TRB 100th Annual Meeting

CHAIR'S PLENARY SESSION

January 27, 2021

100 YEARS
MOVING IDEAS:
ADVANCING SOCIETY

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

TRB
TRANSPORTATION RESEARCH BOARD

CHAIR'S PLENARY SESSION SCHEDULE

January 27, 2021

Presiding
Carlos M. Braceras
Chair, TRB Executive Committee

Opening Remarks
Carlos M. Braceras
Executive Director,
Utah Department of Transportation

Introduction of Incoming Officers and New Members of the Executive Committee and Distinguished Guests
Carlos M. Braceras

Recognition of TRB Supporters and Recipient of the Thomas B. Deen Distinguished Lectureship and Presentation of the Roy W. Crum Distinguished Service Award
Susan Shaheen
Professor, Civil and Environmental Engineering; Director, University of California Institute of Transportation Studies' Resilient and Innovative Mobility Initiative; Co-Director, Transportation Sustainability Research Center, University of California, Berkeley

Presentation of the W. N. Carey, Jr., Distinguished Service Award
Susan Shaheen
Vice Chair, TRB Executive Committee

Presentation of the Frank Turner Medal for Lifetime Achievement in Transportation
Neil J. Pedersen
Executive Director, TRB

The State of TRB: Looking to the Future
Neil J. Pedersen

Keynote Address
Marcia McNutt
President, National Academy of Sciences

Final Remarks
Carlos M. Braceras

Closing Remarks and Adjourn
Susan Shaheen
Incoming Chair, TRB Executive Committee

Carlos M. Braceras
2020 Chair
TRB Executive Committee

CHAIR'S PLENARY SESSION

Sponsored by the TRB Executive Committee

The program for the Chair's Plenary Session, hosted by 2020 Executive Committee Chair **Carlos M. Braceras,** includes the introduction of new Executive Committee members and officers; the presentation of TRB's most prestigious awards; and the session's keynote address by Dr. Marcia McNutt, President of the National Academy of Sciences.

KEYNOTE ADDRESS

Marcia McNutt

Dr. **Marcia McNutt** is a geophysicist and the 22nd President of the National Academy of Sciences. From 2013 to 2016, she was the Editor-in-Chief of Science journals. Dr. McNutt was the Director of the U.S. Geological Survey (USGS) from 2009 to 2013, during which time USGS responded to a number of major disasters, including the *Deepwater Horizon* oil spill. For her work to help contain that spill, Dr. McNutt was awarded the U.S. Coast Guard's Meritorious Service Medal.

She is a Fellow of the American Geophysical Union (AGU), the Geological Society of America, the American Association for the Advancement of Science, and the International Association of Geodesy. Dr. McNutt is a member of the American Philosophical Society and the American Academy of Arts & Sciences and a Foreign Member of the Royal Society, United Kingdom; the Russian Academy of Sciences; and the Chinese Academy of Sciences. In 1998, Dr. McNutt was awarded AGU's James B. Macelwane Medal for research accomplishments by a young scientist and she received the Maurice Ewing Medal in 2007 for her contributions to deep-sea exploration.

Dr. McNutt has a B.A. in physics from Colorado College and a Ph.D. in Earth sciences from the Scripps Institution of Oceanography.

THOMAS B. DEEN DISTINGUISHED LECTURESHIP

Dorval R. Carter, Jr.

Mr. **Dorval R. Carter, Jr.,** President, Chicago Transit Authority (CTA), is the 2021 recipient of the Thomas B. Deen Distinguished Lectureship. Mr. Carter is recognized for his leadership in the transit industry and legal community, and for spearheading significant advances to public transportation.

As the head of the nation's second largest transit agency, Mr. Carter oversees the delivery of some 500 million rides annually within Chicago and its 35 surrounding suburbs. In addition to day-to-day operations, Mr. Carter is in charge of CTA's ongoing $8 billion customer experience and renovation program that includes rehabilitation of nearly 30 percent of its stations, the acquisition of new state-of-the-art vehicles, and the enhancement of amenities designed to enrich the ridership experience of CTA's customers. Prior to his appointment as President of the CTA, Mr. Carter served in numerous leadership roles with the U.S. Department of Transportation (USDOT) including Chief Counsel of the Federal Transit Administration (FTA), Acting FTA Administrator and Acting Chief of Staff to USDOT Secretary Anthony Foxx. Overall, Mr. Carter has more than 30 years of combined public service with both the CTA and the FTA. Throughout his career he has been a tireless promoter of the critical role public transportation plays in our society.

The lectureship recognizes the career contributions and achievements of an individual in one of the areas covered by TRB's Technical Activities Division. Originally known as the Transportation Research Board Distinguished Lectureship, the award was renamed in 2002 in honor of the eighth TRB Executive Director, who served with distinction from 1980 to 1994. Honorees are invited to present overviews of their technical areas, including evolution, present status, and prospects for the future. TRB also publishes each lecture in a volume of the *Transportation Research Record: Journal of the Transportation Research Board.* Mr. Carter will delivered his lecture, "Our Work Is Never Done: Examining Equity Impacts in Public Transportation," on Monday, January 25, 2021, from 5:30 p.m. to 6:30 p.m., as part of the TRB 2021 Annual Meeting.

As a nationally recognized transit legal and policy expert, Mr. Carter helped develop the national transit safety program instituted by the FTA, led the use of performance measures to implement public transportation projects, enhanced State of Good Repair programs at the local and national level, and implemented the nation's first multimodal, real-time trip planner for transit riders.

Mr. Carter is an active TRB volunteer and has uninterrupted service as a member of a TRB committee, section, group, or panel since 1992. He is a past Chair of the Standing Technical Committee on Transit and Intermodal Transportation Law and served as a member of the Standing Technical Committee on Emerging Technology Law, the Legal Resource Group, and the Transit Cooperative Research Program (TCRP) Project Panel on Legal Aspects of Transit and Intermodal Transportation Program. He currently serves as a member of the Legal Resources Section and the TCRP Oversight and Project Selection Commission.

He is a member of the Board of Directors and Executive Committee of the American Public Transportation Association (APTA) as well as the Chairman of APTA's Legislative Affairs Committee. He is also a Senior Fellow of the Council for Excellence in Government Fellows Program and the Vice Chairman of the Board of Directors for Saint Anthony Hospital in Chicago, Illinois. In acknowledgment of his more than 30 years of public service, the Civic Federation of Chicago recently recognized Mr. Carter as the recipient of the 2019 Motorola Excellence in Public Service Award. This award is given annually to non-elected public officials in recognition of the extraordinary impact they have had during the course of their career on the quality of state and local government services in Illinois.

Mr. Carter obtained his undergraduate degree from Carroll University in Waukesha, Wisconsin, and is currently its Chair of the Board of Trustees. He holds a J.D. from the Howard University School of Law.

Previous Recipients of the Thomas B. Deen Distinguished Lectureship*

Sarah Jo Pedersen, 2020
Jon A. Epps, 2019
Patricia L. Mokhtarian, 2018
Bruce M. Smith, 2017
Hani S. Mahamassani, 2016
Daniel Sperling, 2015
Joseph L. Schofer, 2014
John P. Broomfield, 2013
William W. Millar, 2012
James McClellan, 2011

***Previous 10 years' recipients. For the full listing of previous recipients, see www.TRB.org/AboutTRB/DeenDistinguishedLectureship.aspx.**

ROY W. CRUM DISTINGUISHED SERVICE AWARD

Mohamed Abdel-Aty

Named for Roy W. Crum, who served as TRB's director from 1928 until his death in 1951, the Roy W. Crum Distinguished Service Award recognizes outstanding leadership in transportation research or research administration. Dr. **Mohamed Abdel-Aty** is a Trustee Chair, a Pegasus Professor, and the Chair of the Department of Civil, Environmental, and Construction at the University of Central Florida. He is recognized for his distinguished achievements in the development of immediate practical applications of his fundamental and developmental research results as well as for contributing broadly to the science of transportation safety. His work and accomplishments will leave an enduring legacy, which will undoubtedly continue to improve transportation safety research, methods, and practice.

Dr. Abdel-Aty's main expertise and interests are in the areas of traffic safety, big data and data analytics, intelligent transportation systems, simulation, and connected/automated vehicles. He has conducted groundbreaking studies in those areas. He was the first to study various aspects of road safety, including real-time safety analytics, proactive safety management, transportation safety planning, and the safety of toll roads and plazas, and to provide guidance for safety improvements. In addition, he accomplished extensive work in real-time crash risk visualization using integrated tools for traffic safety evaluation and management, winning several awards for this work.

Dr. Abdel-Aty pioneered many ideas that are changing road safety research and practice from a reactive approach to proactive real-time implementation. This body of work changed current practices in safety and active traffic management in the United States and around the world. His research areas involve more than engineering and cross over into planning. For example, he conducted research on transportation safety planning to encourage an explicit safety focus in planning to meet future demand.

He has worked tirelessly to help ensure research findings are known and implemented by publishing more than 630 papers, including 84 papers in the *Transportation Research*

Record (TRR), 235 papers presented at TRB, and one of the 5 most highly cited papers in the TRR in 2019; placing him as one of the most cited and impactful authors in traffic safety (Web of Science). He is currently serving as the Editor-in-Chief of *Accident Analysis & Prevention* and as the Associate Editor of *Transportation Research Interdisciplinary Perspectives;* and on editorial boards for the *Journal of Intelligent Transportation Systems, Analytic Methods in Accident Research, Transportation Research C,* and the *International Journal of Sustainable Transportation.* Perhaps his most visible and enduring contribution to road safety lies with the more than 85 Ph.D. and M.S. students he has educated, trained, and mentored. He is continuing the tradition as he is now mentoring 15 Ph.D. students as they finish their degrees.

He sets the bar very high for producing outstanding students who will continue to make a difference in safety research and practice. The papers his students produce are technically accurate and articulate. Dr. Abdel-Aty not only ensures his students submit quality work to TRB, he attends podium and poster sessions where his students present their research. This gives him the opportunity to provide additional mentoring after the public appearance. His former students are now members of more than 20 TRB technical committees. Dr. Abdel-Aty's students have received many awards from not only the University of Central Florida, but also from TRB committees, the American Society of Civil Engineers, the Council of University Transportation Centers, and internationally.

In addition to his many professional accomplishments, Dr. Abdel-Aty has provided uninterrupted service to TRB since 1998 serving on several safety-related standing technical committees and chairing a subcommittee. Dr. Abdel-Aty has been a regular attendee at the TRB Annual Meeting since 1994.

Previous Recipients of the Roy W. Crum Distinguished Service Award*

Sue McNeil, 2019
Daniel Sperling, 2018
Susan A. Shaheen, 2017
Sandra Q. Larson, 2016
Lance A. Neumann, 2015
Forrest M. Council, 2014
Ralph Haas, 2013
David L. Greene, 2012
Joseph L. Schofer, 2011
Keith Turner, 2010

***Previous 10 years' recipients. For full listing of previous recipients, see www.TRB.org/AboutTRB/CrumAward.aspx.**

W. N. CAREY, JR., DISTINGUISHED SERVICE AWARD

Martha Grabowski

In recognition of her outstanding service to TRB and safety-critical systems research, Dr. **Martha Grabowski** is the 2020 recipient of the W. N. Carey, Jr., Distinguished Service Award. Dr. Grabowski is the McDevitt Distinguished Chair in Information Systems and a Professor and the Director of the Information Systems Program at Le Moyne College, as well as a Senior Research Scientist in the Department of Industrial and Systems Engineering at Rensselaer Polytechnic Institute. The Carey Award—named in honor of W. N. Carey, Jr., TRB's Executive Director from 1967 to 1980—recognizes individuals who have given leadership and distinguished service to TRB.

Since 1991, Dr. Grabowski has provided continuous volunteer service to TRB, the Marine Board, and the National Research Council (NRC) of the National Academies of Sciences, Engineering, and Medicine. From 2001 to 2008 she served as a member, the Vice Chair, and the Chair of the Marine Board. In 2015 she again brought her expertise to the Marine Board where she is now serving her second term as the Vice Chair and will again be the Chair this November. She has also provided her expertise to TRB as a member of the Technical Activities Division's Task Force on Marine Safety and Human Factors and on the Standing Technical Committee on Marine Safety and Human Factors.

Dr. Grabowski has chaired or served as the Vice Chair of five NRC policy studies, including the 2014 *Responding to Oil Spills in the U.S. Arctic Marine Environment* report for eight study sponsors, with the Polar Research Board, the Ocean Studies Board, and the Marine Board. The study identified critical shortfalls and research needs in the nation's Arctic oil spill response capabilities, and is one of the NRC's most frequently downloaded and accessed reports. Dr. Grabowski was also the Vice Chair of the report *Tsunami Warning and Preparedness: An Assessment of the U.S. Tsunami Program and the Nation's Preparedness Efforts* for the Marine Board and the Ocean Studies Board and she chaired the NRC committee for *TRB Special Report 273: Shipboard Automatic Identification System Displays: Meeting the Needs of Mariners,* which was used by the

U.S. Coast Guard to develop its shipboard automatic identification system requirements. She also chaired the NRC committee that produced *TRB Special Report 306: Naval Engineering in the 21st Century: The Science and Technology Foundation for Future Naval Fleets*, which underscored the value of the National Naval Responsibility for Naval Engineering (NNR-NE) and identified research and programmatic needs to support that national responsibility. She has also been an influential member of three other NRC consensus study committees, including the 2019 study examining shipboard stability regulations for the U.S. Coast Guard in the wake of the loss of the container ship El Faro.

As a researcher, Dr. Grabowski focuses on the impact of technology in safety-critical systems, risk analysis and risk mitigation in large-scale systems, and the role of human and organizational error in high-consequence settings. Her current research utilizes advanced data analytics and machine learning techniques to develop predictive safety analytics for U.S. Navy surface ships and explores the impact of unmanned aerial systems in Arctic emergency response, municipal firefighting, and global supply chains. Her research resulted in a patent for wearable, immersive augmented reality for shipboard navigation in 2020. Over the years, her work has resulted in honors and awards, including the Navy Achievement Medal, Le Moyne College's MBA Teacher of the Year Award, the Upstate New York Ecosystem Catalyst Entrepreneurship Award, the IEEE/ACM Educator of the Year Award, the C-STEP Mentor of the Year Award, and the United States Merchant Marine Academy's Outstanding Professional Achievement Award. In 2003 she was recognized as a National Associate of the NRC.

Dr. Grabowski has a B.S. in nautical science and marine transportation from the United States Merchant Marine Academy and an M.B.A in management information systems, an M.S. in industrial and management engineering, and a Ph.D. in management/information system, expert systems from Rensselaer Polytechnic Institute.

Previous Recipients of the W. N. Carey, Jr., Distinguished Service Award*

Frederick "Bud" G. Wright, 2019
Susan Hanson, 2018
Michael F. Trentacoste, 2017
H. G. "Gerry" Schwartz, Jr., 2016
Kirk T. Steudle, 2015
Katherine F. Turnbull, 2014
Harold R. Paul, 2013
John C. Horsley, 2012
Adib K. Kanafani, 2011
Debra "Deb" L. Miller, 2010

***Previous 10 years' recipients. For full listing of previous recipients, www.TRB.org/AboutTRB/CareyAward.aspx.**

FRANK TURNER MEDAL FOR LIFETIME ACHIEVEMENT IN TRANSPORTATION

Rodney E. Slater

Mr. **Rodney E. Slater** is the 2021 recipient of the Frank Turner Medal for Lifetime Achievement in Transportation. Secretary Slater is a partner at Squire Patton Boggs LLP, the former U.S. Secretary of Transportation, and the former Administrator of the Federal Highway Administration (FHWA).

The Frank Turner Medal for Lifetime Achievement in Transportation is a biennial award established in 1998 by a group of friends, colleagues, and admirers of Frances (Frank) C. Turner to honor him and commemorate his extraordinary accomplishments in the development and construction of the U.S. transportation system. Turner was the initial recipient of the award in January 1999. The award recognizes lifetime achievement in transportation, demonstrated by a distinguished career in the field, professional prominence, and a distinctive, widely recognized contribution to transportation policy, administration, or research.

Secretary Slater is honored with the 2021 Frank Turner Medal for his influential career in the areas of aviation, surface transportation, and infrastructure as well as for his commitment to role of transportation in safety, mobility and access, economic development and trade, and the environment and national security.

As the U.S. Secretary of Transportation under President Bill Clinton, Secretary Slater passed several historic legislative initiatives during his tenure, including the Transportation Equity Act for the 21st Century (TEA-21), which guaranteed a record $200 billion in surface transportation investment though 2003, and the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), which provided a record $46 billion to improve the safety and security of the nation's aviation system. Under his leadership, the federal transportation budget doubled.

Prior to his tenure as the U.S. Secretary of Transportation, Secretary Slater served as the Administrator of the FHWA, where—as the agency's first African-American Administrator in its century-long history—he oversaw the development of an innovative

financing program that resulted in hundreds of transportation projects being completed 2 to 3 years ahead of schedule with greater cost efficiencies. During his tenure, the federal transportation budget increased an unprecedented 104 percent.

Secretary Slater has contributed to numerous publications, including two major U.S. Department of Transportation reports on transportation challenges and accomplishments that were issued under Secretary Slater's leadership: *The Changing Face of Transportation and Transportation Decision Making: Policy Architecture for the 21st Century.*

He is a member of the Board of Directors of the Squire Patton Boggs Foundation, which promotes the role of public service and pro bono work in the practice of law and the development of public policy. Additionally, Secretary Slater is a Founding Partner of the Washington Nationals baseball team and the Chair Emeritus of the Washington Nationals Youth Baseball Academy. He is also an NCAA Silver Anniversary Recipient (2002) for football.

Previous Recipients of the Frank Turner Medal for Lifetime Achievement in Transportation*

Mary E. Peters, 2019
Norman Y. Mineta, 2017
Robert E. Skinner, Jr., 2015
C. Michael Walton, 2013
Jane Garvey, 2011
Thomas B. Deen, 2009
Francis "Frank" B. Francois, 2007
Lawrence D. Dahms, 2005
Thomas D. Larson, 2003
Mortimer L. Downey, 2001

***Previous 10 recipients. For the full listing of previous recipients, see www.TRB.org/AboutTRB/FrankTurnerMedal.aspx.**

TRB MINORITY STUDENT FELLOWS, 2020–2021

The TRB Minority Student Fellows Program promotes minority participation in transportation and in TRB. Now in its 12th year, the program provides funding for minority students from select historically black colleges and universities, Hispanic-serving institutions, and from a Native Hawaiian–serving institution to attend and present research papers at the TRB Annual Meeting. Each participating institution selects one or more graduate or undergraduate students in a transportation-related curriculum to participate in the program. Students come from disciplines such as business administration, construction engineering, civil engineering, electrical engineering, mechanical engineering, geography, global and national security, and planning. The institutions also designate faculty members to oversee the work of each student.

Seventeen schools are participating in the 2020–2021 program:

- California State Polytechnic University, Pomona;
- California State University, Long Beach;
- California State University, Los Angeles;
- City College of New York, New York City;
- Florida A&M University, Tallahassee;
- Florida International University, Miami;
- Morgan State University, Baltimore, Maryland;
- North Carolina A&T University, Greensboro;
- North Carolina Central University, Durham;
- Northern Arizona University, Flagstaff;
- Prairie View A&M University, Prairie View, Texas;
- Tennessee State University, Nashville;
- Texas Southern University, Houston;
- The University of Texas at El Paso;
- University of Arizona, Tucson;
- University of Hawai'i, Mānoa; and
- University of New Mexico, Albuquerque.

Luis Abreu is a senior at the City College of New York studying civil engineering. His paper is titled "A Qualitative Assessment of the Multimodal Passenger Transportation System Response to COVID-19 in New York City."

Joseph Abujana is a master's student at Morgan State University majoring in transportation systems engineering. His paper is titled "Drivers' Reaction to Connected and Automated Vehicle Safety Applications in the Vicinity of a Work Zone: A Driving Simulator Study."

Chappelle Branch is a senior at Morgan State University studying transportation systems engineering. His paper is titled "Multimodal Traffic Flow in Shared Bus-Bike Lanes: A Scoping Literature Review in 1 Comparison with Baltimore SBBL Infrastructure."

Jacqueline Camacho is a senior at California State University, Long Beach, majoring in civil engineering. Her paper is titled "Benefit-Cost Analysis to Fund Railroad Grade Separation Projects."

Laura Camarena is a master's student at The University of Texas at El Paso studying civil engineering. Her paper is titled "Using Artificial Intelligence to Estimate Non-Linear Resilient Modulus Parameters from Common Index Properties."

Morgan Chatmon is a master's student at Tennessee State University majoring in civil engineering. Her paper is titled "The Impact of COVID-19 on Traffic Crash Trends in Tennessee."

Braxton Chong is a senior at the University of Hawai'i at Mānoa majoring in construction engineering. His paper is titled "Analysis of Speed Profiles of Near Misses from On-Board Cameras in Taxicabs."

Edward Clay is a senior at California State Polytechnic University, Pomona, studying civil engineering. His paper is titled "Exploration of COVID-19's Impact on Freeway 1 Traffic Volume Using Distinct Bayesian Hierarchical Temporal Models."

David Corona is a senior at California State University, Los Angeles, studying civil engineering. His paper is titled "Life-Cycle Assessment and Cost Analysis of Using Intelligent Compaction for Construction of Asphalt Pavement Layers."

Austin Dikas is a senior at Prairie View A&M University majoring in electrical engineering. His paper is titled "Modern Public Infrastructure Development Needs and Evaluation."

Lincoln Edwards is a master's student at the University of Arizona studying urban planning. His paper is titled "Learning from Black Pedestrian Experiences in Portland, Oregon."

Brandon Graham is a senior at Florida A&M University majoring in electrical engineering technology. His paper is titled "Design of 'Smart Car Seat' to Prevent Heat-Related Deaths of Children Left Alone Inside Cars."

Isabel Gutierrez is a senior at North Carolina Central University majoring in environmental and geographical sciences.

Her paper is titled "A Comparison of Travel-Time Distance Calculation Versus Euclidean Distance Calculations as Applied in the Study of Food Deserts."

Emmanuel James is a master's student at Northern Arizona University studying civil engineering. His paper is titled "Analysis of Factors Affecting Pedestrian Crash Frequency Considering Demographic, Land Use, and Roadway Characteristics."

Darrell Johnson is a senior at Tennessee State University majoring in civil engineering. His paper is titled "Prediction Model for Paint Pavement Marking Retroreflectivity Deterioration Rate."

Benson Long is a senior at the University of New Mexico studying civil engineering. His paper is titled "Spatial Equity Analysis of Nighttime Pedestrian Safety: The Role of Land Use and Alcohol Establishments."

Helena Mascorro is a master's student at The University of Texas at El Paso studying civil engineering. Her paper is titled "Assessment of Moisture Damage of Asphalt Concrete Mixtures Using Performance Tests."

Joshua Murillo is a junior at the University of New Mexico studying global and national security. His paper is titled "5th Generation Low-Cost Efficient Wireless Intelligent Sensors (LEWIS 5) for Transportation."

Roodson Pierre is a senior at Florida A&M University majoring in construction engineering. His paper is titled "Investigating Changes in Florida Traffic Crash Trends Due to COVID-19 Pandemic."

Amy Romeo-Garcia is a senior at Florida International University studying civil engineering. Her paper is titled "Impacts of COVID-19 Pandemic on Traffic Crashes in Florida."

Selena Scott is a master's student at Texas Southern University studying transportation planning and management. Her paper is titled "Transportation Network Systems and Automated Vehicles: Bridging the Gap from City to Rural Areas."

Patrick Stanley is an M.B.A. student at North Carolina A&T University majoring in supply chain management. His paper is titled "Hours of Service, Safety, and Supply Chain Management."

Micah Tang is a master's student at the University of Hawai'i at Mānoa majoring in civil engineering. His paper is titled "Bikeshare System Accessibility: Opportunities for Tourism in Honolulu."

Allun Ward is a senior at Prairie View A&M University majoring in mechanical engineering. His paper is titled "An Overview of Data Collection Best Practices: Personal Mobility Gaps, Root Causes, and Solutions for Older Americans Living in Rural Areas."

Kamal Windom is a senior at Prairie View A&M University majoring in electrical engineering. His paper is titled "Analysis of Advanced Driver Systems for Lane Keeping Aids."

AIRPORT COOPERATIVE RESEARCH PROGRAM (ACRP)

GRADUATE RESEARCH AWARD PROGRAM

The Graduate Research Award Program, which operates as part of the ACRP, encourages applied research on airport and related aviation system issues to foster the next generation of aviation community leaders. The focus of this research program is to help the public sector continue to improve the quality, reliability, safety, and security of the U.S. civil aviation system well into the foreseeable future.

Now in its 13th year, the program provides financial support to selected graduate students as they prepare a research paper that is then considered for publication in the *Transportation Research Record*. The program also provides an opportunity for the students to present their work at the TRB Annual Meeting. In addition to the faculty research advisor at the student's institution, students benefit from expert advisors assigned by the ACRP to mentor the student during the research process.

Students come from many disciplines, including accounting, aerospace engineering, aviation technology, business analytics, civil engineering, construction engineering, environmental engineering, pavement engineering, and others. The institutions also designate faculty members to oversee the work of each student.

Nine universities participated in the 2019–2020 program:

- Georgia Institute of Technology;
- Massachusetts Institute of Technology;
- Purdue University;
- Rutgers, the State University of New Jersey;
- The University of Texas at Austin;
- University of Illinois at Chicago;
- University of Illinois at Urbana-Champaign;
- University of New Hampshire; and
- University of Southern California.

More that 70 universities have participated in the program since its inception in 2008.

The program is sponsored by the U.S. Department of Transportation's Federal Aviation Administration, administered by TRB's ACRP, and managed by the Virginia Space Grant

Consortium (VSGC). Located at Old Dominion University in Hampton, Virginia, the VSGC is a coalition of five Virginia colleges and universities, the National Aeronautics and Space Administration, state educational agencies, Virginia's Center for Innovative Technology, and other institutions representing diverse aerospace education and research interests.

2019–2020 ACRP Graduate Research Award Program

Students in the 2019–2020 program have completed and submitted papers for publication in the *Transportation Research Record* and for presentation at the 2021 TRB Annual Meeting.

Sandeep Badrinath is a doctoral student at the Massachusetts Institute of Technology majoring in aerospace engineering. His paper is titled "Automatic Speech Recognition for Air Traffic Control Comminications." Hamsa Balakrishnan is his faculty mentor.

Limon Barua is a doctoral student at the University of Illinois at Chicago majoring in transportation engineering. His paper is titled "Developing a Reinforcement Learning-Based Modeling Framework for Airport Pavement Asset Management." Bo Zou is his faculty mentor.

Jamie Clark is a doctoral student at the University of Illinois at Urbana-Champaign majoring in civil engineering. Her paper is titled "Optimization of Cellular Concrete Microstructure for Improved Impact Resistance." David A. Lange is her faculty mentor.

Yilin Feng is a doctoral student at Purdue University majoring in aviation managment. Her paper is titled "Simulation Analyses of End-Around Taxiway Operations Under Four Different Runway and Taxiway Choices." Mary Johnson is her faculty mentor.

Max Li is a doctoral student at the Massachusetts Institute of Technology majoring in aerospace engineering (air transportation systems). His paper is titled "Understanding the Role of Online Media Platforms in Airport Capital Projects and Community Outreach." Megan S. Ryerson is his faculty mentor.

Xinyu Liu is a doctoral student at the Georgia Institute of Technology majoring in operations research. Her paper is titled "Airport Pickup and Dropoff Facility Design for On-Demand Ground Transportation." Anton J. Kleywegt is her faculty mentor.

Laura Marques Soares is a master's student at Rutgers, the State University of New Jersey, majoring in civil engineering. Her paper is titled "Economic Feasibility Analysis of Charging Infrastructure for Electrified Ground Fleet in Airports." Hao Wang is her faculty mentor.

Danial Mirzaiyanrajeh is a doctoral student at the University of New Hampshire majoring in pavement engineering. His paper is titled "Exploration of Cracking-Related, Performance-Based Specification Indices for Airfield Asphalt Mixtures." Eshan Dave is his faculty mentor.

Yinqi Zhang is a doctoral student at the University of Southern California majoring in economics. His paper is titled "The Competitive Effects of Joint Ventures in the International Airline Industry." Guofu Tan is his faculty mentor.

Zehui Zhu is a doctoral student at the University of Illinois at Urbana-Champaign majoring in civil engineering. His paper is titled "Climate-Based Balanced Mix Design Method for Airport Asphalt Pavements." Imad L. Al-Qadi is his faculty mentor.

Natalia Zuniga-Garcia is a doctoral student at The University of Texas at Austin majoring in civil engineering. Her paper is titled "Impact of Transportation Network Companies on Ground Access to Airports: A Case Study in Austin, Texas." Randy B. Machemehl is her faculty mentor.

2020–2021 ACRP Graduate Research Award Program

Students participating in the 2020–2021 program have been selected and are now beginning their research programs. Initial reviews are scheduled for October.

Daniela Betancourt Jimenez is a doctoral student at Purdue University majoring in materials engineering. Her paper is titled "Use of Enhanced PCM Microcapsules to Melt Ice and Snow on Airport Pavements." Carlos Martinez is her faculty mentor.

Christopher Cummings is a doctoral student at Northwestern University majoring in transportation systems. His paper is titled "Evaluating the Potential of Urban Air Mobility Service to Airports." Hani Mahmassani is his faculty mentor.

Ebenezer Duah is a master's student at Arizona State University majoring in civil engineering. His paper is titled "Critical Distresses Analytics to Develop Performance Prediction Models for Small Hub Airfield Pavements." Hasan Ozer is his faculty mentor.

Javier García Mainieri is a doctoral student at the University of Illinois at Urbana-Champaign majoring in civil engineering. His paper is titled "Leveraging Environmental Impact and Elasticity of Plastics in Sustainable Flexible Airfield Pavements." Imad Al-Qadi is his faculty mentor.

Fiona Greer is a doctoral student at the University of California, Berkeley, majoring in civil and environmental engineering. Her paper is titled "Life-Cycle Approach to Healthy Airport Terminal Buildings: A Spatial-Temporal Analysis of Mitigation Strategies for Addressing Climate Change and Human Health." Jasenka Rakas is her faculty mentor.

Mingu Kang is a doctoral student at the University of Illinois at Urbana-Champaign majoring in civil and environmental engineering. His paper is titled "Airport Pavement Stiffness Monitoring and Assessment of Mechanical Stabilization Using Bender Element Field Sensor." Erol Tutumluer is his faculty mentor.

Mark Kotwicz Herniczek is a doctoral student at the Georgia Institute of Technology majoring in aerospace

engineering. His paper is titled "Integration of Urban Air Mobility into Existing Airport Operations." Brian German is his faculty mentor.

Maryssa Loehr is a doctoral student at Washington University in St. Louis majoring in environmental, energy, and chemical engineering. Her paper is titled "Measurement of Ultrafine Particles During Aircraft Descent for Dispersion Modeling Validation." Jay Turner is her faculty mentor.

Lamiya Noor is a master's student at Oregon State University majoring in civil and construction engineering. Her paper is titled "Developing a New Decision-Making Tool for Selecting Rapid Repair Material for Concrete Airfield Pavement." Jason Ideker is her faculty mentor.

Drew Taplin is a master's student at Arizona State University majoring in urban and environmental planning. His paper is titled "Analysis of Ultra Low-Cost Carriers and Airport Choice." Michael Kuby is his faculty mentor.

Pengyu Xie is a doctoral student at Rutgers, the State University of New Jersey, majoring in civil engineering. His paper is titled "Impact of Climate Change on Airfield Pavement Temperature and Field Performance." Hao Wang is his faculty mentor.

Chuyang Yang is a doctoral student at Purdue University majoring in aviation technology. His paper is titled "Developing a Cost-Effective Assessment Method of Noise Impact for Non-Towered Airports: A Case Study at Purdue University Airport." John Mott is his faculty advisor.

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