

The Improvement of the Sidewalk in Commercial Areas at City Center in Malaysia

Nur Farizan Tarudin¹, Muhammad Firdaus Abd. Rashid², Nurul Elma Kordi¹, Elmi Alif Azmi¹, Tengku Nurul Aishah Tengku Aziz¹

¹Malaysia Institute of Transport, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia

²Faculty of Business and Management, Universiti Teknologi MARA, Puncak Alam, Selangor, Malaysia

Received: May 24, 2016

Accepted: July 3, 2016

ABSTRACT

Sidewalk has become an important part of urban transport in many large cities in the world and also became an important part of the urban traffic system. This research was done to identify problems and propose the improvements on the sidewalk by analyzing the relationships among safety, street facility and obstruction at Jalan Tuanku Abdul Rahman or known as Jalan TAR. The problems that commonly found in terms of safety to the pedestrians on the sidewalk such as the signage for pedestrian crossing and also crime activity along the sidewalk will be evaluated. The focusing also has been given to look at the street facility to the pedestrians along the sidewalk at Jalan TAR such as the ramps especially for wheelchairs and the condition of the facility. To analysis the result, several methods have been used such as descriptive analysis, reliability analysis, correlation analysis and regression analysis. The key findings from the research revealed that street facility have significant relationship with the improvements on the sidewalk.

KEYWORDS: Sidewalk, Pedestrian, Street Facility.

INTRODUCTION

Sidewalk is a special lane separated from vehicle traffic and designed to provide pedestrian's accessibility, however it was considered a critical component of pedestrian's facilities and their safety. Sidewalk is designed parallel to a street or highway and restricted for bicycles or users. Some sidewalks in developing countries filled with a variety of on street vendors, a unique characteristic commonly found in the central business district of developing cities.

Street vendors commonly occupy space inside the sidewalk width. Reduction in total sidewalk width due to the vendor's existence often impedes pedestrian movements. A city center is not a pedestrian friendly city if its lack of pedestrian linkage and existence of major deficiencies such as poor maintenance, inefficient design and poor accessibility. Besides that, the local and foreign visitors often find deficiencies in the pedestrian sidewalk facilities that are physically challenging to the disabled and the elderly. Unlicensed vendor using the pedestrian sidewalk for their business purpose and some building prohibit public access across their property worsen this scenario [7].

Every person who travels from one place to another is pedestrian and every pedestrian is an element of road space [6]. The quality of the path context in the network is important criteria that can affect the likelihood of walking [3]. However, only minimum facilities are provided for the pedestrian in some areas. Pedestrian are among the most vulnerable of all road users. Pedestrians are usually exposed to accident risks, adverse weather, crime and other hazard which make people tend to avoid travelling by walking in long distance. Inadequate pedestrian facilities cause constant conflict between the pedestrians and the vehicles on the roadway between pedestrian and other pedestrians, parked vehicles and with roadside development [5].

The government is aware of the importance of pedestrianization towards increasing the economic development in Malaysia. Aside from the above development, there has been a gradual pedestrian safety improvement in the newer building but the existing facilities remain the same or very little improvement is done. Enhancement project such as the provision of safer road crossing, sidewalk widening, removal of high kerb obstacle, tree planting for landscape treatment and other enhancement project have been initiated to promote and facilitate pedestrianization [1].

Therefore, a more progressive pedestrian sidewalk is implemented in the commercial city center by giving priority to pedestrian movement rather than cars. People tend to walk further and more frequent if the high safety and facilities provided for them [4, 9]. This research can help the transport planner and facilities provider to understand how the users felt about safety when use the sidewalk. Therefore, optimum facilities can be provided to the pedestrian's safety. When optimum facilities or safety provided, the number of pedestrian will

increased and these can help to increase the walkability and foster towards pedestrianization in the city of Kuala Lumpur.

PROBLEM STATEMENT

Like many other towns of the country, the basic city framework derives from the activities of the urban dwellers the shop houses of the Chinese immigrants and later superimposed by the regulatory measures of building codes and street layouts of the British precedence.

The first problem towards the pedestrian sidewalk at Jalan TAR is safety towards pedestrians, which is driver’s failure to acknowledge the rights of pedestrians and fast speeds of drivers in areas of high pedestrian activity greatly increased the potential for crashes and also lack of pedestrian signage.

The second issue is street facility to the pedestrians which is the elderly and disables people because of the condition facility for most of the existing sidewalk along the Jalan TAR are quite low and also street facility of buffer or curb between traffic and sidewalk.

The third issue is obstruction in total sidewalk width due to the vendor’s existence often impedes pedestrian movements and makes conflicts between pedestrian space and walkways with vehicular movements which hamper the optimization of a walkable public space. As a result, the reduction of total sidewalk width occurs on both sides of the sidewalk, causing substantial problems with pedestrian traffic.

RESEARCH FRAMEWORK

There is a variable whereby it is the interest topic that a researcher wants to study and investigate. There are few factors or can be known as an independent variables that affect the dependent variable in any form of way.

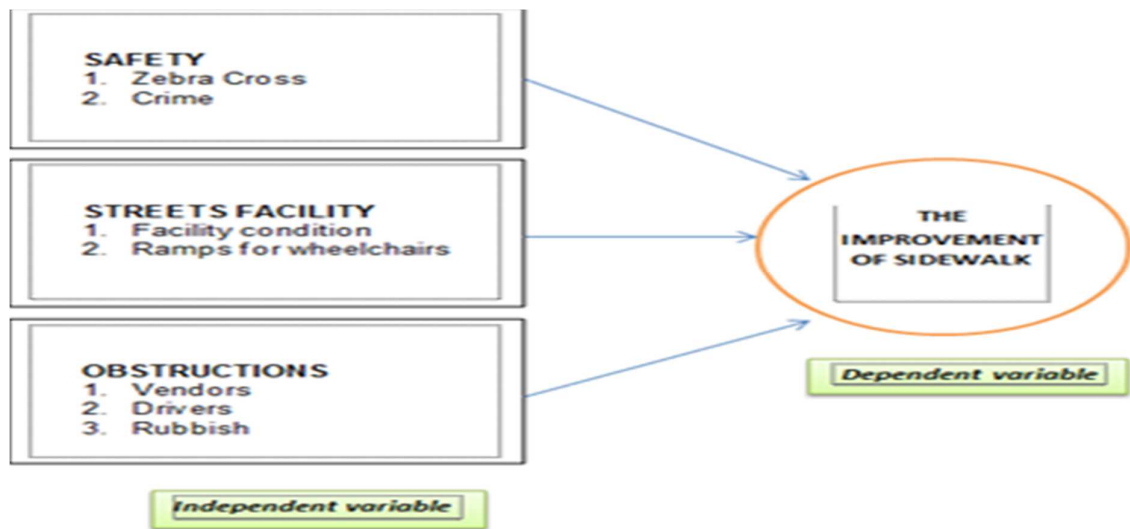


Figure 1: Theoretical framework

METHODOLOGY

Regarding to the population, researcher will select a sample by using the simple random sampling method, in [8] considers this the most efficient sampling design when differentiated information is needed from the various strata within the population. The purpose of using this technique is to avoid members of the population being significantly under or over represented [2].

This research uses quantitative approach and 112 questionnaires have been distributed to 112 respondents along the sidewalk of Jalan Tuanku Abdul Rahman (Jalan TAR), which is involved with local and tourist. After the survey has been made and the data has been gathered, statistical equipment known as Statistical Package for Social Science Program (SPSS) has been used to compute data from questionnaires to get the exact and final results.

FINDINGS AND DISCUSSION

For best practices in improving the sidewalk based on the result that has been analyzed, which is the major factor or the first priority need to be improves is street facility. The bar graph below shows some of improvement which is by the scale that respondent's need and it can be applied by local authority.

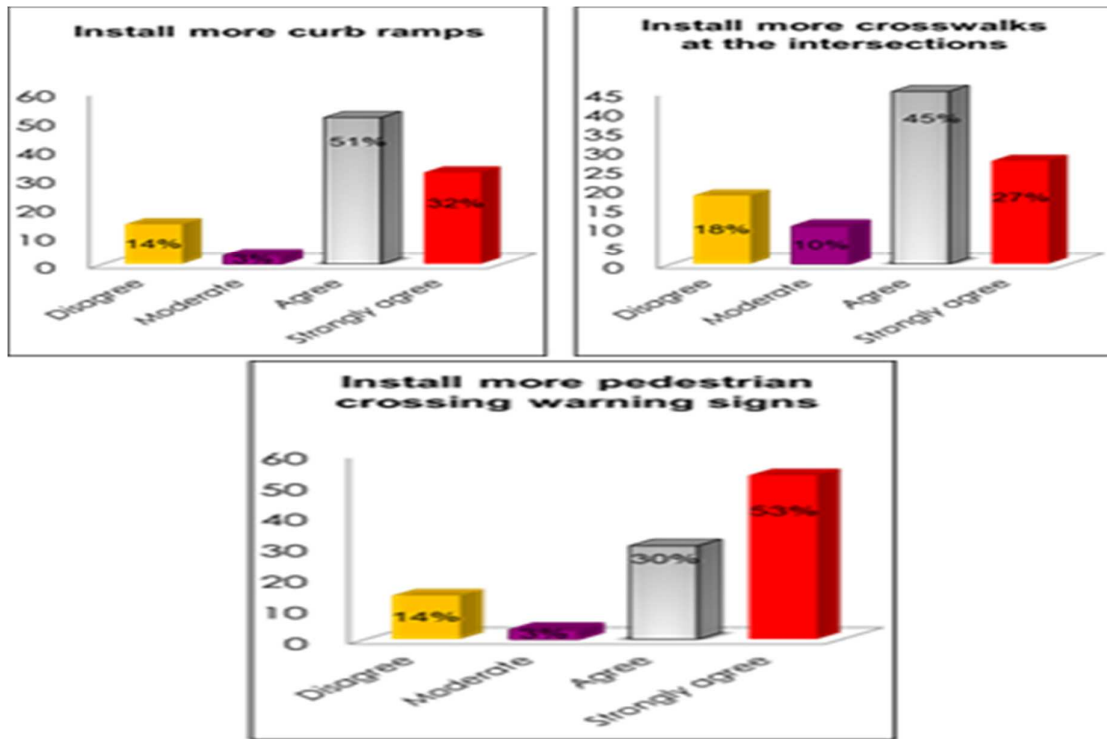


Figure 2: Percentage of Install more curb ramps, crosswalk at intersections and pedestrians crossing warning signs

Figure 2 shows the first bar graph is majority of respondents agree by installing more curb ramps at the sidewalk Jalan Tuanku Abdul Rahman (Jalan TAR) with the amount is 51%. Secondly, most of the respondents choose to agree by installing more crosswalks at the intersections with 45%. Lastly, the majority of the respondents answered strongly agree by installing more pedestrian crossing warning signs with 53% and followed by agreeing with 30%.

Based on the result above, it can be concluded that most of the respondents agree to install more curb ramps, crosswalk at intersection and pedestrians crossing warning signs for their comfortable of the street facility and also give them more confidence in walking with safe.

CONCLUSION AND RECOMMENDATIONS

During this research, researcher does not only use the method of distributing questionnaires, the researcher also has undertaken an on-board observation where researcher has observed the current situation of the sidewalk along the Jalan Tuanku Abdul Rahman or known as (Jalan TAR). Based on the data that has been analyzed, it shows that there is only one variable that influence the improvement of sidewalk significantly. The independent variable is street facility. From the analyzed data, it shows that safety and obstruction does not significantly influence to the improvement of sidewalks.

The pedestrian does not expect something extraordinary, but would like to use the facilities comfortably and safely. Every pedestrian group has different expectation towards the pedestrian facilities. Some group of pedestrian would consider the safety factor before travelling, while others would prefer the space of sidewalk provided by local authority.

The finding of this research is expected to help the planners and local authority to understand the pedestrian perception and expectation towards pedestrian sidewalk street facilities towards providing the optimum pedestrian facilities. When optimum facilities provided, the number of pedestrian will increased and these can

help to increase the walkability and foster towards pedestrianisation in the Jalan Tuanku Abdul Rahman (Jalan TAR) Kuala Lumpur.

ACKNOWLEDGEMENT

This work is supported by the Malaysia Institute of Transports (MITRANS) and Faculty of Business and Management located at the Universiti Teknologi MARA (UiTM).

REFERENCES

1. Dewan Bandaraya Kuala Lumpur, 2004 DBKL: Kuala Lumpur structure plan 2020. Retrieved from http://www.dbkl.gov.my/pskl2020/english/urban_design_and_landscape/index.htm.
2. J. Hussey and R. Hussey, 1997. Business research: A practical guide for undergraduate and postgraduate students. Macmillan
3. Jaskiewicz, F., 2000. Pedestrian Level of Service Based on Trip Quality. In the Proceedings of the 2000 Urban Street Symposium, pp: 1-14.
4. Kelly, C.E., M.R. Tight, F.C. Hodgson and M.W. Page, 2011. A Comparison of Three Methods for Assessing the Walkability of the Pedestrian Environment. *Journal of Transport Geography*, 19 (6): 1500-1508.
5. Laxman, K.K., R. Rastogi and S. Chandra, 2010. Pedestrian Flow Characteristics in Mixed Traffic Conditions. *Journal of Urban Planning and Development*, 136 (1): 23-33.
6. Leong, S.M., 2011. Integrated Pedestrian Network in Kuala Lumpur. In the Proceedings of the 2011 PIARC International Seminar.
7. Rahaman, K.R., J.M. Lourenco and J.M. Viegas, 2012. Perceptions of Pedestrians and Shopkeepers in European Medium-Sized Cities: Study of Guimarães, Portugal. *Journal of Urban Planning and Development*, 138 (1): 26-34.
8. U. Sekaran, 2003 *Research methods for business*. John Wiley and Sons.
9. Sisiopiku, V.P. and D. Akin, 2003. Pedestrian Behaviors and Perceptions Towards Various Pedestrian Facilities: An Examination Based on Observation and Survey Data. *Transportation Research Part F: Traffic Psychology and Behaviour*, 6 (4): 249-274.