PROJECT

MASTER

Managing the Speed of Traffic on European Roads

Funding: European (4th RTD Framework Programme)
Duration: Sep 1996 - Sep 1998
Status: Complete with results

Background & policy context:

The contribution of vehicle speed to accidents, causing death and injury is a major concern in road traffic. Several studies have confirmed the positive influence of reduced driving speeds on the number and severity of accidents. Besides a car’s absolute speed, the speed variance on a given road significantly contributes to the accident rate. Lower and more even speeds in road traffic would reduce the overall number of accidents and mitigate their consequences. However, as an integral part of a speed management scheme, the impacts of speed reduction on e.g. average journey times, vehicle-operating costs, emissions and noise have to be taken into account.

Objectives:

MASTER aimed to produce information that can be used in the preparation of speed management strategies and policies at a European or national level. The project targeted the need to enhance guidelines for the development of innovative speed management tools.

The main objectives of MASTER have been to answer the following questions:

- What are the acceptable ranges of speeds (for several road types)?
- What are the main factors influencing a driver’s choice of speed?
- What are the best speed management tools and strategies?

Parent Programmes:

FP4-TRANSPORT - Specific research, technological development and demonstration programme in the field of transport, 1994-1998

Institute type: Public institution
Institute name: European Commission; Directorate-General for Energy and Transport (DG TREN; formerly DG VII)
Funding type: Public (EU)

Partners:

NA

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Key Results:

MASTER has produced:

- a review of current speed management methods and the various levels of responsibility for
implementation;
- a survey of current speed limits across Europe for typical road categories;
- a framework for the systematic and comprehensive assessment of the impacts of changes in speed, starting with a social cost-benefit analysis and taking into account quantitative and qualitative effects;
- a comprehensive analysis of the reasons for a driver's choice of speeds, including interviews with drivers and pedestrians in six countries;
- a review of Advanced Transport Telematics (ATT) and traditional speed-reducing systems, together with tests of the most promising ones in a driving simulator;
- an assessment of 25 different speed management measures and tools in terms of impact on speeds, cost-effectiveness and other relevant information;
- recommendations for speed management in compliance with the objectives of the Common Transport Policy; in particular:
  - speed limits for roads of similar classification;
  - guidelines for the application of speed management measures;
  - preparations for the introduction of in-vehicle speed limiters;
  - self-explaining road design;
  - automated speed enforcement;
  - internalising external (accidents, environment) costs;
  - campaigns to raise public awareness about the impacts of speed;
  - restriction of vehicle speeds.

Policy implications

The study made recommendations for further research in the field of speed management. Benefits could arise from investigation into the impacts of speed on:

- emissions;
- noise;
- vehicle operating and time costs;
- network level effects;
- the choice of road according to the purpose of the trip
- the impacts of speed changes and in particular the impacts of in-vehicle speed limiters on accident rates and severity.

Additional work is needed on monetary valuations of the impact of speed on:

- the value of time;
- environmental aspects and accident costs;
- methods for assessment of distributional and equity impacts of speed changes;
- sampling and reporting requirements for speed data;
- behavioural adaptation effects related to speed limits.

Related Projects:

- DUMAS - Developing urban management and safety.

Documents:

- master.pdf (Final report)

STRIA Roadmaps: Other specified

Transport mode: Road transport

Transport policies: Safety/Security