Program Progress Performance Report for University Transportation Centers

PPPR #9: January 1 to June 30, 2016

Funded by U.S. Department of Transportation
The Mineta Transportation Institute (MTI) was established by Congress in 1991 as part of the Intermodal Surface Transportation Equity Act (ISTEA) and was reauthorized under the Transportation Equity Act for the 21st century (TEA-21). MTI then successfully competed to be named a Tier I Center in 2002 and 2006 in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFE-TEU). Most recently, MTI successfully competed in the Surface Transportation Extension Act of 2001 to be named a Tier I Transit-Focused University Transportation Center. The Institute is funded by Congress through the United States Department of Transportation’s Office of the Assistant Secretary for Research and Technology (OST-R), University Transportation Centers Program, the California Department of Transportation (Caltrans), and by private grants and donations.

MTI’s transportation policy work is centered on three primary responsibilities:

**Research**

MTI works to provide policy-oriented research for all levels of government and the private sector to foster the development of optimum surface transportation systems. Research areas include: transportation security; planning and policy development; interrelationships among transportation, land use, and the environment; transportation finance; and collaborative labor-management relations. Certified Research Associates conduct the research. Certification requires an advanced degree, generally a Ph.D., a record of academic publications, and professional references. Research projects culminate in a peer-reviewed publication, available both in hardcopy and on TransWeb, the MTI website (http://transweb.sjsu.edu).

**Education**

The educational goal of the Institute is to provide graduate-level education to students seeking a career in the development and operation of surface transportation programs. MTI, through its affiliation with San José State University, offers a AACSB-accredited Master of Science in Transportation Management and a graduate Certificate in Transportation Management that prepare to serve the nation’s transportation managers for the 21st century. The master’s degree is the highest conferred by the California State University system. With the active assistance of the California Department of Transportation, MTI delivers classes over a state-of-the-art videoconference network throughout the state of California and via webcasting beyond, allowing working transportation professionals to pursue an advanced degree regardless of their location. To meet the needs of employers seeking a diverse workforce, MTI’s education program promotes enrollment to under-represented groups.

**Information and Technology Transfer**

MTI promotes the availability of completed research to professional organizations and journals and works to integrate the research findings into the graduate education program. In addition to publishing the studies, the Institute also sponsors symposia to disseminate research results to transportation professionals and encourages Research Associates to present their findings at conferences. The World in Motion, MTI’s quarterly newsletter, covers innovation in the Institute’s research and education programs. MTI’s extensive collection of transportation-related publications is integrated into San José State University’s world-class Martin Luther King, Jr. Library.

**DISCLAIMER**

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the information presented herein. This document is disseminated under the sponsorship of the U.S. Department of Transportation, University Transportation Centers Program and the California Department of Transportation, in the interest of information exchange. This report does not necessarily reflect the official views or policies of the U.S. government, State of California, or the Mineta Transportation Institute, who assume no liability for the contents or use thereof. This report does not constitute a standard specification, design standard, or regulation.
Program Progress Performance Report for University Transportation Centers

Mineta National Transit Research Consortium (MNTRC)
Led by San Jose 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:** DTRT12-G-UTC21

- **Project Title:** Tier 1 Transit Focused University Transportation Center Research, Education, and Technology Transfer Activities

- **Program Director:** Karen E. Philbrick, PhD, MNTRC Executive Director, karen.philbrick@sjsu.edu, 408.924.7562

- **Submission Date:** July 29, 2016

- **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:** January 1, 2012 – January 31, 2017

- **Reporting Period End Date:** June 30, 2016

- **Report Term or Frequency:** This report covers the period from January 1, 2016 to June 30, 2016, per the Grant Deliverables and Requirements for UTCs instructions

- **Signature of Submitting Official:** Karen Philbrick
1. ACCOMPLISHMENTS

Major Goals and Accomplishments
MNTRC complies with the provisions of the Office of the Assistant Secretary for Research and Technology (OST-R, formerly RITA) Grant Deliverables and Requirements for University Transportation Centers and any revisions to that document. Each MNTRC-funded project produces a peer-reviewed final report with a complete description of the problem, approach, methodology, findings, conclusions, and recommendations. Final reports are uploaded onto the Consortium and Transportation Research International Documentation Database (TRID) websites. Per the guidelines, these reports are also distributed to recipients that the US DOT identifies in the UTC reporting requirements. To drive traffic to the MNTRC website and widely disseminate the results, a news release, coordinated with partner institutions, is issued to regional, national and international media outlets. The reports are also promoted on MTI’s social media sites and through direct email to relevant legislators, transportation leaders, academics, practitioners, and others with an interest in transit research. Media interviews are also pitched to radio, TV, online, and print outlets. MTI is responsible for the final research publication process, which includes formal peer review, professional editing and formatting, distribution and promotion. Furthermore, MTI is responsible for collecting all performance metrics.

MNTRC allows all university partners to provide a higher level of service to the public transportation industry through research, education and workforce development, and technology transfer. MNTRC responds to OST-R’s desire for universities to collaborate more effectively, gain greater perspective through geographic diversity, and encourages the participation of minority-serving institutions. Collaboratively, MNTRC addresses both policy and technical challenges. Each Consortium partner realizes the importance of public transit to seniors, low-income people, and those with limited mobility. Often, this is a primary tool for employment and independent living and MNTRC is investigating ways to ensure that transit remains accessible and available for all people.

The major goals identified in the approved MNTRC proposal are listed by category below. Following each goal is the progress that MNTRC has made during this reporting period. Please note that all identified goals are to be fully achieved by the end of the grant period of performance.

Research Goals
- Select no fewer than 68 transit research projects for funding
  - To date, MNTRC has selected 76 research projects for funding, 35 in calendar year 2012, 30 in calendar year 2013, 8 in calendar year 2014, and 3 in calendar year 2015. No new research projects were funded in 2016.
- Submit 68 project descriptions to the RiP database in accordance with the OST-R General Deliverables and Requirements
  - During this period of performance, zero additional research project descriptions were submitted.
- Post to the MNTRC website no fewer than 68 project descriptions for the transit research projects
During this period of performance, zero additional research project descriptions were posted. However, all UTC project information sheets were updated.

- Produce a final peer reviewed report for each research project
  - During this reporting period, MNTRC completed twelve final research reports.
  - In addition, MNTRC transportation security researchers published three transportation security perspectives:
    
    1. January 2016: [Long-Term Trends in Attacks on Public Surface Transportation in Europe and North America](#)
    2. May 2016: [Transit is a Terrorist Target](#)
    3. June 2016: [Preliminary Thoughts on the Role of Insiders in Attacks on Transportation Targets](#)

    These perspectives generated a tremendous amount of media attention and resulted in MNTRC researchers being featured in multiple news outlets, including nine on air radio interviews. As an example, the KGO Radio/Ron Owens Show featuring MTI National Transportation Safety and Security Center Director Brian Michael Jenkins can be accessed here: [https://audioboom.com/boos/4341658-march-23-2016-9am](#) (March 23, 2016 9:00am).

- Publish the full text of the final research reports on the MNTRC website
  - Twelve final research reports were posted to the MNTRC website (http://transweb.sjsu.edu/mntrc/research/mntrc-publications.html).

- Submit 48 papers reporting transit research project results to peer-reviewed scientific or professional journals – such articles may be categorized as published, accepted, awaiting publication, submitted, or under review
  - During this reporting period, three additional papers based on MNTRC sponsored research were submitted to professional journals. The specific details of these submissions are listed in the section titled “Journal Publications”.

**Leadership Goals**

- Present transit research project results at 140 academic and professional meetings (name of conference, date, and location will be tracked)
  a. The results from MNTRC funded research have been presented at 162 academic and professional meetings. Twenty-eight of these presentations occurred during the current reporting period. Examples of such presentations follow.


    2. **MNTRC Project #1145**: Chatman, Daniel. “Firm Births, Access to Transit, and Agglomeration in Portland, Oregon, and Dallas, Texas.” Presentation at the 95th


Results from Year Six of a National Survey.” Presentation at the 95th Annual Meeting of the Transportation Research Board, Washington, DC, January 12, 2016.


- Provide 300 media interviews (media outlet, date, and topic will be provided) related to MNTRC activities and projects
  - There have been 626 media interviews related to MNTRC activities and projects, 212 of which were conducted during this reporting period. A sample includes:
    2. *Politico* (January 20, 2016): Hay is for horses, and so is high-speed rail
    3. *Los Angeles Times* (February 18, 2016): Change in bullet train construction plans will delay rail line's arrival in Southern California
    4. *Mass Transit* (March 10, 2016): MTI Trustee and Executive Director to be Honored at COMTO Awards
    5. *USA Today* (March 22, 2016): Brussels subway bombing highlights challenge of rail security in U.S.
    8. *Chicago Tribune* (April 17, 2016): No fatalities, fewer injuries for Divvy riders
    10. *CleanTechnica* (May 19, 2016): Study: Bikeshare Riders Get In Far Fewer Crashes Than Other Cyclists
    12. *Politico* (June 6, 2016): McCaul eyes July 15 deadline for homeland security measures
13. *San Francisco Business Times* (June 21, 2016): Commuters to BART: You’re ‘overpaid, overweight, can't manage your way out of a paper bag’


15. *Fortune* (June 26, 2016): These Four States Want to Test a Mileage Tax

- Track an average of 275,000 hits and/or uses per month on the MNTRC/MTI website (Note: Since inception of this contract, an average of 314,836 hits have been recorded per month):
  - For the period of performance of January 1 to June 30, 2016, the MNTRC/MTI website had an average of 306,989 hits per month

- Track an average of 75,000 documents downloaded per month from the MNTRC/MTI website (Google Analytics will track this information)
  - For the period of performance of January 1 to June 30, 2016, the MNTRC/MTI website registered an average of 124,516 document downloads per month

- Sponsor 30 MNTRC regional forums and national summits that will reach 6,000 attendees
  - During this period of performance, MNTRC sponsored fourteen technology transfer events (six of these were workforce development focused and descriptions can be found in the following sections) that reached 1,521 attendees; these are:

  - **RACES Seminar**, San Jose CA, January 2016 – MTI provided training for volunteers who are the backbone of the communications system for the City of San Jose’s community emergency response training program. Amateur radio operators work with neighborhood groups to ensure their ability to transmit their damage assessment and injury information to the EOC expeditiously.

  - **High-Speed Rail in California: Progress and Prospect**, San Francisco CA, March 2016: A comprehensive examination of high-speed rail in California. Representatives from the CHSRA, local planning officials, and academic experts explored in detail the plan to build the nation’s first, true, high-speed rail line – the progress achieved to date and the major challenges that lie ahead. MTI co-sponsors the half-day workshop at the annual meeting of the Association of American Geographers. Featured speakers included: Rod Diridon, Emeritus Executive Director, MTI; Ben Tripousis, Northern California Regional Director, California High-Speed Rail Authority; Jim Hartnett, Executive Director, Caltrain; Ed Reiskin, Director of Transportation, San Francisco Municipal Transportation Agency; Gillian Gillett, Director of Transportation Policy, Office of Mayor Edwin M. Lee; Jason Henderson, PhD, Professor, San Francisco State University; Anastasia Loukaitou-Sideris, PhD, Research Associate, MTI.

  - **LA TOD & Urban Real Estate Conference**, Los Angeles CA, May 2016: Participants heard from visionary urban designers, architects, and planners about
designing for walkability, pedestrian-scale, and great public spaces.

- **Second Annual “Silicon Valley Bikes!” Festival & Bike Show**, San José CA, May 2016: Silicon Valley's bicycle enthusiasts and their families enjoyed an all-day celebration of cycling, family fun, community building, and an off-the-hook bicycle show by Gooseneck Bicycles. There were food trucks, events for kids, live music, and more. A collaboration between History San José, Silicon Valley Bicycle Coalition, Mineta Transportation Institute, Gooseneck Bicycles, Cycle California! Magazine and Santa Clara Valley Brewing. MTI Research Associate Elliot Martin, PhD, presented the findings from the report *Bikesharing and Bicycle Safety*.

- **“Let's Get Moving, Silicon Valley!” Transportation Choices and Healthy Communities Summit 2016**, Mountain View CA, May 2016: MTI co-sponsored this annual public event promoting improved transportation networks and complete communities in Santa Clara and San Mateo Counties. At this year's Summit, participants explored the connections between health, equity, environment, economics, land use, and transportation. Welcome speaker: Rod Diridon, Emeritus Executive Director, MTI.

  - **7th Annual Mineta National Transportation Finance Summit: “Superior Infrastructure = Economic Success”,** San Francisco CA, June 2016: Is it true, as Congress says, that Americans won't pay more taxes and fees for mobility? What exactly are the funding challenges and how are transportation leaders addressing them? This free, half-day summit hosted by MTI at the Commonwealth Club in San Francisco presented results from year seven of a national public opinion poll of more than 1,500 Americans on various tax options for raising federal transportation revenues. Special attention was given to understanding opinions on increasing revenues for public transit. Keynote address by California State Transportation Agency (CalSTA) Secretary Brian Kelly. Featured Speakers: Asha Agrawal, PhD, Director Mineta Transportation Institute National Transportation Finance Center; Grace Crunican, General Manager, Bay Area Rapid Transit District; Steve Heminger,
Executive Director, Metropolitan Transportation Commission; and Tim Rainey, Executive Director, California Workforce Development Board. Moderator: Karen Philbrick, PhD, Executive Director, Mineta Transportation Institute. Keynote Introduction: Norman Mineta, Secretary (ret.) US Department of Transportation. Audio and video of this event can be accessed from the MTI website: http://transweb.sjsu.edu/MTIportal/events/2016-MTI-transportation-finance-summit-media.html

- **International Conference on Transport & Health**, San José CA, June 2016: MTI hosted this second annual conference addressing the convergence of transportation and health. The conference promotes the concept of cross-disciplinary teams of professionals in the design, planning, and development of proposed and rehabilitated transportation infrastructure projects. Featured speaker at the opening plenary was Norman Mineta, Secretary (ret.) US Department of Transportation. MTI presented a hot topic workshop, “High-Speed Rail Tracks to the Future” panelists include: Ben Tripousis, Northern California Regional Director, California High-Speed Rail Authority; Carolyn Gonot, Director of Engineering and Transportation Infrastructure Development Division, Santa Clara Valley Transportation Authority (VTA); Seamus Murphy, Chief Communications Officer, Caltrain; Shiloh Ballard, Executive Director, Silicon Valley Bicycle Coalition. Rod Diridon Sr., Emeritus Executive Director, MTI, was the welcome speaker for the workshop.


- **Hands-on History: Transportation Day**, San José CA, June 2016: MTI co-hosted this one day event which unveiled for the first time the newly acquired 1899 Osen and Hunt automobile – made in San Jose and the first car ever built in California. In addition to learning about the car, attendees had the opportunity to ride on a horse trolley pulled by beautiful Clydesdale horses; watch engineers repair trolleys at history park; and participate in other engaging activities.

**Education and Workforce Development Goals**

1. A 5% increase over 2010-11 figures in the number of undergraduate and graduate students enrolled in transportation-related degree programs
   - To date, MNTRC partner universities have documented a 12.83% increase in enrollment figures.

2. 50 undergraduate and graduate students participating in MNTRC transit research
For the period of performance of January 1 to June 30, 2016, 23 students were engaged in MNTRC research projects. From contract inception to date, 254 student researchers worked on MNTRC funded research.

3. 10 students participating in internships at transportation-related agencies
   - For the period of performance of January 1 to June 30, 2016, 34 students were participating in transportation-related internships.

4. Sixteen K-12 outreach programs that will reach 800 students
   - Three K-12 outreach events were held during this reporting period for 192 students. These included:
     - **Sixteenth Annual Garrett Morgan Sustainable Transportation Competition**, National Broadcast, April 2016: Teams of middle-school students from across the country presented their ideas for achieving sustainable transportation. The students were welcomed by United States Secretary of Transportation Anthony Foxx, American Association of State Highway and Transportation Officials Executive Director Bud Wright, American Public Transportation Association Vice President: Workforce Development and Educational Services Pamela Boswell and Caltrans Director Malcolm Dougherty. MTI’s Executive Director Karen Philbrick moderated the program. First-place went to the mechanical engineering class from Morada Middle School in Stockton for their “Grape-Stomp Biofuel Project.” The 7th- and 8th-graders from the farming community presented an idea to convert grape pomace – the skins, stems and other plant matter left after grapes are crushed – into ethanol that can be used locally as a low-emission fuel for farm equipment. The project would also eliminate the methane emissions produced when pomace is composted. This was the second time a Morada Middle School team has taken top honors. The students and their teacher were introduced and awarded $1,000 for their classroom at the MTI Awards Banquet and Convocation Exercises.

     - **21st Century Automotive Challenge**, University Park PA, April 2016: This transportation and lifestyle competition for college and high school students alike. Teams demonstrated how to integrate vehicle-to-building and vehicle-to-grid technology.
o **MTI Summer Transportation Institute**, San José CA, June 2016: MTI conducted its twelfth annual Summer Transportation Institute (STI). STI was offered as a 3-week/5 day non-residential class for high school students (rising 10th through 12th graders) on the campus of San Jose State University, San Jose, California. With a special focus on a college-level three unit environmental education course with an emphasis on science, the equivalent of one week of aviation-oriented learning and related activities, field trips (30% of the curriculum), short talks by experts, and a job skills component, the SJSU/MTI STI is designed to be both academically challenging and fun for its participants. Overall, the program’s curriculum exposes students to key components of scientific inquiry, new frontiers in some of the major transportation-related topics of the day, and gave them the opportunity to see firsthand “behind the scenes” operations of major Bay Area transportation sites and agencies.

Thirty-five students participated, 99% of whom represented Hispanic, Asian, African American, and Pacific Islander ethnicities. The students went on 11 field trips and had 27 hours of direct instruction

5. Eight adult workforce development seminars
   o During this period of performance, MTI sponsored three events:

   o **Workforce Development Program: Training Seminar on High-Speed Rail**, Bakersfield CA, March 2016 – MTI co-sponsored. The purpose of the seminar was to provide high-level knowledge of high-speed railway technologies, especially for graduate engineering students and specialized professionals.

   o **Faster, Smarter, Cleaner, Greener: Developing the Transportation Workforce of the Future**, San Francisco CA, April 2016: Thought leaders in transportation technology and workforce development came together for this full-day workforce development summit on emerging career pathways in transportation and how to prepare the next generation of workers. How can schools work with industry leaders to ensure relevant education and training programs? What specialized skills will be needed to plan and construct a world-class transit system? Which technologies will be critical in developing clean, efficient freight transportation systems that can compete at the regional, state, and national levels? Focus was on innovative technologies, including Intelligent Transportation Systems (ITS), high-speed rail, wireless technologies, big data systems, smart freight networks, environmentally sustainable technologies, and others.
The program began with a morning keynote by Dan Richard, Chair, California High-Speed Rail Authority, moderated by Tim Rainey, Executive Director, California Workforce Investment Board. This was followed by a panel discussion: “Skills to Build and Operate a Sustainable Transportation System,” moderated by Rod Diridon, Sr., Emeritus Executive Director, Mineta Transportation Institute. Panelists included Oliver Baines President, Fresno City Council; Afshin Pishevar, Chief Legal Officer, Hyperloop Technologies; Tim Rainey, Executive Director, California Workforce Investment Board; and Ed Reiskin, Director of Transportation, San Francisco Municipal Transportation Agency.

The afternoon program began with a keynote by Carolyn Flowers, Acting Administrator, Federal Transit Administration, moderated by Dr. Karen Philbrick, Executive Director, Mineta Transportation Institute. This was followed by a panel discussion, “Creating the 21st Century Transportation Workforce,” moderated by panelist Thomas O’Brien, Executive Director, Center for International Trade and Transportation. Other afternoon panelists included Kristin Decas, CEO and Port Director, Port of Hueneme, California; Carol Kuester, Director, Electronic Payments, Metropolitan Transportation Commission; Jim Misener, Director of Technical Standards, Qualcomm Technologies Inc.; and Mark Novak, Dean, Extended University Division, CSU Bakersfield. Closing Remarks were given by Rod Diridon, Sr., Emeritus Executive Director, Mineta Transportation Institute.

- Audio and video of this event can be accessed from the MTI website: [http://transweb.sjsu.edu/MTIportal/events/2016-MTI-transportation-finance-summit-media.html](http://transweb.sjsu.edu/MTIportal/events/2016-MTI-transportation-finance-summit-media.html)

- **East Side Union High School District: Workshop Using Project-based Learning for Transportation Workforce Solutions**, San José CA, May 2016: This workshop was designed for teachers to learn about project-based learning as a major instructional strategy. MTI presented the national transportation workforce shortage as a real world problem demanding immediate attention.

**Technology Transfer Goals**

- The MNTRC/MTI website will average 275,000 hits and/or uses per month (Google Analytics will track this information)
  - For the period of performance of January 1 to June 30, 2016, the MNTRC/MTI website had an average of 306,989 hits per month
• Track an average of 75,000 documents downloaded per month from the MNTRC/MTI website (Google Analytics will track this information)
  o For the period of performance of January 1 to June 30, 2016, the MNTRC/MTI website registered an average of 124,516 document downloads per month

• A minimum of 100 research citations based on MNTRC funded work
  o Twenty-three research citations were documented for this period of performance.

• A 20% increase in the number of MNTRC/MTI Facebook fans
  o During this reporting period, 38 Facebook fans were added bringing the total to 767 (over a 100% increase since contract inception).

• A 20% increase in the number of Twitter followers
  o During this reporting period, MNTRC/MTI received 269 new Twitter followers, bringing the total number of followers to 2,511. Followers include Secretary Anthony Foxx, AASHTO, APTA, ENO Center for Transportation, ITS America and ITS Congress, academics, practitioners, students, and others.

Collaboration Goals
• Three MNTRC digital newsletters will be published per fiscal year
  o No MNTRC digital newsletters were published during this reporting period.

• Twelve technology transfer activities (summits/forums; K-12 outreach) will involve more than one partner
  o During this reporting period, there was one technology transfer activity that involved more than one partner.

• Twenty MNTRC project teams will include researchers from more than one partner university
  o During this reporting period, MNTRC universities continued to partner on two research projects. These are:
    1. MNTRC Project 1233 “The Nexus between Infrastructure and Accessibility”, a jointly funded project between the Mineta Transportation Institute and Rutgers University.
    2. MNTRC Project 1234 “Analysis of the US Transit Bus and Paratransit Vehicle Manufacturing Industry”, a jointly funded project between the Mineta Transportation Institute and Pennsylvania State University.

• Ten percent (10%) of MNTRC summits and forums and/or funded research projects will have international collaboration
  o Three MNTRC summits and forums had international collaboration during this period of performance. These were:
    1. Workforce Development Program: Training Seminar on High-Speed Rail (March 2016)

3. International Conference on Transport and Health (June 2016)
   - Sixty-seven percent (67%) of MNTRC projects will have interdepartmental research team members
     - Twenty-one (48.8%) of MNTRC-funded research projects have interdepartmental research team members.

**Dissemination of Results**

Twelve MNTRC-funded projects were completed during this reporting period. The final reports appear on the MNTRC website, and have been distributed per the federal reporting guidelines. These are:

1. **Project 1125**: An Overview of System Design Issues Related to Safety Aspects of Bicycle Infrastructure ([http://transweb.sjsu.edu/project/1125.html](http://transweb.sjsu.edu/project/1125.html))

2. **Project 1129**: Remedial Actions to Prevent Suicides on Commuter and Metro Rail Systems ([http://transweb.sjsu.edu/project/1129.html](http://transweb.sjsu.edu/project/1129.html))

3. **Project 1202**: Exploring Bicycle and Public Transit Use by Low-Income Latino Immigrants: A Mixed-Methods Study in the San Francisco Bay Area ([http://transweb.sjsu.edu/project/1202.html](http://transweb.sjsu.edu/project/1202.html))

4. **Project 1204**: Bikesharing and Bicycle Safety ([http://transweb.sjsu.edu/project/1204.html](http://transweb.sjsu.edu/project/1204.html))

5. **Project 1208**: Transit Performance Measures in California ([http://transweb.sjsu.edu/project/1208.html](http://transweb.sjsu.edu/project/1208.html))

6. **Project 1226**: International Lessons for Promoting Transit Connections to High-Speed Rail Systems ([http://transweb.sjsu.edu/project/1226.html](http://transweb.sjsu.edu/project/1226.html))

7. **Project 1238**: Advances in Repurposing and Recycling of Post-Vehicle-Application Lithium-Ion Batteries ([http://transweb.sjsu.edu/project/1238.html](http://transweb.sjsu.edu/project/1238.html))

8. **Project 1243**: Funding Resilient Infrastructure in New Jersey: Attitudes Following a Natural Disaster ([http://transweb.sjsu.edu/project/1243.html](http://transweb.sjsu.edu/project/1243.html))

9. **Project 1246**: Estimating Uncertainty of Bus Arrival Times and Passenger Occupancies ([http://transweb.sjsu.edu/project/1246.html](http://transweb.sjsu.edu/project/1246.html))

10. **Project 1429**: Trend Analysis of Long Tunnels Worldwide ([http://transweb.sjsu.edu/project/1429.html](http://transweb.sjsu.edu/project/1429.html))
11. **Project 1430**: A Survey of Viva CalleSJ Participants: San Jose, California 2015 (http://transweb.sjsu.edu/project/1430.html)

12. **Project 1528**: What Do Americans Think About Federal Tax Options to Support Public Transit, Highways, and Local Streets and Roads? Results from Year Seven of a National Survey (http://transweb.sjsu.edu/project/1528.html)

**What Do You Plan to Do During the Next Reporting Period to Accomplish the Goals?**
No change to the agency-approved application

2. **PRODUCTS**

**Publications, Conference Papers, and Presentations**
During this reporting period, the results from MNTRC funded research were presented at 28 academic and professional meetings. Details of these presentations can be found under the heading “Leadership Goals.”

*Journal articles* (publication details for articles that have been published prior to this reporting period can be found in prior PPPR reports - http://transweb.sjsu.edu/mntrc/about/pppr.html)


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

Twelve final MNTRC research reports were published during this period of performance. The titles and links to these one-time publications can be found in the section titled “Dissemination of Reports”. All of these publications acknowledge federal support and contain the appropriate disclaimer.

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

- An MNTRC web site has been maintained at [www.transweb.sjsu.edu/mntrc](http://www.transweb.sjsu.edu/mntrc)
- An MNTRC presence has been established, and continues to grow, in conjunction with the existing MTI Facebook page - [www.facebook.com](http://www.facebook.com)
- [www.twitter.com](http://www.twitter.com) - “@MinetaTrans” feed on Twitter
- A LinkedIn page at [www.linkedin.com](http://www.linkedin.com) - “Mineta Transportation Institute”
- A second LinkedIn page for the “MTI Alumni Association” at [www.linkedin.com](http://www.linkedin.com)
- A You Tube Channel - [http://www.youtube.com/user/MinetaTrans](http://www.youtube.com/user/MinetaTrans)

**Technologies or Techniques**

No new information to report during this period.

**Inventions, Patent Applications, and/or Licenses:**

Nothing to report

**Other Products**

- No new products were developed this reporting period.

3. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

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

During the period of January 1 to June 30, 2016, MNTRC universities have partnered with the following organizations:

1. **Organization Name and Location:** American Public Transportation Association (APTA-Washington, DC)
   - Partner’s Contribution to the Project: In-kind support (live-streaming broadcast network and conference facilities)
   - Project: MTI Garrett Morgan Competition

2. **Organization Name and Location:** Association of American State Highway and Transportation Officials (AASHTO-Washington, DC)
• Partner’s Contribution to the Project: Financial support and In-kind support (live-streaming broadcast network and conference facilities)
• Project: MTI Garrett Morgan Competition

3. **Organization Name and Location**: US Department of Transportation (Washington, DC)
   • Partner’s Contribution to the Project: In-kind support (live-streaming broadcast network and conference facilities)
   • Project: MTI Garrett Morgan Competition

4. **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)
   • Project: MTI Masters of Science in Transportation Management and Garrett Morgan Competition

5. **Organization Name and Location**: Toledo Area Regional Transit Authority (TARTA: Toledo, OH)
   • Partner’s Contribution to the Project: In-kind support (transit buses are made available for testing), Facilities, and Collaborative research (a staff member helps the project team select buses for experimentation).
   • Project: Combustion Chemistry of Biodiesel for the Use in Urban Transport Buses: Experiment and Modeling (MNTRC Project 1146 and 1245)

6. **Organization Name and Location**: Centre Area Transportation Authority (CATA: State College, PA)
   • Partner’s Contribution to the Project: In-kind support (historical bus GPS data)
   • Project: Estimating Uncertainty of Bus Arrival Times and Passenger Occupancies (MNTRC Project 1246)

7. **Organization Name and Location**: PyroPhobic Systems, Ltd (Barrie, Ontario, Canada)
   • Partner’s Contribution to the Project: Financial support
   • Project: Safety of Lithium Nickel Cobalt Oxide Battery Packs in Transit Bus Applications (MNTRC Project 1247)

**Have Other Collaborators or Contacts Been Involved?**
- Several organizations have participated as experts in MNTRC summits, conferences and other events. These include but are not limited to the Federal Transit Administration; Federal Railroad Administration; International Union of Railways; Office of the Secretary of Transportation; Transportation Research Board; and the California High-Speed Rail Authority.

**4. IMPACT**

**What is the Impact on the Development of the Principal Disciplines of the Project?**
- The results of MNTRC-sponsored research programs continue to improve the content of undergraduate senior level logistics courses as well undergraduate and graduate
engineering and urban planning courses.

- The MTI/MNTRC web sites have become a repository for scholarly transportation research, available to anyone for free download. They are also a resource for attracting and enrolling students into the transportation education programs.

- During this period of performance, MNTRC researchers and students received numerous awards and honors. Select examples follow:

  - **Lifetime Achievement Award** – MTI Founder Norman Y. Mineta, from the Council of University Transportation Centers (CUTC), January 2016.

  - 'Women Who Move the Nation" – MNTRC Executive Director Karen Philbrick, PhD, from the Conference of Minority Transportation Officials (COMTO), March 2016.

  - ‘Sustainability Champion Award” – MNTRC GVSU partner Charles Standridge, PhD, Hastings Charter Township - Governor's Excellence in Recycling Awardee (April 2016)

  - “Warburton Award of Merit for Outstanding Scholarship” – MTI National Transportation Safety and Security Center Deputy Director Frances Edwards, PhD, from the College of Social Sciences, San Jose State University, April 2016.

  - MNTRC Executive Director Karen Philbrick, PhD, was appointed to the WTS Foundation Board of Directors (May 2016) and was elected Secretary of the Council of University Transportation Centers (June 2016).

**What is the Impact on Other Disciplines?**

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

- MTI worked with middle-schools on the 16th annual Garrett Morgan Sustainable Transportation Competition. This competition (which took place in April 2016) helps to develop and inspire transportation workforce capacity by introducing students to transportation careers and connecting them with industry mentors. Students from participating schools were provided free workbooks to study the science and math involved in transportation. This education culminated in a group project from each school that focused on sustainable transportation. It was presented at a national videoconference, where Secretary of Transportation Anthony Foxx and other industry and government leaders addressed the teams. This project includes participation from AASHTO, APTA, Caltrans, and VTA.

- MTI once again hosted the SJSU Summer Transportation Institute - a three-week, non-residential program that provided high-school students with a summer experience that was 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.
On June 18, 2016, MTI proudly presented 12 deserving graduates with their Master of Science in Transportation Management (MSTM) during its 24th Annual Awards Banquet and Convocation Ceremony at San José State University. The event commenced with introductions given by Congressmember Mike Honda, California State Senator Jim Beall, California State Assemblymember Kansen Chu, Santa Clara County Supervisor and Chair of VTA Cindy Chavez, and San José Mayor Sam Liccardo. Inspirational keynote addresses were given by Transportation Secretary (ret.) Norman Mineta and California State Transportation Agency Secretary Brian P. Kelly. Graduate Bernadette Lambert was presented the Valedictorian Achievement Award and MSTM alumnus James Helmer was named MTI Alumnus of the Year. A team of innovative students from Stockton’s Morada Middle School was awarded with a $1,000 check for their school for winning this year's Garrett Morgan Sustainable Transportation Competition sponsored by MTI. The Bay Area Rapid Transit District’s General Manager, Grace Crunican, shared a few words to conclude the event.

What is the Impact on Physical, Institutional, and Information Resources at the University or Other Partner Institutions?
The MNTRC and MTI web sites provide an online resource for professionals and the public to access a repository of transportation-related research.

What is the Impact on Technology Transfer?
- MNTRC transfer the results of research and outreach activities through news releases, all of which include active links, and through media interviews, which are actively pitched. News releases are issued through Meltwater’s national media distribution and are sent directly to MTI/MNTRC’s proprietary list of email addresses that include policy makers, transportation professionals, research associates, students and alumni, and others. This list is continually updated as new contacts are made. MTI also leverages diverse methods and media to disseminate research findings to those responsible for managing change. Such methods include research publication, seminars, workshops, websites, social media, and webinars, among others.

- On an average weekday, MNTRC research reports are downloaded more than 5,000 times. An analysis revealed frequent site use by the U.S. Department of Transportation, House of
Representatives and Senate, National Academy of Sciences, multiple state DOTs, city governments, transit agencies, and other universities.

What is the Impact on Society Beyond Science and Technology?
The long-range purpose of MNTRC research and outreach activities is to help legislators, policy leaders, transportation professionals, and others to understand the issues facing the nation’s mobility infrastructure and to make optimum decisions based on factual data.

5. 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

Change of Primary Performance Site Location from that Originally Proposed: Nothing to report

ADDITIONAL INFORMATION REGARDING PRODUCTS AND IMPACTS

Outputs
- Publications, conference papers, and presentations: Twenty-eight presentations were based on MNTRC funded research projects during this reporting period.
- Websites: MNTRC maintains a website to document consortium-related activity (http://transweb.sjsu.edu/mntrc/index.html)
- Technologies or Technology Assessments; Databases, Software or Models:
- Outreach activities: MNTRC sponsored fourteen outreach activities, three of which focused on K-12 during this period of performance. Details of these events can be found under the heading “Leadership Goals”.

Outcomes
Nothing to report this period.

Impacts
MNTRC selects research projects with immediate and practical value for transportation officials and practitioners with the intent to increase mobility for all by improving the safety, efficiency, accessibility, and convenience of our nation’s transportation system.
The Mineta Transportation Institute (MTI) was established by Congress in 1991 as part of the Intermodal Surface Transportation Equity Act (ISTEA) and was reauthorized under the Transportation Equity Act for the 21st century (TEA-21). MTI then successfully competed to be named a Tier 1 Transit-Focused University Transportation Center. The Institute is funded by Congress through the United States Department of Transportation’s Office of the Assistant Secretary for Research and Technology (OST-R), University Transportation Centers Program, the California Department of Transportation (Caltrans), and by private grants and donations.

The Institute receives oversight from an internationally respected Board of Trustees whose members represent all major surface transportation modes. MTIs focus on policy and management resulted from a Board assessment of the industry’s unmet needs and led directly to the choice of the San José State University College of Business as the Institute’s home. The Board provides policy direction, assists with needs assessment, and connects the Institute and its programs with the international transportation community.

MTIs transportation policy work is centered on three primary responsibilities:

**Research**

MTI works to provide policy-oriented research for all levels of government and the private sector to foster the development of optimum surface transportation systems. Research areas include: transportation security; planning and policy development; interrelationships among transportation, land use, and the environment; transportation finance; and collaborative labor-management relations. Certified Research Associates conduct the research. Certification requires an advanced degree, generally a Ph.D., a record of academic publications, and professional references. Research projects culminate in a peer-reviewed publication, available both in hardcopy and on TransWeb, the MTI website (http://transweb.sjsu.edu).

**Education**

The educational goal of the Institute is to provide graduate-level education to students seeking a career in the development and operation of surface transportation programs. MTI, through San José State University, offers an AACSB-accredited Master of Science in Transportation Management and a graduate Certificate in Transportation Management that serve to prepare the nation’s transportation managers for the 21st century. The master’s degree is the highest conferred by the California State University system. With the active assistance of the California Department of Transportation, MTI delivers its classes over a state-of-the-art videoconference network throughout the state of California and via webcasting beyond, allowing working transportation professionals to pursue an advanced degree regardless of their location. To meet the needs of employers seeking a diverse workforce, MTIs education program promotes enrollment to under-represented groups.

**Information and Technology Transfer**

MTI promotes the availability of completed research to professional organizations and journals and works to integrate the research findings into the graduate education program. In addition to publishing the studies, the Institute also sponsors symposia to disseminate research results to transportation professionals and encourages Research Associates to present their findings at conferences. The World in Motion, MTIs quarterly newsletter, covers innovation in the Institute’s research and education programs. MTIs extensive collection of transportation-related publications is integrated into San José State University’s world-class Martin Luther King, Jr. Library.

**DISCLAIMER**

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the information presented herein. This document is disseminated under the sponsorship of the U.S. Department of Transportation, University Transportation Centers Program and the California Department of Transportation, in the interest of information exchange. This report does not necessarily reflect the official views or policies of the U.S. government, State of California, or the Mineta Transportation Institute, who assume no liability for the contents or use thereof. This report does not constitute a standard specification, design standard, or regulation.
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