THE RELATIONSHIP BETWEEN BUILT ENVIRONMENT AND WALKING

NOOR HASHIMAH BINTI HASHIM LIM

A project report submitted in partial fulfilment of the
requirements for the award of the degree of
Bachelor of Urban and Regional Planning

Faculty of Built Environment
Universiti Teknologi Malaysia

APRIL 2010

ABSTRAK

Peningkatan ekonomi atau nilai dalam Keluaran Negara Kasar (KDNK) Malaysia menunjukkan kenaikan taraf pendapatan dan jumlah perbelanjaan rakyatnya. Oleh yang demikian, tidak hairanlah majoriti rakyat Malaysia kini mampu untuk memilik kenderaan persendirian. Apabila senario ini berlaku, peningkatan terhadap pembangunan infrastruktur bagi menampung kenderaan persendirian dan memenuhi cara hidup penduduk turut sama meningkat. Keadaan ini semakin meruncing apabila timbulnya impak negatif kepada senario tersebut seperti peningkatan kadar pencemaran, kesesakan lalu lintas, dan polisi yang membabitkan pejalan kaki tidak diendahkan dan dilaksanakan dengan efektif oleh pihak berwajib. Kajian terdahulu menunjukkan berjalan kaki adalah satu cara yang efektif dan berkesan dalam menyelesaikan masalah di kawasan bandar. Menyedari akan kekurangan kajian akademik terhadap 'walkability' di Malaysia, kajian ini bermatlamat untuk mencari faktor-faktor yang mempunyai pengaruh terhadap kadar berjalan kaki rakyat Malaysia. Berdasarkan kepada kajian terdahulu, didapati bahawa 'built environment' mampu mempengaruhi kemahuan untuk berjalan kaki. Sehubungan dengan itu, tiga objektif telah digariskan; untuk menentukan tahap 'walkability' sesebuah taman perumahan berdasarkan persepsi penduduk; untuk mengetahui perhubungan antara data demografi penduduk dengan 'walking behaviour'; dan mengetahui perhubungan antara 'built environment' dengan 'walking behaviour'. Objektif pertama dicapai melalui adaptasi kajian soal selidik NEWS di dalam soal selidik kajian ini, manakala objektif kedua dan ketiga dicapai melalui kajian perhubungan, iaitu 'Goodman's & Kruskal's Gamma (γ) test'. Hasil kajian mendapati tiga daripada empat atribut, iaitu campuran gunatanah yang tinggi, kadar jenayah yang rendah, dan kadar kacau ganggu trafik yang rendah, mencerminkan kawasan kajian iaitu Taman Pelangi, Taman Serene, Taman Tebrau Jaya, Taman Maju Jaya, Taman Sri Setia dan Bukit Senyum, mempunyai tahap 'wakability' yang tinggi, manakala atribut akses kepada kemudahan yang rendah pula menunjukkan yang sebaliknya. Selain itu, 'Goodman's & Kruskal's Gamma (γ) test' menunjukkan bahawa jantina, umur dan agama tidak mempengaruhi 'walking behavior' penduduk, manakala bangsa pula didapati mempunyai perkaitan dengan 'walking behavior'. Kajian tersebut juga menunjukkan bahawa kepelbagaian guna tanah, kadar kacau ganggu trafik dan kadar jenayah mempunyai pengaruh yang signifikan terhadap 'walking behaviour', manakala akses kepada guna tanah tidak mempunyai pengaruh terhadap 'walking behaviour'. Kesimpulannya, kepelbagaian guna tanah, keadaan trafik dan kadar jenayah di sesebuah kawasan kejiranan amat mempengaruhi keinginan dan kesanggupan seseorang individu untuk berjalan kaki ke sekitar kawasannya. Oleh yang demikian, kriteria tersebut perlu diambilkira dalam perancangan taman perumahan pada masa akan datang bagi menggalakkan penduduk untuk berjalan kaki. Walau bagaimanapun, kajian yang dijalankan adalah kurang jitu kerana faktor limitasi masa dan tenaga pekerja.

ABSTRACT

The rise in Malaysia's GDP indicates an increase in its populations' income level and total disposable income. Hence, more Malaysians would be able to afford motorized vehicles. When this scenario happens, the demand to complement their lifestyle would be on the infrastructure for motorized transport. This condition is further worsened by the negative externalities including the increase in pollution emission, severe traffic congestion, and the negligence in policy making for pedestrianism. Research has shown that the promotion of walking is the most cost effective and efficient solution to urban problems such as this. In addition to the fact that there are limited studies on walkability done in Malaysia, the study aims to discover the attributes which have influenced walking among Malaysians. In accordance to previous researches, it is found that the built environment attributes have certain amount of influence on walking. Therefore, three objectives were outlined; to determine the level of neighbourhood walkability as perceived by the residents in the study area; to discover the relationship between residents' demographic data with their walking behaviour; and to establish the relationship between the built environment attributes and walking behaviour. The first objective was achieved through the adaptation of NEWS questionnaire survey into the present study's Built Environment and Walking questionnaire survey, while the second and third objectives were achieved using the measure of association; Goodman's & Kruskal's Gamma (γ) test. The findings show that three out of four of the built environment attributes, i.e. high land-use mix diversity, low crime related safety fears and low traffic hazards, have indicated that the study area; Taman Pelangi, Taman Serene, Taman Tebrau Jaya, Taman Maju Jaya, Taman Sri Setia and Bukit Senyum, is walkable, while the remaining attribute; low access show the opposite. Additionally, the Goodman's & Kruskal's Gamma (γ) certified that gender, age and religion does not have influence on walking behaviour, while race was found to have influence on the residents' walking behaviour. The test also revealed that land-use mix diversity, traffic hazard and crime have significant influence on walking behaviour, while land-use mix access poses no significant influence on walking behaviour. It can be concluded that land-use mix diversity, level of traffic hazards and crime related safety fear of a neighbourhood would significantly influence the willingness of a person to walk in their immediate surroundings. Hence, these attributes posed as the potential built environment aspects to encourage positive walking behaviour among residents and should be emphasized in future neighbourhood area planning. Anyhow, due to the time and manpower limitation, the research findings and results were less profound.