

International Journal of

EMERGENCY Management

Editor-in-Chief:

Prof. Marie-Christine Therrien

Visit www.inderscience.com/ijem
for more information and sample articles



**INDERSCIENCE
PUBLISHERS**

www.inderscience.com

Resilience on the periphery: understanding the impacts of population displacement on infrastructure systems beyond the disaster zone

Glenn Voelz

Infrastructure Management and Planning Program,
Department of Urban Design and Planning,
University of Washington,
410 Gould Hall, Box 355740, Seattle, WA 98195, USA
Email: gjvoelz@gmail.com

Abstract: This research examines how disaster-induced displacements in the United States impact communities on the periphery of disaster zones when demand pressures push infrastructure systems beyond their design capacity. As displacement events become more complex, disruptive, and prolonged, they threaten both ‘hard’ infrastructure systems (transportation, energy, water, and communications) as well as ‘soft’ infrastructure (healthcare systems, emergency response, public safety, and education). This research applies a comparative case study analysis, examining displacement during three disaster events: Hurricanes Katrina and Maria and the Camp Fire in Paradise, California. Several factors influence how community-level infrastructure systems respond to the demands of supporting evacuees: the nature of the triggering event, the dynamics of the displacement, levels of social vulnerability among the affected population, and the pre-disaster capacity of infrastructure systems.

Keywords: population displacement; infrastructure resilience; time compression; social vulnerability; disaster recovery and resettlement.

Reference to this paper should be made as follows: Voelz, G. (2022) ‘Resilience on the periphery: understanding the impacts of population displacement on infrastructure systems beyond the disaster zone’, *Int. J. Emergency Management*, Vol. 17, Nos. 3/4, pp.217–233.

Biographical notes: Glenn Voelz is a recent graduate of the Infrastructure Management and Planning program at the University of Washington, Seattle. He previously served as a career intelligence officer in the United States Army and held senior leadership positions at the Pentagon, in the White House Situation Room, and at NATO headquarters in Brussels, Belgium. He holds a BS from the United States Military Academy at West Point, an MA from the University of Virginia, and was a National Security Fellow in the Security Studies Program at the Massachusetts Institute of Technology and Lincoln Laboratory. His research interests include emergency management, disaster response, and community resilience.

This paper is a revised and expanded version of a paper entitled ‘Resilience on the periphery: understanding the impacts of population displacement on infrastructure systems beyond the disaster zone’ presented at the *Idaho National Laboratory Resilience Week 2020 Conference*, Salt Lake City, Utah, October 19–22, 2020.