

## **Moving Towards Disaster: Examining the Changing Patterns of Social Vulnerability in a Multi-Hazard Urban Environment**

Studies of social vulnerability have repeatedly emphasized the importance of identifying the drivers of vulnerability, but very few studies have focused on empirically characterizing those drivers within the domain of vulnerability science. This dissertation is an initial step in this direction, examining social vulnerability in the context of multiple cities and evaluating the changing patterns of vulnerability in a multi-hazard urban environment. It adopts a political-economic framing of vulnerability production (Dooling and Simon 2012) that conceptualizes vulnerability as a dynamic condition, produced through the historic interaction of economic, cultural, and social processes. It hypothesizes that the nature and distribution of social vulnerability in urban areas changes over time with its spatial growth, and that the provision of subsidized low-income housing influences the hazard exposure of socially vulnerable populations. This is accomplished first by studying three cities in the Gulf coast region (Houston, New Orleans, and Tampa) and then by focusing on Houston, Texas as a case study city for a more detailed empirical analysis. The initial component of this research integrates neighborhood change theories and theories of social vulnerability to explain the changing patterns of social vulnerability in Houston, New Orleans, and Tampa over a 30 year time period (1980-2010). Next, the Houston case study further explores how vulnerable groups navigate the multi-hazard urban environment and how subsidized housing policies have influenced this interaction over time.

The pattern of social vulnerability observed within the case study cities indicates that despite having drastically different population growth trajectories and being situated in different political and economic settings, the spatial concentration of social vulnerability has gradually decreased in the study cities in recent decades. Specific trends in vulnerability are identified for each of the cities and the potential for constraining climate adaptation efforts is discussed. After analyzing the location of subsidized housing in Houston, this study found that among the two most widespread housing subsidy programs (Housing Choice Vouchers and the Low Income Housing Tax Credit), supply based subsidies exemplified by the LIHTC significantly increases neighborhood social vulnerability when it is located in areas exposed to technological hazards. Limitations in the present administration of the subsidy programs are identified and policy alternatives are discussed that may help to reduce their contribution to vulnerability.