

DEVELOPMENT, EVALUATION AND APPLICATION OF A TWO-DIMENSION STREET CANYON MODEL

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ABSTRACT

In this study a 2-D street canyon model for the dispersion of inert pollutant is presented. This model consists of two submodels. In the first submodel the wind field is calculated using two algebraic approximable equations. In the second submodel the inert pollutant concentrations are computed solving numerically the conservation equation. In order to test the model results and to investigate the model sensitivity model simulations in three street canyons in Thessaloniki were performed. Finally we study the effect of the increasing public bus transport on CO, VOC and particulate matter level in three main streets in Thessaloniki. Generally modest increases in public bus transport result considerable VOC and CO concentration reductions and minor increases in particulate matter levels.