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INTEGRATING ROAD HIERARCHY INTO PEDESTRIAN INDEX

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A dissertation submitted in partial fulfilment of the requirements for the award of the degree of Master of Science (Transport Planning)

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MAY 2011
I declare that this dissertation entitled “INTEGRATING ROAD HIERARCHY INTO PEDESTRIAN INDEX” is the result of my own research except as cited in the references. The dissertation has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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Dedicated to my beloved parents,

Abdul Ghani bin Abdullah
and
Zakiah binti Md. Said
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ABSTRACT

Transport planners are increasingly focusing on pedestrian facilities in order to enhance public transportation usage and thus develop sustainable transport systems. Unfortunately, roadway design prioritizes the needs of motorists, and pedestrians are put at risk. The problems of previous model, P-index assumes that all types of road hierarchy are same. This research argues that the assumption is not right. This is because different road hierarchy serve different purposes. It has different design standard, different level of road usage, different access management and different scope of pedestrian needs. Thus, P-Index is inaccurate in describing the actual situation in evaluating pedestrian facilities. The primary objectives of this study are to incorporate different type of road hierarchy into pedestrian index, to apply the model as well as to compare the results of the new model and old model in evaluating pedestrian facilities. This research focuses on four indicators to evaluate pedestrian facilities namely Facility, Mobility, Safety and Accessibility. This research evaluates types of facilities provided at sidewalks and crosswalks such as bollard, ramp, zebra crossing, traffic signal, pedestrian refuges island and pedestrian warning signage. It comes together with mapping of star ratings that summarise the qualitative value of the facility. From the analysis, it can be concluded that the new model is up-rated from two stars to three stars. This means in relation to the actual facilities, the new model is correctly and truly describe the quality of facility because it considers the different purposes of pedestrian needs according to different road hierarchy. This new model is a little better than the old model because it improves the inadequacy of the previous model. It is more accurate and flexible because it consider local environment for different level of road hierarchy and relation with vehicular movement as well as characteristics on human activities.