

In the Fight: TTI, Team
Study How Transportation
Professionals Can Help End
Human Trafficking

Now You See It; Now You
Don't: The Traffic Hiatus from
COVID-19 Was Historic...
and Brief

TTI's Mukhopadhyay Develops
Test Methods for Cracking-
Resistant Concrete

TEXAS TRANSPORTATION

VOL. 57 | NO. 3 | 2021

Researcher



WHEN TRANSPORTATION BECOMES

PERSONAL



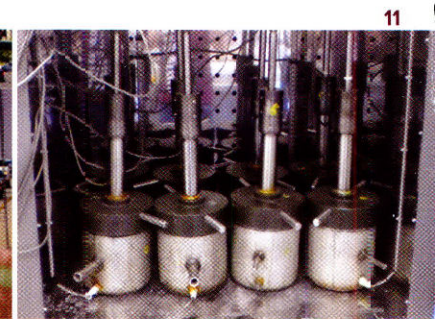
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ON THE COVER: Whether you're a pedestrian, bicyclist or motorist, our transportation system is a vital part of daily life. Though we often take it for granted, it provides access to jobs, schools, entertainment and vital services. When that access is denied or we lose a loved one to traffic tragedy, our shared system can take on a profoundly personal dimension.



3
Urban Mobility Report 2021 – Congestion was Flattened in 2020: COVID-19 Made Traffic Congestion Disappear but Not for Long

4
A Tale of Two Problems: 2021 Virtual Traffic Safety Conference Addresses COVID-19's Impact on Traffic Safety Fatalities

6
In the Fight: TTI, Team Study How Transportation Professionals Can Help End Human Trafficking

8
Now You See It; Now You Don't: The Traffic Hiatus from COVID-19 Was Historic...and Brief

10
TTI's Mukhopadhyay Develops Test Methods for Cracking-Resistant Concrete

12
Learning Something New at the 2021 Texas Child Passenger Safety Conference

13
TTI News

15
The Last Stop with Greg Winfree: Making Transportation Personal – The Return on Investment in Our Shared System

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A PUBLICATION OF



Texas Transportation Researcher is published by the Texas A&M Transportation Institute to inform readers about its research, professional and service activities. Opinions expressed in this publication by the editors/writers or the mention of brand names does not necessarily imply endorsement by the Texas A&M Transportation Institute or The Texas A&M University System Board of Regents.

Texas Transportation Researcher (ISSN 00434748) is a quarterly publication of TTI Communications, Texas A&M Transportation Institute, 3135 TAMU, College Station, Texas 77843-3135. Periodicals postage paid at College Station.

TTI.RESR2200/7745.1021.4000

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CONGESTION

WAS FLATTENED IN 2020

COVID-19 Made Traffic Congestion Disappear but Not for Long

Congestion levels in early 2020

were at least a decade behind where they were in 2019



Changes in U.S. workplace culture caused by the pandemic



may have a **lasting impact** on traffic congestion if trends toward **working from home** continue



2020 took the nation back to congestion levels not seen since the



More trucks in off peaks and overnight to deliver **essential goods**

Truck traffic decreased only

6%



2020 employment

down **9%**

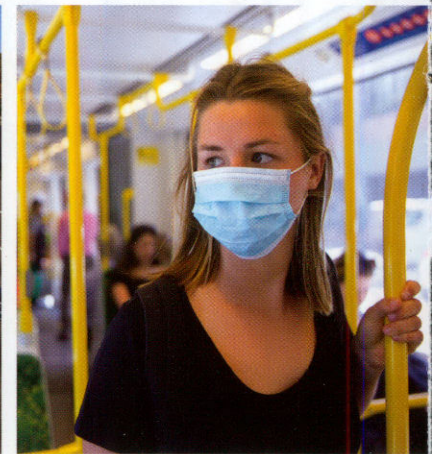
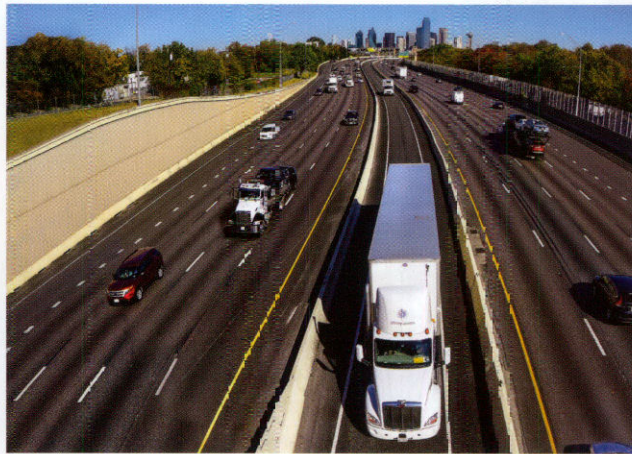
Traffic volume **18%**



from 2019

A Tale of Two Problems:

2021 Virtual Traffic Safety Conference Addresses COVID-19's Impact on Traffic Safety Fatalities



“One of the main reasons I’m concerned about traffic safety this year is the increase in fatality rates we observed last year. We can say that what happened last year was highly influenced by COVID-19. I say this not just because I see differences [in] ... fatality rates in traffic safety but [because] I’ve also seen an alarming increase in various other areas such as drug overdose deaths and suicides.”

*Nanda Srinivasan
National Highway Traffic Safety Administration Associate Administrator
for Research and Program Development*

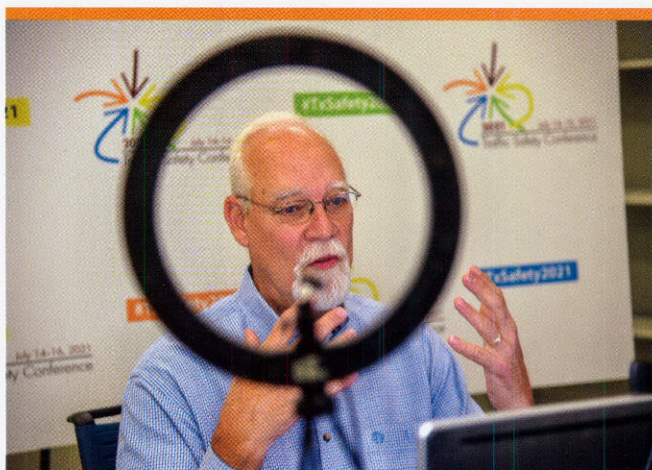
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For the second year in a row, the Texas A&M Transportation Institute (TTI) hosted the virtual Traffic Safety Conference, held July 14–16, 2021. Supported by the Texas Department of Transportation (TxDOT), the event focused on high-priority safety issues and innovative solutions to end the streak of daily fatal crashes in Texas. This year’s conference also included discussions and research on how COVID-19 has impacted transportation safety. More than 580 individuals attended.

“We’re so excited for you to be here but regret that we’re still virtual,” said Robert Wunderlich, director of TTI’s Center for Transportation Safety, as he opened the conference. “On the other hand, this year’s [format] allowed many attendees and speakers who wouldn’t typically be able to join us in person to participate.”

In his keynote address July 15, Nanda Srinivasan, National Highway Traffic Safety Administration associate administrator for research and program development, discussed alarming trends in traffic safety nationally during the COVID-19 pandemic. “One of the main reasons I’m concerned about traffic safety this year is the increase in fatality rates we observed last year,” Srinivasan said. “We can say that what happened last year was highly influenced by COVID-19. I say this not just because I see differences [in] ... fatality rates in traffic safety but [because] I’ve also seen an alarming increase in various other areas such as drug overdose deaths and suicides.”



Robert Wunderlich presenting at the 2021 Traffic Safety Conference.

Wunderlich expanded on Srinivasan’s keynote to offer insights related to COVID-19’s influence on traffic fatalities in Texas. “Although crash data from April 2020 suggest the number of total traffic crashes decreased by 47 percent,” he noted, “fatal crashes in that same period were only down 20 percent. This means the proportion of all crashes that were fatal went up 1.5 times compared to the previous three-year average.”

Other sessions over the three-day conference supported the goal to reduce traffic fatalities and included discussions of increasing stakeholder engagement in the Texas Strategic Highway Safety Plan, using data innovations, and tailoring employer driver and transportation training programs. A team comprised of five TTI speakers — including Associate

“Although crash data from April 2020 suggest the number of total traffic crashes decreased by 47 percent, fatal crashes in that same period were only down 20 percent. This means the proportion of all crashes that were fatal went up 1.5 times compared to the previous three-year average.”

Robert Wunderlich
Director of TTI’s Center for Transportation Safety

Research Engineer Luke Albert, Senior Research Engineer Jim Cline, Assistant Research Scientist Subash Das, Associate Research Engineer Minh Le and Assistant Research Scientist Michael Martin — presented alternative data sources being used to diagnose and address traffic safety problems on Texas roadways. Focusing primarily on connected vehicle data, the team explained how such a method — in concert with traditional traffic safety information and local engineering judgment — can provide a data-driven basis for tough decisions and prioritization of improvement projects.

TxDOT Director of Engineering and Safety Operations C. Michael Lee’s July 16 keynote address focused on TxDOT’s zero deaths goal. “Our biggest problem in 2021 is our [traffic] fatalities... And sadly, we haven’t gone a single day without a fatality on Texas roads in over 20 years,” Lee said. “We need to change the norm, and we need to change the expectation. The expectation should be [that] when you’re traveling on our transportation system, you’re going to get where you’re going. And if that doesn’t happen, something went terribly wrong.”

Anecdotal accounts suggest the 2021 Traffic Safety Conference — now in its 12th year — was a resounding success. A strong social media campaign advertising the event ahead of time, along with conveniences like online attendance (requiring no travel or the associated expenses) and access to webinars after the fact, helped attract hundreds of conference participants. Surveys were sent out to determine attendees’ satisfaction with the conference and identify improvements for next year’s conference. ■



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IN THE FIGHT:

TTI, Team Study How Transportation Professionals Can Help End Human Trafficking



John Habermann, Texas A&M Transportation Institute (TTI) research engineer, recently coauthored the article “The Contribution of State and Local DOTs to Disrupting Human Trafficking” in the June 2021 issue of the *ITE Journal* published by the Institute of Transportation Engineers. The publication reaches nearly 16,000 subscribers.

The article defines human trafficking as the “recruitment, harboring, transportation, provision, obtaining, patronizing, or soliciting of a person through force, fraud, or coercion for the purpose of financial gain through labor and/or sex, essentially as slaves.” According to Habermann and his coauthors, in 2016, some 400,000 people were “living in conditions of modern slavery in the United States alone.”

Roadways, terminals, transit stations and vehicles are often the first places where victims are recognized by those looking to exploit them. The team traces where human trafficking intersects with transportation to recommend ways for transportation professionals to help end the



“HUMAN TRAFFICKING is the recruitment, harboring, transportation, provision, obtaining, patronizing, or soliciting of a person through force, fraud, or coercion for the purpose of financial gain through labor and/or sex, essentially as slaves.”

— Excerpted from “The Contribution of State and Local DOTs to Disrupting Human Trafficking”

practice. For example, local or state departments of transportation can aid human trafficking prevention in this early stage by

- increasing awareness of what human trafficking is,
- conducting routine training on preventive measures,
- collecting frontline data to help other agencies join the fight, and
- partnering or assisting regionally to intervene.

Not only can transportation professionals help effect immediate change related to human trafficking, but they can also contribute to developing future counter-trafficking tools and strategies by participating in regional coalitions. The article points to examples of just how effective coalitions can be.

The Texas attorney general estimates some 300,000 trafficking victims in the state at any given time and more than 25,000,000 worldwide. Andrea Sparks, director of Texas Gov. Greg Abbott’s Council on Child Sex Trafficking Team (CSTT), notes that under Habermann’s leadership, TTI’s partnership in the Heart of Texas Human Trafficking Coalition has helped further the cause in the Lone Star State.

“CSTT has persistently developed collaborations to fight against human trafficking,” Sparks says. “The cooperation with TTI, our fellow state agency, is one we find valuable.”

One example of an agency acting at the federal level is the Federal Transit Administration, which is currently working to improve training and awareness

materials to help with crime prevention, including human trafficking, in transit facilities. To increase awareness at transit facilities about human trafficking, Habermann notes that in the next year and a half, TTI will develop outreach materials and training curricula. TTI Associate Research Scientist Zach Elgart will lead these efforts with support from TTI Assistant Research Scientist Lisa Minjares-Kyle and Senior Research Scientist Troy Walden, director of TTI’s Center for Drug and Alcohol Education.

Though the transportation network is often used to further the practice of human trafficking, Habermann is quick to point out the network can also be conducive to healing. Survivors need connection to recover and rebuild their lives — counseling, employment and community — but often don’t have the resources to access it, even when it’s provided free of charge. Local transpor-

“What once was a community-involvement activity for me has developed into a passionate research area in my field of study. Pursuing this was only possible through the support of TTI leadership and TTI’s commitment to contribute to a safe transportation system for all users, including victims of human trafficking.”

*John Habermann
TTI Research Engineer*

tation agencies can help survivors with free rides via buses, subways and taxi services to access the vital services they need to move forward and normalize their lives.

“What once was a community-involvement activity for me has developed into a passionate research area in my field of study,” Habermann says. “Pursuing this was only possible through the support of TTI leadership and TTI’s commitment to contribute to a safe transportation system for all users, including victims of human trafficking.” ■



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Habermann Talks Transportation and Human Trafficking

In the July 27, 2021, episode of TTI’s podcast *Thinking Transportation*, John Habermann sat down with host Bernie Fette to talk about how transportation practitioners are ideally placed through the nature of their jobs to spot, report, and help end human trafficking.

In any given year, Habermann says, travelers going about their daily business on U.S. roadways are likely near human trafficking without even knowing it — “at an intersection or ... passing this activity in some form or fashion” whether shopping at the mall or pulling up to a stoplight.

“We all think we know what human trafficking is, but it has some very deep and dark corners,” Habermann tells Fette in the episode. “[Victims] don’t know how to act but only to just obey and do what they’re told to do... And that psychological abuse, along with the physical abuse and the mental abuse, is what begins to get very heavy.” ■



Now You See It; Now You Don't:

The Traffic Hiatus from COVID-19 Was Historic... and Brief

America's worst public health crisis in a century flattened roadway congestion to levels not seen in 40 years, but the respite was short lived, according to the *2021 Urban Mobility Report (UMR)* from the Texas A&M Transportation Institute (TTI).

In the pandemic shutdown of spring 2020, daily commuter traffic dropped by almost half compared to the year before. Truck traffic, on the other hand, hardly dropped at all, a result of increased at-home delivery of items as everyday as cereal and toilet paper.

Any traffic snarls that did exist were spread over more hours of the day as

rush-hour travelers took on roles as midday shoppers and child transporters. Also, more of each week's travel delay in 2020 was shifted to the weekend, another result of reduced weekday rush-hour commuting.

As noted by this year's UMR, Americans experienced four distinct traffic years in one during 2020:

- In January and February, things looked a lot like the year before.
- In March through May, the shutdown produced roadway scenes not seen since George H. W. Bush was president and postage stamps cost a quarter.
- In June through August, rush hours began to reappear, reminding us what traffic was like at the turn of the century.
- In September, delay conditions crept back toward normal, reminiscent of conditions in 2005.

"We've been tracking roadway congestion at TTI for almost four decades," says TTI Senior Research Engineer Bill Eisele. Eisele co-authored the report with TTI Senior Research Scientist



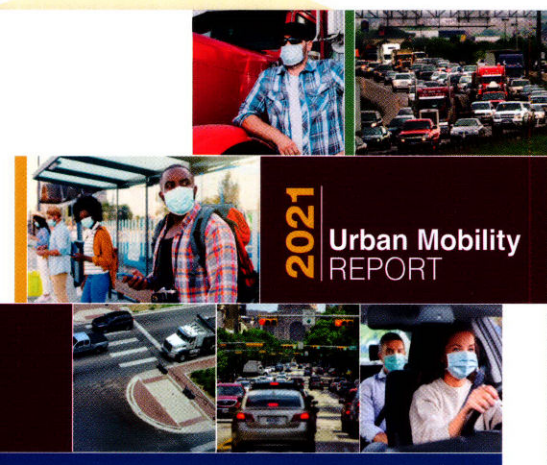
"We've been tracking roadway congestion at TTI for almost four decades. Over that time, we've never seen such dramatic drops in traffic delay and associated costs as we did in 2020."

Bill Eisele
TTI Senior Research Engineer

David Schrank, Associate Research Engineer Luke Albert and Research Fellow Tim Lomax. "Over that time, we've never seen such dramatic drops in traffic delay and associated costs as we did in 2020."

Although the link between spring-time pandemic shutdowns and roadway traffic is apparent, the report notes, some parts of the picture are less clear. For instance, roadway traffic volume and gridlock increased steadily in the fall months even as new COVID-19 cases and hospitalizations were surging.

Regardless of what prompts a sharp and temporary drop in traffic — be it a pandemic or an economic recession — strategies for a more lasting solution remain constant, requiring a balanced and diverse approach. "That includes getting the best possible use out of the current roadway network, adding





In the pandemic shutdown of spring 2020, DAILY COMMUTER TRAFFIC DROPPED BY ALMOST HALF compared to the year before. Truck traffic, on the other hand, hardly dropped at all, a result of increased at-home delivery of items as everyday as cereal and toilet paper.

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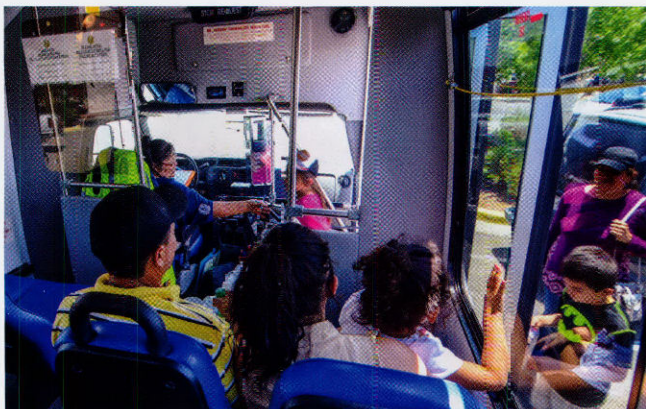
capacity (whether for cars and trucks or other modes including public transit and bicycle/pedestrian routes), and altering land development patterns,” Schrank says. “Giving travelers more choices about when, where and/or how they travel is also important.

“COVID-19’s impact on traffic was predictable given the shutdowns that occurred,” the authors state in the report. “And the lesson we can draw from our experience is that the simplest path to mitigating roadway gridlock is, and has always been, reducing the demand for limited road space.”

Regional traffic trends during the year contrasted somewhat with those at the national level, according to the study. Even so, every urban area showed considerably more change than has ever been recorded, and 2021 is already seeing the fastest increase in traffic levels since 1982 — the first year of statistics recorded by the UMR.

This year’s study was funded by the Texas Department of Transportation (TxDOT) and the National Institute for Congestion Reduction.

“As the *2021 Urban Mobility Report* shows, congestion levels in Texas and much of the rest of the country have rebounded



Traffic Study Stirs Widespread Buzz

As it has in every release, the 2021 UMR again produced coast-to-coast news media interest. Nearly 400 newspapers, websites and broadcast news outlets carried articles about the 2021 edition of the study. In addition to all major newspapers in Texas, the coverage included mentions in *USA Today*, *The Hill*, *Bloomberg News*, *The Washington Post*, *The Chicago Tribune*, *The Boston Globe*, and *CNBC news*, among other media outlets.

“The numbers change every year, but the narrative remains constant,” says TTI Senior Research Scientist David Schrank. “The perennial interest from journalists everywhere over more than three decades reminds us that this is a critical issue that merits our continued study and focus.” ■

“Studies such as the *2021 Urban Mobility Report* are an important tool in this effort as we continually work to improve mobility and safety on our roadways.”

*Marc Williams
TxDOT Executive Director*

to near pre-pandemic levels,” says Marc Williams, TxDOT executive director. “In Texas, we continue to see the same underlying causes — a growing population and economy that are producing more passenger vehicle and truck traffic on roadways throughout the state. That’s why we’re focused on important initiatives such as Texas Clear Lanes to address the top chokepoints in our state’s largest metropolitan areas, as well as understanding the many facets of the traffic challenges we face. Studies such as the *2021 Urban Mobility Report* are an important tool in this effort as we continually work to improve mobility and safety on our roadways.” ■



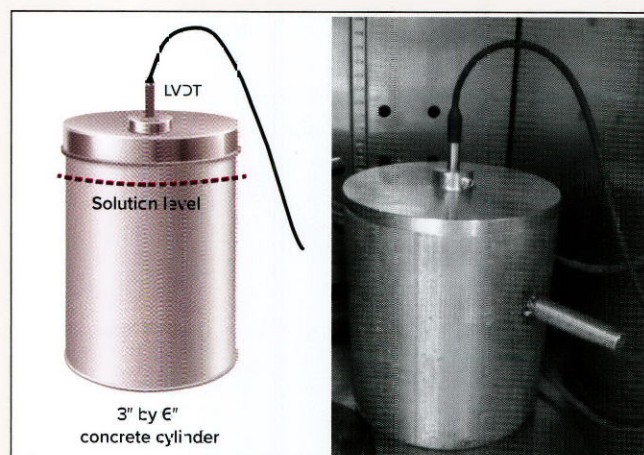
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TTI's Mukhopadhyay Develops Test Methods for Cracking-Resistant Concrete

Alkali-silica reactions (ASRs) cause cracking issues in precast concrete bridge structures. In collaboration with Texas A&M Transportation Institute (TTI) Assistant Research Scientist Kai-Wei Liu, TTI Senior Research Scientist Anol Mukhopadhyay developed two ASR test methods now accepted as American Association of State Highway and Transportation Officials (AASHTO) standards, as well as a four-step process for formulating ASR-resistant concrete mixes.

Mukhopadhyay manages TTI's Rigid Pavements Program and supervises the Concrete Innovation Laboratory in the Center for Infrastructure Renewal on The Texas A&M University System's RELIS Campus. He is nationally and internationally recognized as a concrete durability expert.

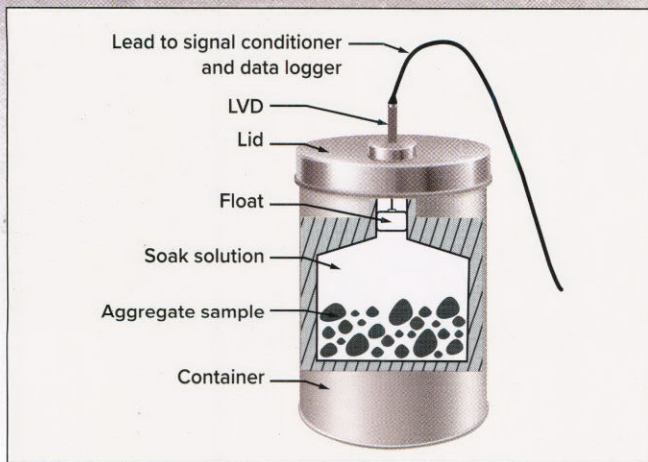
"Developing the test methods and seeing them accepted as AASHTO standards were rewarding for me and my team," says Mukhopadhyay. "AASHTO's recognition enables the methods to reach a wider audience of concrete mix producers and owners, who can follow the steps to create their own ASR-resistant mixtures."



Left: The test setup for the ACCT method. Right: A fully assembled ACCT device placed inside an oven.

"Developing the test methods and seeing them accepted as AASHTO standards were rewarding for me and my team. AASHTO's recognition enables the methods to reach a wider audience of concrete mix producers and owners, who can follow the steps to create their own ASR-resistant mixtures."

Anol Mukhopadhyay
TTI Senior Research Scientist

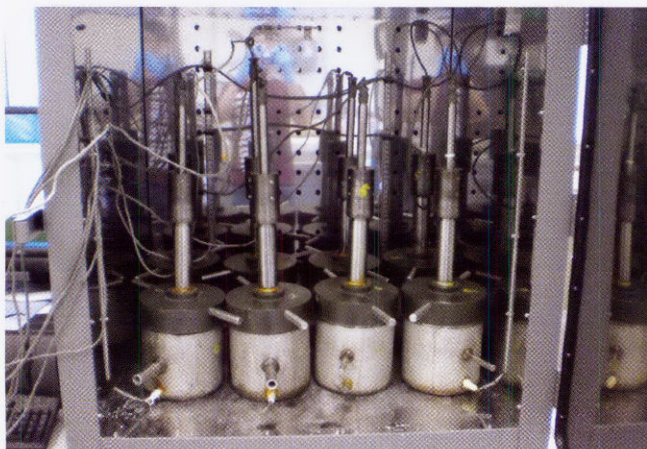


The test setup for the VCMD method.

“AASHTO materials standards are recognized as vetted by experts in state departments of transportation — with academia and industry involvement — to provide materials protocols that transportation agencies can adopt confidently,” says Geogene Geary, retired materials engineer, currently a consultant for AASHTO and former vice chair of the AASHTO Materials Committee.

The first ASR test method, volumetric change measuring device (VCMD), is listed by AASHTO as the Standard Method of Test for Determination of Composite Activation Energy of Aggregates due to Alkali-Silica Reaction (Chemical Method) (AASHTO T 364). This method measures how an aggregate — similar in makeup to portland cement concrete — reacts with a simulated pore solution.

AASHTO lists Mukhopadhyay’s second ASR test method, accelerated concrete cylinder testing (ACCT), as Accelerated Determination of Potentially Deleterious Expansion of Concrete Cylinder due to Alkali-Silica Reactivity (AASHTO TP 142-21). This method validates concrete mixes by offering further ASR-resistant testing. Mukhopadhyay applied the ACCT-based method to fly ash — a coal combustion product — and found that the ASR test method performs similarly fast, reliable tests on reactivity like the VCMD-based method.



Several fully assembled VCMDs inside an oven used for conducting this test at a particular temperature in the Center for Infrastructure Renewal’s Concrete Innovation Laboratory.

“AASHTO materials standards are recognized as vetted by experts in state departments of transportation — with academia and industry involvement — to provide materials protocols that transportation agencies can adopt confidently.”

Geogene Geary

Retired Materials Engineer, currently a consultant for AASHTO and Former Vice Chair of the AASHTO Materials Committee

Combining both methods resulted in a four-step mix process to reduce ASR’s impact on concrete in bridges. The steps are as follows:

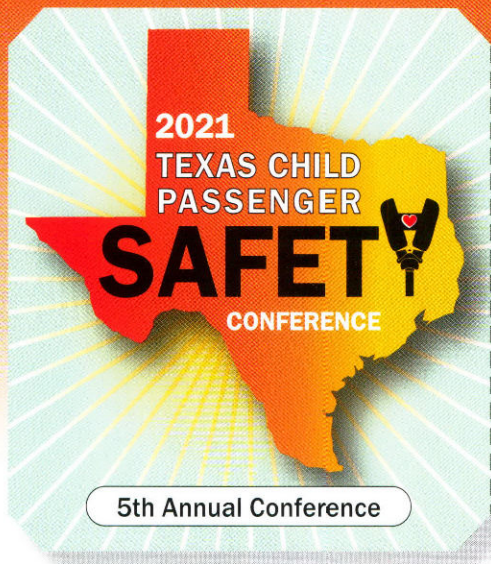
- **STEP 1:** Determine the CAP (a measure of aggregate reactivity) and the aggregate threshold alkalinity (THA) by the VCMD method. A standard relationship between reactivity and THA has been developed based on several aggregate tests, which can be used to assign THA for an aggregate with known reactivity.
- **STEP 2:** Select suitable mix design controls depending on the aggregate reactivity and THA, and then estimate the concrete pore solution alkalinity (PSA). Mukhopadhyay and Pravin Saraswatula, a TTI engineering graduate student worker, developed an easy-to-use tool to estimate PSA.
- **STEP 3:** Make a mix design adjustment (if needed) based on the THA-PSA relationship. PSA needs to be below THA to mitigate ASR.
- **STEP 4:** Conduct mix design validation using the ACCT method. The expansion of the tested concrete cylinder should be less than or equal to 0.04 percent.

A leader in ASR-resistant concrete research, Mukhopadhyay coauthored the technical paper “An Innovative Approach to Fly Ash Characterization and Evaluation to Prevent Alkali-Silica Reaction” in the July 2019 issue (Vol. 116, No. 4) of the American Concrete Institute’s (ACI’s) *ACI Materials Journal* and “Innovative Approach for Formulating ASR-Resistant Mixtures” in the December 2018 issue of ACI’s *Concrete International*.

“Having easy access to ASR test methods can help support the construction and longevity of bridges by making long-lasting, durable concrete, reducing costs for repair and maintenance, and ensuring safety for travelers,” Mukhopadhyay says. ■



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LEARNING SOMETHING NEW AT THE 2021 Texas Child Passenger Safety Conference



With 384 attendees this year, the fifth annual 2021 Texas Child Passenger Safety Conference helped child passenger safety technicians (CPSTs) stay informed on the latest research and best practices aimed at keeping our most precious cargo safe when traveling. The conference also provided participants with continuing education credits for CPST recertification. Sponsored by the Texas Department of Transportation, the conference was held virtually June 29–July 1, 2021, and was organized by the Texas A&M Transportation Institute (TTI) and the Texas A&M AgriLife Extension Service.

presented the well-received session Honey, Does This Car Seat Make My Rear Seat Look Small?, which addressed how to fit car seats in smaller vehicles.

Sessions like Fact or Fiction and The Price Is Right kept the fun going with an interactive workshop for conference participants. Other sessions, such as Updates from Greenie, Hot Topics and Building a Better Booster, brought CPSTs up to speed on those topics. And the session Virtual Inspections discussed the benefits of virtual child passenger safety education as a helpful tool for the CPST toolbox. TTI posted on social media leading up to and during the conference, and attendees will carry the conference’s excitement into next year and apply what they learned.

“This was our second year to host the Texas Child Passenger Safety Conference in a virtual environment. We learned so much the first year, but there is nothing quite like the anticipation and excitement of opening day when that first session begins and it all comes together. Thinking about everyone at the conference learning something new is worth all the effort it takes to get to that moment.”

*Katie Womack
TTI Senior Research Scientist*

Lt. Lonny Haschel with the Texas Department of Public Safety gave a keynote address on strategies for building partnerships with law enforcement to enhance child passenger safety education in local communities. The conference’s featured speaker was David Mooney, associate professor of surgery at Harvard Medical School and director of the Trauma Center at Boston Children’s Hospital. In his presentation, Mooney provided firsthand examples of how car seat misuse results in serious injuries.

This year’s conference featured two general session speakers. Kathleen Klinich, a researcher with the University of Michigan Transportation Research Institute, gave the presentation “Misuse and Best Practice: What Does the Latest Research Show?” Denise Donaldson, publisher of the *Safe Ride News*™ newsletter and the *Lower Anchors and Tethers for Children (LATCH) Manual*,

“This was our second year to host the Texas Child Passenger Safety Conference in a virtual environment,” says TTI Senior Research Scientist Katie Womack. “We learned so much the first year, but there is nothing quite like the anticipation and excitement of opening day when that first session begins and it all comes together. Thinking about everyone at the conference learning something new is worth all the effort it takes to get to that moment.” ■



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Dixon Awarded 2021 ITE Safety Council Ricker Award



Dixon

TTI Senior Research Engineer Karen Dixon is the 2021 recipient of the Institute of Transportation Engineers (ITE) Safety Council Edmund R. Ricker Individual Award. Named for Edmund R. Ricker, president of ITE in 1967 and author of numerous traffic safety books and research papers,

the award recognizes traffic safety leaders through their involvement in professional organizations, the community and traffic engineering performance.

Nationally recognized as a roadway safety expert, Dixon is well known for her uncanny ability to turn high-level statistical techniques into easy-to-use, practitioner-friendly methodologies and tools. After finishing her B.S. in civil engineering at Texas A&M University, she worked as a site development, roadway and interchange designer. Inspired by her interactions with young professionals through

mentoring, Dixon completed advanced degrees at North Carolina State University and became a professor at the Georgia Institute of Technology and Oregon State University, until she returned to Texas A&M and joined TTI in 2012. Dixon oversees TTI's Traffic Operations and Roadway Safety Division, where her research emphasizes ways to improve facility design, operation and safety for all road users.

"I'm very honored to be awarded the ITE Safety Council Edmund R. Ricker Individual Award," says Dixon. "Traffic safety is a team effort! Ongoing work that focuses on safety for all road users could not be achieved without the input and guidance from many transportation professionals including my TTI colleagues, the many volunteers I have the privilege to work with from ITE and TRB [Transportation Research Board], and transportation professionals who act as guardians of our transportation network daily. Thank you, ITE!" ■

Xu Commercializes Electric Vehicle Charging Demand Software



Xu

TTI Research Scientist Yanzhi "Ann" Xu is the co-founder of ElectroTempo, Inc., a start-up company for electric vehicle charging demand

software technology. The company was incorporated Nov. 19, 2020, and The Texas A&M University System Board of Regents granted approval for Xu, as a TTI employee, to be an officer and member of the board of directors.

"Vehicle electrification means jobs, economic opportunities and cleaner air. An affordable and scalable software solution in the market is key to accelerating this trend," says Xu. "The solution's massive economic and societal impact is what motivated us to start a company to commercialize our technology."

The technology's co-inventors include TTI Research Scientist Alexander Meitiv and TTI Assistant Agency Director Joe Zietsman. The

technology, ElectroTempo Charging Demand Simulator, uses a software algorithm to predict light-duty electric vehicle charging demand (at street block and regional levels) by testing electric vehicle charging strategies using a variety of market, price, technological and seasonal factors. Staff working in electric utilities, departments of transportation and communities can use the technology to plan their light-duty electric vehicle charging infrastructure in an efficient, equitable and cost-effective way. EVOolve Houston, a nonprofit focusing on electric

vehicles, currently uses it to plan Houston's Regional Infrastructure Strategy for Electrification.

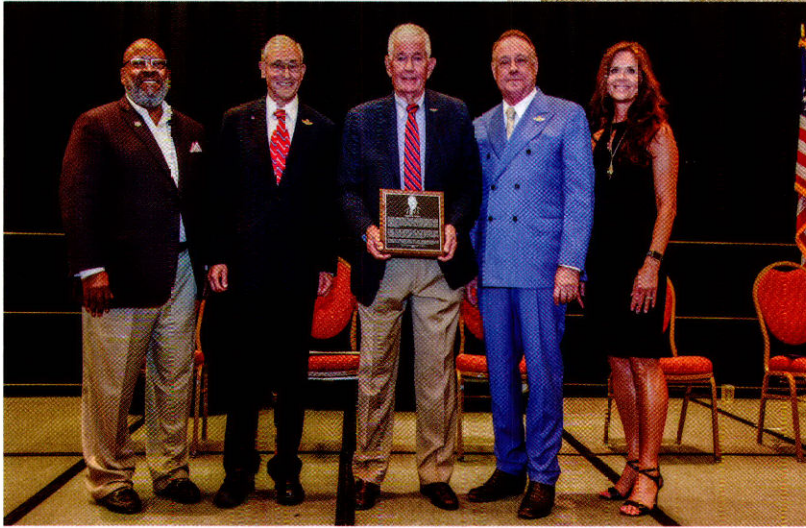
"USDOT [U.S. Department of Transportation] has a very strong emphasis on technology transfer. At CARTEEH [Center for Advancing Research in Transportation Emissions, Energy, and Health], we saw the need for developing implementable research products," notes Zietsman. "This technology licensed to ElectroTempo, Inc., is a perfect example of how research can be made available to a broad range of stakeholders." ■

THINKing TRANSPORTATION

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Ready or Not, Here They Come:
Preparing for the Electric Vehicle Transformation

The number of electric cars and trucks on our roadways is growing, and the pace of that growth is accelerating.
Are we ready for that?



Speakers (left to right) at the event were TTI Agency Director Greg Winfree; Fred Underwood, member of the Texas Aviation Advisory Board and former commissioner of the Texas Transportation Commission; Fulton; Jim Schwertner, president and CEO of Schwertner Farms, chairman of the Texas Aviation Advisory Committee, and regent emeritus of The Texas A&M University System Board of Regents; and Kari Campbell director of grants management in TxDOT's Aviation Division.

Fulton Joins Texas Transportation Hall of Honor

David S. Fulton, a nationally recognized leader in the aviation industry and the first director of the Texas Department of Transportation (TxDOT) Aviation Division, was inducted into the Texas Transportation Hall of Honor at the Texas Aviation Conference awards banquet in San Marcos, Texas, on Aug. 5.

TTI Agency Director Greg Winfree hosted the ceremony, honoring Fulton's life's work in improving general aviation airports. Fulton has helped ensure that the Texas General Aviation Airport System is safe, economically sound and in good condition for the flying public.

"David has blazed a trail in aviation in Texas and beyond," said Kari Campbell, director of grants management at the TxDOT Aviation Division. "His common sense, people skills, eternal optimism and moral compass allowed him to build lasting relationships with his staff and provide outstanding customer service."

At TxDOT, Fulton led the rebuilding of airports across Texas, providing \$1.4 billion in federal and state grant funds for more than 250 locally owned airports and helping transform the Texas General Aviation Airport System into one of the best in the nation. In that effort, he launched innovative matching grant programs to build airport terminal buildings and incentivize communities to fund routine airport maintenance.

In accepting the honor, Fulton credited "the outstanding men and women of the TxDOT Aviation Division who were committed to the goal of rebuilding the Texas airport system." Fulton is the 46th member of the Hall of Honor, which was established in 2000 by TTI to recognize select individuals who played pivotal roles in the advancement of transportation in Texas and the nation. ■

TTI Joins Southern Regional Climate Center



Cline

TTI is now supporting the Southern Regional Climate Center (SRCC), which conducts research into how extreme weather affects transportation. "We couldn't be more pleased to partner with Nielsen-Gammon, Trabus Technologies and the Department of Atmospheric Sciences to establish SRCC at Texas A&M," says TTI Senior Research Engineer Jim Cline, SRCC project manager for the Institute. "TTI's expertise will contribute greatly to meeting the long-term goals of the southern region."

Headed up by Texas State Climatologist John Nielsen-Gammon, regents professor in Texas A&M's Department of Atmospheric Sciences, SRCC provides vital regional climate data products and services; houses climate information in a complex, computer-based infrastructure; and integrates smoothly between regional and national climate data sources.

"The extreme weather our country has experienced during the past 15 years or so makes this center a significant addition to Texas A&M and TTI's research and education portfolio," says TTI Agency Director Greg Winfree. "Improving the sustainability and resiliency of the transportation system is always top of mind for us, and we're proud to offer transportation expertise for the center." ■

For more information about TTI News, contact **Rick Davenport** at (979) 317-2408 or r-davenport@tti.tamu.edu.





THE LAST STOP

with Greg Winfree, Agency Director

Making Transportation Personal

THE RETURN ON INVESTMENT IN OUR SHARED SYSTEM



When I was a kid in 1970s Long Island, N.Y., I'd regularly ride along the Southern State Parkway with my parents. Running east to west for 25-plus miles required a 10-cent toll in both directions. Even to my pre-teen mind that seemed a bit onerous, having to dig a dime out each way.

I joined the U.S. Department of Transportation (USDOT) in 2010, and the light went on. I learned quickly just how expensive it is to build and maintain our national transportation network. In short, there are never enough dimes to go around.

Back then, USDOT was stovepiped in how it managed the nation's transportation system. Trained in distinct disciplines by similarly siloed academic departments, graduates who became employees understandably approached their work in that narrow way, too. By necessity over the past decade, our increasingly complex and interconnected network of transportation modes has forced that mindset toward a broader, more multidisciplinary approach. Transportation engineers are teaming up with psychologists, epidemiologists, data miners and other experts to meet the mobility challenges of the 21st century.

That more philosophical word, mobility — of goods, people and data — has replaced the historical goals of innovating pavement design or regulating signal timing. This new hub-and-spoke approach — where mobility is the hub and the spokes are all those discrete solutions like better pavement — required a revolution in the thinking behind transportation design.

It's almost a cliché nowadays, but we often take our transportation system for granted. What I believe we need is a revolution in the way the everyday user thinks about it. Each of us has a personal stake in devoting proper attention to our shared system. Think of its maintenance like you would maintaining your own automobile. To avoid buying another vehicle sooner than we have to, we change the oil, rotate or replace the tires, and perform other regular maintenance to ensure our vehicle stays in a state of good repair.

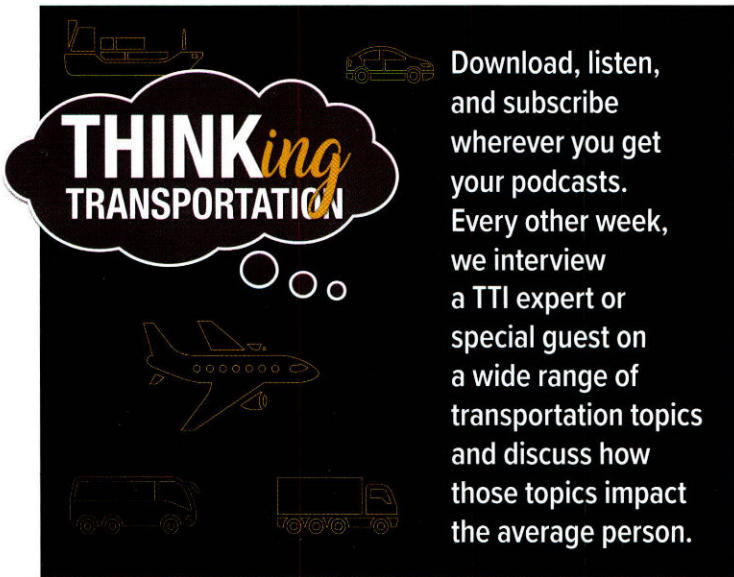
Whether it's the gas tax, tolls or a percentage of our annual license renewal, we're all contributing personally to the maintenance, development and improvement of our shared transportation system.

If we don't, we're forced to spend many times the cost of that upkeep to replace the vehicle. Common sense prevails, and we pay for the oil change.

Whether it's the gas tax, tolls or a percentage of our annual license renewal, we're all contributing personally to the maintenance, development and improvement of our shared transportation system. Whether that individualized contribution should go up or not is a topic for elected leaders. Realizing what we're getting personally for our investment — access to work, play, schools and needed services — is a responsibility we all share.

Every day we make more demands on a system the costs for which are only rising. Let's keep in mind that regular maintenance is required to avoid heavier costs down the road. And every dime counts. ■

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Download, listen, and subscribe wherever you get your podcasts. Every other week, we interview a TTI expert or special guest on a wide range of transportation topics and discuss how those topics impact the average person.

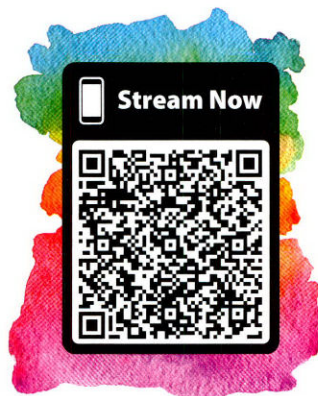
<https://tti.tamu.edu/thinking-transportation/>



When Captives Become Cargo:

How transportation professionals can disrupt human trafficking.

An efficient transportation network is central to the success of any commercial enterprise, including those that aren't legal. Our roads and bridges enable the scourge of human trafficking, but as Research Engineer John Haberman tells us, those who manage the network can play a part in disrupting that heinous activity.

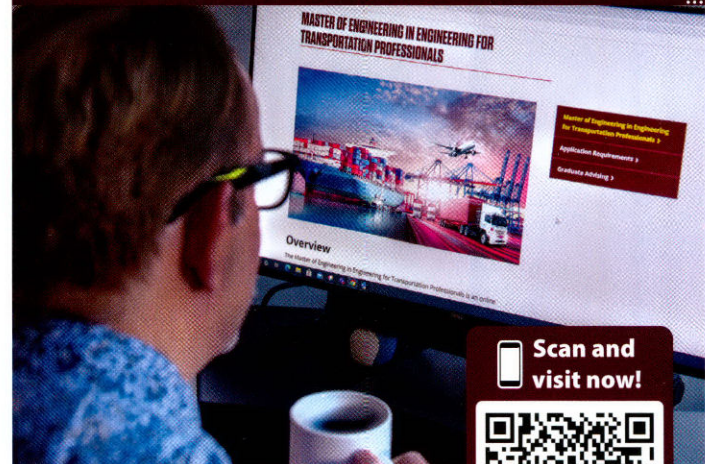


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