The proposed project conducts a case study of the Austin, TX region, examining the magnitude, direction, and spatial structure of urban expansions and correlating the expansion patterns with major transportation projects (e.g., SH-130 and Red Line commuter rail). The study will perform spatial analysis and growth modeling combining remote sensing data with census information. The main data sources for the project include 2001-2016 land use/land cover imageries available from National Land Cover Database (NLCD) and the US population censuses. Findings of the study are expected to inform public policy-making and strategic transportation investments for sustainable regional development.