

# **Intelligent urban traffic development support system—the database**

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## **Abstract**

Nowadays, one of the biggest problems of the rapidly growing urban traffic is frequent traffic jams which are both annoying for the drivers and increase the environmental pollution. Traffic flow needs to be dynamically controlled in order to reduce these drawbacks. Counting the number of vehicles is not enough for dynamic traffic controlling since it does not provide information about the behaviour (e.g., frequent paths, usual times) of traffic participants.

Actually, we are working on a method which provides dynamic information about the current state of traffic. This method is based on smart sensors which are able to identify license plates of vehicles. Using these sensors, information can be gathered about the flow of traffic. From a statistical point of view, these data form a time series, which can serve as a basis for further statistical analysis and prediction (e.g., expected load of roads, preferred paths depending on time). For cost-effectiveness reasons, a simulation software has also been developed for simulating the traffic flow.

The public road network needs be described using a spatial model. Data acquired from the sensors or the simulation software need to be stored in a database in order to provide the necessary information for the statistical part. The database stores sensor information, as well, which connect to the spatial layer of the system (which identifies the physical placement of sensors). In our talk, we propose a solution for such a database implementation which deals with security issues of the stored data and provides an interface for accessing both the stored and derived data.