

Implementation of Systematic Public Transportation in Malaysia: Development of Bus Rapid Transit

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Abstract— Enhancing the sustainability of an urban city need to consider the public demand and facilities. The growth of the city is coloration of the community on their satisfaction and daily activities in terms of environment, social and economic. Public transportation is a structured networking tool in any places that cannot be separated from the living community. In fact, the public transportation are already served for the people since historic period but today the public transportation are demanded to have the proper and systematic mechanism in terms of management, comfort ability, time consumption and fares. Bus Rapid Transit (BRT) systems which is an innovation of the public transportation seems the best solution of giving the best service to the community. BRT is able to implement by less amount of budget rather than the other kinds of public transportation such as Mass Rapid Transit (MRT) and Light Rail Transit (LRT).

Keywords—Public Transport, Bus Rapid Transit, Malaysia.

I. INTRODUCTION

It is essential to determine the systematic of public transportation before it can be managed. The growing the numbers of population will resulted the expanding of the cities and metropolitan areas by multi-cultural activities [1]. Furthermore, the demand of efficient and convenient public transportation are increased and needed to support the daily movement of persons and goods. The changes of density in terms of people activities make it possible and necessary that high capacity modes such as bus and rails vehicle become choices in the cities because they are reasonable in price and easily travel than the private vehicles. The complexity and number of components involved in the transportation planning process is quite significant [2]. Transportation planning is a critical element in the revolution and sustainability of metropolitan regions. Such planning must take into account trip purpose, temporal and spatial distributions of trips, modal splits of travel, and costs [3].

Transportation and town planning issues the world is determine improving the public transportation in addressing their urban mobility factors. Renewing the interest in public transportation reflects concerns arising from environmental protection to the desire for alternatives to clogged highways and urban sprawl [4]. Also, added these concerns have

prompted many transit agencies to re-examine existing technologies and to embrace creative ways of improving service quality in a cost-effective manner. As a result, BRT systems have been built throughout the world. BRT systems have operational flexibility, and can be built quickly, incrementally, and economically. Malaysia is one of the developed country in the world are needed to transform the public transportation especially in the huge population cities such as Kuala Lumpur and Johor Bahru to cater the traffic flow issues.

II. THE IMPLEMENTATION BUS RAPID TRANSIT (BRT) SYSTEM IN MALAYSIA PUBLIC TRANSPORT

The rapid increase in use of personal vehicles has its roots in the weak Malaysia public transport [5]. As a result, traffic congestion, accidents, air pollution and parking issues have escalated. Public transport users are not encouraged to have the public transportation based on several factors such as comfort ability, fares, and interval time. Realized the issues arising by the day, the government through several departments have been deeply in action to overcome these issues.

In Kuala Lumpur city where the biggest number of population in Malaysia now has been accommodated by many kinds of public transportation such as LRT, Rapid buses and the MRT (under construction) to overcome the heavy traffic congestion in Kuala Lumpur. Although, the implementation of these kind of public transportation believes to solve the issues, the people are still not be encouraged because of comfort ability, fares and interval time rather than move using their own vehicles. To provide more systematic system in public transportation need a huge of budget allocation and believes will be reached in billion dollars. However, the BRT systems have been conducted in several cities in the world proved that the reasonable cost in implementation and the results from the people.

The main reasons reported for implementing BRT were its lower development costs and greater operating flexibility as compared with rail transit [4]. Other reasons that were cited include that BRT system is a practical alternative to major highway reconstruction, it can be an integrated part of the city's planning and structure, and it can serve as a catalyst for redevelopment. The key attributes of rail transit should be transferred to BRT systems wherever possible. These include

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segregated or prioritized rights-of-way, attractive stations, off-vehicle fare collection, easily accessible multi-door vehicles, and clear, frequent, rapid service. A successful BRT project requires more than merely providing a queue bypass, bus lane, or dedicated bus way. It requires the entire range of rapid transit elements, and the development of a unique system image and identity, and a sense of permanence, speed and reliability are essential [4].

III. RESEARCH METHODOLOGY

This research mainly used a quantitative approach to achieve the research objectives which consists of four parts in questionnaire survey. For this questionnaire, about 30 respondents who willing to participate and kindly give their support by answering the entire question. Also, the data collection methods have been support by observation method on research sites chosen which will be the primary data sources

IV. THE PERCEPTION AND EXPERIENCE ON MALAYSIA PUBLIC TRANSPORTATION

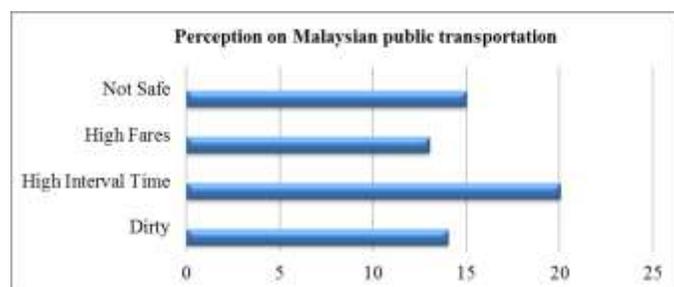


Fig. 1. The respondent's experience and perception using the Malaysian public transport

Figure 1 above shows that majority of the respondents stated that high interval time of Malaysia public transportation especially for buses is the major constraint to public transport users. They also added that the locomotive, bus and taxi have affected their daily activities and rely on the public transportation. The interval time between buses make the people feel uncomfortable with the inconvenience waiting stations. About 21% of respondents stated that high fares of Malaysia public transports while the festive seasons and it's not as relevant due to the fuel and material market price in stable condition. Dirty and not safe are another perception that can be concludes as negative perspective for public transportations. Many public transports are not in well-organized conditions where the seats and interior full with gums and rubbish. Respondents claimed that public transportation nowadays not really in safe and secured in terms of preventing the crime. As reflected to these issues, the rapid increase in use of personal vehicles has its roots in the weak Malaysia public transport [5].

V. THE KNOWLEDGE AND AWARENESS ON THE CONCEPT OF BRT SYSTEM

TABLE I: THE RATING LEVEL OF RESPONDENT'S AWARENESS ON BRT SYSTEM CONCEPT

BRT System	Number of Respondent Rating	
	Disagree	Agree
A concept of sustainability of transportation in term of energy saving	8	22
Convenience transportation model rather than common bus service	10	20
Time consumption is the prominent factor in BRT system	6	24
Safety and disable people friendly element are included and highlighted in BRT system	10	20

As shown in the Table 1 above, most of the respondents strongly clarify that the public transportation is measured for convenience, time, safety and eco-friendly. For the maximum comfort ability in public transportation, it is often to see that users have their own risk while using the public transportation.

VI. THE POTENTIAL ELEMENT NEEDED IN IMPLEMENTATION BUS RAPID TRANSIT (BRT) SYSTEM IN MALAYSIA PUBLIC TRANSPORTATION

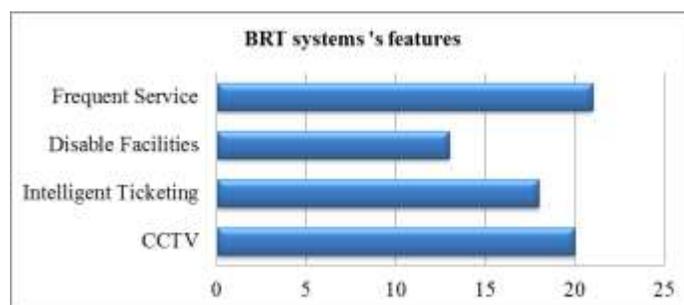


Fig. 2. The important element in implementing BRT system in Malaysia public transport

About 29% of the respondents claimed that frequent services of BRT systems needed to cater the issues of interval time shown in Figure 2. Rapid services will give the users more time to travel in flexible planning. CCTV is one of the compulsory item that seen need to behave in the BRT system. In order to ensure the safety and security in BRT systems, CCTV believes can enhance the security along the journey. Intelligent ticketing system such as smart card (e.g. "Touch'n'Go") will reduce the interval time during peak hour while the passengers queue for the tickets. Disable facilities seem needed to prepare since the people arguing the facilities for disable people in current public transportation.

After process of analyze, it can be summarized that most of the respondents suggesting the new transportation system such as BRT systems need to highlighted the weaknesses in current public transportation provider to enhance the better public solution without depending on the profit agenda. Public

transportation is a bridge of people to move from a destination to a destination in very congestion situation like in Kuala Lumpur nowadays. Upgrading the transportation system will believe to bringing the gap in social, economic and environmental impact in Malaysia. A BRT system in Malaysia is one of the best solutions for the current public transportation with less implementation budgeting rather than others provider.

served as Project Executive dealing with property development. He also has been as Project Engineer for System Everest Sdn.Bhd. He was managed several huge impacted project in Kelantan (Jeli), Perak (Pengkalan Hulu), Johor (Johor Bahru), Selangor (Klang) and Kedah (Sungai Petani). Experienced in government procurement system (PWD) promoted him to BinaPuri Holdings Group. He was appointed as Project Engineer for LRT Extension Ampang Line Project Package 1 which is joint-venture with MRCB Berhad. He left the group as Assistant Project Manager at MRT package 3 projects. He started the business in IBS production line collaboration with Pens Holdings Sdn.Bhd before he joined the UniMAP as an academician.

VII. CONCLUSION

This study reveal that Malaysia public transportation is not being fully implement in sustainable planning in terms of the design, procedures, regulations and implementations that is essentially influencing the successful of public transportation model. It is also agreed that the process is only implement for specific transport, highly marketable and impacted project rather than high usage of current services. Based on survey result and as the recommendation, it was noted that implementation of BRT systems in Malaysia is a solution and a tool that should be implement in order to achieve the concept of sustainability and satisfaction of public transport users.

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