

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

BY

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A thesis submitted in fulfilment of the requirement for the
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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.

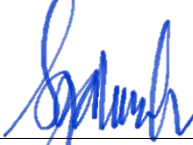
Keywords: Mass Rapid Transit System, Klang Valley, Accessibility

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

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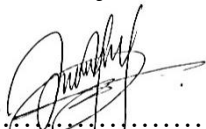
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Thank You Allah,

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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TABLE OF CONTENTS

Abstract.....	iii
Abstract In Arabic.....	iv
Approval Page.....	v
Declaration.....	vi
Copyright.....	vii
Dedication.....	viii
Acknowledgement.....	ix
List of Table.....	xiv
List of Figures.....	xxii
List of Statutes.....	xxiv
List of Government Documents.....	xxv
Abbreviations.....	xxvi
CHAPTER ONE : INTRODUCTION	1
1.1 Introduction.....	1
1.2 Brief Research Background	2
1.2.1 Government Effort and Policies in Public Transport Enhancement	3
1.3 Problem Statements.....	5
1.3.1 Problem Statement 1	5
1.3.2 Problem Statement 2	5
1.3.3 Problem Statement 3	6
1.3.4 Problem Statement 4	6
1.4 Research Aim.....	8
1.5 Research Questions	8
1.6 Research Objectives	8
1.7 Scope of Research	9
1.8 Significance of Research	12
1.9 Potential Outcome	13
1.10 Deliverables.....	14
1.11 Research Limitation/Scope	15
1.12 Thesis Organization	16
1.13 Chapter Summary	18
CHAPTER TWO : LITERATURE REVIEW	19
2.1 Introduction.....	19
2.2 Theoretical Framework.....	20
2.3 Public Transport	21
2.3.1 Overview on Public Transportation	21
2.3.2 History of The needs and Development of Public Transport	23
2.3.3 Issues and Problems in Public Transport	34
2.3.4 World Agenda in Promoting Sustainable Public Transport.....	36
2.3.5 National Plans and Transport Policies in Malaysia	40
2.3.6 Agencies and Authority in Public Transportation Governance in Malaysia.....	49
2.3.7 General Issues of Current Situation in Malaysia	52
2.4 Public Transport Service Quality	53

2.4.1	Concept of Public Transport System Access Quality	55
2.4.2	Service Quality Dimension	56
2.4.3	Dimensions of Service Quality	56
2.4.4	Perception on Public Transport Services	64
2.4.5	Passenger Satisfaction.....	67
2.5	Accessibility	74
2.5.1	Definition of Accessibility	74
2.5.2	Concept of Accessibility and Transit Accessibility	78
2.5.3	Measurement of Accessibility.....	80
2.5.4	Factors and Elements influencing Mass Rapid Transit Accessibility (attributes and travel characteristics)	81
2.6	Transit-Oriented Development	83
2.6.1	Concept of Transit-Oriented Development.....	83
2.6.2	Transit-Oriented Development in Public Transport.....	84
2.6.3	Factor Influencing Station Location	86
2.6.4	Factor Influencing Facilities at the Station	88
2.6.5	Benchmarking	89
2.7	Response by Passenger	96
2.7.1	Response by Asian Users	97
2.7.2	Fear of Missing Out	97
2.7.3	Cognitive Fatigue	98
2.8	Suburban and Suburbanization	99
2.8.1	Suburbanization process	99
2.9	Conceptual Framework for this research	100
2.10	Chapter Summary	102
CHAPTER THREE : RESEARCH METHODOLOGY		104
3.1	Introduction	104
3.2	Research Design and Strategy (framework)	106
3.2.1	Data Collection Method	108
3.2.2	Primary Data Collection Method	108
3.2.3	Secondary Data Collection Method	109
3.3	Case Study	109
3.3.1	Case Study approach as the main framework	109
3.3.2	Klang Valley as a Case Study Area	110
3.4	Quantitative Method in developing this research.....	113
3.5	Questionnaire Design.....	113
3.6	Data Collection and Instrument.....	115
3.6.1	Survey Instrument	115
3.6.2	Revealed Preference (RP) Survey Questions.....	117
3.7	Data Collection Process	130
3.7.1	Enumerator	130
3.7.2	Sampling Techniques	131
3.7.3	Form Preparation	132
3.7.4	Form Distribution.....	134
3.7.5	Questionnaire Collection	135
3.7.6	Work Permit Application	136
3.8	Selection and Design.....	138
3.8.1	Sampling Size	138
3.9	Pilot Survey	141

3.10	Rationales of Station Selection.....	144
3.11	Ten Selected Stations.....	148
3.11.1	Bandar Utama Station.....	149
3.11.2	Phileo Damansara Station.....	152
3.11.3	Pusat Bandar Damansara Station.....	154
3.11.4	Muzium Negara Station.....	157
3.11.5	Maluri Station.....	160
3.11.6	Taman Midah Station.....	163
3.11.7	Taman Suntex Station.....	165
3.11.8	Sri Raya Station.....	168
3.11.9	Bandar Tun Hussein Onn Station.....	172
3.11.10	Bukit Dukung Station.....	174
3.12	Research Respondent Criteria's.....	176
3.13	Instrument Validity.....	176
3.14	Unit of Analysis.....	177
3.15	Descriptive Analysis.....	178
3.16	Inferential Analysis.....	179
3.17	Research Design Flow Chart.....	187
3.18	Chapter Summary.....	188
CHAPTER FOUR : DATA ANALYSIS.....		189
4.1	Introduction.....	189
4.2	Data Cleaning and Data Entry.....	190
4.3	Descriptive Analysis.....	190
4.3.1	Socio-demographic characteristics.....	191
4.3.2	Trip characteristics.....	197
4.3.3	Perceived trains and stations characteristics.....	204
4.3.4	Perceived pedestrian and private vehicular accessibility.....	236
4.4	Inferential Analysis.....	242
4.4.1	Reliability Test - Cronbach Alpha.....	242
4.4.2	Correlation Analysis.....	243
4.4.3	Linear Regression Analysis.....	249
4.4.4	Regression Results.....	253
4.5	Summary of Findings.....	265
4.6	Chapter Summary.....	267
CHAPTER FIVE : DISCUSSION, RECOMMENDATION AND CONCLUSION.....		268
5.1	Introduction.....	268
5.2	General Finding.....	268
5.2.1	Findings.....	269
5.2.2	Level of Accessibility of MRT System.....	269
5.3	Research Objectives and Research Questions Achievement.....	271
5.4	Limitations of Research.....	274
5.5	Recommendation by Finding.....	275
5.6	Research Contribution.....	282
5.7	Recommendation for future research.....	285
5.7.1	Research Extension.....	286
5.7.2	Research technique.....	286
5.8	Chapter Summary.....	287

REFERENCES.....	288
LIST OF APPENDICES	318
APPENDIX I: QUESTIONNAIRE SURVEY.....	318
APPENDIX II: REGRESSION	318
APPENDIX III: LIST OF PUBLICATIONS BY THE CANDIDATE.....	318
APPENDIX IV: AUTHOR.....	318



LIST OF TABLES

Table 1.1	Rail Development Cost Recorded in Malaysia	9
Table 1.2	Rail Transit Ridership	10
Table 2.1:	Operational Definitions	22
Table 2.2	Daily public transport ridership in Singapore 2012	33
Table 2.3	Attribute of Unsustainable	40
Table 2.4	NKRA and its lead Minister	42
Table 2.5	National Urbanization Policy 2 (Objective)	47
Table 2.6	Public Transport Modal Share	48
Table 2.7	KL Structure Plan Policy of Public Transport and Rail Development	49
Table 2.8	Service Quality Dimension Attributes	57
Table 2.9	Unreliable Attributes	60
Table 2.10	Discomfort Attributes	61
Table 2.11	Service unneeded by passengers	63
Table 2.12	Unaffordable Attribute	64
Table 2.13	Indicators to be tested in measuring the accessibility of public transport	80
Table 2.14	Attributes tested in Bangkok	91
Table 2.15	Variable Tested in Manila	92

Table 2.16	Variable Adopted in Overall Rail Study in Malaysia	94
Table 2.17	Research Gaps	102
Table 3.1	Relationship between RQ,RO and Data collection method	114
Table 3.2	Survey Instrument	115
Table 3.3	Travel Characteristic Variables	118
Table 3.4	Socio-Demographic Variables	119
Table 3.5	Variables to measure the opinion and level of satisfaction on facilities provided	121
Table 3.6	Variables to measure the opinion and level of satisfaction on signage provided	124
Table 3.7	Variables to measure the opinion and level of satisfaction on convenience provided	124
Table 3.8	Variables to measure the opinion and level of satisfaction on pedestrian facilities provided	127
Table 3.9	Variables to measure the opinion and level of satisfaction on time	129
Table 3.10	Variables to measure the opinion and level of satisfaction on parking facilities provided	130
Table 3.11	Variables to measure the opinion and level of satisfaction on the overall system	130
Table 3.12	Enumerator Distribution for Pilot and Real Survey	131
Table 3.13	Sample Size Table	139
Table 3.14	Overall data collection process	143

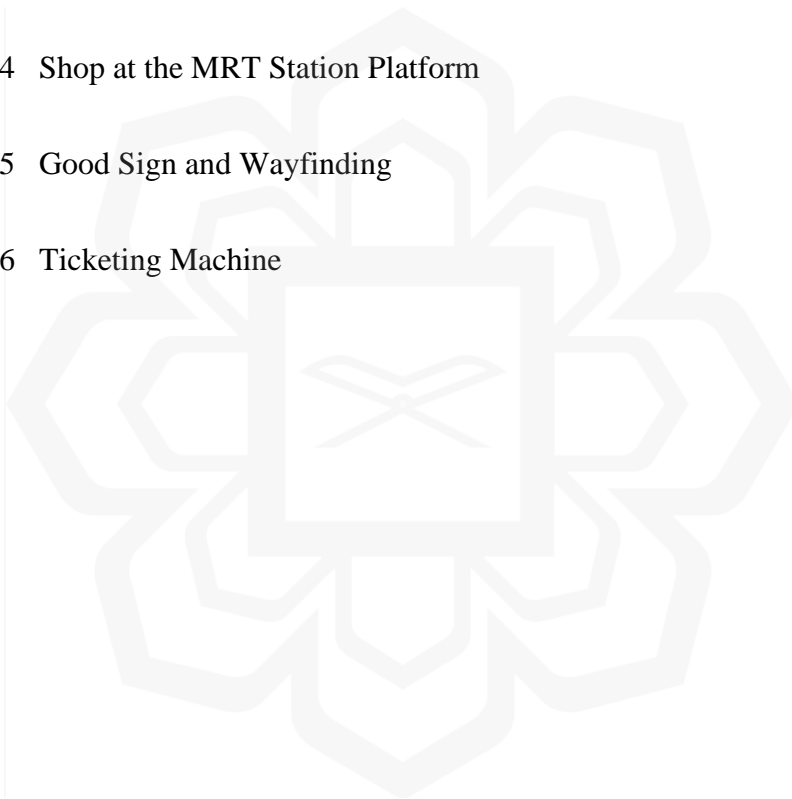
Table 3.15	Station Selection Criteria	146
Table 3.16	Bandar Utama MRT SBK09 Station Information	149
Table 3.17	Phileo Damansara MRT SBK11 Station Information	152
Table 3.18	Pusat Bandar Damansara MRT SBK13 Station Information	154
Table 3.19	Muzium Negara MRT SBK15 Station Information	157
Table 3.20	Photo for Muzium Negara MRT SBK15 Station	158
Table 3.21	Maluri MRT SBK22 Station Information	160
Table 3.22	Photo for Maluri MRT SBK22 Station	161
Table 3.23	Taman Midah MRT SBK24 Station Information	163
Table 3.24	Taman Suntex MRT SBK27 Station Information	165
Table 3.25	Photo for Taman Suntex MRT SBK27 Station	166
Table 3.26	Sri Raya MRT SBK28 Station Information	168
Table 3.27	Photo for Sri Raya MRT SBK28 Station	169
Table 3.28	Bandar Tun Hussein Onn MRT SBK29 Station Information	172
Table 3.29	Bukit Dukung MRT SBK31 Station Information	174
Table 3.30	List of Experts	176
Table 3.31	Central Tendency Analysis	178
Table 3.32	Summary of Regression	183
Table 3.33	Coefficient Values	183

Table 4.1	Socio-demographic characteristics	191
Table 4.2	Tabulation data for Level of Education and Type of Occupation	193
Table 4.3	Data for Vehicle Ownership	195
Table 4.4	Frequency and percentage of trips made by day	199
Table 4.5	Percentage of trip made by passengers by purpose in overall	199
Table 4.6	Purpose day vs Age	200
Table 4.7	Time and Route Chosen by Respondents	201
Table 4.8	Travel Companion	202
Table 4.9	Respondent's Access Mode	203
Table 4.10	Walking Distance and Distance willing to walk	204
Table 4.11	Perceived trains and stations' characteristics	206
Table 4.12	Mean for Each Variable to Each Station	210
Table 4.13	Overall Mean for Each Variable to Each Station	222
Table 4.14	Respondent's satisfaction level on Trip Information, Waiting Facilities and Lift of Elevator	226
Table 4.15	Respondent's satisfaction level on stair and disabled and universally designed facilities	227
Table 4.16	Respondent's satisfaction level for train coaches, seat availability and train frequency	228
Table 4.17	Respondent's satisfaction level for benches at waiting platform and ticketing machine services	229

Table 4.18	Respondent's satisfaction level for Safety facilities and emergency and rescue facilities	230
Table 4.19	Respondent's satisfaction for signage visibility, effectiveness and location	231
Table 4.20	Respondent's satisfaction level for station location, staff and comfort of the overall facilities provided	233
Table 4.21	Respondent's satisfaction level for sense of safety, disabled friendly design and shopping facilities	234
Table 4.22	Respondent's satisfaction level for shopping facilities, assembly area and prayer and worship facilities	235
Table 4.23	Respondent's satisfaction level for pedestrian walkway and covered (over bridge) walkways	236
Table 4.24	Respondent's satisfaction level for walkway pavement, crosswalk and interchange distance	238
Table 4.25	Respondent's satisfaction level for MRT waiting time and connecting mode waiting time	239
Table 4.26	Respondent's satisfaction level for parking space, parking rate charges and parking safety	240
Table 4.27	Respondent's satisfaction level for origin to station, station origin to station destination, station to and from home and station to and from commuting	241
Table 4.28	Variables tested	243
Table 4.29	Value of correlation (strength) between the variables.	244
Table 4.30	Correlation Analysis Table	245

Table 4.31	Tolerance levels and VIF values	251
Table 4.32	Model Summary	254
Table 4.33	ANOVA ^a	254
Table 4.34	Coefficients ^a	255
Table 4.35	Model Summary ^b	256
Table 4.36	ANOVA ^a	257
Table 4.37	Coefficient ^a	257
Table 4.38	Model Summary	258
Table 4.39	ANOVA ^a	259
Table 4.40	Coefficient ^a	259
Table 4.41	Model Summary	260
Table 4.42	ANOVA ^a	260
Table 4.43	Coefficient ^a	261
Table 4.44	Model Summary	261
Table 4.45	ANOVA ^a	262
Table 4.46	Coefficient ^a	262
Table 4.47	Model Summary	263
Table 4.48	ANOVA ^a	263
Table 4.49	Coefficient ^a	263

Table 4.50	Model Summary	264
Table 4.51	ANOVA ^a	264
Table 4.52	Coefficient ^a	265
Table 5.1	Research objectives and the achievement	271
Table 5.2	Roofed and Rain Shelter Pedestrian Walkway	276
Table 5.3	Safety Communication Device	277
Table 5.4	Shop at the MRT Station Platform	278
Table 5.5	Good Sign and Wayfinding	280
Table 5.6	Ticketing Machine	281



LIST OF FIGURES

Figure 1.1	Research Flow	16
Figure 2.1	Theoretical Framework	20
Figure 2.2	Public Transport System in Malaysia	25
Figure 2.3	KTM Coaches	27
Figure 2.4	STAR LRT	28
Figure 2.5	MRT SBK Line Facts	30
Figure 2.6	MRT Coaches	31
Figure 2.7	MRT Sungai Buloh – Kajang (SBK) Line	32
Figure 2.8	Sustainable Development Goals Pillars	36
Figure 2.9	Timetable Scheduling System	58
Figure 2.10	Internal and External Factors	58
Figure 2.11	Conceptual Framework	101
Figure 3.1	Research Design and Process	105
Figure 3.2	Rail Public Transport in Klang Valley	112
Figure 3.3	Revealed Preference (RP) Framework in Questionnaire Design	117

Figure 3.4	Survey Process	137
Figure 3.5	MRT SBK Line Alignment	150
Figure 3.6	Bandar Utama SBK 09 MRT Station location	151
Figure 3.7	Phileo Damansara SBK 11 MRT Station location	153
Figure 3.8	Pusat Bandar Damansara SBK 13 MRT Station Location	156
Figure 3.9	Muzium Negara SBK 15 MRT Station location	159
Figure 3.10	Maluri SBK 22 MRT Station location	162
Figure 3.11	Taman Midah SBK 24 MRT Station location	164
Figure 3.12	Taman Suntex SBK 27 MRT Station location	167
Figure 3.13	Sri Raya SBK 28 MRT Station location	171
Figure 3.14	Bandar Tun Hussein Onn SBK 29 MRT Station location	173
Figure 3.15	Bukit Dukung SBK 31 MRT Station location	175
Figure 3.16	MRT SBK Line Station	177
Figure 3.17	Research Design Flow Chart	187
Figure 4.1	Normal Distribution Graph (Age) of respondents	192
Figure 4.2	Occupation of Respondents	193
Figure 4.3	Average Monthly Household Income Level of Respondents	194

Figure 4.4	Normal Distribution (Income Group)	195
Figure 4.5	Mean Satisfaction for Station Facilities	211
Figure 4.6	Mean Satisfaction for Signages	213
Figure 4.7	Mean Satisfaction for Convenience	214
Figure 4.8	Mean Satisfaction for Pedestrian Facilities	216
Figure 4.9	Mean Satisfaction for Waiting Time	217
Figure 4.10	Mean Satisfaction for Parking Facilities	219
Figure 4.11	Mean Satisfaction for Origin-Destination	220
Figure 4.12	Overall Mean Satisfaction for ten (10) MRT Stations	223
Figure 4.13	P-P Plot of Station Facilities	251
Figure 4.14	Scatter Plot of Station Facilities	252

LIST OF STATUTES

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

