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Assessment on Traffic Noise Pollution Near Residential Area Located in Section 19, Shah Alam

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Structured Abstract

Background: Traffic noise in residential areas poses health risks and affects quality of life for the residences. The aims of this study are to identify the traffic noise exposure level near the residential area in Section 19 Shah Alam; to determine the traffic volumes and the relationship between traffic noise exposure level and traffic volumes near the residential area. In this study, data will be collected over three days at three sampling locations: Jalan Parang 19/8, Jalan Kepuk 19/2 and Jalan Petani 19/1.

Methods: In achieving the objectives of this study, data collection is being measured by conducting on-site monitoring and analysis by using Pearson Correlation by Statistical Package for Social Science (SPSS). The area monitoring was conducted using the sound level meter (SLM) to measure the noise exposure level, while traffic volume was measured by personal monitoring using a manual counting meter.

Results: The LAeq reported in residential areas in Section 19, Shah Alam, ranged from 58 to 68 decibels. The detected level exceeds the Department of Environment Malaysia's permitted limit of 60 decibels in a low-density residential neighbourhood. The findings of this study revealed that the maximum noise levels were directly related to increasing traffic volume, particularly during the morning and evening rush hours, when the number of vehicles, such as automobiles, motorbikes, and trucks, was at its height. Such high noise levels may put inhabitants at risk of sleep disruption, stress, and long-term health issues including hypertension. The results highlight the need for proper noise mitigation strategies to minimize the impact of traffic on the residential community. This indicates the relationship between the noise exposure level and the traffic volume is insignificant.

Conclusion: All study sites experienced high noise level which exceeded the maximum permissible limit of 60 dBA. It is recommended to conduct future study to reduce the traffic noise and minimize the risk to noise exposure. Therefore, this study will be useful in providing insights in creating a safe and healthy environment in residential area at Section 19, Shah Alam, Selangor.

Keywords: Traffic Noise, Residential Area, Noise-induced Hearing Loss, Noise Exposure Limit

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