

Using Internet GPS traffic data for vehicular emissions inventories and air pollution modeling

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Most of air pollution simulation in urban environments uses idealized profiles for producing temporal distributions. These profiles can be used either, in bottom-up or top-down emissions inventories.

However, the use of this data may not always be representative. With the generation of new data using GPS of cell phones and cars for safety reasons, new traffic data is becoming to be available. This study shows the use transformation of 104 *106 GPS recordings into traffic flows, estimate its emissions using the VEIN model in the metropolitan areas of São Paulo State and the generation of air quality modeling using the WRF-Chem model, mechanism CBM-Z. The results show that 168 hours profile absolutely different with the classical idealized profile. Also, the new profile has only one peak and the idealized two, for morning and evening rush hours. The emissions and air quality simulations of gases show good agreement with observations.