

**ASSESSMENT ON ACCESSIBILITY OF MASS RAPID
TRANSIT (MRT) LINE IN KLANG VALLEY**

BY

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ABSTRACT

Mass Rapid Transit System is the rail-based public transport providing connectivity between fringe and the city centre. Nevertheless, in Klang Valley the targeted ridership has yet to be attained due to several identified issues, including first and last mile connectivity, stations' facility and dominance of private vehicles undermining the efficiency of buses as an attractive alternative mode for road-based movement. Equitable accessibility is the most ambitious achievement for sustainable transport which is still unsolved. In ensuring a high accessibility level, the integration among various modes of public transportation is essential. The newly deployed MRT Sungai Buloh – Kajang Line should adopt strategies and passengers' initiatives to reduce the dependency on private vehicle which is a major contributor to traffic congestion and other related issues in Klang Valley. The thesis aimed at assessing the MRT accessibility in maximizing connectivity in Klang Valley. Three objectives were formulated based on problems identified by literature review as well as answering the respective research questions. These objectives are to examine factors influencing the access trip pattern to MRT station, assess the accessibility quality of MRT SBK Line, assess factors that influence trip behaviours through user perception and satisfaction, and to recommend a better plan or program in improving the accessibility level of Mass Rapid Transit. This thesis also constructed a multi-variable assessment tool for accessibility testing, by focusing on MRT SBK Line user-based experience and aspiration. Some 700 samples were intercepted at 10 identified stations, with unequal distribution based on convenient sampling strategy through questionnaire survey forms consisting of parameters adopted from the literature. These assessment variables included station facilities, signages, convenience, pedestrian walking facilities, waiting time, parking facilities, trip characteristics laid out as likert scale from 1 (least) to 4 (most). Out of these 700 samples, only 511 were deemed meaningful and useful after data entry and cleaning. Finding of parameter estimates indicated all but one (parking facilities) variables had positive and direct relations with satisfaction levels in regard to accessibility. As such, it is suggested that to achieve equitable accessibility, MRT SBK Line operator should focus on providing improved station facilities such as station convenience, more effective signages and higher quality pedestrian facilities. Muzium Negara MRT Station (3.39 mean value) was perceived as highly accessible station and Bandar Utama MRT station (3.122 mean value) was viewed as the least one. The thesis contribution was the improvement towards the framework of accessibility assessment, with a development of an indexing mechanism to evaluate each new, existing and planned rail station quantitatively, which can be applicable and transferrable to other alike cases study and beyond.

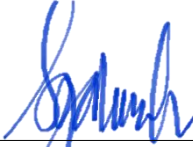
Keywords: Mass Rapid Transit System, Klang Valley, Accessibility

خلاصة البحث


نظام النقل الجماعي السريع هو وسيلة النقل العام القائمة على السكك الحديدية عن قصد لتوفير الاتصال بين المناطق الهامشية بالمدن الكبرى؛ ومع ذلك، لا تزال نسبة الركاب موضع تساؤل والتي تتأثر بقضايا إمكانية الوصول. إن توفير إمكانية الوصول العادل هو أكثر الإنجازات طموحًا للنقل المستدام الذي لم يتم حله بعد. يجب أيضًا مراعاة تكامل وسائل النقل العام لضمان وصول أفضل للمستخدمين. كنظام مستخدم حديثًا في منطقة كلانج، يجب أن يكون أحد الاستراتيجيات والمشاريع الفعالة في تقليل الاعتماد على **MRT SBK Line** المركبات الخاصة التي تساهم بشكل مباشر في تقليل مشكلة المرور الخطيرة في منطقة كلانج. **MRT** ومن ثم، تم اقتراح هذا البحث عن قصد للتحقيق في مستوى إمكانية الوصول إلى في توفير اتصال أفضل في منطقة كلانج. كما يبيّن هذا البحث تقييمًا متعدد المتغيرات لاعتبارات **MRT SBK Line** إمكانية الوصول لفحص كيفية وصول المستخدم إلى نظام من خلال الاستبيان الذي **MRT SBK** تم جمع 700 عينة في 10 محطات محددة لحظ يراعي في الوقت نفسه جوانب إمكانية الوصول لمرافق المحطة واللافتات وراحة المحطة ومرافق المشي للمشاة ووقت الانتظار ومرافق وقوف السيارات والرضا العام للمصدر والوجهة. كان عدد العينة 511 ذات مغزى للمحلل. ومن المثير للاهتمام أن المستخدمين راضون ومقنعون الذي تعتبر جميع المتغيرات التي تم اختبارها في النموذج تقريبًا مهمة **MRT** جدًا عن نظام بشكل إيجابي باستثناء مرافق وقوف السيارات. يقترح هذا البحث أنه، للحصول على إمكانية وصول عادلة، يجب أن تركز السياسة على توفير مرافق محطة أفضل في تعزيز اللافتات الملائمة (متوسط القيمة **Muzium Negara MRT** والفعالة ومرافق المشاة. يُنظر إلى محطة **Bandar Utama 3.39**) على أنها محطة يمكن الوصول إليها بسهولة وكان أقل محطة يمكن الوصول إليها (متوسط القيمة 3.122). لقد ركزت المناقشة المكثفة **MRT** في هذا البحث على فهرسة إطار العمل وآليات الفهرسة والمعلومات بعد تحديد أهم السمات في التأثير على مستوى إمكانية الوصول

APPROVAL PAGE

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DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Muhammad Rijal bin Mohamad

Signature

Date 04 AUGUST 2022

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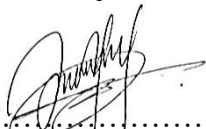
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Thank You Allah,

Ya Rabbul Jalil, Ya Barik, Ya Zal Jaa Li Wal Ikram,

Thank you, Mom and Dad,

This thesis is dedicated specially for my beloved parents who raised me that I could reach this point.

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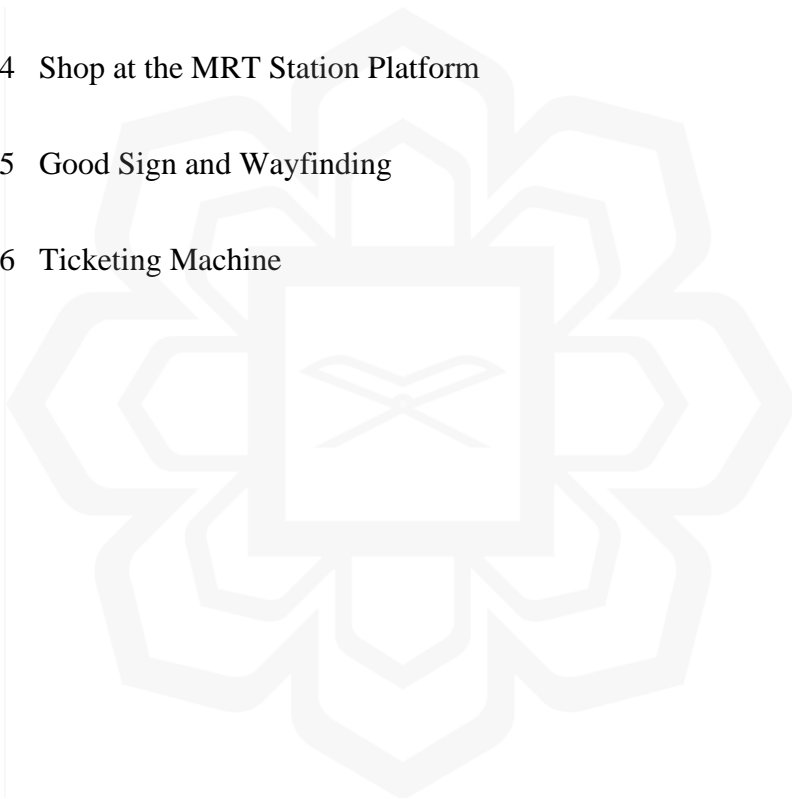
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Environmental Quality Act 1974 (Act 127)
Federal Constitution
Federal Territory (Planning) Act 1982 (Act 267)
Land Public Transport Act 2010 (Act 715)
Town and Country Planning Act 1976 (Act 172)



LIST OF GOVERNMENT DOCUMENTS

Greater Kuala Lumpur/Klang Valley Land Public Transport Master Plan
Integrated Land Use Planning and Public Transport Route Selangor-Kuala Lumpur
Masterplan
National Land Public Transport Master Plan
National Physical Plan 3 (NPP 3)
National Transport Policy 2019-2020
National Urbanization Policy 2 (NUP 2)
The Five-Year Malaysia Plan (11th Malaysia Plan)
Twelfth Malaysia Plan

