

Mapping and Modeling Land Use Change: An Application of the SLEUTH model

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SLEUTH is a cellular automaton model of urban growth and land use change. The model uses two tightly coupled cellular automata models, one for urban growth and the second for land use change. It includes self-modification of control parameters, and has a self-calibrating capacity built into the computer code for the model. Over a decade of model development, refinement, sensitivity testing and experiment has now gone into the model, and SLEUTH has accumulated over 100 applications in the USA and worldwide. In this presentation, the model is briefly reviewed using a recent application in California as an example, and the various changes and modifications discussed. The value of sensitivity testing is explored in detail, and the meta-analysis of results across cities, regions and continents illustrated by some controlled growth experiments. A wishlist of future changes and improvements for the model is presented, as a response to the various critiques of the model to date.