

Tracy Kugler
GeoDay Abstract

Comparative Study of Urban Sprawl and Urban Form in Metropolitan Areas of the United States

"Urban sprawl" is often cited as contributing to a variety of environmental and social problems. However, a specific definition of what constitutes sprawl has not been agreed upon. In attempting to determine whether particular metropolitan areas are more or less sprawling, much of the literature relies on measures of density or density distribution across the region. Many of the more compelling descriptions of sprawl, on the other hand, are based on more local-scale characteristics. The proposed research is intended to examine the relationship between these local-scale characteristics and patterns of density distribution at a regional scale. An index of sprawl based on local-scale measures, including road network connectivity and neighborhood jobs/housing balance, will be developed. Clustering techniques from the field of machine learning will be used to identify and describe groups of metropolitan regions with similar regional patterns of housing unit density distribution. The sprawl indices of regions within and across groups will then be examined to determine whether there are relationships between sprawl as measured at a local scale and regional patterns of density distribution. Finally, an initial exploration of the drivers of urban form will be conducted by testing relationships between urban form and other cultural, socioeconomic, and environmental characteristics of metropolitan regions, and through case studies of two to three regions.