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A GIS-Based Multicriteria Decision Analysis Approach for Mapping Accessibility Patterns of Housing Development Sites: A Case Study in Canmore, Alberta

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ABSTRACT

This paper presents a Geographic Information System (GIS) based multicriteria decision analysis approach for mapping accessibility patterns of housing development sites in Canmore, Alberta. The approach involves integrating two multicriteria decision methods (Analytical Hierarchy Process and Ordered Weighted Averaging) in a raster GIS environment, and incorporating the linguistic quantifier concept as a method for obtaining the order weights. The approach facilitates a wide range of location (decision) strategies to be generated and examined. The aim of the study is to help the housing development authorities in addressing the uncertainty involved in the decision making process, achieving a better understanding of the alternative accessibility patterns. It also assists the authorities in evaluating and prioritizing the potential housing development sites in terms of accessibility levels.

KEYWORDS

Accessibility; AHP-OWA Procedures; GIS; Housing Development.

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