The study of relations between telematics and road safety

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**Background & policy context:**

In the last years the application of intelligent transport systems is rapidly expanding in the highly motorised countries, just like in Hungary. The MARABU was the first plan of traffic regulation - and information system - on the M0 motorway. It was finalised in 1993 and it was followed by the MAESTRO project on the M3 motorway and the MONARCHY on the M1. Once the system plans were finalised, the implementation on the field of collective, integrated traffic regulating and information systems was also started. The first phase of the MAESTRO system was finished in 1998 and the gradual implementation of the MARABU project was also started. The implementation of individual traffic regulating and information systems was also moved forward.

Touch-pad terminals are operating in parts of Budapest, an experimental project of a pre-journey information system called IKTA is under preparation, the GSM as standard for data and information transfer is ready and the GPS and DGPS system in Hungary is also applicable. The Ministry of Economy and Transport is member of ERTICO, the association coordinating the application of the European telematics systems. If not already partially operating, the implementation of integrated, collective, changeable traffic regulating and informatics systems using variable message signs are expected in the near future on the Hungarian road network. This project is focusing on the traffic safety impacts of these systems.

**Objectives:**

The first part of the study (author: Dr. Ágnes Lindenbach) treats the European road safety priorities and the recently introduced Hungarian traffic safety measures; then the possible telematics applications in the field of road safety are evaluated and illustrated with detailed foreign accident analyses. Finally, experiences on the systems of traffic regulation and information are summarised and the situation of their domestic application presented.

The second part (author: Dr. Péter Holló) deals with the methodology of the detailed evaluation of the road safety effect. Starting from the observations of the last five years relating to the road safety of the expressways, the absolute and specific accident losses characteristic for different expressway types are determined. On this basis, the accident loss which did not result from the application of the systems in question, is estimated. Finally, some relevant foreign research results are evaluated.

**Methodology:**
• European priorities and a survey of the Hungarian road safety measures
• The possibilities of telematics in road transport
• Examples of the detailed accident analysis techniques regarding traffic regulation and information systems
• Experiences of traffic safety impacts of the traffic regulating- and information systems
• The present situation of the traffic regulating- and information systems in Hungary

**Parent Programmes:**
**NKP - Transport safety action programme**

**Institute type:** Public institution

**Institute name:** KTI Rt. (Institution for Transport Sciences Ltd.)

**Funding type:** Public (national/regional/local)

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**Key Results:**

Based on the presented evaluations it is evident that the different intelligent transport systems have clearly positive impacts on the traffic safety both in urban environment and on the highway network. The positive impacts of the collective traffic regulation and information systems are remarkable, they can increase the traffic safety of a given section around 30% because of the variable message signs, which can call the vehicle drivers’ attention at the proper place in time to change his driving attitude.

**Policy implications**

Safety and security

Based on the presented evaluations it is evident that the different intelligent transport systems have clearly positive impacts on the traffic safety both in urban environment and on the highway network. The positive impacts of the collective traffic regulation and information systems are remarkable, they can increase the traffic safety of a given section around 30% because of the variable message signs, which can call the vehicle drivers’ attention at the proper place in time to change his driving attitude.

Intelligent Transport Systems

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**Related Projects:**

• MARABU (Management of the Road Traffic around Budapest)

• MAESTRO (Management on the Hungarian North-East motorway for a high Service level on the TrafficOperation)

**Documents:**

- Final Report available only in Hungarian (Final report)

**STRIA Roadmaps:** Network and traffic management systems

**Transport mode:** Road transport

**Transport sectors:** Passenger transport, Freight transport

**Transport policies:** Digitalisation, Safety/Security

**Geo-spatial type:** Other