

Intelligent Road Systems: Current Knowledge and Implementation Strategies

The principle

This research strand of the INTRO project is a "horizontal" activity, feeding into the technical parts of the project. It aims to bring together previous experience, to examine user needs, to provide scenario investigations and to investigate strategies for implementation.

The rationale

Rather than developing new technology, the aim of INTRO is to better use existing technology in an integrated way in order to provide realistic and cost-effective solutions to road safety, infrastructure management and maintenance issues. Thus there is a need to review existing practice in the form of previous and ongoing studies and deployments. Because the project's outputs will be mainly targeted at road authorities and operators, a comprehensive overview of the needs of these stakeholders is particularly important.

The technical output and results produced by other strands of the INTRO project need to be channelled into a range of possible implementation strategies, depending on different needs and circumstances, in order that road operators (and thus all road users) can effectively reap the benefits of INTRO.

The practice

The first task is a state-of-the-art report (released in autumn 2005), focusing on the use of sensor technologies to deliver highway safety and

capacity improvements. A section on user needs is included, focusing on the needs of road operators. A limited number of road operators in different parts of Europe have been interviewed in order to assess where their priorities lie and their approaches towards the deployment of sensor technologies.

Following this, a review of current and future trends will be undertaken, which will include scenario investigations for private and commercial transport on road networks, as well as financial aspects (financial constraints of public authorities, etc). Future "visions" will be developed, considering different technology trends, future needs and circumstances. These will focus on aspects such as road capacity management, real-time monitoring, life-cycle for road networks and bridges, etc.

Finally, towards the end of the INTRO project, an analysis will be made of potential implementation strategies for the project's outputs, in the light of current implementation frameworks in Europe. It will look at the cost-effectiveness of larger-scale deployment of the main concepts developed and demonstrated in INTRO and also evaluate possible alternative solutions. Recommendations on cost-effectiveness measures will be provided.

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