

# 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 VII UTC
- **Program Director (PD) Name, Title, and Contact Information:**  
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- **Submission Date:**  
July 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:**  
June 30, 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 outline 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 Thematic Goal Alignment)	Complete	100%
Review Budgets for Duplication with Region V & VI UTC Research Programs	Complete	100%
Final Proposal Ranking and Selection	Complete	100%
Research Projects under Contract	Complete	100%
Technology Transfer Tech Briefs, Webinars, and Presentations on Research Results	On Schedule	35%
Applicable Slides, Handouts, Videos, Podcasts, etc. Posted/Linked on MATC Website & US DOT RITA Research Hub	On Schedule	50%
Final Reports Due and All Research Projects Complete	Forthcoming	0%
<b>Leadership Activities</b>		
Coordination with Region VII UTC Directors	Complete	100%
Regional Successes and Lessons Learned Workshop	On Schedule	15%
<b>Educational Activities</b>		
Grad/Undergrad MATC Course Development and Implementation	On Schedule	50%
MATC Supported Certificate Programs in Transportation	On Schedule	45%
MATC Undergraduate Summer Internship Program (Summers 2012 and 2013)	On Schedule	100% YR 1, 75% 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 at TRB	Forthcoming	100%
MATC Summer Institute (Summers 2012 and 2013)	On Schedule	100%
MATC After-School Program (Summers 2012 and 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 and 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	65%
Mid-Continent Research Symposium August 15-16, 2013	On Schedule	55%
LTAP Regional Meeting – MINK Conference: September 25 <sup>th</sup> and 26 <sup>th</sup> , 2013	On Schedule	100% YR 1
MATC Website Information Dissemination	On Schedule	65%
MATC Social Media Sites Information Dissemination	On Schedule	65%
<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 activities are underway, in progress, or are currently in the planning stages. Please see the % 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, multiple opportunities for training and professional development have been implemented and/or are well-situated for future growth and sustainability.

Opportunities for contact hours with participants during the period of January 1, 2013 - June 30, 2013 included the Roads, Rails, and Racecars After-School Program; GO! Online electronic magazine; the MATC Intern Program; the MATC Undergraduate Scholars Program; and other MATC professional development activities. Summaries of these activities are provided below.

***Road Rails and Race Cars (RRRC) Engineering After-School Program:***

From January to June, 2013, MATC continued to support preparation and implementation efforts for the RRRC engineering after-school club for elementary and middle school students, as well as the STEM Engineering After-School Club for high school students. Three (3) after-school club team meetings were held at the beginning of Quarter 3 to discuss upcoming plans. Five (5) recruitment efforts were held to recruit students for expansion clubs in Lincoln, Nebraska during Quarter 3. Multiple calls and emails were made between returning sites and expansion sites in Lincoln to assist with the preparation of club implementation for new programs in schools within the states of Iowa, Nebraska, and Wisconsin. The after-school club made several teacher, mentor, and club additions in Quarter 3. Two (2) teachers were recruited, hired, and trained to begin supervising clubs for the 2013 club year in Lincoln. Five (5) engineering undergraduate student mentors were hired and trained to begin facilitating clubs in Lincoln for Quarters 3 and 4. Two (2) elementary schools in Lincoln began implementing the Roads, Rails and Race Cars after-school club. Four (4) middle schools, including one (1) in Omaha, Nebraska, one (1) in Lincoln, one (1) in Madison, Wisconsin, and one (1) in Boone, Iowa, began implementing the Roads, Rails, and Race Cars after-school program. One (1) high school in Lincoln began implementing the Roads, Rails, and Race Cars after-school program. Overall, three (3) elementary schools, seven (7) middle schools, and two (2) high schools participated in the after-school club program. Training for supervisors and student mentors based outside of Lincoln included multiple conference calls to RRRC teams based in Omaha, Boone, and Madison, as well as locally-held RRRC team meetings. Curriculum timeline development for Quarter 3 and 4 was completed for all sites. All four expansion sites received lesson and activity supplies for five (5) full lessons on green transportation.

The Roads, Rails, and Race Cars program in Lincoln was implemented by sixteen (16) teachers, twenty-nine (29) engineering undergraduate and graduate students, one (1) media relations specialist, one (1) media relations assistant, one (1) educational programs coordinator, and one (1) educational programs assistant from Lincoln. Schools in Lincoln, Boone, Madison, and Omaha participated in a total of twelve (12) Roads, Rails and Race Cars (RRRC) engineering after-school clubs for elementary and middle school students and STEM Engineering after-school clubs for high school students. Nebraska schools included Calvert, Hartley, and Maxey elementary schools; Culler, Goodrich, Lefler, Mickle, and McMillan Magnet middle schools; and Lincoln High and Lincoln North Star high schools. Boone Middle School in Boone, Iowa and Jefferson Middle School in Madison, Wisconsin also implemented and participated in the after-

school club. RRRC clubs met weekly, except at Culler Middle School in Lincoln where RRRC was held biweekly. RRRC clubs hosted twelve (12) 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 Iowa, Nebraska, and Wisconsin after-school clubs included: An Introduction to the Field of Transportation and Glider Airplanes; Edible Cars; Railroad Signals; Defining Geotechnical Engineering; Financing Transportation; Defining Sustainability; Green Systems; Green Vehicles; Financing Green; Green Infrastructure in Action; Green Transportation Computer Lab; Water Filters and Roadways; Introduction to Bridges; Types of Transportation; Traffic Concerns Around the World; Transportation at Disney World; Bridge Engineering; Texting and Driving; Tunnels; Roadside Safety; Solar Cars; Green Vehicles and Emissions; Sustainability and Alternative Fuels; Renewable Energy with Windmills; Solar Cost; American Society of Civil Engineers and Concrete Canoes; Recycled Roadways; Green Science; Friction/Hovercraft Engineering; Dams; and Advantages of Simple Machines-Catapults. Other funding and support was provided by the Nebraska Department of Education Garrett Morgan and Federal Highway Administration Fast Forward grants.

For this reporting period, a summer portion of the Roads, Rails, and Race Cars engineering summer after-school club for middle school students at Culler Middle School in Lincoln was implemented for the month of June. Two (2) teachers, eight (8) graduate and undergraduate engineering student mentors, two (2) Community Learning Center site assistants, one (1) media relations specialist, and one (1) program coordinator participated in the club. The RRRC summer school club was conducted twice a week in two identical sections per day on Mondays and Wednesdays. A total of seven (7) program days were completed. Total attendance/student contacts for the summer school program for Culler Middle School was 620, with the typical weekly participation of approximately 88 students. The total number of different student participants that attended the program at least once was 121. Topics of the summer program for Culler Middle School included: Introduction to Transportation Engineering and Compute Activity; Glider Airplanes; Crash Testing and Egg Drop Activity; Bridge Building; Careering Cruising; and Know-to-Go with Education Quest speakers. There were 354 unique students who attended clubs during Quarters 3 and 4, with a total attendance for Quarters 3 and 4 of 2,127.

#### *MATC Intern Program:*

The MATC Intern Program attracts a large number of talented applicants seeking to broaden their knowledge of transportation engineering, discover practical applications of theories discussed in undergraduate engineering courses, and work with some of the leading agencies and professionals in their respective fields of interest. Ten (10) undergraduate students were carefully selected for the MATC Intern Program. A luncheon will be held on August 16, 2013, during which the interns will showcase videos and presentations highlighting what they 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 will also develop a two-page report on their experience that will be posted on the MATC website alongside their profile by February 28, 2014, to be used 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 and Justin Petersen
Kara Minarik	Olsson Associates – Omaha	Chris Rolling

*MATC Undergraduate Scholars Program:*

The MATC Undergraduate Scholars program is currently in progress. The program began on May 27, 2013, and will conclude on August 2, 2013. The Scholars Program is geared toward promoting 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 to learn about 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 toward choosing a career. Participants’ responsibilities include conducting transportation research, writing research reports, collecting research data, preparing a journal-quality paper, attending seminars, and presenting research findings.

The Scholars Program is currently hosting two students, Sherman Livingston and Demetrice Ballenger, from Prairie View A&M University. Prairie View A&M is a member of the nation’s Historically Black Colleges and Universities (HBCU):

Livingston is a senior undergraduate studying civil engineering, with research interests in transportation and structural engineering; he is also pursuing minors in construction science and business entrepreneurship. Ballenger is also a senior civil engineering major, with research interests in transportation and regional planning. Both students are advised by Dr. Judy Perkins, Regents Professor at Prairie View A&M and a member of the MATC Advisory Board. During their 12-week internship at the University of Nebraska-Lincoln, Livingston and Ballenger, under the guidance of MATC Director Dr. Laurence Rilett, have studied ITS software and acquired data for traffic analysis utilizing the cutting-edge technological resources housed in the Whittier Research Center ITS Lab, which is located on the UNL campus. Both students plan to return to continue their internships in the summer of 2014. Feedback and results from the current program will be highlighted in the next report.

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

As part of MATC's ongoing education and workforce development initiatives, the consortium member universities support student and faculty travel to the annual meeting of the Transportation Research Board, which attracts transportation professionals from across the country to promote and discuss the implementation of research from the past year. MATC-affiliated students and faculty attended the

January, 2013 annual meeting. Students who attended TRB were able to interact with a wide range of industry professionals, experts, and committees. These connections help the students progress both academically and professionally. The table below highlights the attendees of the TRB conference, as well as other professional development opportunities pursued by staff and faculty over the reporting period.

<b>Name</b>	<b>Destination</b>	<b>Conference Name</b>	<b>Dates</b>	<b>University</b>
Dimitrios Bilionis	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	Iowa State University
Nicholas Hinnerichs	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	Iowa State University
Donald Cerwick	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	Iowa State University
Yundi Huang	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	Iowa State University
Hosin Lee	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Iowa
Steven Schrock	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Thomas Lindheimer	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Eric Kocher	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Kwaku Boakye	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Alisha Elmore	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Kim Jackson	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Eric Fitzsimmons	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Lucas Wallace	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Prathmesh Argade	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Tamara Jamel	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Allison Bruner	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Huan Cheng	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Kansas
Valerie Lefler	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Nicholas Weiland	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
April Edwards	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Bhaven Naik	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Quinton Rodgers	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Ryan Bateman	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Scott Sorenson	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Leah Kampschneider	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL

Laurence Rilett	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Kevin Schrum	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Chris Tung	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Carrie Mohlman	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	UNL
Suzanna Long	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	MS&T
Charles Nemmers	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Missouri
Sawyer Breslow	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Missouri
Lei Fang	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Missouri
Yi Hou	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Missouri
Jalil Kianfar	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Missouri
Massoud Nasrollahi	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Missouri
Andrew Robertson	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Missouri
Zhongyuan (Eric) Zhu	Washington D.C.	Transportation Research Board Annual Meeting (TRB)	1/12/13-1/16/13	University of Missouri
Daniel Mealiff	St. Louis, MO	North Central Asphalt User and Producer Group Technical Conference	1/23/13-1/24/13	Kansas State University
Varun Ramachndran	St. Louis, MO	DCE Seminar on Model Based Systems Engineering	2/20/13-2/21-13	MS&T
Hosin Lee	Des Moines, IA	Asphalt Paving Association of Iowa (APAI) Greater Asphalt Conference	3/07/13-3/08/13	University of Iowa
Chen Wu	Baltimore, MD	American Physical Society Meeting	3/17/13-3/22/13	MS&T
Hosin Lee	San Antonio, TX	World of Asphalt Convention	3/18/13-3/20/13	University of Iowa
Miwa Matsuo	Los Angeles, CA	Association of American Geographers (AAG) Conference	4/04/13-4/13/13	University of Iowa
Miwa Matsuo	Los Angeles, CA	Association of American Geographers (AAG) Conference	4/10/13-4/12/13	University of Iowa
Thomas Welch	Ames, IA	Tom Maze Transportation Seminar	5/02/13-5/05/13	MS&T
Mohsen Ghamari	Park City, UT	Combustion Institute Conference	5/17/13-5/24/13	University of Iowa
Albert Ratner	Park City, UT	Combustion Institute Conference	5/18/13-5/22/13	University of Iowa
Milad Saghebfar	Los Angeles, CA	Airfield and Highway Pavement Conference	6/09/13-6/12/13	Kansas State University
Mustaque Hossain	Memphis, TN	Council of University of Transportation Centers Summer Conference	6/10/13-6/13/13	Kansas State University
Laurence Rilett	Memphis, TN	Council of University of Transportation Centers Summer Conference	6/10/13-6/13/13	UNL
Valerie Lefler	Memphis, TN	Council of University of Transportation Centers Summer Conference	6/10/13-6/13/13	UNL

### *Go! Vamos:*

Currently, Go! Vamos has 1,062 subscribers, 217 Facebook Fans, and 332 Twitter Followers. During the reporting period, seven (7) stories were highlighted.

Links to stories:

- [University of Missouri Transportation Infrastructure Center: Random acts of research](#)
- [Ginger Rossy: Engineer for life](#)
- [The electric car: Stefon's story](#)
- [Transportation for dummies: 6 lessons from a transportation amateur](#)
- [Hosin "David" Lee: Transportation visionary](#)
- [Ric Gillespie: Historic aircraft conservationist](#)
- [Civil Engineering](#)

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

Visits: 9,961

Unique Visitors: 8,133

New Visits: 80.5% (8,018 new visits)

Returning Visitors: 19.4% (1,932 returning visitors)

Page views: 22,211

Number of countries viewing: 131

### ***How have the results been disseminated?***

All MATC activities are primarily in the implementation phase, and some recurring projects are in the planning phase for the next year. Electronic distribution and social media has primarily been utilized for dissemination. PowerPoint presentations have also been given.

MATC has connected with 82 newspaper, TV, and radio organizations located at all eight partner institutions and across the nation, and will be developing a press release template to release respective project 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 and 6.2:***

During the reporting period, MATC began distributing its online newsletter, with two distributions occurring in the winter and spring, respectively. A January issue was distributed to 6,305 individuals worldwide, and featured seven stories highlighting students or activities at each of the MATC partner universities. Similarly, a June issue was distributed to 7,682 individuals worldwide and featured seven stories highlighting students or activities occurring at the partner universities. These 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.

***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:***

*What Engineers Want: Identifying Transportation Professionals as an Audience for Research* by Valerie Lefler and Caitlin Leibman. <http://www.slideshare.net/matcRegion7UTC/what-engineers-want-identifying-transportation-professionals>

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

<http://www.youtube.com/watch?v=tHjgm69VpqU&feature=youtu.be>

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

Currently, MATC maintains seven (7) online sites that distribute information utilizing the internet. Links to each site, as well as reporting 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 the MATC website. Highlighted information obtained from Google Analytics regarding the website’s traffic occurring from January 1, 2013 – June 30, 2013 is shown below. By understanding and capitalizing upon this knowledge, we are able to make our homepage engaging, relevant, and resourceful to our viewers.

Visits: 7,610; Page views: 46,880; Pages per visit: 6.16; Average visit duration: 6:18.

***SlideShare:***

Our total views have increased by 4,177 since our last metric. This increase has expanded our global reach. The top five countries that view our presentations are the United States, China, India, South Korea, and Canada. Below, you will find a snapshot of MATC’s SlideShare activity. The link to view the page is <http://www.slideshare.net/matcRegion7UTC/presentations/>.

Total Views: 17,534; Downloads: 98; Tweets: 11

***Vimeo:***

The title page for MATC’s Vimeo account is Mid-America Transportation Ctr. The following hyperlink can be used to access the account: <http://vimeo.com/matc>. Related metrics are described below.

Videos: 7 new videos, 65 total; Total Loads: 3,501.

*Facebook:*

The MATC Facebook page has demonstrated the following statistics, and can be viewed by clicking <https://www.facebook.com/pages/Mid-America-Transportation-Center-MATC/141238439284182>.

Views: 1,302; Likes: 157; Reach: Peaked at 1,800 in June, 2013; Total Countries: 18; Languages: 6

*Twitter:*

@MATCNews is the Mid-America Transportation Center's twitter handle. The page can be viewed by clicking <https://twitter.com/MATCNews>. Highlighted numbers for MATC's Twitter activity are provided below.

Followers: 135; Following: 567; Tweets: 142.

*YouTube:*

MATC's YouTube feed can be viewed by clicking the following link: [http://www.youtube.com/user/midamericatrans?feature=results\\_main](http://www.youtube.com/user/midamericatrans?feature=results_main). This site will feature one participating Region VII university per quarter.

Videos: 51; Views: 786; Minutes Watched: 1,393.

*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 be invited. Our goal is to post valuable and relevant information that fits each group's respective interests. We will also be posting our research, technology transfer, and educational information, along with other MATC updates, within other transportation-related LinkedIn groups.

Overall, across all seven online portals we have gathered 70,003 views overall, gaining 20,795 new views over the current reporting period. Currently, marketing and media plans are being established to further advance and grow each site's exposure and content based upon the established programs. In particular, MATC's LinkedIn 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 links to their research project descriptions in RiP can be found in the chart 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 the Shaker Test as a Standardized Test Protocol for Deicing Chemical 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 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 Highways	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>
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>
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>
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>
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	Development of the Fourth Edition of The Manual for Identification, Analysis and Correction of High-crash Locations (HAL)	Sun, Carlos	<a href="https://rip.trb.org/browse/dproject.asp?n=33545">https://rip.trb.org/browse/dproject.asp?n=33545</a>
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>

### 3. PARTICIPANTS AND OTHER COLLABORATING ORGANIZATIONS

#### *What other organizations have been involved as partners?*

During the current reporting period, the Mid-America Transportation Center has worked with 76 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, Ms. Valerie Lefler, at [vldefler2@unl.edu](mailto:vldefler2@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	MN	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 and 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 High School	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	Maxeley 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	MN	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 University	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	
Roads, Rails, and Race Cars After-School Program	Calvert Elementary School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Hartley Elementary School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Goodrich Middle School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Lincoln High School	Lincoln	NE	USA		X			
Roads, Rails, and Race Cars After-School Program	Boone Middle School	Boone	IA	USA		X			
Roads, Rails, and Race Cars After-School Program	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	MN	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 MATC Program Coordinator Ms. Valerie Lefler at [vldefler2@unl.edu](mailto:vldefler2@unl.edu). MATC’s research activities are highly multi-disciplinary, featuring 65 faculty members from various disciplines including, but not limited to, chemistry, economics, civil engineering, mechanical engineering, computer science, and electrical engineering. The Principle 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
Anna	Rakoczy	Post-Doctoral Research Associate and Part-Time Lecturer	University of Nebraska-Lincoln	Civil Engineering
Henry	Brown	Research Engineer	University of Missouri	Civil and Environmental Engineering
Michael	Hempel	Associate Director- Advanced Telecommunications Engineering Laboratory	University of Nebraska-Lincoln	Computer and Electronics Engineering Department
Keith	Knapp	Local Technical Assistance Program Director	Iowa State University	Institute for Transportation
Laurence	Rilett	MATC Director and UNL Distinguished Professor	University of Nebraska-Lincoln	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	Fitzsimmons	Postdoctoral 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 and 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 and 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 and 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, and 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 and 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 in which students, faculty, and staff from various institutions may interact, and also provide opportunities for professional networking with transportation sector leaders. These activities increase channels of communication between participants in the workforce and individuals from many academic fields, 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 the educational and technology transfer activities described above 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?***

All research being conducted by MATC students and faculty is intended to align with the strategic goals outlined by the US DOT for enhancing the safety, security, and sustainability of the national transportation infrastructure. MATC is strongly dedicated to furthering its research and technology transfer activities across all methods and modes of transportation. These efforts are directly related to the health and vitality of the nation as a whole. The expected outcome of MATC's research and strategic goals includes improvements to the transportation system which satisfy or address the goals set forth by the by the US DOT, including those established by the recent MAP-21 legislation. While individual descriptions of the currently funded MATC research projects are beyond the scope of this report, detailed descriptions of all MATC research projects can be viewed by clicking on the individual links to TRB's research database, included in the chart on pages 11-13 of this report.

Further, MATC displays a strong commitment to education and workforce development, exemplified by its emphasis on student research and pre-professional involvement. Existing efforts such as the MATC Intern Program are designed to extend opportunity while enhancing interest and skill. The intended result is a vigorous future transportation workforce equipped with the skills and experience to enhance and sustain the transportation infrastructure for the current and future generations.

Moreover, we anticipate that K-12 students participating in the after-school programs and/or Summer Institute will benefit significantly. The interdisciplinary lessons and activities surrounding these programs bolster students' conceptual and practical skills related to math, 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 after-school club encourages students to reconfigure their expectations regarding math and science, and extends their interest beyond traditional classroom experiences.

**5. CHANGES/PROBLEMS**

Nothing to Report.

**6. SPECIAL REPORTING REQUIREMENTS**

Nothing to Report.