

## **SPATIAL ANALYSIS OF VEHICLE THEFT IN KUCHING, SARAWAK**

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### **ABSTRACT**

Vehicle thefts are raising concern among society because it contributes to the highest rate of property crime in Malaysia. GIS is an important base system that allows locating crime hot spots. The aim of the study is to determine the hot spot of vehicle theft with statically significant from 2015-2017 in Kuching, Sarawak. The spatial data for this study obtained from Kuching District Police Headquarters which include Kuching district boundary, police station boundary, and police station sector boundary. Attribute data were obtained from the police reporting system such as addresses of incidents and types of vehicle theft includes motorcycle theft, car theft and heavy machinery, truck and lorry theft. This study using Local Indicators Spatial Autocorrelation (LISA) technique. The outcome of the study revealed the location hot spots and a cold spots of vehicle theft across police station sector boundaries. Vehicle theft in Kuching, Sarawak is spatially concentrated. Hot spot of car theft mostly detected in Sungai Maong, Tabuan Jaya and Sekama police station boundaries where there are more shopping malls, hospitals, retails and restaurants whereas motorcycle theft mostly clustered in Gita police station sector boundaries, while van/lorry/bus and heavy machine theft tend to cluster in the industrial zone, which is included sector boundaries of Bintawa, Padungan and Tabuan Jaya police station. The findings of the study have a significant impact on the policing to combat vehicle theft by sector boundaries. Local Indicator Spatial Autocorrelation can help identify the risk area of vehicle theft and it is hoped that the outcome from this study can be contributed to the crime and other fields.

**Keywords:** Spatial Analysis, Vehicle theft hot spots, GIS, Kuching.