal articles, conference presentations, technical advising, and other activities. As visually depicted in Figure

1, from January 1, 2018 to March 31, 2021 MCTM reports were downloaded 32,173 times from 2,345 Institutions in 157 countries.

### **What is the Impact on Transportation Workforce Development?**

- Students involved in MCTM activities continue to be recognized for their achievements. **Sarvani Duvvuri**, a Ph.D. student working under the direction of Prof. Srinivas Pulugurtha (UNCC) won the WTS Charlotte Metro Chapter Scholarship Award, 2020-21; was recognized as one of the 2020-21 STEM Communication Fellows; and won the North Carolina Section of the Institute of Transportation Engineers (NCSITE) Herman J. Hoose Memorial Award, 2020.
- El Rancho Unified School District contacted MTI to indicate how useful the lesson plans developed for the Garret Morgan Sustainable Transportation Competition were for teaching students about concepts such as carbon footprint. Mathematics teacher, Tom Ormseth, writes that MTI's activities "made an impact on how [the students] think about sustainability and the environment."

### **Additional Successes of Note**

MCTM is regularly contacted by academics, practitioners, elected officials, government entities, transit agencies and others to provide information, insight, and briefings on high priority transportation initiatives. The following are of note but do not fit neatly into any of the prior categories, as such this new section has been implemented.

- MTI's Dr. Frances Edwards was selected to serve a guest co-editor for a special edition of the International Journal of Public Administration on COVID-19 and government. In addition, Dr. Edwards was also asked to co-edit a special issue of Public Organization Review on COVID-19.
- MTI assisted the San Jose/Okayama, Japan Sister Cities Program to identify two young professionals to serve on a panel focused on "Lessons Learned and the Future in Business: COVID-19."
- MTI Research Associate, Gary Hsueh, was selected to serve as a panel member for the TCRP Transit IDEA J-04/Idea 95, Connected and Automated Parking Feasibility/MDOT MTA Dorsey Run Pilot Project.
- MTI Executive Director, Dr. Karen Philbrick, was selected to serve as Co-Chair for the TCRP F-29 Panel: Mental Health, Wellness, and Resilience for Transit System Workers.

## **5. Changes/Problems**

- Changes in Approach and Reasons for Change: Nothing to report
- Actual/Anticipated Problems or Delays Encountered: Nothing to report
- 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
- Change of Primary Performance Site Location from that Originally Proposed: Nothing to report