

Monitoring and analysis of travel speed on the national road network
using floating car technologies

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ABSTRACT

It is well known that many factors contribute sequentially and in parallel to the occurrence of road crashes. In order to address this multi-dimensionality, we are building a geographic information system (GIS) that will allow a visual as well as analytical monitoring and analysis of parameters and data related to traffic safety. In particular, the system will be capable of receiving data from various sources: infrastructure detailed data, traffic counts, travel speed data, data from road-installed sensors, camera data, driving events obtained from advanced technologies, as well as road crash and injury data.

Among the main factors affecting injuries from road crashes - speed is considered a leading cause and contributing factor. There are numerous studies linking travel speeds and road crashes. Hence an essential part of every road safety plan is speed management. In order to manage speed – it has to be systematically and consistently monitored and analyzed.

In this study we present a system for the collection and analysis of travel speeds at the nationwide level. The paper focuses on the collection and analysis of travel speeds on different road sections. The current research provides a comprehensive speed database in space and time by using the information gathered through advanced technologies combined with geographical data system that allows visual presentation of the data. This analysis can identify the road sections with significant excesses of travel speeds relative to the speed limit. It can also serve as baseline to evaluate current counter-measures employed to reduce speed.