

Available online at www.sciencedirect.com**ScienceDirect**

Procedia - Social and Behavioral Sciences 170 (2015) 642 – 652

Procedia
Social and Behavioral Sciences

AcE-Bs2014Seoul
Asian Conference on Environment-Behaviour Studies
Chung-Ang University, Seoul, S. Korea, 25-27 August 2014
"Environmental Settings in the Era of Urban Regeneration"

Comfort of Walking in the City Center of Kuala Lumpur

Juriah Zakaria^{*}, Norsidah Ujang

Department of Landscape Architecture, Faculty of Design and Architecture, Universiti Putra Malaysia, Malaysia

Abstract

A walkable place allows people to experience the city on foot pleasantly. The environmental qualities which facilitate walking determine a pedestrian's sense of comfort. This paper focuses on walkability of urban places in the city center of Kuala Lumpur. The objective of this study is to determine pedestrians' satisfaction of comfort based on their walking experience. The findings indicated that most of the respondents were fairly satisfied with the level of comfort particularly in terms of pedestrian facilities provided. In contrast, field observation revealed that the city center had poor maintenance of facilities reflected in improper condition of walkways and street furniture

© 2015 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of Centre for Environment-Behaviour Studies (cE-Bs), Faculty of Architecture, Planning & Surveying, Universiti Teknologi MARA, Malaysia.

Keywords: Pedestrian comfort; walking; accessibility; safety

1. Introduction

Walkability is essential for a sustainable city. A city is walkable if the entire system of public corridors is walkable and people can live without dependency on the automobile. The provision of well-connected pedestrian network and accessible public transit can increase opportunities for tourism activities where visitors can have enjoyable walking experience strolling through the places within the city on foot. In the case of Kuala Lumpur, the city center has many attractive places to visit. However, the attraction spots are segregated from each other and their specific functions or uses are not diverse (Wong, 2011). A study by Seranta Awam shows that Greater Kuala Lumpur/Klang Valley is not pedestrian-friendly as it currently has inefficient design, inadequate maintenance and poor accessibility and linkages. The attraction areas are also not easily accessible, inadequate of pedestrian facilities and segmented (DBKL,

^{*} Corresponding author. Tel.: +603 8946 4071; fax: +603 8948 0017
E-mail address: juriah_z@yahoo.com

2004). These problems may hinder the opportunity for visitors to experience the city with a greater sense of enjoyment and ease by walking. However, providing a comfortable pedestrian environment in the city center is a challenge due to the problems of traffic congestion and limited spaces for pedestrian movement. Although there have been many studies on pedestrian-friendly environment on the city of Kuala Lumpur in recent years, there is limited study on the aspect of comfort of walking for visitors as pedestrian. Thus, the aim of this paper is to assess pedestrian's comfort with reference to connectivity, accessibility and safety of the places. These aspects have been identified as the main indicators for a walkable environment. Pedestrian's comfort was determined by identifying the pedestrian's satisfaction on comfort based on their walking experience.

2. Literature Review

2.1. Walkability

Walkability refers to the built environment that is friendly with the presence of diverse activity (Abley, 2005). Others define walkability as 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 (Llewelyn-Davies 2000 in Shamsuddin et al., 2004). On similar notes, Steve (2005) stated that walkability is the extent to which walking is readily available as safe, connected, accessible, and pleasant mode of transport. Walking activity can be a pleasant mode of travel if the area provides the quality of walking conditions, safe, comfort and convenience (Litman, 2004).

Walkability relates to the ability of the places to connect people with varied destinations within a reasonable amount of time and effort, and to offer visual interest in journeys throughout the network (Southworth, 2005). The urban form and the structure of the built environment shape the pedestrian surrounding. Streetscape, sidewalk, walkway and adjacent building facades form the street network characteristics. The layout and arrangement of walkway and sidewalk appear to be more crucial in supporting walking activities. Previous study implied that an environment perceived to be walkable when it has more walkable features (Brown et al., 2007) and environment that could increase the use of public transportation facilities, therefore, supports walking activity Griffin (2000).

Southworth (2005) suggested the types of walkable environments that are significant in providing walkable place. A walkable place has a short distance to the destination. It provides proximity, connectivity and accessibility for pedestrian to reach their destinations.

In most Asian cities including Kuala Lumpur, it is expected that people prefer to drive than to walk. The quality of the pedestrian networks discourages walking despite places could be reached by foot. It will be possible to change this pattern if the city provides a friendly and safe pedestrian environment.

2.2. Comfort of walking

Alfonzo (2005) defines comfort as the person's level of ease, convenience and contentment. Likewise, Sarkar (2002) describes comfort as the pleasant state of physiological, psychological and physical harmony between the human body and the environment. Both scholars refer to the pleasant feeling that people feel when they interact with the environment. The environmental qualities that facilitate walking and support walking activities influence a person's level of comfort (Alfonzo, 2005). The buildings and spaces designed to human scale, good design, materials, space for walking and good surfaces to walk are determinants of pedestrian comfort (Kumar, 2010).

The built environment gives a greater impact on the trip lengths than trip frequencies (Handy, Xinyu & Mokhtarian, 2005). In this regards, the level of comfort could be determined by the length of time people

would spend at the public space (Carmona et al., 2003). Although it is quite difficult to determine comfort, as different individuals perceive it differently, observing how the people respond towards the surrounding can identify it. This pedestrian's pattern of use and activities provides indicators for comfort of walking. It is argued that pedestrians are considered comfortable being outdoors when high intensity of street activities takes place at the area.

A walkable place provides directness of pedestrian paths and connectivity of the street network. Park and Schofer (2006) suggested that street networks and sidewalk should be built and design properly to allow for easy walking. Those include the presence and continuity of sidewalks and pedestrian routes that connect pedestrians to frequent transit services with safe crossings (Hutabarat Lo, 2009). In addition, the place should also provide accessibility of facilitate people with different abilities.

Based on the above discussions, it is apparent that the environmental quality and the physical arrangement of urban elements are influential in providing pedestrian comfort. For the purpose of this study, physical attributes and condition are examined to understand the impact of walkability attributes on pedestrian's comfort of walking.

2.3. Connectivity and accessibility

Connectivity and accessibility are important criteria for pedestrian comfort (Hutabarat Lo, 2009; Vojnovic, 2006). Connectivity relates to the ease of moving from origins to destinations is the major factor influencing the pedestrian route choice (Kumar, 2010). The street networks need to be well connected with proper sidewalks to varied destination to encourage people to walk in the city.

A well-planned street network has streets that are well linked to other modes of transportation (Southworth, 2005). The streets should also provide varied uses of buildings and spaces, good quality of paths, adequate width of walkways, clear signage. The street design creates the visual interest of the built environment. All of these elements are important to facilitate walking with ease.

Accessibility is an important factor for walkability. A place is accessible when there is an equal opportunity for everybody to use public spaces. A normal person can be disabled if accessibility is not provided. On the other hand, even a wheelchair user, a blind person or an elderly are not disabled in an accessible environment. Street with a large amount of frontages taken up by parking makes pedestrian access to buildings more difficult by requiring pedestrians to cross the parking lot. According to Handy, Xinyu and Mokhtarian (2006), different physical settings may affect the walking pattern and route choice. For example, pedestrians who choose to walk may consider the distance to the destination as important to reduce the time consumed. They will prefer a place that has short walking distance and high connectivity walkways. In one way, the distance of walking should be minimized and connectivity should be maintained in order to reduce the time and cost of travel.

The scholar suggests that proximity, connectivity and accessibility are significant criteria in encouraging walking activity. In this respect, this study highlights the current condition and accessibility of facilities, proximity of the places and continuity of the walkways in providing physical comfort and pleasant walking for visitor as pedestrians.

2.4. Safety of walking

Safety is one of the determinants of a walkable environment. A safe pedestrian environment allows the pedestrians to walk comfortably and reduces the sense of fear from accident or crime. Southworth (2005) claimed that the quality of the walking environment might influence pedestrian intensity. The intensity of pedestrian is required to increase safety because the places become more transparent (Jacobs, 1969). The component of the pedestrian safety also associated with motorist behavior and crossing exposure and

security. Good structure of street networks, clearly define pedestrian district can create a better, comfortable and safer condition for pedestrian. Safety also can be increase by providing visible and transparent environment. As noted by Newman (1996), the urban designs are important to avoid formation of hidden and obscured niches in order to reduce crime on the streets. Hidden and obscured niches can be criminal hideout and expose the user to crime especially at a place with low intensity of pedestrian. Southworth (2005) proposed crossing times for people of varied mobility and handicapped needs as criteria of safety of walkable environment. The streets also should provide placement and length of crosswalk. Besides that, traffic speeds, pedestrian and traffic signing and signal crucial criteria in providing safe pedestrian environment. Sidewalk width and condition, path surveillance and lighting are also equally important for safety of walking.

In summary, the literature explains that a safe environment proclaimed to influence pedestrian activity. Transparency of the place can increase safety and protect pedestrian especially elderly, women and children from street criminals. This study will examine pedestrian's level of satisfaction of the physical safety of that influence visitors' walking experience in the study areas.

3. Methodology

The results of the study were based on a questionnaire survey conducted on randomly selected visitors as respondents. Based on the preliminary field observation, three zones in Kuala Lumpur city center were chosen as the study areas. The areas include the Merdeka Square, Kuala Lumpur City Center (KLCC) and Jalan Bukit Bintang. The places represent the major nodes in the city center that have the highest pedestrian volume particularly visitors.

Merdeka Square is one of the popular landmarks among visitors. Surrounding the square are numerous historical buildings. Opposite the square is Jalan Raja that links with traditional market and other attraction places within walking distance. Meanwhile, Jalan Bukit Bintang and KLCC are commercial districts that consist of shopping centres. These places are at walkable distance and connected by an elevated pedestrian walkway. All three areas are easily accessible by rail-based transport and bus system. Fig. 1 shows the study areas.

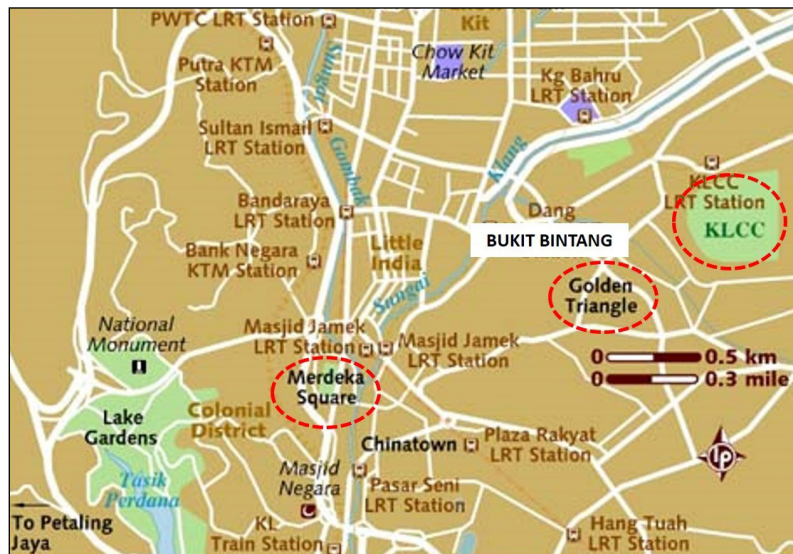


Fig. 1. the study areas. Source: <http://www.lonelyplanet.com/>

The questionnaire was designed using five Likert Scale format to assess the visitors' level of comfort while walking in the areas. The measurements include comfort, connectivity, accessibility and safety. 150 questionnaires were distributed at Merdeka Square, 150 at KLCC and 150 at Jalan Bukit Bintang. However, out of 450 questionnaires only 400 were used after incomplete or unreliable questionnaires were excluded.

The data analysis involved both descriptive and inferential components. Percentages were used to analyze the level of satisfaction and Pearson correlation analysis was used to analyze the relationship between comfort, connectivity, accessibility and safety. Interpretation of the strength of the relationship among the criteria was based on Dancey and Reidy's (2004) Rule of Thumb.

4. Result and Discussion

4.1. Personal attributes

The main subjects in the study are visitors and the proportion of local and foreign visitor were 54.3 and 45.7 percent, respectively. Almost half of them (44.3 percent) aged between 18 to 25 years old, followed by 35.8 percent were aged between 26 to 35 years old. The remaining respondents were aged between 36 to 45 years old (12.0 percent), between 46 to 55 years old (5.5 percent) and more than 56 years old (2.5%). Most of them are female (56 percent) and 44 percent were male. In term of travel pattern, more than half (52.5 percent) travel with a partner, 23.8 percent of them travel individually, 13.0 percent travel in a group and the rest 10.8 percent were backpackers. Most of the respondents (43.3 percent) visit the place for sightseeing. 32.8 percent of them visited the places for shopping, 10.8 percent were for entertaining. The rest were coming to meet friends, to work and to attend special events.

4.2. Comfort of walking

The city center with higher density development and congested streets make it almost impossible to have a pleasant driving experience. Walking to places seems to be a good alternative to experience the city. Hence, the place should facilitate the pedestrian need for comfort. In the current study, the respondent satisfaction levels on comfort were calculated to determine the current condition of the pedestrian environment. It is to indicate the walkability of the place from the users' responses. Fig. 2. indicates that most of the respondent (67.0 percent) satisfied with pedestrian facilities. More than one third (66.8 percent) of them were satisfied with the proximity between places of attraction. Slightly less percentage (64.8 percent) of them are satisfied with streetscape of Kuala Lumpur city center. In contrast, 29.3 percent of the respondent dissatisfied on air quality at the attraction places, and 15 percent dissatisfied with the provision of disabled facilities.

Proximity between places of attraction and quality of the streetscape both scored high satisfaction level. Kumar (2010) suggested that proximity facilitates the user with comfort while walking. Proximity is distance between trip origins to destination and streetscape can influence the distance of people's willingness to walk (Southworth, 2005). The visual quality of streetscape and place attractiveness influenced people's perception on the distance travelled and their willingness to walk. It is evident that the transport nodes in the city are within close distances and they are easily accessible by the pedestrians. However, in some area, the pedestrians face difficulties to reach the nodes due to poor walkway qualities and lack of continuous shaded pedestrian linkages.

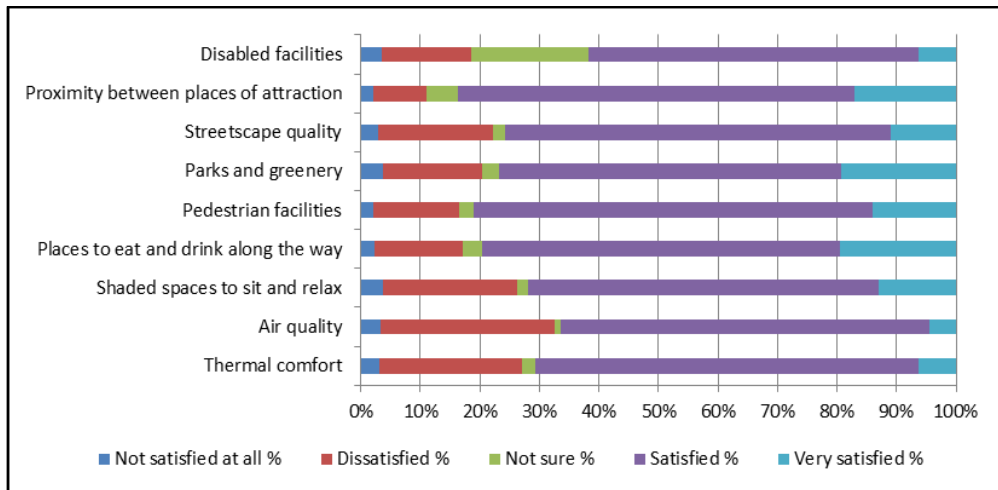


Fig. 2. Satisfaction on comfort



Fig. 3. Sidewalk and walkways in the city center of Kuala Lumpur

Comfortable pedestrian walkways should be unobstructed, safe and provides smooth sidewalks for stroller and wheelchair users. Although the result shows most of the attribute have positive responses, field observation did not support the survey results. It is evident that the pedestrian facilities in some places are well maintained but in other places have poor facilities particularly for users with special needs. Fig. 3 shows a sidewalk in Merdeka Square (a) that is narrow and too close with the traffic. Facilities provided at Jalan Bukit Bintang and KLCC invite more people to walk and create friendly pedestrian environment while at Merdeka Square, people would have a fear of getting on the street by foot. There are shaded and dedicated pedestrian walkways provided at Jalan Bukit Bintang (b) and KLCC (c). The covered walkways are important to provide shelter from the harsh tropical climate. In other cases, the five foot corridor along mainly old shop houses able to provide shaded linkages for pedestrians to move from one place to another despite their bad conditions.

4.3. Connectivity and accessibility

Higher connectivity could be achieved by continuity of sidewalks and safe pedestrian system and directness to destination (Southworth, 2005). The findings on respondents' satisfaction on connectivity and accessibility of walkways at city center of Kuala Lumpur are shown in Fig. 4. The results indicate that most of the respondents (69.3 percent) were satisfied with the accessibility of destinations while 67.5 percent of them satisfied with the accessibility of transit stations. However, only 58.0 percent of the respondents were satisfied with the availability of alternative routes while 61.8 percent of them were satisfied with the continuity of walkways and routes. The results indicate that walkways along major tourist areas have been improved to cater the pedestrian needs. However, it was observed that the linkages between the tourist spots are very weak with broken connections. This will discourage visitors to explore other parts of the city center by walking.

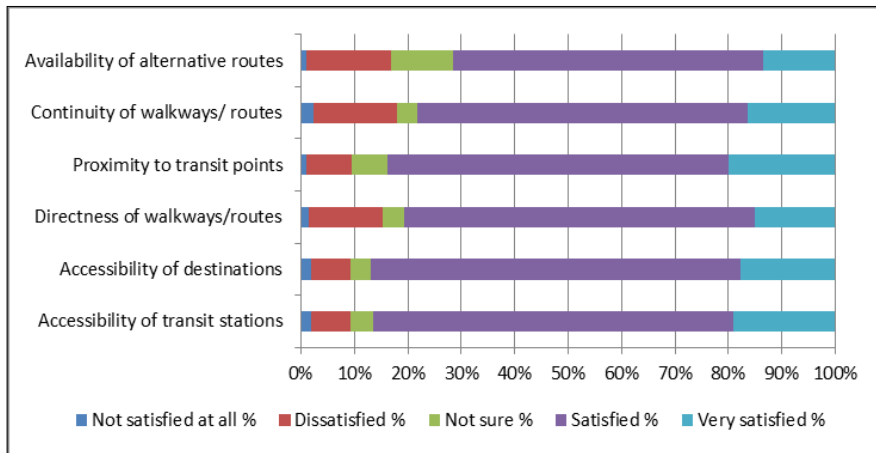


Fig. 4. Satisfaction on connectivity and accessibility



Fig. 5. Elevated walkways that connect KLCC and Pavilion KL (near Jalan Bukit Bintang)

City center of Kuala Lumpur has various public transport networks to connect people to a destination. Most of the tourist attractions at city center were connected with public transport nodes especially rail-based transit system. This factor alleviates the visitor to access one destination to other destinations. The proximity of transit stations to popular landmarks such as Merdeka Square, Petronas Twin Tower, Jamek Mosque and Central Market are walking distance and easily accessible on foot. Walking distance may vary between users depending on the willingness of the people to walk and the level of comfort. Weinstein et al. (2008) proposed that the walkable distances in the western context range from 0.12 kilometres to 0.4 kilometres, but it is expected that the distance in a tropical Asian city is much lesser due to the hot and humid conditions. Fig. 5 shows the elevated and air conditioning walkways connecting KLCC and Pavilion KL (near Jalan Bukit Bintang) to provide a comfortable walk between places.

The study found that the street networks in the city center of Kuala Lumpur lack in terms of continuity and directness, thus necessary improvement should be considered.

4.4. Safety of walking

Safe pedestrian environment is one of the important factors to encourage people to experience the city by foot. As shown in Fig. 6, the analysis reveals that the majority of the respondents (61.0 percent) were satisfied with the pavement condition at the study areas. The results also indicate that most of them (60.0 percent) were satisfied with the freedom to walk with fewer obstacles. 26.0 percent of the respondents were not satisfied with traffic safety, and 21.8 percent were also not satisfied with the safety from strangers.

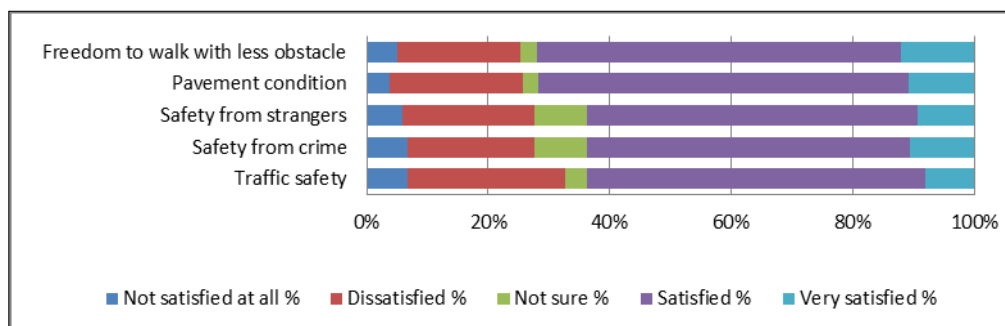


Fig. 6. Satisfaction on safety

According to Kumar (2010), safety and quality of pathways affects place walkability. Contrary to the current findings, a previous study by Shamsuddin et al. (2012) revealed that only certain areas at the city center have been provided with safe and wide walkways, while other areas depend on the remaining width of the streets to be turned into walkways. The observations of the physical condition of the walkways in the city center were parallel with the previous study by Shamsuddin et al. (2012) and Mahmoudi and Abbasi (2011). Not all pedestrianized areas were safe because of the inconvenient sidewalk condition, inadequate signage, improper paving and flooring. However, the finding by Diyanah Inani (2012), suggests that the frequency of use increase the feeling of safety and convenience to pedestrian. Thus, the frequencies of visit as refer to the pedestrian experience were calculated. The result of the analysis shows that most of the respondents (53.36 percent) have visited the place more than twice. About 35.87 percent were first time visitor and 10.76 percent visited the place for the second time. The respondents have moderate satisfaction on traffic safety. Current condition at city center could be a reason

for the fear of accident and discomfort to pedestrian. Historical buildings and landmarks surround the Merdeka Square. Nevertheless, wide roads with heavy traffic at the Merdeka Square cause difficulties for users especially for disabled users to cross the road (Fig. 7.). This condition can reduce pedestrian volume because people were hesitating to walk on the street. Decreasing of walking activity may cause crime, as Jane Jacobs stated that more "eyes on the road" are required to increase the safety of the place (Jacobs, 1969). This significant evidence indicates that there are needs to improve the condition of walkways especially at tourist attraction areas for a pleasant and safe walking.



Fig. 7. Wide road and heavy traffic at Merdeka Square and Jalan Bukit Bintang

4.5. Relationship between comfort, safety and connectivity

The Pearson correlation coefficient was computed to assess the relationship between the comfort and safety, connectivity and accessibility (Table 1). There was a moderate, positive correlation between two variables, $r = .492$. Result of the analysis also indicates that comfort has moderate, positive relationship with connectivity, $r = .499$. Meanwhile, correlation analysis between safety and connectivity proposed there were moderate, positive correlation between two variables, $r = .448$.

Parallel to the results of the previous study, the important factors for pedestrian comfort inferred from the study are proximity, connectivity, safety and appearance of the environment. In this regards, Evcil (2012) proposed that a good street design have greater public usage, accessibility provisions as level access or ramps, effective use of lighting and attractive image of urban open spaces for all ages and abilities.

Table 1. Correlation between variable (n=400)

	1	2	3
1. Connectivity	----	.499*	.448*
2. Comfort	.499*	----	.492*
3. Safety	.448*	.492*	----

*Correlation is significant at the .01 level

5. Conclusion

The findings suggest that places in the city center of Kuala Lumpur were reasonably comfortable to walk, particularly the tourist destination areas. However, the physical safety of the walkways affects the visitors' satisfaction of comfort while walking mainly along the smaller streets. The limited spaces provided for pedestrian reaffirms the car-dominated environment in the city. Crossing facilities and lighting should be improved further considering the need for safety and to enliven the city during the day and night. The pedestrian networks connecting main transport nodes require widening and shaded walkways with more attractive appearance to provide pleasant walking experience. The issue of physical safety of pedestrians should be considered in designing comfortable pedestrian environment for Kuala Lumpur city center. Safe and pleasant pedestrian environment may influence the visitors' choice to experience the city on foot with ease and comfort.

Acknowledgements

This paper presents part of findings from a research work funded by the Ministry of Science, Technology and Innovative (MOSTI), Malaysia. The authors would like to acknowledge the Universiti Putra Malaysia for facilitating the research.

References

- Abley, S. (2005). Walkability Scoping Paper. Christchurch: Chartered Traffic and Transportation Engineering.
- Alfonzo, M. A. (2005). 'To walk or not to walk? The hierarchy of walking needs.' *Environment and Behaviour* 37: 808-836.
- Brown, B. B., Werner, C. M., Amburgey, J. M., & Szalay, C. (2007). Walkable Route perception and Physical Features: Converging Evidence for En Route Walking Experience. *Environment and Behaviour*, 39, 34-61.
- Carmona, M., Heath, T., Oc, T., Tiesdell, S., 2003. Public Places, Urban Spaces. The dimension of urban design. Burlington, USA: Architectural Press.
- DBKL (2004). Kuala Lumpur Structure Plan 2020. City Hall of Kuala Lumpur
- Diyanah Inani, A. and Hafazah, A. K. (2012). A Comparative Study of Walking Behaviour to Community Facilities in Low-Cost and Medium Cost Housing. *Procedia - Social and Behavioral Sciences*, 35 (2012) 619 – 628
- Evcil, A. N. (2012). Raising awareness about accessibility. *Procedia-Social and Behavioral Sciences*, 47, 490-494.
- Evcil, A.N. (2012). Raising awareness about accessibility. *Procedia - Social and Behavioral Sciences* 47 (2012) 490 – 494 CY-ICER 2012
- Fatt, W.S. (2011). 'Walkability and community identity in the city centre of Kuala Lumpur.' PhD diss., University of Melbourne, Australia.
- Griffin, K.W. (2000). Building type basic for Transit Facilities.
- Handy, S., Xinyu, C., Mokhtarian, P. L. (2005). Correlation or causality between the built environment and travel behavior: Evidence from Northern California. *Transportation Research Part*. 427-444
- Handy, S., Xinyu, C., Mokhtarian, P. L. (2006). Self Selection in the Relationship Between the Built Environment and Walking. *Journal of the American Planning Association*, 72, 55-74
- Hosseini, S. B., Maleki, S. N., & Azari, A. K. (2012). The influences of access improvements in pedestrian street use. *Procedia-Social and Behavioral Sciences*, 35, 645-651.
- Hutabarat Lo, R. (2009). Walkability: What is it?. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, 2(2), 145 – 166.
- Jacobs, Jane 1969. *The death and Life of Great American Cities*. The Modern Library. New York.
- Kumar, R. (2010). Walkability of neighborhoods: a critical analysis of the role played by zoning codes in creating a walkable environment. Germany: LAMBERT Academic Publishing.
- Litman, T. (2004). Economic Value of Walkability. *World Transport Policy and Practice*, 10(1), 5-14.

- Mahmoudi, M. and Abbasi B. (2011), *Physical problems of Kuala Lumpur's streetscape: case study of Bukit Bintang Street*. Proceedings of the 4th International Urban Design Conference; Resilience in Urban Design, Surfers Paradise Marriott Resort and Spa, Gold Coast, Australia, September 21–23
- Newman, O. (1996). *Creating Defensible Space*. Center of Urban Policy Research, United States Department of Housing and Urban Development. Office of Policy Development and Research. Diane Publishing.
- Parks, J.R. & Schofer, J. L. (2006). 'Characterizing neighborhood pedestrian environments with secondary data.' *Transportation Research Part D* 11 250–263.
- Public Space, Activity & Urban Form (2011)
- Sarkar, S. (2002). 'Qualitative Evaluation of Comfort Needs in Urban Walkways in Major Activity Centers.' Committee on Major Activity Center Circulation Systems. Transportation Research Board, 2003.
- Sarkar, S. (2002). *Qualitative Evaluation of Comfort Needs in Urban Walkways in Major Activity Centers*. Committee on Major Activity Center Circulation Systems. Transportation Research Board, 2003.
- Seranta Awam <http://app.kwpcb.gov.my/greaterklkv/entrypoint-project-pedestrian/>
- Shamsuddin, S., Abu Hassan, N.R. & Bilyamin, S.F.I. (2012). Walkable Environment in Increasing the Liveability of a City. *Procedia - Social and Behavioral Sciences* 50: 167 – 178.
- Southworth, M. (2005). 'Designing the Walkable City. *Journal of Urban Planning and Development*' 131: 246-257.
- Steve, A. (2005). Walkability Scopping Paper. Available at from <http://www.levelofservice.com/walkabilityresearch.pdf>. [January 20, 2012].
- Ujang, N., Salim, A., & Maulan, S. (2012). The Influence of Context and Urban Structure on the Walkability of Bukit Bintang Commercial District, Kuala Lumpur. *ALAM CIPTA, International Journal of Sustainable Tropical Design Research and Practice*, 5(1).
- Vojnovic, I. (2006). 'Building Communities to Promote Physical Activities: a multi-scale geographical analysis.' *Journal Compilation of Geographical Analysis* 88(B) I: 67-90.
- Weinstein Agrawal, A., Schlossberg, M., & Irvin, K. (2008). How far, by which route and why? A spatial analysis of pedestrian preference. *Journal of Urban Design*, 13(1), 81-98.