Rejuvenation Out of Disruption

Envisioning a Transportation System for a Dynamic Future

estaurant hosts knew. Metrorail riders knew—from the oversized badges hanging from attendees' necks. Uber drivers certainly knew. "Are you here for the big transportation conference?" one asked. The word was out! More than 12,000 transportation professionals from around the world had converged on Washington, DC, for the 102nd TRB Annual Meeting, held January 8–12, 2023, at the Walter E. Washington Convention Center. Free

of last year's COVID-19-imposed mask mandate, a near record number of participants gathered for committee meetings, poster and lectern sessions, award presentations, and a keynote address from National Transportation Safety Board Chair Jennifer Homendy.

Sessions and workshops addressed topics of interest to policy makers, administrators, practitioners, researchers, and students—many focused on decarbonization, automated and electric vehicles, and sus-

tainability. Managed lanes expert Charles Fuhs delivered the 2023 Thomas B. Deen Distinguished Lecture, "Re-Envisioning Mobility on Urban Freeways: The Emerging and Evolving Roles of Managed Lanes."

Taking the stage with TRB Executive Committee Chair Nathaniel Ford and Vice Chair Shawn Wilson, U.S. Department of Transportation Secretary Pete Buttigieg and U.S. Secretary of Energy Jennifer Granholm discussed the federal government's goal of reaching net-zero carbon emissions in the nation's transportation sector by 2050.

Details and highlights appear on the following pages.

Annual Meeting photographs by Risdon Photography, except where indicated.

- The perfect backdrop, the giant TRB sign draws international attendees (*left to right*)

 Roxani Gkavra, Yusak Susilo,

 Muhamad (Taki) Rizki, and

 Faza Bastarianto—behind the camera—to grab a photo for sharing on social media.
- National Transportation Safety Board Chair **Jennifer Homendy** delivers the keynote address.
- At the Chair's Plenary Session, U.S. Department of Energy Secretary Jennifer **Granholm** explains the need to add about 2000 gigawatts of energy to the nation's electric grid to support President Biden's goal of 100 percent clean energy by 2035 and the economywide goal of reaching net zero by 2050. On stage with her are (left to right) TRB Executive Committee Chair Nathaniel Ford, U.S. Department of Transportation Secretary Pete **Buttigieg**, and TRB Executive Committee Vice Chair Shawn Wilson. Ford and Wilson moderated the discussion.







Intersections

Convention Center staff in red jackets usher attendees into the Exhibit Hall, where transportation innovations from automated vehicles to mobile asphalt labs were on display.

4 Marie Therese Dominguez (left), Commissioner of the New York State Department of Transportation (DOT), pulls together a group of transportation leaders for an impromptu selfie at the Executive Committee Reception. They are (left to right) Leslie Richards, General Manager of the Southeastern Pennsylvania Transportation Authority: Yassmin Gramian, former Secretary of the Pennsylvania DOT; Kristina Swallow, former Director of the Nevada **DOT**; **Diane Guitierrez-Scaccetti**, Commissioner of the New Jersey DOT; Victoria Sheehan, TRB Executive Director; and Julie Lorenz, Secretary of the Kansas DOT.

Nineteen students from 14 schools attended the Annual Meeting as participants in the 2023 TRB Minority Student Fellows Program, with research backgrounds ranging from transportation and urban





discusses her role in transportation during the Minority Student Fellows Career Panel. Joining her are (left to right)

Darryl Moses, Margarita

Ordaz, and Ian Rowe.







infrastructure engineering to civil engineering to mechatronics and robotics. Pictured are (front row, left to right) Karen Febey, TRB senior report review program officer and Minority Student Fellows Program manager; Ossiris Rodriguez; Leonor Reyes; David Castano; Armando Martinez; Elijah Bond-Hawkins; Diana Cortes; Hector Cruz; Eric Olaguir; Nicole Anderson;





Gabriella Cerna; and Latoya Jones, FHWA's Dwight David Eisenhower Transportation Fellowship Program manager. Shown back row (left to right) are Quinton Butler; Anthony Forcades; Jeremiah Bailey; Sebastian Morales; Timothy Thiergart; TRB Executive Director Victoria Sheehan; Alonso Carrillo; Evan Taylor; Edward Clay; Rueben Esteves; and Nathaniel Coley, FHWA's Dwight David Eisenhower Transportation Fellowship Program manager.

Overseeing the organization and activities of TRB's standing committees, the 2023 Technical Activities Council (TAC) are (front

row, left to right) Pamela
Keidel-Adams, TRB Technical
Activities Division Director
Ann Brach, Michael
Griffith, TRB Executive
Director Victoria Sheehan,
Allison Yoh, and William
Eisle. Standing (left to right)
are Brendon Hemily, Jane
Lin, Robert Bertini, Pasa
Lautala, Jeff Borowiec,

Kathryn Zimmerman, Fred Wagner, Technical Activities Division Deputy Director Stephen Maher, Tara Cavalline, and Robert Hazlett. Not pictured are TAC Chair Avery Grimes, Eleftheria Kontou, and Tom Hickey.

Sessions & Workshops

- **Sara El-Gamal** prepares to share her research on "Incorporating Carbon Dioxide into Portland Cement Concrete".
- New attendee **Pelumi Abiodun**, Morgan State University, takes notes during a lectern session.
- 3 **Helmut Leodarta** (*right*) finds something to laugh about during the "3-Minute Thesis Competition: Successful Research Communication to a Broad Audience". Seatmates (*left to right*) **Eleanor Fauchel** and **Hugues Blache** get the humor.











- Andrea Cristina Ruiz takes part in the Post-It Note Scramble during the "Structuring a Long-Term Extreme Weather and Climate Resilience Research Agenda" workshop.
- **Mike Rossi** leads a breakout session during the "Including Routine Asset Maintenance Costs in Transportation Asset Management Planning" workshop.

Committees

- Alice Grossman, member of the Standing Committee on Transit Management and Performance, takes the mic.
- **Shannon McLeod** works with other members of the Standing Committee on Ports and Channels.





Blue Ribbon for Best Practices

TAC member **Michael Griffith** presents Blue Ribbon Awards for best practices of outstanding technical activities committees in the following categories:

- I Identifying and Advancing Ideas for Research: Seismic Design and Performance of Bridges Committee, chaired by Monique Head; and
- 2 Airfield and Airspace Performance Committee, chaired by **Yu Zhang** (accepted by **Pamela Keidel-Adams**);
- Renewal: Attracting and Preparing the Next Generation of Professionals and Scholars in TRB: Transportation-Related Noise and Vibration Committee, chaired by Adam Alexander;











- A Implementation: Moving
 Research Ideas into Transportation
 Practice: Freight Transportation
 Planning and Logistics
 Committee, chaired by **Sushant Sharma**;
- Leadership: Contributing to Improving the Management and Operation of TRB Committees: Air Quality and Greenhouse Gas Mitigation Committee, chaired by **Douglas Eisinger**;





- 6 Diversity: Increasing
 Committee Membership and
 Friends: Freeway Operations
 Committee, chaired by
 Beverly Thompson Kuhn
 (accepted by Robert Bertini)
 (see Page 33); and
- Rail Transit Infrastructure
 Design and Maintenance
 Committee, chaired by **Hugh J.**Fuller.



Michael Bryant, Texas DOT, comments at an open meeting of committees that address equity and environmental justice needs in transportation.

4 Kristen Brown (left) and Matt Dean participate in a networking activity during a Young Members Council on Sustainability and Resilience meeting.

Frederic Fravel shares insights with Nina Stocker (right) and other members of the Intercity Bus Transit Subcommittee.





Paper Awards

The Fred Burggraf Award is presented to researchers under age 35. Flanked by TRB Executive Committee Chair **Nathaniel Ford** (*left*) and TRB Executive Director **Victoria Sheehan** (*right*), who presented the Paper Awards, recipients are shown from left to right.





- Michael Elwardany and David J. Mensching received the Burggraf Award for Evaluating the Sensitivity of Intermediate Temperature Tests to Multiple Loose Mixture Aging Temperatures Using the FHWA Accelerated Loading Facility's RAP/RAS Experiment. Not pictured: Varun Veginati.
- 2 Irfan Batur, Chandra
 R. Bhat, Tassio B. Magassy,
 Aupal Mondal, Katherine
 E. Asmussen, and Ram
 M. Pendyala received the
 Pyke Johnson Award for The
 Influence of Mode Use on Level
 of Satisfaction with Daily Travel
 Routine: A Focus on Automobile
 Driving in the United States.
 Not pictured: Sara Khoeini.



Paper Awards (continued)

Abubakr Ziedan,
Candace Brakewood,
Ashley Hightower, and
Cassidy Crossland received
the William W. Millar Award for
Current Practices and Potential
Rider Benefits of Fare-Capping
Policies in the United States.

4 Gang-Len Chang, Yi-Ting Lin, and Yen-Lin Huang received the D. Grant Mickle Award for Extending the I-95 Rule-Based Incident Duration System with an Automated Knowledge Transferability Model.



Juengprasertsak and Douglas J. Gabauer shared the K.B. Woods Award for Evaluation of Current MASH Occupant Compartment Intrusion Limits Using Real-World Crash Data.





Major Awards

Principal of Chuck Fuhs, LLC, in Houston, Texas, Charles A. Fuhs III is the recipient of the 2023 Thomas B. Deen Distinguished Lectureship. His public- and private-sector experience spans some 50 years, during which he has been involved in the planning, implementation, and operation of freeways throughout North America. He has directed—or been engaged by federal, state, and local transportation agencies to work on-more than 200 projects and studies representing more than \$20 billion in transportation investment in most U.S. metropolitan and Canadian cities. Fuhs is recognized for his contributions to the advancement



of congestion-management applications on urban free-ways, with particular focus on managed lanes.

Gongkang Fu, professor of civil and architectural engineering at the Illinois Institute of Technology, Chicago, is the 2022 recipient of the Roy W. Crum Distinguished Service



Award. Named for TRB's former director, who served from 1928 until his death in 1951, the award recognizes outstanding leadership in transportation research or research administration. Fu is recognized for his significant innovative, visionary, and practical contributions to bridge engineering research,



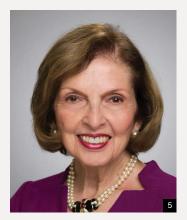
implemented in the practice of preserving and designing safer highway infrastructure in the United States and the world.

Recognized for his outstanding service to TRB, **Neil**J. **Pedersen** is the 2022 recipient of the W.N. Carey, Jr., Distinguished Service Award. Pedersen retired in

December as TRB's Executive Director, a position he held since February 2015. He is recognized for more than 40 years of leadership service to TRB-more than 30 years as a TRB volunteer and more than 10 years as a TRB staff member-and for his integrity and continual pursuit of technical excellence. In 2022, the Conference of Minority Transportation Officials presented Pedersen with the President and CEO's Award for Excellence for "outstanding contributions to diversity, equity and inclusion, accessibility, innovation, and community engagement at a time of disruption to the transportation industry." He has also been honored with the George S. Bartlett Award and AASHTO's Thomas McDonald Memorial Award. The Carey Award is named for TRB's executive director from 1967 to 1980.

4 Eugene (Gene) R.
Russell, Sr., Professor
Emeritus of civil engineering at Kansas State University, is the 2022 recipient of the Robert E. Skinner, Jr., Distinguished Transportation Research Management Award. Russell is recognized for the indelible mark he left on transportation for his 60 years of research management







at Iowa State University,
Purdue University, and Kansas
State University. His lifelong
research and research management accomplishments
have made substantial contributions in areas such as
roundabout traffic operations,
roundabout safety, and rail
and highway grade crossing
warning systems and safety.
TRB's Executive Committee
established the award—named
for TRB's executive director from

1994 to 2015—to recognize outstanding achievement in the management, administration, promotion, fostering, and implementation of transportation research.

billian Borrone, a member of the National Academy of Engineering, former assistant executive director of the Port Authority of New York and New Jersey, and past chair of the TRB

Executive Committee, is the 2023 recipient of the Frank Turner Medal for Lifetime Achievement in Transportation. She is recognized as a trailblazer for women in transportation and for her substantial professional and volunteer contributions to transportation policy, administration, and research that aided in the advancement of safer and more reliable mobility for people and goods during her lifetime. She has been a pathbreaker, based on her distinctive and highly effective blend of keen intellect, hard work, attention to detail, and gracious leadership. The award recognizes lifetime achievement demonstrated by a distinguished career in transportation, professional prominence, and a distinctive, widely recognized contribution to transportation policy, administration, or research.

Thomas B. Deen (right), who served from 1980 to 1994 as TRB's eighth executive director, stands with **Charles A. Fuhs III**, recipient of the award named for him. The lectureship recognizes the career contributions and achievements of an individual in one of the areas covered by TRB's Technical Activities Division.

"I encourage you as the current generation of practitioners to take prudent risks, test new technologies to manage traffic flow, improve customer interface, document findings, promote research, share experiences, and create greater sustainability in practice when addressing the many challenges and opportunities that lie ahead."

—**Charles A. Fuhs III**Thomas B. Deen Distinguished Lecture



New Executive Committee Leaders Take the Helm



Shawn Wilson (*left*), Secretary of the Louisiana Department of Transportation and Development and 2022 vice chair of TRB's Executive Committee, was elected as the committee's 2023 chair during the Annual Meeting. However, shortly after the event, Wilson announced his plans to retire from the department, as well as to step down from the

TRB appointment. TRB is grateful for his many contributions and exemplary leadership as a member, vice chair, and chair of the Executive Committee.

Accepting the role as the 2023 chair is **Diane Gutierrez-Scaccetti** (*below*), commissioner of the New Jersey DOT. "It is an honor to be given the opportunity



to assume a leadership role with such a well-respected organization that has international prominence," Gutierrez-Scaccetti stated. "I am grateful to the National Academies and to the Transportation Research Board for this recognition. The critical research conducted by TRB will help all [state] DOTs and partner agencies make more informed

decisions in the planning and execution of transportation projects and initiatives."

As commissioner, Gutierrez-Scaccetti is responsible for maintaining and operating the state's highway and public road system; planning and developing transportation policy; and assisting with rail, freight, and intermodal transportation issues. She is a member of the Board of Directors for AASHTO and serves as chair of its Committee on Transportation Communication. She is also a member



of the Board of Directors for the Northeast Association of State Transportation Officials.

Partnering with Gutierrez-Scaccetti as the 2023 TRB Executive Committee vice chair is **Carol Abel Lewis** (*left*), professor of transportation studies and Emeritus executive director of the Center for Transportation, Training, and Research at Texas Southern University in Houston.

She serves as chair of TRB's Inclusion and Diversity Committee and is a member of the Transit Research Advisory Committee.

Nancy Daubenberger and Hani Mahmassani are new members of the Executive Committee. Reappointed members are Carlos Braceras, Nathaniel Ford, Marie Therese Dominguez, and Susan Shaheen.

Each year, the TRB Executive Committee selects a topic worthy of deeper analysis to address in a policy session. The 2023 policy session topic was successful transportation megaprojects, with the panel of experts (*left to right*) **Jim Gray**, Kentucky Transportation Cabinet; **Jack Marchbanks**, Ohio DOT; **Susan Shaw**, Virginia DOT; and **Eric Shen**, Shen and Associates.





NATIONAL ACADEMIES









Executive Committee

- 1 2022 TRB Executive Committee Chair Nathaniel Ford and National Transportation Safety Board Chair Jennifer Homendy make their way to the VIP Green Room ahead of the Chair's Plenary Session.
- New TRB Executive Director Victoria Sheehan praises Frank Turner Medal winner Lillian Borrone as a trailblazer for female transportation leadership.

Also participating in the Executive Committee's agenda and deliberations are

- 3 Nuria Fernandez, Federal Transit Administration, and Steven Cliff, California Air Resources Board;
- 4 Shailen Bhatt, FHWA;
- **Robert Hampshire**, U.S. DOT; and
- Jim Tymon, AASHTO.

From Networking to Catnapping

As one excited attendee put it—just halfway through the Annual Meeting: "This is overwhelming!" And she's right! The challenges over the four-and-a-half day event are formidable: pouring over an abundance of lectern sessions, workshops, poster sessions, committee meetings, and spotlight events; racing back and forth through the expansive Convention Center and the adjacent Marriott Marquis Hotel to get to those coveted sessions on time—and without getting lost; calming nerves before a first-time presentation; connecting with the right organization for career-enhancing opportunities; and so much more. Yet, regulars enjoy boasting about how many Annual Meetings they've attended, and—when all is said and done—new attendees can't wait for next year.





- With pen and program in hand, an attendee prepares to outline his plan of participation—selecting among the hundreds of workshops on the agenda.
- 2 Opportunities to network with other transportation professionals are a big draw for Annual Meeting attendees.

The heavy schedule can be as exhausting as it is energizing, as evidenced by one attendee who gave in to the need for a nap.

