



TRAN-SET

QUARTERLY NEWSLETTER

SUMMER 2019 • ISSUE 7

INSIDE THE ISSUE

- 1 | Letter from the Director
- 2 | Research Program Updates
- 3 | Research in Progress
- 6 | Technology Transfer Activities
- 9 | Educational and Workforce Development

ABOUT TRAN-SET

Tran-SET is Region 6's University Transportation Center. It is a collaborative partnership between 11 institutions (see below) across 5 states (AR, LA, NM, OK, and TX). Tran-SET is led by Louisiana State University. It was established in late-November 2016 "to address the accelerated deterioration of transportation infrastructure through the development, evaluation, and implementation of cutting-edge technologies, novel materials, and innovative construction management processes."

LETTER FROM THE DIRECTOR

Wishing you a fun-filled and exciting summer!

Summer seemed to come so fast this year! I feel it will soon be time to unpack the vacation/travel bags and begin another academic year.

I am always delighted to report Tran-SET's progress; I am especially excited for the successful continuation and growth of the Center's main initiatives (established only one year ago): the Tran-SET Conference, Navajo Technical University Internship, webinar series, etc. However, I would like to dedicate my forward to inform everyone of two important announcements.

Tran-SET has begun planning our **2020 Tran-SET Conference** to be held in Albuquerque, NM on April 2-3, 2020. Please mark your calendars! We have already announced a **Call for Papers** for presentation and publication. The Conference is a great opportunity to learn how Tran-SET-sponsored research is solving regional transportation needs and to network, collaborate, and engage with professionals in a wide-range of transportation fields. Abstracts are due **August 31, 2019**. Please visit our [website](#) for details.

Tran-SET is currently soliciting research problem statements for its fourth-cycle of funding. Any and all Principal Investigators/researchers, Center Advisory Board (CAB) members, and other community/agency leaders are welcomed to submit problem statements. Problem statements submitted by **August 30, 2019** will be considered for our fourth-cycle of funding. Please visit Tran-SET's [website](#) to learn more and to apply.

If you haven't done so already, I highly encourage everyone to follow us on [LinkedIn](#) and [Twitter](#). You may also subscribe to our mailing list [here](#).

I invite you to read through our Summer 2019 newsletter and learn more about our other research, technology transfer, educational, and workforce development activities.

Enjoy!

Marwa Hassan, PhD, PE, F.ASCE
CETF Distinguished Professor
College of Engineering, Louisiana State University



RESEARCH PROGRAM UPDATES

CALL FOR FOURTH CYCLE PROBLEM STATEMENTS NOW OPEN!

Tran-SET is currently soliciting research problem statements for its fourth-cycle of funding. Any and all Principal Investigators/researchers are welcomed to submit problem statements, including those not part of Tran-SET or not located within Region 6. However, problem statements selected after review/ranking that were submitted by institutions not part of Tran-SET (including those in Region 6), will move forward as an open request for proposal (RFP). Only institutions within Region 6 (including those not part of Tran-SET) will be able to apply to an open RFP. Any and all Center Advisory Board (CAB) members and other community/agency leaders are also welcomed to submit problem statements.

Problem statements submitted by August 30, 2019 will be considered for our fourth-cycle of funding (estimated project start of March 2020). Problem statements submitted afterwards will be compiled for consideration for our fifth-cycle of funding. Please visit Tran-SET's [website](#) to learn more and to apply.

RESEARCH REPORTS FOR SECOND-CYCLE PROJECTS COMING SOON

Each Tran-SET project consists of a 12-month technical (research) phase, followed by a 6-month implementation (technology transfer) phase. Tran-SET's second-cycle projects ended their technical phase March 2019 and have completed their research reports. The reports are currently under review by Tran-SET staff and each project's Project Review Committee (PRC).

The reports are expected to be finalized and available mid-August. Please "stay tuned" as Tran-SET will disseminate these reports when available. Don't miss a report by subscribing to our mailing list [here](#)!

CONDUCTING TECHNOLOGY READINESS LEVEL (TRL) ASSESSMENTS

As part of our **Technology Transfer (T2) Plan**, within one month of the technical (research) phase ending, Tran-SET will organize and conduct TRL assessments for each project. This includes working with each Principal Investigator to define a panel comprised of the PRC and at least one other member considered to be a potential adopter. The assessment involves a webinar (or in-person) meeting where the panel assesses: (1) the level in which the research product (technology) is ready for implementation, (2) which elements the technology currently lacks regarding implementation, and (3) the next step(s) required to further ready the technology for implementation.

Dr. Husam Sadek (Tran-SET Research and T2 Program Coordinator) is currently organizing and facilitating TRL assessments for each second-cycle project. The process has been a tremendously useful experience: (1) providing an opportunity for the research team to directly communicate to stakeholders, (2) gathering critical feedback from the panel to better inform/improve activities during the implementation (technology transfer) phase, (3) more informed and engaged stakeholders, and (4) educating research teams and panel members on the use of the TRL scale and assessment processes.

UPDATE ON THIRD-CYCLE PROPOSALS

Tran-SET issued a call for problem statements (July 2018) for their third-cycle of research projects. A total of 74 problem statements were received (August 2018), and the problem statements were reviewed and ranked by regional leaders (October 2018). Submitters of the chosen problem statements were contacted (November 2018) and 36 project proposals were received (February 2019). Proposals were reviewed by subject matter experts (July 2019) and revised accordingly by the submitted research teams (June 2019).

Tran-SET is currently in the process of making award decisions and finalizing the third-cycle funding program. **All third-cycle projects are anticipated to start August 15, 2019.**

RESEARCH IN PROGRESS: HIGHLIGHTS

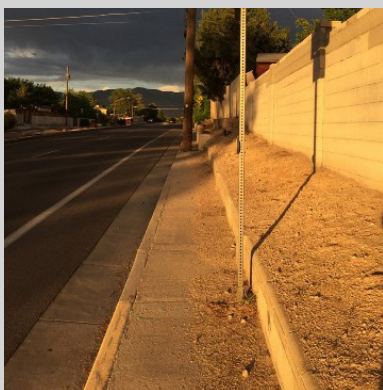
Please see below for a showcase of select, Tran-SET research projects. *Is our research applicable to your technical area? Beneficial or a potential solution to your local transportation system? Can benefit from your efforts? Interesting?* Please contact us for ways to coordinate, be involved, and engaged! To learn more about the following projects (and the rest of our 35 active research projects), please visit our website, transet.lsu.edu.

EVALUATING HOW THE QUALITY OF PEDESTRIAN INFRASTRUCTURE AFFECTS THE CHOICE TO WALK

Dr. Gregory Rowangould - University of New Mexico

Sidewalks are an important part of a multimodal transportation system. They enable walking in high traffic environments where walking in the street would be impractical or dangerous and may encourage walking in other locations by providing a safer and more comfortable walking environment. While the benefits of walking are well understood, the physical design of sidewalks and their maintenance needs generally receive less attention in both research and practice than infrastructure used by other modes of transportation. As a result, we know comparatively little about how the design of sidewalks and quality of the overall pedestrian environment affect the decision to walk.

This research aims to understand the effect of sidewalks and related pedestrian environment quality on the likelihood that a person chooses to make a trip by walking. This question will be evaluated through both an observational analysis and one that asks individuals about their perceptions of sidewalk quality and its relation to their travel preferences. Both analysis methods will use data collected from household travel surveys sent to individual respondents in Albuquerque, New Mexico.



An example of poor sidewalk design in Albuquerque

PERFORMANCE OF DRILLED SHAFTS UNDER COMBINATION OF COMPLICATED LOADS UNDER HURRICANE EVENT

Dr. Zahid Hossain, Arkansas State University

Drilled shafts have been widely used to support transportation infrastructure, such as bridges and retaining walls. Usually, these drilled shafts are designed to sustain different loads, including vertical and lateral forces independently (i.e., it is assumed that the interactional effect between different loads are ignored). Studies have indicated that this assumption works reasonably well under normal service conditions under which only limited lateral deflection occurs. However, interaction between lateral and vertical loads may be too significant to be ignored during a hurricane event. Such strong interaction will lead to non-recoverable movement and even collapse of structures if not appropriately addressed.

This study assesses how a vertically loaded drilled shaft performs when a sudden, high magnitude lateral load is applied. This scenario represents the drilled shafts supporting bridges subjected to hurricane loads. This study jointly uses experimental testing and numerical analysis to investigate the performance of drilled shafts subjected to combined lateral and vertical loads. The experimental study involves designing, building and testing drilled shafts in a large-scale facility, while the numerical study includes calibrating a numerical model and then utilizing it to assess the versatile vertical and lateral loading combinations. The ultimate objective of this study is to quantify the effect of vertical loads on the lateral response of a drilled shaft to allow rational design and analysis of bridge foundations under hurricane events.

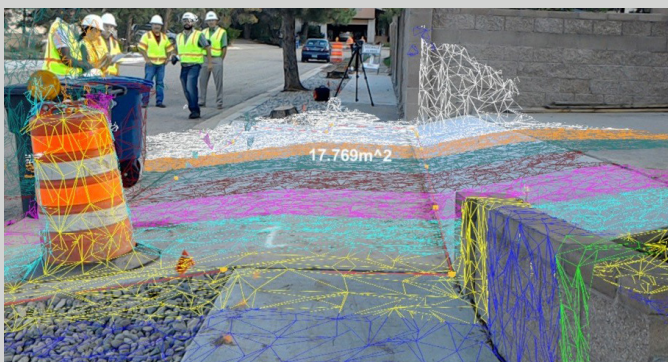
RESEARCH IN PROGRESS: HIGHLIGHTS

AUGMENTED REALITY ENHANCING THE INSPECTIONS OF TRANSPORTATION INFRASTRUCTURE: RESERACH, EDUCATION, AND INDUSTRY IMPLEMENTATION

Dr. Fernando Moreu, Dr. Chris Lippitt
- The University of New Mexico

Continual monitoring, conducted on a regular basis by field inspectors, is required to properly maintain transportation infrastructure. Currently, infrastructure inspectors climb, measure, and photograph structures annually to inform repair needs and prioritize decisions. In order to promote and accelerate early learner's expertise in decision-making capabilities during infrastructure inspections, this study will develop various software applications using augmented reality (AR) as an inspection tool for bridges and bridge management.

By objectively quantifying infrastructure field measurements, inspectors can make more accurate field assessments and managers can make better-informed decisions. This study will collaborate with stakeholders, national laboratories, DOT agencies such as NCHRP and NMDOT, and local owners, to inform the needs of AR for field inspections. More specifically, it will rely on these stakeholders to direct the identification, selection, development, and testing of AR scenarios needed for their daily operations and managerial decisions. The study will summarize the current limitations of visual inspections from the perspective of these owners, conduct pilots of AR applications and benchmark their accuracy in comparison with visual methods, and recommend specific prioritization of AR development for future field applications.



Surface area measurement using an AR device

USE OF RICE HUSK ASH (RHA) IN FLOWABLE FILL CONCRETE MATERIAL

Dr. Zahid Hossain, Arkansas State University

Flowable fill concrete (FFC) is a type of slurry which can be used to fill different types of cavities without any need of vibration. FFC is a low-strength material for use where rapid construction is needed: backfilling walls, sewer trenches, bridge abutments, conduit trenches, pile excavations, and retaining walls. The material composition of FFC provides an opportunity to use waste material in its production. Rice husk (RH) is an agricultural by-product from the rice industry. The main use of RH is as a biofuel in rice milling, which ultimately generates a large volume of ashes. Every year, 25.1 million pounds of rice is produced in the U.S. – which generates an immense amount of rice husk ash (RHA) as a waste product.



Sample of RHA-modified FFC mixture

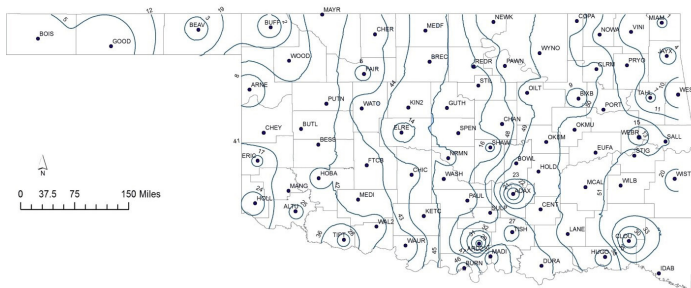
This study examines the potential uses of RHA as a sustainable cementitious material in the preparation of FFC; this study will evaluate the usage of RHA in producing low strength and self-consolidating FFC. Two different RHA samples in two different percentages will be used to prepare FFC mixtures for testing. The evaluation processes of these FFC mixtures will include: determination of strength, followability, unit weight, and air content in the laboratory. Furthermore, a field demonstration will be conducted to evaluate the workability, placement, and in-service performance of RHA modified FFC. Findings of this study will help transportation and construction agencies in using RHA as a cost-effective construction material.

RESEARCH IN PROGRESS: HIGHLIGHTS

DEVELOPING IMPLEMENTABLE CLIMATIC INPUT DATA AND MOISTURE BOUNDARY CONDITION FOR PAVEMENT ANALYSIS AND DESIGN

Dr. Rifat Bulut, Oklahoma State University

Environmental conditions have a significant effect on pavement performance. Of all the environmental factors, temperature and moisture have a direct effect on the properties of the pavement layer and subgrade property. The current AASHTOWare Pavement ME software package utilizes the enhanced integrated climatic model (EICM) for applying climate effects on pavement materials. The software uses historical climatic files that have been developed for each state in the U.S. However, these files are in most cases limited in number and region within each state – and cannot represent the site-specific climate information. Furthermore, a number of states have found that there are significant discrepancies between the EICM predictions and measured values in the field. There is a need to develop practical and implementable predictive models to study the moisture regime within the pavement subgrade in response to site-specific climate data.



Moisture index contour map of Oklahoma

The main objective of this study is to develop a practical and implementable numerical model for predicting the moisture (suction) regime within the pavement subgrade system. The study will involve numerical modeling and statistical analysis of climatic weather data using Oklahoma as a case study. The study has the potential to significantly enhance the current analysis of climate and pavement system interaction – by developing a sound theoretical model in predicting moisture variations within the subgrade soils.

STRUCTURAL VULNERABILITY OF COASTAL BRIDGES UNDER EXTREME HURRICANE CONDITIONS

Dr. Arturo Montoya, Dr. Adolfo Matamores, Dr. Firat Testik
- University of Texas at San Antonio

Recent severe hurricane events along the Texas and Louisiana coastlines (e.g., Hurricane Harvey and Hurricane Katrina) have caused significant damage to transportation infrastructure. Global climate change experts anticipate that the frequency and magnitude of severe hurricanes will increase in the coming years. Thus, there is a critical research need to develop methodologies that estimate the vulnerability of existing and future coastal bridges during extreme events. Damage from these extreme events consisted of superstructure collapse due to unseating of bridge decks – caused by the combined actions of storm surge and hydrodynamic forces from waves.

The main goal of this study is to evaluate the structural vulnerability of coastal bridge structures to hydrodynamic loads generated under extreme hurricane conditions along the Texas-Louisiana coastline. This research analyzes the most common bridge types (i.e. several girder bridge configurations) with the aim of identifying structures that are most and least resilient to hurricane waves and storm surge. Finite element-based simulations will be conducted to quantify the magnitude of the hydrodynamic loads under different hurricane sea states. Vulnerability curves will be developed to assess the potential damage of the bridge structures to specified hurricane scenarios. This information will then be used to design and propose strategies that minimize structural damage during an extreme hurricane event (e.g., connections that prevent unseating of the superstructure).



Damage to bridge supports during Hurricane Katrina

TECHNOLOGY TRANSFER ACTIVITIES

Tran-SET has two objectives that guide its technology transfer (T2) activities: to ensure that scientific and technological developments are: (1) accessible, disseminated, and transferred to a wide range of users including state agencies, universities, and industries and (2) have long-term research value and significant impact to the transportation industry. Please see below for a showcase of select, T2 activities sponsored by or involving Tran-SET. Please stay up-to-date with our activities by following us on [LinkedIn](#) and [Twitter](#), visiting our [website](#), and subscribing to our [mailing list](#)!

2019 TRAN-SET CONFERENCE



Tran-SET hosted the **2019 Tran-SET Conference** on April 11-12, 2019 in San Antonio, TX. The Conference was held at the beautiful downtown campus of the University of Texas at San Antonio. The purpose of the Conference was to educate, engage, and collaborate with varied stakeholders (academics, industry professionals, state DOTs, and other government agencies) to solve transportation challenges facing the South-Central U.S. The Conference began with an in-person Business Meeting with Tran-SET's Center Advisory Board (CAB). Each Associate Director presented on their research, T2, educational, and workforce development activities. The meeting also involved open discussion where CAB members supplied crucial feedback and guidance to the Center, especially on the future direction of its research.

The majority of the Conference comprised of technical sessions: 8 technical sessions with 69 lectern presentations. The presentations gave an overview of each of Tran-SET's second-cycle projects by their respective PI. The Conference also included presentations from two keynote speakers (Dr. Magdy Mihail of TxDOT and Dr. Shawn Wilson from LaDOTD) and two technical guest speakers (Dr. Dallas Little of TAMU and Dr. Hainan Wang of Chang'an University).

The Conference hosted a student poster competition, where 38 Tran-SET-sponsored students presented on their research. The posters were judged by a panel; certificates and small monetary prizes were awarded for first, second, and third place.

The [Conference Program and Published Conference Proceedings](#) can be freely accessed on the Tran-SET website. Tran-SET would like to sincerely thank all speakers,

presenters, attendees, organizers, and especially our main financial sponsors: **Chicago Testing Laboratory, Inc.** and **HVJ Associates**. We would also like to thank our academic sponsors: **ASCE Transportation and Development Institute (T&DI)**.



Above, left: Keynote speaker Dr. Shawn Wilson delivers remarks; Above, right: Students present research during the poster competition; Below: Audience listens attentively to Conference lectern presentation.



TECHNOLOGY TRANSFER ACTIVITIES

JOIN US AT THE 2020 TRAN-SET CONFERENCE



Tran-SET is pleased to announce the Call for Papers for presentations and publications at the upcoming 2020 Tran-SET Conference held in Albuquerque, NM on

April 2-3, 2020. Abstracts are due no later than August 31, 2019.

The Conference theme is “enhancing durability and service life of transportation infrastructure: materials, methods, and technology”. The Conference is a great opportunity to learn how Tran-SET-sponsored research is solving regional transportation challenges, and also to network, collaborate, and engage with professionals in a wide-range of transportation fields. The Conference will include a student poster competition and several social activities. The Conference is hosted by the University of New Mexico and New Mexico State University.

To submit an abstract and to learn more, please visit the [Conference website](#) or contact transet2020@nmsu.edu with any questions.



Sandia Mountains near Albuquerque, NM

JUNE 2019 WEBINAR



The most recent webinar in the Joint Tran-SET Webinar Series was held June 27, 2019 over “Innovative Technology, Techniques, and Processes in Transportation Infrastructure Inspection”. It was jointly hosted by the Center for Advanced Infrastructure and Transportation (CAIT). A recording of the webinar can be viewed on Tran-SET’s [website](#) or directly on Tran-SET’s [YouTube page](#).

Tran-SET is planning to host a follow-up webinar on the same topic for their next webinar (tentatively planned for late September). Tran-SET would especially like to thank the webinar presenters:

- Dr. Fernando Moreu (University of New Mexico) | Development, Training, Education, and Implementation of Low-Cost Sensing Technologies for Bridge Structural Health Monitoring (SHM)
- Dr. Jie Gong (Rutgers University) | Augmented Reality in Life-Cycle Management of Transportation Projects
- Dr. Alexandra Hain and Dr. Arash Zaghi (University of Connecticut) | Adaption of 3D Scanning Technology for High Precision Bridge Inspection
- Dr. Dimitri Donskoy (Steven Institute of Technology) and Dr. Giri Venkateela (New Jersey DOT) | Detection and Monitoring of Fatigue Damage in Steel using Vibro-Acoustic Modulation Method

TECHNOLOGY TRANSFER ACTIVITIES

EXHIBITION AND PARTICIPATION AT 2019 ASCE ICTD



Tran-SET had the pleasure of being an exhibitor at the ASCE International Conference on Transportation and Development (ICTD 2019) in Alexandria, VA on June 9-12, 2019. ICTD is ASCE's flagship conference in transportation and development. It included three days of technical programs, featuring six plenary sessions with national leaders from ASCE, T&DI, government agencies, universities, and private industry discussing core topics of interest. The program also covered deeper technical content through eight concurrent tracks.

Tran-SET was able to network with a wide-audience, showcase its research at its booth, and promote its upcoming activities. Tran-SET made several new connections, including meeting the President of ASCE, Robin A. Kemper.



Tran-SET team at ICTD 2019 with the ASCE President

PRESENTATION AT LADOTD CAV TECHNOLOGY TEAM WORKSHOP



Christopher Melson, Tran-SET Program Manager, presented at a workshop organized on the behalf of LaDOTD's Connected and Autonomous Vehicles (CAV) Technology Team held on March 28,

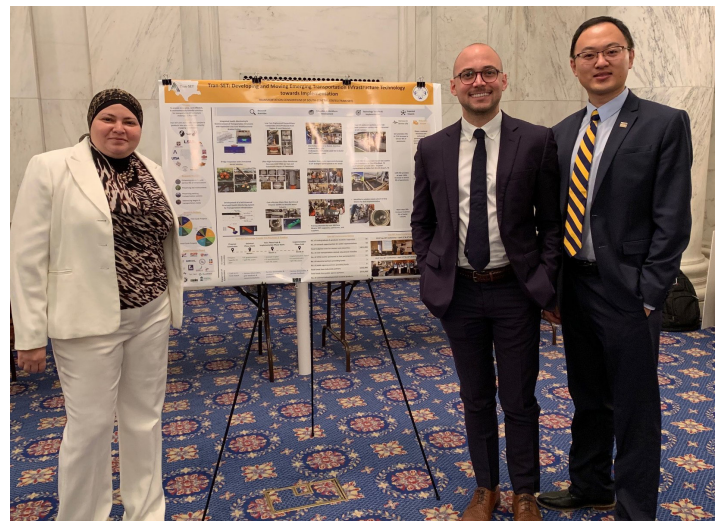
2019. The workshop is part of a larger series of workshops/ meetings to educate LaDOTD staff on current CAV-related efforts, developments, technology, and implementations. Mr. Melson presented on upcoming research, including conducting Analysis, Modeling, and Simulation (AMS) Case Studies of Connected and Automated Vehicle (CAV) Implementations Specific to the South Central Region.

PRESENTATION AT 2019 UNIVERSITY TRANSPORTATION CENTER (UTC) SPOTLIGHT CAMPAIGN



Dr. Marwa Hassan (Tran-SET Director), Dr. Chao Wang (Tran-SET Education and Workforce Development Program Coordinator), and Dr. Gabriel Arce (Tran-SET Principal Investigator) presented at the 2019 University Transportation

Center (UTC) Spotlight Conference on May 14, 2019 in Washington, DC. The Conference, held at the U.S. Capitol, highlighted UTC activities and communicated the importance of the UTC program to members of Congress, the House of Representatives, and other stakeholders. Dr. Hassan presented a poster entitled, "Tran-SET: Developing and Moving Emerging Transportation Infrastructure Technology towards Implementation", which summarized Tran-SET's technology transfer processes, recent success stories, and main research products. The Conference was co-hosted by the Council of University Transportation Centers (CUTC) and the Research, Education, and Training Reauthorization Coalition (RETRC).

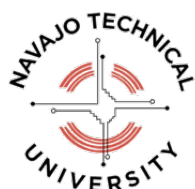


Tran-SET presenting poster to members of Congress

EDUCATIONAL & WORKFORCE DEVELOPMENT

Tran-SET has a firm initiative to advance the transportation workforce and to develop its next generation of leaders by: (1) attracting and supporting diverse, promising individuals to the transportation field through internships/research assistantships, (2) providing experiences through education and cutting-edge research to more properly prepare these individuals as they enter the workforce, and (3) incorporating and disseminating knowledge generated from sponsored research into educational and training products/activities. Please see below a showcase of select, educational and workforce development activities sponsored by or involving Tran-SET.

SECOND-ANNUAL NAVAJO TECHNICAL UNIVERSITY INTERNSHIP



The Navajo Technical University (NTU) Internship is a one-month, fully-paid internship that provides support for NTU students to travel to Louisiana State University (LSU) and work onsite on select Tran-SET-funded research projects. The Internship includes three synergistic components: (1) hands-on research experience on several Tran-SET funded projects as a student worker (main component), (2) graduate student presentation series on diverse, relevant transportation topics, and (3) informal sessions with varied transportation professionals (from industry, practitioner community, and state and federal government). The Internship is meant to expose and educate the students on the transportation field – and encourage a future career in transportation.

The second-annual Internship will take place June 3-28, 2019 and included two Navajo students: Mr. Seth Dennison and Ms. Samantha Francis. The students were exposed to a variety of transportation topics and professions, including a site visit to the FHWA LA Division Office, a local construction site visit, a site visit to the Capital Region Planning Commission (CRPC), and one on-site presentation from LaDOTD. Please visit our [website](#) for further detail on the Internship and its activities.



NTU Interns and LSU students visiting a construction worksite

HOSTED SYMPOSIUM ON ULTRA-HIGH PERFORMANCE CONCRETE



As part of Tran-SET project **Workforce Development Symposia for UHPC** the New Mexico State University hosted two workforce development symposia for New Mexico Department of Transportation (NMDOT) personnel, practicing engineers, and contractors over the use and implementation of ultra-high performance concrete (UHPC). The second symposium was held on April 23, 2019 in Las Cruces, NM and included five presentations over substrate surface preparation, UHPC overlay mixing, casting, and placing. It also included hands-on demonstrations of mixing and placing UHPC material. The Symposium had over 70 attendees, including representatives of NMDOT bureau and district offices, regional contractors, design engineers, researchers, suppliers, and ready-mix companies.



UHPC mixing demonstration

EDUCATIONAL & WORKFORCE DEVELOPMENT

PRESENTATIONS AT 2019 ARKANSAS ACADEMY OF SCIENCES



Dr. Zahid Hossain (Tran-SET Associate Director) and his research team delivered five presentations over ongoing Tran-SET-funded projects at the 2019 Arkansas Academy of Sciences. The Conference was hosted by Hendrix College on March 29-30, 2019 in Conway,

AR. The Conference included 250 scientists representing four government agencies and 21 colleges and universities. The collection of work presented included over 150 technical papers from a wide-array of research areas (from aeronautics to zoology). Please visit their [website](#) for more information and to access the Conference proceedings.



Dr. Hossain and team at the 2019 Arkansas Academy of Sciences

HOSTED WORKSHOP ON ENGINEERED CEMENTITIOUS COMPOSITES (ECC)



As part of Tran-SET project **Application of Engineered Cementitious Composites (ECC) for Jointless Ultrathin Whitetopping Overlay** Dr. Gabriel Arce (Tran-SET Principal Investigator) conducted a workshop on ECC materials

at the Louisiana Transportation Research Center (LTRC) on May 10, 2019. The main purpose of the workshop was to inform LTRC personnel, practitioners, and material suppliers of the design, manufacturing process, and performance of these novel materials. The workshop started with a presentation by Dr. Arce on the design and performance of ECC materials/applications and concluded with laboratory

demonstrations of the ECC manufacturing process and performance testing.

Dr. Arce presents at the ECC Workshop



PARTICIPATION IN SIMCAP LOUISIANA'S THIRD ANNUAL EDUCATIONAL MEETING



Christopher Melson co-organized and presented at the third annual educational meeting hosted by the Simulation and Capacity Analysis Users Group (SimCap) of Louisiana on April 4, 2019. Mr. Melson is the co-founder of SimCap Louisiana, which is a volunteer network of professionals aiming to support, promote, and improve best practices in the application of traffic simulation and capacity analysis.

If you are interested in attending future educational meetings (held quarterly both in-person and via webinar), in joining SimCap Louisiana, or in learning more, please visit their recently developed website or contact Mr. Melson directly at cmelson1@lsu.edu.