PERFORMANCE EVALUATION OF GAUSSIAN BASED LINE SOURCE MODELS AT URBAN ROADWAYS IN THE BANGALORE CITY

Shiva Nagendra\textsuperscript{1*}, Megha Prakash\textsuperscript{2}, Renny Monilal\textsuperscript{2}, Mukesh Khare\textsuperscript{3}

\textsuperscript{1} Faculty of Environmental Engineering, \textsuperscript{2} Department of Civil Engineering, M. S. Ramaiah Institute of Technology, M. S. Ramaiah Nagar, Bangalore – 560 054, Karnataka, India, \textsuperscript{3} Department of Civil Engineering, Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110 016, India

Abstract

This paper presents a comparative evaluation of two Gaussian based line source models- CALINE 4 (Benson, 1989) and general finite line source model-GFLSM (Luhar and Patil, 1989). The observed carbon monoxide (CO) concentration data from June, 2003 to February, 2004, during the working hours i.e. 8 AM to 6 PM at two busiest traffic intersections in the Bangalore city, have been compared with model predictions. The results indicate a reasonably satisfactory performance of the both models. The limitations of CALINE 4 and GFLSM models are also discussed.

Keywords: urban air pollution, carbon monoxide (CO), traffic characteristic, meteorology, line source models

* Author to whom all correspondence should be addressed: Phone: 91-80-23600822-315, Fax: 91-80-23602124, e-mail: shivanagendra@yahoo.com