



Mineta
Consortium
for Transportation
Mobility

Program Progress Performance Report Mineta Consortium for Transportation Mobility April 1, 2018 - September 30, 2018





Program Progress Performance Report for University Transportation Centers Mineta Consortium for Transportation Mobility (MCTM) Led by San José State University

- **Federal Agency and Organization Element to Which Report is Submitted:**
U.S. Department of Transportation Office of the Assistant Secretary for Research and Technology
- **Federal Grant or Other Identifying Number Assigned by Agency:** 9A3551747127
- **Project Title:** Tier 1 University Transportation Center
- **Center Director:**
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- **Submission Date:** October 31, 2018
- **DUNS and EIN Numbers:** 0568207150000 and 94-6017638
- **Recipient Organization:**
San Jose State University Research Foundation
210 N. Fourth Street, 4th Floor, San Jose, CA 95112
- **Recipient Identifying Number or Account Number:** Not Applicable
- **Project/Grant Period:** November 30, 2016 – September 30, 2022
- **Reporting Period End Date:** September 30, 2018
- **Report Term or Frequency:** Semi-annual
- **Signature of Submitting Official:** *Karen Philbrick*

■ 1. Accomplishments

A. Major Goals and Objectives of the Program

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 and make our nation's transportation system safe, efficient, accessible, and convenient for all.

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; San José State University; and the University of North Carolina Charlotte.

This Consortium was designed to foster synergies between leaders in transportation planning, policy, and engineering, each with a long and distinguished track record of visualizing and deploying cutting-edge, multimodal solutions that meet our nation's mobility challenges. For a complete list of MCTM specific goals and objectives, please see PPPR one and PPPR two.

It is not an overstatement to say that transportation of people and goods is the linchpin of our economy. Where human beings are concerned, the difference between having and lacking mobility is no less than the difference between having and lacking opportunity. To that end, MCTM research and activities will use a multidisciplinary approach that addresses the complex nature of today's mobility challenges to advance the body of usable transportation knowledge.

B. Accomplishments Under These Goals

Research Program

Emerging Leaders Seed Grant Program

The Emerging Leader Seed Grant Program seeks to engage and develop leadership capacity among junior faculty at San José State University. 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 six seed grants through this program. An emphasis has been made on engaging with faculty outside some of the traditional transportation disciplines

(e.g. civil engineering, urban planning, etc.) to broaden MCTM's research portfolio and accomplish our stated goal of using a multidisciplinary approach to address the complex nature of today's mobility challenges.

Three projects are complete and the white papers have been [published to the MCTM website](#):

1. [Integrating Smart Cars in Smart Cities: A Particle Swarm Problem](#)
Faculty Member: Francesca Favaro, PhD, Assistant Professor, Department of Aviation and Technology
2. [Improving Demand Modeling in California's Rail Transit System](#)
Faculty Member: Rui Liu, PhD, Assistant Professor, Department of Economics
3. [Review of Literature and Curricula in Smart Supply Chain & Transportation](#)
Faculty Members: Seung Jun Lee, PhD, and Tianqin (Kelly) Shi, PhD, Assistant Professors, Department of Global Innovation and Leadership

Three additional projects are underway, including a new project awarded during the current reporting period:

1. Older Adults' Perceptions Regarding Transportation Services in San Jose, CA: Access, Barriers, and Innovations
Faculty Member: Deborah Bolding, PhD, Assistant Professor, Department of Occupational Therapy
2. Wireless Power Charging of Electric Vehicles Using Resonant Converters
Faculty Member: Mohamed Badawy, Ph.D., Assistant Professor, Department of Electrical Engineering
3. Freeways and Farms: Prusch & Taylor Street Urban Farms Study
Faculty Member: Joshua Baur, Ph.D., Assistant Professor, Department of Health Science and Recreation [Awarded during current reporting period.]

Request for Proposals Issued

MTI completed a competitive Request for Proposals (RFP) during this reporting period. This competitive, open, broad-based process for soliciting and selecting transportation research projects ensures that our research meets our stated Consortium goal to "lead the nation in research that identifies safe, reliable transportation solutions that increase

mobility of people and goods and strengthen the nation's economy." Proposals were due June 25, 2018 and eleven research projects were selected for funding:

1. Crime and Harassment on Public Transportation: A Survey of SJSU Students Set in International Context
PIs: Asha Weinstein Agrawal, Ph.D. & Anastasia Loukaitou-Sideris
2. Promises and Projects: Examining Accountability and Equity in County Sales Tax Measures for Transportation in California
PI: Jaimee Lederman, Ph.D.
3. Impact of Smart Phones' Interaction Modality on Driving Performance for Conventional and Autonomous Vehicles
PI: Francesca Favaro, Ph.D.
4. Will Older Californians Step into Ride-Sharing Services? Evaluating the Potential of Transportation Network Companies to Enhance Multimodal Travel for Seniors
PI: Asha Weinstein Agrawal, Ph.D.
5. Cost-Benefit Analysis of Transit Access Modes: A Case Study in the San Francisco Bay Area
PI: Caroline Rodier, Ph.D.
6. Congestion-Clearing Payments to Passengers
PI: Paul Minett
7. Harnessing the Greenhouse Gas Emissions (GHGs) Mitigation Potential of On-demand Mobility and Autonomous Vehicles (AVs)
PI: Serena Alexander, Ph.D.
8. Promoting Transit-Oriented Developments (TODs): Policy Options, Strategies and Tools to Facilitate TOD-supportive Land Use/Zoning and Use of Transit- and TOD-generated Land Value Increase to Fund TODs
PI: Shishir Mathur, Ph.D.
9. TOD and Park-and-Ride: Which is Appropriate Where?
PI: John Niles
10. Safe Routes to Schools Intersectional Analysis
PIs: Carole Voulgaris, Ph.D. & Anurag Pande, Ph.D.

11. Estimating Impacts of Automated Shuttles

PI: Gary Hsueh

Since inception, MCTM has selected 17 projects for funding through a competitive RFP process. Details on all MCTM projects can be found in the [UTC project information sheets](#).

Leveraging Federal Funds – California State University Transportation Consortium

MCTM partners acknowledge the significant investment of federal funds into the consortium and actively work to leverage those funds to bring in additional financial support. MTI had a significant accomplishment in this area recently.

As part of California's Senate Bill 1 (SB 1), funds from new fuel taxes and vehicle fees were dedicated to support transportation research and workforce development activities at the University of California (\$5 million annually) and California State University (\$2 million annually) systems. The California State University (CSU) Chancellor's Office initiated a competition across the 23-campus system to identify a multi-campus consortium to direct the CSU's efforts under SB 1. MTI partnered with CSU Chico, Fresno, and Long Beach to lead the California State University Transportation Consortium (CSUTC) for the next three years at \$2M in funding annually. MTI's experience leading large-scale consortiums such as our UTC consortiums over the past 20 years helped solidify this win. The Chancellor's Office recognized the research and workforce development expertise housed within MTI and the broader consortium and clearly acknowledged the administrative and leadership experience that MTI brings to the table.

Similar to the approach taken with the federal consortium, each partner receives a set amount of funding for research and workforce development activities, but the bulk of the funding is reserved for a competitive RFP that MTI oversees. That competition took place this past Spring with 84 proposals submitted. After subject matter expert review, MTI awarded ten research grants to faculty researchers at nine different CSU campuses. Another RFP will be issued this Fall.

C. 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 partners include university transportation centers, federal and state agencies, private industry, and nonprofits.

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: <http://transweb.sjsu.edu/mctm/index.html>. This website is updated regularly with event information, media coverage, and research activities.

Media Coverage

During the reporting period, there were 246 stories featured in print, radio, and television media outlets, bringing the total number of stories for the Consortium to 542 since inception. Links to many of these articles are featured on the [Consortium website](#) and below is a snapshot of activity:

- MarketScreener by 4-traders (April 4, 2018): [The Political Backlash Against Tech: Good, Bad and Ugly](#)
- San Jose Mercury-News (April 12, 2018): [Meet the Woman Making Sure Your Gas Taxes Are Spent Right](#)
- The Atlantic (April 24, 2018): [How Cities Defend Against Vehicular Attacks](#)
- MassTransit Magazine (May 1, 2018): [MTI Survey Shows That Viva CalleSJ Delivered a Third-Year of Fun and Physical Activity for Participants](#)
- The Virginian-Pilot (May 18, 2018): [Paying a Tax for Every Mile You Drive? Regional Boards Want State to Study the Idea](#)
- Epeak World News – New York City (June 1, 2018): [Drivers Seethe As City Reserves Nearly 300 Free Parking Spaces For Car-Share Companies](#)
- San Jose Mercury-News (July 1, 2018): [Gas Taxes: Where Does Your Money Actually Go?](#)
- Metro Magazine (July 2, 2018): [Study Finds Growing Support for Raising Taxes to Pay for Transportation Projects](#)
- Daily Democrat (July 5, 2018): [Breaking Down Gas Taxes and Where Your Money Goes](#)
- Dig Boston (July 17, 2018): [Public Transit in Boston Hasn't Gotten Very Fair in 130 Years](#)

- National Post (July 30, 2018): [Is a \\$100 Billion Bullet Train the Future of California, or a Boondoggle That Will Never Happen?](#)
- The Washington Post (September 1, 2018): [Why You Might Soon Undergo a Body Scan to Ride the Subway or Bus](#)
- Newsweek (September 11, 2018): [9/11 Anniversary: How Safe is America After 17 Years of War on Terror](#)

MCTM uses Meltwater for media monitoring and to assess the reach and geographic distribution of articles that cover the Consortium’s research, personnel, and workforce development activities.

Regional Forums, National Summits, and K-12 Workforce Development Initiatives

During this period of performance, MCTM sponsored eighteen technology transfer activities that reached 3,024 attendees; a selection follows:

Beyond Commuter Rail: International Models of Rail Excellence

April 2, 2018 • Mountain View, CA: MTI was a proud co-sponsor of an event that brought Alon Levy, writer and analyst about transit systems around the world, to present on international examples of effective rail and transit systems, and provide a critique of the practices that hold the U.S. back from excellent service.

Garrett Morgan Sustainable Transportation Competition

April 12, 2018 • California & Washington, D.C.: MTI sponsored the 18th Annual Garrett



Morgan Sustainable Transportation Competition to encourage young people to consider careers in transportation. Students from middle schools in California and the Washington, D.C. area participated in the event. Students worked with transportation professionals in the classroom to learn about sustainable transportation through a wide range of STEM-focused activities. Each competing student team developed

an idea for a sustainable transportation project, which they presented to transportation leaders during the competition. This year, the students were addressed by Secretary (ret.) Norman Y. Mineta, Deputy Secretary of Transportation Jeffrey A. Rosen, California

Department of Transportation's Deputy Director of Administration, Cris Rojas, among other transportation leaders. The winning team from Toddy Thomas Middle School in Fortuna, CA was recognized during MTI's Annual Awards Banquet and Convocation in June.

Three Revolutions: Planning for an Electric, Autonomous, Shared Transportation Future

April 19, 2018 • San Carlos, CA: Three revolutions will fundamentally change transportation. But whether these changes will be for better or worse for social equity, traffic congestion, pollution, and energy use, will depend on the policy choices people make now.

Optimizing Our Highways: Moving More People with Fewer Cars

April 30, 2018 • Burlingame, CA: This event focused on how we can move more people in the Bay Area with fewer cars. An express lane is now being considered on 101 from San Francisco to San Jose, but projections show that it alone will do little to solve Bay Area traffic woes. It is increasingly clear that the only way to get to the root of congestion — and to reduce climate emissions — is by catalyzing a dramatic shift from solo driving to carpools, shuttles, transit and incentivizing a shift to clean vehicles. Can we make Silicon Valley the place to break out with truly disruptive ideas that work?

Women in Leadership League (WILL) Conference

May 5, 2018 • San José, CA: On Saturday, May 5, 2018, the Lucas College of Business at San José State University hosted the 2nd Annual Women in Leadership League Conference. This conference brought together top women leaders, alumni, and students from all disciplines. The day provided a mix of keynote addresses and small group discussions, which provided participants with inspirational experiences as well as practical advice and strategies from successful women leaders. MTI co-sponsored this event.

"An American Story: Norman Mineta and His Legacy"

May 10, 2018 • San Francisco, CA: Former San Jose mayor, Democratic congressperson, cabinet secretary, founder of the Mineta Transport Institute (MTI), veteran, and World War II incarceration camp survivor, Norman Mineta's life premiered on the big screen in Dianne Fukami and Debra Nakatomi's "[An American Story: Norman Mineta and His Legacy](#)." It was selected as the Opening Night film as part of the Center for Asian American Media's (CAAM) film festival.

Synchronizing Climate and Transportation Plans

May 16, 2018 • Palo Alto, CA: Transportation is the largest source of greenhouse gas emissions in the region and the state. What transportation strategies make it harder to reduce GHGs, and what can help? How can we make better decisions today that support a sustainable future? This event featured speakers including Dr. Billy Riggs, MTI Research

Associate and University of San Francisco faculty member, Dr. Michael Boswell, MTI Research Associate and Chair of the Department of City & Regional Planning at California Polytechnic University at San Luis Obispo, and Gil Friend from the City of Palo Alto.

Electric Vehicles for EVeryone

May 17, 2018 • Redwood City, CA: The focus for this event was on California's transition from fossil fuel-based vehicles to electric ones. Attendees learned about charging stations and infrastructure, what cars and trucks are available, saving money by going electric, and how everyone can benefit from the growth of electric vehicles. Opening remarks were provided by State Assemblymember Marc Berman.

International Seminar: High-Speed Technologies on Railways Systems

May 22-23, 2018 • San José, CA: This event on high-speed rail featured international experts sharing specialized knowledge of railway technologies. The seminar was oriented to qualified professionals, graduate engineers, local SBEs and senior students with interest in this field. It provided and expanded a qualified workforce for the development of HSR in California. Additionally, it was an opportunity to bring students into contact with international leaders and companies in these technologies.

Summer Transportation Institute

June 11-29, 2018 • San José, CA: MTI conducted its fifteenth annual Summer Transportation Institute (STI) during June 2018. STI was offered as a 3-week, Monday through Friday, 15-day non-residential program for high school students on the campus of San José State University, San José, California. MTI partnered with the East Side Union High School District (ESUHSD) for a fourth non-consecutive year. The primary goal of the program was to inform and inspire students to critically think about their futures and their potential for careers in transportation. The program comprised three main components: (1) college-level course in environmental studies, with an emphasis on transportation; (2) field trips; (3) guest speakers. A secondary goal of the program was to inspire the students to attend a college or university after high school. Most of students in the program are from schools with a high socioeconomically disadvantaged population, lacking college role models; thus, having a need to reinforce attending college. By meeting on the SJSU campus the students became not only familiar with the campus but could literally see themselves and their peers attending college. The students experienced a total of 15 field trips over the course of the 15 days of the program where they were exposed to a wide range of careers in transportation. In-kind and financial support from key community organizations and businesses (partners detailed below) totaled over \$35,000. A select group of twelve attendees were selected to travel to Pensacola Florida to spend six nights aboard the world's largest simulated aircraft carrier to learn about careers in aviation. A Top Gun style

graduation with certificates delivered by a retired General completed this innovative experience!

9th Annual Norman Y. Mineta National Transportation Finance Summit

June 22, 2018 • San Francisco, CA: The need to invest in California's transportation system is dire and after years of seeking a solution to the state's transportation crisis, the State Legislature passed and the governor signed SB 1 (Beall, 2017), also known as the Road Repair and Accountability Act of 2017, increasing transportation funding by \$54 billion over a decade. SB 1 provides the first significant, stable and ongoing increase in state transportation funding in more than two decades. This free, half-day summit hosted by the Mineta Transportation Institute looked at how SB1 funds are being implemented and documented the strategies that state, local, and regional governments and transportation agencies are taking to address California's transportation needs.

Laurie Berman, Director of the California Department of Transportation, provided the keynote address. Additional speakers included Dr. Asha Weinstein Agrawal, Director of MTI's National Transportation Finance Center.

26th Annual Awards Banquet and Convocation

June 23, 2018 • San José, CA: Graduates of MTI's Masters of Science in Transportation Management were honored at a banquet attended by families and friends as well as national and international transportation leaders. Graduates were recognized by Secretary (ret.) Norman Y. Mineta, MTI Board of Trustees Chair and General Manager of BART, Grace Crunicun, SJSU President Mary Papazian, and Dean of the Lucas College and Graduate School of Business, Dan Moshavi. California State Senator Jim Beall received the Inaugural Norman Y. Mineta Innovative Leadership Award and California Department of Transportation Director, Laurie Berman provided the keynote address. An award was given to students from Toddy Thomas Middle School in Fortuna, the winning team in the Garrett Morgan Sustainable Transportation Competition, and the MSTM Alumni Association honored its Alumna/us of the Year.

8th Annual Silicon Valley Bike Summit

August 22, 2018 • San José, CA: MTI hosted the 8th Annual Silicon Valley Bike Summit in 2018, the area's largest gathering of active transportation leaders and organizers from government, law enforcement, non-profit, and the public. This annual event, organized by the Silicon Valley Bicycle Coalition, addressed topics including: grassroots advocacy, engineering and planning, housing and transportation, bike share, Safe Routes to School and more. Participants took advantage of the central location of MTI/SJSU and were able to travel to the event using active transportation.

National High Speed Rail Leadership Summit

September 11-13, 2018 • San José, CA: The National High Speed Rail Leadership Summit brought together business and political leaders together to discuss high speed rail in the U.S.

Student Internships and Assistantships

Currently, 47 students are receiving financial support from the Consortium. This support includes tuition, stipends, and paid hourly rates.

- Howard University: Six students
- SJSU: Thirty-nine students
- UNCC: Two students

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, and using these sponsorship funds, MTI awarded \$25,000 to deserving students.

By way of background, in 1999 MTI, using federal USDOT UTC dollars and state match provided by the California Department of Transportation (Caltrans), founded the MSTM program. The curriculum is led by nationally recognized instructors who are academic or industry experts. The Masters program is fully accredited by the Association to Advance Collegiate Schools of Business (AACSB) and the program is accelerated, which enables students to complete the MSTM in two and a half years. Classes are held in the evening, allowing students to work full time while earning their degrees. Students generally take one course at a time, one night per week for each 10-class session, for a total of four classes per year. The program is available statewide at designated Caltrans district offices and other participating transportation agencies. Classes are delivered by two-way video conferencing supplemented by video streaming and web courseware.

In 2018, MTI partnered with the American Public Transportation Foundation (APTF) to award a \$10,000 scholarship to a San Jose State University student. To achieve this level of funding, MTI and APTF both supported this scholarship with a \$5,000 investment. Dr. Karen Philbrick traveled to Nashville, TN for the APTA conference to present the scholarship award to this year's MTI recipient. Cameron Simons is a



graduate student at SJSU studying data analytics. He has been a student research assistant on several MTI research projects and a named author on two reports. MTI plans on continuing this partnership in the Fall of 2019.

D. 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 following:

1. Organization Name and Location: **American Public Transportation Association** (APTA-Washington, DC)
 - Partner's Contribution to the Project:
 - Financial support: \$5,000 matching funds for student scholarship; mentor for Garrett Morgan Sustainable Transportation Competition
 - Project: Garrett Morgan Sustainable Transportation Competition
2. Organization Name and Location: **Bond Wilson Technical Center** (Kirtland, NM)
 - Partner's Contribution to the Project: In-kind support (provided space for meetings; recruited student participants for Pre-Engineering, Welding, and Construction Dual-Credit courses)
 - Project: Developing a Certificate in Transportation Careers
3. Organization Name and Location: **California Department of Transportation** (Caltrans-Sacramento, CA and several district offices)
 - Partner's Contribution to the Project: In-kind support (live-streaming broadcast network, mentor for Garrett Morgan Sustainable Transportation Competition, facilities for MSTM classes and Garrett Morgan competition)
 - Project: MTI Masters of Science in Transportation Management & Garrett Morgan Sustainable Transportation Competition
4. Organization Name and Location: **Chinle, AZ High School** (Chinle, AZ)
 - Partner's Contribution to the Project: In-kind support (provided space for meeting; planning for transportation-related courses in Spring 2019)
 - Project: Developing a Certificate in Transportation Careers
5. Organization Name and Location: **City of Charlotte** (Charlotte, NC)

- Partner's Contribution to the Project: In-kind support (data pertaining to all major new developments and road construction projects in Charlotte)
 - Project: Modeling the Effect of Developments and Road Construction Projects on Transportation System Performance
6. Organization Name and Location: **Crownpoint High School** (Crownpoint, NM)
- Partner's Contribution to the Project: In-kind support (provided space for meetings; recruited student participants for Pre-Engineering and Welding Dual-Credit courses)
 - Project: Developing a Certificate in Transportation Careers
7. Organization Name and Location: **District Department of Transportation** (DDOT: Washington, DC)
- Partner's Contribution to the Project: In-kind support (access to data)
 - Project: Predicting Acceptable Wait Times for Patrons at Transit Bus Stops by Time of Day
8. Organization Name and Location: **History San Jose** (San Jose, CA)
- Partner's Contribution to the Project: Financial support (free admission for Summer Transportation Institute high school students)
 - Project: MTI Summer Transportation Institute
9. Organization Name and Location: **Independence High School/East Side Union School District** (San Jose, CA)
- Partner's Contribution to the Project: In-kind support (facilities/classroom for Summer Transportation Institute high school students)
 - Project: MTI Summer Transportation Institute
10. Organization Name and Location: **Metropolitan Police Department** (DDOT: Washington, DC)
- Partner's Contribution to the Project: In-kind support (provided police safety assistant for field data collection)
 - Project: Predicting Acceptable Wait Times for Patrons at Transit Bus Stops by Time of Day
11. Organization Name and Location: **Prospect SV** (San Jose, CA)
- Partner's Contribution to the Project: In-kind support (hosted field trip for Summer Transportation Institute high school students)
 - Project: MTI Summer Transportation Institute

12. Organization Name and Location: **Google, Inc.** (Mountain View, CA)
 - Partner's Contribution to the Project: In-kind and financial support (hosted field trip and provided lunch for Summer Transportation Institute high school students)
 - Project: MTI Summer Transportation Institute

13. Organization Name and Location: **Many Farm High School** (Many Farms, AZ)
 - Partner's Contribution to the Project: In-kind support (provided classrooms, computer labs and welding shop for 2018 Summer Program; provided staff support; recruited student participants)
 - Project: 2018 Summer High School Program

14. Organization Name and Location: **Mineta San Jose International Airport** (San Jose, CA)
 - Partner's Contribution to the Project: In-kind support (hosted field trip for Summer Transportation Institute high school students)
 - Project: MTI Summer Transportation Institute

15. Organization Name and Location: **Valley Transportation Authority** (San Jose, CA)
 - Partner's Contribution to the Project: In-kind and financial support (hosted field trip for Summer Transportation Institute high school students, provided free and reduced cost transit passes for students)
 - Project: MTI Summer Transportation Institute

16. Organization Name and Location: **Micron Technology** (San Jose, CA)
 - Partner's Contribution to the Project: Financial support (provided three-day High Tech U career exploration program for Summer Transportation Institute high school students)
 - Project: MTI Summer Transportation Institute

17. Organization Name and Location: **City of San Jose** (San Jose, CA)
 - Partner's Contribution to the Project: In-kind support (hosted field trip to Traffic Management for Summer Transportation Institute high school students)
 - Project: MTI Summer Transportation Institute

18. Organization Name and Location: **Navajo Division of Transportation** (Navajo DOT: Mentmore, NM)
 - Partner's Contribution to the Project: In-kind support

- Project: Developing a Certificate in Transportation Careers

19. Organization Name and Location: **North Carolina Department of Transportation** (NCDOT: Raleigh, NC)

- Partner's Contribution to the Project: In-kind support (data pertaining to all road construction projects in and around Charlotte and travel time data)
- Project: Modeling the Effect of Developments and Road Construction Projects on Transportation System Performance; Modeling Operational Performance on Urban Roads with Heterogeneous Traffic Conditions; and How Effective are Toll Roads in Improving Operational Performance?

20. Organization Name and Location: **Wingate High School** (Fort Wingate, NM)

- Partner's Contribution to the Project: In-kind support (provided transportation for participants daily for four weeks from Wingate HS to Navajo Technical University campus)
- Project: 2018 Summer High School Program

Have Other Collaborators or Contacts Been Involved?

- Several organizations have participated as experts in MCTM summits, conferences and other events. These include but are not limited to AC Transit, California Alliance for Jobs, the International Union of Railways, LA Metro, Metropolitan Transportation Commission, the Silicon Valley Leadership Group, and Transportation California.

3. Outputs

- Performance Measures for Research Outputs
 - Number of research presentations at professional meetings and conferences annually.
 - Target goal: 35 presentations annually.
 - As of 9/30/2018, a total of 30 presentations were given in this period of performance, details following.
 - Number of views and downloads of research reports as tracked through Google Analytics annually.
 - Target goal: 250 views/downloads monthly.
 - During the period of performance, MTI research reports were downloaded a total of 6,160 times (approximately 1,026 monthly)

Published Research Reports

During this period of performance, four research reports featuring the results of MTI-funded research, were published on the MCTM website.

- Agrawal, A.W. and Nixon, H. (2018, April). [Do Americans’ Opinions About Federal Transportation Tax Options Depend on Survey Mode? A Comparison of Results from Telephone and Online Surveys.](#)
- Agrawal, A.W., Nixon, H., and Simons, C. (2018, April). [A Survey of Viva CalleSJ Participants: San Jose, California, 2017.](#)
- Nixon, H. (2018, June). [Evaluating San José's 4th Street Pop-up Bikeway: What Does the Public Think?](#)
- Arhin, S. (2018, June). [Exploring Strategies to Improve Mobility and Safety on Roadway Segments in Urban Areas.](#)

Publications, Conference Papers, and Presentations

During this period of performance, 30 academic and professional presentations and 3 published conference proceedings featuring the results of MTI-funded research, were provided. A snapshot of this activity is presented (full citations for all presentations available upon request).

Academic Presentations			
Presentation Title	Audience/Conference	Location	Date
Placemaking for Age-Friendly Cities	Designing Healthy Communities, UCLA College of Environmental Health Symposium	Los Angeles, CA	April 5, 2018
How Effective are Toll Roads	South District ITE 2018 Annual Meeting	Mobile, AL	April 8, 2018
Trends in Terrorism and Vehicular Assaults	2018 European Security Seminar, Overseas Security Advisory Council, U.S. Department of State	New York, NY	April 9, 2018
Urban Goods Movement and Local Climate Action Plans: Assessing Strategies to Reduce Greenhouse Gas Emissions from Urban Freight Transportation	American Association of Geographers Annual Conference	New Orleans, LA	April 14, 2018
Age-Friendly Parks (keynote presentation)	16 th Annual Park Summit	Los Angeles, CA	April 26, 2018
Transportation System Performance from Travel Time Reliability Perspective	ASCE NC Section 2018 Spring Technical Seminar	Greensboro, NC	May 4, 2018

Evaluating Geospatial and Temporal Variations after Implementation of Large-scale Transportation Projects Using Travel Time Data	Invited presentation for visiting scholars from Japan	San José, CA	May 18, 2018
Transportation Safety, Security, and Emergency Management	George Mason University	Fairfax, VA	June 7, 2018
Safety and Security Trends in an Uncertain World	2018 APTA Rail Conference	Denver, CO	June 11, 2018
Remedial Actions to Prevent Suicides on Commuter and Metro Rail Systems	2018 APTA Rail Conference	Denver, CO	June 12, 2018
Microscopic Simulation, Complete Streets, and Tactical Urbanism Strategies to Enhance Multimodal Transportation in Downtown Jose	City of San José's Department of Transportation	San José, CA	June 15, 2018
What Do Americans Think About Federal Tax Options To Support Transportation? Results From Year Nine of a National Survey	Norman Y. Mineta National Transportation Finance Summit	San Francisco, CA	June 22, 2018
San José: Implementing the SDGs at the Local Level	City of San José and Hewlett Foundation Global Development and Population Program SDG Symposium	San José, CA.	June 25, 2018
Autonomous Vehicle Research	California State Legislature	Sacramento, CA	June 28, 2018
Effect of Land Use Developments on Travel Time Reliability	ASCE International Conference on Transportation & Development	Pittsburgh, PA	July 7, 2018
Effect of Road Construction Projects on Travel Time Reliability	ASCE International Conference on Transportation & Development	Pittsburgh, PA	July 7, 2018
Integrating Best-Practices for Aviation Accident Reporting into DMV Accident Reports for Ground Autonomous Vehicles	2018 Automated Vehicles Symposium	San Francisco, CA	July 9, 2018
Integrating Smart Cars in a Smart World: A Particle Swarm Problem	2018 Automated Vehicles Symposium	San Francisco, CA	July 9, 2018
Transportation Efforts in Campus Sustainability Plans: Multi-campus Research Partnerships	California Higher Education Sustainability Conference	Monterey, CA	July 11, 2018
Improve Pavement Maintenance Through Pavement Preservation	North Central Valley Chapter of the Maintenance Superintendent Association	Sacramento, CA	September 6, 2018
Spatial and Temporal Influence of Planned Special Events on Travel Time Performance Measures: Two Case Studies from the Charlotte Region	ASCE NC Fall Conference	Cary, NC	September 11, 2018

Financing the Future of Mobility: What Does the Public Think?	ITS Berkeley Seminar	Berkeley, CA	September 14, 2018
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Published Conference Proceedings

- S. Mathew, S. S. Pulugurtha and A. Mane. (2018). **Effect of Toll Roads on Travel Time Reliability within its Vicinity**. *Proceedings of the Third National Conference on Recent Advances in Traffic Engineering (RATE 2018)*, Surat, India, August 11-12.
- A. S. Mane and S. S. Pulugurtha. (2018). **Effect of Land Use Developments on Travel Time Reliability**. *Proceedings of the ASCE International Conference on Transportation & Development (ICTD 2018)*, Pittsburgh, PA, July 15-18.
- V. M. Kukkapalli and S. S. Pulugurtha. (2018). **Effect of Road Construction Projects on Travel Time Reliability**. *Proceedings of the ASCE International Conference on Transportation & Development (ICTD 2018)*, Pittsburgh, PA, July 15-18.

Journal publications

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

- Barajas, Jesus M., et al. 2018. Immigration, Income, and Public Transit Perceptions: Findings from an Intercept Survey. *Journal of Public Transportation*, 21 (2): 1-18. DOI: <https://doi.org/10.5038/2375-0901.21.2.1> Available at: <http://scholarcommons.usf.edu/jpt/vol21/iss2/1>
- DiPetrillo, Stephanie, Lubin, Andrea, Loukaitou-Sideris, Anastasia et al. (2018). Improving Pathways to Fixed-Route Transit: Transit Agency Practices to Expand Access for All Users. *Transportation Research Record*, <https://doi.org/10.1177/0361198118769902>.
- Silver, S. Multivariate methodology for discriminating market segments in urban commuting. *Public Transport* 10, no. 1 (2018): 63-69.

Books or other non-periodical, one-time publications

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

- Agrawal, A. and Nixon, H. (2018, June). [What Do Americans Think About Federal Tax Options To Support Transportation? Results From Year Nine of a National Survey](#).
- Fang, K., Agrawal, A., and Hooper, A. (2018, June). [Electric Kick Scooters on Sidewalks in Virginia but Not in California? A Review of How States Regulate Personal Transportation](#)

[Devices](#). MTI Perspective.

- Jenkins, B. & Butterworth, B. (2018, May). [An Analysis of Vehicle Ramming as a Terrorist Threat](#). MTI Security Perspective.
- Jenkins, B. & Butterworth, B. (2018, July). [Train Wrecks and Track Attacks: An Analysis of Attempts by Terrorists and Other Extremists to Derail Trains or Disrupt Rail Transportation](#). MTI Security 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 - www.facebook.com
 - Twitter feed - [@MinetaTrans](http://www.twitter.com)

Technologies or Techniques

Nothing to report

Inventions, Patent Applications, and/or Licenses:

Nothing to report

Other Products

Nothing to report

4. Outcomes

- Performance Measures for Research Outcomes
 - Number of policy changes in the transportation system stemming from USDOT-funded research outputs.
 - Target goal: baseline metric for 2018; target to be established in 2019.
 - Number of practice and/or planning changes in the transportation system stemming from USDOT-funded research outputs.
 - Target goal: baseline metric for 2018; target to be established in 2019.

5. Impacts

- Performance Measures for Research Impacts
 - Description and evidence of how USDOT-funded research outputs have led to increased mobility of people and goods.
 - Target goal: baseline metric for 2018; target to be established in 2019.

- Description and evidence of how USDOT-funded research outputs have led to increased safety and/or reliability of the transportation system.
 - Target goal: baseline metric for 2018; target to be established in 2019.

What is the Impact on the Effectiveness of the Transportation System? Nothing to report

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? Nothing to report

What is the Impact on Transportation Workforce Development?

- MCTM partner, Navajo Technical University, continues to develop a program to directly connect careers in the transportation industry with students in this underserved population. Through the Career Ready and College Ready program, students develop an increased awareness of career opportunities in transportation.
- MTI hosted the 2018 SJSU Summer Transportation Institute - a three-week, non-residential program that provides high-school students with a summer experience that is both academically challenging and fun. With an emphasis on science and related transportation issues, the curriculum introduces key components of scientific inquiry and major transportation-related topics of the day. Field trips to major Bay Area transportation sites and agencies provide a first-hand look at potential career paths.
- MCTM research projects provide opportunities for undergraduate and graduate students, including students from minority-serving institutions, to learn research methods including data collection and data management skills, data analysis, and report writing skills. They are exposed to transportation and STEM-related careers through their roles as research assistants on MCTM projects.



6. Changes/Problems

- **Changes in Approach and Reasons for Change:** Nothing to report
- **Actual or 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