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## AIR QUALITY OF AIR-CONDITIONED AND NON-AIR- CONDITIONED BUSES IN SRI LANKA

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**Abstract:** Buses are a commonly used and cost-effective mode of public transportation. However, they present significant indoor air pollution risks due to their ability to accommodate a large number of passengers. This study seeks to evaluate and compare air pollution levels in air-conditioned and non-air-conditioned buses, focusing specifically on biological agents as a primary source of contamination. Key factors such as carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), humidity, temperature, and dust levels were meticulously assessed as crucial contributors to indoor air quality. Elevated levels of air pollution inside buses can result in increased passenger fatigue and a higher risk of disease. Data was collected through continuous air sampling in both types of buses over nearly three hours, revealing notable differences in dust content, a major contributor to indoor pollution, between the two types of buses. While carbon dioxide levels in air-conditioned buses remained relatively stable, fluctuating between 356 and 364 PPM, dust concentrations varied from 6 to 8 mg/m<sup>3</sup>. These findings underscore the dynamic nature of air quality in buses and its potential impact on passenger health.

**Keywords:** Air quality, Air conditioning buses, Non- air-conditioned bus, Temperature controlling in buses, Air quality inside