



MRN - Models of Road Network

ROAD NETWORK TRAFFIC MODELS AND SIMULATIONS

The modelling and simulation tools allow the estimation of the effects of interventions on a road network or on the city context in which it is included. The reorganization of existing roads sections, the planning of new infrastructures and of urban initiatives may be subject to advanced estimation, which provide the effects associated with different configurations or degrees of intervention.

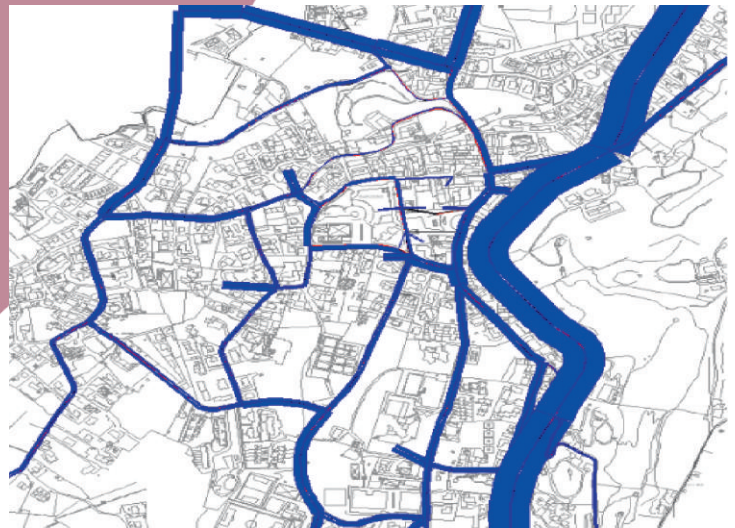
Analysis activity:

- Building of the model of **road network**, through the characterization of individual section with the attributes that affect the **ability of vehicular outflow**;
- Estimation of the **relation matrix** for one or more time slots by car type or equivalent vehicles. Estimation of the **incremental demand** related to **urban interventions**;
- Analysis of **users behavior** on specific road stretches of the network or intersections;
- Construction of the **outflow curves** that best represent the users behavior, when the traffic level increases.
- Implementation of **macro-simulation models**, for **urban or extra-urban networks**, through the **INRO Emme3 software**;
- Implementation of **micro-simulation models**, for specific intersections or **local networks**, through the **SIAS Paramics software**.

Supplied products:

- Summary or detailed reports concerning the **effects expected from the individual simulated scenarios**, with the identification of the criticalities or of the improvements compared to the current one;

- **Diagram and tables of comparison** between scenarios, to define the best solution according to the targets. The parameters of comparison are: vehicular load, average or maximum speeds, duration of trip on road stretches, traffic queuing, road congestion level, ...;
- Graphical representations of **flows on road**



branches or flow data export in a format compatible with **GIS software**;

- **3D Dynamic simulations** concerning road intersections outflow;
- Reports on the impact of **new urban initiatives on viability**.



Related packages:

TMA - Traffic Monitoring and Analysis
RNM - Road Network Maintenance

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