Walkable Environment in Increasing the Liveability of a City

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Abstract

This paper explains how walkable environment leads to the livable environment of a city. Livability is a concept that has been practiced worldwide. It is equivalent to the quality of living in a city and is determined by many elements. One of the important elements is to create a walkable environment in order to achieve livability in a city. This study aims (1) to identify the role of walkable environment in making Kuala Lumpur a liveable city and (2) to assess the level of comfort for walking activities by its citizens. Thus, it is crucial to promote a walkable lifestyle where the citizens are given the option to walk comfortably in the city.

Keywords: Liveable city; walkable; Sustainable transportation; Quality of life.

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1. Introduction

According to the Urban Planning Advisory Team, the current world population in cities is growing at an unprecedented rate. They found that half of the world’s population is living inside the city centre and the research predicts that the growth will continue to rise by 5 million in 2030 (UPAT, 2011). This in turn imposes constraints on the larger cities in terms of providing better living places and infrastructure.

Huge population brings positive and negative vibes to the local authorities. Cities function as hubs of economic activities and employment opportunities. These become an attraction for the citizens to seek new life. However, the city needs to provide other attractions such as residential areas for living and also entertainment to increase the attraction and boost the economy. UPAT also adds that the scale of growth in cities presents new social, economic and environmental challenges for those who live, work and engage in businesses within the city.

When the cities cannot afford to accommodate the population density, they become dense in the centre and spread into the countryside, thus expanding the city boundaries. This leads to the trend of having skyscrapers and high rise buildings in the city centre as observed in developed cities like Japan and United States. The dense core area and sprawling effects lead to an unsustainable ecology which is associated with pollution, low production of affordable housing and less green space.

The sprawling of cities and the zoning of land uses have changed and the increase in movement between different parts has imposed constraint on time, energy and finance. This also exacerbates the poor air quality due to heavy dependence on private vehicular transportation as the issues of pollution through automobile transportation system and travel pattern in the city centre are new prime concerns. Evan (1995) stated that rapid urbanization has imposed a challenge to maintain liveability as the cities expand, resulting in urban sprawls that encroach into environmentally sensitive areas in the countryside.

In Malaysia, the Kuala Lumpur city centre has the largest number of population in any Malaysian city, which is nearly 2 million people. As a city centre, most of the economic activities take place here but recently, it has sprung up in satellite towns due to the congestions in downtown KL. This situation causes a complex travel pattern and commuting trend because of the trip origins and destination that are all over the places (Said. M. H., 2011). Other large cities in the world such as Singapore and Australian cities have promoted walkable environment as their main transportation theme and feature, but Malaysia is focusing to make the city centre a transit oriented city, where currently there is a heavy dependence on private vehicles as transportation mode.

According to the Malaysian Physical Plan (2002), the highest energy consumption in Malaysia comes from transportation and industrial sectors (which is 40%) while the other sectors remain stagnant between 0 to 10%. This clearly shows that Malaysian cities are far away from having a sustainable environment as both transportation and industries are the biggest contributors towards low quality environment in an urban areas. According to the Malaysian Automotive Association (2010), the total number of registered vehicles had increased by 63% from year 2000 until 2009 as shown in table 1. This proves that private vehicle demand is overrated and people tend choose to drive cars rather than walk.

Table 1. Total Number of registered vehicles for Malaysia in the year 1990-2009; Source: National Urban Policy, 2006: Malaysia Automotive Association, (2010)

| Year | 1990  | 2000  | 2009  |
|------|-------|-------|-------|
| Total number of vehicle registered in Malaysia | 165,861 | 343,173 | 536,905 |
In 2011, Kuala Lumpur ranked number 78th in the Liveable City Index by Economic Intelligence Units and remained stagnant at 74th place in the Mercer Studies for Quality of Life for the best place to live (EIU, 2011). This situation somehow creates an enigma on how to create a liveable city as a higher rank will give an advantage in terms of popularity and bring more economic activities such as investment tourism, education and many more.

Hence, Kuala Lumpur is best known for its tourist attractions and it is a vital to enhance its appearance and image as a liveable city (suitable place to live). Apart from improving public transport, a walkable city is also important in creating a liveable city. Thus, creating a walkable environment may help the citizens and tourists to appreciate the sense of place in this city. Besides, walkability will improve the residents’ quality of living by encouraging a healthy lifestyle.

The first aim of this study is to identify the role of walkable environment towards creating a liveable city and the second aim is to determine the level of comfort experienced by residents of Kuala Lumpur in walking within the city centre.

2. Literature review

Oxford Advanced Learner Dictionary (2010) refers to liveable as ‘fit to live in’. Heylen (2006) explained that the term livability is an umbrella to a variety of meaning, which depends both on the objects of measurement and the perspective of those making the measurement. According to her, most researchers agree that livability refers to the environment from the perspective of the individual and also includes a subjective evaluation of the quality of the place.

EIU (2011) defines liveability as one of the aspects that could contribute to a high quality of living. This is because high quality of living will affect citizens’ lifestyle, health condition and shows stability of the built environment. Major city centres in the world have faced challenges in keeping the city safe and increase the residents’ health condition, economic stability as well as providing excellent transportation system and network. Liveability and vibrancy of the built environment are discussed increasingly on a global scale. As an example, The Centres for Liveable Cities Singapore’s (2011) definition of liveability is that ‘city through a good planning, provides a vibrant, attractive and secure environment for people to live, work and play and encompasses good governance, a competitive economy, high quality of living and environmental sustainability’.
Liveability is a part of the sustainability concept which consists of six different objectives and component. One of the objectives is to achieve the transportation sector’s goals such as promoting walkability, giving more accessibility and more transportation choice (VTPI, 2010). Hence, this shows that walkability is a part of liveability component in promoting sustainable environment and creating a liveable place. Other than that, a liveable city promotes quality of access and linkages in neighbourhoods, town centre and urban areas. Liveable city put emphasis on sustainability of transportation which is to reduce noise and air pollution as well as encouraging residents to walk (Lennard, 2008).

The current trend in many developing city like Jakarta is the usage personal vehicle as a popular mode of transportation which consist 98% of usage alone in 2010; rather than the usage of public transportation (Jakarta Local Government, 2011). This situation contradicts with advanced city like Singapore where more than 90% of their residents are satisfied in using public transportation and 69.1% agree that the public transportation system has improved in 2011 (Land Transport Authority, 2011).

Walkability and walkable are often discussed together but the real definition is not clear. The term ‘ability’ is defined as the “fact that somebody or something is able to do something” (Oxford Advanced Learner Dictionary, 2011). Walkability and walkable is also considered as a measure that something is ‘Walking-Friendly’. Llewelyn-Davies explained that walkability is defined by the level of pedestrians’ comfort and safety such as the existence of casual surveillance, spaces between pedestrians and vehicles as well as high quality connected pedestrian pathways (2000 in Shamsuddin et al., 2004). This statement is supported by Steve (2005) who stated that walkability is the extent to which walking is readily available as safe, connected, accessible, and pleasant mode of transport.

Litman (2010) stated that the activity of walking is a minor mode of travel, and walkability (the quality of walking conditions, including safety, comfort and convenience) receives only modest public support. From this perspective it is always undesirable to give walking priority over automobile travel. This high value placed on driving and low value being placed on walking in conventional planning reflects how transport is being measured.

Wheeler (2004) stated in his book that the physical planning must reflect on the human scale, transportation system,climate change, natural change, networks, water flow, park and greenway without manipulating the natural resources’. This means that physical elements should play an important role to integrate the functions of each element in the city for a good human community. In addition, development inside the city should be functional by using resources more efficiently to achieve a sustainable-oriented urban design. In addition, one of the sustainable-oriented principles in urban design is to encourage the community in the city to choose to walk in a safe and pleasant network through the physical designs of the cities. Cities like Kuala Lumpur have difficulties in encouraging walking activities as the design of the city itself makes the city inconvenient to walk.

The current trend for cities is to change the urban form to encourage walkability in two ways which is form building by defining streets, and having squares adjacent to building pavilions (1996; 1998 in Carmona et al., 2003). As such, it has affected the development scenarios as there are no integrated functions between the physical elements through permeability and legibility in the city. The higher the permeability and legibility, the more continuity and connectivity the city offers in terms of walkability. Without human scale activities that are oriented to human needs and streets filled with people, the large blocks in the city will face problems with high traffic volume, and heavy pollution that destroy the connectivity needed to be a walkable city.

Litman (2010) stated that it is more flexible to walk through a shorter distance while a longer distance requires a combination of walking and usage of public transport. Walking link is often ignored if the involvement of motorized link has taken place on public right-of-way.

A city should also provide the connecting street networks and improve the pedestrian-friendly street design, as it may be an opportunity to reduce the natural resources’ disaster, air pollution, travel cost, time
cost and automobile dependency (Stephen, 2004). He also added that this element may improve the sense of place and sense of community of the area. Shimizt and Scully (2006) agreed that a pedestrian-friendly street design may help biological health and the ways they have changed the lifestyle and also improved their quality of life. This shows that in order to create a walkable environment, it is important to consider a better and well managed streetscapes furniture with strong character so that the pedestrians will enjoy and be able to walk comfortably in any part of the city. Therefore, from this perspective, planners or architects need to find ways to create a space that is convenient and make the citizens enjoy walking within acceptable distance and thus making the city more liveable.

Creating a walkable environment is included in the transportation section where the emphasis is to focus on public transport as the primary spine, supported by pedestrian-friendly street networks. The Government Transportation Plan Program’s (GTP 2010) mission is to encourage a more walkable environment in the future. This is aligned to the purpose of creating a livable city with walkable environment being one of the elements in creating the liveability of a place.

3. Research Methodology

3.1. Quantitative Approach : Questionnaire Survey

This research identifies the role of walkable environment in making Kuala Lumpur a liveable city. Kuala Lumpur is chosen as the study area because of its function as a city centre and the only city in Malaysia that is listed in the Liveable City Ranking by EIU. Walkable in this research is defined as the quality of walking environment that provide comfort to the pedestrian users in Kuala Lumpur city. The research employs a questionnaire survey of 400 users of Kuala Lumpur City Centre, which is selected based on a stratified multistage cluster sampling strategy, and the choice of respondents of the survey is based on a simple random sampling technique.

The users and the respondents may or may not live in the city centre but use it as a place of work, shopping and leisure. This is supported by a field observation on the central planning area based on the response from the questionnaire survey. The questionnaires were distributed in several nodes of pedestrianized area in Kuala Lumpur in five zones located within the central planning area of the city as shown below:-

Table 2. Zones and District of the survey; Source: Author (2011)

| Zone | Location                | District             |
|------|-------------------------|----------------------|
| 1    | Bukit Bintang           | Shopping Centre      |
| 2    | Jalan Tuanku Abdul Rahman | Commercial area    |
| 3    | Jalan Raja Laut         | Office               |
| 4    | Kampung Baru            | Residential          |
| 5    | Central Market          | Commercial-office    |

3.2. Qualitative Approach : Observation Survey

The observation technique was used to study the relationship between respondent’s feedback and the actual situation in the study area. Lynch and Gary (1984) stated that direct observations can be made
more efficient if we have determined the particular behavior or activity that is of our interest (in Shamsuddin et al 2011).

The observation will include ‘elements of walkability and the character of walkable environment’. The current conditions using photographic recording and mapping in identifying types, location and the pedestrian elements provided in all zones were also recorded. Table 3 shows the framework of observation and techniques of recording information for the observation survey;

Table 3. Framework of observation and techniques of recording information; Source: Author (2011)

| Framework of observation and techniques of recording information | Periodic Observation, Photographic and field notes | Street User Uses and activities | The type of activities and its location |

3.3. **Limitation of the study**

This research is limited to the area of Kuala Lumpur City Centre as a case study because this area has been identified as an area that is suitable to examine the objective of the paper. One of the reasons for selection of the area is the role of Kuala Lumpur City as a place of attractions involving major pedestrian users namely shoppers, visitors, street vendors, street musicians, students, workers and many more (Dolbani, 2000).

This research is also limited to assessing the factors that makes resident choose to walk in the city centre rather than assessing the walkability from the criteria for walkable environment. Thus, this limitation means that it is the perception of the pedestrians that is being analyzed rather than the attributes of the environmental aspects in creating a walkable environment.

4. **The study Area**

Kuala Lumpur is the capital city of Malaysia with a total area of 242.2 square feet and with an estimated population of 1.7 million in 2009. Kuala Lumpur is the Malaysia’s premier location for business and trade.

According to the current Kuala Lumpur City Plan 2020, the city is divided into six strategic zones. This study focuses on the main core of the area which shares the same characteristic that is (i) the major nodes for commercial area in Kuala Lumpur, (ii) located within the diverse economic activities taking place, (iii) main streets of Kuala Lumpur with high concentration of pedestrian users, shoppers and tourist. These characteristics are mainly observed in the area called The Golden Triangle area. The Golden Triangle does not have its own boundaries but usually is defined as a major node and also a central place where the major shopping centres, entertainment districts and working areas are located. Malaysia Travel Guide (2009) identified the Golden Triangle region that covers the area of Jalan Pudu, South of Jalan Ampang and west of Jalan Imbi, and Jalan Tun Razak. The Golden Triangle also embraces the shopping area of Bukit Bintang, the office towers along Jalan Raja Chulan, entertainment area along Jalan P.Ramlee and the whole Kuala Lumpur City Centre (KLCC), which are well known by all residents in Kuala Lumpur. It is also the most happening place during the day and night as well as filled with landscape and skyscrapers.
According to the Structure Plan of Kuala Lumpur 2020, the vision for the city is to become a ‘World Class city’. It can be achieved by providing quality of life for people through priority to safety and comfort which is oriented to the people’s needs such as walkable city and liveability of the community. There are some important principles for a walkable environment, namely a five minute walking radius to determine a neighbourhood size, and reducing the use of cars and also to allow easy access with no barriers along the walking route/paths. The Kuala Lumpur City Hall has addressed the concept of walkability in order to improve the working environment and quality of life in the city centre through the integrated transportation system. The failure of creating a walkable environment comes from the failure in integrating land uses and transportation system. The Kuala Lumpur City centre is normally congested during peak hours.

5. Residents’ perception of the walkability character of Kuala Lumpur City Centre

Fig. 2. Kuala Lumpur City Centre Area; Source: KL City Plan, (2006)

Fig. 3. Respondent working area; Source: Independent study
A sample survey of 400 respondents from five zones was conducted to assess the level of comfort by walking in the city centre of Kuala Lumpur. As shown in figure 3, the majority of the respondents are working inside the city centre of Kuala Lumpur. This proves proof that there is a movement system inside and outside the city centre. The role of the city centre is also as an activity centre especially in terms of economics and entertainment. It is observed that the majority of the citizens who live outside the city centre and works inside the city are busy traveling during the peak hours between 7 am to 9 am in the morning and 5-7 pm in the evening. During these hours, it is observed that there are congestions at all zones with all types of vehicles. It is also observed that the majority travel by their own private vehicles as the citizens’ housing areas are located around 40-45 minutes driving distance to their place of work.

Figure 4 demonstrated that half of the survey respondents, (51%) travel by cars from homes to their offices and also from offices to homes. This raises concern on the chances of creating a livable environment as high dependency on private cars lead to high emission of carbon dioxide, and contributes to an unhealthy environment and quality of living. Even though the government has identified via the Government Transformation Program (GTP) to improve the public transportation in the city centre, it seems that the citizens are still not bothered to respond to this. However, there is still a huge number of respondents who choose to travel by public transport (21%) because they have no other choices. Currently, the average income for Kuala Lumpur citizen is RM5,011 in 2004 (Economic Planning Unit, 2006). It shows however, that they can still own a car since the lowest monthly payment for a new car is only around RM500 (10% of their monthly income).

Nevertheless, Kuala Lumpur’s role as a business district and also one of the tourist attractions is also a contributing factor as to why there is a high degree of movement within the city centre. However, as shown in Figure 5, 59% of the respondents admitted that they do not like to squeeze along with other users of public transportation such as on the Light Railway Transit, and public buses which result in them in driving their own vehicles and as they can stay comfortable at all times. This results however is connected to the lifestyle of the citizen itself and their level of income. As reported by the Deputy Prime Minister, Tan Sri Muhayidin Yassin, the number of users in Kuala Lumpur Central station is only 140,000 people per day (Mstar online, 2011). The fact that a high percentage (59%) choose to drive to work as they do not want to be in a crowded situation, suggesting a high degree of demand for public

![Fig. 4. Public travel pattern; Source: Independent study](image-url)
transportation. It is assumed that a more efficient and increase in public transportation provision could reduce the high number of private cars users.

The users probably have their own opinion about the idea of walking in the city centre. Based on observations, only at selected places in Kuala Lumpur are comfortable walking paths can be found that allow them to walk continuously. However, in Figure 6, 66% agree that they prefer to use their own vehicles while 62% of respondents said that walking only make them tired, so therefore they choose not to walk inside the city no matter how convenient the place is. From the survey, the researcher also found that only 26% like to socialize with other pedestrians. This is related to the behavior pattern of the people where the city centres is probably seen as a place for them to work rather than as a place for them to interact. This perception is not healthy if we are to encourage the creation of public realm to inject some life and activities to the city centre. It could also be that the city centre fails to provide an environment that encourages social interaction to happen here.
In order to promote this walkable lifestyle, there are several elements needed to support a walkable environment. Figure 7 shows that the majority of the respondents (53%) agree that pedestrian walkways are the most important element that is needed to encourage walking activities in the city of Kuala Lumpur. Only certain areas in Kuala Lumpur city are comfortable and wide walkway are provided, and others depend on the remaining width of the streets to be turned into walkways. Destinations that the area lead to is also important in creating the environment as explained earlier, where a place with high amount of users need better and quality walkways for the citizens to use the places frequently. Based on observation, lots of movements that require walking happen in the Kuala Lumpur shopping district, which is along Jalan Imbi, Jalan Bukit Bintang and Jalan Ampang and these three roads contain the main shopping complexes such as Suria Kuala Lumpur City Centre (KLCC), Pavilion and Sungai Wang Plaza in Bukit Bintang and also Times Square at Jalan Imbi. Within this area it only takes 5-15 minutes to walk from one place to another.

Fig. 7. Elements to encourage walking activities; Source: Independent study

6. Summary

The listing of cities in the world ranking of liveable cities widens the opportunities for tourism and other forms of foreign investment. To be listed in the world’s most liveable city is one of the key factors that show how Malaysia is also becoming a choice for foreigners as a place to live in. This has brought changes in the policy-making and also influences Malaysia’s approach towards development. Thus, policies and regulations regarding the country are made to bring benefits in terms of economic activities as the influence of Kuala Lumpur city to the world make it likeable for the investors to invest in this country. Hence, the consideration of creating a walkable environment is important so that it can help to create a comfortable place to live in. The research shows that transportation has become an issue that needs to be addressed. This needs full support from the local and non-government agencies to make sure it can succeed.

This research shows that the lack of walkable element has affected the behavior of walking among the citizens. There is no easy solution as many areas were established before policies have been made and it is become interesting for architects, planners and the government itself to plan new areas and enhance the existing areas. Nevertheless, the real problem is the lack of awareness among the citizens itself, and is exacerbated by the lack of support from the government to encourage the citizens to walk within the city centre. A stern measure is needed to force a change in attitude and perhaps it can only be changed by the design of the city centre’s environment itself. It is suggested that further research is needed to assess the
effectiveness of the policies in encouraging people to walk in the city centre as this may influence why there is still an unwillingness to walk among the citizen.

Acknowledgements

The authors would like to acknowledge Ministry of Higher Education (MOHE) and Universiti Teknologi Malaysia (vot FRGS 78649) for facilitating the research and the citizens of Kuala Lumpur who took part into this research.

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