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Variability of noise levels at the main bus stand at Matara, Sri Lanka: Preliminary results

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Noise levels at the main bus stand at Matara was investigated using IEC standardized B&K hand held Analyzer type-2250. A-weighted average sound pressure level, L_{Aeq}, and C-weighted peaks sound pressure level, L_{Cpeak}, were measured at four locations inside the bus stand where the traffic volume is around 120-125 buses per hour. The data were collected from 6.00 a.m. to 8.00 p.m. for fourteen days in the month of June, 2012. The average noise level, L_{Aeq}, for the day time, from 8.00 am. to 6.00 pm., was found to be vary between 79.0 ± 0.5 dB – 85.0 ± 0.7 dB and the average peak value, L_{Cpeak}, was between (103.0 – 107.0) ± 0.7 dB depending on the location. A maximum peak level of 118.40 ± 0.01 dB was found in one location at 5-10 m distance from the source. Highest noise levels were observed during the periods 1.00 p.m. to 3.00 p.m. and 4.00 p.m. to 6.00 p.m. on week days. The noise levels were lowest on Sundays as expected. The noises from engines, horns and speakers were found to dominate the noise level. The average noise level at all four locations were found to be higher than the level recommended by National Environment Act. No. 47 of 1980, for environmental noise, which is 70 dB for high noise level areas. There are several proposals that can be made to reduce the noise level. Firstly, the use of loud horns in buses within the bus stand can be reduced by educating the drivers. Secondly, the sound level of the sound system used in the bus stand can be reduced by using several low powered speakers. Thirdly, the noise level from engines of buses can be minimized by properly controlling the entering and leaving of buses with a suitable time lag.

Keywords: Vehicle noise, Sound pressure level, Background noise, IEC standards

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