



## Identifying ITS Opportunities for the HA Technologies Newsletter: September 2009

### ITS RADAR INTERNATIONAL PROJECT

This project is providing intelligence for the Highways Agency on ITS developments in Europe and around the world. It is carried out by TRL and AECOM on behalf of the HA. The project summarises key information for decision makers and practitioners on activities related to Intelligent Transport Systems (ITS). The project covers specific areas of key interest to the HA.

Regular newsletters are being produced, covering information which is in the public domain. For more information about the project and the services provided, the web site can be reached at:

<http://www.highways.gov.uk/itsradar>.

To contact us and let us know what you would like this project to deliver please email us at: [ITSRadarInternational@trl.co.uk](mailto:ITSRadarInternational@trl.co.uk)

### ■ ABOUT TECHNOLOGY

Intelligence on developments in new and emerging technologies relevant to ITS are reported on. Technologies deployed in various other arenas are reviewed and their applicability in the world of transport is analysed.

Intelligence is gathered which demonstrates links between promising pilots, ideas and concepts and deployed ITS tools. This service enables earlier consideration of new technologies and in addition identifies cases where consideration has been given to new ideas, but may be held in abeyance due to the associated 'risks'.

### ■ MEETINGS

#### **Opportunity to explore ITS in daily life in Stockholm**

Source: Traffic Engineering and Control, July 2009, pg. 306-308

The 16<sup>th</sup> ITS World Congress will take place in Stockholm on 21-25 September 2009. The congress will explore ITS in daily life and will cover a variety of interesting sessions. ITS (UK) will be strongly represented, organising 4 sessions at the congress:

- ITS – The missing 50% (exploring the differing needs and expectations of male and female road users)

- ITS successfully supporting policy objectives
- Using ITS technology integration to improve fuel efficiency and reduce emissions from road transport
- Passenger information and ticketing: a technical choice

The International Benefits, Evaluation and Costs (IBEC) Working Group will be organising a pre-congress workshop on 20<sup>th</sup> September, dedicated to road pricing. The workshop will highlight the examples of Edinburgh and Manchester, which show that costs and benefits of road pricing are difficult to communicate to the public.

### **HA recommended to attend**

Key words: Payment, Training

### **Integrated working is key theme at York conference**

Source: [Traffic Engineering and Control](#), July 2009, pg. 303-304

The 2009 ITS (UK) Summer Conference was held in York on 4 June. The conference "Better Transport through Technology" involved a number of presentations about how UTMC (Urban Traffic Management and Control) Common Databases are being used to trigger interventions, develop strategy and provide information to end users, across boundaries and between highway authorities, both urban and inter-urban.

For example, in Devon, information on extreme weather conditions is being integrated into the overall decision making process and VMS warnings are being deployed where appropriate. A common database is being used in Warrington to monitor traffic flows against historical data and propose potential VMS plans where necessary.

Several other presentations were made during the conference describing how UTMC common databases were being integrated into authorities' traffic management processes.

Key words: Traffic centre, Traffic management

#### ■ PROJECTS

None to report

#### ■ NEWS

### **An improved view**

Source: [Traffic Technology International](#), June/July 2009, pg. 33-35

The HA has a large network of CCTV cameras and operatives cannot watch all of them at any one time. Cambridge Consultants is working with the HA on identifying better ways to use these CCTV cameras for improved incident detection, particularly on the Adaptive CCTV Display. This technology is based on a data fusion process and allows for selection of camera feeds in real-time, so those with the greatest probability of displaying an accident can be presented on operators' screens.

The system prioritises live alerts based on historical likelihood of accidents and was found to increase chances of incident identification, reduce the time needed to detect incidents and reduce the number of false alerts.

Keywords: Enforcement, Identification, Incident, Monitoring, Safety

### **Building system optimality into route guidance systems**

Source: [Traffic Engineering and Control](#), June 2009, pg. 264-265

Route guidance systems (ie GPS / SatNav etc) provide an advantage for drivers who use them compared to their non user counterparts in terms of better journey time by taking vehicles away from congested routes. As the popularity of these systems increases, this decreases their effectiveness, as large numbers of vehicles divert on to the same alternative routes. The challenge for the future is to transfer these systems from working competitively to cooperatively. This could be achieved by improving the reliability and predictability of journey times.

Key words: Geographic information, In-vehicle systems, Traffic information

### **County urged to set strict conditions over TIF bid**

Source: [Surveyor](#), 23 July 2009, pg. 6

According to a Commission set up by the local authority, Cambridgeshire County Council should make a £500m bid to the Government's Transport Innovation fund (TIF). This is based on the condition that congestion charging will be implemented only if TIF improvements to cycling, walking and public transport infrastructure fail. The Commission reports that at present the public generally have a low understanding and high suspicion of congestion charging, with people viewing it as just another tax. The Commission said the council should agree with the Government to introduce a charging scheme, only if congestion exceeds a certain agreed level and no sooner than in 2017.

Key words: Payment, Policy, Traffic management

### **Enforcing the switch**

Source: [Traffic Technology International](#), June/July 2009, pg. 19-21

According to Ben Grush, a GPS tolling specialist, tolling technology using RFID transponders should be replaced by charging systems using GPS. This, he claims, will help support a switch from fuel taxes to GPS-based mileage-based user fees (MBUF), which he believes would be fairer to road users and help to reduce congestion significantly. MBUF schemes would enable tolling of any road, whilst the existing RFID (Radio Frequency Identification Device) schemes proposed for trunk roads in France and Sweden would rely on expensive networks of gantries being installed between every junction and would not be feasible away from major routes.

Notably, the US Department of Transport and the US Congress are both in favour of MBUF system.

Key words: Enforcement, Galileo, Identification, Payment

## **Managing data from traffic cameras**

Source: ITS International, May/June 2009, pg. 50-51

As IP camera networks expand, so the availability and complexity of data increases, implying a need for supporting increasing scalability. Effective information management requires inter-agency collaboration. However, sharing raw data becomes increasingly challenging in view of the lack of standards for packaging, processing and sending data. The solution suggested is to present such data as an image, which can easily be shared with others.

Key words: Traffic centre

## **It's the same data, just a different message**

Source: Traffic Engineering and Control, June 2009, pg. 267-269

Data from National Traffic Control Centre can be interpreted into information tailored to the requirements of the user. This is shown by three applications which benefit from such data:

- Highways Agency Information Point, used by the public during breaks at motorway service stations
- Regional Integrated Data Display, used by operators in Regional Traffic Control Centres to manage the HA network; and
- Vigil, used by operators in Local Authority traffic control centres to help them understand the local authority network.

The same set of data can be used in a number of ways depending on user requirements with the application of common sense.

Key words: Traffic centre

## **New concept in mobile telematics**

Source: ITS International, May/June 2009, pg. 7

A division of SK Telecom located in South Korea is introducing Mobile In Vehicle (MIV), a service which enables its users to communicate with their vehicles and monitor them remotely via mobile phones. The areas in which the technology could provide benefits are as follows:

- safety and security (monitoring and tracking);
- vehicle diagnosis and control (gear performance check, parts control, fuel-related information);
- route guidance (optimal directions based on real-time information available via mobile phones);
- entertainment (music and video from a mobile phone via Bluetooth).

SK telecom estimate that the market for convergence services will be worth US\$15.4 billion by 2010.

Key words: Communications, in-vehicle systems

## **Saving fuel with vehicle tracking**

Source: Land Mobile, June 2009, pg. 23-24

Vehicle telematics and fleet management systems help operators to monitor fuel consumption and significantly reduce costs. Tracking systems enable the operator to determine if the optimal routes were chosen and if speeds were excessive. Advanced monitoring systems can send information on fuel usage patterns, so that businesses can identify the reasons for any fuel consumption discrepancies. In addition, real-time information on idle times can be gathered in order to minimise associated costs and environmental impacts.

Information gathered can be passed on to drivers in the form of briefings on how to improve fuel efficiency and for checking the vehicles for anything that may be reducing fuel efficiency (for example under-inflated tyres).

Key words: Environment, Freight, In-vehicle systems, Traffic information

## **Smart routing**

Source: Traffic Technology International, June/July 2009, pg. 28-31

Second-generation routing systems (those that display traffic in real-time) are being replaced by truly advanced third-generation systems, capable of predicting future traffic conditions. Enhancements in probe technology and smart modelling techniques have made these improvements possible. Intrix Total Fusion is now providing real-time traffic information together with traffic predictions based on modelling of local and regional influences on traffic conditions. The system takes into account conditions on nearby roads, weather, road closures, and planned events to produce estimates of traffic conditions in the next 15-45 minutes.

Key words: Geographic information, In-vehicle systems, Traffic information

## **Why car park signs should lie**

Source: Traffic Engineering and Control, June 2009, pg. 262-263

Information displayed on car park guidance signs becomes more and more complex and confusing. For example at Schiphol Airport, the information about two car parks is presented on two signs, two pictograms and in addition contains over ten words. Cognitive psychologist Dr Leonard Varhoef advises the use of "full"/"free" lights and to illuminate a direction which should be followed, instead of using a dynamic number. Such elimination of unnecessary wording will lead to considerable cost reductions.

Key words: Communications, Traffic information, Traffic management

### **■ RECENT PUBLICATIONS**

None to report

### **■ GLOSSARY**

ANPR	Automatic Number Plate Recognition
CCTV	Closed Circuit Television
GPS	Global Positioning System

IP	Internet Protocol
IBEC	International Benefits Evaluation and Costs Working Group for ITS
ITS	(Intelligent Transport Systems): "The integration of information and communications technology with transport infrastructure, vehicles and users" [ERTICO]
MIV	Mobile in Vehicle – Service in South Korea enabling users to control their vehicles using mobile phones
MBUF	Mileage-based user fees (e.g. for toll charging)
RFID	Radio Frequency Identification Device
UTMC	Urban Traffic Management and Control
TIF	Transport Innovation Fund – support for projects which would reduce congestion by developing road user charging or which would contribute to improving national productivity
VMS	Variable Message Sign