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Real World NOx Emissions of a City Bus under Urban Driving Conditions

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Abstract- Evolution of EU road transport emission standards indicates that the limits have been reduced more than 90% in the last decades. However, nowadays, the urban populations in many developed countries are still suffering from urban transport sourced emissions. One of the most important reasons for this is that the legislative test cycles don't represent the actual in-use operation of the vehicles and, hence, quantity of vehicle emissions to be released in the urban streets has not been reduced in parallel with the evolution of the standards. By using a portable emission measurement system, this discrepancy was searched at the present work. SCR and engine operating parameters were focused during actual in-use operation of an urban city bus in Sakarya city center. Vehicle operation maps in terms of engine speed and load, vehicle speed and load and the corresponding NOx emissions were examined to determine most important regions of the maps. It was observed that low load and low speed regions of the maps are extremely important since most of the trip emissions are released under these conditions. It is determined that the SCR system minimizes the average NOX concentrations in % 65-70 in all operation regions. Determination of these regions and corresponding emissions is crucial for urban city bus manufacturers to minimize the emissions and fuel consumption. he abstract should be prepared to include the purpose of the study, the methods used, and the results obtained.

Keywords- NOx, Emissions, City Bus, Real World, Urban Driving