Universiti Teknologi MARA

Ranking the Most Preferred Public Transportation in Penang using Fuzzy Analytic Hierarchy Process (FAHP)

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STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

Public transportation is one of the most important roles for daily activities in Penang. It is such an essential component of life nowadays for every human being that act as mobility to people in commuting people to work or to places they desire, and most importantly, it help in the process of reducing traffic congestion around Penang. Different type of public transportation offer different quality of services that do not meet the quality desired by passengers. So, this decision becomes complicated in case of variant of public transportation in Penang and consist of multiple conflicting criteria that consumer preferred such as fare pricing, service of the driver, availability, safety and comfortableness. Therefore an extensively used multi criteria decision making tool Fuzzy Analytic Hierarchy Process (FAHP) can be utilized as an approach for ranking of the best public transportation problem in Penang. Using questionnaires, the study was conducted for five types of public transportation around Penang such as Rapid Penang bus, Keretapi Tanah Melayu (KTM) commuter train, Grab, MyCar and taxi involving 30 Penang citizen that have an experience of using at least once all type of public transportation selected. It was concluded that MyCar was the most preferred public transport among Penang citizen with respect to all criteria that consumer preferred and satisfied. Therefore the application of this study suggested that to help transportation planners in taking necessary steps for the improvement of service quality as per satisfaction and preferences of different modes' of users.

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