

IMPORTANCE OF VEHICLES EMISSION INVENTORY FOR ECO-FRIENDLY ENVIRONMENT

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According to available literature, air pollution in developing countries accounts for large amount of excess deaths, very high medical costs and lost productivity every year. Owing to rapidly increasing vehicle numbers and very limited use of emission control technologies, motor vehicles are emerging as the largest source of urban air in the developing countries and threatening eco-friendly environments.

Vehicle emission standards, now in effect in all industrialized countries, have been adopted in many developing countries. Sri Lanka too has adopted emission standards for all vehicles, but those standards are yet to be effectively enforced. Further, there is no mechanism to evaluate the benefits due to emission control strategies as no reliable emission inventory is available, specially to estimate local concentration levels.

At present estimation of vehicle emission in Sri Lanka is done based on aggregate vehicles types or based on the total fuel sales. A inventory to assess the relative contribution from different vehicle types and identify emission loads on different localities are essential for planning and assessing of control strategies. A detailed vehicle emission inventory will be helpful to take action to reduce air pollution, noise and other adverse environments impacts of road transport and create eco friendly environments.

This paper presents a methodology used for preparation of a vehicle emission inventory that could be used for estimating vehicle emission with respect to special distribution. It is proposed to modify the transport-planning model, Trans Plan, developed by the University of Moratuwa. This inventory would be developed with provision to accommodate improved vehicle emission factor for different vehicle types and traffic conditions. This inventory would be capable of estimating emission load due to traffic on any road link categorized as a National road. Provision is available to estimate the hourly emission load distribution for situations where traffic flow distributions are available. Inventory out put are presented in a GIS platform.