Assessing the impact of ICT on road transport emissions

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The exploitation group
Coordinated by Polis, the exploitation group will bring together cities & private actors around Turin, Rome and Madrid. The group is an active exploitation platform through which, the methodology and guidelines of ICT-Emissions will be propagated to reach as many potential followers and users as possible.

The members of the group will provide data and deliver feedback on the methodology, models and tools to guarantee that the final outcome will fit the needs of European cities and other stakeholders.

To join the exploitation group, please contact:
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Partners:

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ICT-Emissions aims at developing and applying a methodology to evaluate the impact of ICT on CO₂ emissions in road transport.

The ICT-Emissions methodology

The methodology is developed at two levels:

- a micro-level where the impact of ICT measures is modelled at single-vehicle level. The micro-level is specifically developed for passenger cars, as they dominate CO₂ emissions in passenger transport in Europe (>80% of total land passenger transport). The micro-level takes into account the effect of ICT measures on driving pattern and driver behaviour. This is combined with an instantaneous emission model, taking into account the effect of different vehicle technologies, specifically designed to be coupled to the micro traffic model.

- Then, results of this microsimulation are extrapolated to the macro level. Total CO₂ emissions from road transport are then calculated for all vehicles using traffic situation and/or average speed specific emission factors for other road transport vehicles.

The methodology allows translation of a local ICT measure (e.g. street level) on CO₂ emissions of a wider area (e.g. urban level), with a representative level of detail at both the local and the wider level.

ICT-Emissions develops vehicle simulators to calculate the energy and CO₂ emissions of vehicles, also taking into account advanced vehicle technologies (hybrids, plug-in hybrids, electric, start-stop, etc.).

ICT-Emissions simulates the impact of various ICT measures by using commercial traffic models at the micro and macro scales, and link them to vehicle simulators, following the methodology developed.