

Diagnosis of the Impact of Foreclosures on Burglary Crime - Using GIS and Spatial Statistical Methods

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Housing foreclosures have escalated into a national crisis in recent years in the U.S., however, very limited empirical research has investigated the implications of foreclosure to neighborhood crime. A handful of latest studies found that crime rates rise with foreclosures increase across neighborhoods. The purpose of this research is to examine the spatial coincidence between foreclosures and burglary clusters in Louisville by using GIS spatial analysis methods and geographically weighted regression (GWR) models. With foreclosure and burglary data (2007-2010) aggregated to multi-scales, findings suggest a linkage between housing foreclosures and burglary problems. This research provides new insight into the relationships between foreclosures and crime.

Key words: foreclosures, burglary, mapping, spatial analysis, geographically weighted regression

Short Bio of Haifeng Zhang

Haifeng (Charlie) Zhang is an assistant professor at the Department of Geography & Geosciences, University of Louisville. His education background includes a B. S. in geography from Shandong Normal University (China), a M. A. from the University of Nebraska at Omaha in 2002 and a Ph.D. from the University of South Carolina in 2006. Dr. Zhang's research interests include urban crime, racial/ethnic issues, education issues, environmental inequality, and GIS/spatial statistical methods.

Dr. Zhang's publications have appeared in a number of peer-reviewed journals such as *Journal of Geography*, *Southeastern Geographer*, *Internet Journal of Criminology*, *Urban Geography*, and *International Journal of Applied Geospatial Research*. He has presented papers at numerous national and international conferences such as the 5th International Conference on Population Geographies and annual meetings of the Association of American Geographers (AAG). Furthermore, Dr. Zhang has been invited as a guest speaker at the 8th, 10th, and 11th Crime Mapping Research Conferences and the Race, Ethnicity and Place IV - VI Conferences. He has served as a reviewer for a number of academic journals such as *Urban Studies* (UK) and *Chinese Geographical Science*. Dr. Zhang also serves as an editorial member of the *Journal of Geography and Natural Disasters*.

His current research projects are related to housing foreclosure and neighborhood crime in the Louisville metropolis and mapping school segregation and white flight in America's metropolitan areas. Dr. Zhang teaches courses relevant to urban geography, GIS, and spatial statistical methods.