Urban Traffic Emission Modelling in QGIS

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Road transport is one of the main sources of deterioration of the air quality in urban areas. The principal purpose of this work is to present a newly developed model to support quantification of atmospheric emissions induced by road traffic and its fuel/energy consumption at different spatial and temporal scale to be used in a broad type of applications.

The QTraffic model (Road Traffic Emissions and Energy Consumption Model for open-source QGIS) allows emission estimations at urban scale with hourly resolution and at road segment level. The methodology is based on the updated European guidelines for emission factors and a novel technology for producing dynamic interactive data visualization. An example of application to Coimbra urban area will be presented.

QTraffic is a flexible tool able to provide inputs to dispersion and photochemical models, health effect analysis, impact studies and Air Quality Management and to respond the requirements of national and local authorities in their efforts to address the environmental pressure from road traffic.