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Assessment of noise levels at Rajagiriya junction after the inclusion of flyover

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Noise pollution refers to harmful level of noise; it has adverse effects on physical and psychological health. Traffic noise is the predominant factor of noise pollution in the world. Noise level in most cities exceeds the relevant regulated noise levels. The main objective of this research was to assess noise levels at the Rajagiriya junction after inclusion of the flyover, to compare with noise levels before inclusion of the flyover, and compare current noise levels with regulated noise levels and traffic volume. A group discussion was conducted based on 50 residents around Rajagiriya to investigate health impacts and comparative noise levels before and after inclusion of the flyover. A Class 2 sound level meter was used (model GM1352) to measure equitant level of A-weighted frequency noise level (LAeq) during 15min sampling time. Noise measurements were taken in 6 locations near the Rajagiriyajunction during day time (6.30-19.30). A parallel survey was conducted measuring traffic volume while measuring the mean noise level during peak day and hour to find average traffic volume, vehicle composition, peak noise level and to relate traffic characteristics to mean noise levels. The results revealed that the public in the Rajagiriya area are facing major problems from higher noise levels, and minor health impacts are common compared to major health impacts. Even though they face many problems due to higher level of noise, general awareness of noise among the community is low. Traffic noise is the predominant source of noise generation in the area. The noise levels are higher than the 63dBA national regulated noise level for day time it's even higher than 80dBA red line mark for hearing impairments, according to the WHO. Peak time average noise is well over 90dBA and peak hour is occurring during 17.15 -18.15 in the evening, plus Monday is the peak day of the week for noise generation. Visually, at the peak hour, traffic was clearly present with slow moving traffic conditions. The average traffic volume in the area is close to 2500 CPU and light vehicles are more than 60% withmotor cycles and cars being a majority; buses are the majority among heavy vehicles. The mean noise level distribution was linear to traffic volume. According to the public view, the noise levels are higherafter inclusion of flyover. Traffic noise mitigation methods can be used to reduce noise levels, such as driving restrictions to heavy vehicles, restrictions to ensure smooth movement of traffic, implement functional laws to control horn noise, and improved porous pavement material to reduce noise significantly.

Keywords: Noise levels, Rajagiriya flyover, traffic volume, peak hour traffic, traffic noise

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