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EVALUATION OF TEMPORAL PATTERN PROPERTIES OF ROAD ACCIDENT BASED ON FATALITY, ROAD WIDTH AND LENGTH

NUR ASMINDA BINTI MOHD APANDI

Thesis submitted in fulfillment
of the requirements for the degree of
Bachelor Science of Geomatics/Master of Science

Faculty of Architecture, Planning and Surveying

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AUTHOR'S DECLARATION

I declare that the work in this thesis/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student	:	Nur Asminda Binti Mohd Apandi
Student I.D. No.	:	2014840738
Programme	:	Bachelor of Surveying Science and Geomatics (Hons)
Faculty	:	Architecture, Planning and Surveying
Thesis	:	Evaluation of Temporal Pattern Properties of Road Accident Based on Fatality, Road Width and Length
Signature of Student	:	……..
Date	:	January 2018

ABSTRACT

This paper introduces about the study of temporal pattern properties of road accident that occur at Kedah state. Data sources of the road accident was obtaining from police department who consists of a data that describing a few factor such as types of accident, time and date of accident and address where it happened. Next, data visualization and analysis of the properties of temporal pattern road accident can be done using Geographical Information System (GIS) technology. Using this technology, it allows spatial analysis and spatial statistic that rely on geographically referenced data to be done so that better interpretation about the temporal pattern road accident can be achieved. The use of Geographical Information System (GIS) technology can provides the capability for capturing, storing, querying, analyzing and displaying geospatial data. Besides that, GIS also stand out for their ability of managing the geospatial data. Generally, geospatial data was function as to locate spatial features on the Earth's surface and it can be done either by using a geographic or a projected coordinate system. In this paper, several GIS analysis methods had been used as to get a clear view about the properties of spatial temporal pattern of road accident at Kedah state. Hotspot analysis of Getis-Ord Gi* had been used as to determine the hotspot area of road accident cases occurrences. This may reflect with the result show the hot and cold area represent the frequency of it happened. Spatial analyst by using point density was performed in order to shows the relation between the effect of road accident on types of fatality based on types of road. Many previous study introduce GIS only for determination of the hotspot area but on this study it tells more about an analysis of road accident based on its temporal pattern properties.

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