

# Contemporary Research in Urban Planning



Mariana Mohamed Osman  
Alias Abdullah  
Azila Ahmad Sarkawi  
Rustam Khairi Zahari



IIUM PRESS

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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IIUM Press

Published by:  
IIUM Press  
International Islamic University Malaysia

First Edition, 2011  
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Mariana Mohamed Osman  
Contemporary Research in Urban Planning  
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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

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## CHAPTER 1

### A SURVEY METHODOLOGY ON THE MEASUREMENT OF TRAFFIC NOISE

Abdul Azeez Kadar Hamsa<sup>1</sup>, Masao Miura, Shuhei Inokuma and Yosuke Nishimura

#### Introduction

Noise is defined as unwanted or unpleasant sound. The perceptions towards noise vary between one individual and another. The movement of traffic along road network is the primary source of traffic noise. A motorcycle driving at high speed at a close distance to the recipient would be considered producing high noise level. The intensity of noise level varies according to the distance between the source and the recipient. The speed at which vehicles travel constitute different level of noise level. The type of road surface where the vehicles comes in contact is the other major source of noise level. The level of noise differs when a vehicle travels on a hard as compared to a smooth road surface.

One of the major decisions in planning land use, especially residential, and other sensitive-related land use activities, is the intensity of noise level that a particular land use subjected to at a given time period. Some of the land use activities are very sensitive to noise level. To exemplify, hospital, religious facilities, educational facilities should be located at a safe allowable distance from the primary source of noise to help reduce the impact of noise that it would cause for the smooth functioning of these land use activities. The noise level at a particular site or an area can be measured by using appropriate measuring device. Noise level meter is one of the equipments which can be used to measure noise level. This chapter addresses the survey methodology involved in measuring noise level by using a noise level meter.

#### Survey Methodology

Normally for any study, the survey methodology should be properly planned before collecting data in the field. This is mainly to avoid errors in the data and the need to collect data again which would further increases the resources required. The resources in terms of manpower, material, money and time are also wasted as a result of poor survey methodology. The instruments that are normally required to collect noise include: a noise level meter, a tripod stand, a tape recorder to record the unusual noise source and a survey form to record noise level. The details of the survey methodology are highlighted in the following sub-sections.

#### Survey area

The survey area and the location of survey points should be selected in advance before measuring the noise level. The survey area is normally selected based on the purpose of the study or research. A major arterial road running close to the adjoining residential neighborhood or a hospital or a school could serve as a criterion in selecting the study area or stations. Alternatively, if the purpose of the study is to evaluate the impact of noise level on an entire residential

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