Program Progress Performance Report for University Transportation Centers

PPPR #2: 
July 1 to December 31, 2012
MINETA TRANSPORTATION INSTITUTE

The Norman Y. Mineta International Institute for Surface Transportation Policy Studies was established by Congress in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The Institute’s Board of Trustees revised the name to Mineta Transportation Institute (MTI) in 1996. Reauthorized in 1998, MTI was selected by the U.S. Department of Transportation through a competitive process in 2002 as a national “Center of Excellence.” The Institute is funded by Congress through the United States Department of Transportation’s Research and Innovative Technology Administration, the California Legislature through the 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. MTI’s 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.

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 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, 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
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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 Research and Innovative Technology Administration

 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: Rod Diridon, MNTRC Executive Director, rod.diridon@sjsu.edu, 408.924.7560

 Submission Date: January 23, 2013

 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


 Reporting Period End Date: December 31, 2012

 Report Term or Frequency: This report covers the period from July 1, 2012 to December 31, 2012, per the Grant Deliverables and Requirements for UTCs instructions

 Signature of Submitting Official: Rod Diridon
1. ACCOMPLISHMENTS

Major Goals and Accomplishments

MNTRC will comply with the provisions of the RITA General Deliverables and Requirements for University Transportation Centers and any revisions to that document. Each MNTRC-funded project will produce a peer-reviewed final report with a complete description of the problem, approach, methodology, findings, conclusions, and recommendations. Final reports will be uploaded onto the Consortium and Transportation Research International Documentation Database (TRID) websites. Per RITA guidelines, these reports will also be 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, will be issued to regional, national and international media outlets. The reports also will be 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 will also be pitched to radio, TV, online, and print outlets. MTI will be 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 RITA’s desire for universities to collaborate more effectively, gain greater perspective through geographic diversity, and encourage 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. The members are investigating ways to ensure that transit remains accessible and available for people who need it the most.

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.

Research Goals

- Select 34 transit research projects for funding
  - MNTRC has selected 35 research projects for funding. Contracts have been completed and work has commenced.
- Submit 34 project descriptions to the RiP database in accordance with the RITA General Deliverables and Requirements
  - MNTRC has submitted 35 research project descriptions to the RiP database.
- Post to the MNTRC website 34 project descriptions for the transit research projects
  - MNTRC has posted 35 descriptions to the MNTRC website (http://transweb.sjsu.edu/mntrc/research/rip.html).
• Produce 34 final research reports resulting from the transit research projects
  o MNTRC has completed two final research reports.

• Publish the full text of the 34 final research reports on the MNTRC website
  o The full text of two final research reports has been posted to the MNTRC website (http://transweb.sjsu.edu/mntrc/research/mntrc-publications.html).

• Submit 24 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
  o Two papers based on MNTRC sponsored research have been submitted to professional journals. These are:

Leadership Goals

• Present transit research project results at 70 academic and professional meetings (name of conference, date, and location will be tracked)
  o The results from MNTRC funded research have been presented at nine academic and professional meetings. Eight of these presentations occurred during the current reporting period.
    ▪ MNTRC Project 1145: Robert Noland, “The Impact of Transit-Oriented Development on Social Capital, Physical Activity, and Environmental

- **MNTRC Project 1146:** Ashok Kumar, “A Field Study to Collect Particulate Matter (PM) from the Exhaust of Biodiesel Transit Buses.” Sustainable U 2013 Conference, Toledo, OH (November 1, 2012).

- **MNTRC Project 1147:** Mahomed Kaseko, “Transit Services in Rural and Native American Tribal Communities.” 20th Annual Fall Transportation Conference, Las Vegas, NV (October 10, 2012).

- **MNTRC Project 1148:** Hualiang Teng, “High Speed Rail Station Multimodal Connectivity in France.” 20th Annual Fall Transportation Conference, Las Vegas, NV (October 10, 2012).

- Provide 150 media interviews (media outlet, date, and topic will be provided) related to MNTRC activities and projects
  - There have been 42 media interviews related to MNTRC activities and projects, 30 of which were conducted during this reporting period. A sample includes:
    - KGO Radio (July 6, 2012): California High-Speed Rail Approval
    - Law 360 (July 9, 2012): MAP-21 Insights
    - ABC News (August 27, 2012): Hurricane Isaac Discussion
    - Next American City (August 31, 2012): Bike-Friendly Cities in the US
    - Boston Globe (November 1, 2012): Transportation Policy under the New Administration
    - KSCO Radio (December 13, 2012): Status of High-Speed Rail in the US

- Track an average of 275,000 hits and/or uses per month on the MNTRC/MTI website (Google Analytics will track this information)
  - For the period of performance of July 1 to December 31, 2012, the MNTRC/MTI website registered an average of 460,530 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 July 1 to December 31, 2012, the MNTRC/MTI website registered an average of 210,943 document downloads per month.

- Sponsor 15 MNTRC regional forums and national summits that will reach 3,000 attendees (subject, co-sponsors, number of attendees, and location will be provided)
  - MNTRC sponsored 12 technology transfer events that reached 1,303 attendees; these are:
1. **California High-Speed Rail and Why It’s Important for the Nation**, Washington, DC (national podcast via RITA), August 15, 2012 – MTI sponsored its executive director, Rod Diridon, to discuss the status of California’s $68 billion high-speed rail project, including the recent approval by the state legislature to sell HSR bonds and its approval of the revised business plan.

2. **Safe Bike Routes**, San Jose, CA, August 2012 – MTI sponsored this discussion regarding ways to build safer bicycle routes in urban environments. San Jose was used as the model for the research report upon which this event was based.

3. **COOP-COG Training**, Boston, MA, September 28, 2012 – MTI sponsored a day-long COOP/COG workshop to Amtrak Northeast Corridor Emergency Relocation Group in Boston at Amtrak’s South Station. The workshop was led by MTI/MNTRC research associates Dr. Frances Edwards and Daniel Goodrich.

4. **National Women’s Bicycling Summit**, Long Beach, CA, September 13, 2012 - MTI sponsored this event, which featured Research Associate Cathy DeLuca participating on a panel discussing “Making Our Communities Work For Us; Women and the Political Process.”

5. **Podcar City Berlin**, Berlin, Germany, September 19-20, 2012 – MTI was an in-kind co-sponsor and Rod Diridon delivered remarks at this international conference on Personal Rapid Transit (PRT), also known as “podcars.” He discussed interconnectivity between this automated transit and high-speed rail systems.

6. **ThinkBike San Jose Workshop**, San Jose, CA, October 22-23, 2012 – MTI was a co-sponsor of the ThinkBike program, which brought to San Jose the Dutch engineering expertise that has generated bicycling rates exceeding 40% in several Dutch cities. It provided an overview of cycling in The Netherlands, described the San Jose locations to be studied, and discussed design solutions.

7. **Transit Communications 2012**, Dallas, TX, October 23-26, 2012 – MTI co-sponsored and presented a speaker. It defined the future of transit wireless communications, with special focus on using advancing technology and enhancing the passenger experience to advance networks and increase ridership.

8. **Workshop on Transit Oriented Development, Urban Freight Movement, and Energy Reductions in APEC Urban Settings**, San Jose, CA, October 25, 2012– This workshop, co-sponsored by MTI, presented the results from several urban case studies examining the energy savings and reductions in GHG emissions of transit-oriented development (TOD) and urban freight movements. Several experts from North American and Asia presented their findings.

9. **California’s High-Speed Rail: Lessons from Asia**, San Francisco, CA, November 8, 2012 – Co-sponsored by the Asia Society and MTI, this program reviewed models in Asia to understand how high-speed rail systems have impacted travel, business, and livability.
10. “Distinguished Lecturer Series,” Las Vegas, NV, November 13, 2012 – MNTRC partner the University of Nevada, Las Vegas transportation center presented the first of its Distinguished Lecturer Series. The topic concerned today’s surface transportation policies. Speaker was Dr. Newmann.


12. High Speed Rail 2012, Los Angeles, CA, December 3-5, 2012 – Business and political leaders joined the world’s top experts to bring high-speed rail (HSR) to America, starting in California. Discussion included the state’s new HSR project, expected procurement process, phasing, financing, and rollout. MTI was a co-sponsor.

Education and Workforce Development Goals

- A 5% increase over 2010-11 figures in the number of undergraduate and graduate students enrolled in transportation-related degree programs
  - MNTRC partner universities have registered an 11.34% increase in enrollment figures.
- 50 undergraduate and graduate students participating in MNTRC transit research
  - Currently, 88 students are engaged in MNTRC research projects.
- 10 students participating in internships at transportation-related agencies
  - Thirty-seven students are participating in transportation-related internships.
- Eight K-12 outreach programs that will reach 400 students
  - Three K-12 outreach events were held during this reporting period.

Summer Transportation Institute

During July 2012, the Education Program again offered MTI’s Summer Transportation Institute (STI). The program, which is funded by the Federal Highway Administration through the California Department of Transportation (Caltrans), is a national effort to provide career orientation and educational experiences to motivate secondary school students toward professions in transportation. The transportation industry will continue to need individuals who are prepared to provide the leadership to build the nation’s transportation system for the next century.

The primary goal of STI is to encourage high school students – particularly from traditionally underrepresented backgrounds – to seek professional careers in transportation through obtaining a college education. Participants typically are engaged in a variety of activities, including a college-level environmental science class with an emphasis on transportation issues, field trips to a variety of area transportation centers, guest speakers from the industry, hands-on projects, and related enrichment activities. Twenty-five students recruited primarily from high schools with high concentrations of disadvantaged youth participated this year.
Transportation Summer Camp

The University of Nevada, Las Vegas, in collaboration with the University of Nevada, Reno led a Transportation Summer Camp, which had activities in Reno and Las Vegas. The summer camp, designed for high school students, ran from July 9-19, 2012. A bus-riding competition was held in Reno. Each student received a bus map, schedule, and pass. Starting from the Main Street Station, a team of four students took and transferred buses until they returned to the starting point. Each student was given three hours to travel as far as possible in the Reno-Sparks region. Given this time constraint, the teams were to develop their own strategies. For example, students could take fewer but longer routes, while others might use shorter, but quicker routes. While creating these travel plans, teams had to minimize waiting-times during bus transfers. After plans were established, the teams implemented them in the field. With distances measured from the Main Street Station, and locations logged through photos, the first-place team accumulated over 35 miles, proving the efficiency and convenience of the Reno-Sparks public transit system.

While in Las Vegas, the students were given a presentation by Mr. David Swallow about the public transportation system, RTC Transit. This is operated by the Regional Transportation Commission (RTC) of Southern Nevada. RTC Transit consists of various public transportation modes, including regular buses, rapid transit buses, and paratransit. RTC’s bus rapid transit (BRT) system is one of the best in the nation. In the field, the students learned how the BRT system runs, as well as the technologies that make buses move efficiently through the system.

The students also toured a state-of-the-art transit terminal, Bonneville Transit Center, designed to complement the redevelopment and revitalization of the downtown Las Vegas area. From these activities, the students understood how important public transportation is to a society. Even the parents commented that it was the first time they had understood how the transportation systems worked, including public transit. The camp was so successful that transportation summer camps likely will be continued, giving more focus on public transportation.

UNLV Transportation Summer Camp Participants
Transit Camp - Reducing Congestion in Urban Communities: Technology, Social Implications, & Strategies

During this Summer Camp students spent a week at the University of Detroit Mercy (UDM), exploring Transportation Engineering as a career. Students were encouraged to consider Transportation Engineering as a career while they developed an understanding of how transit systems affect the lives of residents of the students’ communities. The 2012 student group was composed of ten males and three females.

Hands on projects, guest speakers from industry, field trip(s) and expert university input from Civil and Manufacturing Engineers provided information that opened up a whole new career idea for the high school student participants. Specific topics included Traffic Control Management, Vehicle Infrastructure Integration, Social Justice in Transportation and Flow of Transportation concepts, Identification and Innovative Solutions to Transit and Para transit Problems, the History of Transit and Workforce Development Issues. Each day students heard from corporate and university speakers in the morning and in the afternoon, they worked with the LEGO SMART MOVES Curriculum and Challenge.

2012 TRANSIT Smart Moves Summer Program Participants

- Four adult workforce development seminars
  - Nothing to report

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 July 1 to December 31, 2012, the MNTRC/MTI website registered an average of 460,530 hits per month.

- The MNTRC/MTI website will average 75,000 downloaded documents per month (Google Analytics will track this information)
  - For the period of performance of July 1 to December 31, 2012, the MNTRC/MTI website registered an average of 210,943 document downloads per month.
A minimum of 50 research citations based on MNTRC funded work
  
  - Nothing to report

A 20% increase in the number of MNTRC/MTI Facebook fans
  
  - During this reporting period, 106 Facebook fans were added (41.9% increase) bringing the total to 406.

A 20% increase in the number of Twitter followers
  
  - During this reporting period, MNTRC/MTI received 391 new Twitter followers (472% increase), bringing the total number of followers to 675.

Collaboration Goals

Three MNTRC digital newsletters will be published per fiscal year
  
  - Two MNTRC digital newsletters were published during this reporting period:
    
    - Fall 2012: [http://transweb.sjsu.edu/mntrc/about/newsletters/2012/fall/fall12.html](http://transweb.sjsu.edu/mntrc/about/newsletters/2012/fall/fall12.html)
    
    - Winter 2012: [http://transweb.sjsu.edu/mntrc/about/newsletters/2012/winter/winter12.html](http://transweb.sjsu.edu/mntrc/about/newsletters/2012/winter/winter12.html)

Twelve technology transfer activities (summits/forums; K-12 outreach) will involve more than one partner
  
  - Nothing to report

Twenty MNTRC project teams will include researchers from more than one partner university
  
  - MNTRC Project 1149 “Transportation Futures” is a jointly funded project between the Mineta Transportation Institute and Rutgers University.

Ten percent (10%) of MNTRC summits and forums and/or funded research projects will have international collaboration
  
  - Nothing to report

Sixty-seven percent (67%) of MNTRC projects will have interdepartmental research team members
  
  - Twelve (34.2%) MNTRC-funded research projects have interdepartmental research team members.

Dissemination of Results

The second MNTRC-funded project titled “2012 Census of California Water Transit Services” was completed during this reporting period. The final report appears on the MNTRC website, and it has been distributed per the federal reporting guidelines.
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 have been presented at eight academic and professional meetings. Details of these presentations can be found under the heading “Leadership Goals.”

Three publications have been based on MNTRC work during this time:

Journal publications


- **Type of Publication:** Journal article
- **Status:** Awaiting Publication
- **Acknowledgement of Federal Support:** Yes


- **Type of Publication:** Journal article
- **Status:** Published
- **Acknowledgement of Federal Support:** Yes

Books or other non-periodical, one-time publications


- **Type of Publication:** Final research report
- **Status:** Published
- **Acknowledgement of Federal Support:** Yes

Website(s) or other Internet site(s)

- An MNTRC web site has been established at transweb.sjsu.edu/mntrc
- An MNTRC presence has been established, and continues to grow, in conjunction with the existing MTI Facebook page and Twitter
Technologies or Techniques

Nothing to report

Inventions, Patent Applications, and/or Licenses:

Nothing to report

Other Products

The Mineta Transportation Institute was contacted by Caltrans to conduct a study on the availability of California Water Transit Services. The research team compiled a spreadsheet and accompanying maps that include ferry boats, routes, and operators along with a number of related characteristics including ownership (public or private), daily trip counts, regulation of fares, terminal locations (street address and coordinates), boarding statistics, and route segment lengths. The spreadsheet contains fields that will allow it to be linked in a Geographic Information System to Caltrans Earth software for further analysis. This database was created during the completion of the research project titled “2012 Census of California Water Transit Services.” Reference: Kos, Richard, Brent Carvalho, Maria-Louise Javier, and Asha Weinstein Agrawal. 2012 Census of California Water Transit Services, San José, CA: Mineta Transportation Institute, December 2012. (http://transweb.sjsu.edu/project/1133.html).

Rutgers University, as part of the work completed for MNTRC project 1141 “Using GPS Data from Taxis to Understand Public Transit Demand and Mode Choice” has produced a large database of geocoded taxi trip data from New York City, which is compatible with GIS for spatial analysis.

3. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

What Organizations Have Been Involved as Partners?

1. **Organization Name and Location:** California Department of Transportation (Caltrans-Sacramento, CA and several district offices)

   - Partner’s Contribution to the Project: Financial support and collaborative research (project staff)
   - Project: 2012 Census of California Water Transit Services (MNTRC Project 1133)

2. **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: Summer Transportation Institute

3. **Organization Name and Location:** Northeastern University (Boston, MA)

   - Partner’s Contribution to the Project: Collaborative research
4. **Organization Name and Location:** Federal Transit Administration (FTA: Washington, DC), Michigan Department of Transportation (MDOT: Michigan), Southeast Michigan Council of Governments (SEMCOG: SE Michigan), Transportation Riders United (TRU: Detroit MI), M1 RAIL (Detroit MI), and SMART (SE Michigan)

- Partner’s Contribution to the Project: Collaborative research
- Project: *A Study of Factors that Inhibit and Enable Effective Development of Sustainable Regional Transit Systems in Southeastern Michigan* (MNTRC Project 1136)

5. **Organization Name and Location:** Sybesma’s Electronics (Holland, MI)

- Partner’s Contribution to the Project: Facilities (Remanufacturing processes accessible to a student intern) and personnel exchanges (staff members are providing information needed for recycling model development)
- Project: *Remanufacturing, Repurposing and Recycling of Lithium-ion Batteries Used in Public Transit Vehicles* (MNTRC Project 1137)

6. **Organization Name and Location:** Downtown DC Business Improvement District (DC-BID: Washington, DC)

- Partner’s Contribution to the Project: Facilities (Used for student training) and Collaborative research (staff members are contributing to student training, quality control, schedule development, and are providing general information on the planning and development of the DC Circulator)
- Project: *Long-Term Trends in Patron Satisfaction of DC Circulator* (MNTRC Project 1138)

7. **Organization Name and Location:** District Department of Transportation (DDOT: Washington, DC)

- Partner’s Contribution to the Project: Financial support
- Project: *Long-Term Trends in Patron Satisfaction of DC Circulator* (MNTRC Project 1138)

8. **Organization Name and Location:** New Jersey Department of Transportation (NJDOT: Trenton, NJ)

- Partner’s Contribution to the Project: Financial support
9. **Organization Name and Location:** New Jersey Transit (NJTransit: Ewing, NJ)
   - Partner’s Contribution to the Project: Financial support
   - Project: **Evaluating the Impacts of Transit-oriented Development in New Jersey: Economic, Environmental, Public Health, and Overall Community Cohesion** (MNTRC Project 1142)

10. **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)

11. **Organization Name and Location:** HDR Engineering (Las Vegas, NV)
    - Partner’s Contribution to the Project: Financial Support
    - Project: **Developing Seamless Connections in the Urban Transit Network: A Look Toward High-Speed Rail Interconnectivity** (MNTRC Project 1148)

12. **Organization Name and Location:** Ecole Nationale des Travaux Publics de l’Etat (ENTPE: Lyon, France)
    - Partner’s Contribution to the Project: Collaborative research
    - Project: **Developing Seamless Connections in the Urban Transit Network: A Look Toward High-Speed Rail Interconnectivity** (MNTRC Project 1148)

13. **Organization Name and Location:** Proterra (Greenville, SC)
    - Partner’s Contribution to the Project: In-kind support (a battery pack and associated wiring, and cooling and monitoring systems to support the battery pack)
    - Project: **Electrical and Thermal Management of a Lithium Titanate Prismatic Cell Battery System** (MNTRC Project 1150)

14. **Organization Name and Location:** Ride Solution, Inc. (Palatka, FL)
    - Partner’s Contribution to the Project: In-kind support (prototype transit vehicle and vehicle spare parts)
    - Project: **Advanced Low-Floor Vehicle (ALFV) Specification Research** (MNTRC Project 1151)

15. **Organization Name and Location:** Florida Department of Transportation (Tallahassee, FL)
    - Partner’s Contribution to the Project: Financial support
    - Project: **Advanced Low-Floor Vehicle (ALFV) Specification Research** (MNTRC Project 1151)
Have Other Collaborators or Contacts Been Involved?

Mr. James Gee of the Toledo Area Regional Transit Authority (TARTA) has been helping the PI of MNTRC project 1135 to collect survey data and secondary data about the Toledo mass transit systems.

The University of Detroit Mercy has had several local collaborators make presentations to transportation students. Such presenters represent the Traffic Division of SEMCOG, the Detroit Collaborative Design Center, the Road Commission for Oakland County, and the MDOT Intelligent Transportation System Center.

4. IMPACT

What is the Impact on the Development of the Principal Disciplines of the Project?

The results of MNTRC-sponsored research programs has improved the content of undergraduate senior level logistics courses as well undergraduate and graduate engineering and urban planning courses.

Based on MNTRC funding, the University of Nevada, Las Vegas (UNLV) changed the graduate level course “CEE 765 Public Transportation Systems” to an undergraduate/graduate level course. UNLV is developing a second course on public transportation planning and policy in the Department of Civil Engineering. Lastly, a new course “Railroad Engineering” course CEE 495/695 was created in Fall 2012, the content of which covered the engineering foundation of transit systems: subgrade, ballast, tie, rail, wheel-rail interaction. Twelve students (four undergraduate and eight graduate students) enrolled this class.

What is the Impact on Other Disciplines?

Nothing to report

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

MNTRC/MTI has been part of the CUTC Transportation Workforce Development Committee. The MTI Director of Communications and Technology Transfer assisted in organizing a regional forum in Long Beach, CA and in Denver, CO. These regional forums eventually coalesced in April 2012 into the National Transportation Workforce Development Summit in Washington, DC, which MTI helped to organize and execute. This committee is still active and meets two to three times a year. Currently, plans are being formulated for the Committee to take the summit’s recommendations to industry and academic practitioners to create and refine workforce development.

Additionally, MNTRC partners hosted three K-12 outreach events this past summer. These events, previously reported in this document, helped make students aware of careers within the transportation industry.

What is the Impact on Physical, Institutional, and Information Resources at the University or Other Partner Institutions?

For its MNTRC funded study titled “Combustion Chemistry of Biodiesel for the Use in Urban Transport Buses: Experiment and Modeling,” the University of Toledo has developed test setups
to study engines and renewable fuels for their efficiency and environmental testing. The equipment includes: 1) a high-temperature, high-pressure reactor for simulating a combustion engine, 2) filter paper, and 3) analytical instruments for physical and chemical properties of fuels and emission gases. Renewable fuels such as biodiesel have different chemical compositions than regular gasoline or diesel. These differences result in different BTU values and different emissions. Therefore, combustion engines that use renewable fuels must be designed and operated accordingly to maximize the engine efficiency and to minimize emissions. The laboratory’s reactor simulates various engine conditions and measures heat value and emission gas composition of a fuel using the heat exchanger installed in the reactor with a HPLC pump, and gas chromatograph. With this set-up, the optimum combustion condition for the newly developed biofuels can be determined.

**What is the Impact on Technology Transfer?**

MNTRC and/or its partners 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 PR Newswire’s national media distribution and are sent directly to MTI/MNTRC’s proprietary list of approximately 300 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. Additionally, an electronic newsletter, published three times a year, promotes MNTRC work, and is distributed to an MTI/MNTRC proprietary list of nearly 9,000 email addresses.

**What is the Impact on Society Beyond Science and Technology?**

MNTRC research and outreach activities will likely increase public support for government transportation initiatives.

**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
6. ADDITIONAL INFORMATION REGARDING PRODUCTS AND IMPACTS

**Outputs**

- **Research projects awarded:** Thirty-five research projects have been awarded. A complete description of each project can be found on the MNTRC website: [http://transweb.sjsu.edu/mntrc/research/rip.html](http://transweb.sjsu.edu/mntrc/research/rip.html)

- **Publications, conference papers, and presentations:** Eight presentations have been made 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](http://transweb.sjsu.edu/mntrc/index.html))

- **Outreach activities:** MNTRC sponsored twelve outreach activities during this period of performance. Details of these events can be found under the heading “Leadership Goals.”

**Outcomes**

Nothing to report

**Impacts**

Nothing to report
The Norman Y. Mineta International Institute for Surface Transportation Policy Studies was established by Congress in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The Institute’s Board of Trustees revised the name to Mineta Transportation Institute (MTI) in 1996. Reauthorized in 1998, MTI was selected by the U.S. Department of Transportation through a competitive process in 2002 as a national “Center of Excellence.” The Institute is funded by Congress through the United States Department of Transportation’s Research and Innovative Technology Administration, the California Legislature through the 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. MTI’s 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.

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 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, 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 innovations 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
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Program Progress Performance Report for University Transportation Centers

PPPR #2:
July 1 to December 31, 2012