

# Contemporary Research in Urban Planning



Mariana Mohamed Osman  
Alias Abdullah  
Azila Ahmad Sarkawi  
Rustam Khairi Zahari



IIUM PRESS

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

# Contemporary Research in Urban Planning

*Mariana Mohamed Osman*  
*Alias Abdullah*  
*Azila Ahmad Sarkawi*  
*Rustam Khairi Zahari*



IIUM Press

Published by:  
IIUM Press  
International Islamic University Malaysia

First Edition, 2011  
© IIUM Press, IIUM

Individual contributors copyright © Prof. Dato' Dr. Mansor Ibrahim, Prof. Dato' Dr. Alias Abdullah, Prof. Dr. Mohammad Abdul Mohit, Assoc. Prof. Dr. Abdul Azeez Kadar Hamsa, Asst. Prof. Dr. Rustam Khairi Zahari, Asst. Prof. Dr. Mariana Mohamed Osman, Br. Samsuddin Jaafar, Asst. Prof. Dr. Lukman Hakim Mahamod, Asst. Prof. Dr. M. Zainora Asmawi, Asst. Prof. Dr. Azila Ahmad Sarkawi, Asst. Prof. Dr. Syafiee Shuid, Asst. Prof. Dr. Norzailawati Mohd Nor.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without any prior written permission of the publisher.

Mariana Mohamed Osman  
Contemporary Research in Urban Planning  
Mariana Mohamed Osman

ISBN: 978-967-418-036-2

Printed by:  
IIUM PRINTING SDN.BHD.  
No. 1, Jalan Industri Batu Caves 1/3  
Taman Perindustrian Batu Caves  
Batu Caves Centre Point  
68100 Batu Caves  
Selangor Darul Ehsan

## CONTENTS

	<u>Page No.</u>
Contents	v
List of Tables	vii
List of Figures	viii
Foreword	ix
Preface	x
Contributors	xii
<b>CHAPTER 1: A SURVEY METHODOLOGY ON THE MEASUREMENT OF TRAFFIC NOISE</b> <i>Abdul Azeez Kadar Hamsa , Masao Miura, Shuhei Inokuma and Yosuke Nishimura</i>	1
<b>CHAPTER 2: WELFARE STATE REGIMES AND LOW COST HOUSING PROVISION IN MALAYSIA</b> <i>Syafiee Shuid</i>	8
<b>CHAPTER 3: PREFERRED FENCE DESIGN: A CASE STUDY OF SELECTED COMMUNITIES IN THE KLANG VALLEY</b> <i>Alias Abdullah, Rosmizawati Mohamed Salleh and Muhammad Faris Abdullah</i>	19
<b>CHAPTER 4: ASSESSING THE LEVEL OF SERVICE OF POLICE STATIONS IN URBAN AREAS USING CATCHMENT AREA ANALYSIS: A CASE STUDY OF WANGSA MAJU, KUALA LUMPUR</b> <i>Samsuddin Jaafar and Zul Aiman Md. Salleh</i>	30
<b>CHAPTER 5: THE CONCEPTUAL FRAMEWORK OF REGIONAL DEVELOPMENT IN MALAYSIA</b> <i>Mariana Mohammed Osman , Syahriah Bachok &amp; Noor Suzilawati Rabe</i>	39
<b>CHAPTER 6: TRADITIONAL ISLAMIC CITIES: LESSONS LEARNT</b> <i>Azila Ahmad Sarkawi &amp; Sharifah Fadilawaty</i>	46
<b>CHAPTER 7: THEORY AND RESEARCH IN URBAN AND REGIONAL PLANNING: EVOVLING NATURE AND FUTURE CHALLENGES</b> <i>Mohammad Abdul Mohit</i>	56

<b>CHAPTER 8:</b>	<b>THE AGREEABLE CALIBRATION OF CELLULAR AUTOMATA MODEL IN URBAN LAND USE SPRAWL SIMULATION: A REVIEW AND ANALYSIS</b>	66
	<i>Norzailawati Mohd Noor and Mazlan Hashim</i>	
<b>CHAPTER 9:</b>	<b>AN AUTOMATED LAND USE MAPPING USING REMOTELY SENSED DATA FOR TOWN PLANNING PURPOSES: REVIEW OF PROPOSAL</b>	75
	<i>Norzailawati Mohd Noor</i>	
<b>CHAPTER 10:</b>	<b>COMMUNITY DEVELOPMENT PROGRAMMES IN KUALA LUMPUR</b>	82
	<i>Raja Noriza Raja Ariffin, Rustam Khairi Zahari &amp; Mohd Idham Mohd Yusof</i>	

## CHAPTER 4

### ASSESSING THE LEVEL OF SERVICE OF POLICE STATIONS IN URBAN AREAS USING CATCHMENT AREA ANALYSIS: A CASE STUDY OF WANGSA MAJU, KUALA LUMPUR

Samsuddin Jaafar and Zul Aiman Md. Salleh

#### INTRODUCTION

Police stations are among the public facilities that the government needs to provide to ensure public safety and security. The rapid development of urban areas leads to the increased in population. Consequently, the demand for police stations will also increase especially in high density population areas due to the increase in crime activities. Thus, the right location of police stations is very crucial in order to ensure efficient services. However, to locate a police station at the right location is a difficult task especially in urban areas due to the scarcity of land.

GIS as a science of analysis of spatial and attribute data, is an efficient tool to find optimum place for safety facilities. This paper will assess the suitability of using GIS's catchment area analysis in assessing the suitability of existing police station locations in urban areas. This paper also discusses the current level of police services including the catchment area of existing stations, deficiency areas of service and overlapped service area. The results of overlaying various maps analysis provide better graphical and visual interpretation for decision making. This is very crucial in urban areas where various types of land uses exist.

#### Aim and Scope

The aim of this paper is to assess the level of service of police stations in an urban area in urban areas using GIS catchment area analysis technique. The study area is Wangsa Maju, Kuala Lumpur. The parameters used in the catchment area analysis are based on the requirements of the Royal Malaysia Police (RMP) and the Planning Guidelines for Public Facilities published by the Federal Department of Town and Country Planning Peninsular Malaysia (FDTCP).

#### Level of Service for Police Stations

In assessing the level of service for police facilities, response time is the main aspect considered by most police departments. Response time can be defined as the total amount of time starting from the receipt of the initial call in the dispatch centre and units arrive at the scene. Response time can be divided into three time periods which are reporting time, dispatch time and travel time (Sherman, 2002). For police service in Malaysia, the standard response time is determined according to the hierarchy of the station.