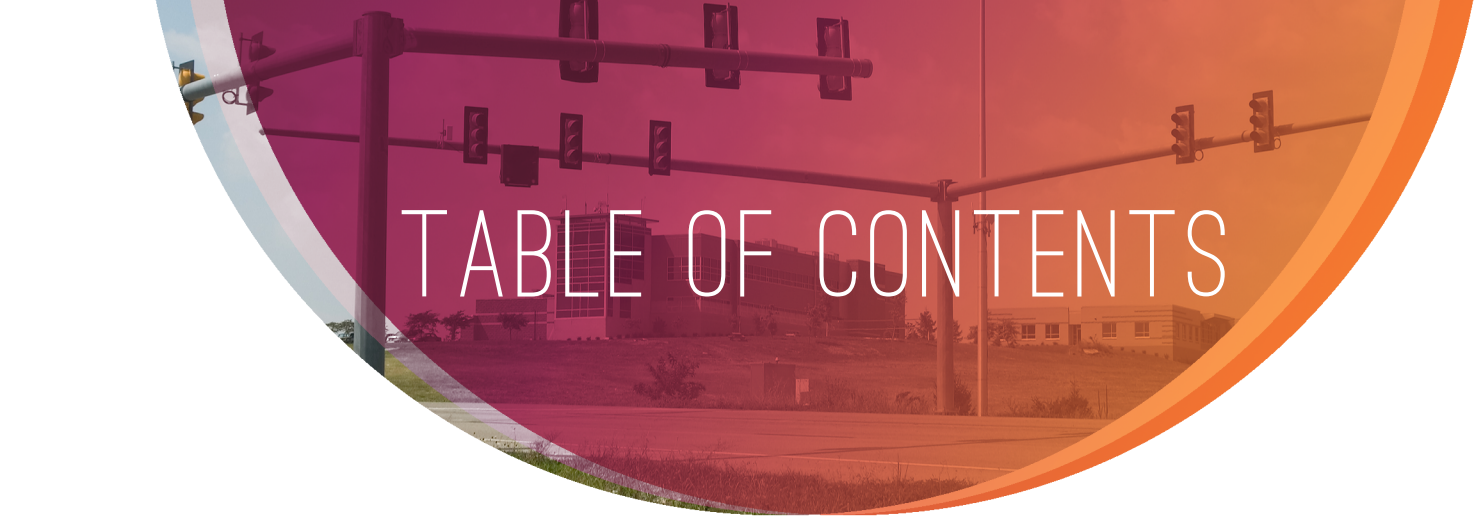
VIRGINIA TECH TRANSPORTATION INSTITUTE

ANNUAL REPORT / FISCAL YEAR

2015



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WELCOME

MISSION

The Virginia Tech Transportation Institute (VTTI) conducts research to save lives, save time, save money, and protect the environment. Researchers and students from multiple fields are continuously developing the techniques and technologies to solve transportation challenges from vehicular, driver, infrastructure, and environmental perspectives.

VISION

As one of seven premier research institutes created by Virginia Tech to answer national challenges, VTTI has effected significant change in public policies for driver, passenger, and pedestrian safety and is advancing the design of vehicles and infrastructure to increase safety and reduce environmental impacts.

MESSAGE FROM THE DIRECTOR

To be an innovator is to evolve.

To innovate means growing to not only answer new challenges, but to anticipate their arrival and to do so with an understanding of how we arrived at such a point.

Since its inception, that is exactly how the Virginia Tech Transportation Institute (VTTI) has approached the realm of transportation safety.

We have always strived to do better. Because of our tenacity and unremitting belief in a safer, more mobile, and more sustainable transportation environment, we have made it our goal to help fellow researchers, government representatives, major automobile manufacturers, and suppliers achieve what others perceived to be impossible but what we saw as more than feasible—we saw it as necessary.

User needs in a transportation environment have always shifted; they are never stagnant. From that basic understanding, VTTI has looked towards the horizon and worked with collaborators, sponsors, and partners to prepare for what we foresaw. That is why, for 20 years, we have worked to study the next generation of vehicular technology: connected and automated vehicles.

Since 1996, the VTTI community has facilitated the development of numerous advanced safety systems (e.g., forward collision warnings, lane departure warnings, etc.) that once seemed to be a luxury but are becoming more prevalent in newer, affordable vehicles. We have conducted more than $30 million in connected-vehicle projects and are working with industry leaders to develop safe and reliable automated vehicles. In less than a year, VTTI and its partners have unveiled two new initiatives—the Virginia Connected Corridors and the Virginia Automated Corridors—designed to revolutionize the development and deployment of connected and automated vehicles.

Our research is proving the multitude of benefits to be derived from the integration of connected and automated vehicles into the transportation environment. When deployed safely and as intended, the possibilities afforded by these technologies have few limits: they can enable advances in pavement maintenance and sustainability, they can help significantly increase mobility and reduce traffic congestion, they can lead to significant reductions in both cost and environmental impact when it comes to road lighting, and they can mitigate driving in unsafe conditions and crashes overall.

But, while user needs are changing, it remains imperative for us as a research community to ensure new technologies are developed and implemented in a consistent manner that only increases safety and mobility. Thus, the VTTI community works tirelessly as a team across the entire ground transportation spectrum, from the road, to the tire, to the chassis, to the safety systems installed and their impacts on users, to the human factors, to the environment that envelops transportation users as they flow from Point A to Point B. We work collectively to forge the future by understanding the past and today. We know we cannot hastily forego what is intrinsic to current transportation, because we understand that successful innovation happens incrementally.

At VTTI, we do not take lightly our motto "advancing transportation through innovation." We seek every day to embody those words, and we strive as a community to make life on the roads safer for everyone.

We house

90%

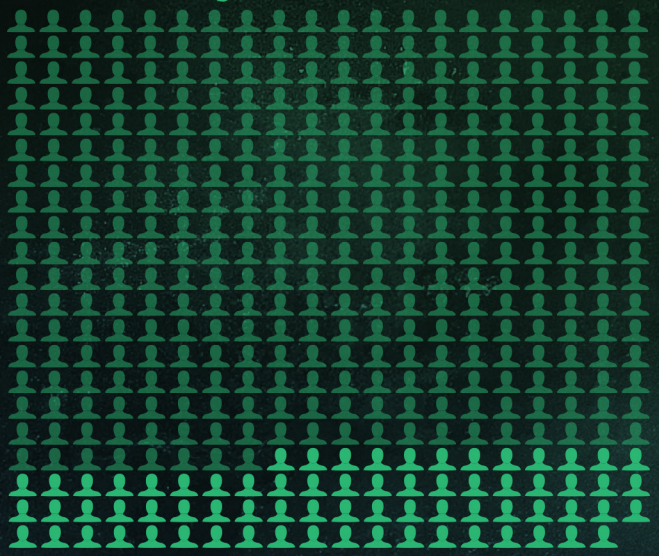
of the naturalistic driving data in the world

[2.5 petabytes]

which is more than **40** **million miles** of data

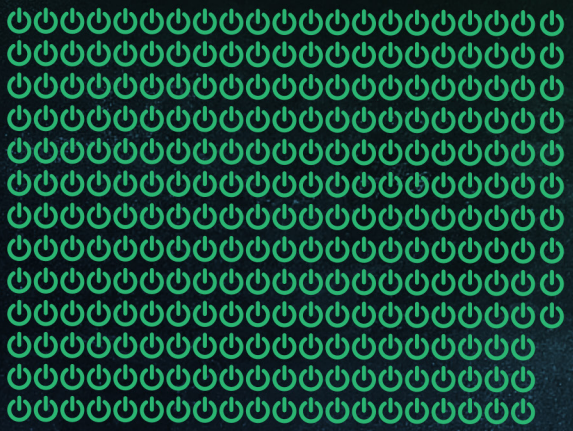
enough to drive from Earth to Mars at their closest point

475 employees [368 in 2013]



350+

active sponsored projects



at a glance

21600 hours
and counting
of Smart Road use

10+ years
conducting connected- and automated-vehicle projects

~$40,000,000
in annual sponsored research (includes VTT, LLC)

$30,000,000+
in connected-vehicle research and development conducted to date

FACILITIES/EQUIPMENT

INSTITUTE INFRASTRUCTURE

VTTI has an infrastructure worth more than $100 million that includes four test beds used extensively for real-world, impactful transportation research; more than 90,000 square feet of building space located on-site in Blacksburg, VA.; and more than 60 owned and leased instrumented vehicles, including connected-automated Cadillac SRXs and an International Lone Star tractor-trailer that will soon be instrumented for automation research.

01. TEST BEDS

Headquartered at VTTI, the Virginia Smart Road is a 2.2-mile, controlled-access facility managed by the institute and owned and maintained by the Virginia Department of Transportation (VDOT). The road itself is built to Federal Highway Administration specifications and features seven roadside equipment units and two mobile roadside equipment sites that facilitate connected-vehicle communications; an optical fiber communication system; Ethernet fiber transceivers and Ethernet switches; a connected-vehicle-compatible intersection controller model; varying pavement sections and in-pavement sensors; 75 weather-making towers capable of producing snow, rain, and fog; a differential GPS base station for precise vehicle locating; a signalized intersection with complete signal phase and timing control; a wireless mesh network variable control system; and variable pole spacing designed to replicate 95 percent of national highway lighting systems.

In 2014, VTTI partnered with VDOT to unveil the Virginia Connected Corridors (VCC), which comprise the Smart Road and the Northern Virginia Connected-vehicle Test Bed located along I-66, I-495, U.S. 29, and U.S. 50 (one of the most congested corridors in the U.S.). The VCC is facilitating the real-world development and deployment of connected-vehicle technology via dedicated short-range communications and cellular technology. Using more than 60 roadside equipment units (RSEs) located along the corridors, VDOT and researchers from multiple institutes across the Commonwealth are already implementing connected applications that include traveler information, enhanced transit operations, lane closure alerts, and work zone and incident management. Under the umbrella of the Tier 1 U.S. Department of Transportation Connected Vehicle/Infrastructure University Transportation Center, VTTI, the University of Virginia, and Morgan State University are conducting 29 connected projects along the VCC, including emergency vehicle-to-vehicle communications, motorcycle crash warning systems, eco-speed control, intersection management, and pavement assessment and management.

In 2015, VTTI partnered with VDOT, Transurban, the Virginia Department of Motor Vehicles, and HERE (Nokia's mapping business) to unveil the Virginia Automated Corridors (VAC). This new initiative will provide an automation-friendly environment that government agencies, original equipment manufacturers, and suppliers can use to test and certify their systems, providing a system migration path from test-track to real-world operating environments. The VAC will leverage extensive experience in on-road safety research to provide efficient solutions to automated-vehicle testing. The VAC was developed in answer to Virginia Governor Terry McAuliffe's 2015 Governor's Proclamation declaring Virginia "open for business" in the realm of automated vehicles. The proclamation allows the testing of any automated vehicle on Virginia roads under the guidance of VTTI. The Virginia Department of Motor Vehicles will support research efforts performed by VTTI in accordance with the proclamation. With assistance from the Commonwealth of Virginia, the VAC will advance the development, testing, and deployment of automated-vehicle technology, with the ultimate goal of helping stakeholders create robust automated and autonomous vehicles.

The Virginia International Raceway in Alton, Va., was established as a cooperative agreement through which VTTI can conduct connected and automated projects in a multi-use testing environment that includes both closed-course and open traffic conditions. On site at the raceway is a resort that features a 12-unit complex of residential villas, a lodge, a club house, a full-service restaurant and tavern, administrative offices, and a spa. The raceway track can be configured to five different courses ranging from 1.1 miles to 4.2 miles and includes such topography as hairpin curves and blind passes. The Virginia International Raceway is also home to the Virginia Motorsports Technology Park, which contains the Global Center for Automotive Performance Simulation, an affiliated company of VTTI that features the globe's premier force-and-moment tire test facility.

02. BLACKSBURG FACILITIES

The traditional laboratories at VTTI are housed in two buildings totaling more than 52,000 square feet. Building I is 30,000 square feet and houses office, laboratory, and garage facilities. Low-service laboratories include facilities dedicated to driver interface development, eye-glance data reduction, lighting research, accident analysis, accident database analysis, pavement research, and traffic simulation. The National Surface Transportation Safety Center for Excellence building comprises 22,000 square feet of office and laboratory space and was occupied in July 2006. VTTI expanded its on-site capacity by 7,000 square feet of warehouse space and housing for a shock tube lab, a paint booth facility, and a lighting lab. An additional 24,400 square-foot annex was opened during August 2013. This addition eliminated most of the flex space rented in Research Building 7 and the Moss Building at the Virginia Tech Corporate Research Center.

To supplement and support the focused transportation research of the institute, facilities feature a fully staffed garage and machine shop to instrument experimental vehicles. Technicians and engineers use full-scale machine and welding shops, electronics laboratories, and garage facilities to customize transportation hardware and software designed to collect large amounts of data. These facilities are also used to support the maintenance and expansion of the Smart Road systems and capabilities. Additionally, VTTI occupies an adjacent four-bay, 7,200-square-foot garage. This facility is used to store the VTTI instrumented vehicle fleet and the equipment necessary for research and Smart Road operations.

03. VTTI VEHICLE FLEET

The VTTI vehicle fleet is uniquely instrumented for specific experiments. Researchers use the vehicle fleet for Smart Road tests; experimental test vehicles are used to develop new instrumentation packages. Several of the vehicles are long-term loaners from vehicle manufacturers, the Virginia Department of Transportation, and other partnering organizations. All vehicles are maintained in-house when possible with fully functional garages and a machine shop. Loaned vehicles are maintained in cooperation with the organization that provided the vehicle.

VTTI PROJECT HIGHLIGHTS

GROUNDBREAKING STUDIES

01. VTTI unveiled the Virginia Connected Corridors (VCC), an initiative developed in partnership with the Virginia Department of Transportation (VDOT). Encompassing the Virginia Smart Road and the Northern Virginia Connected-vehicle Test Bed—located along I-66, I-495, U.S. 29, and U.S. 50, one of the most congested corridors in the U.S.—the VCC is facilitating the real-world development and deployment of connected-vehicle technology via dedicated short-range communications and cellular technology. Using more than 60 roadside equipment units (RSEs) located along the corridor, VDOT and researchers from multiple institutes across the Commonwealth are already implementing connected applications that include traveler information, enhanced transit operations, lane closure alerts, and work zone and incident management. The VCC is an initiative that will help answer the ultimate goals of integrating connectivity within the transportation system: to improve mobility, enhance sustainability, and save lives.

02. Connected-vehicle research continues at VTTI, with major contracts awarded or being awarded by the National Highway Traffic Safety Administration (NHTSA), the Federal Highway Administration (FHWA), and the Crash Avoidance Metrics Partnership (CAMP; a coalition of automotive manufacturers). Individual contracts with several car companies and tier-one suppliers have also been awarded or are being awarded. These projects total more than $2 million.

03. The National Surface Transportation Safety Center for Excellence (NSTSCE) successfully transitioned to an industrial affiliates program within Virginia Tech, with the Federal Motor Carrier Safety Administration (FMCSA), General Motors (GM), VDOT, and Travelers each contributing $200,000 annually to the program.

04. Along with VDOT, the Virginia Department of Motor Vehicles (DMV), Transurban, and HERE (Nokia's mapping business), VTTI launched the Virginia Automated Corridors (VAC). This new initiative will provide an automation-friendly environment that government agencies, original equipment manufacturers (OEMs), and suppliers can use to test and certify their systems, providing a system migration path from test-track to real-world operating environments. The VAC will leverage extensive experience in on-road safety research to provide efficient solutions to automated-vehicle testing. The VAC was developed in answer to Virginia Governor Terry McAuliffe's 2015 proclamation declaring Virginia "open for business" in the realm of automated vehicles. The proclamation allows the testing of any automated vehicle on Virginia roads under the guidance of VTTI. With assistance from the Commonwealth of Virginia, the VAC will advance the development, testing, and deployment of automated-vehicle technology, with the ultimate goal of helping stakeholders create robust automated and autonomous vehicles.

THE FOLLOWING ARE HIGHLIGHTED ACHIEVEMENTS OF THE VTTI COMMUNITY DURING FY15.

05. VTTI received a sole-source $16.4 million contract from the National Academy of Sciences (NAS) that will make approximately one million hours' worth of naturalistic driving data available to researchers across the transportation industry. The project is a follow-on to the Second Strategic Highway Research Program Naturalistic Driving Study (SHRP 2 NDS). These two studies mark the largest amount of actual funding ever awarded by NAS. The SHRP 2 NDS, which was the largest study of its kind, was conducted during a three-year period and resulted in more than 30 million miles of continuous naturalistic driving data from more than 3,500 participants. The study includes 2 petabytes of video, kinematic, and audio data and comprises the largest database of crashes (more than 1,500 identified to date). The data are already being used by internal and external clients to answer the greatest transportation challenges of today and into the future, with VTTI managing more than 60 active data use licenses with researchers around the globe.

06. VTTI was awarded a contract from the NAS Transportation Research Board (TRB) worth an initial potential of $2 million, with the possibility of additional funds, to: (1) Identify critical issues associated with connected and automated vehicles that state and local transportation agencies and the American Association of State Highway and Transportation Officials (AASHTO) will face, (2) Conduct research to address those issues, and (3) Conduct related technology transfer and information exchange activities.

07. In partnership with the Palo Alto Research Center (PARC; a research branch of Xerox), VTTI has won a $3.68 million contract from the U.S. Department of Energy to develop a system that identifies the energy-efficient routes most likely to be adopted by a traveler. The system model will use currently available data from navigation tools, public transit, and intelligent transportation systems to simulate the Los Angeles transportation network and its energy use. For its control architecture, PARC and VTTI will leverage its expertise in behavioral modeling and will use machine-learning algorithms to predict the near-time travel needs of users, their constraints, and how likely they are to respond to suggested travel options. The technology will also evaluate multiple travelers at the same time, organized by their most likely corridors of travel, to create dynamic ride-sharing options.

FY15

08. NHTSA has contracted VTTI to investigate whether the use of Head-up Displays (HUDs) impacts a driver's ability to see the forward road scene, or if such displays otherwise promote driver distraction. This project will assess general driving while on public roads, as well as more complex scenarios on the Virginia Smart Road. Measures of vehicle control and visual behavior will be analyzed to determine if there are negative consequences associated with HUD use versus standard Head-down Displays.

09. An ongoing study is assessing collision warning systems (CWSs) for heavy vehicles. CWSs use a variety of sensor technologies (e.g., radar, Light Detection and Ranging [LIDAR], and machine vision) to determine the risk of a collision and then warn the driver to take action to avoid or mitigate a potential crash. This study is evaluating the relative effectiveness of various warning interface strategies for alerting the driver to pre-crash conditions and will result in recommendations for comprehensive design principles for CWSs.

10. VTTI developed and implemented state-of-the-art detection techniques for safety events in naturalistic driving data. The implementation leveraged the Virginia Tech High Performance Computing infrastructure.

11. In a project funded by FHWA, VTTI has welcomed the first Sideway-force Coefficient Routine Investigation Machine (SCRIM) to the United States. The project objective is to assist states in the development of Pavement Friction Management Programs and demonstrate continuous friction and macro-texture measurement equipment.

12. VTTI partnered with VDOT to establish an accelerated pavement program. In August, VTTI will take delivery of a full-scale, $2.5 million accelerated pavement machine. In addition, VDOT will provide $2 million in support funding for the accelerated testing program during the next three years.

13. VTTI has been tapped to study the impacts of restart breaks on commercial truck drivers' safety performance and fatigue levels as part of a $4 million study for FMCSA. A recent federal spending bill suspended two provisions of the current Hours-of-Service rules, pending the completion of a new commercial motor vehicle driver restart study. FMCSA selected VTTI to lead this effort. As part of the Commercial Motor Vehicle Driver Restart Study, the institute will track and compare truck driver fatigue and safety performance levels for drivers who take two nighttime rest periods during their 34-hour restart breaks and for drivers who take less than two nighttime rest periods during their restart breaks.

14. VTTI has significantly increased the volume of its private industry work packages in the area of active safety systems. This proprietary research performed with automotive manufactures and their suppliers is consistently improving the performance of active safety systems implemented on forthcoming vehicles.

15. VTTI is leveraging its connected-vehicle capabilities to study the human factors research needed to determine the effects of different CWS parameters on driver performance. The objective of this new project is to maximize the benefit of these warnings to elicit correct driver responses to potential conflicts.

PROJECT HIGHLIGHTS

16. VTTI and Virginia Tech College of Engineering faculty members were awarded $500,000 from NAS to predict and mitigate dynamic hydroplaning on roadways.

17. A year-long study conducted by VTTI for FMCSA found that truck drivers experienced detention time approximately 1 in every 10 stops, for an average duration of 1.4 hours. Informed by these results, FMCSA announced on January 21, 2015, a request for proposals to evaluate the potential safety ramifications of driver detention time.

18. VTTI completed the second evaluation in the FMCSA- and NSTSCE-funded FAST DASH program, evaluating an onboard monitoring system (OBMS). VTTI collected more than 1.2 million miles of data from a long-haul fleet that traveled routes across the U.S. and Canada. The OBMS applies a low-monitoring approach (no video) to track vehicle speed, seatbelt use, and aggressive driving by relying on kinematic data and the connected area network (CAN) bus of the vehicle. A trend analysis showed a significant drop in speeding (37%) and seatbelt (56%) violations in the early intervention period. VTTI's evaluation of this specific OBMS provides valuable guidance for the commercial motor vehicle industry.

19. VTTI initiated the third evaluation in the FMCSA- and NSTSCE-funded FAST DASH program, also taking a development role in testing of a novel convex mirror for heavy commercial motor vehicles. Conventional convex mirrors on heavy vehicles provide indirect visibility in areas surrounding the truck and function as a means for drivers to detect and identify objects within those areas. The proposed prototype mirror is expected to reduce distortion when compared to a conventional convex mirror, while increasing the field of view for drivers. VTTI will seek to understand the feasibility and driver acceptance in a multi-phased approach.

20. VTTI has been tasked by NAS to update the Transit Cooperative Research Program (TCRP) "Bus Operator Workstation Evaluation and Design Guidelines" with improved and emerging technologies in bus operator workstation design. VTTI developed a straightforward operator workstation feature guideline document that encompasses four international transit bus design guides and a three-dimensional computer-aided design (CAD) tool that will be accessible to users and non-users of CAD software.

21. VTTI recently completed an educational website aimed at teens and inexperienced drivers called "Tips for Sharing the Road with Commercial Motor Vehicles." This website focuses on five key sharing-the-road scenarios to raise awareness and educate light-vehicle drivers about key areas of concern when sharing the road with trucks. The website is based on naturalistic driving data and will act as a publicly accessible supplemental tips training program.

FY15

22. The Global Center for Automotive Performance Simulation (GCAPS) was unveiled, a nonprofit company affiliated with VTTI that encompasses the National Tire Research Center (NTRC), the Southern Virginia Vehicle Motion Labs (SoVa Motion), and the Virtual Design and Integration Laboratory (VDIL). This world-class facility provides revolutionary services for both vehicle and tire, including testing, simulation, and modeling. Collectively, these initiatives provide the full range of services essential for creating a more dynamic product through both virtual and physical development.

23. During the fiscal year, the VTTI Center for Injury Biomechanics received new research funding worth a total of more than $22 million from such sponsors as the National Institutes of Health (NIH), OEMs, U.S. Army, and NHTSA. The center continues to perform innovative research investigating human tolerance to impact loading, with applications in automobile safety and military restraints.

24. VTTI completed a four-year, FHWA-funded $1.6 million evaluation of the implementation and impact of light-emitting diode (LED) systems on roadways. White LED systems were compared on the Virginia Smart Road to investigate the impact of the new technology on driver visual behavior. The results indicate that the LEDs provide equal or better performance while consuming typically 50% less energy.

25. VTTI completed a two-year evaluation of lighting technology for VDOT. This study, which was the first of its kind, included establishing a new VDOT lighting specification and evaluating six different lighting configurations. The project allowed the development of design correction factors for each of the technologies and highlighted inappropriate historical methods used to account for dirt on the luminaire. A new approach has been developed and is being implemented in design standards.

26. VTTI developed an intersection cooperative adaptive cruise control (iCACC) system that optimizes the movement of automated vehicles traversing roadway intersections. This innovative system receives vehicle requests to proceed through a roadway intersection and controls the vehicle movements to ensure that no collisions occur while minimizing the intersection delay.

27. VTTI is currently implementing an online database of lighting measurements on roadways. This FHWA-funded database will allow access to lighting data by GPS coordinates and will provide a method to add data to the system.

28. VTTI researchers will lead a study sponsored by AAA to assess crash risk and prevalence associated with cognitive distraction and drowsy driving. This study will be among the first to determine cognitive distraction based on real-world driving performance.

29. VTTI researchers were awarded a number of research projects totaling $500,000 as part of the Saxton Transportation Operations Laboratory. These projects included developing algorithms to identify congestion and bottlenecks on freeways, developing algorithms to predict freeway speeds and flows, and developing and field testing speed harmonization algorithms.

30. VTTI researchers have developed and tested various eco-transportation systems, including eco-cooperative adaptive cruise control (ECACC) systems, eco-routing systems, and eco-traffic signal control systems as part of the TranLIVE University Transportation Center. This effort amounts to more than $1 million in funding.

31. VTTI researchers are actively collecting naturalistic driving data internationally, with ongoing data collection efforts in Canada, Australia, and China. This work will provide insights into driving

PROJECT HIGHLIGHTS

safety across the globe and will highlight the policies and practices that result in safety benefits. The project will also identify those policies and practices that are less effective at saving lives.

EXPANDING COLLABORATIONS

01. The recently unveiled VCC and VAC were established through a partnership with VDOT and the Virginia DMV, Transurban, HERE, and VDOT, respectively, to support the development and deployment of connected- and automated-vehicle technologies.

02. VTTI, VDOT, and Iteris teamed to submit a $20 million proposal to the U.S. Department of Transportation (USDOT) to become a connected-vehicle deployment site. More than 40 stakeholders agreed to work with this core team, including major OEMs, transit operators, application providers, equipment suppliers, transportation operators, and government agencies.

03. VTTI and Virginia Tech faculty from Electrical and Computer Engineering, Economics, and Computer Science recently partnered with Rutgers University and Florida International University to submit a proposal to the National Science Foundation (NSF) towards the development of cyber-physical critical infrastructures that include smart transportation, wireless systems, water networks, and power grids for smart cities. The proposed research will yield advances in the areas of cyber-physical systems, resilient systems, security and privacy engineering, wireless networks, smart grid, transportation, game theory, computer and network science, behavioral economics, psychology, and data analytics. The project will train students from diverse backgrounds across engineering, computer science, economics, and psychology on pertinent research issues related to smart cities and resilient systems.

04. VTTI is working with institutes and departments across the Virginia Tech campus to create a new preventive medicine initiative that will enhance research opportunities that promote health generally and within the transportation community. Collaborators in this initiative include Fralin; Psychology; Biomedical Engineering; Carilion Clinic; Virginia Tech Carilion Research Institute (VTCRI); Human Nutrition, Foods and Exercise; Construction; Virginia Tech Center for Autism Research; Child Study Center; Child Development Center; Computer Science; and Gerontology. Proposals and white papers have already been submitted to NIH, with plans to apply for future funding from the National Institute for Occupational Safety and Health (NIOSH) and FMCSA.

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05. VTTI continues to collaborate with 32 organizations, including Auburn University, Carnegie Mellon University, BMW, Chrysler, Google, GM, TORC Robotics, and the Virginia Tech Hume Center, towards the Electronic Systems Safety contract designed to support NHTSA in investigating various aspects of vehicle electronic systems safety. This team was organized to answer all aspects of the NHTSA project, including electronics safe reliability, cybersecurity, vehicle automation, and related human factors considerations.

06. VTTI collaborated with NIOSH on an NSTSCE-NIOSH co-sponsored evaluation of an OBMS implemented in an oil and gas industry fleet of light-vehicle trucks. This study used a before-after design to collect vehicle kinematic and speed data from 29 and 5 light-vehicle trucks using the OBMS and the VTTI-developed MiniDAS, respectively. Approximately 44,000 miles of MiniDAS data and 186,000 miles of OBMS-only data were collected during a three-month period.

07. VTTI is collaborating with the Intelligent Automation, Inc. (IAI) to develop a robust Multi-Modal Driver Distraction and Fatigue Detection/Warning System (MDF) for commercial vehicle operations. The study is in support of an FMCSA-sponsored Small Business Innovation Research (SBIR) project.

08. VTTI is working with Delft University of Technology (TU Delft), which is leading a research project entitled “Truck Merging Support - a Step towards Autonomous Driving” sponsored by the Dutch Technology Foundation (STW). The project is focused on developing prototype driver assistance systems that support safe merging tasks for truck drivers. One of the research activities is to use naturalistic truck driving data from VTTI to understand the safety problems of truck-related merging tasks.

09. VTTI submitted multiple R-01 proposals to the NIH about topical areas related to drunk and drugged driving. These proposals cultivated new partners from industry and multidisciplinary support from the VTCRI.

10. VTTI worked with FHWA and AASHTO to provide data sets to 11 state DOT research teams working on Implementation Assistance Program (IAP) projects. The goal of these efforts is to identify safety problems and generate countermeasures that reduce risk and prevalence.

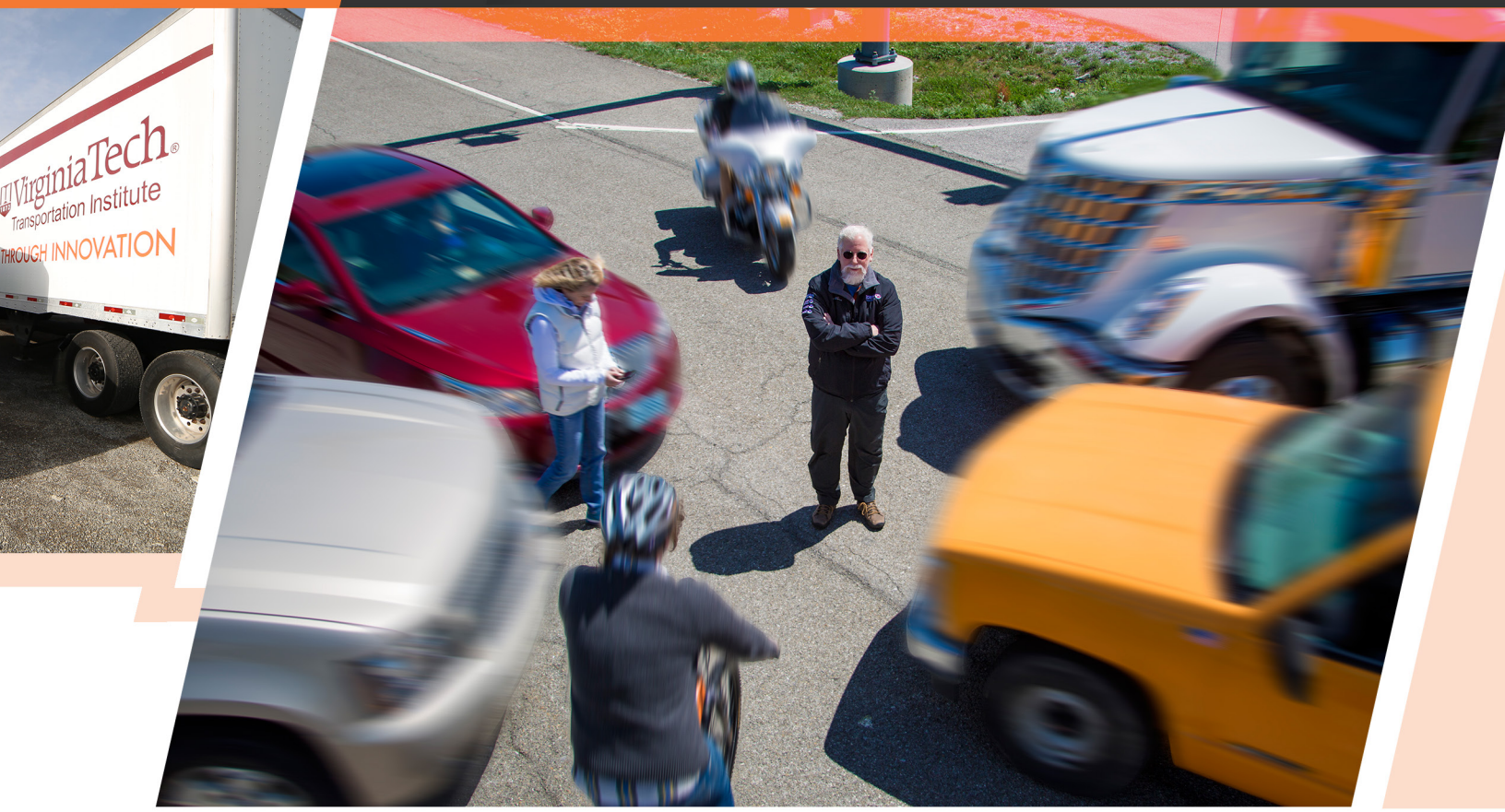
11. VTTI researchers will lead a study sponsored by AAA to assess crash risk and prevalence associated with cognitive distraction and drowsy driving. This study will be among the first to determine cognitive distraction based on real-world driving performance.

12. VTTI was awarded more than $500,000 from a major new OEM for a naturalistic driving study designed to assess 60 late-model vehicles equipped with advanced safety features.

13. VTTI researchers worked with Blacksburg Transit to develop a real-time transit scheduling routing algorithm.

14. VTTI continues its five-year collaborative agreement with the Paris-based French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR). The agreement allows for sharing of information and collaborative research on such topics as connected-vehicle technology, effects of street lighting on motorists and related light “pollution” along roadways, naturalistic driving studies, and traffic modeling.

PROJECT HIGHLIGHTS



15. VTTI launched an NIH-funded older driver study, partnering with the University of Alabama-Birmingham to assess the role of visual performance among older drivers. This study will benefit from existing knowledge about fitness-to-drive and older driver performance.

INNOVATIVE TECHNOLOGIES

01. Under the umbrella of the Connected Vehicle/Infrastructure University Transportation Center (CVI-UTC) and using the capabilities of the VCC, VTTI, the University of Virginia, and Morgan State University are conducting 29 research projects focused on CVI applications in all areas of roadway transportation, including light vehicles, transit, motorcycles, bicycles, pedestrians, and infrastructure. For each of these projects, dedicated short-range communications have been the primary technology used for CVI application development. The CVI-UTC applications deployed to date include traveler information, enhanced transit operations, lane closure alerts, and work zone and incident management.

02. VTTI has developed the first instrumented bicycle. The prototype bicycle includes forward roadway and rider-face cameras, as well as multiple kinematic sensors combined in a lightweight, unobtrusive package powered by a removable, integrated, rechargeable battery pack. Comprehensive bicycle instrumentation will allow the institute to study how cyclists and other road users interact across road features and weather conditions and has the potential to lead to significant improvements in legislation, roadway design, and enhanced bicycle safety systems.

03. VTTI researchers created an algorithm and are developing a web-based app designed to turn the theory of instant traffic prediction into a reality. The project is designed to ultimately tell users when and where high levels of traffic are most likely to occur, matching current traffic patterns to historical data in real time.

04. VTTI researchers are developing the ECACC system, a connected-vehicle technology tool that can assist the driver in or fully automate the action of slowing or accelerating a vehicle according to the pending traffic light ahead.

ENHANCING OUTREACH AND EDUCATION

01. VTTI hosted approximately 400 transportation experts from around the world at the ninth International Conference on Managing Pavement Assets in Arlington, Virginia. The event, which is held every three to four years, was held in the United States for the first time since 2001. The event marked VTTI's debut as host of the conference.

FY15

02. VTTI hosted the Pavement Evaluation 2014, a two-and-a-half-day conference covering all aspects related to measuring and analyzing the function and condition of pavement. The conference welcomed representatives from government transportation agencies, academia, and private industry.

03. VTTI hosted its Fourth International Symposium on Naturalistic Driving Research, which focused on driver safety issues such as novice drivers, distraction, and professional driver health. The event featured two days of workshops and keynote discussions led by Ken Leonard, director of the USDOT Intelligent Transportation Systems Joint Program Office; and Ann Brach, director of SHRP 2 of the TRB, which is part of NAS.

04. VTTI conferred the first Human Factors of Transportation Safety Graduate Certificate. Established in 2014, this certificate program now has seven students enrolled and provides a unique multidisciplinary educational opportunity for Virginia Tech graduate students. The program combines the expertise of VTTI faculty with that of the following collaborating departments: Civil and Environmental Engineering, Industrial and Systems Engineering, and Psychology. Plans are underway to include the Statistics Department in the near term. This program will serve to promote students' professional development and foster their future success in the field of human factors within transportation safety.

05. VTTI researchers presented at the 1st International Conference on Transport & Health in London to discuss the prevalence of metabolic syndrome components within the truck driver industry.

06. The VTTI-affiliated NTRC and SoVa Motion are creating a program for a simulation degree, with application work at SoVa Motion. The NTRC is also collaborating with Pamplin to create an MBA call project studying local and global outreach methods, as well as providing internships for Virginia Tech mechanical engineering students. Additionally, the NTRC is creating partnerships with Danville Community College and the Southern Virginia Higher Education Center.

07. VTTI collaborated with Penn State University to offer a workshop focused on network traffic control. The workshop was held at the Virginia Tech Arlington facility and was attended by representatives from state, federal, and consulting agencies.

08. VTTI researchers were invited to present at both the National Transportation Safety Board Round Table Discussion entitled "Disconnect from Deadly Distractions" and the NHTSA Cognitive Distraction meeting. These two meetings were invitation-only and were attended by international driver distraction experts to discuss the issues of driver distraction.

09. VTTI hosted doctoral students in the field of sustainable infrastructure from the Politecnico di Milano, University of Chihuahua, University of Coimbra, and University of Trento.

PROJECT HIGHLIGHTS

ADDITIONAL ACCOMPLISHMENTS

01. A 2014 article co-authored by VTTI and NIH researchers and published in the New England Journal of Medicine became the Top 15 most-read of more than 10,000 studies published by the prestigious, 200-year-old journal. Additionally, the same article was ranked as the 58th most "talked about" study among thousands of research articles published in 2014, according to Altmetric.com, which tracks and ranks academic papers and their impacts with universities and the public, focusing on citations and mentions.

02. VTTI Director Thomas A. Dingus was elected to the Association for Unmanned Vehicle Systems International board of directors for the 2015-2018 term. The Arlington, Virginia-based association describes itself as "the world's largest non-profit organization devoted exclusively to advancing the unmanned systems and robotics community" in the defense, civil, and commercial sectors. Its 7,500-plus members come from government organizations, industry, and academia.

03. To date, the VAC has received more than 90 media references following its unveiling in June 2015. The initiative and its impact on automated-vehicle testing were featured in such outlets as Richmond Times-Dispatch, Roanoke Times, Washington Post, Time, WTOP, World News, and CNBC.

04. Using the SHRP 2 NDS database, 25 new naturalistic study findings are in the process of being submitted to high-impact journals, including Proceedings of the National Academy of Sciences, Accident Analysis & Prevention, Adolescent Health, Gerontology, and New England Journal of Medicine.

05. VTTI Director Thomas A. Dingus published the first edition of Survive the Drive: A Guide to Keeping Everyone on the Road Alive. The book is designed to provide drivers of all demographics information about the risks associated with scenarios ranging from driver distraction, to fatigue and drowsiness, to off-road collisions. The book presents a range of safety-related information, from choosing the right vehicle, to driving as an older adult, to riding a motorcycle safely.

FY15

INSTITUTE ORGANIZATION
RESEARCH AND NATIONAL CENTERS

Center for Advanced Automotive Research
(Dr. Zachary Doerzaph, Director)

The center focuses on the research, development, and evaluation of next-generation automotive systems to improve the safety and efficiency of our nation's transportation system. Primary research areas include crash warning/avoidance/mitigation, connected vehicles, driver-vehicle interfaces, crash causation, and vehicle automation. The center comprises the Advanced Product Test and Evaluation group and the Connected & Advanced Vehicle Systems group.

Center for Automated Vehicle Systems
(Dr. Myra Blanco, Director)

The center pursues an interdisciplinary approach to studying all aspects related to the automation life cycle in the transportation field. The center is anchored in applied research and is strengthened by collaborations with national and international partners in vehicle automation. Center partners include groups involved in research, planning, and policy, as well as the production of automated vehicles. The growth and variety of automated vehicles should be anchored in a scientific approach that emphasizes safety, security, reliability, and user acceptance. Research projects focus on collision warning interfaces, collision avoidance systems, and drivers transitioning into and out of automated driving states.

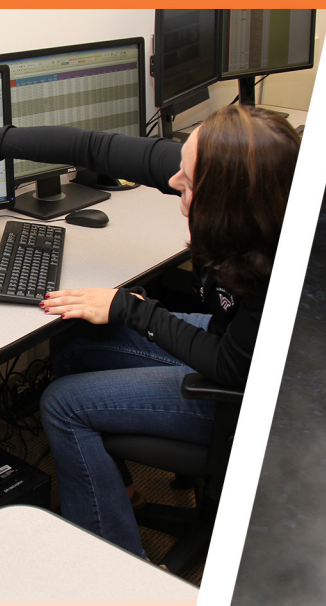
Center for Data Reduction and Analysis Support
(Dr. Miguel Perez, Director)

The center supports standardized access to and analysis of numerous naturalistic driving study data sets (currently 2.5 PB) housed at VTTI for researchers internal and external to the institute. Services include coding of video and audio data, data quality assurance, data standardization, data mining, event selection, and data analysis. The center actively supports data analysis collaborations with external institutions.

Center for Infrastructure-based Safety Systems
(Dr. Ron Gibbons, Director)

The center focuses on roadway-based safety systems, such as lighting, visibility treatments, pavement markings, signage, signals, barriers, the interaction of visibility with roadway design, and weather considerations. The center is conducting research into myriad topics that include increasing active sign legibility during foggy conditions; evaluating the impact of lighting source, type, and power on driver performance; assessing airport garage lighting; and determining the durability of pavement markings. The center comprises the Virginia Green Highway Initiative, which is conducting studies that include an investigation into the potential use of paired types of commercially available vehicle detection technologies designed to reduce false readings at intersections that result in inefficient traffic flow. The center received a large Federal Highway Administration Indefinite Quantity Contract that reflects growth in the area of infrastructure safety.

INSTITUTE ORGANIZATION



Center for Injury Biomechanics

(Dr. Warren Hardy, Director)

The center is a partnership between VTTI, the Virginia Tech Department of Mechanical Engineering, and the Virginia Tech-Wake Forest University School of Biomedical Engineering and Sciences. The center conducts research into injury biomechanics, injury modeling, and transportation-related injury biomechanics. The center is conducting an in-depth study of 1,000 road-departure crashes at 24 sites across the U.S. to determine conditions such as speed and topography. Other transportation-related injury research includes car crash tests, large-scale tissue testing, NASCAR-Indy restraint testing, advanced restraint tests, guardrail evaluations, child seat evaluations, airbag-induced eye injuries, development of a synthetic eye, elbow joint injuries from side airbags, wrist injuries, upper extremity dummy design, posterior rib fractures from side airbags, child dummy neck evaluations, small female neck interactions with side airbags, airbag out-of-position testing, and the development of a pregnant occupant model.

Center for Sustainable Mobility

(Dr. Hesham Rakha, Director)

The center conducts research relevant to society's transportation mobility, sustainability, and safety needs. The center translates the results of research into realistic and workable applications, creates and provides tools needed to apply developed knowledge and processes, and educates qualified engineers to meet today's transportation demands and tomorrow's transportation challenges in the areas of transportation system mobility, sustainability, and safety. The center has worked on projects for the Mid-Atlantic Universities Transportation Center, including characterization of vehicle dynamics for the enhancement of traffic simulation models and a study of driver behavior at signalized intersections conducted on the Smart Road. The center is developing eco-routing strategies that combine energy and emission models with navigation programs to help consumers make "greener" choices about their routes.

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Center for Sustainable Transportation Infrastructure

(Dr. Gerardo Flintsch, Director)

The center focuses on asset management; pavement design, analysis, rehabilitation, and safety; infrastructure management; civil engineering materials; nondestructive testing; and life-cycle cost analyses. It houses the Infrastructure Management group and the Sensing, Modeling and Simulation group. The center initiated a consortium of state highway agencies and equipment manufacturers dedicated to enhancing pavement surfaces. Examples of research include testing a product that extends the life of the road surface and retains de-icing chemicals on the surface, thus providing road crews time to deploy during inclement weather. The center also developed a way to include the environmental impact of road materials in the decision process for road construction.

Center for Technology Development

(Mr. Andy Petersen, Director)

The center specializes in developing, implementing, and maintaining innovative systems for transportation research. The center includes the Mechanical Systems Group, which is responsible for mechanical fabrication to suit the needs of all research projects; the Data Acquisition Group, which is responsible for electronic hardware design; and the Advanced Development Group, which is responsible for software development. The Data Acquisition Group is a pioneer in distributed data acquisition systems. The Advanced Development Group includes specialists in machine vision, road tracking, and data analysis.

Center for Truck and Bus Safety

(Dr. Richard Hanowski, Director)

The center focuses on the research, development, and evaluation of heavy-vehicle systems. It is dedicated to the design, delivery, and implementation of leading-edge research and development efforts aimed at improving the health and safety of heavy-vehicle drivers. The center comprises the Behavioral Analysis and Applications Group, the Human Factors and Advanced System Testing Group, and the Safety and Human Factors Group. Center research includes refining and testing rear-lighting configurations to reduce the number and severity of rear-end crashes, determining safe hours of service for commercial motor vehicle drivers, evaluating causes of drowsiness and providing countermeasures, and developing education programs to keep drivers healthy and alert. Center researchers are conducting the largest field test of an onboard monitoring system designed to record truck and bus driver behavior with the aim of improving driver safety performance.

Center for Vulnerable Road User Safety

(Dr. Jon Antin, Director)

The center conducts research and outreach designed to enhance safety for all vulnerable road users, including senior and teen drivers, bicyclists and other vehicle riders, and pedestrians. Vulnerable road users comprise all age groups and a variety of demographics. Their one shared trait is an increased risk of suffering a traffic-related crash or injury. The center includes the Teen Risk and Injury Prevention group and the Senior Mobility

INSTITUTE ORGANIZATION

Awareness, Safety, and Health group. Research includes a naturalistic driving study of novice teen drivers with the aim of providing real-time feedback, gathering information for driver training, and keeping teens' parents informed. The center has undertaken outreach initiatives designed to provide recommendations for coordinating public and private services for the aged, disabled, and indigent populations. The center is performing a proof-of-concept naturalistic driving study in Australia and is advancing the state of knowledge about issues specific to older drivers, including visual acuity and brain fitness training.

Connected Vehicle/Infrastructure University Transportation Center

(Dr. Thomas A. Dingus, Director)

Virginia Tech/VTTI, the University of Virginia, Morgan State University, and the Virginia Center for Transportation Innovation and Research teamed to develop a Tier 1 University Transportation Center headquartered at VTTI. Robust vehicle-to-vehicle, vehicle-to-infrastructure, and vehicle-to-device communication will enable applications addressing the U.S. Department of Transportation strategic goals of safety, state of good repair, economic competiveness, livable communities, and environmental sustainability. The center conducts connected-vehicle research using two instrumented test beds. The Southwest Virginia test bed resources include the Smart Road for closed-circuit testing. The Northern Virginia Connected-vehicle Test Bed is located along I-66, I-495, U.S. 29 and U.S. 50. All test beds are equipped with wireless roadside communication technology. The center has 29 active research projects that include in-vehicle notifications of a stopped school bus ahead, especially when the bus is stopped over a hill or around a blind curve, and communication devices installed in safety vests worn by road workers to alert workers and vehicle operators when an on-foot worker is in danger of being struck.

National Surface Transportation Safety Center for Excellence

(Dr. Jon Hankey, Director)

The center was established by the Federal Public Transportation Act of 2005 to develop and disseminate advanced transportation safety techniques and innovations in rural and urban communities. Research focus areas are safety devices and techniques that enhance driver performance, evaluations of the built roadway environment and infrastructure-based safety systems, safe mobility for vulnerable road users, and solutions to driver impairment. The center is supporting research projects that include an analysis of the effectiveness of visibility aides for bicycles and pedestrians, automated detection of driver drowsiness and driver attention away from the forward roadway, and improving the health of commercial motor vehicle drivers. The center includes a stakeholders' committee that shares a vision for improving road-user safety locally and nationally. The committee comprises the Federal Motor Carrier Safety Administration, General Motors, the Virginia Department of Transportation, and Travelers.

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Global Center for Automotive Performance Simulation

(Mr. Frank Della Pia, Director)

The center was created by VTTI in partnership with the Institute for Advanced Learning and Research, General Motors, Virginia Tech, and the Virginia Tobacco Indemnification and Community Revitalization Commission. The center encompasses the National Tire Research Center, which provides the transportation industry the research and testing capabilities needed to engineer and develop tires that will provide greater fuel economy and lower emissions while meeting federal vehicle requirements and customer expectations. This level and breadth of research, development, and testing in one location does not currently exist anywhere else for automotive and tire manufacturers. A custom-built, force-and-moment tire test machine provides data about torque and braking capabilities, including tire performance on wet road conditions. Lab results can be further tested on the adjacent Virginia International Raceway, a closed-course circuit. General Motors and its suppliers committed to conducting tire testing at the center for two years from commencement of operation. Allocable machine time beyond these needs is available for third-party or Virginia Tech projects. The center also includes the Southern Virginia Vehicle Motion Labs, which features an 8-post Test Rig, Wheel Force Transducers, and a Cruden's Simulator. This equipment encompasses the tools needed to address virtual components prior to conducting ride and handling tests on the Virginia International Raceway world-class circuit and designated local roads. A third tier of the center is the Virtual Design and Integration Laboratory, which emphasizes the commitment of GCAPS to expand efforts towards a world-class facility with the addition of a state-of-the-art simulation environment for tire model parameterization, vehicle model creation, and tire and vehicle simulations.

GROUPS AND INITIATIVES

I-81 Corridor Coalition

(Mr. Kevin Cole, Interim Director)

The coalition includes state, local, nonprofit, and private organizations committed to making Interstate 81 a safe, efficient, environmentally sensitive, economically viable, and intermodal transportation corridor. Research interests include freight movement, truck safety, intermodal relationships, environmental planning, and corridor-wide information and coordination efforts.

International Center for Naturalistic Driving Data Analysis at Virginia Tech

(Mr. Clark Gaylord, Chief Information Officer)

The International Center for Naturalistic Driving Data Analysis incorporates Virginia Tech's petabyte-scale, high performance data storage system into the VTTI data infrastructure. This allows data from multiple naturalistic driving studies to be analyzed using high performance computational systems to perform more complex computational algorithms and data mining.

The 48-node compute cluster of the Institute moves data between the field and the data center, decrypts data, prepares data files for ingestion to a 500-terabyte scientific data warehouse, processes video files, and provides a platform for advanced analytical processing. A peta-scale archive file system will ultimately facilitate the long-term storage of numerous petabytes of data while maintaining data in an online state.

VTTI data center features include a computational cluster, the application of the Virginia Tech High Performance Computing Storage System, and a significant upgrade to the storage system supporting the scientific data warehouse environment at VTTI. These systems compose the foundation for data-intensive scientific research programs conducted at VTTI, particularly the Second Strategic Highway Research Program Naturalistic Driving Study.

Motorcycle Research Group

(Dr. Shane McLaughlin, Group Leader)

The group was born from a history in transportation research; concern about increasing numbers of motorcyclist fatalities and injuries; and the excitement of a large number of VTTI engineers, staff, researchers, and family who are riders. The group focuses on riders and their machines while considering other factors in the surrounding transportation system. Group researchers recently completed the first large-scale naturalistic driving study of motorcycles, the aim of which was to explore motorcycle crash causation and to develop crash countermeasures. A complementary study is being conducted with 160 motorcycle riders in California.

SPONSORS, CLIENTS, AND PARTNERS

THE CONTINUED SUCCESS OF VTTI IS DUE IN LARGE PART TO ITS SPONSORS, CLIENTS, AND PARTNERS. VTTI WOULD LIKE TO ACKNOWLEDGE THE CONTRIBUTIONS AND SUPPORT OF THE FOLLOWING ORGANIZATIONS:

- 3M
- AAA
- AAA FOUNDATION FOR TRAFFIC SAFETY
- AAA MID-ATLANTIC
- ACF
- ALLIANCE OF AUTOMOBILE MANUFACTURERS
- AMERICAN ASSOCIATION OF MOTOR VEHICLE ADMINISTRATORS
- AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
- AMERICAN TRANSPORTATION RESEARCH INSTITUTE
- AMOCO
- ARLINGTON COUNTY, VA
- ASSOCIATION FOR UNMANNED VEHICLE SYSTEMS INTERNATIONAL
- ASSURED INFORMATION SECURITY
- ATKINS GLOBAL
- ATLANTIC CONSTRUCTION FABRIC
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- CALSPAN
- CAMBRIDGE SYSTEMATICS
- CANADIAN COUNCIL OF MOTOR TRANSPORT ADMINISTRATORS
- CAPITAL AREA TRANSIT SYSTEM IN BATON ROUGE
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- CARNEGIE MELLON UNIVERSITY
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- CENTER FOR INNOVATIVE TECHNOLOGY
- CHRYSLER
- CISCO SYSTEMS
- CITY OF RICHMOND
- CIVILOGIX, INC.
- CLEAN AIR TECH INTERNATIONAL
- CLEAR ROADS
- COHDA WIRELESS
- COMMERCIAL VEHICLE SAFETY ALLIANCE
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- CON-WAY
- CORNING CABLE SYSTEMS
- CRACK SEALANT CONSORTIUM
- CRASH AVOIDANCE METRICS PARTNERSHIP (CAMP)
- CUBRC
- DELAWARE DEPARTMENT OF MOTOR VEHICLES
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- DELFT UNIVERSITY OF TECHNOLOGY
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- DENSO
- DGE INC.
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- DONOVAN HATEM
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- FLUOR, VA
- FORD MOTOR COMPANY
- FOUNDATION FOR OUTDOOR ADVERTISING RESEARCH AND EDUCATION
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- GENERAL MOTORS ONSTAR DIVISION
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- IAOV CHEMNITZ
- ICTAS
- IDEA PROGRAMS
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- INTERACTIVE DESIGN AND DEVELOPMENT
- IOWA STATE UNIVERSITY
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- NATIONAL SCIENCE FOUNDATION
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- NEW ORLEANS AMALGAMATED TRANSIT UNION
- NEW RIVER VALLEY PLANNING DISTRICT COMMISSION
- NISSAN
- NISSAN RESEARCH CENTER, SILICON VALLEY
- NORFOLK SOUTHERN RAILROAD
- NORTH AMERICAN FATIGUE MANAGEMENT PROGRAM
- NORTH CAROLINA STATE UNIVERSITY
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- OSRAM SYLVANIA
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- SNOW ECONOMICS
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- SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
- SOUTHWEST RESEARCH INSTITUTE
- SYSTEMS TECHNOLOGY, INC.
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- TEXAS TRANSPORTATION INSTITUTE
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- TOM TOM
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- UNIVERSITY OF NORTH CAROLINA
- UNIVERSITY OF PENNSYLVANIA
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- WESTAT
- WESTERN RESEARCH INSTITUTE
- WINDWALKER CORPORATION
- WISCONSIN DEPARTMENT OF TRANSPORTATION
- ZF TRW

MEDIA COVERAGE

THE FOLLOWING IS A LIST OF MEDIA OUTLETS AND PUBLICATIONS THAT FEATURED OR MENTIONED VTTI DURING FY15

12 NEWS KBMT AND K-JAC
13 ABC
2417 WALLST
25 CNBC
ABOUT.COM
ACM VIRGINIA TECH
ADDICTION TREATMENT MAGAZINE
ADDICTIONSUNPLUGGED.COM
ADVANCED MOBILITY PROJECT
AERO NEWS NETWORK
AEROSPACE TECHNOLOGY
AIONLINE
AITKINAGE.COM
ALASKA DISPATCH NEWS
AMA
AMERICANJR
ANDROID AUTHORITY
ANNAPOLIS PATCH
AOL AUTOS
APPAREL SEARCH
ARIZONA DAILY SUN
ASSOCIATION OF CORPORATE COUNSEL
ATLANTA JOURNAL-CONSTITUTION
AUDIT SERVICE SIERRA LEONE
AUGUSTA FREE PRESS X9
AUTO CONNECTED CAR X2
AUTOBODY-REVIEW
AUTOMOTIVE WORLD
AVIATION PROS
AYOVEIW WALL
BALTIMORE SUN
BASELINESINC.COM
BEHANCE
BEL AIR PATCH
BELLEVILLE NEWS-DEMOCRAT
BELOW 100
BENITO LINK X2
BERKS-MONT
BIKE LAND
BIOMCH-L
BIOSPACE
BLOOMBERG BUSINESS X2
BORSHOF
BRADENTON HERALD
BRATTLEBORO REFORMER: OPINION
BROADWAYWORLD.COM
BROWARD.ORG
BURNETTWILLIAMS.COM
BUSINESS STANDARD
BUSINESS WIRE X3
C3 REPORT
CA.GOV
CACM.ACM.ORG
CALGARY HERALD
CANADIAN AUTO DEALER
CANADIAN UNDERWRITER
CASPER JOURNAL
CASTANET.NET X2
CBS NEWS X2
COMMERCIAL CARRIER JOURNAL (CCJ) X5
CENTRA OHIO'S NEWS LEADER
CHARLESTON DAILY MAIL
CHICAGO DAILY HERALD X2
CHICAGO TRIBUNE
CIO TODAY
CLARK HOWARD'S RADIO SHOW
CLASSIFIEDADS.COM X2
CLINTON HERALD
CNET
CNW: A PR NEWSWIRE COMPANY
COLLEGIATE TIMES
COLUMBIA STAR
COMMUNITY WIRE
COMPUTER WORLD
CONSUMER ELECTRONICS NET
CONSUMER TRAVELER
COOPER HURLEY VIRGINIA TRUCKING ACCIDENT INJURY ATTORNEYS
DAILY COMMERCIAL
DAILY HERALD
DAILY LOCAL NEWS: OPINION X4
DAILY RECORD
DAILY REPORTER
DAILY TIMES
DCINNO X2
DELMARVANOW
DESIGN AND TREND
DIGITAL JOURNAL
DMN NEWSWIRE
DOVE INSURANCE
DRIVERLESS TRANSPORTATION X7
DURANTDEMOCRAT.COM
ECN X2
EDEN PRAIRIE NEWS
EMIRATES247
EMSWORLD
ERLEGAL.COM
ETRUCKER X3
EYESFINDER
FAIRFAX CITY PATCH
FAST COMPANY
FEDERAL REGISTRAR
FIERCE WIRELESS TECH
FILLMORE COUNTY JOURNAL X2
FINWIN
FLEET FINANCIAL
FLEET NEWS DAILY
FLEET OWNER X3
FOUR WHEELERS
FOX 21/27 X2
FOX 6 WBRC
FOX BUSINESS
FOX CAROLINA
FOX NEWS 4 DALLAS FORT WORTH X2
FOX NEWS 4 DALLAS FORT WORTH
FREDERICKSBURG.COM X5
FRESHNEWS
FRIDAY NIGHT LIVE
GCN.COM
GIZMODO
GLASSBYTES X2
GO BY TRUCK X7
GODANRIVER X3
GOVERNMENT TECHNOLOGY
GREAT FALLS TRIBUNE
GREEN CAR CONGRESS X3
GUELPHMECURY.COM
GULF NEWS
HARKER HEIGHTS HERALD
HARTFORD COURANT
HEAVY DUTY TRUCKING (HDT)
HEEFX
HOUSTON BUSINESS JOURNAL
HOUSTON CHRONICLE X2
HUFFINGTON POST X2
HUTCHINSON LEADER
IDAHO STATESMAN
IDEAS TAP
IEEE SPECTRUM
IFR
IIHS
INFORMATION WEEK
INFRASTRUCTURE SHOW
INKLINGS
INQUISITR
INSIDE NOVA
INSIDE UNMANED SYSTEMS
INSURANCE JOURNAL X2
INSURANCE NEWS X3
INTELLIMEC.COM X2
INTERIA MOTOZACJA
INTHECAPITAL
IT BUSINESS NET
ITPRO
ITS WORLD CONGRESS WEBSITE
ITUNES
J.J. KELLER & ASSOCIATES, INC.
JAC LIMO SERVICE
JD SUPRA BUSINESS ADVISOR
JOC.COM X3
JSAWRITE.COM
JULIEGLADE.CM

JUSTIA REGULATIONS X2
K5TV
KAIT8
KARNS LAW GROUP
KEARNEY HUB
KENTUCKY.COM
KENYON LEADER
KHALEEJTIMES.COM
KINNARD, CLAYTON & BEVERIDGE
KOCO.COM OKLAHOMA CITY
KPLCTV
KRDO.COM
KREM2
KTBS
KUNC 91.5 X2
LAND LINE MAG X4
LAWBLOGS.NET
LOGI NEWS
LOUDOUN-TIMES MIRROR X2
LUTHERAN HIGH SCHOOL
LYTX
MARCUS & MACK
MARKET WATCH X3
MENCAP.ORG.UK
METRO MAGAZINE
MICHIGAN AUTO LAW
MILLS TRANSFER INC
MILWAUKEE COURIER
MINEWS 26
MOBILITY LAB
MONEY CNN
MOTORCYCLE USA
MOTORTREND X2
MSF/USA
MSN NEWS
MUSCATINE JOURNAL
MUSKOGEE PHOENIX
MYCENTRALOREGON.COM
MYSA
NBAA
NBC
NBC NEWS AFFILIATE, WPTZ
NCPR
NCS
NET NEWS LEDGER
NETWORK WORLD
NEW YORK TIMES X3
NEWS TIMES
NEWSOBSERVER.COM
NEWSPLEX
NEWSTRAL X2
NOODLS X2
NORTH JERSEY.COM
NORTH READING PATCH
NORTHWESTERN MEDICINE
NPR X5
OAKLAND PRESS
OCCUPATIONAL HEALTH & SAFETY X2
OHIO DEPARTMENT OF PUBLIC SAFETY
OMAHA.COM
OMICS GROUP
ONE NEWS PAGE
ORANGE COUNTY REGISTER
OVERDRIVE X9
OYETIMES X2
PAGELAMP.COM
PALM BEACH POST
PARKFAMILYINSURANCE.COM
PASADENA STAR NEWS
PATCH.COM
PC MAGAZINE
PERRY HALL PATCH
PHYS.ORG X4
PLANETIZEN X2
POPULAR MECHANICS
POPULAR SCIENCE
PORTLAND TRIBUNE
POWERSPORTS BUSINESS
PR NEWSWIRE X7
PRESS RELEASE ROCKET
PRINCETON UNION-EAGLE
PROGRESSIVE ENGINEER FEATURE
PROPERTY CASUALTY 360 X4
PRYER PRIEST & HARBOR
PUBLICOPINIONONLINE.COM
QUAD-CITY TIMES
RBC
REASON
RICHLAND SOURCE
RICHMOND TIMES-DISPATCH X7
RIVERA TIME
RIVERHEADLOCAL
ROAD RACING WORLD
ROANOKE BUSINESS
ROANOKE TIMES X15
SACRAMENTO BEE
SAE INTERNATIONAL
SAFE CAR NEWS
SAFETY + HEALTH X2
SAN ANTONIO EXPRESS-NEWS X2
SAN DIEGO SOURCE
SAN FRANCISCO CHRONICLE
SAN LUIS OBISPO TRIBUNE
SCOTT AIR FORCE BASE
SCOTTSBLUFF STAR HERALD
SEEING MACHIENES
SEGS
SELECTIVE.COM
SENIORIFIC.COM
SHORE NEWS TODAY
SIOUXCITYJOURNAL.COM X2
SKIFT X2
SKY VALLEY CHRONICLE
SLASHGEAR X2
SLINKINGTOWARDRETIREMENT.COM
SMART INDUSTRY
SMARTBRIEF
SMWN.ORG
STAFFORD LOCAL
STATE ADMINISTRATION OF FOREIGN EXPERTS AFFAIRS
STAUNTON NEWS
STREETWISE
STYLECRAZE
SUNHERALD.COM
TAHLEQUAH
TECH PAGE ONE
TECHCO
TECH TIMES
TERRABLE MEDIA
THE ADA NEWS
THE AUTO CHANNEL X2
THE BLADE
THE BREEZE
THE BUFFALO NEWS
THE CAR CONNECTION
THE CONVERSATION.COM
THE DAILY ARDMOREITE
THE DAILY HERALD
THE DAILY PROGRESS
THE DETROIT NEWS
THE ECONOMIC VOICE
THE FINANCE EXPRESS
THE FIX
THE FREE LANCE STAR
THE GLOBE AND MAIL X2
THE KANSAS CITY STAR
THE LEGAL EXAMINER
THE LEMOORE NAVY NEWS
THE MERCURY NEWS X4
THE MIAMI NEWS-RECORD
THE NATIONAL BUZZ
THE NEWS TRIBUNE X2
THE NEXT DIGIT
THE PHILOMATH EXPRESS
THE PILOT-INDEPENDENT
THE PILOT-INDEPENDENT
THE ROANOKE STAR
THE SANTOS FAMILY FOUNDATION
THE SOURCE
THE SOUTH TEXAN
THE SOUTHWEST TIMES
THE ST. AUGUSTINE RECORD
THE STAR DEMOCRAT
THE STATE
THE STATE JOURNAL-REGISTER
THE TELEGRAPH
THE TRENTONIAN COLUMNS
THE TRIBUNE
THE TRUCKER.COM
THE VIRGINIA ENGINEER X2
THE WASHINGTON POST
THE WASHINGTONIAN
THE WASHINGTON TIMES X2
THETRUCKER.COM X4
THIS IS REALLY INTERESTING
THV11
TICKERTECH
TIME.COM
TIRE TECHNOLOGY
TOLEDO BLADE

TOP 20 DOCUMENTARY X2
TRAFFIC TECHNOLOGY TODAY
TRANSFAC CAPITAL
TRANSPORT EVOLVED X2
TRANSPORT TOPICS X24
TRICITIES.COM
TRUCKER.COM
TRUCKERS NEWS X2
TRUCKING NEWS X3
TRUCKINGINFO
TULSA WORLD
TUTORIAL FINDER
TYLER MORNING TELEGRAPH
U.S. CHAMBER OF COMMERCE FOUNDATION X2
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
UAS MAGAZINE X2
UDRIVE
UHHAULER
UK.REUTERS.COM
ULTIMATE MOTORCYCLING X2
UNITED STATES DEPARTMENT OF TRANSPORTATION
USA TODAY X3
VAENG.COM
VALLEY NEWS LIVE
VIMEO
VIRGINA BUSINESS X4
VIRGINIA.GOV X2
VIRTUAL-STRATEGY MAGAZINE X4
VOICE OF AMERICA
WARDS AUTO X2
WBTV
WCF COURIER.COM
WDBJ7 X8
WEST HAWAII TODAY
WESTERN JOURNALISM
WHEELS24
WIFIHIFI
WISHTV.COM
WIVB4 X2
WIVB4
WN.COM X3
WNP.PL
WQCS.ORG X2
WREG.COM - NEWS CHANNEL 3
WSET X8
WSLS
WVTM13
WWW.OMALLEYTUNSTALL.COM
WWW.STERNBERGLAWOFFICE.COM
YAHOO FINANCE
YAHOO NEWS
YAHOO! FINANCE (CNBC)
YES VIRGINIA X2
YORK NEWS TIMES
YOURGV
YUMA SUN

PRESENTATIONS, HONORS, MEDIA, AND AWARDS

ANDY ALDEN

ALDEN, A. (2014, NOVEMBER). UNMANNED AERIAL VEHICLES AND APPLICATIONS FOR SURFACE TRANSPORTATION. PRESENTED AT THE VDOT SYSTEMS OPERATIONS RESEARCH ADVISORY COMMITTEE, CHARLOTTESVILLE, VA.

ALDEN, A. (2015, MARCH). OVERVIEW OF VTTI AND THE ECO-TRANSPORTATION AND ALTERNATIVES TECHNOLOGY GROUP. PRESENTED AT THE UNIVERSITY OF TENNESSEE, KNOXVILLE, TN.

ALDEN, A. (2014, OCTOBER). HOW TECHNOLOGY IS DRIVING INNOVATION IN SURFACE TRANSPORTATION. PRESENTED AT THE VIRGINIA SCIENCE FESTIVAL, MEET THE SCIENTIST EVENT, BLACKSBURG, VA.

ALDEN, A. (2014, OCTOBER). SALINE BIOCHAR AS A ROAD DEICING MATERIAL. PRESENTED AT THE ICTAS PROGRAM REVIEW, BLACKSBURG, VA.

ALDEN, A. (2015, APRIL). NEW TECHNOLOGIES FOR PREVENTION OF ANIMAL-VEHICLE CONFLICTS. PRESENTED AT THE ENVIRONMENTAL VIRGINIA SYMPOSIUM, LEXINGTON, VA.

ALDEN, A. (2015, APRIL). SALINE BIOCHAR AS A SALT ALTERNATIVE FOR TREATMENT OF WINTER ROADS. PRESENTED AT THE ENVIRONMENTAL VIRGINIA SYMPOSIUM, LEXINGTON, VA.

ALDEN, A. (2015, APRIL). ADAPTIVE TRANSIT BUS ROUTING AND SCHEDULING FOR GHG REDUCTION. PRESENTED AT THE ENVIRONMENTAL VIRGINIA SYMPOSIUM, LEXINGTON, VA.

PANEL MEMBER: ACRP PROJECT ADVISORY PANEL, ACRP 02-50 DERIVING BENEFITS FROM ALTERNATIVE AIRCRAFT-TAXI SYSTEMS.

COMMITTEE MEMBER AND PAPER/PRESENTATION COORDINATOR: TRANSPORTATION RESEARCH BOARD ADC 60, RESOURCE CONSERVATION AND RECOVERY.

SUBCOMMITTEE CHAIR: TRANSPORTATION RESEARCH BOARD ADC 60(2), TRANSPORTATION INFRASTRUCTURE, FACILITIES, AND RIGHT-OF-WAYS AS SUSTAINABLE RESOURCES.

SUBCOMMITTEE MEMBER: TRANSPORTATION RESEARCH BOARD, UNMANNED AIRCRAFT SYSTEMS (UAS) SUBCOMMITTEE (JOINT UNDER AV060, AV010, AND AV020).

MEMBER: VDOT STATEWIDE BICYCLE AND PEDESTRIAN ADVISORY COMMITTEE.

ADVISORY TEAM: UNMANNED SYSTEMS POLICY ADVISORY TEAM, VIRGINIA OFFICE OF THE SECRETARY OF TECHNOLOGY

MEMBER: CLIMATE ACTION PLAN WORKING GROUP, TOWN OF BLACKSBURG

JON ANTIN

GUO, F., FANG, Y., & ANTIN, J. F. (2014, AUGUST). SENIOR DRIVER FITNESS-TO-DRIVE EVALUATION USING NATURALISTIC DRIVING DATA. POSTER PRESENTED AT THE 4TH INTERNATIONAL NATURALISTIC DRIVING RESEARCH SYMPOSIUM, BLACKSBURG, VA. RECEIVED BEST POSTER AWARD.

RAJARAM BHAGAVATHULA

2014 ILLUMINATING ENGINEERING SOCIETY YOUNG PROFESSIONAL SCHOLARSHIP AWARD

MYRA BLANCO

BLANCO, M. (2014, JULY). COMMERCIAL VEHICLE OPERATIONS: AUTOMATION. ASSESSMENT OF TECHNOLOGIES AND APPROACHES FOR REDUCING THE FUEL CONSUMPTION OF MEDIUM- AND HEAVY-DUTY VEHICLES, PHASE 2. ANN ARBOR, MI.

BLANCO, M. (2014, SEPTEMBER). EVALUATION OF HIGHLY AUTOMATED DRIVING AND TRUCK PLATOONING. 21ST ITS WORLD CONGRESS. DETROIT, MI.

BLANCO, M. (2014, NOVEMBER). AUTOMATED VEHICLES-TERMS AND DEFINITIONS (AVTD): INITIATIVE MEETING. ISO WORKSHOP ON AUTOMATION & HMI. LYON, FRANCE.

BLANCO, M. (2014, NOVEMBER). AUTOMATED VEHICLE SYSTEMS: USA ACTIVITIES. ISO WORKSHOP ON AUTOMATION & HMI. LYON, FRANCE.

BLANCO, M. (2015, JANUARY). USER EXPERIENCE: UNDERSTANDING AUTOMATED VEHICLES HMI DESIGN. TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING. WASHINGTON, DC.

BLANCO, M. (2015, JANUARY). TRANSFORMING TRANSPORTATION: HUMAN ACCEPTANCE OF SELF-DRIVING VEHICLES. POSTER PRESENTED AT THE TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING, WASHINGTON, DC.

BLANCO, M. (2015, JANUARY). HUMAN FACTORS DESIGN PRINCIPLES FOR LEVEL 2 AND LEVEL 3 AUTOMATION. SOCIETY OF AUTOMOTIVE ENGINEERS 2015 GOVERNMENT/INDUSTRY MEETING. WASHINGTON, DC.

BLANCO, M. (2015, MARCH). ADVANCING TRANSPORTATION THROUGH INNOVATION. COMVEC EXECUTIVE COMMITTEE MEETING. MT. VERNON, WA.

BLANCO, M. (2015, MAY). CMV TRANSPORTATION IN THE U.S.: LOOKING DOWN THE ROAD. FOR THE SAE INDUSTRY PANEL DISCUSSION: THE FUTURE OF AUTOMATED COMMERCIAL VEHICLES, WHAT'S NEXT? AUVSI UNMANNED SYSTEMS 2015. ATLANTA, GA.

BLANCO, M. (2015, JULY). HUMAN FACTORS EVALUATION OF LEVEL 2 AND LEVEL 3 AUTOMATED DRIVING CONCEPTS. AUTOMATED VEHICLES SYMPOSIUM. ANN ARBOR, MI.

BLANCO, M. (2015, JULY). VIRGINIA AUTOMATED CORRIDORS. POSTER PRESENTED AT THE AUTOMATED VEHICLES SYMPOSIUM, ANN ARBOR, MI.

BLANCO, M. (2015, JULY). HUMAN FACTORS EVALUATION OF LEVEL 2 AND LEVEL 3 AUTOMATED DRIVING CONCEPTS. POSTER PRESENTED AT THE AUTOMATED VEHICLES SYMPOSIUM, ANN ARBOR, MI.

MODERATOR: ADVANCED VEHICLE SYSTEMS. 21ST ITS WORLD CONGRESS. DETROIT, MI. SEPTEMBER 2014.

PANEL MEMBER: TOWARDS ROAD TRANSPORT AUTOMATION: OPPORTUNITIES IN PUBLIC-PRIVATE COLLABORATION. HOSTED BY THE EUROPEAN COMMISSION, THE U.S. DEPARTMENT OF TRANSPORTATION, AND THE TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMY OF SCIENCES. WASHINGTON, DC. APRIL 2015.

PROPOSAL REVIEWER: THE NATIONAL SCIENCE FOUNDATION.

APPOINTED TO VT COMMISSION ON RESEARCH FOR THREE-YEAR TERM: SEPTEMBER 2015 -SEPTEMBER 2018.

CRAIG BRYANT*

BRYANT, C., RAKHA, H., & EL-SHAWARBY, I. (2015, JANUARY). STUDY OF TRUCK DRIVER BEHAVIOR AT THE ONSET OF A YELLOW TRAFFIC SIGNAL INDICATION FOR THE DESIGN OF YELLOW TIMINGS. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-4564).

MATT CAMDEN

CAMDEN, M. C. (2015, MAY). EVALUATING THE SAFETY BENEFITS OF TWO ONBOARD TECHNOLOGIES. INVITED PRESENTATION AT THE 2015 VIRGINIA TRUCKING ASSOCIATION'S SAFETY MANAGEMENT CONFERENCE, HAMPTON, VA.

CAMDEN, M. C. (2015, MAY). INDEPENDENT EVALUATION OF AN ONBOARD SAFETY MONITORING SYSTEM IN COMMERCIAL MOTOR VEHICLE OPERATIONS AND SAFETY BENEFITS OF ELECTRONIC HOURS-OF-SERVICE RECORDERS IN LARGE TRUCKS. INVITED PRESENTATION AT THE CAPTIVE RESOURCES' RISK CONTROL WORKSHOP, DUBUQUE, IA.

CAMDEN, M. C. (2015, APRIL). INDEPENDENT EVALUATION OF AN ONBOARD SAFETY MONITORING SYSTEM IN COMMERCIAL MOTOR VEHICLE OPERATIONS AND SAFETY BENEFITS OF ELECTRONIC HOURS-OF-SERVICE RECORDERS IN LARGE TRUCKS. INVITED PRESENTATION AT THE CAPTIVE RESOURCES' RISK CONTROL WORKSHOP, TYSONS, VA.

CAMDEN, M. C. (2015, FEBRUARY). FATIGUE IN WINTER MAINTENANCE OPERATIONS. INVITED PRESENTATION AT THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S DISTRICT ADMINISTRATOR COUNCIL, RICHMOND, VA.

CAMDEN, M. C., SOCCOLICH, S. A., HICKMAN, J. S., & HANOWSKI, R. J. (2015, JANUARY). A PILOT STUDY ON DRUG USE AND INVOLVEMENT IN A SAFETY-CRITICAL EVENT USING NATURALISTIC TRUCK DATA. PAPER PRESENTED AT THE HEALTH AND WELLNESS SUBCOMMITTEE MEETING DURING THE ANNUAL TRANSPORTATION RESEARCH BOARD MEETING, WASHINGTON, DC.

CAMDEN, M. C., SOCCOLICH, S. A., HICKMAN, J. S., & HANOWSKI, R. J. (2015, JANUARY). A PILOT STUDY ON DRUG USE AND INVOLVEMENT IN A SAFETY-CRITICAL EVENT USING NATURALISTIC TRUCK DATA. PAPER PRESENTED AT THE ALCOHOL, OTHER DRUGS COMMITTEE MEETING DURING THE ANNUAL TRANSPORTATION RESEARCH BOARD MEETING, WASHINGTON, DC.

CAMDEN, M. C. (2014, DECEMBER). INVESTIGATING FACTORS CAUSING FATIGUE IN EQUIPMENT OPERATORS DURING WINTER OPERATIONS. INVITED PRESENTATION AT THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S MEETING OF DISTRICT MAINTENANCE ENGINEERS AND REGIONAL OPERATIONS DIRECTORS, RICHMOND, VA.

CAMDEN, M. C. (2014, OCTOBER). ENVIRONMENTAL FACTORS CAUSING FATIGUE IN EQUIPMENT OPERATORS DURING WINTER OPERATIONS. INVITED PRESENTATION AT THE VIRGINIA DEPARTMENT OF TRANSPORTATION - SALEM DISTRICT 2014 ANNUAL SNOW CONFERENCE, ROANOKE, VA.

CAMDEN, M. C. (2014, OCTOBER). POTENTIAL SAFETY BENEFITS OF TWO DIFFERENT ON-BOARD TECHNOLOGIES. INVITED PRESENTATION AT THE 2014 MARCELLO & KIVISTO, LLC SEMINAR, CARLISE, PA.

CAMDEN, M. C., HICKMAN, J. S., MABRY, J. E., KNIPLING, R. R., HERBERT, B., TIDWELL, S., & HANOWSKI, R. J. (2014, OCTOBER). DEVELOPMENT OF A COMMERCIAL MOTOR VEHICLE DRIVER FATIGUE MANAGEMENT PROGRAM. PAPER PRESENTED AT THE 1ST INTERNATIONAL SYMPOSIUM TO ADVANCE TOTAL WORKER HEALTH, BETHESDA, MD.

CAMDEN, M. C., SOCCOLICH, S. A., HICKMAN, J. S., & HANOWSKI, R. J. (2014, AUGUST). EXAMINING THE RELATIONSHIP BETWEEN DRUG USE AND INVOLVEMENT IN A SAFETY-CRITICAL EVENT. PAPER PRESENTED AT THE 4TH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH, BLACKSBURG, VA.

HAO CHEN

CHEN, H., & RAKHA, H. A. (2015). PREDICTING FREEWAY TRAVEL TIMES USING DYNAMIC TEMPLATE MATCHING. PAPER PRESENTED AT THE TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING, WASHINGTON, DC.

JON DARAB

DARAB, J. (2015, FEBRUARY). MOLECULE TO THE ROAD – MATERIAL INTEGRATION TO SYSTEM-LEVEL CHARACTERIZATION. PRESENTED AT THE TIRE TECHNOLOGY EXPO, COLOGNE, GERMANY.

MATTHEW DELLA PIA

DELLA PIA, M. (2015, FEBRUARY). TIRE ENVELOPING MODEL PARAMETERISATION ON A HIGH-SPEED FLAT-BELT SYSTEM. PRESENTED AT THE TIRE TECHNOLOGY EXPO, COLOGNE, GERMANY.

TOM DINGUS

MEMBER: BOARD OF DIRECTORS, ITS AMERICA

ELECTED MEMBER: BOARD OF DIRECTORS, ASSOCIATION FOR UNMANNED VEHICLE SYSTEMS INTERNATIONAL

ELECTED MEMBER: VIRGINIA GOVERNOR'S UNMANNED SYSTEMS COMMISSION

INVITED PANELIST: IDENTIFYING COGNITIVE DISTRACTION IN NATURALISTIC DRIVING STUDY (NDS) DATA. PRESENTED TO THE NATIONAL TRANSPORTATION SAFETY BOARD, WASHINGTON, DC. MAY 2015.

SELF-DRIVING CARS TO BE TESTED AT VIRGINIA TECH, IN NORTHERN VIRGINIA, ROANOKE TIMES, JUNE 1, 2015; MORE THAN 90 ADDITIONAL ARTICLES RELATED TO THIS LEAD STORY, INCLUDING COVERAGE IN RICHMOND TIMES-DISPATCH, TIME, POPULAR SCIENCE, AND WASHINGTON POST.

ZAC DOERZAPH

DOERZAPH, Z. R. (2015). NATURALISTIC METHODS. PRESENTED AT THE TRANSPORTATION INNOVATION SERIES: CONNECTED MOTORCYCLE RESEARCH AT VTTI AND THE VIRGINIA CONNECTED CORRIDORS, WASHINGTON, DC.

DOERZAPH, Z. R. (2014). THE CONNECTED VEHICLE EVOLUTION, TRANSPORTATION LEADERS DISCUSS EMERGING TECHNOLOGIES AND THE FUTURE OF DRIVER SAFETY. PRESENTED AT TRAVELERS, HARTFORD, CT.

DOERZAPH, Z. (2014, JULY). CONSUMER ATTITUDES TOWARDS ADVANCED AUTOMOTIVE SAFETY. PAPER PRESENTED AT ADVANCED AUTOMOTIVE SAFETY, NOVI, MI.

HOLMES, L. M., DOERZAPH, Z. R., SMITH, R. C., & KLAUER, S. G. (2014). DRIVER VEHICLE INTERACTION AND THE IMPACT OF INTERRUPTION TYPE ON TASK COMPLETE AND DRIVING PERFORMANCE OF A CONNECTED VEHICLE SYSTEM. PAPER PRESENTED AT THE 21ST WORLD CONGRESS ON INTELLIGENT TRANSPORTATION SYSTEMS, DETROIT, MI.

NOBLE, A. M., MCLAUGHLIN, S. B., DOERZAPH, Z. R., & DINGUS, T. A. (2014). MOTORCYCLE PAVEMENT CONDITION ASSESSMENT ALGORITHM DEVELOPMENT USING NATURALISTIC DRIVING DATA. PAPER PRESENTED AT THE FOURTH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH, BLACKSBURG, VA.

SARKAR, A., ABBOTT, A. L., & DOERZAPH, Z. (2014). ASSESSMENT OF PSYCHOPHYSIOLOGICAL CHARACTERISTICS OF DRIVERS USING HEART RATE FROM NATURALISTIC FACE VIDEO DATA. PAPER PRESENTED AT THE MID-ATLANTIC COMPUTER VISION (MACV) WORKSHOP, BLACKSBURG, VA. **

SARKAR, A., ABBOTT, A. L., & DOERZAPH, Z. (2014). ASSESSMENT OF PSYCHOPHYSIOLOGICAL CHARACTERISTICS USING HEART RATE FROM NATURALISTIC FACE VIDEO DATA. PAPER PRESENTED AT THE IEEE INTERNATIONAL JOINT CONFERENCE ON BIOMETRICS, CLEARWATER, FL. **

SARKAR, A., ABBOTT, A. L., & DOERZAPH, Z. (2015). ANALYSIS OF HEART RATE VARIABILITY FROM NATURALISTIC FACE VIDEO. PAPER PRESENTED AT THE MID-ATLANTIC COMPUTER VISION (MACV) WORKSHOP, CHAPEL HILL, NC. **

SARKAR, A., ABBOTT, A. L., & DOERZAPH, Z. (2015). ECG BIOMETRIC AUTHENTICATION USING A DYNAMICAL MODEL. PAPER PRESENTED AT THE IEEE INTERNATIONAL CONFERENCE ON BIOMETRICS: THEORY, APPLICATIONS AND SYSTEMS, ARLINGTON, VA. **

SARKAR, A., DOERZAPH, Z., & ABBOTT, A. L. (2014). ASSESSMENT OF PSYCHOPHYSIOLOGICAL CHARACTERISTICS OF DRIVERS USING HEART RATE FROM SHRP2 FACE VIDEO DATA. PAPER PRESENTED AT THE FOURTH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH, BLACKSBURG, VA. **

CRISTIAN DRUTA

DRUTA, C. (2015, APRIL). IMPLEMENTATION OF UNMANNED AERIAL VEHICLE-BASED DIGITAL PHOTOGRAMMETRY FOR DESIGN, RISK ANALYSIS, AND HAZARD MITIGATION FOR ROCK SLOPES. PRESENTED AT THE GRAC ANNUAL MEETING, CHARLOTTESVILLE, VA.

DRUTA, C. (2015, MAY). EVALUATION OF A BURIED CABLE ANIMAL DETECTION SYSTEM. PRESENTED AT THE TASRAC ANNUAL MEETING, CHARLOTTESVILLE, VA.

MEMBER: ABJ50(1), TRANSPORTATION RESEARCH BOARD SUBCOMMITTEE ON SENSING TECHNOLOGIES

MEMBER: ANB20(2), TRANSPORTATION RESEARCH BOARD SUBCOMMITTEE ON ANIMAL VEHICLE COLLISIONS

NAOMI DUNN

DUNN, N. J., HICKMAN, J. S., SOCCOLICH, S., AND HANOWSKI, R. J. (2014). DRIVER DETENTION TIMES IN COMMERCIAL MOTOR VEHICLE OPERATIONS (REPORT NO. FMCSA-RRR-13-060). WASHINGTON, DC: FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION.

DUNN, N. J., HICKMAN, J. S., & HANOWSKI, R. J. (2014). CRASH TRIFECTA: A COMPLEX DRIVING SCENARIO DESCRIBING CRASH CAUSATION (REPORT NO. 14-UI-025). BLACKSBURG, VA: NATIONAL SURFACE TRANSPORTATION SAFETY CENTER FOR EXCELLENCE.

DUNN, N. J. (2014, OCTOBER). VIRGINIA TECH TRANSPORTATION INSTITUTE - TRANSPORTATION RESEARCH UPDATE. PRESENTED AT THE NATIONAL ASSOCIATION OF PUBLICLY FUNDED TRUCK DRIVING SCHOOLS REGION 7 CONFERENCE. DELAWARE TECH, DE.

DUNN, N. J., HICKMAN, J. S., & HANOWSKI, R. J. (2014, JULY). CRASH TRIFECTA: A COMPLEX DRIVING SCENARIO DESCRIBING CRASH CAUSATION. PRESENTED AT THE 5TH INTERNATIONAL CONFERENCE ON APPLIED HUMAN FACTORS AND ERGONOMICS. KRAKOW, POLAND.

DUNN, N. J., HICKMAN, J. S., & HANOWSKI, R. J. (2014, AUGUST). CRASH TRIFECTA: A COMPLEX DRIVING SCENARIO FOR DESCRIBING SAFETY-CRITICAL EVENT CAUSATION. PRESENTED AT THE 4TH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH, BLACKSBURG, VA.

DUNN, N. J., HICKMAN, J. S., HANOWSKI, R. J. (2015, JANUARY). CRASH TRIFECTA: A COMPLEX DRIVING SCENARIO FOR DESCRIBING SAFETY-CRITICAL EVENT CAUSATION. PRESENTED AT THE TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING, WASHINGTON, DC.

MOHAMMED MAMDOUH ELHENAWY*

ELHENAWY, M., & RAKHA, H. (2015, JANUARY). MATRIX PROJECTION APPROACH FOR PREDICTING FREEWAY STATE EVOLUTION AND DYNAMIC TRAVEL TIMES. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-0843).

ELHENAWY, M., CHEN, H., & RAKHA, H. A. (2015). TRAFFIC CONGESTION IDENTIFICATION CONSIDERING WEATHER AND VISIBILITY CONDITIONS USING MIXTURE LINEAR REGRESSION. PAPER PRESENTED AT THE TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING, WASHINGTON, DC.

KARIM FADHLOUN*

FADHLOUN, K., RAKHA, H., LOULIZI, A., & ADESSATTAR, A. (2015, JANUARY). A VEHICLE DYNAMICS MODEL FOR ESTIMATING TYPICAL VEHICLE ACCELERATIONS. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-3970).

GREG FITCH

FITCH, G. M., HANOWSKI, R. J., & PEREZ, M. A. (2014, AUGUST). DRIVER'S VISUAL BEHAVIOR WHEN USING HANDHELD AND HANDS-FREE CELL PHONES. PAPER PRESENTED AT THE FOURTH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH, BLACKSBURG, VA.

FITCH, G. M. (2014, AUGUST). THE STATE AND FUTURE IMPLICATION OF AUTOMATED VEHICLES ON IMPAIRED DRIVING. PRESENTED AT THE 2014 ALCOHOL INTERLOCK SYMPOSIUM, WASHINGTON, DC.

FITCH, G. M. (2015, JANUARY). HEAD-UP DISPLAYS AND DISTRACTION POTENTIAL. PRESENTED AT THE KEEPING EYES ON THE ROAD: THE PROMISE OF VOICE CONTROLS AND HEAD-UP DISPLAYS WORKSHOP AT THE TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING, WASHINGTON, DC.

FITCH, G. M. (2015, JANUARY). VTTI FIELD STUDY OF HEAVY VEHICLE COLLISION AVOIDANCE TECHNOLOGIES. PAPER PRESENTED AT THE 2015 SOCIETY OF AUTOMOTIVE ENGINEERS GOVERNMENT INDUSTRY MEETING.

FITCH, G. M. (2015, MAY). THE STATE AND FUTURE IMPLICATION OF AUTOMATED VEHICLES ON IMPAIRED DRIVING. PRESENTED AT THE THIRD ANNUAL ASSOCIATION OF IGNITION INTERLOCK PROGRAM ADMINISTRATORS CONFERENCE, SAINT PAUL, MN.

FITCH, G. M. (2015, MAY). DRIVER DISTRACTION AND MITIGATION. PRESENTED AT THE JOURN E DU R SEAU DE LA RECHERCHE EN S CURIT ROUTI RE, QUEBEC CITY, QUEBEC.

FITCH, G. M. (2015, JUNE). DRIVER DISTRACTION AND MITIGATION. PRESENTED AT THE UNIVERSITY OF MICHIGAN TRANSPORTATION RESEARCH INSTITUTE, ANN ARBOR, MI.

FITCH, G. M. (2015, JUNE). THE FUTURE OF AUTOMATED VEHICLES. PRESENTED TO THE ROANOKE REGIONAL CHAMBER TRANSPORTATION ADVOCACY GROUP, ROANOKE, VA.

FITCH, G. M. (2015, JULY). REVIEW OF THE AUTOMATED VEHICLE SYMPOSIUM HUMAN FACTORS RESEARCH NEED STATEMENTS. PRESENTED AT THE AUTOMATED VEHICLE SYMPOSIUM 2015 HUMAN FACTORS BREAKOUT GROUP, ANN ARBOR, MI.

WORKSHOP: UNDERSTANDING HUMAN FACTORS IN ADAS AND AUTONOMOUS VEHICLES.

WORKSHOP GIVEN AT THE IS AUTO 2015 CONFERENCE, BRUSSELS, BELGIUM. JUNE 2015.

PANEL MEMBER: EVALUATION OF DRIVER DESIGNING SAFE, USEFUL, AND TRUSTWORTHY AUTOMATED VEHICLES. PANEL DISCUSSION HELD AT THE ITS AMERICA 25TH ANNUAL MEETING AND EXPOSITION, PITTSBURGH, PA. JUNE 2015.

PANEL MEMBER: NATURALISTIC FLYING STUDIES - INNOVATION IN AVIATION SAFETY RESEARCH. PROCEEDINGS OF THE HUMAN FACTORS AND ERGONOMICS SOCIETY ANNUAL MEETING, 69-71. SEPTEMBER 2014.

GERARDO FLINTSCH

ORGANIZED THE 9TH INTERNATIONAL CONFERENCE ON MANAGING PAVEMENT ASSETS (ICMPA9), MOVING PAVEMENT MANAGEMENT BEYOND THE SHORT-TERM: EMBRACING INNOVATION AND ADDRESSING SUSTAINABILITY, ACCOUNTABILITY, AND IMPROVED PERFORMANCE, MAY 2015. ALEXANDRIA, VA. CONFERENCE HELD IN COOPERATION WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), THE FEDERAL HIGHWAY ADMINISTRATION (FHWA), THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), AND THE TRANSPORTATION RESEARCH BOARD (TRB).

ORGANIZED THE PAVEMENT EVALUATION 2014 CONFERENCE IN COOPERATION WITH THE VIRGINIA

DEPARTMENT OF TRANSPORTATION, SEPTEMBER 2014. BLACKSBURG, VA.

DELIVERED A TRB SHRP 2 TUESDAY WEBINAR ON ASSESSMENT OF CONTINUOUS PAVEMENT DEFLECTION MEASURING TECHNOLOGIES (R06F) UNDER THE SPONSORSHIP OF THE SECOND STRATEGIC HIGHWAY RESEARCH PROGRAM (SHRP 2). JUNE 2014.

DELIVERED A KNOWLEDGE TRANSFER WEBINAR ON ASSESSMENT OF CONTINUOUS PAVEMENT DEFLECTION MEASURING TECHNOLOGIES (R06F) & IMPLEMENTATION ACTIVITIES (WITH DR. NADARAJAH SIVANESWARAN FROM FHWA) UNDER THE SPONSORSHIP OF THE SECOND STRATEGIC HIGHWAY RESEARCH PROGRAM (SHRP 2). NOVEMBER 2014.

DELIVERED (WITH E. DE LEóN) A SHORT COURSE ON PAVEMENT SURFACE CHARACTERISTICS & THEIR IMPACT ON ROADWAY PERFORMANCE UNDER THE SPONSORSHIP OF THE MAUTC, CHARLOTTESVILLE, VA. FEBRUARY 2015.

DELIVERED A SHORT COURSE (WITH STEPHEN CROSS FROM ARRA) ON IN-PLACE PAVEMENT RECYCLING UNDER THE SPONSORSHIP OF THE NATIONAL SUSTAINABLE PAVEMENT CONSORTIUM, MADISON, WI. MARCH 2015.

CHAIR: THE 14TH INFRASTRUCTURE MANAGEMENT RESEARCH AND EDUCATION WORKSHOP. SPONSORED BY TRB AT THE 94TH TRANSPORT RESEARCH BOARD ANNUAL MEETING. JANUARY 2015. WASHINGTON, DC.

CO-CHAIR: WORLD CONGRESS ON PAVEMENT AND ASSET MANAGEMENT. MAY 2017. MILANO, ITALY.

ASSOCIATE EDITOR: INTERNATIONAL JOURNAL OF PAVEMENT ENGINEERING, ELSEVIER.

MEMBER: COMMITTEE AFD80 STRENGTH AND DEFORMATION CHARACTERISTICS OF PAVEMENT SECTIONS. 2015.

CLAY GABLER

GABLER, H. C. (2015, MARCH). OPPORTUNITIES FOR THE REDUCTION OF SERIOUS INJURIES IN VEHICLE-GUARDRAIL COLLISIONS. INVITED PRESENTATION AT MONASH UNIVERSITY, MELBOURNE, AUSTRALIA.

GABLER, H. C. (2015, FEBRUARY). THE RISK OF SERIOUS AND FATAL INJURY IN MOTORCYCLE COLLISIONS WITH TRAFFIC BARRIERS IN THE U.S. INVITED PRESENTATION AT THE SWEDISH MOTORCYCLE ASSOCIATION, STOCKHOLM, SWEDEN.

GABLER, H. C. (2015, JANUARY). NATURALISTIC DATA FOR THE DEVELOPMENT OF ACTIVE SAFETY SYSTEMS. PRESENTED AT THE 2015 SAE GOVERNMENT / INDUSTRY CONFERENCE, WASHINGTON, DC.

GABLER, H. C. (2014, NOVEMBER). THE FATALITY RISK OF MOTORCYCLE COLLISIONS WITH TRAFFIC BARRIERS. INVITED PRESENTATION AT THE 2014 INTERNATIONAL ROAD FEDERATION ASIA REGIONAL CONFERENCE, SAFER ROADS BY DESIGN SESSION, NUSA DUA, INDONESIA.

GABLER, H. C. (2014, JULY). NCHRP 22-26 - FACTORS RELATED TO SERIOUS INJURY AND FATAL MOTORCYCLE CRASHES WITH TRAFFIC BARRIERS: PROJECT UPDATE. PRESENTED AT TRB SUMMER MEETING, AFB20 ROADSIDE SAFETY DESIGN COMMITTEE, PORTLAND, ME.

ORGANIZER AND CHAIR: ACTIVE SAFETY. 2014 SAE WORLD CONGRESS. APRIL 2014. DETROIT, MI.

MEMBER: INTERNATIONAL SCIENTIFIC COMMITTEE, FUTURE ACTIVE SAFETY TECHNOLOGY (FAST-ZERO) SYMPOSIUM 2015. SEPTEMBER 2015. GOTHENBURG, SWEDEN.

BEST SCIENTIFIC PAPER AWARD FROM THE ASSOCIATION FOR THE ADVANCEMENT OF AUTOMOTIVE MEDICINE 2014 CONFERENCE. AGE AND GENDER DIFFERENCES IN TIME TO COLLISION AT BRAKING FROM THE 100-CAR NATURALISTIC DRIVING STUDY.

CLARK GAYLORD

GAYLORD, C. (2014, OCTOBER). 2000 CARS, 1 PETABYTE AND OTHER THINGS. TALK GIVEN AT THE INTERNET2 TECHNOLOGY EXCHANGE. INDIANAPOLIS, IN.

RON GIBBONS

GIBBONS, R. (2014, SEPTEMBER). GUIDELINES FOR ADAPTIVE LIGHTING. PRESENTED AT THE STREET AND AREA LIGHTING CONFERENCE, NASHVILLE, TN.

GIBBONS, R. (2015, JUNE). ADAPTIVE LIGHTING WORKSHOP. COMMISSION INTERNATIONALE DE L'ECLAIRAGE, MANCHESTER, ENGLAND.

GIBBONS, R. (2015, JUNE). APPLICABILITY OF MESOPIC FACTORS FOR ROADWAY LIGHTING. PRESENTED AT THE COMMISSION INTERNATIONALE DE L'ECLAIRAGE, MANCHESTER, ENGLAND.

GIBBONS, R. (2015, JUNE). A NEW APPROACH TO ANALYZING DETECTION DATA. PRESENTED AT THE COMMISSION INTERNATIONALE DE L'ECLAIRAGE, MANCHESTER, ENGLAND.

GIBBONS, R. (2015, MAY). WHAT 6 YEARS OF NGL INSTALLATIONS AND EVALUATIONS HAS TAUGHT US ABOUT STATE OF THE ART LED LUMINAIRES. LIGHTFAIR, TIME AND MONEY, NEW YORK, NY.

GIBBONS, R. (2014, NOVEMBER). GUIDELINES FOR ADAPTIVE LIGHTING. ILLUMINATING ENGINEERING SOCIETY, PITTSBURGH, PA.

GIBBONS, R. (2014, JANUARY). GUIDELINES FOR ADAPTIVE LIGHTING. ILLUMINATING ENGINEERING SOCIETY, NORFOLK, VA.

MEMBER: ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA, RESILIENCY COMMITTEE

MEMBER: COMMISSION INTERNATIONALE DE L'ECLAIRAGE, BOARD OF ADMINISTRATION

ELECTED AS DIRECTOR OF DIVISION 4, COMMISSION INTERNATIONALE DE L'ECLAIRAGE FOR A 4-YEAR TERM

AWARD OF MERIT, ILLUMINATION AWARDS, LIGHTING ON DEMAND ON THE VIRGINIA SMART ROAD

ROANOKE SECTION AWARD, ILLUMINATION AWARDS, LIGHTING ON DEMAND ON THE VIRGINIA SMART ROAD

SERVICE AWARD, COMMISSION INTERNATIONALE DE L'ECLAIRAGE, UNITED STATED NATIONAL COMMITTEE

KEVIN GROVE

GROVE, K., ATWOOD, J., HILL, P., FITCH, G., DIFONZO, A., MARCHESE, M., & BLANCO, M. (2015, JULY). COMMERCIAL MOTOR VEHICLE DRIVER PERFORMANCE WITH ADAPTIVE CRUISE CONTROL IN ADVERSE WEATHER. PAPER PRESENTED AT THE 6TH INTERNATIONAL CONFERENCE ON APPLIED HUMAN FACTORS AND ERGONOMICS (AHFE), LAS VEGAS, NV. **

JEFF HICKMAN

HICKMAN, J. S. (2015). RESEARCH RESULTS ON ONBOARD SAFETY SYSTEMS AND ELECTRONIC LOGGING DEVICES. PRESENTED AT THE RISK CONTROL WORKSHOP, CHICAGO, IL.

HICKMAN, J. S. (2014). FATIGUE RESEARCH AT THE VIRGINIA TECH TRANSPORTATION INSTITUTE. PRESENTED AT THE MONTHLY MOTOR VEHICLE SAFETY COMMUNITY AT CHEVRON TECHNOLOGY PROJECTS AND SERVICES, A DIVISION OF CHEVRON U.S.A., INC.

HICKMAN, J. S. (2014). FATIGUE IN WINTER MAINTENANCE OPERATIONS. PRESENTED AT THE ANNUAL MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SNOW AND ICE MANAGER MEETING, WORCESTER, MA.

HICKMAN, J. S. (2014). FATIGUE RESEARCH AT THE VIRGINIA TECH TRANSPORTATION INSTITUTE. PRESENTED AT PRAXAIR'S ANNUAL FLEET SAFETY SYMPOSIUM, CHICAGO, IL.

HICKMAN, J. S. (2014). FATIGUE IN WINTER MAINTENANCE OPERATIONS. PRESENTED AT THE ANNUAL IOWA DEPARTMENT OF TRANSPORTATION FALL MEETING, AMES, IA.

HICKMAN, J. S. (2014). UPDATE ON THE COMMERCIAL DRIVER INDIVIDUAL DIFFERENCES STUDY. PRESENTED AT THE PANEL ON RESEARCH METHODOLOGIES AND STATISTICAL APPROACHES TO UNDERSTANDING DRIVER FATIGUE FACTORS IN MOTOR CARRIER SAFETY AND DRIVER HEALTH AT THE NATIONAL ACADEMY OF SCIENCES, WASHINGTON, DC.

HICKMAN, J. S., SOCCOLICH, S., FITCH, G. M., HANOWSKI, R. J., & HALLQUIST, T. (2015). SIMILARITY OF SECONDARY TASKS DURING SPURIOUS AND RANDOM BASELINES: A NATURALISTIC DRIVING APPROACH. PAPER TO BE PRESENTED AT THE 4TH INTERNATIONAL DRIVER DISTRACTION AND INATTENTION CONFERENCE, SYDNEY, AUSTRALIA.

CAMDEN, M. C., HICKMAN, J. S., & HANOWSKI, R. J. (2015). A GUIDE TO EFFECTIVELY USE COMMERCIALLY AVAILABLE SAFETY MONITORING TECHNOLOGIES. PAPER TO BE PRESENTED AT THE 22ND INTELLIGENT TRANSPORT SYSTEMS AND SERVICES (ITS) WORLD CONGRESS, BORDEAUX, FRANCE.

HICKMAN, J. S., HANOWSKI, R. J., MABRY, J. E., GUO, F., HERBERT, W., HALLQUIST, T., & WALKER, M. (2015). THE COMMERCIAL DRIVER INDIVIDUAL DIFFERENCES STUDY. PAPER PRESENTED AT THE 9TH INTERNATIONAL CONFERENCE ON MANAGING FATIGUE, FREMANTLE, AUSTRALIA.

CAMDEN, M. C., SOCCOLICH, S. A., HICKMAN, J. S., & HANOWSKI, R. J. (2015). A PILOT STUDY ON DRUG USE AND INVOLVEMENT IN A SAFETY-CRITICAL EVENT USING NATURALISTIC TRUCK DATA. PAPER PRESENTED AT THE ANNUAL TRANSPORTATION RESEARCH BOARD CONFERENCE, WASHINGTON, DC.

MARBURG, T. L., HICKMAN, J. S., & HANOWSKI, R. J. (2015). COMMON DATA ELEMENTS IN THE LARGE TRUCK CRASH CAUSATION STUDY. PAPER PRESENTED AT THE ANNUAL TRANSPORTATION RESEARCH BOARD CONFERENCE, WASHINGTON, DC.

HICKMAN, J. S., MEDINA-FLINTSCH, A., CAMDEN, M. C., BRYCE, J., FLINTSCH, G., & HANOWSKI, R. J. (2015). WINTER MAINTENANCE OPERATORS' AND MANAGERS' OPINIONS AND PERCEPTIONS OF FATIGUE. PAPER PRESENTED AT THE ANNUAL TRANSPORTATION RESEARCH BOARD CONFERENCE, WASHINGTON, DC.

MABRY, J. E., HICKMAN, J. S., HANOWSKI, R. J. (2014). CASE STUDY ON A WORKSITE WELLNESS PROGRAM FOR COMMERCIAL DRIVERS. PRESENTED AT THE ANNUAL INSTITUTE OF INDUSTRIAL ENGINEERING CONFERENCE, MONTREAL, CANADA.

MABRY, J. E., HICKMAN, J. S., AND HANOWSKI, R. J. (2014, MAY). CASE STUDY ON A WORKSITE HEALTH AND WELLNESS PROGRAM FOR COMMERCIAL MOTOR VEHICLE DRIVERS. PRESENTED AT THE ANNUAL AMERICAN COLLEGE OF SPORTS MEDICINE (ACSM) CONFERENCE, ORLANDO, FL.

ARASH JAHANGIRI*

JAHANGIRI, A., RAKHA, H., & DINGUS, T. (2015, JANUARY). PREDICTING RED-LIGHT RUNNING VIOLATIONS AT SIGNALIZED INTERSECTIONS USING MACHINE LEARNING TECHNIQUES. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-2910).

RAJ KISHORE KAMALANATHSHARMA

KAMALANATHSHARMA, R., RAKHA, H., & YANG H. (2015, JANUARY). NETWORK-WIDE IMPACTS OF VEHICLE ECO-SPEED CONTROL IN THE VICINITY OF TRAFFIC SIGNALIZED INTERSECTIONS. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-4290).

KEVIN KEFAUVER

KEFAUVER, K. (2015, FEBRUARY). BRINGING EU LABELLING INTO THE LAB – NOISE, WET, ENERGY LOSS. PRESENTED AT THE TIRE TECHNOLOGY EXPO, COLOGNE, GERMANY.

ANDREW KRUM

COMMITTEE OFFICER: WEBMASTER, HUMAN FACTORS AND ERGONOMICS SOCIETY-SURFACE TRANSPORTATION TECHNICAL GROUP

2015 – RAMSIS UPDATE CONFERENCE (JUNE 12, 2015). HUMAN MODELING FOR THE NORTH AMERICAN TRANSIT-BUS OPERATOR WORKSTATION: BRINGING GUIDELINES INTO THE 3-D SPACE (TCRP PROJECT C-22, TRB/NAS).

SHANE MCLAUGHLIN

MCLAUGHLIN, S. (2015, MARCH). CONFERENCE PRESENTATION/SESSION CHAIR – MOTORCYCLE RESEARCH AND TECHNOLOGY. PRESENTED AT THE LIFESAVERS CONFERENCE, CHICAGO, IL.

MCLAUGHLIN, S., GAYLORD, C., DAILY, BRIAN, J., HANKEY, & JONATHAN, M. (2015, APRIL). MATCHING LARGE NUMBERS OF GPS POINTS TO DIGITAL ROAD MAPS. POSTER PRESENTED AT THE VIRGINIA TECH HIGH PERFORMANCE COMPUTING DAY, BLACKSBURG, VA.

ASSOCIATE EDITOR: SAE INTERNATIONAL JOURNAL OF TRANSPORTATION SAFETY

MEMBER: TRB MOTORCYCLE AND MOPEDS COMMITTEE (ANF30)

DAVE MELLICHAMP

THIRD TERM ON UNIVERSITY COUNCIL ENERGY AND SUSTAINABILITY COMMITTEE. APPOINTED BY DR. STEGER.

ALEXANDRIA NOBLE*

NOBLE, A. M. (2015, APRIL 24). SAFETY AND HUMAN FACTORS OF ADAPTABLE STOP DISPLAYS USING CONNECTED VEHICLE INFRASTRUCTURE. POSTER SESSION AT THE CIVIL ENGINEERING RESEARCH DAY, BLACKSBURG, VA.

NOBLE, A. M. (2014, AUGUST 27). DEVELOPING A V2I MOTORCYCLE WARNING ALGORITHM USING NATURALISTIC DRIVING DATA. PODIUM PRESENTATION AT THE FOURTH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH.

FIRST RECIPIENT: VIRGINIA TECH HUMAN FACTORS OF TRANSPORTATION SAFETY GRADUATE CERTIFICATE PROGRAM (2015).

RECIPIENT: DWIGHT DAVID EISENHOWER GRADUATE FELLOWSHIP (2015).

BOON TECK ONG*

ONG B. T., RAKHA, H., & EL-SHAWARBY, I. (2015, JANUARY). DESIGNING TRAFFIC SIGNAL CLEARANCE INTERVALS CONSIDERING BUS IMPACTS. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-1344).

ONG, B. T., EL-SHAWARBY, I., & RAKHA, H. (2015, JANUARY). ANALYSIS OF BUS DRIVER PERCEPTION REACTION TIMES AND DECELERATION BEHAVIOR FOR THE DESIGN OF TRAFFIC SIGNAL CLEARANCE TIMES. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-0994).

JUSTIN OWENS

OWENS, J. M., ANGELL, L., HANKEY, J., FOLEY, J., & EBE, K. (2014). CONSTRUCTING A DISTRACTED DRIVING DATASET. PAPER PRESENTED AT THE FOURTH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH, VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY, BLACKSBURG, VA.

OWENS, J. M. (2014, SEPTEMBER). TALES FROM THE SMART ROAD: EXPLORING THE LANDSCAPE OF DRIVING SAFETY HUMAN FACTORS, THE CONVERGENCE OF SAFETY AND TECHNOLOGY, AND WHAT THE HECK IS THAT HANGING OFF THE FRONT OF YOUR BICYCLE? INVITED TALK AT FRANKLIN & MARSHALL COLLEGE PSYCHOLOGY DEPARTMENT, LANCASTER, PA.

OWENS, J. M. (2014, SEPTEMBER). EVOLUTION OF DISTRACTED DRIVING. INVITED TALK AT BLUE RIDGE TRANSPORTATION SAFETY SUMMIT: COMMUNITY COLLABORATION TO SAVE LIVES, SALEM, VA.

INTERVIEWED BY WSLS NBC 10, ROANOKE, VA: "VIRGINIA TECH TRANSPORTATION INSTITUTE EQUIPS BIKES FOR DATA COLLECTION." NOVEMBER 2014. HTTP://WWW.WSLS.COM/STORY/27405609/VIRGINIA-TECH-TRANSPORTATION-INSTITUTE-EQUIPS-BIKES-FOR-DATA-COLLECTION.

MIGUEL PEREZ

KONDOH, T., YAMAMURA, T., KUGE, N., PEREZ, M. A., & SUNDA, T. (2014). DEVELOPMENT OF A REAL-TIME STEERING ENTROPY METHOD FOR QUANTIFYING DRIVER'S CONCENTRATION LEVEL. PAPER PRESENTED AT THE ANNUAL MEETING OF THE JAPAN SOCIETY OF AUTOMOTIVE ENGINEERING, YOKOHAMA, JAPAN.

WORKSHOP MODERATOR: SHRP 2 INDEPTH (FOURTH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH). THE INN AT VIRGINIA TECH, BLACKSBURG, VA. AUGUST 2014.

WORKSHOP CONTRIBUTOR: SHRP 2 INSIGHT (FOURTH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH). THE INN AT VIRGINIA TECH, BLACKSBURG, VA. AUGUST 2014.

TRAINING ORGANIZER: SHRP 2 SAFETY DATABASE TRAINING. TWO-COURSE SEQUENCE, DELIVERED IN ARLINGTON, VA, AND BLACKSBURG, VA, JULY 28, 2014 - AUGUST 14, 2014 AND SEPTEMBER 8, 2014 - SEPTEMBER 25, 2014.

WEBINAR PRESENTER: NATURALISTIC DRIVING DATA: COLLECTION, PROCESSING, AND APPLICATION (ITS AMERICA SAFETY FORUM). MARCH 26, 2015.

HESHAM RAKHA

EDWARDES, W., & RAKHA, H. (2015, JANUARY). MODELING DIESEL AND HYBRID BUS FUEL CONSUMPTION USING VT-CPFM: MODEL ENHANCEMENTS AND CALIBRATION. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON DC (PAPER NO.15-2198). **

ELHENAWY, M., & RAKHA, H. (2015, JANUARY). AUTOMATIC CONGESTION IDENTIFICATION USING TWO-COMPONENT MIXTURE MODELS. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-1440). **

HASSAN, A., & RAKHA, H. (2015, JANUARY). A FULLY-DISTRIBUTED HEURISTIC ALGORITHM FOR CONTROL OF AUTONOMOUS VEHICLE MOVEMENTS AT ISOLATED INTERSECTIONS. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-4157).

JAHANGIRI, A., & RAKHA, H. (2015, JANUARY). DISTRIBUTED LEARNING: AN APPLICATION TO TRANSPORTATION MODE IDENTIFICATION. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-0826). **

LAHAROTTE, P. A., BILLOT, R., EL FAOUZI, N., & RAKHA, H. (2015, JANUARY). NETWORK-WIDE TRAFFIC STATE PREDICTION USING BLUETOOTH DATA. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC. (PAPER NO. 15-3022).

PARK, S., AHN, K., RAKHA, H., & LEE, C. (2015, JANUARY). REAL-TIME EMISSION MODELING WITH EPA MOVES: FRAMEWORK DEVELOPMENT AND PRELIMINARY INVESTIGATION. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-2604).

SANGSTER, J., RAKHA, H., & AL-KAISY, A. (2015, JANUARY). COMPARATIVE ANALYSIS OF THROUGH-ABOUT, ROUNDABOUT, AND CONVENTIONAL SIGNALIZED INTERSECTION DESIGNS. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-1866).

SANGSTER, J., & RAKHA, H. (2015, JANUARY). CAPACITY-BASED PREDICTIONS AND DELAY-BASED RESULTS: CAP-X LIMITATIONS AND SUGGESTIONS FOR IMPROVEMENT. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON DC. (PAPER NO. 15-1857).

TAWFIK, A., & RAKHA, H. (2015, JANUARY). MODELING HETEROGENEITY OF DRIVER ROUTE CHOICE BEHAVIOR USING HIERARCHICAL LEARNING-BASED MODELS: A LONGITUDINAL, IN-SITU EXPERIMENT IN REAL WORLD CONDITIONS. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-3135).

WANG J., & RAKHA, H. (2015, JANUARY). IMPACT OF DYNAMIC ROUTE INFORMATION ON DAY-TO-DAY DRIVER ROUTE CHOICE BEHAVIOR. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC. (PAPER NO. 15-4918).

WANG, J., RAKHA, H., & YU L. (2015, JANUARY). OPERATING MODE DISTRIBUTION CHARACTERISTICS OF DIFFERENT FREEWAY WEAVING CONFIGURATIONS AND THEIR EFFECTS ON VEHICULAR EMISSIONS. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-1429).

YANG, H., & RAKHA, H. (2015, JANUARY). ESTIMATION OF DYNAMIC ORIGIN-DESTINATION MATRICES USING SIMULATION-BASED OPTIMIZATION. PRESENTED AT THE 94TH TRANSPORTATION RESEARCH BOARD ANNUAL MEETING, WASHINGTON, DC (PAPER NO. 15-2977)

TAMMY TRIMBLE

APPOINTED TO ADVISORY COMMITTEE FOR THE VIRGINIA TECH ECOCAR 3 TEAM

INDUCTED INTO PI ALPHA ALPHA, THE GLOBAL HONOR SOCIETY FOR PUBLIC AFFAIRS & ADMINISTRATION. MARCH 2015.

HOLLAND VASQUEZ

RECIPIENT OF THE DWIGHT DAVID EISENHOWER GRADUATE FELLOWSHIP FOR SECOND YEAR IN A ROW. JULY 2014.

WILLIAMS, V., MCLAUGHLIN, S., WILLIAMS, S., & BUCHE, T. (2015, JANUARY). AN EXPLORATORY ANALYSIS OF MOTORCYCLE INCIDENTS USING NATURALISTIC RIDING DATA. PAPER PRESENTED AT THE TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING, WASHINGTON, DC

*DENOTES PRESENTATION(S) MADE BY A VIRGINIA TECH STUDENT AUTHOR

**DENOTES WORK CONDUCTED IN COLLABORATION WITH A VIRGINIA TECH STUDENT AUTHOR(S)

PUBLICATIONS

INCLUDES TECHNICAL REPORTS, JOURNAL ARTICLES, AND CONFERENCE PROCEEDINGS.

AHMED-ZAID, F., KRISHNAN, H., VLADIMEROU, V., BROVOLD, S., CUNNINGHAM, A., GOUDY, R., & VIRAY, R. (2015). VEHICLE-TO-VEHICLE SAFETY SYSTEM AND VEHICLE BUILD FOR SAFETY PILOT (V2V-SP): DRIVER ACCEPTANCE CLINICS (FINAL REPORT). RETRIEVED FROM FEDERAL REGISTAR: HTTP://WWW.REGULATIONS.GOV/#!DOCKETDETAIL;D=NHTSA-2014-0022

AHN, K. & RAKHA, H. (2014). ECO-LANES APPLICATIONS: PRELIMINARY TESTING AND EVALUATION. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2427, 41-53. *

ANTIN, J. A., OWENS, J. M., & WOTRING, B. M. (2015). COMPARING THE DRIVING SAFETY BENEFITS OF BRAIN FITNESS TRAINING PROGRAMS FOR ELDERLY DRIVERS (FINAL REPORT). TOYOTA CSRC.

ANTIN, J., STULCE, K., EICHELBERGER, L., & HANKEY, J. (2015). NATURALISTIC DRIVING STUDY: DESCRIPTIVE COMPARISON OF THE STUDY SAMPLE WITH NATIONAL DATA (SHRP 2 REPORT NO. S2-S31-RW-1). WASHINGTON, DC: TRANSPORTATION RESEARCH BOARD.

BHAGAVATHULA, R. & GIBBONS, R. B. (2015). A NEW APPROACH TO ANALYZE NIGHTTIME ROADWAY VISIBILITY THROUGH DISTRIBUTION ANALYSIS OF DETECTION DISTANCES. IN PROCEEDINGS OF THE 28TH SESSION OF THE CIE (ID 097, OP72).

BHAGAVATHULA, R., GIBBONS, R. B., & EDWARDS, C. J. (2015). RELATIONSHIP BETWEEN ROADWAY ILLUMINANCE LEVEL AND NIGHTTIME RURAL INTERSECTION SAFETY. IN TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING (NO. 15-1874).

BHOOPALAM, A., & KEFAUVER, K. (2015). USING SURFACE TEXTURE PARAMETERS TO RELATE FLAT BELT LABORATORY TRACTION DATA TO THE ROAD. SAE INTERNATIONAL. DOI:10.4271/2015-01-1513

BORIACK, P. C., KATICHA, S. W., & FLINTSCH, G. W. (2014). A LABORATORY STUDY ON THE EFFECT OF HIGH RAP AND HIGH ASPHALT BINDER CONTENT ON THE STIFFNESS, FATIGUE RESISTANCE AND RUTTING RESISTANCE OF ASPHALT CONCRETE. TRANSPORTATION RESEARCH RECORD:

JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2445, 64-74.

BORIACK, P. C., KATICHA, S. W., FLINTSCH, G. W., & TOMLINSON, C. R. (2014). LABORATORY EVALUATION OF ASPHALT CONCRETE MIXTURES CONTAINING HIGH CONTENTS OF RECLAIMED ASPHALT PAVEMENT (RAP) AND BINDER (VCTIR REPORT NO. 15-R8). CHARLOTTESVILLE, VA: VIRGINIA CENTER FOR TRANSPORTATION INNOVATION AND RESEARCH.

BRYCE, J., FLINTSCH, G. W., & HALL, R. P. (2014). A MULTI CRITERIA DECISION ANALYSIS TECHNIQUE FOR INCLUDING ENVIRONMENTAL IMPACTS IN SUSTAINABLE INFRASTRUCTURE MANAGEMENT BUSINESS PRACTICES. TRANSPORTATION RESEARCH PART D: TRANSPORT & ENVIRONMENT, 32, 435-445.

BRYCE, J., KATICHA, S., FLINTSCH, G. W., & DIEFENDERFER, B. (IN PRESS). DEVELOPING A NETWORK-LEVEL STRUCTURAL CAPACITY INDEX FOR COMPOSITE PAVEMENTS. ASCE INFRASTRUCTURE SYSTEMS JOURNAL.

BRYCE, J., KATICHA, S., FLINTSCH, G. W., SIVANESWARAN, N., & SANTOS, J. (2015). PROBABILISTIC LIFECYCLE ASSESSMENT AS A NETWORK-LEVEL EVALUATION TOOL FOR THE USE AND MAINTENANCE PHASES OF PAVEMENTS. JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2455(1), 44-53.*

CALIDA, B., KADY, J., PEREZ, M. A., ONEYEAR, N., & HALLMARK, S. (EMBARGOED UNTIL 2017). EVALUATING THE RELATIONSHIP BETWEEN THE DRIVER AND ROADWAY TO ADDRESS RURAL INTERSECTION SAFETY USING THE SHRP 2 NATURALISTIC DRIVING STUDY DATA SET.

CAMDEN, M. C., HICKMAN, J. S., & HANOWSKI, R. J. (2015). EFFECTIVE USE OF COMMERCIALLY AVAILABLE ONBOARD SAFETY MONITORING TECHNOLOGIES: GUIDANCE FOR COMMERCIAL MOTOR VEHICLE CARRIERS (REPORT NO. 15-UT-032). BLACKSBURG, VA: THE NATIONAL SURFACE TRANSPORTATION SAFETY CENTER FOR EXCELLENCE.

CAMDEN, M. C., HICKMAN, J. S., SOCCOLICH, S. A., & HANOWSKI, R. J. (2014). PRESCRIPTION AND OVER-THE-COUNTER DRUG USE AND ITS RELATIONSHIP TO INVOLVEMENT IN SAFETY-CRITICAL EVENTS (REPORT NO. 14-UI-028). BLACKSBURG, VA: THE NATIONAL SURFACE TRANSPORTATION SAFETY CENTER FOR EXCELLENCE.

CAMDEN, M. C., SOCCOLICH, S. A., HICKMAN, J. S., & HANOWSKI, R. J. (2015). A PILOT STUDY ON DRUG USE AND INVOLVEMENT IN A SAFETY-CRITICAL EVENT USING NATURALISTIC TRUCK DATA. IN PROCEEDINGS OF THE ANNUAL TRANSPORTATION RESEARCH BOARD. WASHINGTON, DC.

CAMDEN, M. C., SOCCOLICH, S. A., HICKMAN, J. S., & HANOWSKI, R. J. (IN PRESS). A PILOT STUDY ON DRUG USE AND INVOLVEMENT IN A SAFETY-CRITICAL EVENT USING NATURALISTIC TRUCK DATA. TRANSPORTATION RESEARCH RECORD.

CAPONECCHIA, C., WICKENS, C., REGAN, M., STECKEL, R., & FITCH, G. (2014). NATURALISTIC FLYING STUDIES - INNOVATION IN AVIATION SAFETY RESEARCH. IN PROCEEDINGS OF THE HUMAN FACTORS AND ERGONOMICS SOCIETY ANNUAL MEETING, 69-71.

CHEN, R., CHOI, K. S., DANIELLO, A. L, & GABLER, H. C. (2015, JUNE). AN ANALYSIS OF HYBRID AND ELECTRIC VEHICLE CRASHES IN THE U.S. (PAPER NO. 15-0210). IN PROCEEDINGS OF THE TWENTY-FOURTH INTERNATIONAL CONFERENCE ON ENHANCED SAFETY OF VEHICLES. GOTHENBURG, SWEDEN.

CHEN, R., KUSANO, K. D., & GABLER, H. C. (2015, SEPTEMBER). AGE AND GENDER DIFFERENCE IN BRAKING BEHAVIOR FROM THE 100-CAR NATURALISTIC DRIVING STUDY: THE IMPLICATION FOR AUTONOMOUS BRAKING SYSTEM DESIGN. IN PROCEEDINGS OF THE THIRD INTERNATIONAL SYMPOSIUM ON FUTURE ACTIVE SAFETY TECHNOLOGY TOWARD ZERO-TRAFFIC-ACCIDENTS. GOTHENBURG, SWEDEN.

CHEN, R., KUSANO, K. D., & GABLER, H. C. (2015, JUNE). DRIVER BEHAVIOR DURING LANE CHANGE FROM THE 100-CAR NATURALISTIC DRIVING STUDY (PAPER NO. 15-0423). IN PROCEEDINGS OF THE TWENTY-FOURTH INTERNATIONAL CONFERENCE ON ENHANCED SAFETY OF VEHICLES. GOTHENBURG, SWEDEN.

CHEN, R., KUSANO, K. D., & GABLER, H. C. (IN PRESS). DRIVER BEHAVIOR DURING OVERTAKING MANEUVERS FROM THE 100-CAR NATURALISTIC DRIVING STUDY. TRAFFIC INJURY PREVENTION.

CHEN, H. & RAKHA, H. (2014). REAL-TIME TRAVEL TIME PREDICTION USING PARTICLE FILTERING WITH A NON-EXPLICIT STATE-TRANSITION MODEL. TRANSPORTATION RESEARCH: PART C, 43(1), 112-126. *

CHEN, H., & RAKHA, H. (2015). REAL-TIME FREEWAY TRAVEL-TIME PREDICTION. ENGINEERING & TECHNOLOGY REFERENCE, 1(1).

D'APUZZO, M., EVANGELISTI, A., FLINTSCH G. W., DE LEON, E., MOGROVEJO, D., & NOCOLOSI, V. (2015, JUNE). EVALUATION OF VARIABILITY OF

MACROTEXTURE MEASUREMENTS WITH DIFFERENT LASED-BASED DEVICES. ASCE T&DI AIRFIELD & HIGHWAY PAVEMENT CONFERENCE 2015.

DINGUS, T., & BUCHANAN-KING, M. (2015). SURVIVE THE DRIVE: A GUIDE TO KEEPING EVERYONE ON THE ROAD ALIVE. BLACKSBURG, VA.

DINGUS, T. A., GUO, F., & PEREZ, M. A. (2015). REPLICATION DATA FOR: WHY PEOPLE CRASH DATA SET . DOI:10.15787/VTT1VC7C.

DINGUS, T. A., HANKEY, J. M., ANTIN, J. F., LEE, S. E., EICHELBERGER, L., STULCE, K. E., MCGRAW, D., PEREZ, M., & STOWE, L. (2015). NATURALISTIC DRIVING STUDY: TECHNICAL COORDINATION AND QUALITY CONTROL (SHRP 2 REPORT S2-S06-RW-1). WASHINGTON, DC: TRANSPORTATION RESEARCH BOARD.

DRUTA, C. & ALDEN, A. S. (2015). EVALUATION OF A BURIED CABLE ROADSIDE ANIMAL DETECTION SYSTEM (FHWA-VCTIR 15-R25 FINAL REPORT). CHARLOTTESVILLE, VA: VCTIR.

DU, M., CHENG, L., JIANG, X., & RAKHA, H. A. (2014). MODELING AND ESTIMATING THE CAPACITY OF URBAN TRANSPORTATION NETWORK WITH RAPID TRANSIT. TRANSPORT, 29(2), 165-174.

DU, J., & RAKHA, H. (2014). CAPTOP ENHANCEMENTS: DMS MODULE, DATA VISUALIZATION AND SOCIAL MEDIA ANALYSIS. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION.

DU, J., RAKHA, H., & GUO, F. (2015). INVESTIGATE ATTRACTIVENESS OF TOLL ROADS. U.S. DEPARTMENT OF TRANSPORTATION'S UNIVERSITY TRANSPORTATION CENTERS PROGRAM, P. 24.

DUNN, N. J., HICKMAN, J. S., & HANOWSKI, R. J. (2014). CRASH TRIFECTA: A COMPLEX DRIVING SCENARIO DESCRIBING CRASH CAUSATION. IN N. STANTON, S. LANDRY, G. DI BUCCHIANICO, & A.VALLICELLI (EDS.), ADVANCES IN HUMAN FACTORS AND TRANSPORTATION PART III. AHFE CONFERENCE (PP. 369-375).

DUNN, N. J., HICKMAN, J. S., & HANOWSKI, R. J. (2014). CRASH TRIFECTA: A COMPLEX DRIVING SCENARIO DESCRIBING CRASH CAUSATION (REPORT NO. 14-UI-025). BLACKSBURG, VA: THE NATIONAL SURFACE TRANSPORTATION SAFETY CENTER FOR EXCELLENCE.

DUNN, N. J., HICKMAN, J. S., SOCCOLICH, S., & HANOWSKI, R. J. (2014). PHASE I: A QUANTITATIVE EVALUATION OF DETENTION TIMES IN COMMERCIAL MOTOR VEHICLE OPERATIONS (REPORT NO. RRR-13-060). WASHINGTON, DC: FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION.

ELMOSELHY, S., FARIS, W., & RAKHA, H. (2014). EXPERIMENTALLY VALIDATED ANALYTICAL MODELING OF DIESEL EXHAUST HC EMISSION RATE. THE JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY.

FITCH, G. M., GROVE, K., HANOWSKI, R. J., & PEREZ, M. A. (2014). COMPENSATORY BEHAVIOR OF DRIVERS WHEN CONVERSING ON A CELL PHONE INVESTIGATION WITH NATURALISTIC DRIVING DATA. TRANSPORTATION RESEARCH RECORD, (2434), 1-8. *

FITCH, G. M., HANOWSKI, R. J., & PEREZ, M. A. (2014, AUGUST). DRIVER'S VISUAL BEHAVIOR WHEN USING HANDHELD AND HANDS-FREE CELL PHONES. IN PROCEEDINGS OF FOURTH INTERNATIONAL SYMPOSIUM ON NATURALISTIC DRIVING RESEARCH. BLACKSBURG, VA.

FITCH, G. M., HANOWSKI, R. J., & PEREZ, M. A. (IN PRESS). DRIVER'S VISUAL BEHAVIOR WHEN USING HANDHELD AND HANDS-FREE CELL PHONES. JOURNAL OF SAFETY RESEARCH.

FITCH, G. M., SOCCOLICH, S. A., GUO, F., LIU, Y., MCCLAFFERTY, J., WHITE, E., PEREZ, M. A., HANOWSKI, R. J., HANKEY, J. M., & DINGUS, T. A. (IN PRESS). DRIVERS' HANDS-FREE CELL PHONE USE AND ITS RELATION TO TRANSPORTATION SAFETY: DRAFT FINAL REPORT. BLACKSBURG, VA: VIRGINIA TECH TRANSPORTATION INSTITUTE.

FLINTSCH, G. W., TANG, L., KATICHA, S. W., DE LEON, E., VINER, H., DUNFORD, A., NESNAS, K., COYLE, F., SANDERS, P., GIBBONS, R., WILLIAMS, B., HARGREAVES D., PARRY, T., MCGHEE, K., LARSON, R. M., & SMITH, K. (2014). SPLASH AND SPRAY ASSESSMENT TOOL DEVELOPMENT PROGRAM (FINAL REPORT DTFH61-08-C-00030).

FUENTES, L. G., FLINTSCH, G. W., & DE LEóN IZEPPI, E. D. (2014, NOVEMBER). EVALUATION OF THE USE OF THE INTERNATIONAL FRICTION INDEX ON SKID DATA OBTAINED USING FRICTION MODELS. JOURNAL OF TESTING AND EVALUATION, 42(6). DOI:110.1520/JTE2013006.

GABLER, H. C., & DANIELLO, A. L. (2014).THE FATAL AND SERIOUS INJURY RISK OF MOTORCYCLE COLLISIONS WITH TRAFFIC BARRIERS. IN

PROCEEDINGS OF THE 2014 INTERNATIONAL ROAD FEDERATION ASIA REGIONAL CONFERENCE. NUSA DUA, INDONESIA.

GABLER, H. C., WEAVER, A., & STITZEL, J. (2015). AUTOMOTIVE FIELD DATA IN INJURY BIOMECHANICS. IN YOGANANDAN, N., NAHUM, A. M., & MELVIN, J. W. (EDS.), ACCIDENTAL INJURY, THIRD EDITION. NEW YORK, NY: SPRINGER.

GIBBONS, RONALD, B., MEYER, J., TERRY, T., BHAGAVATHULA, R., LEWIS, A., FLANNAGAN, M., & CONNELL, C. (2015, AUGUST). EVALUATION OF THE IMPACT OF SPECTRAL POWER DISTRIBUTION ON DRIVER PERFORMANCE (PUBLICATION NO. FHWA HRT 15-047). WASHINGTON, DC: FEDERAL HIGHWAY ADMINISTRATION.

GIUSTOZZI, F., FLINTSCH, G. W., & CRISPINO, M. (2015). ENVIRONMENTAL IMPACT ANALYSIS OF LOW-CARBON ROAD-FOUNDATION LAYERS. INTERNATIONAL JOURNAL OF SUSTAINABLE TRANSPORTATION, 9(1), 73-79. DOI: 10.1080/15568318.2012.738355. TAYLOR & FRANCIS.

GUO, F., FANG, Y., & ANTIN, J. F. (IN PRESS). OLDER DRIVER FITNESS-TO-DRIVE EVALUATION USING NATURALISTIC DRIVING DATA. SPECIAL EDITION ON NATURALISTIC DRIVING RESEARCH, JOURNAL OF SAFETY RESEARCH.*

HARWOOD, L., KLAUER, S., & DOERZAPH, Z. (2014). CELL PHONE RESTING LOCATIONS, USE OF THE 100-CAR NATURALISTIC DRIVING STUDY TO DETERMINE THE MOST FREQUENT IN-VEHICLE CELL PHONE PLACEMENT AND CONTAINERS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2434.

HASSAN, A., & RAKHA, H. (2015). A FULLY-DISTRIBUTED HEURISTIC ALGORITHM FOR CONTROL OF AUTONOMOUS VEHICLE MOVEMENTS AT ISOLATED INTERSECTIONS. INTERNATIONAL JOURNAL OF TRANSPORTATION SCIENCE AND TECHNOLOGY.

HICKMAN, J. S., GUO, F., CAMDEN, M. C., HANOWSKI, R. J., MEDINA, A., & MABRY, J. E. (2015). EFFICACY OF ROLL STABILITY AND LANE DEPARTURE WARNING SYSTEMS USING CARRIER-COLLECTED DATA. JOURNAL OF SAFETY RESEARCH, 52, 59-63.

HICKMAN, J. S., MEDINA-FLINTSCH, A., CAMDEN, M., BRYCE, J., FLINTSCH, G. W., & HANOWSKI, R. J. (2015, JANUARY). WINTER MAINTENANCE OPERATORS' AND MANAGERS' OPINIONS AND PERCEPTIONS OF FATIGUE (PAPER NO. 15-0788). IN 94TH ANNUAL MEETING OF THE TRANSPORTATION RESEARCH BOARD. WASHINGTON, DC.

HICKMAN, J. S., SOCCOLICH, S., FITCH, G. M., & HANOWSKI, R. J. (IN PRESS). DRIVER DISTRACTION: EYE GLANCE ANALYSIS AND CONVERSATION WORKLOAD (REPORT NO. RRR-14-001). WASHINGTON, DC: FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION.

JOHNSON, N. S., & GABLER, H. C. (2015, JANUARY). REDUCTION IN FATAL LONGITUDINAL BARRIER CRASH RATE DUE TO ELECTRONIC STABILITY CONTROL (PAPER NO. 15-0829). IN PROCEEDINGS OF THE 94TH ANNUAL MEETING OF THE TRANSPORTATION RESEARCH BOARD. WASHINGTON, DC.

JOHNSON, N. S., & GABLER, H. C. (IN PRESS). INJURY OUTCOME IN CRASHES WITH GUARDRAIL END TERMINALS. TRAFFIC INJURY PREVENTION.

JOHNSON, N. S., & GABLER, H. C. (IN PRESS). REDUCTION IN FATAL LONGITUDINAL BARRIER CRASH RATE DUE TO ELECTRONIC STABILITY CONTROL. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES.

JOHNSON, N. S., THOMSON, R., & GABLER, H. C. (2015). IMPROVED METHOD FOR ROADSIDE BARRIER LENGTH OF NEED MODELING USING REAL-WORLD TRAJECTORIES. ACCIDENT ANALYSIS & PREVENTION, 80, 162-171. DOI: 10.1016/J.AAP.2015.03.020

KAMALANATHSHARMA, R., & RAKHA, H. (2014). AGENT-BASED SIMULATION OF ECO-SPEED CONTROLLED VEHICLES AT SIGNALIZED INTERSECTIONS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2427, 1-12. *

KAMALANATHSHARMA, R., & RAKHA, H. (2014). LEVERAGING CONNECTED VEHICLE TECHNOLOGY AND TELEMATICS TO ENHANCE VEHICLE FUEL EFFICIENCY IN THE VICINITY OF SIGNALIZED INTERSECTIONS. JOURNAL OF INTELLIGENT TRANSPORTATION SYSTEMS: TECHNOLOGY, PLANNING, AND OPERATIONS. *

KAMALANATHSHARMA, R., RAKHA, H., & YANG, H. (IN PRESS). NETWORK-WIDE IMPACTS OF VEHICLE ECO-SPEED CONTROL IN THE VICINITY OF TRAFFIC SIGNALIZED INTERSECTIONS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD.

KAMALANATHSHARMA, R., RAKHA, H., & ZOHDY, I. (IN PRESS). SURVEY ON IN-VEHICLE TECHNOLOGY USE: RESULTS AND FINDINGS. INTERNATIONAL JOURNAL OF TRANSPORTATION SCIENCE AND TECHNOLOGY.

KATICHA, S. W., APEAGYEI, A., FLINTSCH, G. W., & LOULIZI, A. (2014). UNIVERSAL LINEAR VISCOELASTIC APPROXIMATION PROPERTY OF FRACTIONAL VISCOELASTIC MODELS WITH APPLICATION TO ASPHALT CONCRETE. MECHANICS OF TIME-DEPENDENT MATERIALS, 18, 555-571. DOI:10.1007/S11043-014-9241-9.

KATICHA, S. W., BRYCE, J., FLINTSCH, G. W., & FERNE, B. (2015). ESTIMATING "TRUE" VARIABILITY OF TSD DEFLECTION SLOPE MEASUREMENTS. JOURNAL OF TRANSPORTATION ENGINEERING, 141(1). DOI:10.1061/(ASCE)TE.1943-5436.0000711. *

KATICHA, S. W., & FLINTSCH, G. (2015, JANUARY). FIELD DEMONSTRATION OF THE TRAFFIC SPEED DEFLECTOMETER IN NEW YORK (PAPER NO. 15-4630). IN 94TH ANNUAL MEETING OF THE TRANSPORTATION RESEARCH BOARD. WASHINGTON, DC.

KATICHA, S. W., MOGROVEJO, D. E., FLINTSCH, G. W., & DE LEON IZEPPI, E. D. (IN PRESS). ADAPTIVE SPIKE REMOVAL METHOD FOR HIGH SPEED PAVEMENT MACROTEXTURE MEASUREMENTS BY CONTROLLING THE FALSE DISCOVERY RATE (PAPER NO. 15-4500). JOURNAL OF THE TRANSPORTATION RESEARCH BOARD.

KONDOH, T., YAMAMURA, T., KUGE, N., PEREZ, M. A., & SUNDA, T. (2014). DEVELOPMENT OF A REAL-TIME STEERING ENTROPY METHOD FOR QUANTIFYING DRIVER'S CONCENTRATION LEVEL. IN PROCEEDINGS OF THE ANNUAL MEETING OF THE JAPAN SOCIETY OF AUTOMOTIVE ENGINEERING. YOKOHAMA, JAPAN.

KRUM, A., HOLMES, L., DOERZAPH, Z., BOWMAN, D., & SMITH, R. (IN PRESS). VOLUME 10 - HUMAN FACTORS FOR CONNECTED VEHICLES: DRIVER VEHICLE INTERFACE CONFIGURABILITY, "IMPLICATIONS OF CONFIGURABLE DISPLAYS FOR UNIVERSAL DRIVER-VEHICLE INTERFACES" (CONTRACT NO. DTNH22-11-D-00236/0001). WASHINGTON, DC: NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION.

KUSANO, K. D., CHEN, R., TSOI, A., & GABLER, H. C. (2015, JUNE). COMPARISON OF EVENT DATA RECORDER AND NATURALISTIC DRIVING DATA FOR THE STUDY OF LANE DEPARTURE EVENTS (PAPER NO. 15-0149). IN PROCEEDINGS OF THE TWENTY-FOURTH INTERNATIONAL CONFERENCE ON ENHANCED SAFETY OF VEHICLES. GOTHENBURG, SWEDEN.

KUSANO, K. D., CHEN, R., & GABLER, H. C. (2015, SEPTEMBER). EFFECT OF DRIVING CONTEXT ON TIME TO COLLISION AT BRAKE APPLICATION DURING CAR FOLLOWING. IN PROCEEDINGS OF THE THIRD INTERNATIONAL SYMPOSIUM ON FUTURE ACTIVE SAFETY TECHNOLOGY TOWARD ZERO-TRAFFIC-ACCIDENTS. GOTHENBURG, SWEDEN.

KUSANO, K. D., & GABLER, H. C. (2014). COMPARISON AND VALIDATION OF INJURY RISK CLASSIFIERS FOR ADVANCED AUTOMATED CRASH NOTIFICATION SYSTEMS. TRAFFIC INJURY PREVENTION 15, 126-133. DOI: 10.1080/15389588.2014.927577 *

KUSANO, K. D., & GABLER, H. C. (2015). TARGET POPULATION FOR INTERSECTION ADVANCED DRIVER ASSISTANCE SYSTEMS IN THE U.S. SAE INTERNATIONAL JOURNAL OF TRANSPORTATION SAFETY, 3(1). DOI:10.4271/2015-01-1408.

KUSANO, K. D., & GABLER, H. C. (IN PRESS). COMPARISON OF EXPECTED CRASH AND INJURY REDUCTION FROM PRODUCTION FORWARD COLLISION AND LANE DEPARTURE WARNING SYSTEMS. TRAFFIC INJURY PREVENTION.

KUSANO, K. D., GORMAN, T. I., SHERONY, R., & GABLER, H. C. (2014). POTENTIAL OCCUPANT INJURY REDUCTION IN THE U.S. VEHICLE FLEET FOR LANE DEPARTURE WARNING EQUIPPED VEHICLES IN SINGLE VEHICLE CRASHES. TRAFFIC INJURY PREVENTION, 15,157-164. DOI: 10.1080/15389588.2014.922684*

KUSANO, K. D., MONTGOMERY, J., CHEN, R., & GABLER, H. C. (IN PRESS). POPULATION DISTRIBUTIONS OF TIME TO COLLISION AT BRAKE APPLICATION DURING CAR FOLLOWING FROM NATURALISTIC DRIVING DATA. JOURNAL OF SAFETY RESEARCH.

LEI, L., WITCHER, C., KADY, J., PEREZ, M. A., BOLME, D., & KARNOWSKI, T. P. (EMBARGOED UNTIL 2017). AUTOMATED FEATURE EXTRACTION DATA SETS: EVENT RECORD AND SEATBELT USAGE DATA DATA SET .

MARBURG, T. L., HICKMAN, J. S., & HANOWSKI, R. J. (2015). COMMON DATA ELEMENTS BETWEEN THE LARGE TRUCK CRASH CAUSATION STUDY INVESTIGATIONS AND COMMERCIALLY AVAILABLE ONBOARD MONITORING SYSTEMS (REPORT NO. 15-UI-031). BLACKSBURG, VA: THE NATIONAL SURFACE TRANSPORTATION SAFETY CENTER FOR EXCELLENCE.

MARTINEZ-ARGUELLES, G., GIUSTOZZI, F., CRISPINO, M., & FLINTSCH, G. W. (2015). LABORATORY INVESTIGATION ON MECHANICAL PERFORMANCE OF COLD FOAMED BITUMEN MIXES: BITUMEN SOURCE, FOAMING ADDITIVE, FIBER-REINFORCEMENT AND CEMENT EFFECT. CONSTRUCTION AND BUILDING MATERIALS, 93, 241-248. DOI:10.1016/J.CONBUILDMAT.2015.05.116

MOGROVEJO, D. E., FLINTSCH, G. W., DE LEóN IZEPPI, E. D., & MCGHEE, K. K. (2014). EFFECT OF AIR TEMPERATURE AND VEHICLE SPEED ON TIRE/PAVEMENT NOISE MEASURED WITH OBSI METHODOLOGY. IRF EXAMINER, 4.

MOGROVEJO, D. E., FLINTSCH, G. W., DE LEóN IZEPPI, E. D., & MCGHEE, K. K. (2014). TIRE-PAVEMENT NOISE EVALUATION AND EQUIPMENT COMPARISON USING ON BOARD SOUND INTENSITY METHODOLOGY OVER SEVERAL PAVEMENT SURFACES IN VIRGINIA. JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2403, 17-27. *

MONTGOMERY, J., KUSANO, K. D., & GABLER, H. C. (2014). AGE AND GENDER DIFFERENCES IN TIME TO COLLISION AT BRAKING FROM THE 100-CAR NATURALISTIC DRIVING STUDY. TRAFFIC INJURY PREVENTION, 15, 15-20. DOI:10.1080/15389588.2014.928703 *

MCCALL, R., & MCLAUGHLIN, S. (2015). ROADWAY EPOCHS: DOCUMENTATION AND USER MANUAL (REPORT NO. 15-UT-037). NATIONAL SURFACE TRANSPORTATION SAFETY CENTER FOR EXCELLENCE.

MCLAUGHLIN, S., & HANKEY, J. M. (2015). MATCHING GPS RECORDS TO DIGITAL MAP DATA: ALGORITHM OVERVIEW AND APPLICATION (REPORT NO. 15-UT-033). NATIONAL SURFACE TRANSPORTATION SAFETY CENTER FOR EXCELLENCE.

MCLAUGHLIN, S., & HANKEY, J. M. (2014). S31: NATURALISTIC DRIVING STUDY: LINKING THE NDS DATA TO THE ROADWAY INFORMATION DATABASE (REPORT NO. S2-S31-RW-3). WASHINGTON, DC: NATIONAL ACADEMY OF SCIENCES.

NAJAFI, S., SHETTY, S., FLINTSCH, G. W., & SCOFIELD, L. (IN PRESS). EVALUATION OF THE EFFECT OF DIAMOND GRINDING AND GROOVING ON SURFACE CHARACTERISTICS OF CONCRETE PAVEMENTS. INTERNATIONAL JOURNAL OF PAVEMENTS (P13-02).

OWENS, J. M., ANGELL, L., & HANKEY, J. M. (2014). USER GUIDE AND DATA DICTIONARY: NATURALISTIC ENGAGEMENT IN SECONDARY TASKS (NEST) DATASET (FINAL REPORT). TOYOTA CSRC.

OWENS, J. M., ANGELL, L., HANKEY, J., FOLEY, J., & EBE, K. (2015). CREATION OF THE NEST DISTRACTED DRIVING DATASET. JOURNAL OF SAFETY RESEARCH. RETRIEVED FROM HTTP://DX.DOI.ORG/10.1016/J.JSR.2015.07.001.

PARK, S., AHN, K., RAKHA, H., & LEE, C. (IN PRESS). REAL-TIME EMISSION MODELING WITH EPA MOVES: FRAMEWORK DEVELOPMENT AND PRELIMINARY INVESTIGATION. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD.

PEREZ, M. A., ANGELL, L. S., & HANKEY, J. M. (2015). ASSESSMENT OF NATURALISTIC USE PATTERNS OF ADVANCED INFOTAINMENT SYSTEMS. HUMAN FACTORS 57(4), 674-688.

PRIDDY, L. P., BLY, P. G., & FLINTSCH, G. W. (2014). LOAD TRANSFER CHARACTERISTICS OF PRECAST PORTLAND CEMENT CONCRETE PANELS FOR AIRFIELD PAVEMENT REPAIRS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2456, 42-53. DOI:10.3141/2456-05

PRIDDY, L., BLY, P., & FLINTSCH, G. W. (2015, MAY). US ARMY EXPERIENCE WITH PRECAST PANELS FOR MILITARY AIRFIELD PAVEMENT REPAIRS. IN 9TH INTERNATIONAL CONFERENCE ON MANAGING PAVEMENT ASSETS. ALEXANDRIA, VA.

PRIDDY, L. P., DOYLE, J. D., FLINTSCH, G. W., PITTMAN, D. W., & ANDERTON, G. L. (2015). THREE-DIMENSIONAL MODELING OF PRECAST CONCRETE PAVEMENT REPAIR JOINTS. MAGAZINE OF CONCRETE RESEARCH. DOI: 10.1680/MACR.14.00278

RAKHA, H. (2015). TRANSPORTATION SUSTAINABILITY: WHAT CAN INTELLIGENT TRANSPORTATION SYSTEMS OFFER?. ENGINEERING AND TECHNOLOGY REFERENCE.

RAKHA, H. (IN PRESS). TRAFFIC FLOW THEORY. HANDBOOK OF TRANSPORTATION.

RAKHA, H., AHN, K., & PARK, S. (2014). PREDICTIVE ECO-CRUISE CONTROL (ECC) SYSTEM: MODEL DEVELOPMENT, MODELING, AND POTENTIAL BENEFITS. WASHINGTON, DC: U.S. DEPARTMENT OF TRANSPORTATION.

RAKHA, H., BAIRD, M., & EL-SHAWARBY, I. (2014). DESIGNING TRAFFIC SIGNAL YELLOW AND CHANGE INTERVALS CONSIDERING TRUCK IMPACTS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD. *

RAKHA, H., & CHEN, H. (2014). DEVELOPING FREEWAY TRAVEL TIME PREDICTION ALGORITHMS: ALGORITHMIC DEVELOPMENT AND TESTING. VIRGINIA DEPARTMENT OF TRANSPORTATION.

RAKHA, H., & KAMALANATHSHARMA, R. (2014). GREEN COOPERATIVE ADAPTIVE CONTROL SYSTEMS IN THE VICINITY OF SIGNALIZED INTERSECTIONS. U.S. DEPARTMENT OF TRANSPORTATION'S UNIVERSITY TRANSPORTATION CENTERS PROGRAM, P. 52.

RUSSELL, S. M., FUNKE, G. J., FLACH, J. M., WATAMANIUK, S. J., STRANG, A. J., & MILLER, B. T. EXPLORATION OF EYE GAZE METRICS IN A VISUAL PUZZLE TASK (REPORT NO. ADA610325). WRIGHT PATTERSON AIR FORCE BASE, OH: AIR FORCE RESEARCH LABORATORY. RETRIEVED FROM HTTP://WWW.DTIC.MIL/GET-TR-DOC/PDF?AD=ADA610325

SANGSTER, J. & RAKHA, H. (2014). ENHANCING AND CALIBRATING THE RAKHA-PASUMARTHY-ADJERID CAR-FOLLOWING MODEL USING NATURALISTIC DRIVING DATA. INTERNATIONAL JOURNAL OF TRANSPORTATION SCIENCE AND TECHNOLOGY, 3, NO. 3, 229-248.

SANTOS, J., BRYCE, J., FLINTSCH, G. W., FERREIRA, A., & DIEFENDERFER, B. A. (2014). LIFE CYCLE ASSESSMENT OF IN-PLACE RECYCLING AND CONVENTIONAL PAVEMENT CONSTRUCTION AND MAINTENANCE PRACTICES. STRUCTURE AND INFRASTRUCTURE ENGINEERING: MAINTENANCE, MANAGEMENT, LIFE-CYCLE DESIGN AND PERFORMANCE, 1-20. DOI:10.1080/15732479.2014.945095

SANTOS, J., BRYCE, J., FLINTSCH, G. W., & FERREIRA, A. (2015, MAY). A COMPREHENSIVE LIFE CYCLE COSTS ANALYSIS OF IN-PLACE RECYCLING AND CONVENTIONAL PAVEMENT CONSTRUCTION AND MAINTENANCE PRACTICES. IN 9TH INTERNATIONAL CONFERENCE ON MANAGING PAVEMENT ASSETS. ALEXANDRIA, VA.

SANTOS, J., FERREIRA, A., & FLINTSCH, G. W. (2014). A LIFE CYCLE ASSESSMENT MODEL FOR PAVEMENT MANAGEMENT: METHODOLOGY AND COMPUTATIONAL FRAMEWORK. INTERNATIONAL JOURNAL OF PAVEMENT ENGINEERING, 1-20. DOI:10.1080/10298436.2014.942861

SANTOS, J., FERREIRA, A., & FLINTSCH, G. W. (2014). A LIFE CYCLE ASSESSMENT MODEL FOR PAVEMENT MANAGEMENT: ROAD PAVEMENT CONSTRUCTION AND MANAGEMENT IN PORTUGAL. INTERNATIONAL JOURNAL OF PAVEMENT ENGINEERING, 1-23. DOI:10.1080/10298436.2014.942862.

SCANLON, J. M, KUSANO, K. D., & GABLER, H. C. (2015, SEPTEMBER). A PRELIMINARY MODEL OF DRIVER ACCELERATION BEHAVIOR PRIOR TO REAL-WORLD STRAIGHT CROSSING PATH INTERSECTION CRASHES USING EDRS. IN PROCEEDINGS OF THE 2015 IEEE INTELLIGENT TRANSPORTATION SYSTEMS CONFERENCE. SPAIN.

SCANLON, J. M., KUSANO, K. D., & GABLER, H. C. (2015, SEPTEMBER).THE INFLUENCE OF ROADWAY CHARACTERISTICS ON POTENTIAL SAFETY BENEFITS OF LANE DEPARTURE WARNING AND PREVENTION SYSTEMS IN THE U.S. VEHICLE FLEET. IN PROCEEDINGS OF THE THIRD INTERNATIONAL SYMPOSIUM ON FUTURE ACTIVE SAFETY TECHNOLOGY TOWARD ZERO-TRAFFIC-ACCIDENTS. GOTHENBURG, SWEDEN.

SCANLON, J. M., KUSANO, K. D., & GABLER, H. C. (IN PRESS). ANALYSIS OF DRIVER EVASIVE MANEUVERING PRIOR TO INTERSECTION CRASHES USING EVENT DATA RECORDERS. TRAFFIC INJURY PREVENTION.

SCANLON, J. M., KUSANO, K. D., SHERONY, R., & GABLER, H. C. (2015, JUNE). POTENTIAL SAFETY BENEFITS OF LANE DEPARTURE WARNING AND PREVENTION SYSTEMS IN THE U.S. VEHICLE FLEET (PAPER NO. 15-0080). IN PROCEEDINGS OF THE TWENTY-FOURTH INTERNATIONAL CONFERENCE ON ENHANCED SAFETY OF VEHICLES. GOTHENBURG, SWEDEN.

SCANLON, J. M., KUSANO, K. D, SHERONY, R., & GABLER, H. C. (2015, JUNE). POTENTIAL OF INTERSECTION DRIVER ASSISTANCE SYSTEMS TO MITIGATE STRAIGHT CROSSING PATH CRASHES USING U.S. NATIONALLY REPRESENTATIVE CRASH DATA. IN PROCEEDINGS OF THE 2015 IEEE INTELLIGENT VEHICLE SYMPOSIUM. SEOUL, KOREA.

SMITH, R. C., DOERZAPH, Z., & HANKEY, J. (2015). NATURALISTIC DRIVING STUDY: ALCOHOL SENSOR PERFORMANCE. WASHINGTON, DC: TRANSPORTATION RESEARCH BOARD.

SOCCOLICH, S., & HICKMAN, J. S. (2014). POTENTIAL REDUCTION IN LARGE TRUCK AND BUS TRAFFIC FATALITIES AND INJURIES USING LYTX'S DRIVECAM PROGRAM. BLACKSBURG, VA: VIRGINIA TECH TRANSPORTATION RESEARCH INSTITUTE. RETRIEVED FROM HTTP://INFO.DRIVECAM.COM/LIVESSAVED-STUDY.HTML.

SUDWEEKS, J., SARKAR, A., MCCLAFFERTY, J., PEREZ, M., & HANKEY, J. (2014). MASK HEAD POSE VALIDATION STUDY DATASET (CLIPPED) DATA SET . DOI:10.15787/VTT1QP47.

TAWFIK, A. & RAKHA, H. (2014). CAN WE MODEL DRIVER PERCEPTIONS? AN IN-SITU EXPERIMENT IN REAL-WORLD CONDITIONS. INTERNATIONAL JOURNAL OF TRANSPORTATION SCIENCE AND TECHNOLOGY, 3(2), 149-166. *

TSOI, A. H., & GABLER, H. C. (IN PRESS). EVALUATION OF VEHICLE-BASED CRASH SEVERITY METRICS. TRAFFIC INJURY PREVENTION.

TSOI, A., HINCH, J., & GABLER H. C. (2015, APRIL). ANALYSIS OF EVENT DATA RECORDER SURVIVABILITY IN CRASHES WITH FIRE, IMMERSION, AND HIGH DELTA-V. SAE TECHNICAL PAPER 2015-01-1444. DOI:10.4271/2015-01-1444

TSOI, A., HINCH, J., WINTERHALTER, M., & GABLER, H. C. (2015, APRIL). SURVIVABILITY OF EVENT DATA RECORDER DATA IN EXPOSURE TO HIGH TEMPERATURE, SUBMERSION, AND STATIC CRUSH. SAE TECHNICAL PAPER 2015-01-1449. DOI:10.4271/2015-01-1449

WANG, J., & RAKHA, H. (2015) THE VT-CPFM FRAMEWORK FOR MODELING DIESEL BUS FUEL CONSUMPTION LEVELS. IN SUSTAINABLE THERMAL ENERGY MANAGEMENT CONFERENCE (SUSTEM 2015). NEW CASTLE UPON TYNE, UNITED KINGDOM.

WIEGAND, D. M., HICKMAN, J. S., & GELLER, E. S. (2014). AUTOMOBILE SAFETY IN ADULTHOOD. IN GULLOTTA, T. P., BLOOM, M. (EDS.), ENCYCLOPEDIA OF PRIMARY PREVENTION AND HEALTH PROMOTION (2ND EDITION) (PP.1597-1610). NEW YORK, NY: SPRINGER PUBLISHING.

WILLIAMS, V., MCLAUGHLIN, S., WILLIAMS, S., & BUCHE, T. (IN PRESS). AN EXPLORATORY ANALYSIS OF MOTORCYCLE INCIDENTS USING NATURALISTIC RIDING DATA. TRANSPORTATION RESEARCH RECORD.

YANG, H., & RAKHA, H. (2014). DEVELOPMENT OF SPEED HARMONIZATION ALGORITHM BASED ON VEHICLE-TO-INFRASTRUCTURE COMMUNICATIONS. IN INFORMS ANNUAL MEETING. SAN FRANCISCO, CA.

ZOHDY, I., & RAKHA, H. (2014). INTERSECTION MANAGEMENT VIA VEHICLE CONNECTIVITY: THE ICACC SYSTEM CONCEPT. JOURNAL OF INTELLIGENT TRANSPORTATION SYSTEMS: TECHNOLOGY, PLANNING, AND OPERATIONS. *

ZOHDY, I., & RAKHA, H. (2014). INTERSECTION MANAGEMENT OF AUTONOMOUS VEHICLES USING AN AGENT-BASED PASSENGER PRIORITY FRAMEWORK. IN 21ST ITS WORLD CONGRESS. ANN ARBOR, USA.

*DENOTES WORK PUBLISHED SINCE THE 2014 ANNUAL REPORT OR WORK PUBLISHED IN NEW FORMAT

STUDENT PUBLICATIONS

THE FOLLOWING DENOTES PUBLICATIONS ON WHICH A VIRGINIA TECH STUDENT SERVED AS AN AUTHOR.

BLANCO, M., ATWOOD, J., VASQUEZ, H. M., TRIMBLE, T. E., FITCHETT, V. L., RADLBECK, J., FITCH, G. M., RUSSELL, S. M., GREEN, C. A., CULLINANE, B., & MORGAN, J. F. (IN PRESS). HUMAN FACTORS EVALUATION OF LEVEL 2 AND LEVEL 3 AUTOMATED DRIVING CONCEPTS: FINAL REPORT. WASHINGTON, DC: NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION.

BRYANT, C., RAKHA, H., & EL-SHAWARBY, I. (2015). STUDY OF TRUCK DRIVER BEHAVIOR FOR THE DESIGN OF TRAFFIC SIGNAL YELLOW AND CLEARANCE TIMINGS. IN TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING. WASHINGTON, DC (PAPER NO. 15-4564).

BRYANT, C., RAKHA, H., & EL-SHAWARBY, I. (IN PRESS). STUDY OF TRUCK DRIVER BEHAVIOR FOR DESIGN OF TRAFFIC SIGNAL YELLOW AND CLEARANCE TIMINGS. TRANSPORTATION RESEARCH RECORD.

BRYANT, C., RAKHA, H., & EL-SHAWARBY, I. (IN PRESS). STUDY OF TRUCK DRIVER BEHAVIOR AT THE ONSET OF A YELLOW TRAFFIC SIGNAL INDICATION FOR THE DESIGN OF YELLOW TIMINGS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD.

EDWARDES, W., & RAKHA, H. (2014). VIRGINIA TECH COMPREHENSIVE POWER-BASED FUEL CONSUMPTION MODEL: MODELING DIESEL AND HYBRID BUSES. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2428, 1-9.

EDWARDES, W., & RAKHA, H. (IN PRESS). MODELING DIESEL AND HYBRID BUS FUEL CONSUMPTION USING VT-CPFM: MODEL ENHANCEMENTS AND CALIBRATION. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD.

ELHENAWY, M., CHEN, H., & RAKHA, H. (2014). DYNAMIC TRAVEL TIME PREDICTION USING GENETIC PROGRAMMING. TRANSPORTATION RESEARCH: PART C, 42, 82-98.*

ELHENAWY, M., JAHANGIRI, A., RAKHA, H., & EL-SHAWARBY, I. (2015). CLASSIFICATION OF DRIVER STOP/RUN BEHAVIOR AT THE ONSET OF A YELLOW INDICATION FOR DIFFERENT VEHICLE AND ROADWAY SURFACE CONDITIONS USING HISTORICAL BEHAVIOR. IN 6TH INTERNATIONAL CONFERENCE ON APPLIED HUMAN FACTORS AND ERGONOMICS (AHFE 2015). LAS VEGAS, NV.

ELHENAWY, M., JAHANGIRI, A., RAKHA, H., & EL-SHAWARBY, I. (IN PRESS). MODELING DRIVER STOP/RUN BEHAVIOR AT THE ONSET OF A YELLOW INDICATION CONSIDERING DRIVER RUN TENDENCY AND ROADWAY SURFACE CONDITIONS. ACCIDENT ANALYSIS AND PREVENTION.

ELHENAWY, M., & RAKHA, H. (2014). CONGESTION PREDICTION USING ADAPTIVE BOOSTING MACHINE LEARNING CLASSIFIERS. IN 21ST ITS WORLD CONGRESS. ANN ARBOR, USA.

ELHENAWY, M., & RAKHA, H. (2014). RANDOM FOREST TRAVEL TIME PREDICTION ALGORITHM USING SPATIOTEMPORAL SPEED MEASUREMENTS. IN 21ST ITS WORLD CONGRESS. ANN ARBOR, USA.

ELHENAWY, M., & RAKHA, H. (IN PRESS). AUTOMATIC CONGESTION IDENTIFICATION USING TWO-COMPONENT MIXTURE MODELS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD.

ELHENAWY, M., RAKHA, H., & EL-SHAWARBY I. (2014). ENHANCING DRIVER STOP/RUN MODELING AT THE ONSET OF A YELLOW INDICATION USING HISTORICAL BEHAVIOR AND MACHINE LEARNING TECHNIQUES. TRANSPORTATION RESEARCH RECORD, 2423, 24-34. *

ELHENAWY, M., RAKHA, H., & EL-SHAWARBY, I. (2014). ENHANCED MODELING OF DRIVER STOP-OR-RUN ACTIONS AT A YELLOW INDICATION: USE OF HISTORICAL BEHAVIOR AND MACHINE LEARNING METHODS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2423, 24-34.

FADHLOUN, K., RAKHA, H., & LOULIZI, A. (2014). COMPREHENSIVE FRAMEWORK FOR ESTIMATING MOVING BOTTLENECK TRAFFIC STREAM PASSING RATES. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD, 2422, 61-70. *

FADHLOUN, K., RAKHA, H., & LOULIZI, A. (2014). IMPACT OF UNDERLYING STEADY-STATE FUNDAMENTAL DIAGRAM ON MOVING BOTTLENECK PASSING RATES USING A SECOND-ORDER TRAFFIC MODEL. TRANSPORTATION LETTERS: THE INTERNATIONAL JOURNAL OF TRANSPORTATION RESEARCH, 6(4),185-196. *

FADHLOUN, K., RAKHA, H., LOULIZI, A., & ADESSATTAR, A. (IN PRESS). A VEHICLE DYNAMICS MODEL FOR ESTIMATING TYPICAL VEHICLE ACCELERATIONS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD.

FITCH, G. M., BARTHOLOMEW, P. R., HANOWSKI, R. J., & PEREZ, M. A. (2015). DRIVERS' VISUAL BEHAVIOR WHEN USING HANDHELD AND HANDS-FREE CELL PHONES. JOURNAL OF SAFETY RESEARCH, 54. DOI:10.1016/J.JSR.2015.06.008

JAHANGIRI, A., & RAKHA, H. (IN PRESS). MACHINE LEARNING TRANSPORTATION MODE RECOGNITION USING MOBILE PHONE SENSOR DATA. IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS. DOI:10.1109/TITS.2015.2405759

JAHANGIRI, A., RAKHA, H., & DINGUS, T. (2015). DEVELOPING A SYSTEM ARCHITECTURE FOR CYCLIST VIOLATION PREDICTION MODELS INCORPORATING NATURALISTIC CYCLING DATA. IN 6TH INTERNATIONAL CONFERENCE ON APPLIED HUMAN FACTORS AND ERGONOMICS (AHFE 2015). LAS VEGAS, NV.

ONG, B., RAKHA, H., & EL-SHAWARBY, I. (2015). DESIGN OF TRAFFIC SIGNAL CLEARANCE INTERVALS TO CONSIDER IMPACTS OF BUSES. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD.

ONG, B., EL-SHAWARBY, I., & RAKHA, H. (2015). ANALYSIS OF BUS DRIVER PERCEPTION-REACTION TIMES AND DECELERATION BEHAVIOR FOR DESIGN OF TRAFFIC SIGNAL CLEARANCE TIMES. IN TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING. WASHINGTON, DC (PAPER NO. 15-0994).

ONG, B., RAKHA, H., & EL-SHAWARBY, I. (2015). DESIGNING TRAFFIC SIGNAL CLEARANCE INTERVALS CONSIDERING BUS IMPACTS. IN TRANSPORTATION RESEARCH BOARD 94TH ANNUAL MEETING. WASHINGTON, DC (PAPER NO. 15-1344).

ONG, B. T., RAKHA, H., & EL-SHAWARBY, I. (IN PRESS). DESIGNING TRAFFIC SIGNAL CLEARANCE INTERVALS CONSIDERING BUS IMPACTS. TRANSPORTATION RESEARCH RECORD: JOURNAL OF THE TRANSPORTATION RESEARCH BOARD.

RAKHA, H., BAIRD, M., & EL-SHAWARBY, I. (2014). DESIGNING TRAFFIC SIGNAL YELLOW AND CHANGE INTERVALS CONSIDERING TRUCK IMPACTS. TRANSPORTATION RESEARCH RECORD, 2014, 33-44. *

RAU, P., BLANCO, M., ATWOOD, J., VASQUEZ, H., TRIMBLE, T. E., FITCHETT, V., RADLBECK, J., FITCH, G. M., & RUSSELL, S. M. (IN PRESS). HUMAN FACTORS EVALUATION OF LEVEL 2 AND LEVEL 3 AUTOMATED DRIVING CONCEPTS. IN PROCEEDINGS OF THE ENHANCED SAFETY OF VEHICLES 24TH ANNUAL MEETING. GOTHENBURG, SWEDEN. RETRIEVED FROM HTTP://WWW-ESV.NHTSA.DOT.GOV/PROCEEDINGS/24/FILES/24ESV-000428.PDF

TIDWELL, S., BLANCO, M., TRIMBLE, T., ATWOOD, J., & MORGAN, J. F. (IN PRESS). EVALUATION OF HEAVY VEHICLE CRASH WARNING INTERFACES: FINAL REPORT. WASHINGTON, DC: NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION.

*DENOTES WORK PUBLISHED SINCE THE 2014 ANNUAL REPORT OR WORK PUBLISHED IN A NEW FORMAT.

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ROBERT SUMICHRAST	PAMPLIN COLLEGE OF BUSINESS
ROBERT SCHUBERT	COLLEGE OF ARCHITECTURE AND URBAN STUDIES
STEFAN DUMA	BIOMEDICAL ENGINEERING AND MECHANICS
SAM EASTERLING	CIVIL AND ENVIRONMENTAL ENGINEERING
AZIM ESKANDARIAN	MECHANICAL ENGINEERING
LUKE LESTER	ELECTRICAL AND COMPUTER ENGINEERING
HENRI DE HAHN	SCHOOL OF ARCHITECTURE + DESIGN
DON TAYLOR	INDUSTRIAL AND SYSTEMS ENGINEERING
PAUL HERR	MARKETING
LAY NAM CHANG	SCIENCE
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