

Project title	A GIS & Syntactic- Based Model for Evaluation of Sustainable Neighborhood Design	January 2005
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Abstract

The concept of land subdivision in early developments used to be an easier process reflecting the needs of the community. The issues like recent technological developments and globalization has changed the activities and needs of community, which requires the neighborhood to be designed under the guidelines of Sustainable Urban Design (SUD). The objective of this research was to develop a model based on the design principles of SUD, which acts as a framework to evaluate the neighborhood for sustainability for future. It helps the planners, developers, and local municipal authorities to plan, design and build a neighborhood that reflects a society which serves the people's needs efficiently.

The application of the designed evaluation model was divided into two types; GIS based evaluation and Syntactic based evaluation. The main parameters that were considered are resource allocation; accessibility of street network; and accessibility of services. Spatial analyst tool of ArcGIS 9.0 measures the site suitability, allocation of resources and accessibility of services. The syntactic evaluation is carried out by using the AXMAN 3.0 which basically measures the integration of the street network.

The application of model on a hypothetical study area shows that, the developed GIS and Syntactic based models act as a tools for evaluation of design guidelines and principles to develop neighborhoods with good accessibility and resource allocation.