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Second Annual Thematic Research Summary – Other Modes

EXTR@Web Project

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Further information on EXTR@Web's editorial team for Thematic Research Summaries can be obtained from Annex III.

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Abbreviations and Acronyms Used

AG	High level Advisory Group (to the EXTR@Web project)
BG	Benchmark Group (associated with the EXTR@Web project)
CEEC	Central and Eastern European Country
DG TREN	EC Directorate-General for Energy and Transport
EC	European Commission
EFTA	European Free Trade Association (Norway, Iceland, Switzerland, Liechtenstein)
ERA	European Research Area (EU, EFTA and CEECs)
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
PAG	Programme Analysis Group (part of EXTR@Web project)
RTD	Research and Technical Development
TRKC	Transport Research Knowledge Centre; TRKC website at ec.europa.eu/transport/extra

Table of Contents

1. Introduction

This paper provides a structured guide to the results of Research and Technical Development (RTD) projects relating to **Other Modes**, 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 eventually 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 roughly 5000 projects from research programmes the Transport Research Knowledge Centre (TRKC) ultimately will have considered, a total of **56** projects deal partly or fully with the issues of **Other Modes**.

1.1 How to use this paper

You are recommended to use this paper to locate RTD 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 **Other Modes** theme, associated policy issues and the background of project EXTR@Web.

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 dedicated project homepages, or provide contact details of project responsibles, 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.

2. Scope of theme

2.1 Definition of theme

Other land transport consists of all transport not covered within the definitions of road and rail. Other land transport requires special vehicles and infrastructure.

The category includes new modes developed with the intention to introduce innovation in technological and operational concepts. Innovations are mainly related to guidance and support, e.g. air cushions or magnet suspension instead of wheels, or guideways that vehicles straddle or where vehicles are suspended instead of those where vehicles stand. Innovative operational concepts include dual mode operation, with vehicles capable of using two types of facilities, fully automated operation and non-stop service from origin to destination of individual passengers.

The category of other modes comprise unconventional underground transport, e.g. utilising evacuated tubes, pipelines, fast moving walkways, various types of Personal Rapid Transit (PRT) and cable driven support systems.

2.2 Topics included in theme

This covers all management and operations of land transport and innovative means of transport which is neither classic road nor rail.

The topics included in this theme are:

- Infrastructure (planning, construction, maintenance) other transport systems, including stations, depots, etc;
- public or collective land-based passenger transport (either scheduled, semi-scheduled or demand-responsive), using unconventional means (i.e. other than ordinary public roads or rail-based systems);
- individual non-motorised transport (walking, cycling, horse-riding); and
- freight transport (by pipeline, aerial cableway, etc).

This paper covers technological solutions to assist walking, cycling, etc (such as moving walkways and cycle lifts). General research actions relating to slow modes, particularly insofar as they affect road design and management and their interaction with other road users are covered under the “Road” thematic paper.

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

The economy is growing and transport is in parallel growing even faster. This has consequences for the volume and the quality of transport, is threatening the environment and entailing risks for safety. In addition, the European Union is one of the most densely populated areas in the world and a lack of space is emerging. Congestion is producing intolerable costs and problems, e.g. external costs of around 4% of the GDP. This situation is calling for a reflection on possibilities to find new ways of transportation, using less surface space, enhancing safety, being more environmentally friendly, consuming less energy and being more efficient. Modern society is requiring high tech solutions characterised by a high degree of reliability. Industry and research are developing new ways of transportation which respond to most of the requirements mentioned.

3. Policy context

Congestion and sustainability
Congestion on road is possibly the greatest single problem of transport policy in Europe. Whilst urban roads, intercity highways and traffic nodes are collapsing almost every day other conventional modes like rail are only used far away from its limits. Consequently one of the EU policies aims at the revitalisation of railways but being not the target of this thematic paper.

In the past canal, railway and road infrastructure has been built rapidly following each other to some saturation. Now the overarching policy for sustainability requires new technologies to improve the existing conventional modes of transport. These enabling technologies are dealt with in the thematic paper “Vehicle Technologies”. Furthermore new transport concepts are required not only through the introduction of new technologies but also the introduction of new operating concepts and services.

EU actions and policy priorities
The Commission Communication on “Developing the Citizens' Network” (CEC, 1998a) stresses as a policy priority the support for public transport as a means to reduce congestion, energy use, pollution, noise and social exclusion, and to improve quality of life. In the area of guided urban transport the setting of standards is highlighted as a priority action also by the Action Programme 1998-2004 (CEC, 1998b). A key issue is the definition of a common core of technical specifications, to be used also for public procurement. This applies to conventional systems and may apply to innovative intermediate modes as well (intermediate modes are innovative bus and tram concepts filling the gap between conventional bus and rail-based transport).

City of Tomorrow and Cultural Heritage
This Key Action aims to improve urban sustainability throughout the EU by 2010 (CEC, 2000a). It will achieve this by concentrating the resources on four specific areas:

- City planning and management;
- cultural heritage;
- built environment; and
- urban transport.

The Key Action has been specifically designed to ensure rapid, EU-wide take-up of practical new approaches to urban governance, planning and management. It is expected to produce, within a decade, measurable advances in economic development, environmental performance and quality of life which will directly benefit the 80% of EU citizens who now live in cities and large towns. The Key Action 'City of Tomorrow and Cultural Heritage' makes urban issues the specific focus of an ambitious Community research programme for the first time.

Technologies and planning for more efficient urban transport systems constitutes the direct link to the “Other Modes” thematic paper. This last of the Key Action's four specific areas addresses the sustainability of city transport systems. Here, the aim is to reduce congestion and pollution dramatically, by developing tools and methods to support the formulation and implementation of new policies and new land use strategies, and by developing more environmentally-friendly alternatives to the private car. The integration of land-use and transport planning, and comparative assessment of new urban transit technologies and systems, are among the specific topics addressed.

A great variety of benefits can Europe expect as a result of research carried out within the 'City' Key Action. In the short term – i.e. by the completion of FP5 – the main benefits will be the deliverables developed and tested by the projects. These consist primarily of tools and methods designed to support a new, more holistic approach to urban sustainability. They will facilitate improved policy-making or, at operational level, the integrated application of new technologies and approaches – as a means of enhancing cities' social, cultural, environmental and economic sustainability.

The demonstration phases of many projects will also produce direct benefits - for example, reduction of emissions or noise, improved living conditions or easier access to essential urban services and historic sites. In some cases, these direct impacts will be on a very large scale.

Competitive and Sustainable Growth

The main targets of the Competitive and Sustainable Growth Programme are:

- To produce, disseminate and use the knowledge and technologies needed to design and develop processes and produce high quality, environment- and consumer-friendly products which will be competitive on tomorrow's market;
- to help increase economic growth, maintain and/or create new jobs in Europe;
- to sustain the continuing innovation and modernisation efforts of manufacturing, processing and services enterprises (including SMEs) so as to improve their competitiveness; and
- to support the development and implementation of Community policies that enable competitive and sustainable development.

This goes hand in hand with the development of related services, including transport, which are economic, safe and protective of the environment and quality of life as well as with the development of quality materials, reliable measurement and testing methods and the optimal use of specific research infrastructures.

A set of four Key Actions, helping to develop critical technologies, concepts and policies to solve clearly identified problems. The four key actions are: 'Innovative products, processes and organisation'; 'Sustainable mobility and intermodality'; 'Land transport and marine technologies'; and ' New perspectives in aeronautics'.

Eureka

The objective of Eureka is to support the competitiveness of European companies through international collaboration, in creating links and networks of innovation. This involves bringing high quality research and development efforts to the market and to use the multiplying effects of co-operation.

Eureka is tackling the challenge of a swiftly changing business environment and offers a platform for short-term as well as strategic collaboration. It offers flexible and dynamic support, quality label and expertise for market-oriented R&D projects. It offers a frame for co-operation to small and large companies and operates through its network of national members, while remaining open to global co-operation. The programme covers 9 themes, of which transport is one.

4. Synthesis of findings from completed projects

Research projects contributing to the theme of **Other Modes** transport can be broken down to the following sub-themes:

- Road-based fully automated systems (cyber cars and trucks);
- personal rapid transit, i.e. automatic vehicles offering individualised service travelling on their own guideway,
- non-conventional modes for urban collective transport including, among the others, intermediate modes, i.e. innovative bus and tram concepts filling the gap between conventional bus and rail-based transport (e.g. the Nancy tram);
- high-speed guided systems (e.g. Maglev);
- dual-mode/multi-mode/multi-functional systems (alternating guided and unguided transport, modular vehicles, “rolling autobahn” for Alpine crossing of goods transport, etc.);
- walking and cycling support systems (fast moving walkways, bicycle lift etc.); and
- pipeline type goods transport 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:

- Air transport;
- Rail transport;
- Road transport;
- Waterborne transport; and
- Intermodal Transport.

Results from the following projects have been included in the current version of this Thematic Research Summary:

Research sub-theme	Contributing projects
Road-based fully automated systems	(none yet)
Personal rapid transit	EDICT
Non-conventional modes for urban collective transport	NETMOBIL; SVI 1998/091
High-speed guided systems	F1; F5a; F5b; F6 (all CH)
Dual-mode/multi-mode/multi-functional	(none yet)
Walking and cycling support systems	(none yet)
Pipeline type goods transport systems	(none yet)

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 Road-based fully automated systems

4.1.1 Research objectives

In this area research objectives include:
- Evaluating new transport system concepts for enhanced and sustainable personal urban mobility, such as cybernetic technology.

4.1.2 Main findings

None yet.

4.2 Personal Rapid Transit

4.2.1 Research objectives

In this area research objectives include:
- Evaluating and demonstrating PRT as an innovative city transport.

4.2.2 Main findings

PRT contributes significantly to transport policy and all related policy objectives. This innovative transport concept allows affordable mobility for all groups in society and represents opportunities for achieving equity.
The demonstration of the PRT prototype system “ULTRA” at a test site in Cardiff, four accompanying case studies at different cities and the overall European assessment indicated high overall benefits. The specific urban transport problems in particular of new member states, accession and candidate countries could be alleviated significantly at a lower cost than any other transport system.
PRT is the personalisation of public transport, the first public transport system which can really attract car users and which can cover its operating cost and even capital cost at a wider market penetration. PRT complements existing public transport networks. PRT is characterised through attractive transport services and high safety. A first fully operational system is urgently needed to demonstrate all capabilities and to alleviate some remaining critical issues. An active role of all key actors from city level up to the EU level is required to facilitate legislation, regulation and financial support.

4.3 Non-conventional modes for urban collective transport

4.3.1 Research objectives

In this area research objectives include:
- Alleviating increasing traffic congestion, pollution, lack of flexibility, integration and accessibility in the transport network;
- attracting car drivers to use public transport; and
- creating a sustainable “City of Tomorrow”.

4.3.2 Main findings

Oversight of research work identified a number of different approaches to the use of (semi)-automatic vehicles for providing sustainable urban transportation systems for the future. The wider scale implementation of these innovations substantially contributes to the reduction of the adverse impacts of transport on the environment, safety, social cohesion and economic efficiency.
The scale of innovation ranges from advanced Driver Assistance Systems (buses, trams and freight vehicles) to fully automatic, clean, driverless vehicles that can run on guideways, and on street mixed with pedestrians and possibly other traffic at low speed. Real systems are the Rivium park shuttle (driverless electric bus), operating like a horizontal lift and the PHILEAS bus (electric hybrid driveline) running automatically on dedicated bus lanes or be manually driven on city streets.
Electric driven vehicles are well suited for improving the quality of life in the urban environment producing extremely low noise only and no exhaust gases locally. But it must also be integrated in a global context of mobility to achieve not only environmental objectives, but also objectives related to transport and territorial planning. Supporting measures are needed to further shift private to public transport.
An active role of all key actors from city level up to the EU level is required to facilitate legislation, regulation and financial support for innovative transport modes especially involving driverless operation. Dissemination of the solutions and best practises are mandatory for rapid and manifold applications throughout Europe. Further research is needed to support complementary technology development and maturation as well as user acceptance.

4.4 High-speed guided systems

4.4.1 Research objectives

In this area research objectives include:
- Improving the scientific basis on which Switzerland's traffic problems might be solved, taking into account the growing interconnection with Europe, ecological limits, and economic and social needs; and
- providing a basis for decisions on whether new and innovative technologies like Maglev (Swissmetro) could provide a sensible technical alternative to conventional long distance traffic.

4.4.2 Main findings

The demand for high-speed systems like Swissmetro will be particularly sensitive to variations in timetables and fares. The production of electricity is a major impact factor regarding the climatic and environmental overall efficiency. The specific proportion of grey energy and of indirect burdens on the environment per passenger kilometre, depends strongly on the passenger demand and its development over the system's intended life cycle. Economic and financial aspects of constructing and operating a Eurometro system also influence the sustainability of a high-speed system very strongly.
High speed systems like Swissmetro could reinforce regional inequalities and benefit certain urban regions. Decisions should be taken according to the social/spatial context. According to the scenarios, the high-speed project is a social project in many ways.
In case of the Swissmetro investigations the large urban centres belong to the winners, the peripheral areas and eastern Switzerland have to be assigned to the losers. The presence of the Swissmetro leads only to a very slight increase in the use of public transportation.
The process of a potential implementation will not work without active participation of public decision-makers in the definition the transport project.

4.5 Dual-mode / multi-mode / multi-functional systems

4.5.1 Research objectives

In this area research objectives include:
- Developing advanced rail road transportation systems.

4.5.2 Main findings

None yet.

4.6 Walking and cycling support systems

4.6.1 Research objectives

In this area research objectives include:
- New means to promote pedestrian traffic in cities.

4.6.2 Main findings

None yet.

4.7 Pipeline type goods transport systems

4.7.1 Research objectives

No relevant projects for this sub-theme, yet.

4.7.2 Main findings

None yet.

5. References

[1] EXTR@Web project: 'Transport Research Knowledge Centre (TRKC) website' (ec.europa.eu/transport/extra), 2004, Brussels

[2] CEC(1998a) Developing the Citizen's Network. COM(98)431, Brussels.

[3] CEC(1998b) The Common Transport Policy. Sustainable Mobility: Perspectives for the Future. COM(98)716, Brussels.

[4] CEC(2000a) Fifth Framework Programme: Energy Environment and Sustainable Development Work programme. Brussels.

[5] CEC(2000b) Fifth Framework Programme: Growth Work programme. Edition December 2000, Brussels.

Annex I: Contributing projects

Preface While this Annex lists all projects being relevant to the theme of **Other Modes**, it should be noted that only priority 1 projects are presented with a section on "Key findings" and "Policy implications", respectively. For in-depth information on prioritisation and EXTR@Web's methodology for analysis, please refer to Annex II of this paper.

In 'Origin' column, use 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: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			
CODA-E	Rail road transportation system	EU	Dual-mode/multi-mode/multi-functional systems
Project website None			
CYBERCARS	Cybernetic technologies for the car in the city	EU	Road-based fully automated systems
Project website www.cybercars.org			
CYBERMOVE	Cybernetic transport systems for the City of Tomorrow	EU	Road-based fully automated systems
Project website www.cybermove.org			
EDICT	Evaluation and demonstration of innovative city transport	EU	Personal rapid transit

Key findings

The overall assessment shows vast EU potential of the innovative PRT transport concept. The specific urban transport problems in particular of new member states, accession and candidate countries could be alleviated significantly at a lower cost than any other transport system.
PRT is the personalisation of public transport, the first public transport system which can really attract car users and which can cover its operating cost and even capital cost at a wider market penetration. A first fully operational system is urgently needed to demonstrate all capabilities and to alleviate some remaining critical issues. Furthermore, PRT complements existing public transport networks. PRT is characterised through attractive transport services and high safety; it:

- Offers on demand transport like a taxi but with lower fares;
- offers non-stop travel from every PRT station to your final destination (PRT station) within the network;
- implies usually no waiting time and even at peak hours just 1 -2 minutes;

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			

- services are unique in the long off peak periods of conventional transport and at weekends and festivities;
- provides privacy and comfort like a car but you can also share your ride;
- enables easy access to older and disabled people;
- allows passengers to carry bulky shopping items;
- has a high transport capacity similar to light railway;
- offers good distribution and freight transport;
- integrates easily with the existing transport infrastructure, improving accessibility and the efficiency of different connections between modes;
- is potentially more efficient than any other mode comparable only with metro but offers greater comfort and privacy; and
- offers high safety standards, inherently the segregation from other modes and elevation avoids collision with other modes, cyclists and pedestrians.

Policy implications

PRT contributes significantly to transport policy and all related policy objectives. This innovative transport concept allows affordable mobility for all groups in society and represents opportunities for achieving equity.
Active roles of the EU, national governments and regional authorities are required immediately for developing areas such as legislation, regulation and financial support. City authorities are required to set up a process for early application of PRT as identified in the EDICT project. There is a unique opportunity for a European wide industrial effort to share the development and mass production of PRT vehicles and infrastructure which should form a modular system for any European city typology.
However there are still critical issues and barriers to be alleviated through decision makers at all levels:

- Awareness problem – there is a low awareness about the concept of PRT and its benefits. and still confusing classification of transport concepts;
- information exchange limitations – commercial interest of concept proposers or developers versus detailed information needs of implementers/evaluators;
- selection uncertainty – widespread proposals of new concepts with different depth of investigation and knowledge gained;
- technical issues to be addressed – ensuring safety and reliability during severe weather conditions and network capacity limits;
- acceptance limitation – visual intrusion if elevated;
- investment risks – possible investors are cautious about unproven figures;
- the procurement obstacle – if an innovative system like PRT follows the standard procedure unduly delays occur;
- decision dilemma – nobody will be the champion and be the first to take the risk; and
- research gaps – investigations and assessment needed on the missing link in low density areas and possible dual mode extensions.

Project website

www.cardiff.gov.uk/edict/

F1	Demand projections for Swissmetro	CH	High-speed guided systems

Key findings

The results show that Swissmetro, if it were implemented in the year 2015 for example, would attract some 24,000 passengers between Geneva and Lausanne and approx. 34,000 passengers between Bern and Zurich.

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			

- Conventional rail travel would decrease by about half on some relations; and
- the demand for Swissmetro will be particularly sensitive to variations in timetables and fares.

Policy implications

None.

Project website

www.nfp41.ch

F3	Technology assessment for high speed systems	CH	High-speed guided systems

Project website

www.nfp41.ch

F5a	Swissmetro and Switzerland: a trend analysis	CH	High-speed guided systems

Key findings

Given the sites of Swissmetro stops and the congruence of the project with urban development, Swissmetro should reinforce the tendency to concentrate activity in large Swiss cities. This concentration will affect all the centres of cities and also their surrounding areas. Swissmetro could reinforce regional inequalities and benefit certain urban regions. Swissmetro cannot act directly benefit peripheral areas.

Policy implications

We advise that the decision whether or not to construct Swissmetro should be taken according to the social/spatial context. According to the scenarios, the high-speed project is much more up to the task of favouring desirable spatial developments than others. It will therefore be a matter of instrumentalising this transport project in order to arrive at the desired territorial effects. Such a process of implementation will not work without active participation of public decision-makers in the definition of this transport project which is also a social project in many ways.

Project website

www.nfp41.ch

F5b	Spatial effects of Swissmetro	CH	High-speed guided systems

Key findings

The Swissmetro had only a minimal impact on the allocation of activities. The large urban centres belong to the winners. The peripheral areas and eastern Switzerland have to be assigned to the losers. The presence of the Swissmetro leads only to a very slight increase in the use of public transportation.

Policy implications

We advise that the decision whether or not to construct Swissmetro should be taken according to the social/spatial context. According to the scenarios, the high-speed project is much more up to the task of favouring desirable spatial developments than others. It will therefore be a matter of instrumentalising this transport project in order to arrive at the desired territorial effects. Such a process of implementation will not work without active participation of public decision-makers in the definition of this transport project which is also a social project in many ways.

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			

Project website

www.nfp41.ch

F6 Ecological effects of Eurometro — CH — High-speed guided systems

Key findings

As a Eurometro system would be operated mainly with electric power, the method or the technology used for generating electricity is a major impact factor regarding the climatic and environmental efficiency. • The specific proportion of grey energy and of indirect burdens on the environment per passenger kilometre, depends strongly on the passenger demand and its development over the system's intended life cycle. • Economic and financial aspects of constructing and operating a Eurometro system also influence the sustainability of a high-speed system very strongly.

Policy implications

- The issues of construction technology and the type of power generation and supply for the construction process should be investigated more extensive;
- other accompanying control measures, besides internalising external costs within the field of transport, have to be developed and evaluated; and
- economic and financial aspects have to be the focus of future research work as well, because of their influence on the sustainability of Eurometro.

Project website

www.nfp41.ch

FRAMSYN An IT-based real-time information guidance-system for visually impaired — SE — Walking and cycling support systems

Project contact

gunnar@tfk.se

NETMOBIL New transport system concepts for enhanced and sustainable personal urban mobility [cluster project] — EU — Non-conventional modes for urban collective transport

Key findings

The project has had oversight of projects CyberCars and CyberMove on Cybernetic Transport Systems (CTS), EDICT on Personal Rapid Transit (PRT) and STARDUST on Advanced Driver Assistance and Vehicle Guidance Systems (ADAS). NETMOBIL has identified a number of different approaches to the use of automatic vehicles for providing sustainable personal urban transportation systems for the future. The application of the results substantially reduces the adverse impacts of transport on the environment, safety, social cohesion and economic efficiency.

- Advanced Driver Assistance Systems (ADAS) provide cleaner, safer and more efficient vehicles (cars, buses and freight vehicles), but ultimate control remains with a driver for the foreseeable future;
- Personal Rapid Transit (PRT) comprises fully automatic clean, driverless vehicles that run exclusively on guideways to segregate them from other traffic and pedestrians; and
- Cybernetic Transport Systems (CTS) are fully automatic, clean, driverless vehicles that can run on guideways, and on street mixed with pedestrians and possibly other traffic at low speed.

The major drivers for these new means of transport are:

- The "*transport problem*" case, where there are identified existing problems of increasing traffic congestion, pollution, lack of flexibility, integration and accessibility in the transport network;

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			

- the "*sustainable city*" case, where the project is not problem driven, but driven by environmental and lifestyle goals and local development plans which derive from the vision of a sustainable "City of Tomorrow"; and
- the "*innovation policy*" case, where the project is not problem driven but driven by the goal of creating new opportunities through launching an innovation process.

Overall, the NETMOBIL solutions are expected to help:

- Shift demand from private to public transport;
- build and operate cheaper than conventional forms of guided public transport;
- free space for other uses and make more efficient use of road space dedicated to vehicles;
- make pricing and restraint policies more acceptable;
- provide a level of service which is superior to that available from conventional public transport because there is very little waiting time, travel is essentially private and is non-stop direct from origin station to destination;
- broaden the range of citizens for which public transport is easily accessible;
- improve liveability of urban environments;
- improve environmental quality;
- reduce intimidation by cars;
- support other policies such as pedestrianisation of city centres and the re-qualification of public spaces;
- encourage public transport-oriented developments and integrate well with other forms of public transport;
- increase land use values; and
- increase area competitiveness.

Policy implications

In the short term, action is needed to exploit the potential and to create the framework for proper legislation regulation and standardisation. Key activities should be:

- Dissemination to increase awareness of the opportunities and potential these systems provide and to clarify the innovative concepts and solutions;
- support for champion cities who are willing to take the risks involved with implementing the new technologies and implement demonstrations;
- evidence of persuasive transport and business cases to support implementation and continuing operations;
- development of necessary EC and national facilitating regulations and standards;
- clarification of barriers and particularly of legal and institution issues and how to overcome them; and
- conduct of complementary research needed to support further technology development and maturation as well as user acceptance.

Project website

www.netmobil.org

PROMPT	New means to promote pedestrian traffic in cities	EU	Walking and cycling support systems

Project website

www.vtt.fi/virtual/prompt

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			
PROTECTOR	Preventive Safety For Un-protected Road User	EU	Walking and cycling support systems
Project website www.crfproject-eu.org			
SAVE-U	Sensors and system architecture for vulnerable road users protection	EU	Walking and cycling support systems
Project website www.save-u.org			
SVI 1998/088	Measures to cause users to be willing to cover longer distances by bike or foot	CH	Walking and cycling support systems
Project website www.aramis-research.ch/d/2117.html			
SVI 1998/091	Electric vehicles and new mobility concepts	CH	Non-conventional modes for urban collective transport
Key findings The electric vehicle is an interesting "tool" for improving the quality of life in the urban environment: its lack of noise and atmospheric pollution constitutes an undeniable asset in the reduction of environmental problems in the city. But it must also be integrated in a global context of mobility to achieve not only environmental objectives, but also objectives related to transport and territorial planning. Mobility (self-sharing vehicles) and City Car (free service vehicles), allows a solution that is better adapted to the various mobility needs encountered in urban agglomerations. Policy implications The vehicles available for free service should benefit from special measures aimed at ensuring their competitive use in relation to automobiles, such as: • Complementarity with the various public transport and road networks; • possibility of use for urban and suburban travel; • preferential access in certain areas; and • favourable parking conditions in the urban environment. Project website www.aramis-research.ch/d/1891.html			
SVI 2001/503	Surveying pedestrian and bicycle traffic	CH	Walking and cycling support systems
Project website www.aramis-research.ch/d/2424.html			
–	Accessibility evaluation of land-use and transport strategies	NL	
Project website www.rivm.nl			

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			
–	Automatic public transport system with segregated right of way	IT	Non-conventional modes for urban collective transport
Project website (or contact)			
None			
–	Creating a programme for promoting cycling travel in Finland	FI	Walking and cycling support systems
Project website (or contact)			
None			
–	Differential walking network	NO	
Project contact			
guro.berge@vegvesen.no			
–	Environmental Balance	NL	
Project website			
www.rivm.nl			
–	Environmental Outlook	NL	
Project website			
www.rivm.nl			
–	Developing calculation methods for bicycle and pedestrian traffic	FI	
Project contact			
harri.vitikka@tieliikelaitos.fi			
–	Diffuse intervention on urban tissue to create optimal conditions for pedestrian mobility	IT	Walking and cycling support systems
Project website			
cofin.cineca.it			
–	Footbridges to Encourage Walking	UK	
Project website			
www.ha-research.co.uk/projects/index.php?id=572			
–	High-speed travelator (moving walkway). Test in the Invalides underground station (Paris)	FR	Walking and cycling support systems
Project website (or contact)			
None			

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			
–	Improvements for pedestrians and cyclists	EE	Walking and cycling support systems
Project website (or contact)			
None			
–	Junction Improvements for Vulnerable Road Users (S205Q)	UK	
Project website			
www.dft.gov.uk/stellent/groups/dft_rdsafety/documents/page/dft_rdsafety_037842.pdf			
–	Location based mobility performance	NL	
Project contact			
j.dirks@novem.nl			
–	Magnetic rising transport system	IT	
Project website (or contact)			
None			
–	Mixed Priority Routes (S204J)	UK	
Project website			
www.dft.gov.uk/stellent/groups/dft_rdsafety/documents/page/dft_rdsafety_504578-05.hcsp			
–	Mobility of Vinex-areas	NL	
Project website			
www.rpb.nl			
–	Non-conventional transport systems: application fields and feasibility analysis	IT	Non-conventional modes for urban collective transport
Project website			
cofin.cineca.it			
–	Non-motorised mobility and land-use resources: an inter-disciplinary comparison and design experimentation	IT	
Project website			
cofin.cineca.it			
–	Pedestrian refuges on motorways	UK	
Project website			
www.ha-research.co.uk/projects/index.php?id=306			

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			
–	Pedestrian safety	FR	
Project website (or contact)			
None			
–	Prototype system for dynamic behaviour of cable plants	IT	
Project website (or contact)			
None			
–	Public Transport Bike	NL	
Project website			
www.ov-fiets.nl			
–	Research and training in non-motorised transport	FR	Walking and cycling support systems
Project contact			
gerard.brun@equipement.gouv.fr			
–	Research on and experimenting of strategies used by cyclists	FR	Walking and cycling support systems
Project website (or contact)			
None			
–	Resolution of the national transport policy	SI	
Project contact			
plipar@fgg.uni-lj.si			
–	Riverbank foot/cycle paths under River Bridges	UK	
Project website			
www.ha-research.co.uk/projects/index.php?id=492			
–	Rollerblading: a mode of transport and urban recreational activity	FR	Walking and cycling support systems
Project contact			
philippe.vallouis@ademe.fr			
–	S0033/VD Construction standards of 'Go-Peds' and similar vehicles	UK	
Project website			
www.dft.gov.uk/stellent/groups/dft_roads/documents/pdf/dft_roads_pdf_023512.pdf			

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			
–	S222C/VF Pedestrian protection - test procedures and design	UK	
Project website			
www.dft.gov.uk/stellent/groups/dft_roads/documents/page/dft_roads_023512-03.hcsp			
–	Safety and quality in urban areas: strategies, tools and techniques to encourage pedestrian mobility	IT	Walking and cycling support systems
Project website			
cofin.cineca.it			
–	UG171: Cycling facilities and engineering	UK	Walking and cycling support systems
Project website			
www.trl.co.uk/static/dtlr/cycling/623.pdf			
–	UG232: Integrating bicycles with buses	UK	
Project website			
www.rmd.dft.gov.uk/project.asp?intProjectID=9172			
–	UG234: Shared use facilities for pedestrians and cyclists	UK	Walking and cycling support systems
Project website			
www.rmd.dft.gov.uk/project.asp?intProjectID=9173			
–	UG272: Emerging vehicular and pedestrian detectors	UK	Walking and cycling support systems
Project website			
www.rmd.dft.gov.uk/project.asp?intProjectID=9189			
–	UG304: Integration of puffin pedestrian crossings	UK	
Project website			
www.dft.gov.uk/stellent/groups/dft_roads/documents/page/dft_roads_504930-04.hcsp			
–	UG307: Croydon tramlink impact study	UK	
Project website			
www.rmd.dft.gov.uk/project.asp?intProjectID=9261			

Theme: **Other Modes**			Last update: **28 February 2006**
Acronym	Project title (in English)	Origin	Research sub-theme(s)
Key findings / Policy implications / Project website or contact			
–	UG308: Cycling and walking in the multi-modal appraisal	UK	
Project website www.rmd.dft.gov.uk/project.asp?intProjectID=9265			
–	UG423D: Transport direct – Incorporating cycle journeys	UK	
Project website www.dft.gov.uk/stellent/groups/dft_transstrat/documents/page/dft_transstrat_503895.hcsp			
–	Walking and getting around town on foot	FR	
Project website (or contact) None			

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.

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.

Priorities of project coverage

Three priorities have been agreed to deal with the envisaged large number of European, national and international projects. With a view to the inevitable resource limitations of EXTR@Web, the outlined concept will allow for the efficient and consistent coverage of as many research projects as possible.

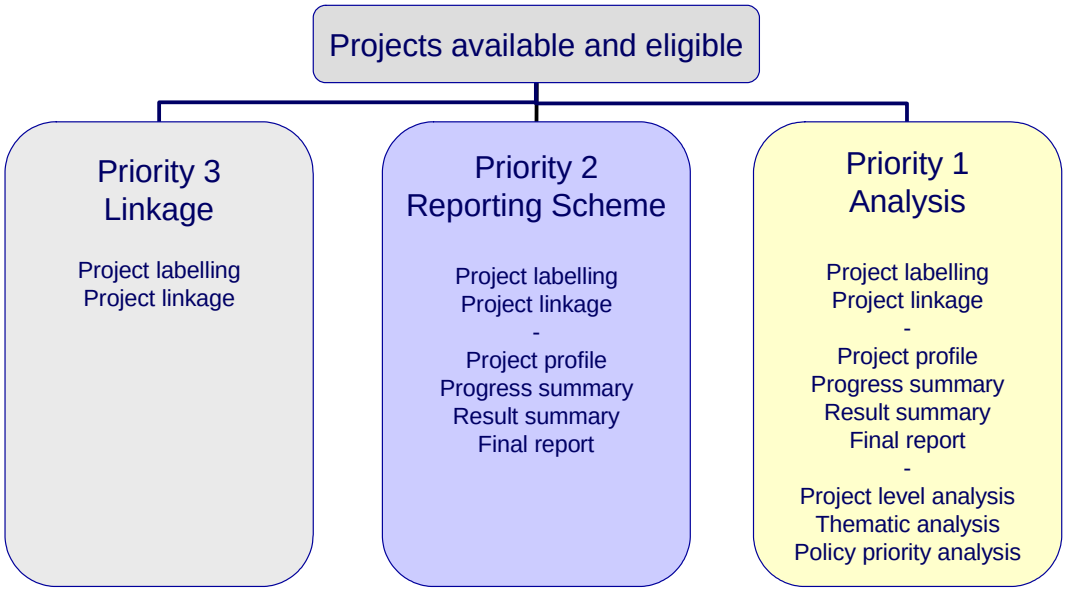

Figure 1: EXTR@Web's three priority levels of project coverage

In practical terms, the concept of priorities will result in the following particular coverage:

- Priority 3 – Every project within the TRKC will be listed with a web link and/or other contact details (linkage). For every project the most relevant themes out of 30 will be identified (labelling).
- Priority 2 – For a selected number of projects (medium to high priority) the Reporting Scheme will be applied (project profile, progress summary, result summary) and the final report will be made available.
- Priority 1 – Out of the selected number of projects above, the most important ones (high priority) will be chosen for analysis at the mentioned three levels:
  - Project level analysis
  - Thematic analysis
  - Policy priority analysis.

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 will exploit existing project level analysis. The consolidated project wise findings will be structured and analysed along 30 themes, which are fixed for the project life time and fed into annual Thematic Research Summaries and Annual Compendia. The sequence of outputs will comprise an explanation of the overall structure, and regular reports treating national, European and international research in a comprehensive way (cf. Table 1).

Deliverable number	Title	Due date (first release)
D2.A	"Thematic structure and definitions – all themes"	05/03/2004
D2.B	"European, national and international project database"; first issue covering European projects only	02/02/2004
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.	July 2006

Table 1: 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).

Note.
As more information from completed research projects becomes available – during project EXTR@Web's life time – future versions of Annual Thematic Research Summaries, i.e. deliverables D2.D (in 2005) and D2.E (in 2006), may comprise a further chapter providing a summary of RTD achievements for the particular transport theme. Likewise, apparent gaps in current research schemes could be emphasized, that may require more focus and further political action.

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 Dreveton, ISIS; France
Mr Dreveton 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
Peer review: Intelligent Transport Systems

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: Transport Management

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: User Aspects

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: Economic Aspects, Safety and Security

Wolfgang Helmreich, Industrieanlagen-Betriebsgesellschaft mbH (IABG); Germany
Mr Helmreich is a civil engineer from the Technical University of Munich. He has more than 14 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: *Passenger Transport, Freight Transport, Road Transport, Infrastructure Provision*

Cristina I Ivan, Group of Independent Experts Ltd (GIE); Romania
Ms Ivan has a law degree and currently is a Master student 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, 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: *Environmental Aspects, Information and Awareness*

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: *Urban 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: *Waterborne Transport, Intermodal Transport, Decision-support Tools, Regulation/Deregulation*

Ulrich Leiss, Industrieanlagen-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, Pricing and Taxation

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.

Peer review: Integration

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
Peer review: Efficiency

Jean-Marc Morin, ISIS; France
Mr Morin has a civil engineering degree and over 17 years experience in ITS and also has extensive experience in the design and evaluation of traffic management systems and tools. His expertise also includes motorway traffic control, driver information systems, traffic simulation and forecast modelling, route guidance systems and incident detection and management. Before moving to ISIS in 1988 he was the research director at INRETS (the French Institute for Transport and Safety Research).

Peer review: Vehicle Technology

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

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

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.
Main author: Freight Transport, Urban Transport, Rural Transport, Economic Aspects, Infrastructure Provision, Pricing, Taxation and Financing Tools
Peer review: Rail Transport, Other Modes, Equity & Accessibility, Land Use Planning

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, Information and Awareness, Land Use Planning, Equity & Accessibility

Andrew Winder, ISIS; France
Mr Winder is a transport planner with a BSc in transport management (Aston University, England) and over 12 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: Rural Transport, Regional Transport, EU Accession Issues, Intelligent Transport Systems, Vehicle Technology

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.
Main author: Efficiency, Decision-support Tools