

## **“Is it an Effective Way to Use the Market Based Instruments for the Reduction of Vehicle Emission?” Case Study for Sri Lanka**

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### **ABSTRACT**

This research paper gives the magnitude of the Urban Air Pollution by Motor Vehicles and its impact to provide background for the research. Subsequently the research is focused on the Demand Management Tools of Urban Traffic Congestion taking local application which were applied time to time. It analyses demand for vehicle ownership in the country considering price elasticity and income elasticity. All market based instruments applied on vehicle ownership has examined with the number which are currently applicable in Sri Lanka. This also evaluates the Aviation and Sea Port Market Based Instruments applicable to manage the demand including potential attractions. This paper analyses all market based instruments implement and their impact on demand side through empirical studies. The impact of the investment of road infrastructure with comparative analysis with revenue has included in the analysis. The theoretical model was applied to make the conclusion about the impact of the each and every market based instrument implemented in the country. It also evaluate the travel demand identifying dependent and independent variables considering the individual (private) cost and society cost (public cost) which leading to a conclusion and recommendation of the paper. The impact of the tariff of public transport assessed in order to estimate the shift from private mode to public mode of transport and modal shift. Welfare losses due to prices of petroleum based fuel are also calculated using mathematical models in order to lead to valuable conclusion at the end of research paper. Finally, hypothetical proposal for congestion toll applied to see the impact of vehicle emission reduction by reducing urban traffic congestion with scenario to provide qualitative mass transport system.