

## ABSTRACT

An estimated 11.7 million unauthorized immigrants resided in the United States in 2012 according to the Pew Hispanic Center (Passel, Cohn, and Gonzalez-Barrera 2013). Reforming the U.S. immigration system is a clear policy priority for President Barack Obama, and an agenda item for the 113<sup>th</sup> Congress (U.S. Congressional Research Service 2013). Based on prior legislation, processing of immigrants for legalization is likely to be a complex and time consuming task, necessitating the involvement of nonprofit and public infrastructure. The goal of this study was to design a research methodology for estimating the unauthorized population at the census tract level, as a means for visually representing the relative densities of the unauthorized population in a way that would be useful for planning where to provide services for the unauthorized populations within a community. Using statistical methods, the relationships between the dependent and independent variables was defined at the state level. The state level relationships were then applied to census tract level data in order to make census tract estimates. The results of the analysis were displayed as relative densities using the dot density renderer in ArcGIS Desktop. The performance of this model was verified by comparing the results generated in this study to those of other studies. Based on this verification method, the performance of the model varied by geography, with the western states, in particular, California seeming to have performed the best. The states that appear to have performed the worst are primarily located in northeastern United States and include six out of the eight states with the lowest number of unauthorized persons (<3,000). Within California, between a 0.02 (Orange County) and 3.4 (Bay Area) percentage point difference was found when comparing the regional distribution estimated in this study with those of other studies.