VehicleMobiGen

Vehicular Ad hoc Networks (VANETs) can be identified as Mobile Ad hoc Networks (MANETs) where mobile nodes are wireless technology equipped vehicles. The aim of vehicular networks is to provide communications among neighboring vehicles and between vehicles and nearby fixed equipments.

A critical aspect, when studying VANETs, is the need for a mobility model which reflects, as close as possible, the real behavior of vehicular traffic. It would be desirable for a trustworthy VANETs simulation that both macro-mobility (road topology, street characterization, car class dependent constraints, traffic signs, etc.) and micro-mobility (car-to-car interactions, car-to-road interactions, acceleration and deceleration, overtaking, etc.) descriptions be jointly considered in modeling vehicular movements.

There are some specific mobility models employed in VANETs simulations that take into account these guidelines (e.g. VanetMobiSim). When introducing the cited constraints these traffic generator do not respect other important specified constraints (e. velocity).

Example: With VanetMobiSim, when fixing a 50 km as velocity in each lane, we obtained a mean of velocity of 5 km/h

An other problem of the existing traffic generator software is the fact that their output must be usually modified manually to be adapted to the input format of the simulators

In France Telecom R&D we developed our own traffic generator, called VehicleMobiGen, this C-based software permits to respect all the configuration parameters (e.g. acceleration, velocity in lanes, velocity in intersection, etc.) and permits to the users to configure the output file format.