

Elise Miller-Hooks, Ph.D.



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Dr. Elise Miller-Hooks holds the Bill and Eleanor Hazel Endowed Chair in Infrastructure Engineering in the Sid and Reva Dewberry Department of Civil, Environmental, and Infrastructure Engineering at George Mason University. She is also an advisor to the World Bank Group. Previously, Dr. Miller-Hooks served as Program Director of the National Science Foundation (NSF) Civil Infrastructure Systems Program in the Engineering (ENG) Directorate, lead Program Officer for the Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP) solicitation, and a cognizant program officer on CMMI's Smart and Connected Communities (i.e. Smart Cities) initiative (2014-2016). She served on the faculties of the University of Maryland, Pennsylvania State University and Duke University. Dr. Miller-Hooks received her Ph.D. (1997) and M.S. (1994) degrees in Civil Engineering from the University of Texas – Austin (UT) and B.S. in Civil Engineering from Lafayette College (1992). She has expertise in: disaster planning and response, e.g. urban search and rescue, building and regional evacuation and sheltering, and crowd modeling; multi-hazard civil infrastructure resilience quantification and infrastructure protection investment; sustainability, including carbon footprint estimation for construction and transportation and infrastructure investment strategies for climate change; stochastic and dynamic network algorithms; mathematical modeling and optimization; transportation systems engineering; intermodal passenger and freight transport; maritime transport and port operations; real-time routing and fleet management; delivery, paratransit, ridesharing and bikeways; and collaborative and multi-objective decision-making. Her research program has been funded by numerous agencies, including, for example, NSF, European Commission, Federal Highway Administration, U.S. Department of Transportation, state departments of transportation, and various agencies and companies. She received a NSF CAREER award, Charley Wootan Award for Best Ph.D. Dissertation from the Council of UTCs, and several other national awards related to her dissertation and ongoing research, including two best paper awards, and was inducted into the UT Civil, Architectural and Environmental Engineering Academy of Distinguished Alumni 2021. Dr. Miller-Hooks has authored approximately 165 articles and reports, and over 250 conference presentations/seminars with over 100 invited lectures (over 50 keynotes/plenaries/invited seminars on infrastructure resilience). She has served as principal investigator (PI) of ~ \$14 million in externally funded research; co-PI on 5 additional externally funded centers with combined > \$22 million in federal funds (\$44M with match) and co-PI on a Mason \$1.1 million center. She is the founding Editor-in-Chief of Elsevier's *Sustainability Analytics and Modeling* journal and serves on the editorial boards of *Transportation Science* (Associate Editor), *Operations Research* (Associate Editor - Policy Modeling and Public Sector OR Section), *Journal of Intelligent Transportation Systems*, *Transportation Research Part C* (Associate Editor), and *Big Data Analytics in Transportation*. She is past chair of the TRB Transportation Network Modeling Committee, founding Co-Chair of the TRB Task Force on Emergency Evacuation (now a full committee), and past president of the INFORMS (Institute for Operations Research and the Management Sciences) Transportation Science and Logistics Society (TSL) and the Women in OR/MS Forum (WORMS).