Evaluation Results for Intelligent Transport Systems (ITS)

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ABSTRACT

ITS projects are being implemented to provide improved levels of service in a wide range of transport applications. In the UK there are already substantial investments in some types of scheme. These projects need sound methods of evaluation and assessment to guide the choice of technology and the allocation of scarce resources. Publicly funded ITS projects have to stand comparison with other transport investments, and can offer very cost-effective solutions to road network management problems, while efficiency gains can be achieved by combining several applications. Evaluation is also becoming part of the process of performance measurement for assessing service delivery in Public Private Partnerships, such as the UK's Traffic Control Centre project.

This paper summarises the methods of evaluation set out for EC-funded ITS research and demonstration projects, known as the CONVERGE validation quality process and the lessons learned from that approach. The new approach to appraisal, which is being adopted in the UK is outlined. The paper discussed the application of this approach to two large UK projects: the Congestion Charging Scheme in London and the Traffic Control Centre project for the UK inter urban road network.

The paper presents the measured evaluation outcomes of a range of ITS projects that have been implemented in the UK. The results are grouped under three headings:

> **Traveller Information Services** – covering in-vehicle and roadside systems as well as public transport:
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> **Urban Traffic Management** – covering urban traffic control, parking systems, incident management, public transport priority and access control.
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> **Highway Traffic Management** – covering incident detection, speed control, ramp metering and rescue service management on inter-urban road networks.

Where it has not been possible to present UK results, information has been augmented from other European projects.

The results indicate that there are substantial benefits to be gained from the implementation of ITS services. Expensive projects such as the Midlands Driver Information Systems (MDIS) which cost over 25 million euros to install realised benefits in excess of that value in just over two years. A combination of improved information and bus priority in London indicated that delays to buses could be reduced by about 30% and journey times for travellers reduced by 8%.

The paper concludes by providing an indication of the size of the benefit: cost ratio that can be obtained for the various ITS applications and the likely main source of those benefits.

The paper highlights the importance of systematic evaluation when considering investment in ITS projects, and the central role it has to play in decision-making for new investment in ITS services. The high level of effectiveness of ITS projects in improving the conditions for all types of travellers strongly reinforces this finding.