

# 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 31, 2014
- **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  
312 N. 14th Street, Alexander West  
Lincoln, NE 68588-0430  
Telephone: 402-472-1825
- **Recipient Identifying Number or Account Number**  
25-1121-0003-001
- **Project/Grant Period**  
January 1, 2012 - January 31, 2016
- **Reporting Period End Date**  
December 31, 2013
- **Report Term or Frequency (annual, semi-annual, quarterly, other)**  
Semi-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 12, 2012.

	Status	% Complete
Call for Problem Statements	Complete	100%
Request for Proposals	Complete	100%
Proposals under External Review (US DOT Reviewer, SHRP II Coordination, US DOT)	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	Complete	100%
Technology Transfer Tech Briefs, Webinars, & Presentations on Research Results	On Schedule	35%
Applicable Slides, Handouts, Videos, Podcasts, etc. Posted/Linked on MATC Website	On Schedule	25%
Final Reports Due & All Research Projects Complete	Forthcoming	0%
<b>Leadership Activities</b>		
Coordination with Region 7 UTC Directors	Complete	100%
Regional Successes & Lessons Learned Workshop	On Schedule	45%
<b>Educational Activities</b>		
Grad/Undergrad MATC Course Development & Implementation	On Schedule	75%
MATC Supported Certificate Programs in Transportation	On Schedule	70%
MATC Undergraduate Summer Internship Program (Summers 2012 & 2013)	On Schedule	100% YR 1, 50% YR 2
MATC Transportation Scholars Program: Graduate Seminar Course	On Schedule	100%
MATC Transportation Scholars Conference	On Schedule	65%
MATC/CUTC Student of the Year Program - Annually @ TRB	Forthcoming	100%
MATC Summer Institute (Summers 2012 & 2013)	On Schedule	100%
MATC After School Program (Summers 2012 & 2013)	On Schedule	100%
MATC Support of "GO/Vamos!" Online K-12 Publication	On Schedule	65%
MATC Transportation Student Chapter (ITE/ASCE/Etc.) related activities	On Schedule	65%
Underrepresented Student MATC Summer Intern Program (Summers 2012 & 2013)	On Schedule	100% YR 1, 75% YR 2
MATC Scholars Program for Underrepresented Students (October 2012)	On Schedule	100%
<b>Technology Transfer Activities</b>		
MATC Supported Specialty Conferences, Workshops, and Short Courses	On Schedule	75%
Mid-Continent Research Symposium August 15-16, 2013	On Schedule	100%
LTAP Regional Meeting - MATC Workshop: September 2013	On Schedule	100% YR 1
MATC Website Information Dissemination	On Schedule	75%
MATC Social Media Sites Information Dissemination	On Schedule	75%
<b>US DOT RITA: Reporting</b>		
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, 2013 – December 31, 2013 included the Roads, Rails, and Racecars After-School Program, GO! Online electronic magazine, MATC Intern Program, MATC Undergraduate Scholars Program and other MATC professional development activities. Summaries of these activities are provided below.

**Road, Rails, and Race Cars (RRRC):** MATC continued to support the preparation and implementation efforts for the (RRRC) engineering after-school club for elementary and middle school students and “STEM Engineering” after-school club for high school students from July through December 2013.

#### 2013-2014 Academic Year Programming

The fall portion of the 2013-2014 academic year iteration of RRRC was held at Culler Middle School of Lincoln, Nebraska beginning August 19<sup>th</sup>, 2013 and ending December 9<sup>th</sup>, 2013. Three (3) after school club team meetings consisting of teachers, mentors and the MATC Educational Programs Coordinator were held between the months of August and December of 2013 to discuss upcoming Culler RRRC plans and curriculum for Quarters 1 and 2 of the 2013-2014 academic year. Two (2) recruitment efforts were held to recruit club students for the beginning of club implementation in August, 2013 at Culler. Further, multiple calls and emails were made throughout this term to the Culler team members to assist with preparation of club implementation and support with the facilitation of clubs. The after school club employed past employees of the 2012-2013 iteration of RRRC: one (1) returning teacher and four (4) mentors were a part of the Quarters 1 and 2 implementation of Culler RRRC. RRRC club met weekly on Mondays from 3:10p-4:15p and covered the following topics (Introduction to the Field of Civil Engineering, Understanding Barges, Geotechnical Engineering, Solar Energy uses in Transportation, Parts I & II, Green Energy uses in Transportation, end of Quarter 1 celebration, Middle School to College – How to Become an Engineer, Transportation Technology, Speed & Motion, Traffic Barriers, Advantages of Simple Machines – Catapults, Parts I & II and end of Quarter 2 celebration). A total of fourteen (14) program days were completed during the fall iteration, with a total attendance of 207 by 53 individual students. Typical weekly participation was approximately 14.79 students.

Efforts during late November/early December included an increased focus on communication and preparation of the spring addition clubs of Lefler and Mickle Middle Schools; communication and club implementation also continued with Culler RRRC. Two (2) returning teachers from the 2012-2013 iteration of RRRC will join our Culler teacher and participate in the spring 2014 portion of RRRC at Lefler and Mickle Middle Schools. A total of four (4) returning engineering undergraduate student mentors from the 2012-2013 iteration of RRRC as well as two (2) new mentors will be facilitating clubs in Lincoln, Nebraska, for Quarters 3 and 4 at Culler, Lefler and Mickle Middle Schools. Curriculum timeline

development for Quarter 3 has been completed for all sites and all club teams have been trained and are prepared to begin implementation in spring 2014.

For images of the academic year RRRC clubs in action, and to view PowerPoints and materials of RRRC lessons and activities, please visit to the following pages:

<https://stemafterschool.smugmug.com/>

<https://www.facebook.com/STEMAfterSchoolProgram?ref=hl>:

<https://www.slideshare.net/stemafterschoolprogram>

The programs will continue throughout the 2014 spring semester and will include a 2014 summer portion at Culler Middle School. Thus, the future focus of the after school clubs is on preparation and implementation of the 2014 spring clubs, as well as focusing on attainment of future club grants and writing manuscripts for academic journal submission.

**MATC Intern Program:**

The MATC Intern Program attracts a large number of talented applicants seeking to broaden their knowledge of transportation engineering, learning about practical applications of theories discussed in undergraduate engineering courses and the opportunity to work with some of the leading agencies and professionals in their respective fields of interests. Ten (10) undergraduate students were carefully selected for the MATC Interns Program. A luncheon was held on August 16, 2013 during which the interns showcased their videos and presentations, highlighting what they have learned throughout the summer. The videos will be hosted on MATC’s YouTube channel and will be used to recruit students for the 2014 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 February 28, 2014 for future recruitment purposes.

<b>Intern Name</b>	<b>Organization</b>	<b>Supervisor Name</b>
Kyle Christensen	City of Lincoln	Thomas Shafer
Michael Donovan	City of Lincoln	Thomas Shafer
Zac Coppersmith	Felsburg Holt & Ullevig	Mark Meisinger
Courtney Fuhrer	Metropolitan Area Planning Agency	Michael Felschow
Mitch Kunz	Nebraska Department of Roads	Ryan Huff
Pranav Shakya	Nebraska Transportation Center	Anuj Sharma
Brandon Roesler	Olsson Associates	Ryan Kosola
Patrick Lusk	Olsson Associates	Ryan Kosola
Anthony Cameli	Olsson Associates	Shane King & Justin Petersen
Kara Minarik	Olsson Associates - Omaha	Chris Rolling

### **MATC Undergraduate Scholars Program:**

The MATC Undergraduate Scholars Program commenced on May 27, 2013 and concluded on August 2, 2013. The Scholars program is geared to promote interest in transportation research among upper-level undergraduate students from a variety of backgrounds. This unique program offers students from across the United States the opportunity to spend the summer working on a transportation research project and learn about the research programs at the Mid-America Transportation Center and the University of Nebraska-Lincoln.

Participants in the Scholars Program work directly with a faculty mentor and/or research mentor, while gaining experience to provide a head start on choosing a career. The participants responsibilities will include: conducting transportation research, writing research reports, collecting research data, preparing a journal-quality paper, attending seminars, and presenting research findings.

The program hosted two students from Prairie View University, a member of the Historically Black Colleges and Universities (HBCU). The interns, Sherman Livingston and Demetrice Ballenger, conducted traffic analysis and simulation using traffic analysis software. They collected traffic data at various intersections in Lincoln, learned to use the software VISSIM for data analysis and traffic simulation. Both interns wrote extensive research reports detailing their findings over the summer and presented their reports upon the conclusion of their internships.

### **MATC Professional Development Activities, Conferences and Workshops:**

As part of MATC's education and workforce development initiatives, the consortium member universities support student and faculty travel to the annual meeting for transportation professionals across the country to promote and discuss implementation of research from the past year. These connections help students progress both academically and professionally.

MATC actively promotes transportation workforce development. The table below highlights professional development opportunities pursued by staffs, students and faculty over the reporting period.

<b>Name</b>	<b>Destination</b>	<b>Conference Name</b>	<b>Dates</b>	<b>University</b>
Eric Fitzsimmons	Washington, DC	Roadway Safety Culture Summit	8/18-22/13	University of Kansas
Thomas Lindheimer	Washington, DC	Roadway Safety Culture Summit	8/18-22/13	University of Kansas
Kimberly Jackson	Washington, DC	Roadway Safety Culture Summit	8/18-22/13	University of Kansas
Steve Schrock	Milwaukee, WI	Institute of Transportation Engineers (ITE) Midwestern District Meeting	6/26-28/13	University of Kansas
Prathmesh Argade	Milwaukee, WI	Institute of Transportation Engineers (ITE) Midwestern District Meeting	6/26-28/13	University of Kansas
Kwaku Boakye	Milwaukee, WI	Institute of Transportation Engineers (ITE) Midwestern District Meeting	6/26-28/13	University of Kansas
Kimberly Jackson	Milwaukee, WI	Institute of Transportation Engineers (ITE) Midwestern District Meeting	6/26-28/13	University of Kansas

Lauren Marcucci	Milwaukee, WI	Institute of Transportation Engineers (ITE) Midwestern District Meeting	6/26-28/13	University of Kansas
Huan Cheng	Milwaukee, WI	Institute of Transportation Engineers (ITE) Midwestern District Meeting	6/26-28/13	University of Kansas
Mustaque Hossain	Ames, IA	Mid-Continent Transportation Research Symposium	8/15-16/13	Kansas State University
Syeda Aziz	Ames, IA	Mid-Continent Transportation Research Symposium	8/15-16/13	Kansas State University
Daniel Mealiff	Ames, IA	Mid-Continent Transportation Research Symposium	8/15-16/13	Kansas State University
Milad Seghebfar	Ames, IA	Mid-Continent Transportation Research Symposium	8/15-16/13	Kansas State University
Milad Saghebfar	Austin, TX	Highways and Development Conference	11/3-6/13	Kansas State University
Phuong Nguyen	Washington, DC	Association for Budgeting and Financial Management Conference	10/3-5/13	University of Iowa

### Go! Vamos :

Go!'s mission is to educate and engage youth (teenagers) in exploring educational and career opportunities in transportation. Go! is a free online magazine / forum designed to inform and educate teens about educational and career opportunities in transportation so as to attract, engage, excite, and motivate them to pursue careers in transportation. Support for Go!'s activities was sought from MATC's 2012-2013 program to develop spotlight articles highlighting the activities and transportation programs of universities in the MATC consortium. This was for MATC to leverage the existing programs, activities, and network of Go!.

Currently Go! Vamos has 789 subscribers, 229 Facebook Fans, and 334 Twitter Followers. During the reporting period 9 stories were highlighted.

Links to stories:

- <http://www.go-explore-trans.org/voyaging-through-the-sand-dunes/> "Voyaging through the sand dunes" [Dec 20, 2013]
- <http://www.go-explore-trans.org/car-dominance/> "A blast from the past: Cars in the US" [Dec 20, 2013]
- <http://www.go-explore-trans.org/rainforest-revolution-how-do-you-get-there/> "Rainforest revolution: How do you get there?" [Dec 20, 2013]
- <http://www.go-explore-trans.org/waiting-in-line/> "Waiting in Line: A transportation challenge" [Sept 10, 2013]
- <http://www.go-explore-trans.org/queuing-theory-in-action/> "Queuing Theory in action: Waiting in line for lunch" [Sept 10, 2013]
- <http://www.go-explore-trans.org/pass-on-the-salt/> "Pass on the salt" [Sept 10, 2013]
- <http://www.go-explore-trans.org/beth-hartmann/> "Beth Hartmann: Engineering her future" [July 31, 2013]
- <http://www.go-explore-trans.org/5-reasons-to-become-a-transportation-engineer/> "5 Reasons to become a transportation engineer" [July 31, 2013]

- <http://www.go-explore-trans.org/the-power-of-transportation/> "The power of transportation" [July 30, 2013]

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

Visits: 7,806

Unique Visitors: 6,709

New Visits: 84.58%

Returning Visitors: 15.42%

Page views: 16,117

Number of countries viewing: 126

#### **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.

MATC has connected with 82 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: 6.1 & 6.2:

MATC started distributing its online newsletter, which was distributed twice during the past reporting period. The January issue was distributed to 6,305 individuals worldwide and featured 7 stories highlighting a student or activities on each of the MATC partner sites. The June issue was distributed to 7,682 individuals worldwide and featured 7 stories. The newsletter stories can be access on the MATC website at: <http://matc.unl.edu/media/newsletters.php#6> and <http://matc.unl.edu/> under the Featured Stories headline.

In the current reporting period, staff has spent time planning and producing the content for the upcoming MATC Newsletter. The next MATC Newsletter is slated to be distributed in the upcoming months.

#### **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:

Highlights of the Roads, Rails, and Racecars After-School Program

<https://www.youtube.com/watch?v=L1jMkyyti4>

<https://www.youtube.com/watch?v=YI7gwZ-Ru0Y>

<https://www.youtube.com/watch?v=OT6nvzyr3Gg>

<https://www.youtube.com/watch?v=tHjgm69VpgU>

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

Currently, MATC maintains 7 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](http://matc.unl.edu), you will be directed to MATC’s website. Highlighted information from Google Analytics about the website’s traffic from July 1, 2013 – December 31, 2013 is below. By understanding and capitalizing this knowledge, we are able to make our homepage engaging, relevant, and resourceful to our viewers.

Visits: 4,323	Page views: 17,078	Pages per visit: 3.95	Average visit duration: 3:14
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SlideShare: Our total views have increased by 1,389 since our last metric. This increase has expanded our global reach; the top 5 countries that view our presentations are: United States, India, Germany, France, and Canada. 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: 18,923	Downloads: 28	Tweets: 1
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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>

New Videos: 0	Total Videos: 65	Total Loads: 2,779
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Facebook: The Mid-America Transportation Center (MATC) has the following statistics and can be viewed by clicking on link below.

<https://www.facebook.com/pages/Mid-America-Transportation-Center-MATC/141238439284182>

Views: 628	Likes: 167	Reach: 2840	Total Countries: 46	Languages: 18
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Twitter: @MATCNews is the Mid-America Transportation Center’s twitter handle, the page can be viewed by clicking the following link, and highlighted numbers for MATC’s Twitter activity are below.  
<http://twitter.ie/MATCNews>

Followers: 143	Following: 567	Tweets: 142
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YouTube: 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](http://www.youtube.com/user/midamericatrans?feature=results_main)

Videos: 51	Views: 572	Minutes Watched: 1,077
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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](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.

Currently, marketing and media plans are being established to further advance and grow each site’s exposure and content, based upon the programs established.

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 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	<a href="https://rip.trb.org/browse/dproject.asp?n=32773">https://rip.trb.org/browse/dproject.asp?n=32773</a>
University of Nebraska - Lincoln	Research	Optimizing Concrete Deck Removal in Concrete I-Girder Bridges	Morcous, George	<a href="https://rip.trb.org/browse/dproject.asp?n=32774">https://rip.trb.org/browse/dproject.asp?n=32774</a>
University of Nebraska - Lincoln	Research	Development of a Guide for Prioritization of Railway Bridges for Repair and Replacement	Rakoczy, Anna	<a href="https://rip.trb.org/browse/dproject.asp?n=32775">https://rip.trb.org/browse/dproject.asp?n=32775</a>
University of Nebraska - Lincoln	Research	Distracted Highway Users at Highway-rail Grade Crossings	Khattak, Aemal	<a href="https://rip.trb.org/browse/dproject.asp?n=32776">https://rip.trb.org/browse/dproject.asp?n=32776</a>
University of Nebraska - Lincoln	Research	Alternative Funding Mechanisms for State Transportation Systems in Predominantly Rural States	Anderson, John	<a href="https://rip.trb.org/browse/dproject.asp?n=32777">https://rip.trb.org/browse/dproject.asp?n=32777</a>
University of Nebraska - Lincoln	Research	Dilemma Zone Protection on High-Speed Arterials	Appiah, Justice	<a href="https://rip.trb.org/browse/dproject.asp?n=32778">https://rip.trb.org/browse/dproject.asp?n=32778</a>

University of Nebraska - Lincoln	Research	Safety Performance Evaluation of Posts for use in a New Short Radius Guardrail for Intersecting Roadways	Reid, John	<a href="https://rip.trb.org/browse/dproject.asp?n=32779">https://rip.trb.org/browse/dproject.asp?n=32779</a>
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	<a href="https://rip.trb.org/browse/dproject.asp?n=32780">https://rip.trb.org/browse/dproject.asp?n=32780</a>
University of Nebraska - Lincoln	Research	Development of Shaker Test as a Standardized Test Protocol for Deicing Chemicals Evaluation	Tuan, Christopher	<a href="https://rip.trb.org/browse/dproject.asp?n=32781">https://rip.trb.org/browse/dproject.asp?n=32781</a>
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	<a href="https://rip.trb.org/browse/dproject.asp?n=32782">https://rip.trb.org/browse/dproject.asp?n=32782</a>
University of Nebraska - Lincoln	Research	Smart City Lincoln: Safe Intersections and Intelligent Enforcement	Sharma, Anuj	<a href="https://rip.trb.org/browse/dproject.asp?n=32783">https://rip.trb.org/browse/dproject.asp?n=32783</a>
University of Nebraska - Lincoln	Research	Investigation of Freight Data and Operations in Nebraska	Khattak, Aemal	<a href="http://rip.trb.org/view/2013/P/1256987">http://rip.trb.org/view/2013/P/1256987</a>
University of Nebraska - Lincoln	Research	Impact of Truck Loading on Design and Analysis of Asphaltic Pavement Structures — Phase IV	Kim, Yong-Rak	<a href="http://rip.trb.org/view/2013/P/1257016">http://rip.trb.org/view/2013/P/1257016</a>
University of Nebraska - Lincoln	Research	Testing and Evaluation of Guardrail Posts Installed in Mow Strips	Rosenbaugh, Scott	<a href="http://rip.trb.org/view/2013/P/1257015">http://rip.trb.org/view/2013/P/1257015</a>
University of Nebraska - Lincoln	Research	Diffuse Ultrasound for Damage Detection in Concrete Railroad Ties	Turner, Joseph	<a href="http://rip.trb.org/view/2013/P/1257014">http://rip.trb.org/view/2013/P/1257014</a>
University of Nebraska - Lincoln	Research	Effects of Sediments on BMPs for Highway Runoff Control	Zhang, Tian	<a href="http://rip.trb.org/view/2013/P/1257013">http://rip.trb.org/view/2013/P/1257013</a>
University of Nebraska - Lincoln	Research	Protocol For Evaluation of Existing Bridges	Szszsen, Maria	<a href="http://rip.trb.org/view/2013/P/1257012">http://rip.trb.org/view/2013/P/1257012</a>
University of Iowa	Research	Integration of Human-in-the-Loop Driving Simulator with Microscopic Traffic Simulation	He, Yefei	<a href="https://rip.trb.org/browse/dproject.asp?n=32784">https://rip.trb.org/browse/dproject.asp?n=32784</a>
University of Iowa	Research	Towards Autonomous Vehicles	Schwarz, Chris	<a href="https://rip.trb.org/browse/dproject.asp?n=32785">https://rip.trb.org/browse/dproject.asp?n=32785</a>
University of Iowa	Research	Developing and Refining Sustainability Tools for Winter Maintenance Operations	Nixon, Wilfrid	<a href="https://rip.trb.org/browse/dproject.asp?n=32786">https://rip.trb.org/browse/dproject.asp?n=32786</a>
University of Iowa	Research	Mobility and Accessibility of Hispanics in Small Town and Rural Areas	Matsuo, Miwa	<a href="https://rip.trb.org/browse/dproject.asp?n=32787">https://rip.trb.org/browse/dproject.asp?n=32787</a>
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	<a href="https://rip.trb.org/browse/dproject.asp?n=32788">https://rip.trb.org/browse/dproject.asp?n=32788</a>
University of Iowa	Research	Improving Fire Safety: Modifying Droplet Behavior to Minimize Ignition	Ratner, Albert	<a href="https://rip.trb.org/browse/dproject.asp?n=33515">https://rip.trb.org/browse/dproject.asp?n=33515</a>
University of Iowa	Research	Advanced Decision Modeling for Real Time Variable Tolling – Data Collection Trial	Hanley, Paul	<a href="http://rip.trb.org/view/2013/P/1257011">http://rip.trb.org/view/2013/P/1257011</a>
University of Iowa	Research	Older Driver Acceptance of New Driving Safety Technology	Marshall, Dawn	<a href="http://rip.trb.org/view/2013/P/1257010">http://rip.trb.org/view/2013/P/1257010</a>
University of Iowa	Research	Distracted Driving due to Visual Working Memory Load	Mordkoff, J. Toby	<a href="http://rip.trb.org/view/2013/P/1257009">http://rip.trb.org/view/2013/P/1257009</a>
University of Iowa	Research	Dollars for Lives: The Effects of Capital Outlay and Maintenance	Nguyen-Hoang, Phuong	<a href="http://rip.trb.org/view/2013/P/1257008">http://rip.trb.org/view/2013/P/1257008</a>
University of Iowa	Research	Diagnosis and prognosis of retrofit fatigue crack reinitiation and growth in steel-girder bridges for proactive repair	Rahmatalla, Salam	<a href="http://rip.trb.org/view/2013/P/1257007">http://rip.trb.org/view/2013/P/1257007</a>

		and emergency planning		
Iowa State University	Education	Transportation Scholars Program	Gkritza, Nadia	<a href="https://rip.trb.org/browse/dproject.asp?n=33516">https://rip.trb.org/browse/dproject.asp?n=33516</a>
Iowa State University	Tech Transfer	Mid-Continent Transportation Research Symposium	Gkritza, Nadia	<a href="https://rip.trb.org/browse/dproject.asp?n=33517">https://rip.trb.org/browse/dproject.asp?n=33517</a>
Iowa State University	Education	Go!: Reaching Out to Teens about Educational and Career Opportunities in Transportation	Gkritza, Nadia	<a href="https://rip.trb.org/browse/dproject.asp?n=33518">https://rip.trb.org/browse/dproject.asp?n=33518</a>
Iowa State University	Research	Methods for Removing Concrete Decks from Bridge Girders	Phares, Brent	<a href="https://rip.trb.org/browse/dproject.asp?n=33519">https://rip.trb.org/browse/dproject.asp?n=33519</a>
Iowa State University	Research	Evaluation of Thermal Integrity Profiling for Deep Foundations	Ashlock, Jeremy	<a href="https://rip.trb.org/browse/dproject.asp?n=33555">https://rip.trb.org/browse/dproject.asp?n=33555</a>
Iowa State University	Research	Statewide Heavy Truck Crash Assessment	Hans, Zachary	<a href="https://rip.trb.org/browse/dproject.asp?n=33521">https://rip.trb.org/browse/dproject.asp?n=33521</a>
Iowa State University	Research	Safety and Mobility Impacts of Winter Weather - Phase 3	Hans, Zachary	<a href="https://rip.trb.org/browse/dproject.asp?n=33522">https://rip.trb.org/browse/dproject.asp?n=33522</a>
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	<a href="https://rip.trb.org/browse/dproject.asp?n=33523">https://rip.trb.org/browse/dproject.asp?n=33523</a>
Iowa State University	Research	Sustainable Asphalt Pavements Using Bio-Binders from Bio-Fuel Waste	Williams, R. Christopher	<a href="https://rip.trb.org/browse/dproject.asp?n=33524">https://rip.trb.org/browse/dproject.asp?n=33524</a>
Iowa State University	Research	Systemic Safety Improvement Risk Factor Evaluation and Countermeasure Summary	Knapp, Keith	<a href="https://rip.trb.org/browse/dproject.asp?n=33525">https://rip.trb.org/browse/dproject.asp?n=33525</a>
Iowa State University	Research	Evaluation of Air-Coupled Impact-Echo Test Method	Ashlock, Jeremy	<a href="http://rip.trb.org/view/2013/P/1257006">http://rip.trb.org/view/2013/P/1257006</a>
Iowa State University	Research	Study of the Regulatory Issues Affecting Truck Freight Movement in Region VII	Gkritza, Konstantina	<a href="http://rip.trb.org/view/2013/P/1257005">http://rip.trb.org/view/2013/P/1257005</a>
Iowa State University	Research	Development of Railroad Highway Grade Crossing Closure Rating Formula	Nambisan, Shashi	<a href="http://rip.trb.org/view/2013/P/1257004">http://rip.trb.org/view/2013/P/1257004</a>
Iowa State University	Research	Digital Documentation of Element Condition for Bridge Evaluation	Turkan, Yelda	<a href="http://rip.trb.org/view/2013/P/1257003">http://rip.trb.org/view/2013/P/1257003</a>
Iowa State University	Research	Modeling Multi-Modal Freight Transportation Network Performance Under Disruptions	Dong, Jing	<a href="http://rip.trb.org/view/2013/P/1257002">http://rip.trb.org/view/2013/P/1257002</a>
Iowa State University	Research	Framework for Advanced Daily Work Report System	Jeong, David	<a href="http://rip.trb.org/view/2013/P/1257001">http://rip.trb.org/view/2013/P/1257001</a>
University of Kansas	Research	Geosynthetic Reinforcement to Protect Underground Pipes against Damage from Construction and Traffic	Han, Jie	<a href="https://rip.trb.org/browse/dproject.asp?n=33526">https://rip.trb.org/browse/dproject.asp?n=33526</a>
University of Kansas	Research	Evaluation of Low-Cost Intersection Countermeasures to Reduce Red Light Running Violations	Schrock, Steven	<a href="https://rip.trb.org/browse/dproject.asp?n=33527">https://rip.trb.org/browse/dproject.asp?n=33527</a>
University of Kansas	Research	Properties of Fouled Recycled Ballast	Parsons, Robert	<a href="https://rip.trb.org/browse/dproject.asp?n=33528">https://rip.trb.org/browse/dproject.asp?n=33528</a>
University of Kansas	Research	Repair of Floor beam-to-Stringer Connections Affected by Distortion- Induced Fatigue	Bennett, Caroline	<a href="https://rip.trb.org/browse/dproject.asp?n=33529">https://rip.trb.org/browse/dproject.asp?n=33529</a>
University of Kansas	Education	Educational Activities Through MATC at the University of Kansas FY 2013	Schrock, Steven	<a href="https://rip.trb.org/browse/dproject.asp?n=33530">https://rip.trb.org/browse/dproject.asp?n=33530</a>
University of Kansas	Research	Repair of Skewed Steel Bridge Girders Damaged by Distortion-Induced Fatigue	Bennett, Caroline	<a href="http://rip.trb.org/view/2013/P/1257000">http://rip.trb.org/view/2013/P/1257000</a>

University of Kansas	Research	Evaluation of an Electronic Safety Perimeter System for Kansas Temporary Work Zones	Mulinazz, Thomas	<a href="http://rip.trb.org/view/2013/P/1256999">http://rip.trb.org/view/2013/P/1256999</a>
University of Kansas	Research	Methods for Field Identification of Fouled Railroad Ballast	Parsons, Robert	<a href="http://rip.trb.org/view/2013/P/1256998">http://rip.trb.org/view/2013/P/1256998</a>
University of Kansas	Research	Evaluation of the Intersection Confirmation Light System to Reduce Red Light Run	Schrock, Steven	<a href="http://rip.trb.org/view/2013/P/1256997">http://rip.trb.org/view/2013/P/1256997</a>
Kansas State University	Tech Transfer	MATC Technology Transfer Program at Kansas State University	Hossain, Mustaque	<a href="https://rip.trb.org/browse/dproject.asp?n=33531">https://rip.trb.org/browse/dproject.asp?n=33531</a>
Kansas State University	Education	Transportation Workforce Diversity Initiative at Kansas State University	Hossain, Mustaque	<a href="https://rip.trb.org/browse/dproject.asp?n=33532">https://rip.trb.org/browse/dproject.asp?n=33532</a>
Kansas State University	Education	Transportation Workforce Development Initiative at Kansas State University	Hossain, Mustaque	<a href="https://rip.trb.org/browse/dproject.asp?n=33533">https://rip.trb.org/browse/dproject.asp?n=33533</a>
Kansas State University	Research	Sustainable Asphalt Pavements Using Bio-Binders from Bio-Fuel Waste	Klabunde, Ken	<a href="https://rip.trb.org/browse/dproject.asp?n=33534">https://rip.trb.org/browse/dproject.asp?n=33534</a>
Kansas State University	Research	Evaluation of Low-Cost Intersection Countermeasures to Reduce Red Light Running Violations	Dissanayake, Sunanda	<a href="https://rip.trb.org/browse/dproject.asp?n=33535">https://rip.trb.org/browse/dproject.asp?n=33535</a>
Kansas State University	Research	Evaluation of Bonding Agent Application on Concrete Patch Performance	Riding, Kyle	<a href="https://rip.trb.org/browse/dproject.asp?n=33536">https://rip.trb.org/browse/dproject.asp?n=33536</a>
Kansas State University	Research	New Generation Bio-Binder Formulation	Bossman, Stefan H.	<a href="http://rip.trb.org/view/2013/P/1286098">http://rip.trb.org/view/2013/P/1286098</a>
Kansas State University	Research	Reducing Work Zone Duration, Comparison of Nighttime vs. Daytime Crashes and Effectiveness of Lighting in Highway Work Zones	Dissanayake, Sunanda	<a href="http://rip.trb.org/view/2013/P/1286097">http://rip.trb.org/view/2013/P/1286097</a>
Kansas State University	Research	KDOT Column Expert: Ultimate Shear Capacity of Circular Columns using the Modified Compression Field Theory	Rasheed, Hayder A.	<a href="http://rip.trb.org/view/2013/P/1286096">http://rip.trb.org/view/2013/P/1286096</a>
University of Missouri	Research	Investigation of Alternate Work Zone Merging Sign Configurations	Edara, Praveen	<a href="https://rip.trb.org/browse/dproject.asp?n=33537">https://rip.trb.org/browse/dproject.asp?n=33537</a>
University of Missouri	Research	Highway Safety Manual Applied in States: Calibration and Training	Sun, Carlos	<a href="https://rip.trb.org/browse/dproject.asp?n=33538">https://rip.trb.org/browse/dproject.asp?n=33538</a>
University of Missouri	Research	Evaluation of Alternative Geometric Designs on Highway Corridors - Case Study of J Turns	Edara, Praveen	<a href="https://rip.trb.org/browse/dproject.asp?n=33539">https://rip.trb.org/browse/dproject.asp?n=33539</a>
University of Missouri	Research	Evaluation of Work Zone Software Programs: Phase 2 - Validation Using Field Data	Edara, Praveen	<a href="https://rip.trb.org/browse/dproject.asp?n=33540">https://rip.trb.org/browse/dproject.asp?n=33540</a>
University of Missouri	Research	Nondestructive Evaluation Technologies for Bridge Inspection	Washer, Glenn	<a href="https://rip.trb.org/browse/dproject.asp?n=33541">https://rip.trb.org/browse/dproject.asp?n=33541</a>
University of Missouri	Research	Effectiveness of Work Zone Intelligent Transportation Systems	Edara, Praveen	<a href="https://rip.trb.org/browse/dproject.asp?n=33542">https://rip.trb.org/browse/dproject.asp?n=33542</a>
University of Missouri	Tech Transfer	Tech Transfer Activities	Nemmers, Charles	<a href="https://rip.trb.org/browse/dproject.asp?n=33543">https://rip.trb.org/browse/dproject.asp?n=33543</a>
University of Missouri	Research	Analysis of Driver Merging	Edara, Praveen	<a href="https://rip.trb.org/browse/dproject.asp?n=33544">https://rip.trb.org/browse/dproject.asp?n=33544</a>
University of Missouri	Research	Safety Evaluation of the Diverging Diamond Interchanges in Missouri	Edara, Praveen	<a href="http://rip.trb.org/view/2013/P/1256996">http://rip.trb.org/view/2013/P/1256996</a>
University of Missouri	Research	Ground-based Interferometric Radar for Rockfall Hazard Monitoring	Rosenblad, Bren	<a href="http://rip.trb.org/view/2013/P/1256995">http://rip.trb.org/view/2013/P/1256995</a>
University of Missouri	Research	Highway Safety Manual Applied in Sates II – Freeway/Software	Sun, Carlos	<a href="http://rip.trb.org/view/2013/P/1286094">http://rip.trb.org/view/2013/P/1286094</a>
University of Missouri	Research	Nondestructive Evaluation Technologies for Bridge Inspection	Washer, Glenn	<a href="http://rip.trb.org/view/2013/P/1256993">http://rip.trb.org/view/2013/P/1256993</a>
University of Missouri	Research	Development of the Fourth Edition of	Sun, Carlos	<a href="https://rip.trb.org/browse/dproject.asp?n=33545">https://rip.trb.org/browse/dproject.asp?n=33545</a>

		The Manual for Identification, Analysis and Correction of High-crash Locations (HAL)		
Missouri University of Science & Technology	Tech Transfer	MATC Education and Tech Transfer at Missouri S&T	Chen, Genda	<a href="https://rip.trb.org/browse/dproject.asp?n=33546">https://rip.trb.org/browse/dproject.asp?n=33546</a>
Missouri University of Science & Technology	Research	Evaluation of Pile Load Tests for Use in Missouri LRFD Guidelines	Luna, Ronaldo	<a href="https://rip.trb.org/browse/dproject.asp?n=33547">https://rip.trb.org/browse/dproject.asp?n=33547</a>
Missouri University of Science & Technology	Research	Work Zone Safety: Physical and Behavioral Barriers in Accident Prevention	Long, Suzanna	<a href="https://rip.trb.org/browse/dproject.asp?n=33548">https://rip.trb.org/browse/dproject.asp?n=33548</a>
Missouri University of Science & Technology	Research	Splice Performance Evaluation of Enamel-Coated Rebar for Structural Safety	Chen, Genda	<a href="https://rip.trb.org/browse/dproject.asp?n=33549">https://rip.trb.org/browse/dproject.asp?n=33549</a>
Missouri University of Science & Technology	Research	Longitudinal Useful Life Analysis and Replacement Strategies for LED Traffic Indicators	Long, Suzanna	<a href="https://rip.trb.org/browse/dproject.asp?n=33550">https://rip.trb.org/browse/dproject.asp?n=33550</a>
Missouri University of Science & Technology	Research	Nondestructive Evaluation of Mechanically Stabilized Earth Walls with Frequency-Modulated Continuous-Wave (FM-CW) Radar	Chen, Genda	<a href="https://rip.trb.org/browse/dproject.asp?n=33551">https://rip.trb.org/browse/dproject.asp?n=33551</a>
Missouri University of Science & Technology	Research	Quad copter with Heterogeneous Sensors for Autonomous Bridge Inspection	Yin, Zhaozheng	<a href="https://rip.trb.org/browse/dproject.asp?n=33552">https://rip.trb.org/browse/dproject.asp?n=33552</a>
Missouri University of Science & Technology	Research	Unbonded Concrete Pavement/Overlay Monitoring	Chen, Genda	<a href="http://rip.trb.org/view/2013/P/1256992">http://rip.trb.org/view/2013/P/1256992</a>
Missouri University of Science & Technology	Research	Track Inspection Planning and Risk Measurement Analysis	Konur, Dincer	<a href="http://rip.trb.org/view/2013/P/1256991">http://rip.trb.org/view/2013/P/1256991</a>
Missouri University of Science & Technology	Research	Quantifying Economic Benefits for Rail Infrastructure Projects	Long, Suzanna	<a href="http://rip.trb.org/view/2013/P/1256990">http://rip.trb.org/view/2013/P/1256990</a>
Missouri University of Science & Technology	Research	Develop a UAV Platform for Automated Bridge Inspection	Yin, Zhaozheng	<a href="http://rip.trb.org/view/2013/P/1256989">http://rip.trb.org/view/2013/P/1256989</a>
Missouri University of Science & Technology	Research	Freeway Travel Time Estimation using Existing Fixed Traffic Sensors – A Computer-Vision-Based Vehicle Matching Approach	Yin, Zhaozheng	<a href="http://rip.trb.org/view/2013/P/1256988">http://rip.trb.org/view/2013/P/1256988</a>

### 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 79 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, Laviania Thandayithabani, at [lthanday@unl.edu](mailto:lthanday@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 Workforce Development	Geotechnology INC	St. Louis	MO	USA				X	
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	Baton-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	Prairie 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	Tim Voss, Nebraska Department of	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars	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	
Roads, Rails, and Race Cars	Calvert Elementary School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars	Hartley Elementary School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars	Goodrich Middle School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars	Lincoln High School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars	Boone Middle School	Boone	IA	USA		X			
Roads, Rails, and Race Cars	Jefferson Middle School	Madison	WI	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	Wally Mason, Lincoln Public Schools/RRRC guest speaker	Lincoln	NE	USA		X			
Research Program and Workforce Development	University of Iowa Public Policy Center	Iowa City	IA	USA				X	
Research Program and Workforce Development	University of Iowa Department of Psychology	Iowa City	IA	USA				X	
Research Program and Workforce Development	Center For Computer Aided Design	Iowa City	IA	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 [lthanday@unl.edu](mailto:lthanday@unl.edu). MATC's research activities are highly multi-disciplinary, featuring 89 faculty members from various 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	Associate Professor	University of Kansas	Civil, Environmental, and Architectural Engineering
Anna	Rakoczy	Post-Doctoral Research Associate and Part-Time Lecturer	University of Nebraska	Civil Engineering
Henry	Brown	Research Engineer	University of Missouri	Civil and Environmental Engineering
Michael	Hempel	Associate Director- Advanced Telecommunications Engineering Laboratory	University of Nebraska	Computer and Electronics Engineering Department
Keith	Knapp	Local Technical Assistance Program Director	Iowa State University	Institute for Transportation
Larry	Rilett	Director of UNL MATC and Distinguished Professor	University of Nebraska	Civil Engineering
Mustaque	Hossain	Munger Professor and Associate Director of MATC	Kansas State University	Civil Engineering
Robert	Stokes	Professor, Interim Dept. Head, Director of the University Transportation Center	Kansas State University	Civil Engineering
Shashi	Nambisan	Director of the Center for Transportation Research and Education, Professor	Iowa State University	Civil, Construction, and Environmental Engineering
Thomas	Mulinazzi	Professor and Retention Advisor	University of Kansas	Civil, Environmental & Architectural Engineering
Paul	Hanley	Associate Professor	University of Iowa	Civil and Environmental Engineering, Urban and Regional Planning
Eric	Fitzsimmer	Post-Doctoral Researcher	University of Kansas	Transportation Research Institute
Sue	Chrysler	Director of Research, National Advanced Driving Simulator	University of Iowa	Public Policy Center
Cheng	Wu	Professor	Missouri University of Science and Technology	Electrical & Computer Engineering
Ruwen	Qin	Assistant Professor	Missouri University of Science and Technology	Engineering Management and Systems Engineering
Abhijit	Gosavi	Assistant Professor	Missouri University of Science and Technology	Engineering Management and Systems Engineering



Genda	Chen	Professor	Missouri University of Science & Technology	Civil, Architectural, & Environmental Engineering
Sunanda	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
		Director for the Construction,		

Jennifer	Shane	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	Stansbury	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
Curt	Elmore	Associate Professor of Geological Engineering	Missouri University of Science & Technology	Geological Engineering
David	Jeong	Associate Professor	Iowa State University	Civil, Construction and Environmental Engineering
Dawn	Marshall	Staff Research Assistant	University of Iowa	Cognitive Systems Engineering
Dincer	Konur	Assistant Professor	Missouri University of Science & Technology	Engineering Management & Systems Engineering
Doug	Gransberg	Donald F. and Sharon A. Greenwood Professor	Iowa State University	Civil, Construction, and Environmental Engineering
Hayder	Rasheed	Professor	Kansas State University	Structural Engineering
Hongyi	Cai	Assistant Professor	University of Kansas	Civil, Environmental, and Architectural Engineering
J. Toby	Mordkoff	Associate Professor	University of Iowa	Psychology
Jing	Dong	Assistant Professor	Iowa State University	Civil, Construction, and Environmental Engineering
John	Myers	Assistant Professor	Missouri University of Science & Technology	Civil Engineering
Joseph	Turner	Professor	University of Nebraska-Lincoln	Mechanical and Materials Engineering
Maria	Szerszen	Associate Professor	University of Nebraska-Lincoln	Civil Engineering
Massoum	Moussavi	Associate Professor	University of Nebraska-Lincoln	Civil Engineering
Phuong	Nguyen-Hoang	Assistant Professor	University of Iowa	School of Urban and Regional Planning
Ryan	Yeung	Assistant Professor	State University of New York College at Brockport	Public Administration
Salam	Rahmatalla	Associate Professor	University of Iowa	Civil and Environmental Engineering
Scott	Rosenbaugh	Research Associate Engineer	University of Nebraska-Lincoln	Midwest Roadside Safety
Simon	Laflamme	Assistant Professor	Iowa State University	Civil, Construction, and Environmental Engineering
Stefan	Bossmann	Professor	Kansas State University	Chemistry
Yao-Jan	Wu	Assistant Professor	University of Arizona	Civil Engineering and Engineering Mechanics
Yelda	Turkan	Assistant Professor	Iowa State University	Civil, Construction and Environmental Engineering
Ying	Huang	Assistant Professor	North Dakota State University	Civil and Environmental Engineering
Yong-Rak	Kim	Associate Professor	University of Nebraska-Lincoln	Civil Engineering
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
Brent	Rosenblad	Associate Professor	University of Missouri	Civil and Environmental Engineering Department
Chris	Albrecht	Transportation Research Specialist	Iowa State University	Civil 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 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.