



Livable streets: The effects of physical problems on the quality and livability of Kuala Lumpur streets



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ABSTRACT

The aim of this article is to understand whether the physical attributes of streetscapes affect the livability of Kuala Lumpur streets. Traffic management has been stressed as the main determinant of livable streets, but physical features have been merely pointed out. Yet, does physical quality deterioration of streetscapes affect the livability degradation of urban spaces? To answer this question, people's perception towards the physical quality of multifunctional streets, have been examined in this study. Identification of fourteen streetscape's physical attributes was fulfilled based on a comprehensive literature review. Through structured observations and questionnaire surveys, the physical attributes of each case study was evaluated and the physical problems were discovered. Additionally, users' perception on the identified problems and their effects on livability of the studied areas were found and defined. The result revealed that physical problems like improper walkway paving, inadequate public services and maintenance, besides traffic congestion, are deteriorating the livability of streets.

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Introduction

Urban space, as a formal space, contains predominant characteristics such as the quality of enclosure and the activity that occurs in it. These qualities establish the sense of urban space (Speiregen, 1965). Urban space as an inseparable part of the spatial structure of the city comprises two basic forms of the square and the street (Krier, 1979). The functions of the street and the square define these spaces. Amin (2008) discussed the functions of these forms and their relation with public culture. "Every public space has its own rhythms of use and regulation, frequently changing on a daily or seasonal basis. . . the street is largely confined to ambling and transit, but becomes a center for public protest. . ." (p. 9).

In most current studies, regardless of the form of urban spaces, social and physical problems were discovered to deteriorate the livability of the urban environment. Studies show that most social problems of urban spaces derive from their physical problems (Hedman & Jaszewski, 1984; Low & Smith, 2006; Mitchell, 2003).

Time passing, especially, increases the physical quality deterioration of the urban environment which leads to physical and social problems in historical parts of cities, like Kuala Lumpur's city center. Improving the physical environment clearly cannot solve all social problems, yet, it may lead to the prevention of problem (Sauter & Huettenmoser, 2008). Since, the historical parts of Kuala Lumpur City Center is recognized by its strong identity in comparison to newer parts (Sulaiman & Shamsuddin, 2008), physical quality improvement of this area is a priority in the city's development. Even though, Kuala Lumpur City Hall has provided a guideline which includes the regulation for conservation and development of Heritage Zones (Kuala Lumpur City Hall, 2008), low physical quality and livability of Kuala Lumpur City Center streets indicate the lack of attention to the aforementioned regulations.

With regard to this issue, the main aim of this study is to examine the physical attributes of Kuala Lumpur streetscapes and describe their influences on the quality and livability of space, or aims to understand whether the physical attributes of streetscapes can affect the livability of Kuala Lumpur's streets. To achieve this aim, three main research questions are raised.

- i. What are the physical attributes that affect the livability and quality of streetscape?
- ii. What are the current conditions of identified physical attributes of Kuala Lumpur's streetscapes?

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- iii. What are the effective strategies for the improvement of the physical problems and enhancing livability and quality of Kuala Lumpur's streets?

The livability concept is mainly due to the last decade of the 20th century (Appleyard, 1981; Appleyard & Lintell, 1972; Jacobs & Appleyard, 1987; Bosselmann, Macdonald, & Kronmeyer, 1999). Critiques on urban spaces' different problematic features such as poor quality, noisy and polluted environment were made by researchers of that time (Davis, 1990; Madanipour, Cars, & Allen, 1998; Soja, 1989). Considering this issues, Jacobs and Appleyard (1987) stressed on the concept of livability as one of the goals of reaching a livable and quality urban environment. Their main aim was to improve the quality of urban spaces in the modern cities, besides humanizing them as much as possible.

Earlier, in "livable street" project, Appleyard and his colleague discovered detrimental effects of traffic noise and speed on quality deterioration of residents' life (Appleyard & Lintell, 1972). In addition, livable streets's concept was emphasized by Appleyard's famous book of "livable streets" (Appleyard, 1981). Applying traffic calming techniques in various cities of the world was his chosen approach towards humanizing the urban environment in contrast with the continuous growth of traffic volume.

It was after Appleyard's study when different evaluations took place based on livable streets agenda. Bosselmann et al. (1999) examined the boulevards' livability in compare with conventional streets. They chose two blocks in Brooklyn, one on Ocean Parkway and one on Eastern Parkway, and the other – The Esplanade – in Chico, California. Each block includes one boulevard and two conventional streets with the same structure. So, a total of nine streets were studied; three streets with light traffic, three streets with medium traffic and three boulevards with high traffic. Among all, the boulevards were discovered to have a more livable environment. In fact, landscaped malls decreased the negative impacts of heavy traffic congestion.

In Basel, Switzerland, five streets were evaluated in regards to the traffic volume impacts on street life's quality. This study revealed that greater potentials of a qualitative social life is offered through quieter streets (Sauter & Huettenmoser, 2008). Furthermore, the studies by Park (2008) in California and Mesbahul Tariq (2007) on Morden city illustrated the effects of traffic on users' choice of travel mode. This study showed that streets' walkability and communication encouragement were influenced by traffic calming.

In addition to traffic features, some studies examined the effects of other attributes on quality and livability of streets. For instance, Mackett, Achuthan, and Titheridge (2008) reported a developing software for disabled people to evaluate the accessibility of the urban environment. This study examined the streets' details which had provided facilities for disabled people. This case study from United Kingdom showed how changes in these details have significant effects on street use and service access for disabled people, and therefore, livability of environment for them.

Also, Portella (2007) illustrated the visual damage and negative influence of commercial signage in historical parts of different city centers. The study also showed to what extent this problem and the lack of general guidelines for controlling signs can affect the quality of the area and users' perception. Forsyth, Hearst, Oakes, and Schmitz (2008) argued about the influences of physical characteristics on the walkability of an area and indicated that physical activity increases with physical quality growth. Also, Tilaki, Abdullah, Bahaudin, and Hedayati Marzbali (2014) showed how friendly environmental design can enhance the livability of George Town heritage area of Penang, Malaysia. Besides, some researches revealed great influence of the physical elements on users' perception of distinct identity and their sense of place (Shamsuddin &

Ujang, 2008; Shamsuddin, 1997). In addition, Layne (2009) illustrated how the landscape setting of a public space, as well as environmental factors can support interactions between different generations. Overall, having sustainable ecology or a good quality environment is considered a major factor of livability in cities (Evans, 2002; Kotus & Rzeszewski, 2013).

Reviewed studies are based on valuable evaluations of street-scapes liveability from different perspectives. Yet, it is important to note that each research has only examined some of the affective factors of streets' livability and quality, assuming that all other physical variables are similar. In order to fill this gap, this study attempts to identify the physical attributes which affects the quality and livability of streetscapes. Accordingly, the scope of this research is limited to physical attributes, while the concept of livability encompasses different social and functional aspects of urban space.

Physical attributes of streetscapes

To present a framework for the examination of streetscapes, the physical attributes which affect the design, quality and livability of urban spaces were identified through reviewing prominent literature between 1975 and 2012. As shown in Table 1, the reviewed references were selected among the well-known and widely cited urban space researches during the last 40 years. However, as the reviewed literature had not stressed on the same attributes, this research tries to identify and collect the most significant examined attributes of urban space. Since no specified approach was detected in selecting the attributes, and each reference highlights some of the effective attributes, the only approach applied in the table design is the frequency of referred attributes in the reviewed literatures. For example, seating, accessibility and proportions of the space were examined as some of the most mentioned attributes in the studied researches, while some of the attributes, like signs were noted by fewer authors. Other physical attributes, like tree grates and utility poles, are not included in the aforementioned table because of them being referred to by only one or two researchers. In fact, the selected attributes of this frame work were the most frequently referred attributes mentioned by various references, which are shown in Table 1.

Since the research framework was aimed to be used in the design of the study's questionnaire and identification of physical attributes as street livability's determinants; a pilot study was also conducted to obtain people's view point towards the identified attributes. The questionnaire of the pilot study was distributed to 20 participants, in the studied streets during two weeks in September 2011. The participants, who were very familiar with the streets, were questioned about the identified physical attributes and their effect on the street's livability. The feedback revealed that attributes such as skyline and landmarks, which were in relation with the street's spatial characteristics, were not sensible enough for participants to answer their related questions. Therefore, the above-mentioned attributes were deleted from the study's framework. Overall, identified physical attributes which form the framework of this study includes seating, paving, shelter and canopy, signs, lighting, planting, proportions of space, fountain and sculpture, harmony between architectural styles of different buildings, accessibility, parking space, facilities for disabled people, traffic management, and maintenance and cleaning.

Research method

This research has focused on Heritage Zones of Kuala Lumpur City Center (KLCC) due to two main reasons. Firstly, the importance of physical quality of urban environment in the Heritage Zones and secondly, the significance of the streets located in the Heritage

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