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**A STUDY OF TRAFFIC NOISE FROM SELECTED  
URBAN AND SUBURBAN AREAS**

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SUBURBAN AREAS**

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**A Project paper submitted in partial fulfillment of the requirement for the Master  
of Technology (Environmental Management)**

**INSTITUTE PENGAJIAN SISWAZAH DAN PENYELIDIKAN  
UNIVERSITI MALAYSIA  
KUALA LUMPUR**

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**Dedicated to:**

**My beloved Mother, Mahendran , Presha and loved ones,**

**FOR THE LOVE, SUPPORT AND ENCOURAGEMENT.....**

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## LIST OF SYMBOLS

- dB(A) - Decibel at A weighted scale
- Hz - Hertz
- Leq - Equivalent continuous sound level
- Lmax - Maximum sound level
- L10 - The minimum noise level which exceeds 10% of the measurement
- L90 - The minimum noise level which exceeds 90% of the measurement

## LIST OF ABBREVIATIONS

- DOE - Department of Environment  
ENT - Ear, Nose and Throat  
NIHL - Noise Induced Hearing Loss  
WHO - World Health Organisation

## ABSTRACT

The main aim of this study is to determine the noise levels in selected urban and suburban roads and to compare the difference in traffic noise levels between these areas. The noise attenuated by noise barrier was also surveyed as a small portion of this study. Analysis of traffic noise was surveyed at five locations. Two locations were surveyed for the urban area and two locations for the suburban area and one location for noise barrier. The traffic volume for the duration of the survey was also recorded. Both day time and night time noise levels were studied. The survey was done for weekdays and weekends for a duration of 1 hour and a frequency of three samplings. Results of the analysis showed that the average day time noise level in the urban area was between 67.5 to 78.3 dB(A) and the suburban area was between 58.7 to 68.7dB(A). These levels exceeded the World Health Organization (WHO) criteria for residential noise which is 55 dB(A) for day time. The night time noise levels was found to be between 56.1 and 73.3 dB(A) for the urban areas and 55.3 and 68.3 dB(A) for the suburban areas. The WHO criteria for night time noise at residential areas is 45 dB(A). Thus, the survey found that both the urban and suburban areas did not meet the WHO criteria for day and night time noise levels.

The survey showed that the suburban roads had lower traffic noise compared to the urban roads. The total number of vehicles was also lower on the suburban roads compared to the urban roads.

Audiometric tests conducted on a sample of urban and suburban residents showed no cases of noise induced hearing loss amongst the suburban residents. Among the urban residents, two cases out of ten had very mild noise induced hearing loss.

The noise barriers were found to attenuate noise up to 10 dB(A) thus effectively lowering the noise levels and serving its purpose as a noise barrier.