

# Developing a Large Scale Urban Model Simulate Metropolitan Growth and Patterns of Housing and Jobs: The South-East Queensland Region

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Simulating the future growth and development of large scale urban regions is a complex task. The presentation will demonstrate the development and operation of components of a large scale urban model (LSUM) to simulate the patterns of housing and jobs growth across the Brisbane- South East Queensland Region (SEQ) over a 20 year planning horizon using GIS-enabled visualization in real time. The LSUM approach developed by a team of researchers at the University of Queensland is funded through an Australian Research Council Linkage Program grant. The modeling involves two parallel components. One is a population/household projection model which simulates the potential patterns of new dwelling construction both in greenfield sites and through urban consolidation that will house the population growth forecast for the SEQ region. The other is a model that simulated the potential spatial pattern of the location of jobs in industry sectors using a new procedure to spatially allocate employment changes forecast by a regional and four sub-regional input-output models. Both models are developed to run using regional planning criteria and other constraining and facilitating mechanisms to simulate alternative development scenarios. The presentation provides examples of the model outputs.

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