URBAN AIR QUALITY AS A FUNCTION OF STREET DESIGNS;
STRATEGIES FOR COLOMBO TRANSPORTATION NETWORK
WITH SPECIAL REFERANCE TO GALLE ROAD

A Dissertation

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DECLARATION

I declare that this dissertation represent my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualification.

Signed: *UOM Verified Signature* .....

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ABSTRACT

The city of Colombo is gradually being choked to death by air pollution, especially vehicular related pollution. Poor air quality deteriorates human health, buildings and materials and even creates global environmental problems. The consideration and necessary attention towards cleaner air has been overshadowed by market forces in cities like Colombo. Much like most of developing cities, Colombo's city structure was influenced by colonial characters. These built forms have no bearing on natural, cultural and economical forces of the country. In addition, existing street network and space allocation is not enough to cater the ever rising transportation. As a result, transportation releases a considerable amount of pollutants to the air.

The study analyses the ambient air quality of CMR. Mount Lavinia Junction and Wadduwa were taken as the major sites, and analyses some variable factors in the city which could mitigate air pollution. At last the study is arrived at a set of conceptual street design strategies and guide lines to improve the air quality of the CMR.

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CO	Carbon Monoxide
CO_2	Carbon Dioxide
HC	Hydro Carbons
NO_x	Nitrogen Oxides
PM	Particulate Matter
PM_{10}	Particulate Matter with the size below 10 microns
$PM_{2.5}$	Particulate Matter below 2.5 microns
RPM	Reparable Particulate Matter
SO_2	Sulphur Dioxide
TSP	Total Suspended Particulate Matter.