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GIS-BASED NETWORK ANALYSIS OF TRANSIT BUS
IN KUALA NERANG, KEDAH

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**Thesis submitted to the Universiti Teknologi MARA Malaysia
in partial fulfilment for the award of the degree of the
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AUTHOR'S DECLARATION

I declare that the work on this project/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA (UiTM). This project/dissertation is original, and it is the result of my work, unless otherwise indicated or acknowledged as referenced work.

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ABSTRACT

In the context of an ever-increasing number of vehicles, a growing population, and intensified mobility, it is especially crucial to guarantee the growth of public transportation and smart route network planning. Aside from the train and cab, the transit bus was one of the country's first modes of public transportation. However, the quality of transit bus service is deteriorating, resulting in decreasing rider anticipation. Bus operators have cut back on service due to customer complaints and poor forecasting. Thus, the main purpose of this study is to identify the best route and efficiently display significant spatial information to end-users using Geographic Information Systems (GIS) software. In order to achieve the aim, the objectives of this study are: 1) to determine the route access of transit bus in Kuala Nerang, Kedah and 2) to perform a route analysis of the transit bus network in Kuala Nerang, Kedah to determine the best route and 3) to evaluate the extent of coverage provided by the transit bus system by analyzing the service areas around bus stops. This study was done in Kuala Nerang, Kedah Darul Aman. Network analysis aids in determining the best locations for services to somehow be offered. Complex road networks necessitate analysis to better the transportation of people, products, services, and resources. The final output of this research study is route analysis and service area analysis in a map. Last but not least, this research study shows that network analysis is the perfect tool to analyse the route access of transit bus in Kedah.

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