ITS Radar Ad Hoc Report: i2TERN Euro-regional Conference Dublin (21st-23rd September 2005)

Report no:	1	Report initiator	Steve Tarry
Date:	11th October 2005	Compiled by:	Steve Tarry
Report area:	Relevance of projects presented to the Highways Agency		
Categories and level of relevance :		Traffic Control Centres	Some relevance
		Traffic management technology	Very relevant
		Pilots	Very relevant
		Driver behaviour	Some relevance
		Modelling	Some relevance
		Traffic and travel Information	Very relevant
		Technology solutions	Some relevance
		Enforcement	Some relevance
		Standards and policy	Some relevance
		Monitoring	Very relevant
		Safety	Very relevant
		European developments	Very relevant
Transferability to Highways Agency :		Meets Policy Objectives	Yes
		Cost/Benefits Information	Available
		Development status	Pilots
		Innovative	Yes
		UK legal issues	Possible Privacy Issues
Summary:	The Conference presented work being undertaken and planned for the future within the various Euro-regional projects, which form the European Commission's TEMPO programme for deployment of ITS. Evaluation results from several Pilots were presented, plus proposals for future co-operative working between projects and public administrations – particularly within Long Distance Corridors – which the HA should be party to.		

Introduction

This document summarises some of the papers presented at the i2TERN Conference of particular relevance to topic areas being 'monitored' by the ITS Radar Team. An overview of the relevant papers, the country of origin for the 'project', the relevance of the work to the HA and the topic areas they are associated with are presented, in Table 1.1.

Extracts from the papers are included as an Appendix, with contact details for authors, where available. Links are provided between Table 1.1 and the appropriate extract, via the paper reference number. Links are also provided back to Table 1.1, again via the paper reference number.

The HA's attention is drawn to the 'Relevance to the HA' comments alongside each project overview in Table 1.1.

Copies of the complete abstract for each paper and the presentation made at the Conference can be made available, if required.

ITS Radar Ad-hoc Report: i2TERN Euro-regional Conference - Papers of Particular Relevance to the HA

Table 1.1

					Relevant Topic Areas														
Paper Reference	**Subject**	**Overview (Summary Extracts From Papers Appended)**	**County of Origin**	**Relevance to the HA**	**Traffic Control Centres**	**Traffic Management Technology**	**Pilots**	**Driver Behaviour**	**Tolling**	**Modelling**	**Traffic and Travel Information**	**Freight and Fleet Management**	**Technology Solutions**	**GPS / satellites**	**Enforcement**	**Standards and Policy**	**Monitoring**	**Safety**	**European Developments**
ES 1.2	ITS Progress in Ireland	Monitoring and travel time information display	Ireland	Travel time information provision being considered by HA – possibly lessons to be learnt		✓	✓				✓						✓		
ES 1.5	eSafety Development and future Deployment	eCall etc, real time traffic information, research and technological development		Possible HA involvement in working groups				✓						✓	✓	✓		✓	✓
TS 1.1	TOTEM, dissuasive speed limits at roadworks	Mobile ANPR, VMS	Scotland	Similar approach in Scotland. A possible pilot for the HA			✓				✓		✓		✓			✓	
TS 1.4	Variable speed limits on A7 in France	Mandatory speed limit pictograms, advice on speed limits via radio broadcasts and VMS text	France	Possible enhancements to current Controlled Motorway approach of CMI + EMS?		✓	✓	✓					✓		✓			✓	

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TS 2.3	Traffic management and VMS developments in Austria	Traffic Management Information Centre and dissemination of information via VMS and other media	Austria	Benchmarking of UK approach to VMS against European peers	✓	✓										✓			✓
TS 2.4	Traffic management during major roadworks	Prior assessment of appropriate tools, Monitoring travel times with advice to travellers via a range of media, cameras, VMS plus fixed signs, speed and lane control	Denmark	Systems to remain as permanent TM tools (akin to ATM). Evaluation planned in the near future – HA to monitor outcomes.	✓	✓	✓				✓		✓					✓	
TS 2.5	Temporary lane usage on A7 Germany	'Prism' signs advising if lane available, triggered by volume of traffic (2800 vph / lane), cameras used to detect vehicles in emergency lane	Germany	Possible low cost approach to hard shoulder running (compared with ATM)?		✓											✓	✓	

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TS 3.2	Intelligent Road Studs for Hazard Warning	In carriageway detectors, warning system	Scotland	Seen as a possible alternative to COMPANION in Scotland (COMPANION to be trialled by HA)		✓	✓	✓					✓					✓	✓
ES 3.1	Mare Nostrum long distance VMS corridor	Moving towards a consistency of approach using VMS across several member states	Spain	HA to be a party to the project? (in line with CEDR action FIVE – framework for harmonisation of VMS)	✓						✓					✓			✓
TS 5.3	AID on Brecia – Padova motorway Italy	Camera based AID	Italy	COMPANION used to advise motorists of hazards identified by AID (COMPANION to be trialled by HA, including possible AID approaches to triggering system)	✓	✓	✓						✓				✓	✓	
ES 5.1	Reducing accidents on French Motorways	Speed cameras – fixed and mobile and sophisticated back office procedures	France	Data handling / bespoke institutional arrangements to process 'penalty' may be a possible model				✓							✓	✓	✓	✓	

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				to follow. Possible participation in 'cross jurisdictional' (cross Channel) enforcement?															
ES 6.1	Basis for ITS programmes in Europe	Role of public administrations in future ITS programmes – BRIO initiative	Europe	Possible HA involvement?												✓			✓
ES 7.1	Tools for evaluating ITS	Assessment framework	Finland	Possible use by HA as part of pre-evaluation of possible ITS applications (akin to ITS Toolkit approach)															✓
ES 7.3	Evaluation of investment in detectors and VMS	Modelling approach to forecasting benefits from rerouting advice	Sweden	Review model approach for relevance to NASS, MOLA etc		✓				✓			✓						
ES 7.4	Evaluation of 3 Italian ITS projects	'Part time lane usage project, COMPANION and general ITS deployment	Italy	Part time lane usage and COMPANION being trialled by HA		✓	✓	✓					✓					✓	

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ES 3.4	Maintaining and maximising ITS benefits (in Scotland)	Benefits measurements, past and planned and cost benefit tools for the future	Scotland	Costs and Benefits calculations included within NADICS control algorithms in the future? (Lessons for RTCC, NASS etc?)	✓					✓									
TS 13.4	Potential 511-style service	Portal to information services, used in the United States	England	HA involvement in the possible development of a similar system within Europe?			✓				✓							✓	✓

Appendix – Summary Extracts From Papers

Paper Reference	Extract
ES 1.2	***ITS Progress in Ireland***
Return to Table 1.1	The NRA have put emphasis on the three following areas in the fast track development of a national ITS infrastructure: concentrate monitoring on high volume / high priority sections of the network; make use of non-intrusive monitoring technologies; and front load ITS deployment with development of both a common and integrated management (ATMS) and a web interface for the dissemination of travel information (in addition to roadside infrastructure). *David Laoide-Kemp, NRA, Ireland ~ dlkemp@nra.ie*
ES 1.5	***eSafety Development and future Deployment***
Return to Table 1.1	eSafety brings together the European Commission, industry and other stakeholders to accelerate the development, deployment and use of Intelligent Integrated Safety Systems that use information and communication technologies in intelligent solutions, in order to increase road safety and reduce the number of accidents on Europe's roads. The eSafety Forum is a joint platform involving over 150 active members representing all road safety stakeholders. Its general objective is to promote and monitor the implementation of the recommendations of the eSafety Working Group and to support the development, deployment and use of Intelligent Vehicle Safety Systems. *ERTICO*
TS 1.1	***TOTEM, dissuasive speed limits at roadworks***
Return to Table 1.1	In terms of performances, TOTEM is capable of: Measuring instantaneous speed; Capturing and recognizing number plates; Processing and transmitting information; and Displaying license plate and warning information on the mobile VMS TOTEM can operate during nights and days. It can support 20 different European plates with a recognition rate superior to 85%. *Alexia Journe, Sanef, France ~ alexia.journe@sanef.com*
TS 1.4	***Variable speed limits on A7 in France***
Return to Table 1.1	Road users are informed in real time of the current speed limit on the experimental stretch. This is disseminated through a dedicated motorway information radio, with flash messages every 7 minutes, through mandatory speed limit pictograms on overhead gantries and VMS located every 10Km. Speeding vehicles are identified using ANPR and VMS illuminate showing the registration number and warning the driver to slow down. The system has been shown to be highly effective in increasing compliance and improving capacity and safety. *Mathieu Lisbonis, ASF ~ Mathieu.lisbonis@asf.fr*
TS 2.3	***Traffic management and VMS developments in Austria***
Return to Table 1.1	The objectives of developing the "intelligent road" concept are: Increase capacity by optimizing use of existing resources; Increase road safety by avoiding or reducing the number of accidents (by over 30%) ; Decrease external costs especially costs generated by delays and congestion, and environmental follow-up costs by avoiding and reducing congestion ; Manage incidents and road works reduction of incidents in road operation by providing early warnings about tailbacks, unfriendly weather, bad pavement conditions, road works, and people driving in the wrong direction on the motorway ("wrong way drivers"); Manage information / inform drivers e.g. using large signs, Radio Data System (RDS)Traffic Message Channel (TMC), recommending routes, and providing estimated travel times, etc; and Improve service to the customer e.g. by informing drivers about the traffic situation. *DI Dr. Norbert Deweis, ASFiNAG Verkehrstelematik GmbH ~ norbert.deweis@asfinag.at*

Paper Reference	Extract
TS 2.4	***Traffic management during major roadworks***
Return to Table 1.1	A strategy for road user information and traffic control was drawn up in advance of major maintenance / construction works. Components include the use: variable information signs, variable speed limit signs, fixed signs with variable text part, video suveilance' data collection system' emergency roadside telephones, travel time measurements on alternative route and central IT system. *Charlotte Vithen, Danish Road Directorate, Denmark ~ cv@vd.dk*
TS 2.5	***Temporary lane usage on A7 Germany***
Return to Table 1.1	30 Prism tables per direction will be put up on this stretch every 2,000 meters to show the opening or closure. For data collection of the current traffic situation, which is the basis for traffic dependent opening, 10 cross sections will be equipped with double inductive loops on the main lane, the passing lane as well as the emergency lane. In order to detect broken-down cars, the emergency lane will be monitored by 83 video cameras which are equipped with a zoom and a panning and tilting head; they allow for a 600-meter range of vision and are to broadcast live moving images. For data transmission to the sub-centre i.e. the video control room in the highway surveillance centre Fallingbostel approx. 33,5 km light wave conductor cable have been laid. From a defined critical number of vehicles per hour (e.g. 2,800) the system will automatically suggest the opening of the emergency lane, which will then have to be released manually in the control centre. Afterwards, the emergency lane will be monitored to detect broken-down cars. Unless there are any, the emergency lane will be opened for traffic. *Martin Issleb, martin.issleb@nlstbv.niedersachsen.de*
TS 3.2	***Intelligent Road Studs for Hazard Warning***
Return to Table 1.1	The Scottish Executive have been undertaking at trial to see if the salient features of the COMPANION Hazard Warning System could be replicated utilising Intelligent Road Studs (IRS) which are more akin to the standard infrastructure used on the Scottish Trunk Road Network. Although there is already a range of monitoring and warning equipment operating on the Scottish trunk road network, primarily through the National Driver Information and Control System (NADICS), there continues to be scope to enhance this coverage, particularly in areas where the use of traditional methods are not considered cost effective. The application of IRS may be one option in enhancing existing coverage. IRS functionalities include enhanced lane delineation (of up to ten times that of existing road studs), traffic monitoring (count/speed/classification), incident detection, weather monitoring, hazard warning and (potentially) journey time monitoring functionalities. *Ian Anderson, Scottish Executive*
ES 3.1	***Mare Nostrum long distance VMS corridor***
Return to Table 1.1	The Mare Nostrum VMS group *is* to work together to share signing issues and expertise. Focusing on a well defined ('real') Long Distance Corridor, the idea is that any driver going, for instance, from Seville (Spain) to Trieste (Italy), should find the same or very similar M-VMS announcing the same or very similar road situations. The Mare Nostrum VMS group intends to contribute to what could be termed as an *International Symbolic Language* for M-VMS displays. The general goal is making the most of the international designs available for text messages. *Alberto Arbaiza, DGT, Spain ~ alberto@dgt.es*

Paper Reference	Extract
TS 5.3	***AID on Brecia – Padova motorway, Italy***
Return to Table 1.1	The AID system is mainly based on detection through video cameras located along the motorway, whose objectives are in general: monitoring of traffic and road conditions, also by means of the operators supervision on video-screens (video-wall) at the Traffic Control Centre; collection of traffic information through the centralized processing of the received images, in addition to or in substitution of other technologies (magnetic loops, ultrasound, infrared beams, etc.); automatic receipt of information, through the centralized images processing, related to stationary vehicles, abnormal speeds, accidents, potential risks; video surveillance of specific areas for potential acts of vandalism, theft, improper use of equipment or facilities (parking areas, service stations, flyovers, etc.). *Gilberto Tognoni ~ Gilberto.tognoni@libero.it*
ES 5.1	***Reducing accidents on French Motorways***
Return to Table 1.1	Automated enforcement systems allow for continuous control without interception by Police. Violations are detected and recorded using fixed or removable devices that are implemented on selected sites. Data are automatically sent over a transmission network to a central control station monitored by Police. After identification of the violator, reports are printed and sent to them. The efficiency of these systems is based on their credibility and social acceptance. The major challenges were: Reducing the time between violation detection and reception of the report by the violator; Ensuring that the system respects privacy directives; and Ensuring security when transmitting personal data. The approach has been very successful in reducing accidents on the monitored network. *Martial Chevreuil, Isis, France ~ m.chevreuil@isis.tm.fr*
ES 6.1	***Basis for ITS programmes in Europe***
Return to Table 1.1	The new programme should go from bordering areas to a road linkage, road chains, i.e. multiple cross-border itineraries. East-West corridors and North-South corridors are a way of putting together the concepts of new projects; the structure could even be extended to a network of corridors. It will be necessary to link with CORRIDOR initiative of the ECMT. The current Mare Nostrum initiative (ARTS-SERTI-CORVETTE) on VMS could be seized as an example of this new concept. A programme like this will fill the gaps in the TEMPO Programme by providing benefits to overall mobility. *Luciana Iorio, MI&T & Reberto Arditi, SINA, Serti and Corvette Euro-Regional Projects*
ES 7.1	***Tools for evaluating ITS***
Return to Table 1.1	The assessment framework or rather tool is meant for assisting service developers, evaluators and financers in the evaluation of ITS or transport telematic services. The framework was developed as an Excel workbook within the R&D Programme on Real-Time Transport Information AINO managed by the Ministry of Transport and Communications Finland. It was designed as a tool for assessing ITS service development projects submitted to AINO on one hand, and as a general tool for assessing and evaluating ITS services. The framework is based on the national guidelines of evaluation of ITS projects from 2002. These guidelines give more detailed information about evaluation and its features, and are fully compatible with the Euro-regional Guidelines approved by the Euro-regional Evaluation Expert group in May 2005. *Armi Vilkman, Ministry of Transport and Communication, Finland ~ armi.vilkman@mintc.fi*

Paper Reference	Extract
ES 7.3	***Evaluation of investment in detectors and VMS***
Return to Table 1.1	Main input to the assessment benefits 'model' have been road dimensions data, traffic flow during different hours, vehicle type proportion, capacity, occupancy in vehicles, time values, comfort values and incident frequency. Simulations have been performed to calculate some input to the model. The methodology divides the calculations into the following parts: Information before journey; Information during journey; Incident Management; Building knowledge in the Traffic Information Centre; and Data for strategic planning. *Bjarne Homgren, SRA ~ bjarne.holmgren@vv.se*
ES 7.4	***Evaluation of 3 Italian ITS Projects***
Return to Table 1.1	The observed reductions in congestion and improvements in safety stimulate two considerations. The first regards the opportunity to integrate single ITS implementations made available by the technological progress (their usefulness and their effectiveness, in fact, being greater when integrated). The second one regards the usefulness of the evaluation of ITS systems, providing quantitative and objective estimations of the effectiveness of technological innovation and of the opportunity of investments towards increased safety. *L. Iorio, P. Maturano, C. Messina (Ministry of Transport); R. Maja, G. Marchionni, M. Ponti, L. Studer, E. Veronesi (Politecnico di Milano)*
ES 3.4	***Maintaining and maximising ITS benefits (in Scotland)***
Return to Table 1.1	The Scottish Executive is required to monitor the cost benefits generated by the provision and operation of the NADICS system and have made the policy decision to automate the cost benefit process to the greatest extent possible in order to achieve staff resource and cost effectiveness. The longer tern strategy is to remove the cost benefit processing from the current core operational support element and create a new architecture. This will include a separate server to undertake cost benefit and performance reporting processing. *Roy Brannen, Scottish Executive ~ roy.brannen@scotland.gsi.gov.uk & Allan Hill, Scottish Executive ~ allan.hill@scotland.gsi.gov.uk*
TS 13.4	***Potential 511-style service***
Return to Table 1.1	The traveller information telephone service would encompass three digit dialling access to information on road and potentially also weather conditions and could also include reporting of incidents by the public. Based on discussions with the UK regulatory authorities it is concluded that this needs to be taken forward at a European level. *Patrick Carney, Highways Agency, England & Helen Eveleigh, IBI Group, UK*