Scopus

## Documents

Mohd Noor, N.[a] , Rosni, N.A.[a] , Hashim, M.[b] , Abdullah, A.[a]

**Developing land use geospatial indices (LUGI) for sprawl measurement in alpha cities: Case study of Kuala Lumpur, Malaysia**

(2018) *Cities*, 82, pp. 127-140.

**DOI:** 10.1016/j.cities.2018.05.012

[a] Department of Urban and Regional Planning, Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia, Jalan Gombak, Kuala Lumpur, 53100, Malaysia
[b] Institute of Geospatial Science & Technology (INSTeG), Universiti Teknologi Malaysia, Skudai, Johor 81310, Malaysia

**Abstract**
This study investigated an atomic level of sprawl measurement for Kuala Lumpur Metropolitan by developing a set of Land Use Geospatial Indices (LUGI). The components of LUGI include segregated land use, development planning consistency, urban density, strip and leapfrog development, that have been tested at Kuala Lumpur Metropolitan purposely to examine the urban sprawl phenomenon at the level of alpha cities. It was carried out based on geospatial result of changed detection at earlier stage. The urban sprawl measurement was analyzed according to the six Kuala Lumpur's strategic planning zone (SPZ). The results show that segregation land use and leapfrog indices are the prominent components that identified the sprawl development within most of SPZ in Kuala Lumpur Metropolitan, while the planning consistency, strip development and urban density are recorded as the indicators that less correlation have with sprawl. These measurements also indicate that alpha cities, as Kuala Lumpur, also facing issues on sprawl especially when it relates to land use planning. Finally, it proved that the development of LUGI could provide a decision support to create an effective long-term land use planning policies for sustainable urban landscapes development. © 2018 Elsevier Ltd

**Author Keywords**
Alpha cities; Land use and urban planning; LUGI analysis; Sprawl measurement

**Correspondence Address**
Mohd Noor N.; Department of Urban and Regional Planning, Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia, Jalan Gombak, Malaysia; email: norzailawati@iium.edu.my

**Publisher:** Elsevier Ltd

**ISSN:** 02642751
**Language of Original Document:** English
**Abbreviated Source Title:** Cities
2-s2.0-85047947129
**Document Type:** Article
**Publication Stage:** Final
**Source:** Scopus