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Research Summary –
Information and Awareness**

EXTR@Web Project

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Abbreviations and Acronyms Used

ACC	Adaptive Cruise Control
ADAS	Advanced Driver Assistance System(s)
AG	High level Advisory Group (to the EXTR@Web project)
AMM	Asset Management Module
ATIS	Advanced Traveller Information System
BG	Benchmark Group (associated with the EXTR@Web project)
CEEC	Central and Eastern European Country
DG TREN	EC Directorate-General for Energy and Transport
DIS	Driver Information System
DPM	Data Processing Module
DRGS	Dynamic Route Guidance System
DVD	Digital Video Disc
EC	European Commission
EFTA	European Free Trade Association (Norway, Iceland, Switzerland, Liechtenstein)
ERA	European Research Area (EU, EFTA and CEECs)
ERTMS	European Rail Traffic Management System
ESA	European Space Agency
ETA	Expected Time of Arrival
ETCS	European Train Control System
EXTR@Web	Exploitation of Transport Research Results via the Web (DG TREN FP 5 Accompanying Measure project)
EU	European Union
FP 4 (5, etc)	EC Fourth (Fifth, etc) Framework Programme
GNSS	Global Navigation Satellite System
GPS	Global Positioning System

GUI	Graphical User Interface
HA	Highways Agency (UK)
HMI	Human Machine Interface
IHT	Institute of Highways & Transportation (UK)
IM	Information Manager
IT	Information Technology
ITS	Intelligent Transport System(s)
IVIS	In-Vehicle Information System
IVU	In-Vehicle Unit
LBS	Location Based Services
LTP	Local Transport Plan
LSP	Logistic Service Provider
PAG	Programme Analysis Group (part of EXTR@Web project)
PGI	Parking Guidance & Information
RCC	Rail Cargo Company
RCO	Railway Cargo Operator
RDS-TMC	Radio Data System – Traffic Message Channel
RIS	River Information Services (or System)
RTD	Research and Technical Development
RTPI	Real-Time Passenger Information
STI	School Travel Initiative
STP	School Travel Plan
TCC	Traffic Control Centre
TPS	Trip Planning System
TRKC	Transport Research Knowledge Centre; TRKC website at ec.europa.eu/transport/extra
TSM	Tracking System Module

TSP Transport Service Provider
UK United Kingdom
VMS Variable Message Sign(s)
WAP Wireless Application Protocol

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1. Introduction

This paper provides a structured guide to the results of Research and Technical Development (RTD) projects relating to **Information and Awareness**, carried out in transport research programmes throughout the European Research Area (ERA).

It is one of a series of 28 papers. Two further from an original set of 30 transport themes – i.e. Long-distance Transport and Financing Tools – have been discontinued as separate reports, though all related projects will be covered elsewhere in Thematic Research Summaries.

	Paper no.	Transport theme
Dimension 1	1.1	Passenger Transport
	1.2	Freight Transport
	1.3	Urban Transport
	1.4	Rural Transport
	1.5	Regional Transport
	1.6	EU Accession Issues
Dimension 2	2.1	Air Transport
	2.2	Rail Transport
	2.3	Road Transport
	2.4	Waterborne Transport
	2.5	Other Modes
	2.6	Intermodal Transport
Dimension 3	3.1	Economic Aspects
	3.2	Efficiency
	3.3	Equity and Accessibility
	3.4	Environmental Aspects
	3.5	User Aspects (incl. ergonomics, quality, choice and rights)
	3.6	Safety and Security
Dimension 4	4.1	Decision-support Tools
	4.2	Information and Awareness
	4.3	Infrastructure Provision (incl. TENs)
	4.4	Integration
	4.5	Intelligent Transport Systems
	4.6	Regulation / Deregulation
	4.7	Land Use Planning
	4.8	Transport Management
	4.9	Pricing, Taxation and Financing Tools
	4.10	Vehicle Technology

Of the more than 5600 projects from research programmes the Transport Research Knowledge Centre (TRKC) ultimately has considered, a total of **696** projects deal partly or fully with the issues of **Information and Awareness**.

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1.1 How to use this paper

It is recommended that you use this paper to locate RTD (Research and Technical Development) results on sub-themes where you have a particular interest, rather than reading the paper from start to finish:

- Start in Section 2 to get an overview of the scope of the particular theme.
- Read Section 4 that summarises the findings for each sub-theme of interest to you.
- Consult Annex I to identify the individual projects, be they of European or national origin, relating to a particular sub-theme.
- If this is the first time you have used one of the series of thematic research summaries, it is strongly recommended that you read Annex II. This explains the background and purpose of the EXTR@Web project, and the basis upon which information in this document was selected and analysed.

The other sections of this paper can help you to gain an overall picture of the **Information and Awareness** theme, associated policy issues, the background of project EXTR@Web and a summary of the editorial team for thematic research summaries.

The analysis in this paper is the responsibility of the EXTR@Web project team, and does not represent the official viewpoint of the European Commission.

1.2 The link to the Transport Research Knowledge Centre website

Further details on individual projects can be obtained from the Transport Research Knowledge Centre (TRKC) website at: ec.europa.eu/transport/extra

The TRKC website includes summaries and full final reports of individual projects, as well as a variety of analyses, and publications prepared by the EXTR@Web project.

How to best use the online resource:

- The 'Projects & Analysis' section allows the user to specify a project-wide search on 'Publication date', 'Origin', 'Document type', 'Mode', 'Sector', 'Geographic area', 'Policy objective' and 'Tool', or any combination of these criteria.
- This may be complemented, or superseded, by the flexible 'Free text search'.
- On the query result screen, free text search criteria may be refined, as appropriate. Further tick boxes here allow limiting query results according to 'Project status' (five levels).
- Query results are presented in a table, which allows for sorting by column (click on relevant column header for alphanumerical sorting).
- Project-specific summaries may include links to project websites, or provide contact details for the project, where available.

It should be noted that the online Transport Research Knowledge Centre will be updated frequently, though dependent on input from project co-ordinators.

Other parts of the TRKC website cover transport research at Programme level, and expand on transport related issues, e.g. in the 'Links', 'Events', 'Glossary' and 'FAQs' sections.

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2. Scope of theme

2.1 Definition of theme

The range of possible measures listed under this heading involves improvements in the information available to transport users and operators, to make them more aware of the operation of the transport system and thus to support transport policy. Some are traditional fixed information systems; others draw on real time applications of information technology. The information helps travellers make more informed decisions about how, when, where and whether to travel. From the transport policy point of view, information measures typically include measures to help support policy and often include measures to influence (typically to reduce) car use.

2.2 Topics included in theme

Information measures are essential adjuncts to management measures, in that their main aim is to use information to allow the most efficient use of the existing system. They can be categorised as either pre-trip or in-trip. In-trip measures can be further divided into in-vehicle or roadside measures.

The following information measures can be identified, as follows [13]:

- Conventional direction–signing – this can provide benefits to all road users, by reducing journey lengths and travel times;
- Variable Message Signs (VMS) – these enable drivers to be diverted away from currently known, but unpredictable, areas of congestion. They can also be used to set speed-limits during congested time-periods, thus maintaining overall throughput;
- real-time driver information systems and route-guidance – these are rapidly developing forms of Intelligent Transport Systems (ITS) applications. Information is used to provide in-vehicle radio or display messages or to indicate preferred routes to avoid congestion. Dynamic Route Guidance Systems (DRGS) can provide recommended routes allowing for both the vehicle’s destination and the prevailing traffic conditions;
- trip planning systems – systems that specifically help travellers plan their trip (time, route) before making the journey. Examples include the software package ‘AutoRoute’ which contains national and international maps and associated information and allows users to request route descriptions between specified origins, destinations and intermediate points;
- parking information systems – these are a further ITS application designed to reduce the high levels of traffic searching for parking spaces in urban areas;
- travel-awareness campaigns – these have recently been developed and used, particularly by local authorities, with the aim of making residents, employees, and particularly car-users more aware of the effects of their travel behaviour on the environment and of the alternatives to car use that are available;
- timetable and other service information – this is the basic form of information to public transport users;

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- real-time passenger information – this is now being provided at some major terminals, individual stations, bus stops and on-vehicle. The main purpose is to reduce the uncertainty and stress associated with the late running of services;
- public transport operational information systems – these use ITS-based fleet management facilities to identify the locations of buses and to reschedule services to reduce the impact of unreliability;
- fleet-management systems – these have been widely introduced for freight vehicles, enabling them to respond more rapidly to changing demands, particularly those demands associated with ‘just-in-time’ delivery schedules;
- freight tracking systems (related to fleet management systems) which permit customer and haulier to track the progress of individual freight shipments;
- telecommunications services – these can, increasingly, provide an alternative to travel through tele-working, on-line shopping and teleconferencing; and
- other specific sources of information for particular transport system users, such as tactile footways and audible pedestrian signals for the blind.

The above summary of topics describes the principal breakdown of technical, organisational and managerial aspects that come under the theme, whereas Chapter 4 of this document reflects sub-themes according to actual priorities in transport research policy.

2.3 Significance of theme

Some types of information provision, conventional public transport timetables and direction signing for example, have long been essential for travel by public and private transport. The main growth in information provision and its effects has been in parallel to major advances in telecommunications and intelligent transport systems over the past two decades. This has gone together with continuous efforts to increase efficiency (for example through, the increase in ‘just in time’ delivery, reducing the need for inefficient stock holding) in the transport sector. The result has been the burgeoning of information systems and sources, both in type and in quality.

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3. Policy context

European policy objectives related to theme

The importance of information and awareness in European transport policy is a key to the success of inter-modal transport systems and the efficiency and safety of movement of goods and people [8]. The provision of information for travellers and operators, to make them aware of travel options, progress and performance, and hazardous conditions, is an essential ingredient for the development of sustainable and efficient mobility. A key policy target is to ensure mobility for all citizens of the European Union by provision of timely and accurate information. A range of research associated with meeting these goals is therefore planned and currently being undertaken within the EU member states.

Information System Types

Road Based Traffic Information Systems

The trans-European network, which includes roads and motorways, is an ideal candidate for the deployment of intelligent transport systems. This also includes traffic management systems and information, positioning and navigation systems and services, to operate the infrastructure to the best effect. The main goal being advocated is for 50% of Europe's major towns and cities to be provided with traffic and travel information services and for public and private operators to facilitate the development of value added services for traffic and travel information. Telematic infrastructure permitting data collection and communication with traffic control and/or road information centres in order to guarantee the quality and reliability of information are purported for development. Systems allowing for traffic management plans, including information services which are provided before of during journeys, road freight management services, breakdown and emergency rescue services and electronic road-charging systems are a priority for research and development and could help alleviate the effects of road network saturation [5]. Work is in progress to set up a European network of traffic management and road information centres, which will provide users with road information services on a fully European scale.

Public Transport Information Systems

In passenger transport, there is considerable scope for improvements in information provision, to make travelling conditions easier and facilitate modal transfers, which are currently still problematic. Very often passengers are deterred from using different modes of transport for a single journey, because they experience problems obtaining information and ordering tickets when the journey involves several transport companies or different means of transport. With regards to Public Transport systems, telematic applications, such as inter-connection of seat reservation systems and real-time passenger information systems are options to be developed on a larger scale to make the public transport sector more competitive and to develop a trans-European network. Indeed it is suggested that all rail operators offer travellers integrated online services covering information, bookings and payment for both leisure and business travel.

Freight Transport Information Systems

For Freight transport an information system for freight tracking, accessible via PC and the Internet with the ability to translate messages written in different languages into a single common language. Systems to locate, identify and monitor vehicles and their loads will become increasingly reliable through the use of information and telecommunications technology, especially the use of satellite navigation systems, such as Galileo for the efficient tracking of freight cargoes.

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Shipping Management Information Systems

In terms of shipping management, movements are currently regulated by local controls. At present the information collected on dangerous cargoes and bad weather, which could permit re-routing, is not transmitted to other centres, authorities or bodies along the route taken by a ship. The future European maritime Safety Agency will facilitate systematic exchanges of information through the adoption of identification transponders, black boxes and satellite navigation (Galileo programme, [4]). Research into these shipping information systems is therefore of key importance and a trans-European network of shipping management and information is the desired goal, to permit the tracking of ships in European waters and promote the systematic exchange of ship and cargo information. This will improve ship traffic conditions at sea and in ports and in particular aid in response to maritime accidents and improve pollution control.

Air Traffic Information Systems

The management of air traffic information for improving safety by means of more precise positioning information and better communication is an important issue. Airport operations require a greater level of integration and management of information, so that controllers can exchange data and plan their operations and aircraft movements. Information management and planning systems will therefore both increase airport capacities and improve safety of air flights.

Safety Aspects

In terms of safety information also has an important role to play, under the e-Europe action plan, proposals for Member States to deploy innovative information and monitoring services in towns and cities and to introduce active safety systems in vehicles. Technologies that can determine optimum speed with reference to traffic conditions and pass this information on to drivers by information display boards or on-board communication systems. Roads and vehicles throughout the EU need to be equipped with new technologies and information systems made accessible to everyone.

Tele-Services

It is noted that as society enters the 'information age', research on information and telecommunications may help reduce demand for physical transport by facilitating tele-working or tele-services. By providing telecommunication links and services, people may be encouraged not to travel and hence reduce the level of congestion and risk on the roads.

Awareness Campaigns

Travel Awareness Campaigns to raise awareness of travel options need to be developed to encourage the travelling public to consider alternative forms of transport and the best ways to travel. Such campaigns may be specifically targeted to an individual's travel circumstances for a particular journey or set of daily journeys; or be more generally aimed at the travel public in general. In addition safety awareness campaigns are also important for consideration, such as drink driving and speeding behaviour, in order to reduce the number of fatalities on the roads in Europe. Road works safety campaigns also heighten the awareness of safety issues of construction workers working within the vicinity of dangerous sites close to speeding traffic.

Users' Needs for Information

Travellers have a real need of improved travel condition and services information, to help them make better informed choices about mode, time and route of travel. In terms of improving inter-modality for people, the quality of service and information given to users needs to be improved overall throughout the EU member states. Research into user's needs is therefore of key importance to realising this goal. Systems for the dissemination

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of ‘personal’ travel information via mobile communications devices whilst on the move will be in greater demand and this information will need to be multi-mode and journey specific and also user-definable. Research into the provision of information of this kind with a very high degree of individuality offers new challenges, since it is highly detailed and will require a high level of acquisition, quality and maintenance to gain user acceptance.

Update on EU Policy

An update on information and awareness related policy with respect to the mid-term review of the European Commission’s 2001 Transport White Paper [1], observes that Transport is fast becoming a high-technology industry, making research and innovation critical to its further development. The mid-term review states that amongst the most promising priority research areas are: intelligent transport systems, involving communication, navigation and automation.

Intelligent Transport Systems

The new technologies that will be brought to market in the future will gradually provide a raft of new services to citizens and also allow improved real-time management of traffic movements as well as provide tracking and tracing of flows and cargoes for improved environmental and security purposes. Additionally there will be obvious benefits to transport operators and clients, since the new systems will provide public administration with rapid and detailed information on infrastructure and maintenance needs.

The Galileo Initiative

The EU Galileo satellite system currently being set up will become operational from 2010 and provide navigation signals to be combined with ground or space based communication. The development of a European open architecture will ensure interoperability and the flexible development of future applications for all transport modes [3]. A number of new technological initiatives are under way, including: intelligent vehicle systems; air traffic management; railway traffic management systems; and river information services. All of these new technological systems and services depend upon the continuous flow and interchange of up to date data and information.

Transport Logistics

The mid-term review also reports on how advanced information and communication technologies will enable the implementation of enhanced transport logistics and help to deliver the services needed to make intelligent logistics a reality.

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4. Synthesis of findings from completed projects

The sub-themes needed to categorise research in the areas of **Information and awareness** arise directly from the topics included in the policy context (above) and may be listed as follows:

- Direction signing and variable message signs;
- real-time driver information systems;
- travel awareness campaigns;
- public transport and passenger information systems;
- fleet and freight information systems;
- telecommunications services; and
- personal and other travel information services and systems.

You may wish to further consult the following Thematic Research Summaries that present research findings which are complementary to those covered in this paper:

- D2.E-1.1 Passenger transport;
- D2.E-2.2 Rail transport;
- D2.E-2.4 Waterborne transport;
- D2.E-3.5 User Aspects;
- D2.E-4.4 Integration; and
- D2.E-4.5 Intelligent Transport Systems.

Results from the following **15** projects have been included in this Thematic Research Summary:

Research sub-theme	Contributing projects
Direction signing and variable message signs	TRAVEL-GUIDE
Real-time driver information systems	TRAVEL-GUIDE; UG340; Concept for the integration of an information system for public information on the traffic conditions on state roads
Travel awareness campaigns	UG354; Review of research on school travel
Public transport and passenger information systems	E1; MATKA.FI; UG395; UG423I; An assessment of the effects and cost-effectiveness of a public transport journey planner
Fleet and freight information systems	FIRE; F-MAN
Telecommunications services	None yet.
Personal and other travel information services and systems	NAVIfuture; RISVD; TSE

Detailed findings and policy implications for individual projects can be found in Annex I. Please refer to acronyms and project titles, respectively, listed above.

4.1 Direction Signing and Variable Message Signs

4.1.1 Research objectives

For this sub-theme, one part of an EU project contained specific research objectives associated with investigating infrastructural information systems, such as Variable Message Sign text messages. Objectives included an assessment of the needs of drivers in terms of content, presentation, availability, reliability, timing and priority of the information provided through the conduct of relevant tests and investigation of new methods of information display in order to meet user needs and requirements raised by the development of the Trans-European Networks. The development of guidelines for use of driver information electronic signs should help to maximise the benefits of these systems.

4.1.2 Main findings

The EU project (also reported in 4.2 below with regards to in-vehicle information systems) looked into the provision of on-trip roadside information via electronic road signs and in particular examined text based variants of Variable Message Signs (VMS). Main findings concluded that VMS should not present too much information to drivers at any one time, in order to minimise driver distractions. The main principle recommended was for information provision to road users via VMS to be easy for drivers to perceive, understand and act upon accordingly. This should be achieved through efficient message texts maximising driver information value, but requiring the minimum of efforts for drivers to take the information in.

The specific findings relating to assessments of the on-trip roadside informational elements of the study were concluded as follows:

- The lesser amount of time a driver is involved with interactions with roadside information, the higher the traffic safety. All on-trip information messages should be reduced to a minimum and useful level of detail.
- Mental strain should be reduced as far as possible by minimising the complexity of message texts.
- Contradictions between roadside information and travel information from other in-vehicle sources should be avoided or minimised to reduce cognitive conflicts and enhance driver safety.

4.2 Real-Time Driver Information Systems

4.2.1 Research objectives

In the research sub-theme of real-time driver information systems there are research project objectives to determine guidelines for production manufacturers of in-vehicle driver information systems throughout Europe and specifically in the UK. Also research objectives for providing a concept for the integration of public information on road traffic conditions specifically in one European country, namely Slovenia, are highlighted.

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Since a large number of information and communication technologies potentially provide methods for pre-trip and on-trip travel information to travellers, drivers' needs and ability to intake these increased loads of information are of key importance to the success of information provision via in-vehicle systems. Of particular importance are driver distraction, information overload, provision of timely and accurate information, and level of detail and relevance of the travel information to the driver. Such issues could affect driver safety and hazard risk.

If traffic information systems offering guidance and information could be designed with these issues taken carefully into account, and if they could be integrated successfully with traffic management systems, then they could potentially reduce some of the negative effects of road travel, such as accidents, congestion and pollution hot-spots. This may be achieved through the efficient, safe and environmentally acceptable use of the available road infrastructure.

A major European research project has the main goal to develop useful guidelines concerning both in-vehicle devices and infrastructural information provision by traffic information management systems. The project assess the needs of drivers in terms of content, presentation, availability, reliability, timing and priority of the information provided and conducts relevant tests on new and novel methods of information provision in order to meet user needs and requirements raised by the development of the Trans-European Networks. The development of good guidelines for the design of driver information systems should help to maximise the benefits of these systems and provide a harmonised framework for European networks, thus helping to improve efficiency and reduce the environmental impacts of road based travel.

Objectives of a UK based research project were to identify gaps in the existing standards and guidelines for matching compatibility of a checklist of detailed human machine interface requirements for assessment of such systems. The resulting guidelines document could then be recommended to systems manufacturers and information providers, as a product design guide for In-Vehicle Information Systems.

Other research objectives in this sub-theme deal with issues of traffic management as described by a Slovenian project, related to the Intelligent Transport Systems key theme. The project objectives in this instance were to develop functional system requirements for an integrated information management centre. Key objectives of the centre were to ensure permanent, accurate, relevant and up-to-date information on traffic conditions, such as accidents, congestion, road closures and winter service etc, which could then be provided to the general public and traffic management and road maintenance authorities. The overall purpose of the research study was therefore to develop an information system capable of efficiently connecting traffic and road condition information sources directly with the information users.

4.2.2 Main findings

The European project investigating design guidelines for in-vehicle guidance and travel information systems consisted of eight pilot studies, each with a separate focus. This in turn has led to the production of 63 different guidelines. In brief summary, findings have been grouped into the following categories of information provision: pre-trip systems; on-trip in-vehicle systems and on-trip roadside information systems. Please note that in the case of 'On-trip roadside information systems', that these have been reported in the more appropriate sub-theme on 'Direction signing and variable message signs' outlined in section 4.1

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above. It should also be noted that findings below also relate in part to the sub-themes of 'Telecommunications' and 'Personal and other travel information services and systems'.

With regards to Pre-trip information systems, it is noted that integration of real-time traffic information for web-based dynamic pre-trip information provision has to be developed and extended. In addition, pre-trip services can effectively support personalised travel information needs, by access through the Internet to local traffic sensors and cameras, which can display the current traffic situation at any given network location to the interested user.

With regards to On-Trip In-Vehicle information systems, dynamic navigation systems, digital radio channels and mobile phone services potentially produce complex overlapping services. To decrease the likely negative impacts due to complexity of these systems, both input and output should be kept to a minimum. Where possible, voice controlled input and output is desirable, in order to reduce additional loads on the visual channel.

Main summary results and key findings with regards to overall design guidelines for driver and travel information systems as reported by the project were:

- The less a driver is involved in interactions with a system the higher a system's contribution to traffic safety is graded. It seems to be reasonable to restrict provision of information not directly related to car control and manoeuvring to non-driving situations and to reduce the amount of information of all on-trip messages to a minimum.
- The system should also provide background information like type of incident, benefit of the new route etc. in order to reduce the mental strain of the drivers.
- Contradictions between in-vehicle and roadside information systems have to be avoided. Otherwise drivers have to solve difficult and distracting cognitive conflicts resulting in drastic decreases of traffic safety.
- Balancing a high system functionality offering many user options with an increased mental strain caused by higher system complexity is certainly an important issue for further development, especially regarding the required adaptation of traffic information provision to road-user subgroups and individual preferences, as all adaptation options will necessarily result in higher system complexity.
- Providing information from some systems (i.e. DVD, Internet), while the car is at zero speed is not enough, as it might just be stopped at a traffic light. Their input should ideally be limited to engine-off situations. In this way, however one actually separates the use of such systems from the car and thus affects the industrial interest of car manufacturers that wish to include such systems (already cars with Internet and DVD exist, at least at prototype level). The complex issue of establishing scenarios of use and priorities for them is dealt with by other projects.

A UK project investigating In-Vehicle Information System (IVIS) product design guidelines has achieved the following: Outlined the different stages of the design process and considered what each stage entails and the possible need for conducting assessments at the different stages. Conducted a review of the documentation and user instructions that may need to be provided with the system; Provided specific guidelines on how IVIS should be fitted within the vehicle; examined ergonomic issues of how the driver interacts with the system with respect to controls, visual displays and the use of auditory information; considered issues of the driver-system interface and safety related aspects of IVIS, in terms of providing timely and accurate information to the driver; and examined the issues of liability and responsibility with regards to the UK legal context.

With the development of an information management system for public information on traffic conditions on state roads in Slovenia, the key result of this project was the system architecture for integrating the various sources of traffic information. Although the results

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from the project are not directly related to the information and awareness theme, they do contribute to it, in that the system which will be developed as a result of the project will deal with road traffic and condition information management and will hence be of benefit to all information users through the timely and accurate provision of relevant information.

4.3 Travel Awareness Campaigns

4.3.1 Research objectives

The sub-theme of 'Travel Awareness Campaigns' includes research objectives to determine levels of activity relating to the implementation of School Travel Plans (STPs) in the UK. Such travel plans contain a package of measures to encourage children to consider using walk, cycle or public transport as methods for travelling to and from school. One UK project had specific aims to address the barriers to efficient school travel by conducting a review of the UK and International research on travel to school published since 1995, including research on the factors influencing school travel and the effectiveness of school travel initiatives. The review considers lessons from the UK and International research within the Scottish context for developing initiatives for improving school travel safety and efficiency through specific services of information provision.

Objectives of another UK based project examined the extent to which changes in travel can be attributed to promotional activities, including production of guides, resource packs and regional seminars. Good examples of school travel plan initiatives that are likely to have had significant impact were to be identified, along with identification of any linkages between health and educational initiatives. Objectives also covered school travel strategies and plans to target levels of walking, cycling and bus use and provide good examples of practice in setting out school travel strategies in local transport plans.

4.3.2 Main findings

Main findings for research conducted under this sub-theme apply to the UK within a Scottish context and also reports on appropriate International research with regards to School Travel Plans (STPs). Main results have demonstrated that:

- The proportion of children in Scotland being driven to school by car is increasing rapidly and reached 20% of journeys to school in 2000. This trend is having a negative effect on many transport, health, safety, and environmental factors, and is impacting on the wider economy through growing road congestion particularly in the morning peak period. Transport, health and education policies therefore all seek improvements in school travel, identifying community-planning approaches to deliver integrated action and best value.
- Although levels of car based travel to school are lower in Scotland than in England, they are growing strongly. Trends in school travel are affected by: organisational changes within education, planning policy factors, and social, economic, demographic trends. The growth in car travel to school mirrors substantial growth in car ownership, particularly the number of two car households.
- Children in the UK are open minded about transport, and are generally aware of the impacts of travel decisions on themselves and their environment. Whilst they would like

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to walk and cycle more, the balance between car travel and other modes still appears to favour the speed and convenience of car travel for an increasing number of trips.

- Perceptions of safety and risk often do not match actual risk, so influencing attitudes to risk is an important element in changing travel behaviour.
- For many school trips in Scotland bus travel is the only practical alternative to car travel and the poor image and travel experiences of children on buses is a major concern. Greater respect for buses as a mode needs to build on the greater social and independence opportunities provided by bus travel when compared with car travel. However delivering the required change in image will require significant changes in the ways that services are provided and operated.
- Social factors have a strong influence on travel to school decisions, and where trade-offs need to be made between transport, health, environmental, and social factors the social issues tend to dominate. Travel choice is a very complex issue involving such a large range of factors that reliable analysis would require very large studies of behaviour. Non-car travel can have some positive influences on children's development. The school journey offers the opportunity for developing social relationships with adults, and with other children from within and out with normal peer groups. Greater independence helps with the development of spatial skills and may improve organisational skills including time and money management. Regular exercise walking or cycling to and from school also has a positive influence on health.

By analysing results from two surveys conducted in 1999 and 2001, a UK project related to the 'Passenger' key theme, concluded that the take-up rate of STPs has increased from 38% to 50% of authorities with at least one school travel plan implementation; a total of 79% of authorities compared to 75% stated that travel plan initiatives had been implemented at one or more schools in the survey time frame. A total of 11% had definitely planned some initiatives and 6% had considered them. None of the authorities had rejected or not considered implementation of School Travel Initiatives (STIs). The most commonly implemented initiatives involved traffic management schemes (such as traffic calming, junction redesign and parking restraint); and educational measures via Road Safety Officers' programmes (e.g. cycle training). The most frequently mentioned source of encouragement for initiative development was the Dept. for Transport, Schools and Teachers and Central Government. A total of 78% of authorities gave health as being the main objective in the development of STPs or STI's. A total of 63% of health improvement programmes also mentioned school travel. The results of the project led to the conclusion that authorities were keen to attempt to tackle the issues surrounding school travel and that these activities associated with the development of STPs were expected to develop further with the appointment of 56 School Travel Plan Co-Ordinators and the expansion of a Site Specific Advice Programme with funding being made available through Local Transport Plans (LTPs).

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4.4 Public Transport and Passenger Information Systems

4.4.1 Research objectives

A number of different research project objectives are available for this sub-theme. A Swiss project has key objectives of providing a description of the request for integrated customer information systems in public transport; a description of the potential limitations of modern customer info. systems; and makes recommendations for the construction and implementation of such a system.

Objectives of a Finnish project were to improve the competitiveness of mass transit by implementing a public transport information portal, with door to door routes and schedules covering all mass transit modes, thus increasing the amount and quality of information available to potential travellers.

A key objective of a UK research project was to assess the attitudes of disabled persons to public transport, determine the current use of public transport by the disabled and also determine the factors encouraging or discouraging disabled people from accessing and using public transport modes. The study is noted for possibly being the largest survey dedicated to the needs of disabled people in England and Wales. In the study nearly 1000 disabled people were surveyed to establish the following objectives:

- Establish the importance of public transport to disabled people;
- establish the modes of transport currently used by disabled people;
- determine the transport priorities of disabled people;
- assess how disabled people currently rate public transport provision;
- determine what disabled people consider are the priorities for improving public transport; and
- assess what deters disabled people from using public transport.

Research objectives of another UK based study aimed to determine whether there is likely to be a business case for introducing more Real-Time Passenger Information systems for bus services within the UK.

The main purposes of a Finnish research project assessing the effects and cost-effectiveness of a public transport journey planner consisted of the following list of objectives:

- Analyse the use of the service, define user groups;
- collect and analyse user opinions and development needs;
- evaluate technology and usability;
- evaluate publicity of the service;
- estimate effects on public transport usage and information acquisition;
- develop methodology to estimate socio-economical profitability of an internet journey planner; and
- guide future development.

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4.4.2 Main findings

A Swiss project investigating an integrated client information system for public transport has concluded that from the point of view of (potential) public transport customers, the best possible customer information system would provide a comprehensive, up-to-date and reliable information source on public transport services and the current traffic situation prior to and during the trip.

A Finnish project to develop a public transport information portal concluded that such a system should offer door to door route and timetable service information on all public transport modes in Finland. For this to be achieved, an up-to-date common route and timetable database is required containing details of all the public transport modes on a countrywide basis. The portal should have a common interface in which to facilitate the transfer of timetable data and that links to other services of the public transport operators should also be included, to provide general public transport information. This could be achieved through a hyperlink from the portal's timetable enquiry directly to the sales and reservation systems of the operators.

A UK based 'User Aspects' related research project looking at the attitudes of disabled people to public transport has stated that transport issues are important to disabled people's lives and are the single most prominent concern at the local level. The most dissatisfaction with travel conditions relate to pavement and road maintenance, access to transport vehicles for disabled people and also the poor frequency of public transport. The detailed research found that disabled people travel a third less often than the general able bodied public. Disabled people drive cars a lot less and are less likely to own a household vehicle. Notwithstanding this, cars are in fact a very central part of disabled people's mobility in England and Wales, with the most common mode of transport being travel by car as a passenger. The project discovered that disabled people use buses, taxis and minicabs more often than the general public. There were some encouraging signs from the research to suggest that disabled people will consider making more use of public transport if improvements were made to it.

A UK study to determine the business case for Bus Real-Time Passenger Information systems presented a review of evidence in a series of summary tables for bus passengers, operators, and Local Transport Authorities. It was revealed in the review that a number of impacts were incurred across the range of recipients including:

- Savings on journey times;
- improved regularity of service; and
- improved reliability of service.

For a thorough business case to be made it is therefore essential that further research is carried out to justify in depth the impacts of RTPi for the various recipients. In order to assist with this prioritisation, the study team devised a priority search mechanism which analyses the recipient summary tables for further research requirements that would deliver maximum benefit to the business case. To do this the search focuses upon the impacts which have the highest scale but which have a requirement for further evidence, or in some cases no evidence at all.

A Finnish research project conducted a telephone interview survey to determine the usage and cost-effectiveness of a public transport journey planner. The study results reported that in the Helsinki Metropolitan Region, 28% of citizens over the age of 14 years old have used the service on at least one occasion. The study also summarised the following findings: 2% of citizens used the system weekly, 9% used it between 1 and 3 times a month

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and 18% used it on random occasions. Usage is more popular to areas that require interchanges. The most active and frequent users were found to be in the 25 to 34 age group, students and upper officials and those in the highest income group. The possibility of car use did not appear to affect use of the service, hence the system is likely to have some effect on public transport usage.

In summing up the main project findings, people's trip decisions had become better informed and as a result travelling was more efficient. Study results also indicated that trip planner increases the use of public transport and shifts trips from the private car.

Even with a cautious estimate, the investment in the journey planner has been highly profitable for society. This case is a very good example of new technology bringing great benefits with little investment needed for infrastructure. The project finally concludes that the potential of the journey planner is evident and intelligent and informed decisions are required to get the maximum from the system.

4.5 Fleet and Freight Information Systems

4.5.1 Research objectives

Objectives for fleet and freight information systems are taken from two EU projects related to the 'Rail' key theme. Objectives of one project were to build a prototype information service for rail-based international freight transport. This prototype was intended to make information available to Rail Cargo Companies (RCC) and, from these, to Transport Service Providers (TPS) and also Logistic Service Providers (LSP). The data retrievable from such a prototype system would include: commercial data, such as services and tariffs; and provide progress of on-going cross-border transport tasks, via both an on wagon and train positioning basis, in order to determine delays to rail freight transport. The specific project objectives were to:

- Define a general architecture and function set for the prototype; and
- set up an on-field test of the prototype based upon a subset of defined functions.

Another EU project under the key theme of 'Rail' investigated a rail car asset management system. The project aimed at improving the sustainability of rail freight transport and the competitiveness of Railway Cargo Operators (RCOs), including the new Rail Undertakings. The original main objective was to provide the RCOs with innovative tools to control their international wagon fleet, and to enhance the productivity of wagons. To reach that goal, the Consortium had to design and develop the following items:

- The On-Board Terminal to collect wagon position and status information and send it to the Operation Centre, according to pre-defined events criteria (Event Messaging);
- the Operation Centre to forecast the Expected Time of Arrival using suitable models;
- the Internet-based bid and offer module (F-MAN pool) to reduce the empty returns;
- the status-oriented maintenance module to improve the availability of wagons; and
- a decision support system based on financial and commercial criteria to assist with the control of wagon fleets.

To reach all the ambitious objectives of the project, the Consortium proposed to adopt a modular architecture that would have provided suitable flexibility in respect to the hardware choices, and would also have granted the maximum scalability of the system itself. As the following Chapters will describe, such early proposal became the Consortium choice and

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its validity was confirmed during the technical development phase of the project and the prototype verification phase.

4.5.2 Main findings

An EU project researching the development of the general architecture for an information service for rail-based international freight transport concluded the following:

- The service provides information on: (i) train schedules and wagon plans (ii) wagon and train monitoring including positioning, delays, arrival forecasts, wagon and goods status (iii) commercial offers including available services and tariffs.
- Data about freight wagons is acquired from a range of different sources and made available via a range of means, including access over the internet.
- A Pilot service, with a slightly different architecture, has been tested for a selection of wagons, international routes and consignments.
- It has been demonstrated that an information system for rail with the following characteristics is feasible:
 - consignment-orientation (instead of the present wagon-orientation),
 - modular software architecture,
 - delay indication on the basis of the timetable of the wagon,
 - integration of UIC-data framework such as HERMES, and
 - data security.

Finding are also reported from an EU project to develop a prototype rail car asset management system The prototype was designed to provide Railway Cargo Operator (RCOs) fleet managers with innovative tools to control his wagon fleet, and to enhance the productivity of wagons. The prototype consists of: (a) Tracking System Module (TSM) to locate wagons wherever they are in Europe, and to retrieve wagon status information (loaded, unloaded, moving etc); (b) Data Processing Module (DPM) to progressively estimate the Expected Time of Arrival (ETA) for each wagon, and to make available all information regarding wagon history; (c) Asset Management Module (AMM) to propose a proper choice of wagons to comply with clients' orders, according to customisable productivity indicators; (d) Graphical User Interface (GUI) to present the fleet manager, in an intuitive and user friendly way, wagons position and operating data on geographical maps. Service, support & training for installation and use Service, support & training for installation and use deal with all those activities that allow Railway Cargo Operators (RCOs) to properly use the developed set of tools.

4.6 Telecommunications Services

4.6.1 Research objectives

No specific project objectives are currently available for this sub-theme, however objectives relating to other sub-themes which in part involve Telecommunication Services have been outlined in respective sub-theme research objectives.

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4.6.2 Main findings

No specific project findings are currently available for this sub-theme, although it should be noted that many of the research project results outlined in the other sub-themes also relate and are of particular relevance to the sub-theme of Telecommunication Services

4.7 Personal and Other Travel Information Services and Systems

4.7.1 Research objectives

With regards to 'Personal' travel information services, the key objectives of a Finnish study have been to produce an expert assessment of the development of the personal navigation market by the year 2005. The definition of personal navigation used here is a broad one, covering positioning technology and its utilisation, especially using mobile devices, both in consumer and professional applications and services. The project also specifically aims to support the strategy processes of the parties involved in the NAVI network, which is the cluster of partners involved in mobile positioning and location based services in Finland.

In terms of 'Other' travel information services, a Slovakian waterborne related study's objective was to provide the base for preparing the application of a River Information Services (RIS) system for the Slovak inland waterway system. For this purpose, the main goal of the study was to determine a strategy of building up a test centre for RIS using known European standards for all relevant technologies which are necessary for the implementation of the Pan-European RIS, especially regarding Inland-AIS, Inland-ECDIS and international and national exchange of traffic and transport management data.

Under the 'Integration' key theme a UK Govt. project related to the information and awareness theme had objectives to increase the UK Highways Agency's understanding of both the potential and the practicality of integrating different transport modes and land-use together in a more sustainable way, within the context of the Trunk Road network. A range of sub-projects were defined, from which several specific research topic areas were developed, including: appraisal techniques, working in partnership with other bodies, school travel, freight, design-related issues and landscape/habitat fragmentation.

4.7.2 Main findings

A Finnish research project has conducted an assessment of the personal navigation market by 2005. Recent advances in mobile technology have revolutionised communication, making it relatively independent of time and place. For an ordinary person, the mobile phone is above all a tool for coping with everyday life and social relations. The mobile phone brings us into an ever closer contact with our social network.

Positioning has, for some time now, been often considered the next "revolution" in mobile technology. As this report shows, conviction that the breakthrough will eventually happen still abounds. However, it seems that the utilisation of positioning is increasing at a much

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slower rate than anticipated. Location technology and associated applications have only recently achieved the level of reliability that allows operators the courage to begin selling services. Many of the services are still in the testing stage.

The bursting of the IT bubble has naturally contributed to the fact that experts are now emphasising aspects such as utility and need. However, this may lead to an unintended neglect of the potential of users' own abilities to participate in the creation of needs and discovering new modes of use. The "taming" of technology is in itself already a complex process, the result of which cannot be reliably foretold. The question is not whether positioning technology satisfies some "genuine" user needs. We should instead ask, can navigation technology help us to alter the everyday life of our employees and ordinary consumers in some desired direction?

The market for location-based services (LBS) is diversifying. History shows that in the general evolution of markets, public services develop first, and then the services are gradually adopted for different professions and leisure activities. Typical motives for the adoption of a new technology have included at least savings in costs, easy transmission of information, and enhancement of general security. The general mood of economic recession in recent years has led to an emphasis on aspects such as need and utility in particular.

Markets are made up of producers and consumers. The production value chain consists of several actors: device manufacturers, application developers, telecommunication operators and portals, network suppliers and producers of map information. Mobile phone operators are important actors, especially in the case of mass applications. On the other hand, content producers providing generic services are also an essential part of the value chain. The concept of network services is in competition with downloadable applications and other alternative methods for information acquisition.

We must remember that designers do not have a monopoly on what use the products are put to. As consumers, users participate in the creation of their own needs and may come up with novel and unforeseeable uses for services and applications. There are no "correct" or "genuine" needs, only different modes of use, which help employees do their jobs better or enrich the everyday life of ordinary consumers.

A 'Waterborne' key theme study conducted in the Slovak Republic analysed the situation and proposed the structure of a test centre for River Information Systems (RIS) in Slovakia. The costs of such a centre were also identified. The study has taken into account not only the conditions contained in the forthcoming EU RIS Directive and the policies of other multi-national bodies, such as CCNR, DC and PIANC but also the geographical and administrative prerequisites in the Slovak Republic.

An 'Integration' themed UK based project to develop outward facing research on Integration management has produced the following outputs:

- Under the umbrella title of 'Appraisal', production of a design manual for Roads & Bridges, strategic plans for accessibility and integration, research reports considering the valuation of environmental criteria, accident rate prediction and regeneration issues.
- Development of guidance in relation to design issues relating to non-motorised users.
- Guidance and research reports on environmental issues, including a compendium of 'Green Bridges' and other activities to support the delivery of UK biodiversity targets.
- Feasibility studies for trials of park and ride and related initiatives on or adjacent to the Highways Agency (HA) network, as well as information and guidance for HA staff.
- Development of an on-line guide to Freight for HA staff.
- Development of guidance on involving the public in transport decision-making.

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- Feasibility studies to investigate the impact of educational travel on the HA network, and development of guidance for HA staff on school travel issues (note this point also relates to section 4.3 in this report).

4.8 Research Gaps

It should be noted that projects contributing to the sub-themes of 'Direction Signing and Variable Message Signs' and 'Telecommunications' are under-reported. Indeed, no project results have been described under the sub-theme of 'Telecommunications'. This is not to suggest that there are no projects in existence which deal with this sub-theme, but that currently their results are unobtainable.

Areas of further research expansion are suggested for the sub-themes of 'Personal travel information services and systems', since this is likely to be a growth area due to the interest and development of mobile information technologies.

'Travel awareness campaign' research is also another area of potential expansion and need as this gains more acceptability and importance by travel authorities and the public.

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5. References

- [1] European Commission: 'Keep Europe moving – Sustainable mobility for our continent. Mid-term review of the European Commission's 2001 Transport White Paper.'; COM(2006)314, CEC, 2006, Brussels
- [2] EXTR@Web project: 'Transport Research Knowledge Centre (TRKC) website' (ec.europa.eu/transport/extra), 2004-2006, Brussels
- [3] 'Business in satellite navigation: An overview of market developments and emerging applications'; Galileo Joint Undertaking, 2nd Edition, May 2005, Brussels.
- [4] 'Galileo: The European Programme for Global Navigation Services'; European Space Agency, 2nd Edition, January 2005, Paris.
- [5] 'The Intelligent Transport Systems Handbook'; 2nd Edition, Ed's J.C. Miles & K. Chen, World Road Association – PIARC (2004), ISBN 2-84060-174-5.
- [6] ITS (2004): 'KonSULT: Knowledgebase on Sustainable Land Use and Transport.' University of Leeds, Leeds.
- [7] 'Memorandum to the Commission on the Policy Guidelines of the White Paper on a Common Transport Policy'; 18 July 2001, Brussels.
- [8] 'European transport policy for 2010: time to decide', White Paper; COM(2001)370, CEC, 2001, Brussels.
- [9] 'Energy, environment and sustainable development. Programme for research, technology development and demonstration under the Fifth Framework Programme – Work programme'; CEC, 1999, Brussels.
- [10] 'Modern Technologies in Transport'; ECMT – Council of Ministers of Transport, Copenhagen, 26-27 May 1998, CEMT/CM(98)3.
- [11] 'Trans-European Transport Network – Report on the implementation of the guidelines and priorities for the future'; COM(98)614, CEC, 1998, Brussels.
- [12] 'The Common Transport Policy. Sustainable Mobility: Perspectives for the Future'; COM(98)716, CEC, 1998, Brussels.
- [13] IHT (1997): 'Transport in the Urban Environment.' Institution of Highways and Transportation, London.
- [14] 'Urban travel and sustainable development'; OECD-ECMT, 1995
- [15] 'Common Transport Policy Action Programme 1995-2000'; COM(95)302, CEC, 1995, Brussels.
- [16] 'The future development of the Common Transport Policy', White Paper; COM(92)494, CEC, 1992, Brussels.

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Annex I: Contributing projects

Preface This Annex lists all the projects (European and national) which belong to the **Information and Awareness** theme, in alphabetical order of project acronym (for projects with acronyms), followed by projects without acronyms in alphabetical order of the project's name in English. Where results have been made available to the EXTR@Web project, a summary of key findings and policy implications relevant to this theme are given.

In 'Origin' column, use ISO 3166-1 country designators as follows:

Austria – AT; Belgium – BE; Bulgaria – BG; Cyprus – CY; Czech Republic – CZ; Denmark – DK; Estonia – EE; European – EU; Finland – FI; France – FR; Germany – DE; Greece – GR; Hungary – HU; Iceland – IS; International – INT; Ireland – IE; Italy – IT; Latvia – LV; Lithuania – LT; Luxembourg – LU; Malta – MT; Netherlands – NL; Norway – NO; Poland – PL; Portugal – PT; Romania – RO; Slovakia – SK; Slovenia – SI; Spain – ES; Sweden – SE; Switzerland – CH; United Kingdom – UK; Other countries – Oth

Theme: Information and Awareness			Last update: 13 August 2006
Acronym	Project title (in English)	Origin	Research sub-theme
Key findings / Policy implications / Project website or contact			
AEROSME III	Support for aeronautical SMEs, Phase III	EU	
	<u>Project website</u> www.aerosme.com		
AEROSME IV	Support for aeronautical SMEs, Phase IV	EU	
	<u>Project contact</u> paola.chiarini@aecma.org		
AMBIESENSE	Ambient, personalised, and context-sensitive information systems for mobile users	EU	
	<u>Project contact</u> hans.i.myrhaug@sintef.no		
APRON	Aviation Policy Information Resources based on Observatory Networks	EU	
	<u>Project website</u> apron.server.de		
ATOM	Provision of access to transport models	EU	
	<u>Project contact</u> Ian Williams; Marcial Echenique and Partners Ltd.; 49-51 High Street, Trumpington CB2 2HZ, Cambridge, UK		

Theme: Information and Awareness			Last update: 13 August 2006
Acronym	Project title (in English)	Origin	Research sub-theme
Key findings / Policy implications / Project website or contact			
CASH	Collaborative working within the aeronautical supply chain	EU	
<u>Project contact</u> jean-claude.hochon@ixi.fr			
CE-APPP	Centre of excellence on application of plasmas and pulsed-power technique	EU	
<u>Project contact</u> zetes@ifpilm.waw.pl			
COLSME-ATR	Services for collaborative SMEs aeronautical technical research	EU	
<u>Project contact</u> Boulevard Deltour 33, F-31500 Toulouse, France			
COMUNICAR	Communication Multimedia Unit Inside Car	EU	
<u>Project contact</u> morreal@crf.it			
COMPOSE	Composition Of Mobile Pre-trip On-trip Services	EU	
<u>Project contact</u> luca_bocci@telespazio.it			
COMPRIS	Consortium Operational Management Platform River Information Services	EU	
<u>Project contact</u> p.padding@avv.rws.minvenw.nl			
CROBIT	Cross-border information technology	EU	
<u>Project contact</u> ek@ekonsult.de			
DIAMOND	Delivery of ITS Applications through Multimedia Over Networks using DAB	EU	
<u>Project contact</u> u.feindt@mail.ertico.com			
DREAM	Dedicated research training in Europe on advanced aerospace materials and structures	EU	
<u>Project contact</u> Boulevard de Montmorency 37, F-75781 Paris, France			

Theme: Information and Awareness			Last update: 13 August 2006
Acronym	Project title (in English)	Origin	Research sub-theme
Key findings / Policy implications / Project website or contact			
E1	Integrated Client Information in Public Transport	CH	Public transport and passenger information systems
<p><u>Key findings</u></p> <p>From the point of view of (potential) public transport customers, the best possible customer information system would provide comprehensive, up-to-date and reliable information on public transport services and the current traffic situation prior to and during the trip.</p> <p><u>Policy implications</u></p> <p>Attention must primarily focus on the organisational and economic feasibility of customer information systems. A step-by-step procedure is indicated (timetable information system, door-to-door connections, points of interest, communication network providing data on intermodal routes, and extension of the communication network).</p> <p><u>Project contact</u></p> <p>holzinger@aarproject.ch</p>			
EASN	European aeronautics science network	EU	
<p><u>Project contact</u></p> <p>goert.luedtke@dlr.de</p>			
ECARE	European communities aeronautic research	EU	
<p><u>Project contact</u></p> <p>jourdain@hitech-sme.com</p>			
E-MERGE	Pan-European harmonisation of vehicle emergency call service chain	EU	
<p><u>Project contact</u></p> <p>m.nielsen@mail.ertico.com</p>			
ENCONA	Enhancement of co-operation between Community and nationally supported research in the maritime industries	EU	
<p><u>Project contact</u></p> <p>cmt.roland@t-online.de</p>			
EUROTURFLO	Support of the 5th European conference on turbo-machinery - fluid dynamics and thermodynamics, Praha, March 18-21, 2003	EU	
<p><u>Project contact</u></p> <p>euroturbo5@ego.in.skoda.cz</p>			

Theme: Information and Awareness		Last update: 13 August 2006	
Acronym	Project title (in English)	Origin	Research sub-theme
Key findings / Policy implications / Project website or contact			
EXTR@Web	Exploitation of Transport Research Results via the Web	EU	
<u>Project contact</u> gjauernig@gopa-cartermill.com			
FIRE	Freight Information in the Railway Environment	EU	Fleet and freight information systems
<u>Key findings</u> <ul style="list-style-type: none"> • The development of the general architecture for an information service for rail-based international freight transport. • The FIRE Service provides information on: <ul style="list-style-type: none"> • train schedules and wagon plans, • wagon and train monitoring including positioning, delays, arrival forecasts, wagon and goods status, • commercial offers including available services and tariffs. • Data about freight wagons is acquired from a range of different sources and made available via a range of means, including access over the internet. • A Pilot Service, with a slightly different architecture, has been tested for a selection of wagons, international routes and consignments. • It has been demonstrated that an information system for rail with the following characteristics is feasible: <ul style="list-style-type: none"> • consignment-orientation (instead of the present wagon-orientation), • modular software architecture, • delay indication on the basis of the timetable of the wagon, • integration of UIC-data framework such as HERMES, and • data security. 			
<u>Policy implications</u> <p>The FIRE project has provided an information platform for the future European One Stop Shop showing that opposition of railway companies to outsource information services, like the FIRE Service Provider, and to pass on information to external parties can be overcome. Although the technology for the FIRE Service Provider is available on the market, the commercial breakthrough of the system is still less certain and calls for further analysis of the suitable commercial conditions. The pilot has suggested that improvements on the map display could be introduced in the future. Specifications of the On-Board Terminal and the Information Gateway, and definition of the interfaces provide a basis for future standardisation. In particular, the FIRE Consortium believes possible that FIRE specifications are taken as a basis for UIC-standardisation of GPS data transfer and has initiated discussions with UIC on this. The project results suggest also that AVI systems should be given less preference as main localisation systems compared to GPS/GSM based systems.</p>			
<u>Project contact</u> filippo.astrua@cargofs.com			

Theme: Information and Awareness			Last update: 13 August 2006
Acronym	Project title (in English)	Origin	Research sub-theme
Key findings / Policy implications / Project website or contact			
F-MAN	Rail Car Asset Management	EU	Fleet and freight information systems
<p><u>Key findings</u></p> <p>F-MAN prototype, designed to provide Railway Cargo Operator (RCOs) fleet managers with innovative tools to control his wagon fleet, and to enhance the productivity of wagons. The F-MAN prototype consists of:</p> <ul style="list-style-type: none"> • Tracking System Module (TSM) to locate wagons wherever they are in Europe, and to retrieve wagon status information (loaded, unloaded, moving, ...). • Data Processing Module (DPM) to progressively estimate the Expected Time of Arrival (ETA) for each wagon, and to make available all information regarding wagon history. • Asset Management Module (AMM) to propose a proper choice of wagons to comply with clients' orders, according to customisable productivity indicators. • Graphical User Interface (GUI) to present the fleet manager, in an intuitive and user friendly way, wagons position and operating data on geographical maps. Service, support & training for installation and use Service, support & training for installation and use deal with all those activities that allow Railway Cargo Operators (RCOs) to properly use the F-MAN tools. <p><u>Policy implications</u></p> <p>F-MAN impacts positively on the implementation of the Information Society and Telecommunication policy. It aims at providing tools that make the management of railcar fleet possible under a European coverage, something that is currently impossible. F-MAN is also an important key to the completion of a freight-related information society. For instance, it would be possible to make available the state of the shipment, or the additional costs due to over routing to the customer requiring the shipment (or to the consignee), with integration of F-MAN with already existing or brand-new software for shipment tracing, or to common EDI systems. F-MAN has positive impacts on the implementation of the EU Transport policy. It enables efficiency-improvements, and thus increased capacity and productivity, in the European rail freight transport network. It therefore contributes to increasing the competitiveness of rail transport with respect to road. It does this by contributing to:</p> <ul style="list-style-type: none"> • Rail network interoperability; • operational cost reductions; • improved network coverage throughout the EU; and • development of a single market for rail. <p><u>Project contact</u></p> <p>g.cosulich@sciroidea.com</p>			
INDET	Integration of non destructive testing	EU	
<p><u>Project contact</u></p> <p>vanessa.mengeling@eads.net</p>			
KATNET	Key aerodynamic technologies for aircraft performance improvement	EU	
<p><u>Project contact</u></p> <p>wolfgang.dressel@airbus.com</p>			

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MATKA.FI	Journey.fi Public Transport Portal	FI	Public transport and passenger information systems
<p><u>Key findings</u></p> <ul style="list-style-type: none"> • A public transport portal, with route and timetable service from door to door. <ul style="list-style-type: none"> • All public transport modes in Finland; and • countrywide. • Common up to date route and timetable database. <ul style="list-style-type: none"> • All public transport modes in Finland; and • countrywide. • Common interface to transfer timetable data. • Links to the services of the public transport operators. • General public transport information. • Hyperlink from the portal's timetable query to the sales and reservation systems of the operators. <p><u>Policy implications</u></p> <p>None specifically stated.</p> <p><u>Project contact</u></p> <p>reijo.kinnunen@kirjavakana.inet.fi</p>			
NAVifuture	UBI ES? - NAVifuture Futures report on personal navigation	FI	Personal and other travel information services and systems
<p><u>Key findings</u></p> <p>The advances of mobile technology have revolutionised communication, making it relatively independent of time and place. For an ordinary person, the mobile phone is above all a tool for coping with everyday life and social relations. The mobile phone brings us into an ever closer contact with our social network. Positioning has, for some time now, been often considered the next “revolution” in mobile technology. As this report shows, conviction that the breakthrough will eventually happen still abounds. However, it seems that the utilisation of positioning is increasing at a much slower rate than anticipated. Location technology and associated applications have only recently achieved the level of reliability that allows operators the courage to begin selling services. Many of the services are still in the testing stage.</p> <p>The bursting of the IT bubble has naturally contributed to the fact that experts are now emphasising aspects such as utility and need. However, this may lead to an unintended neglect of the potential of users’ own abilities to participate in the creation of needs and discovering new modes of use. The “taming” of technology is in itself already a complex process, the result of which cannot be reliably foretold. The question is not whether positioning technology satisfies some “genuine” user needs. We should instead ask, can navigation technology help us to alter the everyday life of our employees and ordinary consumers in some desired direction?</p> <p>The market for location-based services (LBS) is diversifying. History shows that in the general evolution of markets, public services develop first, and then the services are gradually adopted for different professions and leisure activities. Typical motives for the adoption of a new technology have included at least savings in costs, easy transmission of information, and enhancement of general security. The general mood of economic recession in recent years has led to an emphasis on aspects such as need and utility in particular.</p> <p>Markets are made up of producers and consumers. The production value chain consists of several actors: device manufacturers, application developers, telecommunication operators and portals, network suppliers and producers of map information. Mobile phone operators are important actors, especially in the case of</p>			

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<p>mass applications. On the other hand, content producers providing generic services are also an essential part of the value chain. The concept of network services is in competition with downloadable applications and other alternative methods for information acquisition.</p> <p>We must remember that designers do not have a monopoly on what use the products are put to. As consumers, users participate in the creation of their own needs and may come up with novel and unforeseeable uses for services and applications. There are no "correct" or "genuine" needs, only different modes of use, which help employees do their jobs better or enrich the everyday life of ordinary consumers.</p> <p><u>Policy implications</u></p> <p>None specifically stated.</p> <p><u>Project contact</u></p> <p>markku.wilenius@tukkk.fi</p>			
PORTAL	Promotion of Results in Transport Research and Learning	EU	
<p><u>Project contact</u></p> <p>pressl@fgm-amor.at</p>			
PROMUVAL	Prospective study on the state of the art of multidisciplinary modelling, simulation and validation in aeronautics	EU	
<p><u>Project contact</u></p> <p>onate@cimne.upc.es</p>			
RISVD	River information services as part of the pan-European system RIS – test centre in the transport ministry	SK	Personal and other travel information services and systems
<p><u>Key findings</u></p> <p>The study analysed the situation in the Slovak Republic and proposed the structure of a test centre for River Information Systems (RIS) in Slovakia. The costs of such a centre were identified as well. The study has taken into account not only the conditions contained in the forthcoming EU RIS Directive and the policies of other multi-national bodies, such as CCNR, DC and PIANC but also the geographical and administrative prerequisites in the Slovak Republic.</p> <p><u>Policy implications</u></p> <p>The study provides the base for the implementation of the forthcoming RIS Directive on the inland waterway system in Slovakia. The EU RIS will define the conditions and deadlines for implementation.</p> <p><u>Project contact</u></p> <p>zitnansky@vudba.sk</p>			
SEAGULL	Seafarers global use of long-distance learning	EU	
<p><u>Project contact</u></p> <p>j.h.de.jong@marin.nl</p>			

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SERTI	Southern European road telematics implementation	EU	
<u>Project contact</u> jean.coldefy@algoe.fr			
TAPESTRY	Travel Awareness Publicity and Education Supporting a Sustainable Transport Strategy in Europe	EU	
<u>Project contact</u> norman.james@ttr-ltd.com			
TRAINER	System for driver Training and Assessment using Interactive Evaluation tools and Reliable methodologies	EU	
<u>Project contact</u> guido.baten@bivv.be			
TRANS-3	Multimodal Travel Information Service for Tri-national Regional Transport	EU	
<u>Project contact</u> None			
TRASCOM	Traveller Assistance for Combined Mobility in regional areas	EU	
<u>Project contact</u> secretariaat@bevac.be			
TRAVEL-GUIDE	Traveller and Traffic Information Systems: Guidelines for the Enhancement of Integrated Information Provision Services	EU	Direction signing and variable message signs; Real-time driver information systems
<u>Key findings</u>			
<p>The main objectives of TRAVEL-GUIDE were: to develop guidelines for traffic related information provision by in car and infrastructure based systems; Assess the information needs of the end-users; and Test new information provision methods. The project relates to the information and awareness topics of conventional direction signing, variable message signs, real time driver information systems, including intelligent transport systems, trip planning systems. In particular the project relates to the sub themes of direction signing and variable message signs, real time driver information awareness, telecommunication services and personal/ other travel information services and systems.</p> <p>For the project 8 pilot studies in total have been performed by the TRAVEL-GUIDE partners investigating different issues and problems. In total 63 guidelines have been produced covering Pre-trip information systems, On-trip in-vehicle information systems, and on-trip roadside information systems. Some of the key results are that:</p> <ul style="list-style-type: none"> • The less a driver is involved in interactions with a system the higher a system's contribution to traffic safety is graded. It seems to be reasonable to restrict provision of information not directly related to car 			

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<p>control and manoeuvring to non-driving situations and to reduce the amount of information of all on-trip messages to a minimum.</p> <ul style="list-style-type: none"> • The system should also provide background information like type of incident, benefit of the new route etc. in order to reduce the mental strain of the drivers. • Contradictions between in-vehicle and roadside information systems have to be avoided. Otherwise drivers have to solve difficult and distracting cognitive conflicts resulting in drastic decreases of traffic safety. • Balancing a high system functionality offering many user options with an increased mental strain caused by higher system complexity is certainly an important issue for further development, especially regarding the required adaptation of traffic information provision to road-user subgroups and individual preferences, as all adaptation options will necessarily result in higher system complexity. • Providing info from some systems (i.e. DVD, Internet), while the car is at zero speed is not enough, as it might just be stopped at a traffic light. Their input should ideally be limited to engine-off situations. In this way, however one actually separates the use of such systems from the car and thus affects the industrial interest of car manufacturers that wish to include such systems (already cars with Internet and DVD exist, at least at prototype level). The complex issue of establishing scenarios of use and priorities for them is dealt within COMUNICAR project of DG INFSO. <p><u>Policy implications</u></p> <p>A whole series of implications for policy can be deduced from this projects final report and some are included here:</p> <ul style="list-style-type: none"> • For international transport, cross-border drivers and travellers face great difficulties when they try to plan their trip without much knowledge about international traffic situations. Therefore, integration of separated travel and traffic information systems and services to an European traffic information network is a pressing issue for Trans-European road transport. • Pre-trip information systems Regional and national traffic information services should be connected to a traffic information service for the whole Pan-European road network. Although advanced Internet sites provide information already in several languages a user-selected output language choice should be standard. • Demand spreading by intermodal information provision has to be intensified. Pre-trip information should be provided adapted to the needs of different road-user subgroups. Succeeding steps have to deal with customisation of internet-based pre-trip information services to individual travel criteria. • Alternative pre-trip information modalities, such as the Traveller Advisory Free Telephone Service or the Highway Advisory Radio, being standardised in USA, should also be promoted as alternative modalities to the Internet or fixed info points. • On-trip in-vehicle information systems Regarding European trans-national road transport, current systems and services do not support cross-border drivers efficiently. At this point, the potential of digitised traffic messages for foreign drivers has to be emphasised. Further development of in-vehicle systems capable to translate coded messages into a driver's native language should have priority for Trans-European road transport. • A common policy should be developed defining what kind of information can be given to the private sector on what conditions and also how quality of information can be assured. • Integrated networks co-ordinating data from different sources have to minimise conflicts between the actors involved. In a multilingual European traffic environment the presentation of information to foreign drivers is an important problem. • A warning should be issued; the critical spots along a long journey (trans-European networks) are not necessarily (only) at the borders, they cross-different areas and / or regions with different rules, standards etc. 			

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<p><u>Project contact</u> naniopou@spark.net.gr</p>			
TSE	Outward Facing Research: Managing Integration	UK	Personal and other travel information systems
<p><u>Key findings</u></p> <p>This is an information and awareness theme research project, and the principal objective of its commission was 'to increase understanding of both the potential and the practicality of integrating different transport modes and land-use in a more sustainable manner within the context of the Trunk Road network'. Topic areas included appraisal techniques, working in partnership with other bodies, school travel, freight, design-related issues landscape/habitat fragmentation. This project therefore contributes to knowledge in the information and awareness topics relating specifically to information and management measures which aim to use information to allow the most efficient use of the existing transport system. In particular, the sub-themes of relevance include: travel awareness campaigns; public transport and passenger information systems; telecommunication systems and services; and personal and other travel information systems and services. To this end, fourteen sub-projects were initially defined, from which a number of specific areas of research were developed.</p> <p>A very wide range of work has been carried out. Outputs have included the following:</p> <ul style="list-style-type: none"> • In the area of 'Appraisal', production of the design manual for roads and bridges: DMRB-GOMMMS Bridging Document, Strategic Plans for Accessibility and Integration, updated guidance on RMS, and research reports considering valuation of environmental criteria, accident rate prediction and regeneration issues. • Development of guidance in relation to design issues, including four documents relating to Non-Motorised Users (NMUs) for inclusion within DMRB. • Guidance and research reports on environmental issues, including a compendium of 'green bridges' and other activity to support delivery of UK biodiversity targets and COST341. • Feasibility studies for trials of park-and-ride and related initiatives on or adjacent to the HA network, as well as guidance for HA staff on these issues. • Development of an on-line guide to freight for HA staff. • Development of guidance on involving the public in transport decision-making. • Feasibility studies to investigate the impact of educational travel on the HA network, and development of guidance for HA staff on school travel issues. Some of the above activity lends itself to further work beyond the end of the commission, often due to the need for documents to be taken through a lengthy approval process. <p><u>Policy implications</u></p> <p>Numerous brochures have been written to assist in disseminating Highways Agency policy and Practice in the area of integration.</p> <p><u>Project contact</u> Halcrow UK, Vineyard House, 44 Brook Green, London, W6 7BY Tel 44(0)20 7602 7282</p>			
UAV-NET	Civilian UAV thematic network: technologies, applications, certification	EU	
<p><u>Project contact</u> Ben Gurion International Airport, 70100 Tel Aviv/LOD, Israel</p>			

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UG340	Design Guidelines for In-Vehicle Information Systems Producers	UK	Real-time driver information systems
<p><u>Key findings</u></p> <p>This information and awareness theme project has provided a systematic review of the many factors that need to be considered in the design process of in-vehicle information systems (IVIS). It intends to identify gaps in the existing standards and guidelines so as to make them compatible with the detailed human machine interface checklist that has been produced to assess such systems. The document could then be recommended, to systems manufacturers and providers, as a product design guideline for In-Vehicle Information Systems. The project thus complies with the following sub themes of information and awareness: real time driver information systems; travel awareness campaigns; public transport and passenger information systems; and personal and other travel information services and systems.</p> <p>In particular, the project has:</p> <ul style="list-style-type: none"> • Outlined the different stages of the design process and considered briefly what each stage entails and the possible need for conducting assessments at the different stages; • reviewed the documentation and user instructions that may need to be provided with the system; • provided guidelines about how the IVIS should be fitted within the vehicle; • looked into ergonomic issues of how the driver interacts with the system with respect to controls, visual displays and the use of auditory information; • discussed issues of the driver-system interface; • considered some safety related aspects of IVIS, such as the need to provide the driver with accurate and timely information; and • examined the legal situation in the United Kingdom and discussed issues of liability and responsibility. <p><u>Policy implications</u></p> <p>These guidelines were intended to alert designers (and manufacturers) of IVIS to some legal and ergonomic issues relevant to safety. The guidelines document has also produced a 'user friendly' synthesis of current knowledge and provided up to date guidance on where to locate more detailed information. It was concluded that the principles behind the guidelines will be largely transferable and also intended for designers of in-vehicle entertainment systems (such as radios, cassette and CD players) or mobile phones. The guidelines, although primarily aimed at systems designed for 'private' car drivers, will also be largely transferable and applicable to systems used by individuals in the course of their work, for example by drivers of fleet cars, HGVs, PSVs and ambulances.</p> <p><u>Project contact</u></p> <p>gulam.rai@dft.gsi.gov.uk</p>			
UG354	Take up rate of school travel plans - Levels of activity relating to school travel plans and initiatives (2001)	UK	Travel awareness campaigns
<p><u>Key findings</u></p> <p>School travel plans contain measures that make it safer and more attractive for children to walk, cycle or use public transport to and from school. This project builds on the results of two surveys conducted in 1999 and 2001 and has concluded that:</p> <ul style="list-style-type: none"> • The take-up rate of School Travel Plans (STPs) has increased from 38% in 1999 to 50% of authorities with at least one school that has implemented an STP. • 79% of the authorities stated that School Travel Initiatives (STIs) had been implemented at one or more of their schools compared to 75% from the 1999 survey. 11% had firmly planned STIs and 6% had ac- 			

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<p>tively considered STIs. None of the authorities had rejected or not considered the implementation of STIs.</p> <ul style="list-style-type: none"> • The most common STIs implemented were Traffic Management Near Schools (e.g. traffic calming, junction redesign, parking restraint) and Education Measures in Road Safety Officers' Programmes (e.g. cycle training). • The most frequently mentioned sources of encouragement for STP development were DfT (mentioned by 90% of authorities), Schools/teachers (50%) and Central Government (48%). • 78% of authorities cited health as a main objective in the development of STPs or STIs. 63% of the Health Improvement Programmes mentioned school travel. • Project results led to the conclusion that there was a great deal of activity within authorities in attempting to tackle the issues surrounding school travel. These activities were expected to further develop with the appointment of 56 School Travel Plan Co-ordinators (plus 16 joint school/workplace co-ordinators), expanded Site Specific Advice Programme and the amount of funding that was being made available through Local Transport Plans. <p><u>Policy implications</u></p> <p>Various Government initiatives, such as the Travelling to School initiative, and funding have been put in place to help create a step change in the way children in England travel to school. The Travelling to School initiative jointly funded by DfT and DfES supported the employment of a network of around 250 school travel advisers and regional school travel advisers to work with schools and help them develop and implement school travel plans. DfT has also contributed £10m funding to Sustrans' Links to Schools project to provide improved links to more than 300 schools. The governmental policy in this area is to encourage schools and local authorities to work together to develop and implement individual school travel plans so that by 2010 all schools in England have a plan.</p> <p><u>Project contact</u></p> <p>margaret.longes@dft.gsi.gov.uk</p>			
UG395	Attitudes of Disabled People to Public Transport	UK	Public transport and passenger information systems
<p><u>Key findings</u></p> <p>The objective of this information and awareness research project is to assess attitudes of disabled people to public transport, the current use of public transport by disabled people, and the factors, which encourage or discourage disabled people from using public transport. Transport issues are important to disabled peoples lives - being the single most prominent concern at the local level. Pavement and road maintenance generate the most dissatisfaction, along with access for disabled people to transport vehicles and the frequency of public transport. The project conforms to the information and awareness sub themes of travel awareness campaign; public and other travel information services and systems.</p> <p>The research found that:</p> <ul style="list-style-type: none"> • Disabled people travel a third less often than the general public. • Disabled people drive cars a lot less and are less likely to have one in the household. • Despite this, cars are central to disabled people's mobility in England and Wales, with the most common mode of transport being a car driven by someone else. • Disabled people use buses, taxis and minicabs more often than the general public. • There are also encouraging signs that disabled people will use public transport even more if improvements are made. 			

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<p><u>Policy implications</u></p> <p>It is important to note that disabled people are not a homogenous group, nor are their transport needs and priorities the same across England and Wales. Therefore, plans will need to reflect local priorities - although solutions should be based on national standards, developed with validated research into user needs Disabled people would particularly welcome their views being taken into account in the implementation of transport services.</p> <p>At present, disabled people feel that local and central government, planners and mainstream transport operators are not properly considering their needs. Some disabled people would like the opportunity to work alongside these decision-makers and become more involved in future transport issues, as DPTAC does on national transport policy.</p> <p><u>Project contact</u></p> <p>dptac@dft.gsi.gov.uk</p>			
UG423I	Bus Real-Time Information – Business Case Research	UK	Public transport and passenger information systems
<p><u>Key findings</u></p> <p>The aim of the study was to determine whether there was likely to be a business case for introducing more bus Real Time Passenger Information systems. The project complies with the information and awareness sub themes of public transport and passenger information services and systems, and personal and other travel information services and systems.</p> <p>The review of evidence was presented in a series of summary tables for bus passengers, operators, and Local Transport Authorities. It was revealed in the review that a number of impacts were incurred across the range of recipients including:</p> <ul style="list-style-type: none"> • Savings on journey times; • improved regularity of service; and • improved reliability of service. <p>For a thorough business case to be made it is therefore essential that further research is carried out to justify in depth the impacts of RTI for the various recipients. In order to assist with this prioritisation, the study team has devised a priority search mechanism which analyses the recipient summary tables for further research requirements that would deliver maximum benefit to the business case. To do this the search focuses upon the impacts which have the highest scale but which have a requirement for further evidence, or in some cases no evidence at all.</p> <p><u>Policy implications</u></p> <p>This project lists measures which would improve information available to transport users and operators. The study identified two key priority areas for further consideration including:</p> <ul style="list-style-type: none"> • Examination of the impact on the regularity and reliability of services. This would include the management of scheduling and avoidance of penalties from the Traffic Commissioners. • Examination of the generation of new passenger trips through the provision of RTPPI, including the impact on customer satisfaction, passenger pre planning activity and passenger diversionary activity. <p>Both of these and other proposed areas of research outlined within the report should determine in more detail key areas of concern for the business case for the recipients of RTPPI.</p> <p><u>Project contact</u></p> <p>ers@dft.gov.uk</p>			

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WAKENET2-EUROPE	A European thematic network for aircraft wake turbulence	EU	
<u>Project contact</u> veen@nlr.nl			
X²-NOISE	Aircraft external noise network, Phase II	EU	
<u>Project contact</u> pierre.thouraud@sncma.fr			
–	Aeronautical stakeholders tools for the European research agenda	EU	
<u>Project contact</u> roger.hawksworth@aecma.org			
–	Aerospace SME forum	EU	
<u>Project contact</u> Rue du Clos Courtel 9, C/O DRIRE Bretagne, F-35043 Rennes, France			
–	An assessment of the effects and cost-effectiveness of a public transport journey planner	FI	Public transport and passenger information systems
<u>Key findings</u> According to the phone interview study, 28 % of citizens over 14 years old in Helsinki Metropolitan Region have used the service at least once. 2% of the citizens use it weekly, 9% 1-3 times a month and 18% randomly. The usage is more popular to areas that require interchanges. The most active users were found in the age group of 25-34, students and upper officials and in the highest income group. The possibility to use car does not affect the use of the service, hence the system is likely to have some effect on public transport usage. To sum up, trip decisions have become better informed and travelling more efficient. Study results indicate that trip planner increases the use of public transport and shifts trips from private car. Even with a very cautious estimate, the investment has been highly profitable for the society. This case is a good example of new technology bringing great benefits with little investment in infrastructure. The potential is out there – intelligent and informed decisions are needed to get the most out of it.			
<u>Policy implications</u> None specifically stated.			
<u>Project contact</u> tla@strafica.fi			

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–	Concept for the integration of an information system for public information on the traffic conditions on state roads	SI	Real-time driver information systems
<p><u>Key findings</u></p> <p>The key result of this project is the system architecture for integrating a system for traffic information on state roads. Although there are no direct results relating to the Information and Awareness theme, the system which will be developed as a result of the project will be relevant.</p> <p><u>Policy implications</u></p> <p>Based on the study, a number of implementation projects have been launched. It initiated an ongoing process which will finally result in the establishment of a national road management and information centre for Slovenia. Connectivity with neighbouring countries, vehicle information and communication systems and spreading the functionality by the introduction of new technology and information providers are the main goals for the future.</p> <p><u>Project contact</u></p> <p>cveto.gregorc@omegaconsult.si</p>			
–	Dissemination and applications of turbulence research in Europe	EU	
<p><u>Project contact</u></p> <p>Calle Serrano 117, E-28006 Madrid, Spain</p>			
–	Promoting awareness on European RTD activities in computational engineering and science through the EC-COMAS congress	EU	
<p><u>Project contact</u></p> <p>onate@cimne.upc.es</p>			
–	Review of Research on School Travel	UK	Travel awareness campaigns
<p><u>Key findings</u></p> <p>The aims of this project are to review UK and international research on travel to school published since 1995. This information and awareness themed research reviews considers in a Scottish context the lessons from UK and international research on: the factors affecting school travel; the influence of school travels on children's development; and the effects of initiatives to improve school travel safety and efficiency. To this end, this project contributes to the information and awareness topics which are concerned with information services provision. The project contributes to the sub theme of travel awareness campaigns.</p> <p>The results of the work demonstrated:</p> <ul style="list-style-type: none"> • The proportion of children in Scotland being driven to school by car is increasing rapidly and reached 20% of journeys to school in 2000. This trend is having a negative effect on many transport, health, safety, and environmental factors, and is impacting on the wider economy through growing road congestion particularly in the morning peak period. Transport, health and education policies therefore all seek improvements in school travel, identifying community-planning approaches to deliver integrated 			

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Key findings / Policy implications / Project website or contact			
<p>action and best value.</p> <ul style="list-style-type: none"> • Although levels of car based travel to school are lower in Scotland than in England, they are growing strongly. Trends in school travel are affected by: organisational changes within education, planning policy factors, and social, economic, demographic trends. The growth in car travel to school mirrors substantial growth in car ownership, particularly the number of two car households. • Children in the UK are open minded about transport, and are generally aware of the impacts of travel decisions on themselves and their environment. Whilst they would like to walk and cycle more, the balance between car travel and other modes still appears to favour the speed and convenience of car travel for an increasing number of trips. • Perceptions of safety and risk often do not match actual risk, so influencing attitudes to risk is an important element in changing travel behaviour. • For many school trips in Scotland bus travel is the only practical alternative to car travel and the poor image and travel experiences of children on buses is a major concern. Greater respect for buses as a mode needs to build on the greater social and independence opportunities provided by bus travel when compared with car travel. However delivering the required change in image will require significant changes in the ways that services are provided and operated. • Social factors have a strong influence on travel to school decisions, and where trade-offs need to be made between transport, health, environmental, and social factors the social issues tend to dominate. However travel choice is very complex involving such a large ranges of factors that reliable analysis would require very large studies of behaviour. Non-car travel can have some positive influences on children's development. The school journey offers the opportunity for developing social relationships with adults, and with other children from within and out with normal peer groups. Greater independence helps with the development of spatial skills and may improve organisational skills including time and money management. Regular exercise walking or cycling to and from school also has a positive influence on health. <p><u>Policy implications</u></p> <p>When generic solutions are imposed on communities there is a risk of reducing safety or efficiency. If the majority of schools in Scotland adopted community based safer routes to school approaches then there would be many positive economic, social and environmental benefits. Further research is recommended to identify how to galvanise wider support for effective safer routes to school planning, and on how to target action locally through school centred plans.</p> <p><u>Project contact</u></p> <p>socialresearch@scotland.gsi.gov.uk</p>			
–		Support to 4th European conference on turbomachinery, fluid dynamics and thermodynamics	EU
<p><u>Project contact</u></p> <p>3 Via Santa Marta 3, I-50139 Firenze, Italy</p>			
–		Time-triggered protocol forum	EU
<p><u>Project contact</u></p> <p>Schoenbrunner Strasse 7A, A-1040 Wien, Austria</p>			

Theme: Information and Awareness			Last update: 13 August 2006
Acronym	Project title (in English)	Origin	Research sub-theme
Key findings / Policy implications / Project website or contact			
–	UAV civilian application workshop: environment/communication/safety	EU	
<u>Project contact</u>			
Ben Gurion International Airport, 70100 Tel Aviv/LOD, Israel			

Annex II: General information on the Transport Research Knowledge Centre and analysis process used

The Knowledge Centre's background

The EXTR@Web project – Exploitation of Transport Research Results via the Web – attempts to collect, structure, analyse and disseminate transport research results, covering not only EU supported but also nationally financed research in the European Research Area (ERA), as well as selected global transport RTD programmes and projects.

The EXTR@Web consortium has brought together eight main contractors to combine strong and in-depth technical knowledge of transport technology and of EU and national transport RTD programmes with solid communication and dissemination experience.

The current project's direct predecessor, EXTRA (a Fourth Framework Programme Transport RTD project), co-ordinated dissemination activities on the European level for the first time. While FP4 addressed transport research on a mode-by-mode basis, the current Fifth Framework Programme (FP5) focuses on generic themes that consequently reflect transport policy objectives.

The EXTR@Web project will provide support to research at European and national levels by building up and promoting an electronic hub. The key objectives are:

- To establish a comprehensive web-based Knowledge Centre, providing structured and timely access to both detailed and user-oriented summary information on transport research programmes and their results across Europe;
- to provide an electronic hub for inter-connecting European and national programmes and individual networks concerned with transport research into an easily navigable European network;
- to establish a common best practice scheme for the structure and content of the reporting of transport research results;
- to provide high-quality analytical outputs that are structured and tailored according to the type of stakeholder and medium; and
- to raise awareness of the new service, the implications of emerging results, and the wider opportunities under national research programmes across Europe as a whole.

EXTR@Web will provide a comprehensive pool of programme, project and results related information to users, principally in electronic format via the Internet. The approach is based on three main strokes of work covering:

- Monitoring, analysis and information preparation;
- website and electronic news service, the principal dissemination channels; and
- management of knowledge transfer, including dissemination by non-electronic means, and also the maintenance of a contact database and e-mail enquiry service and evaluation of the performance of EXTR@Web.

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Definition of transport research

For inclusion into the Transport Research Knowledge Centre, Transport research programmes and projects have to be within the definition of research and transport simultaneously. This will define the eligibility of projects.

Definition of research

General OECD definition:

"Creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humanity, culture and society, and the use of this stock of knowledge to devise new applications."

Additional transport research criteria:

- Targeted – in line with transport policy aims, strategies and processes to solve the inherent problems for society.
- Accessible – a public activity, open to scrutiny by peers.
- Transferable – useful beyond the specific research project, applicable in principle to other researchers and research contexts as well as decision-makers in policy, industry and science.

Definition of transport

In order to clarify expectations from the Transport Research Knowledge Centre, and to ensure a common understanding of important terms, the Programme Analysis Group of EXTR@Web has come up with the following definition of transport.

- Transport is the means by which a person or material of any kind is passed from its origin to its destination.
- Transport comprises:
 - the transport users: passenger, business, freight;
 - the transport vehicles (full life cycle issues);
 - the transport infrastructure (full life cycle issues);
 - the transport system: the interaction of users, vehicles and infrastructure;
 - the impacts of transport: contribution to objectives, and hence to overall sustainability; and
 - the transport tools: methods and instruments to help ensure an effective contribution to the objectives.

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Three levels of analysis

Project level analysis

For European, national and international projects the following harmonized process was agreed:

- For each eligible project, the project co-ordinator will be requested to draft a Project Profile;
- the EXTR@Web consortium identifies, for each project all relevant themes (typically up to five), and provides the project linkage;
- for each eligible project, the project co-ordinator will be requested to draft the other elements of the reporting scheme – Progress Summary and Result Summary – due to the project progress and provides the final report;
- projects with highest relevance and best available final results will be selected for analysis;
- for every such relevant theme within each project a short and concise paragraph – structured with bullet points as appropriate – will be written to present the key findings of the project in relation to the objectives of the theme; and
- this information will be searchable on the Knowledge Centre website.

Thematic analysis

The thematic analysis has been exploiting existing project level analysis. The consolidated project wise findings have been structured and analysed along 30 themes, which are fixed for the project life time and fed into annual Thematic Research Summaries and Annual Compendia. However, for reporting purposes Thematic Research Summaries have been limited to 28 volumes (cf. Chapter 1).

The sequence of outputs has been comprising an explanation of the overall structure, and regular reports treating national, European and international research in a comprehensive way.

Deliverable number	Title	Release date (final version)
D2.A	"Thematic structure and definitions – all themes"	August 2006
D2.B	"European, national and international project database"	July 2006
D2.C	"First annual thematic research summary"; 30 vol.	December 2004
D2.D	"Second annual thematic research summary"; 10 vol.	March 2006
D2.E	"Third annual thematic research summary"; 28 vol.	August 2006

Table: The sequence of deliverables

Policy level analysis

Whilst the 30 themes are fixed, this type of analysis should give the flexibility to provide information on ad hoc policy priorities. Hence, policy level analysis will synthesize key findings of projects across combinations of themes. As an output, policy brochures shall be prepared depending on ad hoc requirements by DG TREN or by the high-level Advisory Group (AG).

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Annex III: Editorial team for Thematic Research Summaries

Please note that – in principle – all EXTR@Web partners and sub-contractors will be contributing to a particular Thematic Research Summary because all project level findings that are of some relevance to one of the 28 (30) individual themes are presented in the comprehensive format of these papers.

The following summary of authors and peer reviewers is presented in alphabetical order while the main author of this paper is given on page i of the document.

Fabien Drevetton, ISIS; France

Mr Drevetton has an electrical engineering post-MSc degree, an MBA and over 8 years experience in Intelligent Transport Systems for road transport. He has been a senior engineer with ISIS since 2001, specialising in traffic control, motorway management, ITS standards development process and system architecture.

Co-author: Road Transport

Prof J Augusto Felício, Neptune – CEGE/ISEG; Portugal

Professor Felício, holding a PhD in management, is teaching graduate and post-graduate courses such as 'Maritime transport and port management' and 'Land transport and logistic management' at ISEG, School of Economics and Management (Technical University of Lisbon). His activities include participation in transport research where he has published several related articles and books.

Main author: Waterborne Transport, Intelligent Transport Systems

Peer review: Efficiency, Vehicle Technology

Dr Paul E Firmin, Institute for Transport Studies, University of Leeds (ITS); UK

Dr Firmin has 30 years of experience in transport planning and engineering, including local authority, consultancy and academia. His research specialities are: traffic management, transport survey design & analysis, traveller information systems; driver route choice behaviour and transport telematics. He is currently the MSc(Eng) degree programme leader and international student adviser at ITS, University of Leeds. He teaches computing skills and traffic management, and supervises student dissertation projects.

Main author: Information and Awareness

Peer review: Safety and Security

Dr Nils Gendner, Neptune – University of Bremen, ISL; Germany

Dr Gendner has been working for more than four years at the University of Bremen, Institute of Shipping Economics and Logistics. His main topics include the analysis of processes, functions and data flows in shipping and within the rail sector. He contributes to ongoing efforts in intermodality by participating in several projects dealing with intermodal concepts and developments.

Main author: Intermodal Transport, Integration

Peer review: Financing Tools, Pricing and Taxation

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Wolfgang Helmreich, Industriebetriebe-Betriebsgesellschaft mbH (IABG); Germany
 Mr Helmreich is a civil engineer from the Technical University of Munich. He has more than 15 years experience with transport planning and infrastructure design in the rail, road and air sector, and sound knowledge of vehicle technologies. His expertise also includes project management, web publishing and dissemination skills. He joined IABG in 1999 as a senior transport consultant after working as project manager at several German engineering companies. He is principal editor of all Thematic Research Summaries.

Main author: Air Transport, User Aspects, Safety and Security

Peer review: Regional Transport, Rail Transport, Waterborne Transport, Environmental Aspects, Land Use Planning

Cristina Ivan, Group of Independent Experts Ltd (GIE); Romania

Ms Ivan has a law degree and has graduated a Master course in project management. Ever since 1998 she has participated in various projects financed by international donors in Romania. The main areas of her expertise cover: project management, legal approximation of the EU acquis & drafting of environmental legislation, as well as the carrying out of awareness raising and dissemination activities, including those for the transport sector.

Main author: EU Accession Issues

Peer review: Economic Aspects, User Aspects, Transport Management

Dr Ann Jopson, Institute for Transport Studies, University of Leeds (ITS); UK

Dr Jopson is a Research Fellow whose main interests and expertise lie in the areas of travel behaviour psychology, transport marketing and urban transport planning and policy, with particular emphasis on travel demand management through attitudinal and behavioural measures. Her PhD thesis was based on the role of psychology in reducing car use.

Main author: Environmental Aspects

Peer review: Rural Transport

Dimitris Koryzis, Systema; Greece

Mr Koryzis is a production & management engineer from the Technical University of Crete and holds an MSc in Decision Sciences from Athens University of Economics & Business. He has more than 8 years experience as technical and managerial consultant for 30 European programmes in the transport sector (road, maritime and intermodal) as well as in research and innovation technology EC projects.

Co-author: Pricing, Taxation and Financing Tools

Peer review: Integration

Ulrich Leiss, Industriebetriebe-Betriebsgesellschaft mbH (IABG); Germany

Mr Leiss is an aerospace engineer from the Technical University of Munich. His professional career includes 24 years experience with research, technical analyses, monitoring and managing national and European projects and programmes. These activities cover the areas aerospace, transport, energy and new technologies.

Main author: Other Modes, Vehicle Technology

Bryan Matthews, Institute for Transport Studies, University of Leeds (ITS); UK

Mr Matthews has 9 years experience of transport research and project management in both consultancy and university settings. His research expertise is in transport policy analysis and transport economics. He has worked on a number of EU, UK DfT and Research Council projects. He also contributes to teaching activities, lecturing on Air Transport Systems and supervising student projects.

Main author: Rail Transport

Peer review: Air Transport

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Prof Anthony D May, Institute for Transport Studies, University of Leeds (ITS); UK
 Professor May has over 35 years' experience in transport planning and traffic engineering. He has been a professor at Leeds since 1977, and has served as Head of the Department of Civil Engineering, Dean of the Faculty of Engineering, Pro-Vice Chancellor for Research and Director of the Institute for Transport Studies. He also has practical experience with the MVA consultancy and the GLC in London. His research specialities include: land use planning, traffic management, road pricing, sustainable urban transport, integrated transport and environmental impacts of transport.

Supervision of entire process of thematic reviews

Batool Menaz, Institute for Transport Studies, University of Leeds (ITS); UK
 Ms Menaz is a transport economist from the University of Leeds. She has been involved in a number of various projects including research into transport pricing reform issues in air, road and rail for the IMPRINT-Europe thematic network project, and research for the UK Rail Research Centre looking at the alternative visions for the future of the British rail system.

Main author: Regulation/Deregulation

Co-author: Passenger Transport, Equity and Accessibility, Land Use Planning

Peer review: Road Transport

Christina Paschalidou, Systema; Greece

Ms Paschalidou is a transportation engineer from Aristotle University (Thessaloniki), with a MSc in Urban and Regional Transport from Laboratory of Transport Economics in Lyon. Her field of interest is transport planning and engineering, EU and national transport policies, sustainability issues and research. She joined Systema in 2005, while her previous experience includes an internship in ISIS, traffic studies elaborated individually and research activities in the Aristotle University.

Main author: Transport Management

Peer review: Information and Awareness

Ignacio Rada Cotera, Neptune – IkerConsulting; Spain

Mr Rada Cotera is a lawyer from Deusto University in Bilbao, holding a diploma and certificate of European studies from Deusto and Saarland Universities, respectively. He has been working on EU projects since 2000. His main expertise is European commercial and regional policy, maritime transport and port affairs, legal aspects of international economic relations, urban planning, regional benchmarking and development.

Main author: Regional Transport

Marco Valerio Salucci, Università di Roma "La Sapienza", DITS; Italy

Mr Salucci holds a degree in mechanical engineering from the University of Rome "La Sapienza". His past research experience has focused on computer modelling of the operations of freight terminals and automatic passenger transport systems, the latter being carried out within EC funded research projects. His current research for a doctorate is in the area of transshipment and information and communication technologies for intermodal freight transport.

Co-author: Freight Transport, Urban Transport, Rural Transport, Efficiency, Decision-support Tools

Peer review: Intermodal Transport

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Dr Karsten Seidel, Neptune – European Networks and Cooperation; Belgium/Germany
 Dr Seidel has graduated as economist and holds a PhD from the University of Bremen. He has been working on EU projects since 1988. His main expertise is in European industrial and regional policy, telecommunication research projects, maritime transport and port affairs, evaluation of technical aid, urban planning, regional benchmarking development.

Co-author: Regional Transport

Dr Paolo Delle Site, Università di Roma "La Sapienza", DITS; Italy
 Dr Delle Site holds an PhD, and is a senior research fellow at DITS, Transport Area, University of Rome "La Sapienza". He combines professional experience with research activities, the latter mainly being carried out within EC funded research projects. Related activities comprise urban transport planning, urban public transport design, transport project assessment, and policy analysis. His teaching activities include courses in transport planning. Furthermore, he is author of papers in Transportation Research Part A – Policy and Practice and in the European Journal of Transport and Infrastructure Research.

Co-author: Freight Transport, Urban Transport, Rural Transport, Economic Aspects, Infrastructure Provision, Pricing, Taxation and Financing Tools

Peer review: EU Accession Issues, Intelligent Transport Systems, Regulation/Deregulation

Damian Stantchev, Institute for Transport Studies, University of Leeds (ITS); UK
 Mr Stantchev holds a degree in Economics and Trade from Varna University of Economics in Bulgaria and an MA in Political Science from the Central European University in Hungary. His early research experience was in the area of small business development in transitional economies of Central and Eastern Europe. Damian has also contributed to an extensive report on the role of the logistics and transportation sector in society for the Logistics & Transportation Corporate Citizenship Initiative of the World Economic Forum. His research for a doctorate examines the role of logistics in enhancing the competitiveness of the regional economy and encompasses all aspects of original research and data collection including the design, conduct and analyses of large scale surveys as well as the collection of commercial data and development of case studies.

Main author: Passenger Transport, Land Use Planning, Equity and Accessibility

Peer review: Freight Transport

Andrew Winder, ISIS; France

Mr Winder is a transport planner with a BSc in transport management (Aston University, England) and over 15 years experience in consultancies and public transport authorities covering transport planning and policy, particularly at UK, French and Europe-wide levels. Since 1998 he has been a senior engineer at ISIS, responsible for a wide range of European projects focusing primarily on Trans-European Networks, ITS for road traffic management, urban and regional public transport and EU enlargement aspects.

Main author: Road Transport

Peer review: Passenger Transport, Urban Transport, Other Modes, Equity and Accessibility, Infrastructure Provision

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Ard Wolthuis, Università di Roma "La Sapienza", DITS; Italy

Ard Wolthuis graduated in Science & Innovation Management, in the field of Transport and Mobility, from the University of Utrecht. He has been involved in transport projects and analysed socio-economic, environmental, political and legal aspects, such as the Phileas project, the Fokker bankruptcy, and innovation policy of companies in the Netherlands. Has participated in a European project on innovation in urban public transport systems. Since spring 2005 has joined DITS as a research fellow. His main areas of activities are policy analysis and dissemination of research results.

Co-author: Efficiency, Decision-support Tools

Dr Zhaomin Zhang, ANAST – University of Liege, Neptune; Belgium

Dr Zhang has got the university degrees of Civil Engineering, Mechanical and Marine Engineering; Master of Transportation Sciences and Doctor of Philosophy. He is a senior engineer and led the important projects related to the "Establishment of a mathematical traffic model on the Belgian waterway network" (Belgian national research program "Transport and mobility"), the project called "On computerisation and management in real-time of operations relating to the exploitation of fluvial traffic to organise the waterway transport", Belgian Regional Ministry of Public Works) and the Project related to the development of a transport cost model in the inland navigation sector. He has also been involved in numerous simulation and operation research activities.

Peer review: Decision-support Tools

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