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Perceptions of the Urban Walking Environments

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Abstract

Walkability is the basis of sustainable city. Walking is the socially equitable mode that is most accessible to the masses. However, the advent of transportation technology, such as automobile and superhighway has degraded the pedestrian environment. The aim of the paper is to examine the characteristics or attributes that could promote walking activity via people's perception. This paper combines survey questionnaire and walkability audit to gauge perception of the urban walking environment. Findings indicate that the proximity of destinations, good weather condition, safety and well-designed pedestrian facilities can significantly contribute to better perceptions of the walking environment.

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Keywords: Walkability; sustainable transport; perceptions; pedestrian

1. Introduction

Walkability is the basis of sustainable city. Walking is the socially equitable mode that is most accessible to the masses. Besides, it is also the most environmental friendly transportation mode. To support walking activity, the built environment should be planned in such a way that it would encourage people to walk. However, the advent of transportation technology, such as automobile and superhighway has degraded the pedestrian environment. As a result of degradation, the pedestrian environment lost its intimate scale and becomes devoid of public life. This vicious cycle created a further desertion of the pedestrian space and consequently, the life of once vibrant community becomes a disconnected one. Of late, the health benefits of walking have led to extensive research on the influence of the built

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environment on travel mode. Recent development has also seen the safety of pedestrians becoming an issue worldwide since pedestrians are vulnerable road users. Pedestrians are always at a higher risk compared to other road users. Over one million people annually are estimated to have died in road crashes and the road users such as, pedestrians, motorcyclists and cyclists, represent the majority of fatalities worldwide (Bhattacharya et al., 2006). Also, pedestrians, bus passengers and minibuses, and cyclists from poor and developing country bear the highest burden of injuries and fatalities (Nantulya & Reich, 2002). Pedestrians make up 15 to 20 percent of the deaths in road accidents in industrialized countries and 40 to 50 percent in developing countries (Gunnarsson, 1995). The increasing number of motorized vehicles on the road has a negative impact on the safety of pedestrians.

Many studies have shown that characteristics of the pedestrian environment play a major role in determining the respond from users. Although there is growing evidence that the neighbourhood environment can influence walking in many western countries, the amount of such evidence is very much limited in Malaysia. Against this backdrop, the aim of the paper is to examine the characteristics or attributes that could promote walking activity via people's perception. This article gives insights as to how future efforts in promoting walking need to address several aspects of the urban environment.

2. Literature review

Walking is the most primary form of transporting (Grignaffini et al., 2008). Walkability is a measure of how friendly an area is to walking. It takes into account the quality of pedestrian facilities, roadway conditions, land use patterns, community support, security and comfort for walking. Walkability is a fundamental concept in sustainable urban design. The benefits of walking can be discussed from three perspectives: economic benefits, social benefits and environmental benefits (Litman, 2004). From the economic perspective, walking can improve accessibilities especially for the non-drivers, hence reducing the transportation cost. In term of social benefits, walking can increase neighbourhood interaction and community cohesion. It also improves the opportunity to preserve cultural resources and preserve the aesthetic of an area. Likewise, walking can be beneficial to the environment by reducing the use of land for roads and parking facilities and reducing energy consumption and pollutions.

Findings from some studies such as smart growth stated that improving the built environment did not cause people to walk more (Shokoohi et al.,2011). However, there are other studies that stated otherwise. As an example, Parks and Schofer (2006) mention that network design helps determine the ability of pedestrians to reach their destinations, which correspond to the state of the built environment. According to them, grid networks with short blocks allow for relatively direct routes, while long blocks and curvilinear streets lengthen pedestrian trips by requiring circuitous routes. Sidewalks are also an essential component of good pedestrian design in areas where automobile traffic is quite heavy. Lack of sidewalks implies pedestrians must either walk in the roadway, which decreases safety, or walk alongside the road in an unfriendly environment.

Other than grid networks and sidewalks, setbacks and parking also play a role in creating a pedestrian friendly area (Park and Schofer, 2006). Small building setbacks make commercial establishment and residences easily accessible to pedestrians, while large setbacks increase the effort required to reach buildings from the street, which in turn provide a less interesting streetscape. Streets with a large amount of frontage taken up by parking make pedestrian access to buildings more difficult by requiring pedestrians to cross a parking lot.

Researchers in planning and transportation have identified land-use mix (diversity of uses and access to facilities), residential density and street connectivity as the fundamental aspects for creating walkability indices (Frank and Pivo as cited in Leslie, 2005). On the same notes, higher population density, greater connectedness of streets (higher number of intersections) and mixed land use has also been linked with