

Program Progress Performance Report for University Transportation Centers



- **Federal Agency and Organization Element to which Report is Submitted**
United States Department of Transportation, Research and Innovative Technology Administration
- **Federal Grant or Other Identifying Number Assigned by Agency**
DTRT12-G-UTC07
- **Project Title:**
Mid-America Transportation Center: Region 7 UTC
- **Program Director (PD) Name, Title, and Contact Information**
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- **Submission Date**
January 30, 2013
- **DUNS and EIN Numbers**
DUNS: 55-545-6995 & EIN: 47-0049123
- **Recipient Organization**
The Board of Regents, University of Nebraska for the University of Nebraska-Lincoln
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- **Recipient Identifying Number or Account Number**
25-1121-0003-001
- **Project/Grant Period**
January 1, 2012 - January 31, 2014
- **Reporting Period End Date**
December 31, 2012
- **Report Term or Frequency (annual, semi-annual, quarterly, other)**
Annual
- **Signature of Submitting Official (signature shall be submitted in accordance with agency- specific instructions)**

A handwritten signature in black ink, appearing to be "L.R. Rilett", written over a horizontal line.

L.R. Rilett, Director, Mid-America Transportation Center

1. ACCOMPLISHMENTS:

What are the major goals and objectives of the program?

The following is a list of the major goals and objectives that were outlined in the MATC Proposal and highlighted at the US DOT RITA site visit on April 12th, 2012.

	Status	% Complete
Research Program		
Call for Problem Statements	Complete	100%
Request for Proposals	Complete	100%
Proposals under External Review (US DOT Reviewer, SHRP II Coordination, US DOT Thematic Goal Alignment)	Complete	100%
Review Budgets and for Duplication with Region 5 & 6 UTC Research Programs	Complete	100%
Final Proposal Ranking & Selection	Complete	100%
Research Projects under Contract	On Schedule	100%
Technology Transfer Tech Briefs, Webinars, & Presentations on Research Results	On Schedule	15%
Applicable Slides, Handouts, Videos, Podcasts, etc. Posted/Linked on MATC Website & US DOT RITA Research Hub	On Schedule	8%
Final Reports Due & All Research Projects Complete	Forthcoming	0%
Leadership Activities		
Coordination with Region 7 UTC Directors	Complete	100%
Regional Successes & Lessons Learned Workshop	On Schedule	15%
Educational Activities		
Grad/Undergrad MATC Course Development & Implementation	On Schedule	45%
MATC Supported Certificate Programs in Transportation	On Schedule	35%
MATC Undergraduate Summer Internship Program (Summers 2012 & 2013)	On Schedule	100% YR 1
MATC Transportation Scholars Program: Graduate Seminar Course	On Schedule	100%
MATC Transportation Scholars Conference	On Schedule	25%
MATC/CUTC Student of the Year Program - Annually @ TRB	Forthcoming	100%
MATC Summer Institute (Summers 2012 & 2013)	On Schedule	100% YR 1
MATC After School Program (Summers 2012 & 2013)	On Schedule	100% YR 1
MATC Support of "GO/Vamos!" Online K-12 Publication	On Schedule	50%
MATC Transportation Student Chapter (ITE/ASCE/Etc.) related activities	On Schedule	55%
Underrepresented Student MATC Summer Intern Program (Summers 2012 & 2013)	On Schedule	100% YR 1
MATC Scholars Program for Underrepresented Students (October 2012)	On Schedule	100%
Technology Transfer Activities		
MATC Supported Specialty Conferences, Workshops, and Short Courses	On Schedule	45%
Mid-Continent Research Symposium 2013	On Schedule	33%
LTAP Regional Meeting - MATC Workshop: September 2012 & 2013	On Schedule	100% YR 1
MATC Website Information Dissemination	On Schedule	45%
MATC Social Media Sites Information Dissemination	On Schedule	45%
US DOT RITA: Reporting		
Posting Directory of Key Center Personnel	Complete	100%
Posting Research Project Descriptions	Complete	100%
UTC Program Progress Performance Reports (Quarterly)	On Schedule	100%
Federal Financial Reports (Quarterly)	On Schedule	100%
Annual Performance Indicators Report	On Schedule	100%

What was accomplished under these goals?

Currently, all MATC-planned activities are underway, in progress, or are currently in the planning stages. Please see the *percent complete* and *status* columns shown above for established progress on these activities.

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

As indicated in the table above, there are multiple opportunities for training and professional development within the planning and development phases.

Opportunities for contact hours with participants during the period of July 1, 2012 – December 31, 2012 included the Engineering Education Excellence Institute for Junior High and High School students; the Roads, Rails, and Racecars After-School Program; GO! Online electronic magazine; MATC Scholars Program; MATC Lecture Series and the MATC Intern Program. Summaries of these activities are provided below.

Summer Institute: The 2012 Engineering Education Excellence Institute was held on July 18th and 19th, and students came from the Lincoln, Omaha, Nebraska and the surrounding area to learn about transportation engineering. At the Institute students were able to participate in hands-on activities by testing out the lesson plans developed by the teachers in part I of the Summer Institute, tour the Midwest Roadside Safety Facility Crash Test Facility, and experience a little bit of the college life by eating in one of the dining halls and going on a campus tour. Students also participated in traffic technology activities which included GPS demonstrations, LIDAR gun traffic monitoring, and learning how to use GIS programs to learn about their city. Students were also able to interact with both undergraduate and graduate engineering students from UNL that were on-hand to help with activities and answer questions about getting to and thriving in college. **Thirty-seven (37) students attended the Institute and ranged in ages from 11 to 16.**

Exposure to engineering for the students was not the only goal for the Institute as **5 teachers** were also on-hand to test their lessons that were developed at the UNL 2012 Professional Development Science and Math Summer Technology Institute in June. Each teacher (three middle school and two high school teachers) was able to present two of their lessons and were given feedback via paper surveys from the students that attended. Based on the feedback from the students, the teachers were able to tweak their lessons to be implemented during the school year. As of the end of the first semester of the 2012-2013 academic year, **13 lessons have been implemented** by the teachers with a total reach of **449 students so far**. The details of these lessons can be found in Table 1 below. The remaining seven lessons will be implemented during the second semester of this academic year and some of the lessons that were implemented in the first semester will be implemented again in the second

Students were given both a pre- and post-test at the Institute to measure the changes in attitudes and knowledge about STEM subjects as well as the transportation field. After completion of the Institute, **the test showed a 60 percent increase in the number of students that understood what transportation engineering was and a 110 percent increase in those that understood the number one killer of American teens is distracted driving. The surveys showed that at the completion of the Institute, 79 percent of the students had an increased interest in engineering, 70 and 67 percent in science and technology, respectively, and 39 percent showed an increased interest in math.**

Table 1. Implemented Lesson Plans

Lesson Title	Concepts	Teacher	Subject(s) Taught	Grades	School	Number of Students
Types of Distractions During Driving	Scientific Method	John Huber	Science	8	McMillan Magnet Center	12
Renewable Energy for Transportation	Choosing between alternative solutions to a problem	John Huber	Science	8	McMillan Magnet Center	26
Reaction Times	Acceleration, velocity	John Huber	Science	8	McMillan Magnet Center	25
The Speed of Wind	Scientific Method, alternative energy	John Huber	Science	8	McMillan Magnet Center	20
Faster than a Speeding Bullet	Acceleration, velocity	Mary Herrington	Science	7, 8	Culler Middle School	82
Solar Ovens	Convection, conduction	Mary Herrington	Science	7, 9	Culler Middle School	147
Impact We Have	Impact, forces, gravity	Dave Travis	Math	9th-12th	Lincoln North Star	49
The Gas We Pass	Algebra, division	Dave Travis	Math	9th-12th	Lincoln North Star	12
Nature's Traffic Light	Alternative energy	Dave Travis	Math	9th-12th	Lincoln North Star	28
Guardrails and the Problems they Post	Angles, forces	Dave Travis	Math	9th-12th	Lincoln North Star	10
Reaction Time	Kinematic equations, free fall acceleration	Jeremy Scheffler	Math and Science	10th-12th	Lincoln Pius X	13
Roadside Barriers	Stress, strain, Young's Modulus, shear modulus	Jeremy Scheffler	Math and Science	10th-12th	Lincoln Pius X	13
Car Crash Physics	Impact, forces, gravity	Wally Mason	Science	9	Lincoln High School	12
					Total Students	449

Road Rails and Race Cars (RRRC): This report reviews the continued preparation and implementation efforts for the Roads, Rails, and Race Cars (RRRC) engineering after-school club for elementary and middle school students and “STEM Engineering” after-school club for high school students from October to December 2012. After recruitment efforts were held at Lefler and Mickle Middle Schools in Lincoln, Nebraska in October 2013, a total of fifteen (15) engineering undergraduate and graduate students attending University of Nebraska – Lincoln, University of Nebraska – Omaha, Iowa State University, and the University of Wisconsin – Madison were hired as student mentors to facilitate clubs for Quarter 3 and 4. In addition, six (6) new teachers were trained to supervise clubs during the 2013 club year. Training for supervisors and student mentors based outside of Lincoln included multiple conference calls to RRRC teams based in Omaha, Nebraska, Boone, Iowa, and Madison, Wisconsin, as well as locally-held RRRC team meetings. Curriculum timeline development for Quarter 2 and 3 was completed for all sites. All four expansion sites received lesson and activity supplies for ten (10) lessons. Additional preparation efforts included one (1) conference call to the Department of Transportation, Federal Highway Administration on November 27, 2012; one (1) CLC After School Programs meeting to recruit for expansion sites and teachers on November 29, 2012; and, one (1) meeting with the National Society of Black Engineers (NSBE) to recruit for expansion site mentors on December 7, 2012.

The Roads, Rails, and Race Cars program in Lincoln, Nebraska was implemented by nine (9) teachers, fourteen (14) engineering undergraduate and graduate students, one (1) media relations specialist, and one (1) media relations assistant at the following schools: Culler Middle School, Lefler Middle School, Mickle Middle School, and North Star High School. RRRC clubs met weekly, except at Culler Middle School where RRRC was held biweekly. Total student RRRC attendance was 769. The total number of different student participants who attended the program at least once was 195. RRRC clubs hosted three (3) outside speakers who provided either STEM and transportation-related lessons and activities or community information about STEM and transportation-related concepts. Topics covered during this quarter across all sites in Lincoln, Nebraska included Edible Cars, Railroad Signals, Types of Transportation, Geotechnical Engineering, Gilder Airplanes, and Introduction to Bridges.

For Quarter 3, Roads, Rails, and Race Cars will continue at Culler Middle School, Lefler Middle School, Mickle Middle School, and North Star High School, all in Lincoln, Nebraska. Curriculum foci for middle school participants for this quarter will be related to Green and Environmental Impacts on Transportation. Topics, which may vary by site, will include an overview from Quarter 2, Defining Sustainability, Types of Transportation, Traffic Concerns Around the World - Parts 1 and 2, Green Transportation Technology, Green Systems, Green Vehicles, Financing Green, Green Maintenance, Green Impacts/Challenges, Operation Transportation, and Green in Action. Curriculum for RRRC participants attending North Star High School is currently being developed.

In Quarter 3, RRRC clubs will be established at Goodrich Middle School, Hartley Middle School, and Lincoln High School, start date of January 28, 2013. At each site, one (1) teacher, at least three (3) undergraduate or graduate engineering student mentors, one (1) educational programs coordinator, one (1) educational programs assistant, and periodically one (1) media relations specialist and one (1) media relations assistant will participate. The curriculum focus for these three sites will begin with what was implemented during Quarter 1 and 2 at Culler Middle School (Introduction to the Field of Transportation, Glider Airplanes, Edible Cars, Railroad Signals, Defining Geotechnical Engineering, Introduction to Bridges, and Financing Transportation). An RRRC club will also be established biweekly at Maxey Elementary School in Lincoln, Nebraska, where at least six (6) graduate and undergraduate engineering student mentors, one (1) educational programs coordinator, one (1) educational programs assistant, and periodically one (1) media relations specialist and one (1) media relations assistant will participate. Curriculum focus for the Maxey RRRC club will be the same.

Plans for expansion in Quarter 3 included implementing weekly RRRC programs at Maxey Magnet Middle School and at least one other school to be selected, both in Omaha, Nebraska; Boone Middle school in Boone, Iowa, and Jackson Middle School in Madison, Wisconsin. Curriculum focus for all sites will begin with what was implemented at Culler Middle School in Lincoln, Nebraska.

MATC Fall Lecture Series:

On Fridays this fall the MATC hosted a weekly speaker from 10:00 – 11:00 am. MATC Partner Institutions were able to participate live via Adobe Connect with audio and video feed, as well as ask questions to the speakers. The outline of the speakers can be seen below:

Friday	First	Last Name	Title	Organization
8/31/2012	Dean	Sicking	Professor, Midwest Roadside Safety Director	University of Nebraska Lincoln, NTC
9/7/2012	Paul	Hanley	Associate Professor, Civil Engineering	University of Iowa
9/14/2012	Gene	Russell	Professor Emeritus	Kansas State University

9/21/2012	Jim	Noble	Professor, and Site Director, NSF Center for Excellence in Logistics and Distribution (CELDi)	University of Missouri
9/28/2012	Hamid	Sharif	Professor, Computer and Electronics Engineering	University of Nebraska Lincoln, NTC
10/5/2012	Erick	Jones	Associate Professor, Industrial Management Systems Engineering	University of Texas-Arlington
10/12/2012	Randy	Peters	Director - State Engineer	Nebraska Department of Roads
10/19/2012	Dan	Sabin	Owner & President	Iowa Northern Railway Company
10/26/2012	Tom	Clements	Assistant Manager - Logistics Analysis	Werner Enterprises
11/9/2012	David	Connell	Vice President of Engineering	Union Pacific
11/16/2012	Robert	Kollmar	Executive Director - Engineering, Communications and Train Control Systems	Association of American Railroads
11/30/2012	Steve	Garbe	Vice President	Iteris

All the presentations from the speakers are posted online via slideshare:

<http://www.slideshare.net/matcRegion7UTC> as well as all the videos are recorded as webinars on YouTube <http://www.youtube.com/user/MidAmericaTrans> to continue the extension of the speaker to a broader audience. The average attendance of the course in person and online totaled over 50 participants each week.

MATC Intern Program: There were ten undergraduate students selected for MATC Internships for the 2012 summer program at UNL. On August 10th a luncheon was held and the interns showcased their videos. The videos are hosted on MATC's YouTube channel and are now being used to recruit students for the 2013 intern program. The students also developed a two-page report on their experiences that will be posted on the MATC website along with their profile by Feb. 28, 2013 for recruitment purposes.

Heath Brockman: Olsson Associates – Omaha, NE - <http://www.youtube.com/watch?v=OkOCpUyH2CI>

Dan Bellizzi: Olsson Associates – Omaha, NE - <http://www.youtube.com/watch?v=xDSNSowuCW0>

Tyler Lerdaahl: Schemmer Associates – Lincoln, NE - <http://www.youtube.com/watch?v=gNv8EZ7ICA8>

Peng Liu: City of Lincoln, NE - http://www.youtube.com/watch?v=FfiTL_YrGM4

Jordan Dostal: Olsson Associates – Lincoln, NE - <http://www.youtube.com/watch?v=9hQxkW41ZpY>

Steven Stauffer: Iteris – Lincoln, NE - <http://www.youtube.com/watch?v=fk7ZKO9J0xo>

Taofic Onifade – UNL Nebraska Transportation Center – Omaha, NE - <http://www.youtube.com/watch?v=xDSNSowuCW0>

Pranav Shakya – UNL Nebraska Transportation Center – Lincoln, NE - <http://www.youtube.com/watch?v=-fTr2hQQGE>

Adam Sevenker – UNL Nebraska Transportation Center – Omaha, NE - <http://www.youtube.com/watch?v=RIdLZNmH-hw>

MATC Scholar's Program:

Program Website: <http://matc.unl.edu/education/scholars-program2012.php>

In the fall of 2012, MATC hosted the second annual Scholars Program at the Whittier Research Center on the University of Nebraska-Lincoln campus. The goal of the conference is to provide an opportunity for college students traditionally underrepresented in science, technology, engineering, and math (STEM) graduate programs to learn about the opportunities present through a graduate-level education, as well as the process of applying for and transitioning into grad school. Historically, racial and ethnic minority groups and females represent only a small portion of students pursuing doctoral engineering degrees. The Scholars Program is designed to address potential obstacles to pursuing a graduate-level education that are unique to underrepresented students pursuing STEM careers.

The Scholars program was facilitated by MATC Director Dr. Larry Rilett, Dr. Judy Perkins, Prairie View A&M University and Dr. Erick Jones, University of Texas at Arlington.

Students at the conference attended a series of targeted skill-building and motivational sessions, keynote addresses, and informational discussions led by a diverse team of science and engineering faculty from minority serving institutions across the country and Region VII partnering universities. Participating faculty members were selected for their extensive research experience and their desire to work with underrepresented students. The faculty also represented a wide range of career interests. Examples of conference session themes included, "Why Graduate School?"; "Choosing a Graduate Program: Making a Short List"; and "Understanding Funding and Budgeting Finances."

Keynote speakers selected for their notable career accomplishments in research and higher education also showcased their personal narratives to offer guidance to students thinking about pursuing graduate degrees. This year's keynote speakers included Dr. Louis A. Vazquez of New Mexico State University, Dr. Karen Butler-Purry of Texas A&M University, and Dr. Howard G. Adams of H.G. Adams and Associates, Inc.

A select panel of outstanding graduate students also discussed their own experiences involving the process of transitioning from undergraduate to graduate programs.

During the conference, student reactions to the material and proceedings were collected via surveys and personal interviews during daily "town hall" sessions, as part of an effort to continually evaluate and improve the program's effectiveness.

All 32 conference undergraduate student participants agreed to participate in the evaluation. Fifty-six percent of participants were female. Ninety-one percent are currently majoring in a STEM field. The majority of attendees were currently considered juniors (46.9%) with the rest indicated a status of either seniors (31.3%) or sophomores (21.9%). Sixty-six percent considered themselves to be African/African American. When asked about Hispanic/Latino(a) ethnicity, 21.9% indicated they identified being Hispanic/Latino(a). Thirty-one percent of estimated their GPA for courses in their major to be between 4.0-3.5 points.

As part of the post survey, students were asked how they would rate the MATC Scholars Program overall; ninety-seven percent indicated either "very good" (59.4%) or "good" (37.5%). Additionally, 100% of participants responded "yes" (40.6%) or "definitely yes" (59.4%) when asked if they would recommend the

program to a friend. Additional comments provided by respondents at the end of the post survey can be found in Appendix C.

The following are tables of mean scores for the question items for the pre and post surveys and the difference found between the mean scores. Statistical significance was determined by calculating mean scores for each item and running a paired t-test. Asterisks indicate which items are statistically significant ($*p < .05$, $**p < .001$) when comparing the question items on the pre and post surveys. According to the surveys, the students gained more knowledge and skills applicable to graduate school from this program. The majority of the variables listed show a significant difference between the mean scores from the pre and post surveys.

The mean scores can be interpreted as such; where a smaller mean given on any given question indicates a stronger agreement, a higher importance, more confidence, and so on for that item asked. Larger mean values given for questions indicate more disagreement, lower importance, and not confident for that item asked. All but one of the items listed indicated a significant increase in knowledge, agreement, and confidence between the pre and post surveys. There were a total of three items that had an inverse value, meaning that an increased mean difference indicated an increase in knowledge about the question asked, and these are indicated with a negative difference value. The only item showed an increase in the mean value in an unexpected direction between the pre and post survey, meaning an increase in the lack of confidence, was confidence in the ability to write a strong personal statement, which is also indicated with a negative mean difference. As with many pre-post designs with an intervention, participants may feel less confident than they did before the program because they are more knowledgeable about the process, resulting in lower confidence in the post survey.

Understanding the application process for graduate programs is one of the questions that had the largest difference in means between the pre- and post-surveys. Other questions that had large mean differences between the pre- and post-surveys include: how to choose a faculty mentor when applying to graduate programs, funding opportunities for graduate programs, finding institutions that is the best fit for students interests and career plans, how graduate school will be different from undergrad, and what is expected of the student in graduate school. These questions had more than a .80 mean difference between pre- and post- survey scores.

MATC plans to expand the Scholars Program Conference in the future. The next Scholars Program Conference will occur in 2013, when students will be invited from Haskell Indian Nations University. Program coordinators will also continue the evaluation of student responses in order to continually improve the program. To facilitate the goal of reaching out to as many students as possible, the conference presentations and video highlights are available online.

A video synopsis of the MATC Scholars Program was made and can be viewed at:
<http://www.youtube.com/watch?v=5PbJhGsDI6o>

The photos taken during the MATC scholars program can be viewed at:
<http://www.flickr.com/photos/64975651@N03/sets/72157631693748063/>

Go! Vamos:

Currently Go!/Vamos has 779 subscribers, 205 Facebook Fans, and 310 Twitter Followers. During the reporting period 2 stories were highlighted:

- ❖ <http://www.go-explore-trans.org/intrans-the-intersection-of-research-education-and-outreach/>
- ❖ <http://www.go-explore-trans.org/environmental-engineering/>

The Go! website and magazine during the reporting period had the following activity:

- ❖ Visits: 7,439
- ❖ Unique Visitors: 6,076
- ❖ New Visits: 80.75%
- ❖ Returning Visitors: 19.24%
- ❖ Pageviews: 16,208
- ❖ Number of countries viewing: 79

How have the results been disseminated?

All MATC activities are primarily in implementation phase and some recurring projects are in the planning phase for the next year. Primarily electronic distribution and social media has been used. Powerpoint Presentations have also been given.

- A Summer Institute “Sneak Peak” Video was created and shared with all teachers, students, parents: <http://vimeo.com/46007405> – which to date has been played 67 times. Facebook was also heavily utilized to disseminate the results, reaching over 1,014 individuals that week.
 - One parent commented on facebook: [Karen Fitzwater Loll](#) This is my son. He had such a blast at engineering camp. I haven't seen him this excited about anything for a long time. He said getting this piece of SAFER barrier was the best thing about the whole day. He made sure to put it somewhere safe at home. Thanks so much for doing this camp!
 - Another parent stated: [Lisa Chavanothai Craig](#) My daughter loved the summer institute! She thoroughly enjoyed both days. Thank you!
- A video synopsis of the MATC Scholars Program was made and can be viewed at: <http://www.youtube.com/watch?v=5PbJhGsDI6o>
- The photos taken during the MATC scholars program can be viewed at: <http://www.flickr.com/photos/64975651@N03/sets/72157631693748063/>

MATC has connected with 882 newspaper, TV and radio organizations located in all eight partner institution and across the nation and will be developing a press release template to release respective projects results and highlights for each location. The goal is to develop a product that easily translates into a story for media personnel to quickly and effectively report the activities in which MATC is engaged such that MATC and US DOT RITA is visible and accurately represented to the public.

MATC Newsletter: 5.1:

MATC started distributing its online newsletter, which was distributed to 3,045 individuals worldwide July 2012. It featured 12 stories highlighting a student or activities on each of the MATC Partner Sites. The newsletter stories can be access on the MATC website at: <http://matc.unl.edu/Newsletter/MATCNewsletter/july2012.php> .

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

There will be no change in the agency-approved application for this effort. Implementation of the activities outlined in the table above for all research, education, workforce development, and technology transfer projects will continue toward completion on-schedule.

2. PRODUCTS:

Publications, conference papers, and presentations:

Highlighted Presentations:

Nebraska Department of Economic Development: MATC STEM Outreach Activities: Lincoln, NE : 11/16/2012 – Lefler & Baker

The Power of After School: After School Program, Papillion, NE 9/28/2012 – Lefler, Baker, Herrington, Sorensen, & Rodgers

Region 3 National Association of Publicly Funded Truck Driving Schools: Annual Meeting: Hastings, NE 9/13/2012 - Lefler & Baker

MINK Local Roads Conference: LTAP Region 7 Meeting: Saint Joseph, Missouri, 9/28/2012 - Faller

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

Currently, MATC maintains seven online sites that distribute information utilizing the internet. Links to each site, as well as report period information, can be found below:

MATC Website: By clicking the following link: matc.unl.edu, you will be directed to MATC's website. Highlighted information from Google Analytics about the website's traffic from July 1, 2012 – December 31, 2012 is below. By understanding and capitalizing this knowledge, we are able to make our homepage engaging, relevant, and resourceful to our viewers.

Visits: **6,783**, Page views: **31,394**, Pages per visit: **4.63**, Average visit duration: **5:26**

SlideShare: Our total views have increased by 6,000 since our last metric. This increase has expanded our global reach; the top 5 countries that view our presentations are: The United States, South Korea, China, United Kingdom, and France. Below you will find a snapshot of MATC's slideshare activity and the link to view the page. <http://www.slideshare.net/matcRegion7UTC/presentations/>

Total Views: **13,357**, Downloads: **68**, Tweets: **11**

Vimeo: Mid-America Transportation Ctr is the page title for the Vimeo account, below you will find the hyperlink to access the account as well as related activity. <http://vimeo.com/matc>
Videos: **21 new videos, 58 total** , Total Loads: **3,203**

Facebook: The Mid-America Transportation Center (MATC) has the following statistics and can be viewed by clicking on the proceeding link.
<https://www.facebook.com/pages/Mid-America-Transportation-Center-MATC/141238439284182>
Views: **968**, Likes: **132**

Twitter: @MATCNews is the Mid-America Transportation Center's twitter handle, the page can be viewed by clicking the following link, highlighted numbers for MATC's Twitter activity are below.
<http://twitter.ie/MATCNews>
Followers: **124**, Following: **568**, Tweets: **124**

You Tube: MATC's you tube feed can be viewed by clicking the following link. This site will feature one participating Region 7 University per quarter.
http://www.youtube.com/user/midamericatrans?feature=results_main
Videos: **37**, Views: **286**, Minutes Watched: **267**

LinkedIn: The newly created Mid-America Transportation Center LinkedIn group can be found at http://www.linkedin.com/groups/MidAmerica-Transportation-Center-4484370?trk=myg_ugrp_ovr . We have compiled a list of individuals to invite. Our goal is to post valuable and relevant information that fits the group's interests. We will also be posting our research, tech transfer and educational information, and other MATC updates within other transportation LinkedIn groups.

Overall, across the 7 sites we have gathered 49,208 views during the reporting period, which is almost double from the 26,000 views reported in the prior quarter. Currently, marketing and media plans are being established to further advance and grow each site's exposure and content, based upon the programs established. In particular, MATC's Linked-In Group and YouTube channel will be strongly enhanced over the next reporting period.

Technologies or techniques:

Nothing to report, all current research and workforce development activities are under implementation.

Inventions, patent applications, and/or licenses:

Nothing to report, all current research and workforce development activities are under implementation.

Other products:

As the project selection process is complete, the following research projects listed by university have been selected for funding. The MATC website research hub is undergoing redevelopment and maintenance and the projects are listed online at: http://matc.unl.edu/research/research_search.php The links to their research project descriptions in RiP can be found below:

University Name	Project Category	Project Title	Lead PI	Accessed in RiP @
University of Nebraska - Lincoln	Research	Study of a Distributed Wireless Multi-Sensory Train Approach Detection and Warning System for Improving the Safety of Railroad Workers	Sharif, Hamid	https://rip.trb.org/browse/dproject.asp?n=32773
University of Nebraska - Lincoln	Research	Optimizing Concrete Deck Removal in Concrete I-Girder Bridges	Morcous, George	https://rip.trb.org/browse/dproject.asp?n=32774
University of Nebraska - Lincoln	Research	Development of a Guide for Prioritization of Railway Bridges for Repair and Replacement	Rakoczy, Anna	https://rip.trb.org/browse/dproject.asp?n=32775
University of Nebraska - Lincoln	Research	Distracted Highway Users at Highway-rail Grade Crossings	Khattak, Aemal	https://rip.trb.org/browse/dproject.asp?n=32776
University of Nebraska - Lincoln	Research	Alternative Funding Mechanisms for State Transportation Systems in Predominantly Rural States	Anderson, John	https://rip.trb.org/browse/dproject.asp?n=32777
University of Nebraska - Lincoln	Research	Dilemma Zone Protection on High-Speed Arterials	Appiah, Justice	https://rip.trb.org/browse/dproject.asp?n=32778
University of Nebraska - Lincoln	Research	Safety Performance Evaluation of Posts for use in a New Short Radius Guardrail for Intersecting Roadways	Reid, John	https://rip.trb.org/browse/dproject.asp?n=32779
University of Nebraska - Lincoln	Research	Investigation, Dynamic Testing, and Evaluation of Guardrail Posts for Use in Transitions between Temporary Concrete Barrier and Guardrail	Lechtenberg, Karla	https://rip.trb.org/browse/dproject.asp?n=32780
University of Nebraska - Lincoln	Research	Development of Shaker Test as a Standardized Test Protocol for Deicing Chemicals Evaluation	Tuan, Christopher	https://rip.trb.org/browse/dproject.asp?n=32781
University of Nebraska - Lincoln	Research	Development of a Vacuum-Filtration-Based Method for Rapid Measurement of Total Suspended Solids in Storm water Runoff from Construction and Development Sites	Zhang, Tian	https://rip.trb.org/browse/dproject.asp?n=32782
University of Nebraska - Lincoln	Research	Smart City Lincoln: Safe Intersections and Intelligent Enforcement	Sharma, Anuj	https://rip.trb.org/browse/dproject.asp?n=32783
University of Iowa	Research	Integration of Human-in-the-Loop Driving Simulator with Microscopic Traffic Simulation	He, Yefei	https://rip.trb.org/browse/dproject.asp?n=32784
University of Iowa	Research	Towards Autonomous Vehicles	Schwarz, Chris	https://rip.trb.org/browse/dproject.asp?n=32785
University of Iowa	Research	Developing and Refining Sustainability Tools for Winter Maintenance Operations	Nixon, Wilfrid	https://rip.trb.org/browse/dproject.asp?n=32786
University of Iowa	Research	Mobility and Accessibility of Hispanics in Small Town and Rural Areas	Matsuo, Miwa	https://rip.trb.org/browse/dproject.asp?n=32787
University of Iowa	Research	Investigation of Synergistic Effects of Warm Mix Asphalt and High Fractionated Reclaimed Asphalt Pavement for Safe, Environmentally Sustainable Highway	Lee, Hosin	https://rip.trb.org/browse/dproject.asp?n=32788
University of Iowa	Research	Improving Fire Safety: Modifying Droplet Behavior to Minimize Ignition	Ratner, Albert	https://rip.trb.org/browse/dproject.asp?n=33515
Iowa State University	Education	Transportation Scholars Program	Gkritza, Nadia	https://rip.trb.org/browse/dproject.asp?n=33516
Iowa State University	Tech Transfer	Mid-Continent Transportation Research Symposium	Gkritza, Nadia	https://rip.trb.org/browse/dproject.asp?n=33517
Iowa State University	Education	Go!: Reaching Out to Teens about Educational and Career Opportunities in Transportation	Gkritza, Nadia	https://rip.trb.org/browse/dproject.asp?n=33518
Iowa State University	Research	Methods for Removing Concrete Decks from Bridge Girders	Phares, Brent	https://rip.trb.org/browse/dproject.asp?n=33519

Iowa State University	Research	Evaluation of Thermal Integrity Profiling for Deep Foundations	Ashlock, Jeremy	https://rip.trb.org/browse/dproject.asp?n=33555
Iowa State University	Research	Statewide Heavy Truck Crash Assessment	Hans, Zachary	https://rip.trb.org/browse/dproject.asp?n=33521
Iowa State University	Research	Safety and Mobility Impacts of Winter Weather - Phase 3	Hans, Zachary	https://rip.trb.org/browse/dproject.asp?n=33522
Iowa State University	Research	Validation of Traffic Simulation Model Output for Work Zone and Mobile Source Emissions Modeling and Integration with Human-in-the-Loop Driving Simulators	Hallmark, Shauna	https://rip.trb.org/browse/dproject.asp?n=33523
Iowa State University	Research	Sustainable Asphalt Pavements Using Bio-Binders from Bio-Fuel Waste	Williams, R. Christopher	https://rip.trb.org/browse/dproject.asp?n=33524
Iowa State University	Research	Systemic Safety Improvement Risk Factor Evaluation and Countermeasure Summary	Knapp, Keith	https://rip.trb.org/browse/dproject.asp?n=33525
University of Kansas	Research	Geosynthetic Reinforcement to Protect Underground Pipes against Damage from Construction and Traffic	Han, Jie	https://rip.trb.org/browse/dproject.asp?n=33526
University of Kansas	Research	Evaluation of Low-Cost Intersection Countermeasures to Reduce Red Light Running Violations	Schrock, Steven	https://rip.trb.org/browse/dproject.asp?n=33527
University of Kansas	Research	Properties of Fouled Recycled Ballast	Parsons, Robert	https://rip.trb.org/browse/dproject.asp?n=33528
University of Kansas	Research	Repair of Floor beam-to-Stringer Connections Affected by Distortion-Induced Fatigue	Bennett, Caroline	https://rip.trb.org/browse/dproject.asp?n=33529
University of Kansas	Education	Educational Activities Through MATC at the University of Kansas FY 2013	Schrock, Steven	https://rip.trb.org/browse/dproject.asp?n=33530
Kansas State University	Tech Transfer	MATC Technology Transfer Program at Kansas State University	Hossain, Mustaque	https://rip.trb.org/browse/dproject.asp?n=33531
Kansas State University	Education	Transportation Workforce Diversity Initiative at Kansas State University	Hossain, Mustaque	https://rip.trb.org/browse/dproject.asp?n=33532
Kansas State University	Education	Transportation Workforce Development Initiative at Kansas State University	Hossain, Mustaque	https://rip.trb.org/browse/dproject.asp?n=33533
Kansas State University	Research	Sustainable Asphalt Pavements Using Bio-Binders from Bio-Fuel Waste	Klabunde, Ken	https://rip.trb.org/browse/dproject.asp?n=33534
Kansas State University	Research	Evaluation of Low-Cost Intersection Countermeasures to Reduce Red Light Running Violations	Dissanayake, Sunanda	https://rip.trb.org/browse/dproject.asp?n=33535
Kansas State University	Research	Evaluation of Bonding Agent Application on Concrete Patch Performance	Riding, Kyle	https://rip.trb.org/browse/dproject.asp?n=33536
University of Missouri	Research	Investigation of Alternate Work Zone Merging Sign Configurations	Edara, Praveen	https://rip.trb.org/browse/dproject.asp?n=33537
University of Missouri	Research	Highway Safety Manual Applied in States: Calibration and Training	Sun, Carlos	https://rip.trb.org/browse/dproject.asp?n=33538
University of Missouri	Research	Evaluation of Alternative Geometric Designs on Highway Corridors - Case Study of J Turns	Edara, Praveen	https://rip.trb.org/browse/dproject.asp?n=33539
University of Missouri	Research	Evaluation of Work Zone Software Programs: Phase 2 - Validation Using Field Data	Edara, Praveen	https://rip.trb.org/browse/dproject.asp?n=33540
University of Missouri	Research	Nondestructive Evaluation Technologies for Bridge Inspection	Washer, Glenn	https://rip.trb.org/browse/dproject.asp?n=33541
University of Missouri	Research	Effectiveness of Work Zone Intelligent Transportation Systems	Edara, Praveen	https://rip.trb.org/browse/dproject.asp?n=33542
University of Missouri	Tech Transfer	Tech Transfer Activities	Nemmers, Charles	https://rip.trb.org/browse/dproject.asp?n=33543
University of Missouri	Research	Analysis of Driver Merging	Edara, Praveen	https://rip.trb.org/browse/dproject.asp?n=33544

University of Missouri	Research	Development of the Fourth Edition of The Manual for Identification, Analysis and Correction of High-crash Locations (HAL)	Sun, Carlos	https://rip.trb.org/browse/dproject.asp?n=33545
Missouri University of Science & Technology	Tech Transfer	MATC Education and Tech Transfer at Missouri S&T	Chen, Genda	https://rip.trb.org/browse/dproject.asp?n=33546
Missouri University of Science & Technology	Research	Evaluation of Pile Load Tests for Use in Missouri LRFD Guidelines	Luna, Ronaldo	https://rip.trb.org/browse/dproject.asp?n=33547
Missouri University of Science & Technology	Research	Work Zone Safety: Physical and Behavioral Barriers in Accident Prevention	Long, Suzanna	https://rip.trb.org/browse/dproject.asp?n=33548
Missouri University of Science & Technology	Research	Splice Performance Evaluation of Enamel-Coated Rebar for Structural Safety	Chen, Genda	https://rip.trb.org/browse/dproject.asp?n=33549
Missouri University of Science & Technology	Research	Longitudinal Useful Life Analysis and Replacement Strategies for LED Traffic Indicators	Long, Suzanna	https://rip.trb.org/browse/dproject.asp?n=33550
Missouri University of Science & Technology	Research	Nondestructive Evaluation of Mechanically Stabilized Earth Walls with Frequency-Modulated Continuous-Wave (FM-CW) Radar	Chen, Genda	https://rip.trb.org/browse/dproject.asp?n=33551
Missouri University of Science & Technology	Research	Quad copter with Heterogeneous Sensors for Autonomous Bridge Inspection	Yin, Zhaozheng	https://rip.trb.org/browse/dproject.asp?n=33552

3. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS:

What other organizations have been involved as partners?

During the current reporting period, the Mid-America Transportation Center has worked with 71 unique organizations across the United States and around the world to develop the research, education, workforce development, and technology transfer activities that are currently underway at the center. Each organization and its location is listed below, along with information describing the specific area or capacity through which the respective organization has committed to supporting the center. For more detailed information on how each organization is working with the center, please email the MATC program coordinator, Valerie Lefler, at vllefler2@unl.edu.

MATC Program Affiliation	Organization Name	City	State	CO	Financial Support	In-Kind Support	Contribution Facilities	Collaborative Research	Personnel Exchanges
Scholars Program	A.O. Maki & Associates, LLC	Kirkland	WA	USA					X
Roads, Rails, and Race Cars After-School Program	Amy Starr, Advisory Board Member/RRRC guest speaker	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Christina Argo, Omaha Public Schools/RRRC guest speaker	Omaha	NE	USA		X			
Research Program and Workforce Development	CISL Research Project			Israel				X	
Research Program and Workforce Development	City of Lincoln Public Works & Utilities	Lincoln	NE	USA				X	
Intern Program (UNL)	City of Lincoln: Materials Division	Lincoln	NE	USA			X		X
Roads, Rails, and Race Cars After-School Program	Culler Middle School	Lincoln	NE	USA		X			
Research Program and Workforce Development	Debra S. Haugen, LLC	Minneapolis	MO	USA				X	
Roads, Rails, and Race Cars After-School Program	Emily Faubel, Advisory Board Member/RRRC guest speaker	Lincoln	NE	USA		X			
Research Program and	Geotechnology INC	St. Louis	MO	USA				X	

Workforce Development									
Scholars Program	H.G. Adams & Associates, Inc.	Norfolk	VA	USA					X
Research Program and Workforce Development	Iowa DOT	Ames	IA	USA				X	
Research Program and Workforce Development	ISU Civil Engineering	Ames	IA	USA				X	
Intern Program (UNL)	Iteris, Inc.	Lincoln	NE	USA			X		X
Roads, Rails, and Race Cars After-School Program	Jeff Cole, Advisory Board Member	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	John Huber, Omaha Public Schools/RRRC guest speaker	Omaha	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	John Swanson, Nebraska Trucking Association/RRRC guest speaker	Lincoln	NE	USA		X			
Scholars Program	JPID Consulting	Batton-Rouge	LA	USA					X
Research Program and Workforce Development	Kansas DOT	Topeka	KS	USA				X	
Research Program and Workforce Development	Korea Institute of Construction Technology	Goyang-Si Gyeonggi-Do		Korea				X	
Research Program and Workforce Development	K-TRAN	Topeka	KS	USA				X	
Research Program and Workforce Development	Kumho Petrochemical, Ltd	Seoul		Korea				X	
Roads, Rails, and Race Cars After-School Program	Larry Johnson, Advisory Board Member/RRRC guest speaker	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Lea Ann Johnson, Advisory Board Member	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Lefler Middle School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Lincoln Pius X	Lincoln	NE	USA		X			
Scholars Program	Lincoln University	Jefferson City	MO	USA					X
Research Program and Workforce Development	Lockheed Martin	Bethesda	MD	USA	X			X	
Roads, Rails, and Race Cars After-School Program	Mary Davie, Advisory Board Member/RRRC guest speaker	Lincoln	NE	USA		X			
Scholars Program	Massachusetts Institute of Technology	Cambridge	MA	USA					X
Roads, Rails, and Race Cars After-School Program	Maxey Elementary School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	McMillan Magnet Middle School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Mickle Middle School	Lincoln	NE	USA		X			
Research Program and Workforce Development	Minnesota DOT	St. Paul	MO	USA				X	
Research Program and Workforce Development	Missouri DOT	Jefferson City	MO	USA				X	
Scholars Program	Morgan State University	Baltimore	MD	USA					X
Research Program and Workforce Development	MST Dept of Civil Architectural & Environmental Engineering	Rolla	MO	USA				X	
Research Program and Workforce Development	MU Dept of Civil & Environmental Engineering	Columbia	MO	USA				X	
Research Program and Workforce Development	NE Dept of Roads	Lincoln	NE	USA				X	
Scholars Program	New Mexico State University	Las Cruces	NM	USA					X
Roads, Rails, and Race Cars After-School Program	North Star High School	Lincoln	NE	USA		X			
Intern Program (UNL)	Olsson Associates, Inc	Omaha	NE	USA			X		X
Intern Program (UNL)	Olsson Associates, Inc	Lincoln	NE	USA			X		X
Scholars Program	Prairie View A&M University	Prairie View	TX	USA					X
Scholars Program	Prarie View A&M	College Station	TX	USA					X

Research Program and Workforce Development	PTV America, Inc	Portland	OR	USA				X	
Scholars Program	Purdue University	West Lafayette	IN	USA					X
Intern Program (UNL)	Schemmer Associates	Lincoln	NE	USA			X		X
Research Program and Workforce Development	Smart Work Zone Development Initiative	Ames	IA	USA				X	
Scholars Program	Southern University and A & M College	Baton-Rouge	LA	USA					X
Research Program and Workforce Development	Tencate Geosynthetics	Olathe	KS	USA				X	
Scholars Program	Tennessee State University	Nashville	TN	USA					X
Scholars Program	Texas A&M University	College Station	TX	USA					X
Research Program and Workforce Development	The National Advanced Driving Simulator at UI	Iowa City	IA	USA				X	
Scholars Program	The National GEM Consortium	Alexandria	VA	USA					X
Research Program and Workforce Development	The School of Library and Information Sciences (UI)	Iowa City	IA	USA				X	
Roads, Rails, and Race Cars After-School Program	Tim Voss, Nebraska Department of Roads/RRRC guest speaker	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Tracey Webb, Nebraska Safety Council/RRRC guest speaker	Lincoln	NE	USA		X			
Research Program and Workforce Development	UI Dept of Civil & Environmental Engineering	Iowa City	IA	USA				X	
Research Program and Workforce Development	UI Dept of Mechanical and Industrial Engineering	Iowa City	IA	USA				X	
Research Program and Workforce Development	UI School of Urban & Regional Planning	Iowa City	IA	USA				X	
Research Program and Workforce Development	Union Pacific Railroad	Omaha	NE	USA				X	
Research Program and Workforce Development	University of Kansas	Lawrence	KS	USA				X	
Scholars Program	University of Maryland-Eastern Shore	Princess Anne	MD	USA					X
Scholars Program	University of Minnesota	Minneapolis	MO	USA					X
Scholars Program	University of Nebraska-Durham School of Architectural Engineering and Construction	Omaha	NE	USA					X
Scholars Program	University of Texas-Arlington	Arlington	TX	USA					X
Research Program and Workforce Development	UNL Bureau of Business Research	Lincoln	NE	USA				X	
Research Program and Workforce Development	UNL Dept of Civil Engineering	Lincoln	NE	USA				X	
Roads, Rails, and Race Cars After-School Program	Wally Mason, Lincoln Public Schools/RRRC guest speaker	Lincoln	NE	USA		X			

Have other collaborators or contacts been involved?

The Mid-America Transportation Center works with numerous individuals at each of the organizations listed above. For collaborators or contacts at each of the organizations, please email vlefler2@unl.edu. MATC's research activities are highly multi-disciplinary, featuring faculty from disciplines including, but not limited to, chemistry, economics, civil engineering, mechanical engineering, computer science, and electrical engineering. The Principle and Investigators (PIS) and Co-Principle Investigators (Co-PIs) for MATC's research portfolio are listed below:

First Name	Last Name	Title	University	Department
John	Anderson	Professor	University of Nebraska-Lincoln	Economics
Justice	Appiah	Post-Doctoral Research Associate	University of Nebraska-Lincoln	Civil Engineering
Jeremy	Ashlock	Assistant Professor	Iowa State University	Institute for Transportation
Caroline	Bennett	Assistant Professor	University of Kansas	Civil, Environmental, & Architectural Engineering

Genda	Chen	Professor	Missouri University of Science & Technology	Civil, Architectural, & Environmental Engineering
Sun&a	Dissanayake	Associate Professor	Kansas State University	Civil Engineering
Praveen	Edara	Assistant Professor	University of Missouri	Civil & Environmental Engineering
Ronald	Faller	Assistant Director & Research Assistant Professor	University of Nebraska-Lincoln	Nebraska Transportation Center, Midwest Roadside Safety Facility
Konstantina (Nadia)	Gkritza	Assistant Professor	Iowa State University	Civil Engineering, Institute for Transportation
Thomas	Glavinich	Associate Professor	University of Kansas	Civil, Environmental, & Architectural Engineering
Shauna	Hallmark	Transportation Engineer & Professor	Iowa State University	Institute for Transportation
Jie	Han	Professor	University of Kansas	Civil, Environmental, & Architectural Engineering
Zachary	Hans	Research Engineer	Iowa State University	Institute for Transportation
Neal	Hawkins	Director, Center for Transportation Research & Education (CTRE)	Iowa State University	Institute for Transportation
Yefei	He	Associate Research Scientist/Engineer	University of Iowa	National Advanced Driving Simulator
Haowei	Hsieh	Assistant Professor	University of Iowa	School of Library & Information Science
Aemal	Khattak	Associate Professor	University of Nebraska-Lincoln	Civil Engineering
Kenneth	Klabunde	Professor of Chemistry	Kansas State University	Chemistry
Karla	Lechtenberg	Research Associate Engineer	University of Nebraska-Lincoln	Nebraska Transportation Center, Midwest Roadside Safety Facility
Hosin	Lee	Professor	University of Iowa	Public Policy Center & Civil & Environmental Engineering
Suzanna	Long	Assistant Professor	Missouri University of Science & Technology	Engineering Management & Systems Engineering
Ronaldo	Luna	Professor	Missouri University of Science & Technology	Civil Engineering
Adolfo	Matamoros	Associate Professor	University of Kansas	Civil, Environmental, & Architectural Engineering
Miwa	Matsuo	Assistant Professor	University of Iowa	Urban & Regional Planning
George	Morcous	Associate Professor	University of Nebraska-Lincoln	Durham School of Architectural Engineering & Construction
Charles	Nemmers	Program Director of Transportation Infrastructure Center & Research	University of Missouri	Civil & Environmental Engineering
Wilfrid	Nixon	Professor	University of Iowa	Civil & Environmental Engineering
Andrzej	Nowak	Professor of Engineering	University of Nebraska-Lincoln	Civil Engineering
Robert	Parsons	Professor	University of Kansas	Civil, Environmental, & Architectural Engineering
Brent	Phares	Associate Director, Bridge Engineering Center	Iowa State University	Institute for Transportation
Albert	Ratner	Assistant Professor	University of Iowa	Mechanical & Industrial Engineering
John	Reid	Professor	University of Nebraska-Lincoln	Mechanical & Materials Engineering Department
Kyle	Riding	Assistant Professor	Kansas State University	Civil Engineering
Stan	Rolfe	Distinguished Professor	University of Kansas	Civil, Environmental, & Architectural Engineering
Steven	Schrock	Assistant Professor	University of Kansas	Civil, Environmental, & Architectural Engineering
Chris	Schwarz	Associate Research Engineer	University of Iowa	National Advanced Driving Simulator
Jennifer	Shane	Director for the Construction, Materials, & Technology Center	Iowa State University	Institute for Transportation (InTrans)
Hamid	Sharif	Professor	University of Nebraska-Lincoln	Computer & Electronics Engineering
Anuj	Sharma	Assistant Professor	University of Nebraska-Lincoln	Civil Engineering
John	Slansbury	Associate Professor	University of Nebraska-Lincoln	Civil Engineering
Carlos	Sun	Associate Professor	University of Missouri	Civil & Environmental Engineering
Geb	Thomas	Associate Professor	University of Iowa	Mechanical & Industrial Engineering
Eric	Thompson	Associate Professor & Director	University of Nebraska-Lincoln	Economics & Bureau of Business Research
Christopher	Tuan	Professor	University of Nebraska-Lincoln	Civil Engineering
Glenn	Washer	Associate Professor	University of Missouri	Civil & Environmental Engineering
Chris	Williams	Professor	Iowa State University	Civil, Construction & Environmental Engineering
Zhaozheng	Yin	Assistant Professor	Missouri University of Science & Technology	Computer Science
Tian	Zhang	Professor	University of Nebraska-Lincoln	Civil Engineering
Reza	Zoughi	Professor	Missouri University of Science & Technology	Electrical & Computer Engineering

4. IMPACT:

What is the impact on the development of the principal discipline(s) of the program?

Activities conducted during the current reporting period are expected to have an impact upon the transportation engineering discipline in the future. The results from a number of research projects have been developed into courses for the public that will shape future knowledge of specific transportation-related technologies.

What is the impact on other disciplines?

Many of MATC's educational activity outputs offer an interdisciplinary experience. For example, the Transportation Scholar's Program pools undergraduate and graduate students from many transportation-related disciplines for seminars, the Transportation Scholar's Conference, and various other student activities. These experiences create an interdisciplinary atmosphere in which students, faculty, and staff from various institutions may interact, but also provides opportunities for professional networking with transportation sector leaders. These activities increase channels of communication between participants in the workforce and individuals from many fields of academics, and facilitate a more interconnected body of future transportation professionals. These outcomes are intended to create a highly responsive next generation of transportation professionals.

What is the impact on the development of transportation workforce development?

A number of educational and technology transfer activities utilize MATC-sponsored research to develop the transportation workforce:

What is the impact on physical, institutional, and information resources at the university or other partner institutions?

Nothing to Report.

What is the impact on technology transfer?

MATC research projects at all campuses will be disseminated in the form of instructional courses and direct implementation. Additionally, researchers are currently cultivating partnerships that will enable successful technology transfer in the future.

What is the impact on society beyond science and technology?

We anticipate that K-12 students participating in the after school programs and summer institute program will significantly benefit. The interdisciplinary projects completed during activities bolsters students' conceptual and practical skills in mathematics, science, and technology. In addition, students and their families learn about the numerous career paths that are available in STEM fields – family support has been shown to be a significant factor for current and later academic success. By the time many students reach high school, they have formed ideas about their academic competence in STEM subjects, often deciding that those subjects are not for them. Involvement in the Roads, Rails, and Race Cars clubs encourages students to reconfigure their expectations of math and science, as well as extends their interest beyond classroom experiences.

5. CHANGES/PROBLEMS:

Nothing to Report.

6. SPECIAL REPORTING REQUIREMENTS:

Nothing to Report.