



**ESSENTIAL FORMS OF WALKABLE NEIGHBOURHOODS
PUTRAJAYA AND BANDAR TUN HUSSEIN ONN**

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By

KHAIRANI MUHAMMAD

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia
in Fulfilment of the Requirement for the Degree of Master of Science**

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To Danial and Hadi.



Abstract of thesis presented to the Senate of Universiti Putra Malaysia
in fulfilment of the requirement for the degree of Master of Science

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March 2006

Chairman: Kamariah Dola, PhD

Faculty: Design and Architecture

Many of the residential neighbourhoods in this country including those that are planned fall short of providing the right configuration and the desirable environment for people walking. This is largely due to the lack of concern for the needs of pedestrians and a greater emphasis on cars. It consequently leads to a poor understanding of what it takes for an area to support walking which explains the conditions and predicaments that pedestrians in this country have to put up with. However, the fact remains that people do need or want to walk based on the endless complaints and issues raised concerning the subject. Besides, walking is important not only for individuals but for the community and the environment at large and therefore should be encouraged and given due consideration.

Thus, the study aimed to identify the essential forms of walkable neighbourhoods in the context of this country. 'Essential forms' in this case



refer to basic physical forms, qualities or characteristics that the residential neighbourhoods in this country necessarily or fundamentally must have in order for them to effectively support walking. The identification and understanding of these essential forms is necessary in the creation of truly walkable neighbourhoods.

This study was conducted through literature reviews, a survey and a direct evaluation of the physical environment; and how it meets the criteria for pedestrian accessibility. The analysis of case studies was mostly quantitative but also supported by qualitative analysis. Evaluation was conducted on the various neighbourhood physical components that have direct implication on pedestrian accessibility.

Putrajaya was chosen as a case study because it is an area in the country where clear attempts to create walkable environments have been made. However, it is not truly representative of the residential developments in Malaysia in general. Therefore, Bandar Tun Hussein Onn (BTHO), Cheras was also chosen to represent the more standard residential neighbourhoods. It was found that though Putrajaya is meticulous and consistent in ensuring good permeability and connectivity for pedestrians as well as pedestrian's safety and comfort, it is less consistent in meeting the right scale and proximity for pedestrians. Whereas the BTHO neighbourhoods give little consideration to pedestrians but have an overall friendlier scale and structure which fundamentally contributes to good accessibility for pedestrians. However, the fact remains that there are many important features introduced in Putrajaya

that contribute positively to pedestrian accessibility that the rest of the country can emulate or learn from. Based on the case studies and a review of planning documents as well as other literatures, the study drew key implications of findings and subsequently identified the essential forms of walkable neighbourhoods with regard to this country.

Abstrak tesis dikemukakan kepada Senat Universiti Putra Malaysia
bagi memenuhi keperluan untuk ijazah Master Sains

**BENTUK ASAS KAWASAN KEJIRANAN
BAGI MENYOKONG KEPERLUAN BERJALAN KAKI
PUTRAJAYA DAN BANDAR TUN HUSSEIN ONN**

Oleh

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Mac 2006

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Sebilangan besar kawasan perumahan di negara ini termasuk yang terancang tidak mempunyai konfigurasi/bentuk yang betul dan ciri-ciri yang sesuai bagi membolehkan penduduk berjalan kaki. Ini disebabkan oleh kurangnya perhatian terhadap keperluan pejalan kaki dan lebih penekanan terhadap keperluan kereta. Ia mengakibatkan kurangnya kefahaman terhadap apa yang diperlukan bagi membolehkan sesebuah kawasan itu dapat betul-betul menyokong keperluan mereka yang berjalan kaki dan ini menyebabkan timbulnya keadaan dan pelbagai rintangan yang terpaksa dihadapi oleh pejalan kaki di negara ini. Walaubagaimanapun pada hakikatnya penduduk di negara ini perlu dan mahu berjalan kaki jika dilihat kepada rungutan dan isu yang tidak habis-habis dibangkitkan berkaitan perkara ini. Tambahan lagi, berjalan kaki adalah penting bukan sahaja untuk individu tetapi juga masyarakat dan kawasan persekitaran keseluruhannya dan oleh itu perlu digalakkan dan diberi pertimbangan sewajarnya.

Kajian ini dengan itu bertujuan mengenalpasti bentuk-bentuk asas bagi sesebuah kawasan kejiranan bagi membolehkan ia benar-benar memenuhi keperluan untuk berjalan kaki dalam konteks negara ini. 'Bentuk asas' dalam hubungan ini merujuk kepada bentuk, kualiti atau ciri-ciri fizikal yang mesti ada pada kawasan kejiranan bagi membolehkan ia secara berkesan menyokong aktiviti berjalan kaki. Pengenalpastian dan kefahaman terhadap bentuk-bentuk asas ini adalah perlu bagi menghasilkan kawasan kejiranan yang benar-benar dapat menyokong keperluan berjalan kaki.

Kajian ini dijalankan melalui tinjauan ke atas bahan-bahan penulisan berkaitan, soal selidik dan penilaian langsung persekitaran fizikal; dan bagaimana ia memenuhi kriteria-kriteria bagi kemudahsampaian pejalan kaki. Analisis bagi kajian-kajian kes sebahagian besarnya adalah kuantitatif tetapi juga disokong oleh analisis kualitatif. Penilaian dibuat terhadap komponen-komponen fizikal kawasan kejiranan yang berkait langsung dengan tahap kemudahsampaian bagi pejalan kaki.

Putrajaya dipilih sebagai kajian kes kerana ia adalah satu-satunya kawasan di negara ini yang telah ada usaha yang jelas untuk mewujudkan suasana yang kondusif bagi pejalan kaki. Walaubagaimanapun ianya tidak benar-benar mewakili kawasan perumahan di negara ini. Oleh itu, Bandar Tun Hussein Onn(BTHO), Cheras juga dipilih untuk mewakili kawasan perumahan yang lebih am. Adalah didapati walaupun Putrajaya memberi perhatian kepada peluang dan kesinambungan laluan bagi pejalan kaki serta keselamatan dan keselesaan mereka, ianya kurang berhati-hati dalam mengambikira isu skala

dan jarak yang sesuai bagi pejalan kaki. Sedangkan kawasan-kawasan kejiranan BTHO kurang memberi perhatian kepada keperluan pejalan kaki tetapi mempunyai skala dan struktur am yang mesra pejalan kaki. Walaubagaimanapun, pada hakikatnya Putrajaya tetap telah memperkenalkan banyak ciri-ciri penting yang menyumbang secara positif kepada kemudahan pejalan kaki yang mana boleh dicontohi atau dipelajari. Berasaskan kepada kajian-kajian kes ini dan penelitian terhadap dokumen-dokumen perancangan dan juga bahan-bahan berkaitan, kajian ini telah merumus implikasi-implikasi utama dan selanjutnya mengenalpasti bentuk-bentuk asas bagi kawasan kejiranan yang menyokong keperluan berjalan kaki bagi negara ini.

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I certify that an Examination Committee has met on 24 March 2006 to conduct the final examination of Khairani Muhammad on her Master of Science thesis entitled “Essential Forms of Walkable Neighbourhoods Putrajaya and Bandar Tun Hussein Onn” in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulations 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

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DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.

KHAIRANI MUHAMMAD

Date: 30 June 2006



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LIST OF ABBREVIATIONS/NOTATIONS/GLOSSARY OF TERMS

BTHO	-	Bandar Tun Hussein Onn
CDC	-	(US) Centers of Disease Control and Prevention
CPA	-	Central Planning Area
CPTED	-	Crime Prevention Through Environmental Development
FIABCI	-	International Real Estate Federation
kph	-	kilometre per hour
vph	-	vehicle per hour
P.B	-	planning block

List of changes

1. Title change from 'Essential Forms of Walkable Neighbourhoods; the Malaysian Context' to 'Essential Forms of Walkable Neighbourhoods; case studies of Putrajaya and Bandar Tun Hussein Onn, Cheras'
2. Chapter 1
 - a. Change in goal and objectives in line with title
 - b. 'Operational Definition of Terminologies' brought forward
 - c. Hypothesis brought forward to Chapter 1 from Chapter 4.
3. Chapter 2
 - a. Further explanation under 2.3 on why certain neighbourhood models are included/excluded from the literature review.
 - b. Short notation under diagrams
4. Chapter 3
 - a. Under 3.5; additional sentence to make reference to survey
5. Chapter 4 ;
 - a. Inclusion of the Survey Methodology
6. Chapter 5
 - a. Inclusion of Results of Survey in main text and summary
7. Chapter 7
 - a. Additional sentence(s) to qualify remark under 7.1.
8. Appendix
 - a. Appendix 1 – Survey form
 - b. Appendix 2 – Results of Survey
 - c. Appendix 3 – Plans
 - d. Appendix 4 – List of documents on planning standards related to neighbourhood

CHAPTER 1

INTRODUCTION

Background

Much has been said about the benefits or importance of walking. It contributes not only to resolving traffic issues but also better health, sustainability, better living environment, human contact and community building. Although there is a general consensus in this country that walking should be encouraged as could be found in the many planning guidelines and standards, structure plans and local plans, the treatment of the subject has been incidental rather than integral in shaping the urban form. This could be seen from the many issues faced by pedestrians in moving about in the urban areas as will be discussed in Chapter 2. The consideration for pedestrian tends to be concentrated on creating footpaths and sidewalks. This is not to say that such consideration is not important but to achieve a truly conducive environment for pedestrians, the design of the whole development as to how it affects pedestrian accessibility is equally if not more important. Hillier (Hillier 1988, Hillier et al. 1993), has extensively explored and theorized the relationship between movement (mainly of pedestrian) and the configuration of urban space; and argues that configuration of space is important in determining movement densities. There is therefore a need to better understand

the physical characteristics or features that essentially contribute to pedestrian accessibility.

1.2 Operational Definition of Terminologies

1.2.1 Walkable Neighbourhood

A neighbourhood according to Webster's Dictionary is an area of distinguishing characteristics where neighbours live. Oxford Dictionary defines neighbourhood as people living in a district. Of course, the quality of a place is due to the joint effect of the place and the society which occupies it. A neighbourhood as it is generally understood is where people experience their family and friends. It is where they do their shopping (at least for basic items), take a walk in the park and their kids go to school. Put simply, it is a place where people live.

A neighbourhood, Hall and Potterfield (2001, p.121-122) argue, is the fundamental building block of community and a good understanding of the principles that apply to making liveable neighbourhoods is the starting point for building true communities. Social capital begins in the neighbourhood. According to Jane Jacobs (1961), where neighbourhoods are configured to maximize informal contact among residents, street crime is reduced, children are better supervised and