



**A USDOT NATIONAL
UNIVERSITY TRANSPORTATION CENTER**

**The First Annual
National Mobility Summit
of
US Department of Transportation
University Transportation Centers**

*Exploring the Research Frontier
for 21st Century Mobility*

April 12, 2018

Carnegie Mellon University



Welcoming Remarks

On behalf of the Mobility21 National UTC team members, Carnegie Mellon University, the University of Pennsylvania, the Ohio State University and the Community College of Allegheny County, it is my pleasure to welcome you to the **First Annual National Mobility Summit** of USDOT University Transportation Centers.

As our roads get more congested and the population continues to grow, technological innovation offers us the opportunity to re-think, re-work and re-invent solutions to our mobility challenges — and prepare for a transportation system unlike anything that we have seen before. By leveraging computing and communication technologies in the public infrastructure, in the vehicles, and in the devices we carry, we can dramatically improve mobility and services, leading to efficient and safe movement of people and goods.

Today's National Mobility Summit brings together industry, community, workforce, and academic thought leaders around our country to explore 'New Frontiers and Opportunities for 21st Century Mobility.' We look forward to hearing from all of you today about the real-world transportation challenges, technological and policy innovations, successful deployments, and workforce training needs.

We hope you find today's program engaging and thought-provoking.

Thank you for joining us today. And we look forward to welcoming you back next year.



Raj Rajkumar

Director
Mobility21 National UTC on Mobility

Today's Agenda

- 8:00 am **Registration and Networking Breakfast**
Participating UTCs displaying posters and demos
- 8:45 am **Welcome, Introductions, Overview of the Day**
Raj Rajkumar, Director, Mobility21 National UTC, Carnegie Mellon University
- 9:05 am **Remarks from the UTC Program**
Caesar Singh, Director, University Transportation Centers Grants Program
- 9:15 am **Panel and Group Discussion 1: Mobility Needs from the Government Perspective**
*Moderator – **Chris Hendrickson**, Director, Traffic21 Institute, Carnegie Mellon University*
Brian Cronin, Director, Office of Operations Research and Development, Federal Highway Administration
Caitlin Hughes, Director, Office of Freight Management and Operations, Federal Highway Administration
Ken Leonard, Director, ITS Joint Program Office OST-R
Shari Schaftlein, Director, Office of Human Environment, Federal Highway Administration
Vincent Valdes, Associate Administrator for Research, Demonstration and Innovation, Federal Transit Administration
- 10:30 am **Break**
- 10:45 am **Panel and Group Discussion 2: Mobility Needs from the Industry and Community Perspective**
*Moderator, **Karen Lightman**, Executive Director, Metro21: Smart Cities Institute, Carnegie Mellon University*
Scott Bogren, Executive Director, Community Transportation Association of America
Katherine Kortum, Senior Program Officer, Transportation Research Board
Steve Lavrenz, Technical Programs Specialist, Institute of Transportation Engineers
James Misener, Senior Director, Technical Standards, Qualcomm
Jeffrey Short, Senior Research Associate, American Transportation Research Institute (ATRI)

- 12:00 pm **Lunch**
- 12:45 pm **Keynote Introduction** – **Raj Rajkumar**, Director, Mobility21 National UTC, Carnegie Mellon University
Keynote Presentation - **Finch Fulton**, Deputy Assistant Secretary for Transportation Policy, US Department of Transportation
- 1:30 pm **UTC Mobility Research, Education and Technology Transfer Overviews**
*Moderator, **Stan Caldwell**, Executive Director, Mobility21 National UTC, Carnegie Mellon University*
Raj Rajkumar, Director, Mobility21 National UTC, Carnegie Mellon University
Jennifer Dill, Director, National Institute for Transportation and Communities (NITC), Portland State University
Jill Hough, Director, Small Urban and Rural Transit Center, North Dakota State University
Shri Iyer, Senior Associate Director, Connected Cities for Smart Mobility toward Accessible and Resilient Transportation (C2SMART), New York University
David Kack, Director, Small Urban, Rural and Tribal Center on Mobility (SURTCOM), Montana State University
Evangelos Kaiser, Director, Freight Mobility Research Institute (FMRI), Florida Atlantic University
Cole Kopka, Assistant Director, PacTrans UTC, University of Washington
Wei Fan, Director, Center for Advanced Multimodal Mobility Solutions and Education (Cammse), University of North Carolina, Charlotte
Andrew Farkas, Director, Urban Mobility and Equity Center, Morgan State University
- 3:30 pm **Reception and Showcase of UTC Mobility Research**
9 UTCs Representing 48 Colleges and Universities across the US
- 4:30 pm **Adjourn**

Speaker Biographies

(listed in alphabetical order by last name)



Scott Bogren is the Executive Director of the Community Transportation Association of America. Scott has been working with, writing about and covering the community and public transportation industry for nearly three decades. His experience with CTAA includes being Editor-in-Chief of

Community Transportation magazine; crafting the Association's various legislative, policy and regulatory positions on Capitol Hill; and shaping CTAA's communications, training and leadership activities.



Stan Caldwell is the Executive Director of Traffic21 Institute, the T-SET National USDOT University Transportation Center for Safety, and Mobility21, a USDOT National University Transportation Center for Mobility. He started the highly acclaimed Traffic21 blog. In 2014, Stan was appointed Adjunct Associate

Professor of Transportation and Public Policy at CMU, where he teaches ITS courses and advises student projects.

Additionally, Stan serves as the Director of State Relations for CMU's office of Government Affairs. Before joining CMU, Stan served as the Executive Director to U.S. Senator Arlen Specter's Pittsburgh Office, in addition to serving for many other Pennsylvania elected officials. Stan received his Master of Public Policy and Management degree from the University of Pittsburgh.



Brian Cronin was appointed into the Senior Executive Service (SES) position of Director, Office of Operations Research and Development, Federal Highway Administration (FHWA) in 2006. In this capacity, he

provides executive leadership and guidance for improving and advancing transportation operations-related technologies and innovations through research, development and testing. Previously, Brian served for 8 years as the Intelligent Transportation Systems (ITS) Research Team Leader in the ITS Joint Program Office (JPO). Brian holds a Master's Degree in Civil Engineering from Texas A&M University and a Bachelor's Degree in Civil Engineering from Virginia Tech. Brian is also a licensed Professional Engineer in the State of Maryland.



Jennifer Dill is the Director of the National Institute for Transportation and Communities (NITC) at Portland State University. Professor Jennifer Dill researches and teaches about transportation decision-making processes and how those can inform policy and planning. Her recent projects focus on travel behavior, bicycling, transit-oriented developments, and active living policies. Dr.

Dill values the community partnerships that she has forged through her research projects and believes that the Toulon School adds value to projects by providing objective third-party analysis while evaluating innovative local planning initiatives.



Wei Fan is the Director of the USDOT University Transportation Center for Advanced Multimodal Mobility Solutions and Education at the University of North Carolina, Charlotte. Dr. Fan holds a Ph.D. in Civil Engineering – Transportation from the University of Texas at Austin. Dr. Fan's primary research interests include big data analytics for transportation (travel demand analysis, and discrete choice modeling); connected and

autonomous vehicles (technologies, and impacts); multimodal transportation and shared mobility (non-motorized transportation including bicycle and public transit systems planning and operations, carsharing, and bike-sharing); traffic system operation and control (traffic simulation, and active traffic management including variable speed limits and managed lanes); and transportation system analysis and network modeling.



Dr. Andrew Farkas is Director of the National Transportation Center and Professor of Transportation at Morgan State University in Baltimore, Maryland. He has responsibilities for managing a university transportation center and all of its research, education and technology transfer programs. He was appointed in 2011 to the Maryland Electric

Vehicle Infrastructure Council to help the state plan and prepare for electric vehicles. He has served as president of the Council of University Transportation Centers. In 2011 the American Road and Transportation Builders Association presented its S.S. Steinberg Outstanding Educator Award to him for his contributions to transportation education.



Finch Fulton is Deputy Assistant Secretary for Transportation Policy. He served as a member of the President's Transition Team, focusing on Transportation and Infrastructure Policy, and with the Department of Transportation as a Special Advisor to the Secretary on Transportation Policy. He has served in the House of Representatives under Congressman

Jim McCrery and Congressman John Fleming, M.D. and in the Senate for Senator Jeff Sessions. In addition, he has worked in public affairs at VOX Global, devising and executing integrated policy and advocacy campaigns. He is a native of Mobile, Alabama, a graduate of the University of Alabama, received his MBA from Johns Hopkins University and was most recently a resident of Dallas, Texas.



Chris Hendrickson is a Hamerschlag University Professor, in the College of Engineering and Heinz College. In this role, Hendrickson helps identify external funding opportunities and matches them with promising research, often working in collaboration with Carnegie Mellon's Offices of Government and Corporate Relations. Chris Hendrickson is a member of the National Academy of Engineering and Editor-in-chief of the ASCE J. of Transportation

Engineering. His research, teaching and consulting are in the general area of engineering planning and management, including design for the environment, project management, transportation systems, finance and computer applications.



Jill Hough is the director of UGPTI's Small Urban and Rural Transit Center, focusing on research, education, and training. Hough, with more than 20 years of experience in transportation, has authored or co-authored more than 60 research reports and journal articles. She is the instructor of two graduate courses, "Public Transportation" and "Leadership, Ethics and Academic Conduct." Dr. Hough served two three-

year terms on the National Academies of Science Transit Cooperative Research Program Oversight Project Selection (TOPS) committee, helping prioritize transit research needs in the United States. Hough testified on rural livability for the USDOT's Transportation Reauthorization Outreach Tour and she testified before the U.S. Senate Budget Committee regarding the importance of infrastructure in rural areas.



Caitlin Hughes is director of FHWA's Office of Freight Management and Operations, where she leads the delivery of Federal funding and programs, the regulation of truck sizes and weights, the development of freight policy, technical assistance, and research. She has a master's degree in public administration from the George Washington University and a B.A. from the University of Vermont.



Shri Iyer is the Senior Associate Director of the C2SMART USDOT Tier 1 University Transportation Center led by New York University. He is primarily responsible for agency/industry outreach and strategic planning of the center, as well as overseeing the operations of the center. Prior to C2SMART, Shri worked at MTA New

York City Transit, promoting data-driven policy and analysis within the agency. He is also experienced in working with other New York City-area agencies, and brings with him extensive knowledge of the regional transportation system. Shri holds a M.S. in Civil Engineering (transportation) from Rutgers University.



David Kack is Director of the Small Urban, Rural and Tribal Center on Mobility (SURTCOM) at the Western Transportation Institute (WTI) and has eighteen years of experience in public transportation coordination, management, and planning. He has worked on numerous projects to develop and improve rural passenger

transportation systems, including creating the *Montana Coordinated Transportation Handbook*® and conducting intercity bus service studies in both Montana and Wyoming. Mr. Kack has helped three communities in Montana start public transportation systems and has an on-going management role with two of those systems. David has extensive experience working with the public and cultivating multi-agency institutional relationships to support transportation development.



Evangelos Kaisar has pursued his Bachelor, Master of Science and Doctor of Philosophy in Civil Engineering at the University of Maryland of College Park, Maryland. He is an Associate Professor at Florida Atlantic University (FAU). In addition, he is the Director of Freight Mobility Research Institute, Geomatics and Transportation Engineering program and Multimodal Intelligent Transportation Systems laboratory (MITSL) at Florida Atlantic University. His professional interests are Freight Transportation and Logistics/Container Transportation, Transportation Network Modeling and Optimization, Mathematical and Large-Scale Simulation Modeling, Emergency Response, Infrastructure Resilience/ Supply Chain Security, Transportation Management, Innovative Highway Geometric Design and simulation, Transit Network Planning and Design, and System Engineering and Integration.



Cole Kopka has acted as Assistant Director of PacTrans for two years. He has a Bachelor's Degree in Civil Engineering from the University of Iowa, a Master's Degree in Urban Planning from the University of Washington, and is currently a PhD candidate in transportation engineering at the University of Washington under the supervision of PacTrans Director, Dr. Yinhai Wang. While in graduate school Cole conducted research for the Runstad Center for Real Estate Studies, and has worked with Alta Planning and Design, a national bike/ped transportation planning consultant.



Katherine Kortum is a Senior Program Officer at the Transportation Research Board where she creates and guides committees that provide recommendations on transportation policy, including regulation of new mobility options

(including Uber and Lyft), future interstate funding options, evidentiary protection of transit data, transit asset management, development of federal research plans, and intercity passenger travel. In 2015-2016, she was also a Robert Bosch Fellow, working with the Innovationszentrum für Mobilität und gesellschaftlichen Wandel GmbH (InnoZ) in Berlin, Germany, on shared and integrated mobility research projects. She holds an MS and PhD in Transportation Engineering from The University of Texas at Austin and a BS in Civil Engineering from the University of Pittsburgh. She is a Professional Engineer in the District of Columbia.



Steve Lavrenz is a Technical Programs Manager for the Institute of Transportation Engineers and the Director of Technical Services for the National Operations Center of Excellence in Washington, D.C. Dr. Lavrenz serves as a subject matter expert for ITE on policy and research pertaining to transportation safety, planning, and operations. He has an extensive record of peer-reviewed publications in these areas and is actively involved with several

related TRB committees and the National Cooperative Highway Research Program. He also serves as an adjunct professor at Catholic University in Washington, D.C., teaching courses in econometrics and transportation systems management. Dr. Lavrenz received his B.S. and M.S. degrees in Civil Engineering from Iowa State University, and his Ph.D. in Civil Engineering from Purdue University.



Ken Leonard is the Director of the U.S. Department of Transportation Intelligent Transportation Systems Joint Program Office. He is a member of Federal government's Senior Executive Service. Mr. Leonard has over 30 years of federal government and private sector leadership experience providing solutions, innovation, and thought leadership in the areas of

transportation, energy, investment, defense, environment, regulatory affairs, and information systems. He brings a unique perspective and understanding of what must be accomplished to conduct research, develop capabilities and implement successful intelligent transportation strategies. Mr. Leonard is a graduate of the George Washington University School of Public and International Affairs. Additionally, he has completed graduate-level studies in economics and finance.



Karen Lightman is Executive Director of Metro21: Smart Cities Institute at CMU. Karen's experience spans from economic development to leading worldwide coalitions based on emerging technologies.

Recognized as a leader in the MEMS (MicroElectroMechanical Systems) industry, Karen helped start and led the MEMS & Sensors Industry Group (MSIG), the largest industry consortium solely focused on MEMS and sensors. Karen has expertise with commercializing academic research, building industry-based consortiums and strategically leading teams to explore market-based opportunities. Karen is an internationally recognized keynote speaker and overall authority on the MEMS industry. Karen has a BA from the University of Vermont and a MS from Carnegie Mellon University's Heinz College.



James Misener is Senior Director, Technical Standards, leading automotive and transportation standards activities for Qualcomm, with expanded role to include development and executing strategies to establish cellular V2X ecosystems and foster global deployment. This ecosystem shift includes adaptation of ITS standards and application protocols, compliance and certification, trade association strategy and industry/government acceptance. Jim also serves as an Advisory Council member to the Carnegie Mellon University/University of Pennsylvania Transportation Center, Technologies for Safe and Efficient Transportation. Jim was early pioneer in vehicle-highway automation and vehicle safety communication at the California Partners for Advanced Transit and Highways (PATH) at UC Berkeley, beginning in the mid 1990s. Jim holds BS and MS degrees from UCLA and USC.



Raj Rajkumar is the Director of Metro21 Institute, the T-SET National USDOT University Transportation Center for Safety, Mobility21, a USDOT National University Transportation Center for Mobility. Raj is the George Westinghouse professor at CMU's Department of Electrical and Computer Engineering. Raj also serves as Co-Director of the General Motors-Carnegie Mellon Information Technology Collaborative Research Laboratory. His work is primarily in cyber-physical systems, such as autonomous driving and vehicular networks, and wireless/sensor networks, including the creation of Nano-RK, the reservation-based real-time operating system (RTOS). Raj has won six best paper awards, and his paper on Priority Inheritance Protocols proposed a solution to 'priority inversion problem,' allowing for the success of the 1997 Mars Pathfinder Mission.



Shari Schaftlein has 32 years of public service spanning tribal, state, and federal governments and nonprofit. She has held leadership positions in the FHWA Office of Planning, Environment, and Realty for 14 years. Currently as Director of the Office of Human Environment, she supervises three teams with responsibilities for: financial oversight of the Office

research program; advancing multimodal connectivity by addressing bicycle and pedestrian networks, environmental justice, and economic development; accelerating project delivery through application of context sensitive design principals; implementing the Transportation Alternatives Program; and, administering procedures and standards for modifying the National Highway System and the Strategic Highway Network.



Jeffrey Short is a Senior Research Associate with the American Transportation Research Institute (ATRI). His areas of expertise include freight data management and analysis, transportation policy, and freight-related safety, technology, and performance measurement. Mr. Short

has played an integral role in the development of ATRI's Freight Performance Measures (FPM) program working directly with vehicle probe data. Using GIS and statistical computing tools, he has built systems for measuring travel time, speed and reliability of freight movement across the nation's highway system, urban corridors and international border crossings. Mr. Short holds a BA from Emory University and an MS from the Georgia Institute of Technology.



Caesar Singh is the Director of University Grants Programs at the US Department of Transportation. He has been in the transportation industry for more than thirty years involved in a diverse range of surface transportation projects and programs, from remote sensing technology applications in

transportation, transportation planning, traffic and highway engineering, intelligent transportation systems, to supply chain management and transportation logistics. His extensive transportation experience, in both private and public sectors, covers areas of planning, operations, design and management of transportation projects nationally and internationally. Mr. Singh is a registered licensed professional engineer and he received his B.S. in Civil Engineering from the Indian Institute of Technology, India and his M.S. in Transportation Planning and Engineering from the University of Illinois, Chicago.



Vincent Valdes is the Associate Administrator for FTA's Office of Research, Demonstration and Innovation since 2008. He leads a group of program managers, transportation specialists and engineers who work on FTA's critical transit research program. The program provides a forum for transit research at the national level and facilitates the

development of innovative transit practices and technologies to support national public transportation. In the public and private sectors, Vincent has led work in various fields including engineering, transportation research, urban and regional planning, neighborhood economic development, environmental protection, and international development. Vincent graduated with a degree in Engineering from Boston University and received a Master's of Science in Urban Planning from Columbia University.

Attendees

(listed in alphabetical order by last name, as of April 9)

First Name	Last Name	Organization
David	Anderson	US Department of Energy / Vehicle Technologies Office
Rachel	Beyerle	National Aging and Disability Transportation Center
Scott	Bogren	Community Transportation Association of America
Stan	Caldwell	Carnegie Mellon University
Timothy	Canan	Metropolitan Washington Council of Governments
Andrew	Carpenter	Community Transportation Association of America
JaLissa	Coffee	Conference of Minority Transportation Officials
Marie	Coleman	Carnegie Mellon University
Brian	Cronin	Federal Highway Administration
Jennifer	Dill	National Institute for Transportation & Communities, Portland State University
Denise	Dunn	US Department of Transportation
Nicole	DuPuis	National League of Cities
Sahar	Esfandyari	Mobility Lab
Wei	Fan	The University of North Carolina at Charlotte
Andrew	Farkas	Morgan State University
Paul	Feenstra	PACCAR, Inc.
Emily	Feenstra	American Society of Civil Engineers
Kelly	Fleming	Department of Energy
Honorable Finch	Fulton	US Department of Transportation
Sue	Gander	National Governors Association
Katy	Getsi	MetroLab Network
Ethan	Goffman	Mobility Lab

First Name	Last Name	Organization
Allen	Greenberg	Federal Highway Administration
Sheryl	Gross-Glaser	Community Transportation Association of America
Adrian	Guan	SAE International
Art	Guzzetti	American Public Transportation Association
Hau	Hagedorn	TREC at Portland State University
Chris	Hendrickson	Carnegie Mellon University
Jill	Hough	North Dakota State University
Caitlin	Hughes	US Department of Transportation
Shri	Iyer	C2SMART Center at NYU
David	Kack	Small Urban, Rural and Tribal Center on Mobility (SURTCOM)
Evangelos	Kaisar	Florida Atlantic University
Robin	Kline	US Department of Transportation
Robert	Koch	Community College of Allegheny County
Cole	Kopca	PacTrans
Katherine	Kortum	Transportation Research Board
Melanie	Laird	American Road & Transportation Builders Association
Naveen	Lamba	Grant Thornton
Steven	Lavrenz	Institute of Transportation Engineers
Ken	Leonard	ITS Joint Program Office OST-R
Ben	Levine	MetroLab Network
Shidong	Li	Carnegie Mellon University
Chan	Lieu	Venable LLP
Karen	Lightman	Carnegie Mellon University
Alyssa	Lyon	Pittsburgh Community Reinvestment Group
Paul	Mackie	Mobility Lab
David	Manchas	Food & Drug Administration
Vince	Mantero	Federal Highway Administration
Ken	McLeod	The League of American Bicyclists
James	Misener	Qualcomm

First Name	Last Name	Organization
Jeff	Moller	Association of American Railroads
Austin	Montgomery	Carnegie Mellon University Software Engineering Institute
Siva	Narla	Institute of Transportation Engineers
Sarah	Oleksak	U.S. Department of Energy
Mark	Pace	Montgomery College
Victoriaons	Parsons	ITSA
Jessa	Paruch	Booz Allen Hamilton
Jason	Pavluchuk	Pavluchuk & Associates
Dana	Peck	Deloitte
Raj	Rajkumar	Carnegie Mellon University
Nicholas	Ramfos	Metropolitan Washington Council of Governments
Andy	Richman	Carnegie Mellon University
Alex	Romoff	Heinz College, Carnegie Mellon University
Michael	Sakata	American Road & Transportation Builders Association
Shari	Schaftlein	Office Of Human Environment, Federal Highway Administration
Lance	Schnur	Bombardier Transportation
Lisa Kay	Schweyer	Carnegie Mellon University
Jeffrey	Short	American Transportation Research Institute
Cesar	Singh	University Transportation Centers Grants Program
Sam	Snead	US Department of Transportation
Kanti	Srikanth	Metropolitan Washington Council of Governments - Transportation Department
Amy	Stearns	US Department of Transportation/Ofc of Assist. Sec'y for Research
Yolanda	Stewart	National Aging and Disability Transportation Center

First Name	Last Name	Organization
David	Straus	Association for Commuter Transportation
Rachel	Sturm	AAA National
Rich	Taylor	Federal Highway Administration - Office of Operations
Ron	Thaniel	ITS America
Dawn	Tucker-Thomas	US Department of Transportation
Vincent	Valdes	Federal Transit Administration - Demonstration and Innovation
Tom	Weakley	OOIDA Foundation
Andrew	Wishnia	Environment and Public Works Committee
Felicia	Woodruff	Woodruff Company Engineered Solutions
Mohammed	Yousuf	Federal Highway Administration
Erich	Zimmermann	National Association of Regional Councils

Notes

Notes

Watch for your invite to

**The Second Annual
National Mobility Summit
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April 2019 - Washington, DC

We hope you will join us!