

Committee for a Study on the Feasibility of Wheelchair Restraint Systems in Passenger Aircraft

Committee

Alan M. Jette

Chair

Alan M. Jette (NAM) is Emeritus Professor and Dean at Boston University's Sargent College of Health & Rehabilitation Sciences. He also serves as a Professor of Rehabilitation Sciences at the Massachusetts General Hospital Institute of Health Professions. He was Professor of Health Policy & Management in the Boston University School of Public Health from 2005-2017. He is an international expert on rehabilitation and a leader in developing patient-centered rehabilitation outcome measures in a range of challenging clinical areas such as work disability, post-acute care, spinal cord injury, and neurological, orthopedic, and geriatric conditions. He has authored more than 250 publications in the rehabilitation sciences field and served as a principal investigator for numerous studies funded by the National Institutes for Health, the National Institute on Disability, Independent Living, and Rehabilitation Research, the Agency for Healthcare Quality and Research, and several foundations. He has served as a member of more than a dozen NASEM boards and committees. He chaired the Institute of Medicine (IOM) committee that authored the 2007 report, "The Future of Disability in America." In addition to co-chairing the IOM Forum on Aging, Disability, and Independence he was chair of the IOM Committee on the Use of Selected Assistive Products and Technologies in Eliminating or Reducing the Effects of Impairments. Dr. Jette has received numerous professional awards and honors, including the American Physical Therapy Association's McMillan Award and the Foundation for Physical Therapy's Charles M. Magistro Distinguished Service Award. He was elected to the National Academy of Medicine in 2013. He earned a bachelor's degree in physical therapy from the State University of New York at Buffalo and a master's degree and Ph.D. in public health from the University of Michigan.

Naomi Armenta

Member

Naomi Armenta is Senior Associate in the Oakland, California office of Nelson Nygaard, which is a transportation and mobility planning consultancy. Her expertise is in planning accessible transportation with a focus on people with disabilities, seniors, and equity issues. She served as the Paratransit Coordinator for the Alameda County Transportation Commission from 2006 to 2016. She has also worked on projects in Contra Costa and Santa Clara Counties and for the Bay Area Rapid Transit (BART) system, the Metropolitan Transportation Commission (MTC), and the California State Transportation Agency. She has been affiliated with Nelson Nygaard for 14 years. Prior to starting her career in transportation, she worked in the field of human resources for the U.S. Army and U.S. Air Force Exchange Service and the City College of San Francisco. She is Chair of the Bay Area Regional Mobility Management Group and is active in the Women's Transportation Seminar (WTS). In 2014, she received the Bay Area WTS Rosa Parks Diversity in Leadership Award and the MTC Doris W. Kahn Accessible Transportation Award. She earned a bachelor's degree from the University of California, Berkeley in anthropology and psychology, and a master's degree in transportation management from the Mineta Transportation Institute at San Jose State University.

Peter W. Axelson

Member

Peter W. Axelson is Founder and Director of Research and Development of Beneficial Designs, Inc., a rehabilitation engineering design firm that works towards universal access through research, design, and education. The company has developed a variety of technologies to improve seating and mobility systems for people who use wheelchairs, as well as design improvements for recreational and fitness equipment for people with mobility impairments. Beneficial Designs has guided the development of universal design standards for sidewalks, trails, ski areas, amusement parks, playgrounds, and other outdoor recreation environments. Mr. Axelson has served on the American Trails Board of Directors, standards committees for the Recreation Access Advisory Committee to the U.S. Access Board, and the Regulatory Negotiation Committee on Outdoor Developed Area Guidelines. He is Secretary of the RESNA Standards Committee on Adaptive Ski Equipment and the RESNA Standards Committee on Wheelchairs. He serves on the Board of Directors of the Paralyzed Veterans of America Research Foundation. He is a regular guest lecturer in the Perspectives in Assistive Technology course at Stanford University. He earned bachelor's and master's degrees in mechanical engineering and product design from Stanford University.

Rory A. Cooper

Member

Rory A. Cooper is Associate Dean, Distinguished Professor, and FISA Foundation and Paralyzed Veterans of America Professor of Rehabilitation Engineering in the School of Public Health and Rehabilitation Sciences at the University of Pittsburgh. He also holds appointments in the Departments of Mechanical Engineering, Bioengineering, Orthopedic Surgery, and Computer Science (Robotics Institute). He is Founder, Director, and CEO of the U.S. Department of Veterans Affairs Human Engineering Research Laboratories at the University of Pittsburgh and Senior Research Career Scientist and Research Center Director for the U.S. Department of Veterans Affairs. From 1997 to 2018, he served as Chair of the Department of Rehabilitation Science and Technology at the University of Pittsburgh. His research has centered on the engineering, invention, design, evaluation, and transfer of assistive technologies, including wheelchairs, robotics, and smart devices. He has authored more than 350 peer-reviewed journal papers and 10 books in the field of rehabilitation science and engineering and holds more than 20 patents. Among his many honors, he has been named a Fellow of the American Association for the Advancement of Science, Royal Society of Medicine, National Academy of Inventors, and Biomedical Engineering Society. He was a member of the NASEM Committee on the Use of Selected Assistive Products and Technologies in Eliminating or Reducing the Effects of Impairments. Dr. Cooper earned a B.S. and M.S. in electrical engineering from California Polytechnic State University and a Ph.D. in electrical and computer engineering from the University of California, Santa Barbara.

Karen J. Erazo

Member

Karen J. Erazo is the retired Manager of Legal Affairs at Sun Country Airlines, where she worked for 28 years, including positions as a Customer Service Agent and Customer Service Manager. At Sun Country, she was responsible for ensuring compliance with a number of federal statutory and regulatory requirements, including those from the Aviation Disaster Family Assistance Act and the Air Carrier Access Act. She responded to employee and passenger complaints filed with the EEOC, U.S. DOT, and OSHA and investigated passenger claims for injury, loss, and harassment. She was responsible for establishing the airline's policies and procedures for ensuring compliance with federal regulations on non-discrimination on the basis of disability in air travel, including responsibility for training employees on compliance. She led the development of the airline's initial Critical Incident Response Plan program for flight attendants. As Sun Country's representative, she attended the U.S. DOT's Access Advisory Committee for a 2016 negotiated rulemaking on accessible in-flight entertainment; lavatories, and the definition of service animals. She earned a bachelor's degree from the University of Minnesota.

Francis S. Heming, Jr.

Member

Francis S. Heming, Jr. is an independent consultant specializing in the testing and certification of aircraft seating systems, including dynamic test planning, implementation, and witnessing. For nearly 25 years, he worked for Goodrich Interiors, retiring as Chief Engineer for Certification in 2015. While working for Goodrich Interiors, he served as Vice Chair and Chair of the SAE Aircraft Seat Committee, which is responsible for the development of aircraft seat systems design and performance standards in conformance with FAA and international regulations. He is an FAA Designated Engineering Representative for aircraft seats and interior arrangements. Before joining Goodrich he worked for 20 years for the U.S. Department of the Air Force, retiring as program manager in 1990. He holds a bachelor's degree in engineering mechanics from the U.S. Air Force Academy, a master's degree in applied mechanics from Stanford University, and a Ph.D. in mechanical engineering from Carnegie Mellon University.

Kevin L. Hiatt

Member

Kevin L. Hiatt is a safety practitioner who consults on the application of safety management systems in the transportation industry. He is a retired airline pilot and executive. He has more than 40 years of aviation industry experience, including in the areas of flight operations, safety and security, and environmental administration. From 2015 to 2017 he was Director of Flight Safety for JetBlue Airways, where he oversaw flight operational safety issues and aided in the development and implementation of the airline's safety management system. Prior to joining JetBlue, he served as Senior Vice President of Safety and Flight Operations for the International Air Transport Association (IATA) where he was responsible for six worldwide operational and safety divisions with more than 100 team members. Before joining IATA, he was President and CEO of the Flight Safety Foundation, an international non-profit organization that provides independent expert safety guidance and resources for the aviation and aerospace industry. Prior to joining the Flight Safety Foundation, he was Vice President of Safety and Security at World Airways and worked for 26 years as a pilot for Delta Air Lines. He retired from Delta as Captain and Chief Pilot for International Operations. He is the recipient of several aviation safety awards, including the Flight Safety Foundation's President's Award, Royal Aeronautical Society Fellow, the SAFE Industry's General Spruance Award for outstanding safety education program. He earned a bachelor's degree in aviation from Purdue University.

Katharine M. Hunter-Zaworski

Member

Katharine M. Hunter-Zaworski is an Associate Professor in the School of Civil and Construction Engineering at Oregon State University, where she also serves as chair of the Subcommittee on Gerontology for the Center on Healthy Aging Research. Her area of expertise is in rehabilitation and transportation engineering for accessible transportation. From 2003 to 2014 she was Director of the National Center for Accessible Transportation and from 2003 to 2009 she was Director of the Rehabilitation Engineering Research Center for Accessible Public Transportation. During her 40-year career, she has authored numerous journal papers and served as principal investigator for dozens of studies on improving bus, rail, and airline accessibility for persons with disabilities; wheelchair securement and restraint in public transportation vehicles; and the barriers and safety risks for transportation-disadvantaged air travelers. She has consulted extensively on accessible transportation, including on projects for rail and transit systems in Vancouver and elsewhere in British Columbia and Canada. She has worked on making train and aircraft lavatories more accessible. She is Emeritus Member of TRB's Committee on Accessible Transportation and Mobility, a member of the TRB Rail Rolling Stock and Motive Power Committee, and a past member of the TRB Airport Terminals and Ground Access Committee. She was principal investigator for Transit Cooperative Research Program (TCRP) Report 171, "Use of Mobility Devices on Paratransit Vehicles and Buses" and TCRP Report 189, "Manual to Improve Rail Transit Safety at Platform/Train and Platform/ Guideway Interfaces." She is currently principal investigator for the Airport Cooperative Research Program synthesis project on Escalator Falls. She earned a B.S. in mechanical engineering from the University of British Columbia, a M.S. in engineering science and mechanics from the University of Tennessee, Knoxville, and a Ph.D. in civil engineering from Oregon State University.

George A. Lesieutre

Member

George A. Lesieutre is Associate Dean for Research in the College of Engineering, The Pennsylvania State University. From 2004 to 2016, he was Head of the Department of Aerospace Engineering, and from 2005 to 2018 he was Director of the Center for Acoustics and Vibration. His expertise is in the structural dynamics of aerospace systems. He joined Penn State in 1989 after having worked in Rockwell International's Satellite Systems Division, where he was responsible for analysis and testing of spacecraft structures. In 2010 he was elected to the Board of Directors of the American Institute of Aeronautics and Astronautics (AIAA), which he served as Director-at-Large, and was named an AIAA Fellow in 2009. He was a member of the Materials Panel of ASEP's NASA Technology Roadmap. He earned a B.S. in Aeronautics and Astronautics from MIT and Ph.D. in Aerospace Engineering from UCLA.

Miriam A. Manary

Member

Miriam A. Manary is Lead Research Engineer in the Biosciences Group of the University of Michigan Transportation Research Institute (UMTRI). She has worked for UMTRI for more than 30 years conducting research in the fields of wheelchair transportation safety, child passenger safety, occupant protection, vehicle ergonomics, and occupant accommodation. She conducts and supervises sled-impact evaluations of child restraints, wheelchairs, wheelchair-securement systems, and wheelchair-occupant restraint systems. In addition to her expertise in wheelchair transportation safety, she has extensive experience in the analysis of motor vehicle crashes, crash dummy design, injury criteria development, occupant anthropometry and posture qualification, engineering analysis of federal motor vehicle safety standards, child passenger safety, and the factors affecting child restraint installation errors. She is Chair of the RESNA Committee on Wheelchairs and Transportation and led the 2012 and 2017 revisions of the RESNA Standards on Wheelchairs and Transportation. She has served as the head of the U.S. delegation for ISO TC173/SC1/WG6 and has led the development efforts on ISO 7176-19 (Wheelchairs Used as Seats in Motor Vehicles) and ISO 10542-1 (Wheelchair Tiedowns and Occupant Restraint Systems). She also participates in SAE and ISO committees focused on child restraints. She holds a bachelor's degree in biomedical engineering from Tulane University and a master's degree in bioengineering from the University of Michigan.

Clinton V. Oster, Jr.

Member

Clinton V. Oster, Jr. is Professor Emeritus and former Associate Dean for the Paul H. O'Neill School of Public and Environmental Affairs, Indiana University. His research has centered on aviation safety, airline economics and competition policy, energy policy, and environmental and natural resource policy. He has co-authored five books on various aspects of air transportation including "Deregulation and the Future of Intercity Passenger Travel" with John Meyer, and "Why Airplanes Crash" with John Strong and C. Kurt Zorn. He has chaired and served on numerous NASEM committees, including Chair of the Committee for the Study of Traffic Safety Lessons from Benchmark Nations, Chair of the Committee on the Federal Employers' Liability Act, Chair of the Committee on the Effects of Commuting on Pilot Fatigue, and Co-chair of the Committee on NASA's National Aviation Operational Monitoring Service Project. He was a member of the Committee for Guidance on Setting and Enforcing Speed Limits, the Committee for a Study on Air Passenger Service and Safety since Deregulation, and the Committee on the Intercity Passenger Travel: Opportunities and Issues in Short-Haul Markets. He holds a bachelor's degree in engineering from Princeton University, a master's degree in public affairs from Carnegie-Mellon University, and a Ph.D. in economics from Harvard University.

Gary M. Weissel

Member

Gary Weissel is Founder and Managing Officer of Tronos Aviation Consulting, which provides a wide variety of services to airlines, leasing companies, OEMs, and suppliers in the aviation industry, including services pertaining to aircraft interiors and modifications and conversions. In this position, he leads all of the firm's activities including asset management, aircraft specification and interior management, market forecasting, and OEM strategy consulting. Prior to starting Tronos, he was the co-Managing Officer of ICF SH&E's Aviation and Aerospace Practice where he led the firm's staff of more than 50 consultants in 7 offices worldwide. Before joining ICF SH&E, he was a Senior Program Manager with B/E Aerospace's Seating Products Group where he ran numerous seating programs for major international airlines. Prior to that, he spent nine years with Delta Air Lines in various positions within their engineering and technical specification departments. He is a member of the Senior Advisory Board for the Georgia Institute of Technology's School of Aerospace Engineering, and regularly guest lectures at the School. He was the lead author for IATA's Guide on Best Practices Guide for cabin interior retrofits and entry into service programs. He is a frequent speaker at industry conferences, is regularly quoted in industry publications, and has appeared on CNN and NBC Nightly News as an aviation expert. He holds a bachelor's degree in aerospace engineering from the Georgia Institute of Technology.