

Cartography and Geographic Information Science

Modeling the risk of robbery in the city of Tshwane, South Africa

Cooper, Antony K
Council for Scientific and Industrial Research
Pretoria, 0001, South Africa
Email: ACooper@csir.co.za

Abstract

In this study, we model the risk of robbery in the City of Tshwane in South Africa. We use the collective knowledge of two prominent spatial theories of crime (social disorganization theory, and crime pattern theory) to guide the selection of data and employ rudimentary geospatial techniques to create a crude model that identifies the risk of future robbery incidents in the city. The model is validated using actual robbery incidences recorded for the city. Overall the model performs reasonably well with approximately 70% of future robbery incidences accurately identified within a small subset of the overall model. Developing countries such as South Africa are in dire need of crime risk intensity models that are simple, and not data intensive to allocate scarce crime prevention resources in a more optimal fashion. It is anticipated that this model is a first step in this regard.