FAA Planning for Air Traffic Control Facility Staffing

Committee

William J. Strickland

Chair

William J. Strickland retired in 2018 as president and chief executive officer of the Human Resources Research Organization (HumRRO) in Alexandria, Virginia. Prior to his appointment as CEO in 2008, he was a HumRRO vice president, directing its Workforce Analysis and Training Systems Division. Before joining HumRRO, Strickland served in the U.S. Air Force, and retired with the rank of colonel. In his last Air Force assignment, Strickland directed all Air Force research in the areas of recruiting, personnel selection and classification, technical and aircrew training, and logistics. He is a Fellow of the American Psychological Association, the Society for Industrial and Organizational Psychology, and the Society for Military Psychology. Strickland served on the national Board of Directors for APA, as well as its Policy and Planning Board and its Council of Representatives. He is a graduate of the U.S. Air Force Academy and earned a Ph.D. in industrial and organizational psychology from The Ohio State University. In addition to many other NRC committees, Strickland previously served on NRC committees addressing FAA staffing standards for aviation safety inspectors and for systems specialists in aviation.

Hamsa Balakrishnan

Member

Hamsa Balakrishnan is the William E. Leonhard Professor of Aeronautics and Astronautics at the Massachusetts Institute of Technology (MIT), where she leads the Dynamics, Infrastructure Networks, and Mobility (DINaMo) Research Group. Her current research interests are in the design, analysis, and implementation of control and optimization algorithms for large-scale cyber-physical infrastructures, with an emphasis on air transportation systems. These include airport congestion control algorithms, air traffic routing and airspace resource allocation methods, machine learning for weather forecasts and flight delay prediction, and methods to mitigate environmental impacts. Her research spans theory and practice, including both algorithm development and real-world field tests. She was a recipient of the American Automatic Control Council's Donald P. Eckman Award in 2014, the AIAA Lawrence Sperry Award in 2012, the inaugural CNA Award for Operational Analysis in 2012, the Kevin Corker Award for Best Paper at the Air Traffic Management R&D Seminar (in 2011, 2021 and 2023), MIT AIAA Undergraduate Teaching Award in 2019, the MIT AIAA Undergraduate Advising Award in 2014, and the NSF CAREER Award in 2008.

Mathias Basner

Member

Mathias Basner is a Professor and Director of the Behavioral Regulation and Health Section in the Department of Psychiatry at the University of Pennsylvania Perelman School of Medicine. Before his tenure at the University of Pennsylvania, he worked at the German Aerospace Center where he headed the Flight Physiology Division in the Institute of Aerospace Medicine between 2007 and 2008. His primary research interests concern the effects of sleep loss on behavior and cognition, population studies on sleep time and waking activities, the effects of traffic noise on sleep and recuperation, and the effects of long-duration space missions on behavior and cognition. Dr. Basner is Past President of the International Commission of Biological Effects of Noise (ICBEN). He has published 142 peer-reviewed articles and reviews. He is Senior Associate Editor of the journal Sleep Health and editorial board member of the journal Frontiers in Physiology, and a member of the Sleep Research Society (SRS) and the International Academy of Astronautics (IAA). Dr. Basner is advisor to the World Health Organization (WHO) concerning traffic noise effects on sleep. He served as a committee member on a previous TRB study on Air Traffic Control facility staffing from 2012 to 2014.

James Carr

Member

James Carr is the Director Corporate Performance and Sustainability at NAV CANADA, responsible for air traffic forecasting, organizational performance metrics, air traffic management operational and environmental performance reporting, analysis, and fast-time simulation. Additionally, James leads NAV CANADA’s Environmental, Social and Governance (ESG) strategy. He is the Chair of the Civil Air Navigation Services Organization (CANSO) Global Benchmarking Working Group (GBWG) and participates in International Civil Aviation Organization (ICAO) financial, forecasting, operational performance, and environmental working groups. Mr. Carr has served as a commercial pilot, terminal air traffic controller and training supervisor, major tower and terminal manager, human performance manager and safety investigator instructor. He has Master of Aeronautical Science specializing in human factors and system safety from Embry-Riddle Aeronautical University.

Jason C. Cude

Member

Jason C. Cude serves as the Managing Director of Pilot Crew Planning at Delta Air Lines, with the responsibility to develop and execute staffing plans for pilots, determining pilot hiring requirements, building and awarding monthly pilot schedules, and performing data analytics in support of pilot staffing. Mr. Cude has 27 years of progressive experience working in the airline industry across multiple disciplines, including Crew Resource Planning, Finance, Procurement, Regional Carrier Operations, and Data Analytics. For most of the past 20 years, Mr. Cude's roles have related to crew staffing and planning, which carries a high level of complexity due to airline crew staffing being required to adhere to federal aviation regulations and labor union contracts, while simultaneously managing operating costs and providing strong operational performance for airline customers. Mr. Cude's educational experience includes both a M.B.A. from Embry-Riddle Aeronautical University and a B.S. in Aeronautical Engineering from Purdue University.

Ginger Evans

Member

Ginger Evans is a semi-retired advisor to various transportation entities and serves as Chief Strategy Officer for Carlyle Airports Group, based in Washington, DC. She was Director of Aviation for two major airports: Denver International and O'Hare/ Midway International Airports and served as Vice President of Engineering for Metropolitan Washington Airports Authority. For O'Hare oversaw noise mitigation program and various airfield improvements that involved coordination and approval from FAA Air Traffic. For MWAA, she oversaw program to rectify irregular taxiway geometry at DCA. For DEN, she coordinated highly efficient airfield configuration and instrumentation with FAA Airports and Air Traffic Divisions. In the private sector, she managed numerous airport capital programs at 15 US airports, 2 Canadian airports, Lisbon, Quito, Mexico City, Hamad International, Abu Dhabi, and Al Duqqam. Transit projects she has worked on include: Dulles Silver Line, MTA Oversight, MIA Mover, DIA light rail station, and HIA Dopplemayr. She served on the TRB Executive Committee from 2018 to January 2024.

Karen Feigh

Member

Karen M. Feigh is a Professor and Associate Chair for Research at Georgia Tech's Daniel Guggenheim School of Aerospace Engineering with a courtesy appointment in the School of Interactive Computing. She leads a research and education program focused on the computational cognitive modeling and design of cognitive work support systems and technologies to improve the performance of socio-technical systems. Feigh has over 15 years of relevant research and design experience in fast-time air traffic simulation, airline operation control centers, expert systems for air traffic control towers, human-robot interaction, and the impact of context on undersea warfighters. Recently her work has focused on human-autonomy teaming and the human experience of machine learning across a number of domains. As part of her research, Dr. Feigh has published over 40 scholarly papers in the field of Cognitive Engineering with primary emphasis on the aviation industry and decision making. She is an associate editor for the AIAA Journal of Aviation Information Systems, and the chair of the AIAA Human Machine Teaming TC. She previously served on the National Academies' Aeronautics and Space Engineering Board (ASEB), and as an associate editor for the HFES Journal of Cognitive Engineering and Decision Making, the VFS Journal, and the IEEE Transactions on Human Machine Systems.

Timothy O. Johnson

Member

Timothy O. Johnson is an Assistant Professor at the School of Engineering, Architecture, and Aviation (SEAA) at Hampton University (HU), VA. He is the program director for air traffic control at the university, and the program manager for the FAA's Air Traffic-Collegiate Training Initiative for HU. He is also a retired member of the United States Air Force, serving 20 years as an air traffic controller. Mr. Johnson has been rated in multiple towers and radar facilities in the United States and Europe. He has also controlled air traffic on deployments in Iraq and Kuwait. He has a B. S. from Embry-Riddle Aeronautical University and holds an FAA AOV Credential.

Valerie M. Manning

Member

Valerie M. Manning is a member of the NASEM Air Force Studies Board, the Organization of Back Aerospace Professionals (OBAP) Board of Advisors, and the Wings Club Board of Governors. Dr. Manning recently served as the Chief Commercial Officer (CCO) of an electric vertical takeoff and landing (eVTOL) & advanced air mobility (AAM) company. In this role, she led development and the business & commercial strategy, product requirements, government affairs, mobility operations and in-service support and services. Dr. Manning served in executive P&L roles at Airbus in Europe, including SVP of Training & Flight Operations, SVP of Customer Support, and VP of Upgrade Services. During this tenure, she had responsibility for the relationships between Airbus and all aircraft owners, operators, pilots and maintainers of the more than 12,000 Airbus aircraft in service globally on a range of technical, operational, and business subjects. A retired United States Air Force officer and former McKinsey and Company consultant, Dr. Manning graduated from Princeton University with a BS in mechanical and aerospace engineering and earned her MS and PhD in aeronautics and astronautics from Stanford University. An associate fellow of the AIAA, Dr. Manning is a flight instructor and jet-rated commercial pilot, actively flying in both EASA and FAA jurisdictions.

Norman T. O'Meara

Member

Norman T. O’Meara is a senior fellow at the Logistics Management Institute, where, over the past 32 years, he has analyzed manpower, workforce planning, and resource allocation issues for a number of top-level governmental entities with emphases on the cabinet-level Departments of State, Defense, and Transportation. Dr. O’Meara served on several congressionally directed National Research Council committees to study the Federal Aviation Administration’s methods for estimating air traffic controller staffing requirements. He led the analytical team for the Department of Defense’s Joint Cross Service Group for Depot Maintenance in support of the department’s base realignment and closure recommendations and testimony before the commission. Dr. O’Meara has served with the Army Science Board on a number of studies regarding various issues identified by the Secretary of the Army. He received a Bachelor of Science degree from the United States Military Academy, Master of Science degrees in mathematics and operations research and statistics from Rensselaer Polytechnic Institute, and a Doctor of Science degree from George Washington University.

Philip J. Smith

Member

Philip J. Smith is a Professor of Integrated Systems Engineering at the Ohio State University. He is recognized as a leader in research on air traffic flow management, airline operations control, collaborative decision making (CDM) and the design of distributed work systems in the National Airspace System (NAS), as well as in the design of systems for the integrated management of airport surface and airspace constraints. He has extensive expertise in cognitive systems engineering, human factors engineering, artificial intelligence and human-automation interaction, applied to both the design and evaluation of distributed work systems. His research has included work on NASA and FAA initiatives involving departure and arrival flow management, airspace flow programs, collaborative routing, airport surface management, metroplex design, Trajectory Based Operations and the integration of unmanned aircraft systems into the NAS. He served as a member of a previous TRB committee to study the FAA's methodologies for estimating air traffic controller staffing standards from 1996 to 1997.

Kay M. Stanney

Member

Kay Stanney, NAE, is CEO and Founder of Design Interactive, Inc., a small business focused on empowering people with innovative technology. She is recognized as a leader in eXtended Reality (XR) systems, especially as related to human performance, cybersickness, and training solutions. Her research has influenced the design of current generation XR headsets, Universal Studios and Disney immersive experiences, Chevron, ExxonMobil, and Procter & Gamble human-system solutions, as well as numerous military XR systems. In 2019, she was inducted into the NAE for her contributions to human factors engineering through virtual reality technology and strategic leadership. In recognition of her impact on the XR field, Stanney was inducted into the inaugural 2022 class of the IEEE Virtual Reality Academy. She received a B.S. in Industrial Engineering from SUNY Buffalo, after which time she spent three years at Intel Corporation. She received her M.S. and Ph.D. in Industrial Engineering, with a focus on Human Factors Engineering, from Purdue University, after which time she spent 15 years as an Industrial Engineering professor at the University of Central Florida. Stanney served as a member of a previous TRB committee to study the FAA's methodologies for estimating air traffic controller staffing standards from 1996 to 1997.

John S. Strong

Member

John S. Strong is CSX Professor of Finance and Economics at the Raymond A. Mason School of Business, College of William & Mary. He received his MPP and Ph.D. from Harvard, and his undergraduate degree from Washington & Lee. He was a NSF Graduate Fellow and a Fulbright Scholar. Strong has expertise in the financial and economic analysis of air navigation systems and policy. He has co-authored books on airline deregulation, aviation safety, transport in the former Soviet Union, transport regulation, and air navigation. He has published journal articles and monographs on transport infrastructure, regulation and liberalization, transport safety, and railroad operations and governance. He has worked on transport sector projects for multilateral financial institutions and for U.S. DOT and GAO. Previous service as a consultant to TRB committee on airline deregulation and as a committee member on Truck Size and Weight Regulation.

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