Seminar **Invite**
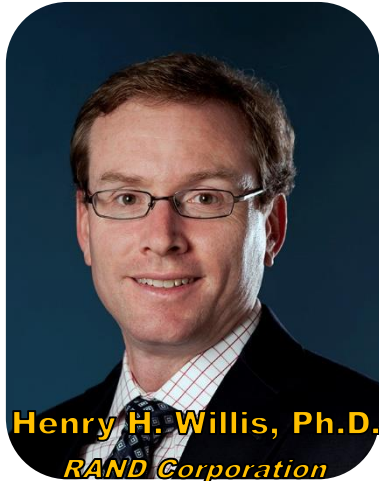
Characterizing Current and Future National Exposures of Infrastructure to Natural Disasters

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Biography: Dr. Henry H. Willis earned his Ph.D. in engineering and public policy at Carnegie Mellon University. He is the Associate Director of the Homeland Security Operational Analysis Center (HSOAC), a senior policy researcher at the RAND Corporation, and a professor of policy analysis at the Pardee RAND Graduate School. He is a recognized expert in homeland security risk management. Recent work analyzes terrorism warning indicators; border security efforts; critical infrastructure resilience; and national preparedness to chemical, biological, nuclear, and radiological attacks.

Dr. Willis is an active contributor to policy research having served as the risk management research theme leader at the DHS Center for Risk and Economic Analysis of Terrorist Events at the University of Southern California, and as a principal investigator at the DHS National Center for Border Security and Immigration at the University of Arizona. Through his work he testified before Congress; served on several committees of the National Academy of Sciences; advised government agencies across the United States, Europe, Australia, and the United Arab Emirates; and published dozens of journal articles, reports, and op-eds on applying risk analysis to homeland security policy. Dr. Willis is the treasurer of the Society for Risk Analysis and has served on the editorial board of the international journal Risk Analysis.

His work in homeland security policy evolved from his work on program evaluation at the White House Office of Management and Budget and infrastructure design as a water and wastewater engineer.

Abstract: The United States relies on several infrastructure systems- roads, the electric grid, ports, telecommunications networks, refineries, and the like- for carrying out basic social and economic functions. Disruptions of these systems could impose potentially significant economic, social, environmental and national security consequences. Communities, companies, and governments at all levels in the United States are making decisions that will influence where, what, and how these infrastructures will be built. These design and policy decisions shape infrastructure and influence economic development and future exposures to natural hazards for decades.

Population growth and shifts, particularly those on the coasts, drive demand for new infrastructure, and, as a result, increase the exposure of infrastructure to natural hazards. These natural hazard exposures are projected to be larger and more uncertain in the future because of the effects of sea level rise and projected changes in temperature and precipitation patterns. Thus, incorporating natural hazard risk assessment into infrastructure planning is becoming both increasingly important and challenging.

This seminar summarizes insights we gained about the exposures to United States infrastructure from natural hazards now and in the future. It draws on analysis of 11 natural hazards and 5 infrastructure sectors. This analysis identifies regions in the country where infrastructure may be uniquely exposed to a complex set of natural hazards. In those regions, analysis highlights the types of infrastructure that are exposed and the hazards that put them at risk. The analysis also reveals where infrastructure exposures may be expected to change most dramatically. Finally, the analysis reveals where infrastructure exposures remain most uncertain and where new data and analysis would be most valuable. Each of these findings can inform federal efforts to improve infrastructure and resilience planning.

DATE

August 27, 2019

TIME

10:00-11:00AM

VENUE

Engineering V Building, Room 2101

410 Westwood Plaza, Los Angeles, CA 90095

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