

“Mapping Social Vulnerability to Enhance Housing and Neighborhood Resilience”

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Shannon Van Zandt is an associate professor of landscape architecture and urban planning, coordinator of the Master of Urban Planning Program, and interim director of the Center for Housing and Urban Development at Texas A&M University. She holds the Roy L. Dockery Professorship in Housing and Homelessness. Van Zandt’s research, which has been funded by the National Science Foundation (NSF) and the U.S. Department of Housing and Urban Development, centers on the spatial distribution of housing and the consequences for vulnerable populations. Her work argues that housing (availability, affordability) is one of the primary mechanisms by which households are distributed throughout the community, affecting social and economic outcomes for them. Her research helps planners and policymakers understand how institutional, market, and regulatory forces can influence the equitable distribution of housing within their communities. Her current research—funded with two consecutive grants from the NSF—focuses on social vulnerability to and recovery from Hurricane Ike in Galveston, Texas. Van Zandt has a doctorate in city and regional planning from the University of North Carolina–Chapel Hill.

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Summary and Findings: Social factors influence the ability of coastal communities and their populations to anticipate, respond, resist, and recover from disasters. Galveston offers a unique opportunity to test the efficacy of social vulnerability mapping to identify inequalities in the ways different parts of the community may react to a disaster. We describe spatial patterns of social vulnerability prior to 2008’s Hurricane Ike and compare them to outcomes related to response, impact, recovery resources, and early stages of rebuilding. Households and neighborhoods identified using vulnerability mapping experienced negative outcomes: later evacuation, a greater degree of damage, fewer private and public resources for recovery, and slower and lower volumes of repair and rebuilding. Findings support using community vulnerability mapping as a tool for emergency management, hazard mitigation, and disaster recovery planning, helping communities to reduce losses and enhance response and recovery, thereby strengthening community resilience and reducing inequalities.

Implications for Policy and Practice: These findings condemn existing patterns of housing inequalities in our coastal communities, providing evidence that spatial disparities persist for disadvantaged populations at every stage of disaster response and recovery. These neighborhoods are not the same, nor are they equal opportunity venues. They can be as different as night and day in terms of their socioeconomic composition, quality and types of housing, and access and ability to mobilize resources when “bad” things happen. In a very real sense, social vulnerability mapping reveals disparities that make a difference when it comes to the capacity of residents and households to respond, mobilize resources, and bounce back from natural or other types of disasters. Yet our analytical approach also provides a mechanism by which disparities may be reduced through effective utilization of vulnerability mapping. Our units of analysis—census block groups—offer the smallest unit at which rich data are available. However, these units are also workable in the context of planning policies, actions, and programs.