

## ABSTRACT

Mecklenburg County is growing at an alarming rate and as a result the region is faced with the threat of rapid land use change. Since 2000 the population of the region has grown by 32 percent and the United Nations estimates an additional 71 percent population increase by the year 2030, placing it amongst the fastest growing metropolitan areas in the country. This growth is driven by sociodemographic, economic, and biophysical factors such as: an expanding young professionals demographic, high quality of life, proximity to outdoor recreation, and booming manufacturing, travel, energy, sports, and financial industries. Due to these trends it is crucial to project the magnitude and location of future expansion for the region to aid and support sustainable decision making. Visualizing how land-use change will be spatially distributed, and where competing land-use classifications will be in conflict, leads researchers to examine alternative scenarios and actions for the future of a region. This study isolated and quantified land that will be in potential future conflict, and examined four future land-use scenarios for Mecklenburg County, NC using an adaptation of Margaret Carr and Paul Zwick's Land Use Conflict Identification Strategy (LUCIS) model. LUCIS is a goal driven Geographic Information Systems (GIS) model that produces a spatial representation of where agriculture, conservation, and urban land-use suitabilities will be in future conflict and helps illustrate potential future alternative land-use scenarios (Carr and Zwick 2007). The analysis' results highlighted the escalating drive for future urban expansion into agricultural land, the persistent effort to conserve only those lands currently in conservation, and the continued push of agricultural land to the county's periphery. In addition, the four future land-use scenarios provided a simulated, potential view of the future through the lens of stakeholders who represent the interests of each land-use designation. Overall, this study successfully yielded the requisite information products for utilization by actual stakeholders to iteratively work through similar modeling efforts to assist future planning efforts.