

Towards Passenger Intermodality in the EU. Report 3: Recommendations for Advancing Passenger Intermodality in the EU

Towards Passenger Intermodality in the EU



Report 3 (Final Version)

Recommendations for Advancing Passenger Intermodality in the EU

for the
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Executive Overview

Passenger intermodality is a policy and planning principle that aims to provide a passenger using different modes of transport in a combined trip chain with a seamless journey. The study “**Towards Passenger Intermodality in the EU**” was commissioned by the European Commission, DG TREN G 3, to create the basis for an EU work plan in the field of passenger intermodality, aiming at the enhancement of passenger intermodality in Europe for long distance and cross-border transport (both including the “last urban mile”).

Based on an extensive scoping of mainly European research results the study defined in a first phase 39 **key issues** for passenger intermodality, spanning from door-to-door passenger information systems and integrated ticketing to co-operation in a competitive environment. In a second phase locally versed experts performed **national inventories** of studies, practices and frameworks for 28 European countries and Japan. The analyses revealed strong regional disparities regarding the state of the art and development of passenger intermodality and showed that some thematic fields are further developed than others. In most countries, intermodality has not been a focus until recently and some countries are still in a phase of a unimodal focus on improving infrastructure.

The third phase of the study dealt with the generation of **practical recommendations for Commission action**. In a consultation process with European transport experts (workshop and written assessment), 28 recommendations that are structured along fields of possible intervention (e.g. policy recommendations, funding for products and services) were developed. These recommendations present not an action plan themselves but rather a pool of ideas and options for possible intervention on a European level. The study also takes into account the interdependencies between the recommendations and provides an overview of clustering of measures that may increase their impact.

Among the wide range of aspects that relate to passenger intermodality and which are covered by the recommendations, several **core measures** that have the highest importance for action are identified. Some core measures are general activities with an overarching character as a proposed EU funding programme for passenger intermodality, introduction of intermodality to existing EU funding programmes as well as the activities of an EU platform on passenger intermodality and training programmes. Other core measures deal with the key issues of information and ticket integration, proposing the support of standardisation activities in the field of data exchange and Interoperable Fare Management for public transport. The scope for regulatory action is being discussed for very specific issues but needs further research and consultation.

The study also identifies **immediate action** that can be a starting point for a wider approach to be gradually developed. Measures such as, for example, policy recommendations from the European Commission or research activities are feasible in the short run and can be implemented with relatively low costs. Immediate action is also necessary to prepare for the medium to long term implementation of core measures.

The specific situation in the **new member states** has been taken into account by recommending a bundle of measures that could stimulate political, policy and financial priority for passenger intermodality in the new member states.

Executive Summary

Context of the study

Intermodality has evolved into a major focus for the European and national transport policies, especially within the last ten years. However, whereas intermodality in freight transport is being promoted with a number of concrete initiatives on a European level (e.g. Marco Polo programme), passenger intermodality has not yet received the same attention.

This report is the output of the third and final phase of the study “Towards Passenger Intermodality in the EU” (01/04-12/04) which has been commissioned by the European Commission (EC), DG TREN, Unit G3 “Motorways of the Sea and Intermodality”, to support its policy on intermodal passenger transport. The aim of the study has been to create the basis for an EU work plan in the field of passenger intermodality, focusing on long distance and cross-border transport (both including the “last urban mile”). Four partners have teamed up to work on this study: ILS NRW (Dortmund, DE), Langzaam Verkeer (Leuven, BE), Babbit spol. s r.o. (Prague, CZ) and ETT (Madrid, ES).

The study has been guided by the following definition for passenger intermodality:

“Passenger intermodality is a policy and planning principle that aims to provide a passenger using different modes of transport in a combined trip chain with a seamless journey.”

The following key principles have guided the scope of the analysis and discussion:

- Inter-urban/long-distance passenger travel: The study has a focus on long-distance passenger transport including regional cross-border transport. Since seamless door-to-door chains and an integrated transport system are the aim, careful consideration has been given to the last (urban) mile. Trips over long distances (> 100 km) only have a small market share (e.g. 1,3 % in Germany) of total trips but account for about 20 % of Person-km. They are of significance due to their economic importance, their high ecological impact and their above average rate of growth (cf. Report 1).
- User perspective: The analysis of the current status and possible improvements are based on the need of the traveller for seamless journeys as it has been analysed by several European and national research projects.
- Range of intervention for the EC: As the generation of recommendations for action by the European Commission is the main aim of the study, the possible range of interventions has guided the proposals phase. This range is determined, among others by political (e.g. horizontal policy issues), legal (e.g. subsidiarity principle) and financial frameworks.

The one-year study has followed three phases, which each produced a self-standing report:

- Analysis Phase (01/04-04/04):
Report 1: “Analysis of the Key Issues for Passenger Intermodality”
- Inventory Phase (04/04-08/04):
Report 2: “Analysis of the National Inventories on Passenger Intermodality”

- Proposals Phase (08/04-12/04):
Report 3: *"Recommendations for Advancing Passenger Intermodality in the EU"*

Methodology

Each phase of the study has followed a distinct approach. Desktop analysis of existing research and policies have been combined with original research by the consortium and a number of contributing national experts.

The first phase of the study examined the current status of passenger intermodality in Europe, the key issues and the barriers that hinder its implementation. This was accomplished through the realisation of a comprehensive literature review that focused mainly on current and recent European research. As a result, a number of key issues were identified in connection with the improvement of intermodal passenger transport.

The inventory phase included a broad screening of existing policies, frameworks and practices in 28 European countries and Japan. This analysis served to identify promising models for action and recommendation at the European level. It was also useful to enrich the first phase of the project and its resources with information and details on the status of passenger intermodality at the national level. The inventories were prepared by the consortium partners and additional thirteen experts. The national inventories were composed of country reports which were organised in a common and structured way, accompanied by assessment files and summaries of selected national material.

The final phase of the study, which is described in this report, has generated a number of proposals how to advance passenger intermodality on the European level. The recommendations are the result of a series of work steps. The basis have been the results from the previous phases: the definition of key issues, a review of European projects and proposals made by national experts in the inventories. Central elements of the work process have been a workshop and a subsequent written validation of the emerging proposals by external experts. The workshop, attended by the consortium partners, a European Commission officer and a group of experts of different backgrounds, developed more than 30 proposals for potential activities by the EC. To check the ideas against the views of other practitioners and experts, e.g. operators, transport consultants, university researchers, legal experts etc., the recommendations were sent to nineteen European experts for written assessments. They were guided by a common document including background information. The feedback was then analysed in-depth. As a result of the work accomplished during the three phases of the study, a complete set of proposals is presented in this report (cf. chapter 2).

Results from the first and second phase

In this section only a very brief and general overview can be presented on the results of the first two phases of the study. For a more detailed description please refer to the first and second report.

To improve the conditions for passenger intermodality 39 key issues within 14 categories have been identified related to the context, products and services and implementation domains (cf. Report 1 and Annex A in this document). In order to offer a seamless journey the product of "passenger intermodality" should consist of the following integrated elements: interconnected and interoperable networks and interchanges, door-to-door information, integrated tariffs and ticketing and baggage handling. These products and services need further promotion.

At the outset the study identified major barriers for the implementation of intermodal solutions. Some of the obstacles identified are related to the lack of:

- Policy support for intermodality (compared to single modes).
- Data availability (market data, cost/benefit evaluation).
- Putting user needs regarding interchanges into practise.
- Network level planning of interchanges.
- Co-operation in a difficult multi-stakeholder and/or competitive environment.
- Successful business models for intermodal information systems.

The technology base and the user needs assessment are quite advanced. It is, therefore, necessary to concentrate on certain implementation gaps regarding services and infrastructure, including integrated information systems (national/international, intermodal, real-time, disruptions) or user-friendly interchanges (security, accessibility, short transfers, intermodal management of disruptions, etc.).

The work on the national level throughout Europe has revealed strong regional disparities regarding the state of the art and development of passenger intermodality and showed that some thematic fields are further developed than others. In most countries, intermodality has not been a focus until recently and some countries are still in a phase of a unimodal focus on improving infrastructure. Intermodality is generally mentioned in policy documents but implementation continues to be lacking in many areas. Knowledge on the market for intermodality for long distance travel is rather poor and there is not much information available on the possible impacts of intermodal products and services through cost-benefit analyses or impact assessment studies.

Co-operation is essential for the optimal development of long distance passenger transport, especially as many stakeholders are involved. At this moment there are few institutional structures for the co-ordination in long-distance intermodality, which is consequently a barrier to measures such as the development of a platform for data exchange between stakeholders or an integrated timetable and ticketing system. Although co-operation between competing companies seems difficult to achieve, it is unanimously considered a prerequisite to a fully integrated transport network. Co-operation and competition is possible in certain market environments if a win-win situation can be created. A regulatory and legal framework is needed to give incentives for co-operation.

One of the key issues that has arisen from many of the country reports is the subject of international borders and cross-border travel. The lack of interoperability and co-operation across the border is a major barrier in Europe, even in countries with otherwise strong internal public transport networks.

As a result of the above there are currently few intermodal products and services that are highly integrated. However, the second report gives an idea of some good initiatives. The best examples of intermodality are to be found in urban regions, at national and regional airports and at High Speed Train stations. The technology to provide a high-quality passenger information, ticketing and booking/payment systems is available. However this opportunity can be a barrier because of different technical standards. A group of forerunner countries has demonstrated that organisational issues can be solved to implement such systems. Within Europe the current state of

passenger information systems is very heterogeneous. The integration of timetables in particular requires greater co-operation and co-ordination between transport operators. The national inventories show clearly that in most European countries data sharing is a difficult and sometimes sensitive topic regarding the aforementioned aspects. There are only a few countries where a legal framework requires all operators to deliver their timetable and fare data to a central database or to make it accessible through a network that is used to provide integrated information.

Recommendations

The scope for European influence on passenger intermodality at the European and national levels is determined by the different measures that the EU can realistically impose. All measures have to consider framework conditions for action on a European level. The current understanding of the principle of subsidiarity gives the EU limited scope to systematically influence national and urban systems. Taking cognisance of this, the recommendations that are presented in this report as the final outcome of this study are organised under the following fields of intervention:

- I. Policy recommendations
- II. Research and studies
- III. Standardisation activities
- IV. Funding for European intermodality products and services
- V. Existing European funding structures
- VI. Directives and regulations
- VII. Introduction and support of intermodality co-ordinating organisations
- VIII. Training programmes and exchange of best practice

This report does not present an ultimate action plan itself, but rather a pool of ideas and options for possible interventions on a European level, which are the outcome of research and expert consultation. They cover a wide range of aspects related to passenger intermodality.

The remit of this report, is to look mainly at direct EU action required rather than to develop a full EU policy or communication suggesting actions of member states on passenger intermodality. However it is clear that such an EU policy could draw on most of the 28 recommendations and the conclusions and recommendations of the previous 2 reports (at an analagous national level) and not just the list of policy recommendations presented here

Important criteria to assess the recommendations are feasibility, costs, impact and the associated time horizon. In the context of this study cost-benefit exercises have not been feasible in the timeframe given and considering its wide scope. A first assessment of these four criteria has been provided by the workshop and in the following validation by the experts. This assessment did not follow objective criteria but has been rather intuitive and will serve as a first basis for further analysis.

The list on the next page gives an overview of all 28 recommendations which are further described in chapter 2.3.

The recommendations are aimed at different issues or aspects of passenger intermodality. A general distinction can be made between recommendations that try to influence more context related issues regarding intermodality, recommendations that focus on specific intermodal products and/or services and recommendations that focus on planning and implementation issues.

1. The context related recommendations aim to improve the knowledge base, the financial or institutional framework and will in general have an indirect and therefore uncertain impact on intermodal behaviour of passengers.
2. The recommendations that focus on the development of specific intermodal products and services, including the design and planning of networks and interchanges, will have a more direct effect on intermodal travel behaviour in the short, medium or long term.
3. The recommendations that focus on planning and implementation issues aim to remove implementation barriers related to co-ordination and co-operation, financing, promotion and marketing as well as standardisation issues.

While reading through the list of recommendations on the next page the following consideration has to be kept in mind. All 28 individual recommendations are considered to have their value in contributing to enhanced passenger intermodality throughout Europe. However they are not stand alone recommendations and it is clear that the clustering of different recommendations can generate more impact if they are introduced at the same time or successively. Moreover, depending on the status of passenger intermodality in a member state, a different clustering of recommendations may turn out to be the optimal one. This is visualised in the full report in a figure that shows interdependencies and synergies of recommendations (see page 29), structured along the three aforementioned domains “Context”, “Products and Services” and “Planning and Implementation” and taking into account the time horizon of the proposed actions.

The discussion of the recommendations (cf. chapter 2.3) shows that these are quite heterogeneous regarding feasibility, cost, impact and time horizon for implementation. To give further guidance on the practical relevance of the recommendations the concluding step of this study has been to identify four packages of measures:

- a) Core measures that are highly relevant for an enhancement of passenger intermodality on the European level
- b) Recommendations that can be implemented as immediate action in the short run with relatively low cost.
- c) Requirements of new member states, that need measures of particular key short and medium term importance.
- d) Innovative, but regarding their feasibility, uncertain recommendations, which nevertheless should be considered as measures that have relevant potential to promote passenger intermodality

Overview of recommendations

I Policy recommendations	
1	Institutional structures for passenger intermodality
2	Passenger rights for persons with reduced mobility
3	Design and management of user friendly interchanges
4	Promotion of ticket integration for the first and last urban mile
5	Allocation of budgets for intermodal programmes at the national level
6	Standardisation of interoperable fare management
II Research and studies	
7	Co-operation among operators in a competitive environment
7.1	Contractual requirements in service procurement for intermodality and integration
7.2	Passenger rights charter regulation/directive
7.3	Legal and regulatory intervention to guarantee a minimum level of information
7.4	Liability issues regarding mobility providers
8	Methods and guidelines for cost-benefit studies and impact assessments in the field of passenger intermodality
9	Markets and potential users of intermodal services
10	Concepts and measurements for intermodality in passenger transport
11	Role of Eurostat in standard data collection
III Standardisation activities	
12	European data exchange formats for data relevant to intermodal traveller information
13	Interoperable fare management for public transport
14	Discussion on standard query for pricing information in traveller information systems
15	Consensus on interchange standards and support of implementation
IV Funding for European intermodality products and services	
16	EU programme for passenger intermodality
17	European third party information integrator
18	Cost-benefit analyses and user-demand assessments in concrete projects
19	Promotion and marketing strategies
20	Integrated air-rail services
21	Pilot projects for the establishment of mobility providers
V Existing EU funding structures	
22	Introduction of intermodality to existing EU funding programmes
VI Directives and regulations	
<i>Further studies required (see 7 and sub-recommendations 7.1 – 7.4)</i>	
VII Introduction and support of intermodality co-ordinating organisations	
23	EU platform on passenger intermodality
24	Network of national focus points
VIII Training programmes and exchange of best practice	
25	Training programmes for stakeholders
26	Design of user interfaces for passenger information
27	Cost-benefit studies in passenger intermodality
28	Training and exchange regarding mobility providers

- a) The core measures represent a package with those seven recommendations that have the highest importance for action on a European level. Here the ratio of feasibility and impact is assumed to be the highest. The consortium recommends giving special attention to the implementation in these fields. While some measures are general activities with an overarching character (Passenger intermodality programme, platform and training), others deal directly with the key issues information and ticketing integration. The scope for regulatory action is being discussed for very specific issues but needs further research and consultation (cf. ch. 2.3 and 3).

Core measures

Legal and regulatory framework	
No. 7:	Co-operation among operators in a competitive environment (including 7.1-7.4)
Funding and financing	
No. 16:	EU programme for passenger intermodality
No. 22:	Introduction of intermodality to existing EU funding programmes
Standardisation	
No. 12:	European data exchange formats for data relevant to intermodal traveller information
No. 13:	Interoperable fare management for public transport
Transfer of knowledge and networking	
No. 23:	EU platform on passenger intermodality
No. 25:	Training programmes for stakeholders

- b) Several recommendations deal with measures that are feasible in the short-term. Immediate action can be a starting point for a wider approach. This includes measures that are highly feasible in the short run and can be implemented with relatively low budgets. Here, the study refers to the interventions "policy recommendations" and "research and studies". In both fields several concrete ideas are being proposed, e.g. regarding the promotion of institutional structures for passenger intermodality or in the development of concepts and measurements for intermodality in passenger transport. As well as short-term action there is also the need for preparation and establishing first steps on some measures with a longer perspective. Here especially some of the core measures are in the focus, e.g. the preparation of a passenger intermodality programme at EU level or the initiation of specific standardisation activities.

Immediate action

A Short run activities	
I Policy recommendations	
No. 1:	Institutional structures for passenger intermodality
No. 2:	Passenger rights for persons with reduced mobility
No. 4:	Promotion of ticket integration for the first and last urban mile
No. 5:	Allocation of budgets for intermodal programmes at the national level

<i>II Research projects</i>
No. 7: Co-operation among operators in a competitive environment (incl. 7.1-7.4)
No. 10: Concepts and measurements for intermodality in passenger transport
B Preparatory measures
<i>I Policy recommendations</i>
No. 6: Standardisation of interoperable fare management
<i>III Standardisation activities</i>
No. 13: Interoperable fare management for public transport
<i>IV Funding for European intermodality products and services</i>
No. 16: EU programme for passenger intermodality

- c) The national inventories (cf. report 2) showed some differences between New and other member states with regard to the lower degree of policy profile and more importantly practical priority that passenger intermodality receive in the new member states. Also the level of know-how and the competition for limited funding and an advantage of incumbent priorities are typical barriers to the development of passenger intermodality in these countries, although there is gathering movement of integration within urban and regional level. Therefore measures to stimulate political, policy and financial priority for passenger intermodality in most new members states require certain measures of particular short and medium term importance.

Requirements of new member states

<i>I Policy recommendations</i>
No. 1: Institutional structures for passenger intermodality
No. 5: Allocation of budgets for intermodal programmes at the national level
<i>IV Funding for European intermodality products and services</i>
No. 16: EU programme for passenger intermodality
<i>V Existing EU funding structures</i>
No. 22: Introduction of intermodality to existing EU funding programmes
<i>VII Introduction and support of intermodality co-ordinating organisations</i>
No. 23: EU platform on passenger intermodality
No. 24: Network of national focus points
<i>VIII Training programmes and exchange of best practice</i>
No. 25: Training programmes for stakeholders
No. 27: Cost-benefit studies in passenger intermodality

- d) A few recommendations refer to innovative approaches which could contribute to make journeys seamless for the passenger. For example, competing "mobility providers" could buy and combine a wide range of (long-distance and local) mobility services (rail, car sharing, rental car, leasing car, public transport, rental bike, taxi, airline tickets, ferry tickets etc.) and sell them to the customers as an intermodal package. It is uncertain if a such a solution will become feasible on the market but services for the organisation of business trips point to this direction. A

third-party information integrator could also serve as a clearinghouse for travel information and could be the basis for improved door-to-door travel information. Both ideas were disputed among experts but seem worthwhile to test.

The one year study dealt with a wide range of issues that are relevant for passenger intermodality. The results offered in this report present a step ahead to make the topic manageable. Some of the more general recommendations need to be further specified for the practical development of an action programme on passenger intermodality. The European Commission will seek further discussion with experts and stakeholders. To assist this process suggestions for relevant next steps have been included in the recommendations section of this report.

Passenger intermodality is a field that is developing across Europe as has been shown by the national inventories. Regional disparities are obvious and some thematic fields are further developed than others. Nevertheless, it seems that the value of better intermodal travelling is slowly being realised by many important stakeholders. This study hopefully contributes as further step to the promotion of passenger intermodality and a more sustainable and user friendly passenger transport system in Europe.

1. Introduction

1.1 Aim and scope

Intermodality, which describes both a policy objective and a quality of the transport system, has evolved into a major focus for the European and also national transport policies, especially within the last ten years. However, whereas intermodality in freight transport is being promoted with a number of concrete initiatives on a European level (e.g. Marco Polo programme), passenger intermodality has not yet received the same attention.

This report is the output of the third and final phase of the study “Towards Passenger Intermodality in the EU” which has been commissioned by the European Commission (EC), DG TREN, Unit G3 “Motorways of the Sea and Intermodality”. The aim of the study is to create the basis for an EU work plan in the field of passenger intermodality

In Europe it must be possible for all European citizens and all visitors to travel from A to B in a seamless, comfortable and sustainable way. As people are travelling further and more frequently, and journeys are becoming increasingly complex covering a wide range of diverse travel patterns and services, this vision poses a challenge. In any intermodal journey there will always remain a need for transfer. To make this transfer as comfortable as possible – and even create potentials for further useful activities during the transfer (e.g. shopping) – and to establish a smooth combination of modes in a system approach requires co-operation among operators and authorities. The vision is to arrive at a truly intermodal culture, both from a supply and a demand perspective. Intermodal culture means shared values, planning principles and a respective travel behaviour. As culture is very much grounded on learned behaviour, training and pilot projects will have a significant contribution.

Intermodal culture is a way of organising our transport systems such that:

- meeting points are becoming intermodal transfer points and vice versa;
- the public transport market is open for a combination of transport modes and a wide range of transport services;
- borders of countries, regions, cities are not barriers for intermodal trips;
- Integrated tariffs and ticketing, uniform real-time information, high travel comfort, user-friendly interchanges (security, accessibility, short transfers,...) are self-evident;
- european standards for interchanges, signage or information make travelling easy and comprehensible; and
- depending on the type of journey the most suitable travel mode(s) are available for every user.

The impact of travelling on the environment, the organisation of the traffic system and its socio-economic effects can be efficiently tackled with in an intermodal system. To organise a high quality intermodal travel system there is need for political recognition,

technical innovation (e.g. ICT-technology), public awareness, integrated transport networks, co-operation in a multi-stakeholder and/or competitive environment etc.

An example of a future intermodal trip following this European vision could be:

A woman travelling from her home in London towards a destination in the Berlin region orders a ticket from her chosen mobility provider via web-site or her mobile phone. The agent has access to intermodal information databases with full pricing information for all of Europe. The ticket reservation is automatically uploaded on her smart travelling card including travel for the first and last mile. With this smart card she enters the subway in London to the Eurostar railway terminal Waterloo-London. From there she travels with the train to Berlin via Brussels. The interchange in Brussels is smooth and allows her to buy a present for her host. From Brussels she continues with the ICE high speed train to Berlin where she continues to a small town in the countryside with a reserved Car-Sharing car.

This study puts the focus on long-distance passenger transport (>100 km trip length) but including the "last urban mile" and regional cross-border transport. By definition intermodality refers to the use of different modes on the same door-to-door journey. Public transport is generally regarded as one mode in the sense of the definition. However a journey with public transport often includes an interchange from long-distance to local train or from train to bus. Broken travel chains therefore are existing in (long-distance) public transport journeys (e.g. due to missing European interoperability in the rail system). This is generally not regarded as intermodal transport but faces similar situations and challenges and is therefore also an aspect that has been looked at. The study started in January 2004 with an analysis of the key issues for passenger intermodality.¹ In the second phase national inventories on passenger intermodality throughout Europe and Japan (as comparison case) have been analysed.² The study has produced two reports that form the basis for the outputs presented within the third phase of the study, as reported in this document.

The aim of this final phase was to develop recommendations of possible measures and action fields in intermodal passenger transport on the "European" level which can be usefully supported by the EC. During the third phase of the study an expert workshop and a written expert validation of draft recommendations were important elements to extend the work of the consortium. A panel of experts on issues related to intermodality from across Europe gave their personal input or written feedback to generate and to back up the base for the here presented recommendations.

It has to be stressed that the scope of the topic of passenger intermodality is very wide and touches various subject areas, e.g. policy, markets, finance, standards (cf. Report 1). The one-year study "Towards Passenger Intermodality in the EU" kept a relatively broad approach to guarantee that most important fields related to passenger intermodality are covered. The results of the study in form of a range of recommendations to the EC should be seen as a pool of ideas that are a valuable base for the EC to develop a comprehensive strategy on how to improve passenger intermodality on the European level in practical ways. Further discussions with experts and stakeholders are essential when coming to the practical implementation of the recommendations. As the reader will note, many fields related to passenger

¹ ILS NRW/Babtie/Langzaam Verkeer/ETT: *Analysis of the Key Issues for Passenger Intermodality*. Report 1 of the Study "Towards Passenger Intermodality in the EU" (for DG TREN, G 3), July 2004.

² ILS NRW/Babtie/Langzaam Verkeer/ETT: *Analysis of the National Inventories on Passenger Intermodality*. Report 2 of the Study "Towards Passenger Intermodality in the EU" (for DG TREN, G 3), October 2004.

intermodality require further research and discussion due to a lack of knowledge regarding many aspects of passenger intermodality, especially in innovative fields. Such aspects have been considered in the discussion regarding the implementation of recommendations that the reader will find in this report. First estimates on the assessment criteria feasibility, cost, impact and time that have been generated from the previous work in the study and from expert feedback are presented as well and may give important hints on the further handling of recommendations by the EC. In summary, the recommendations have the aim to give a well researched and discussed overview of options and to give first guidance for an in depth elaboration of concrete measures to be taken by the EC.

1.2 Methodology

This chapter gives an overview of the methodology of the study. While the focus is on the third and final phase, which has generated the recommendations presented in Chapter 2, the work of the previous phases is summarised in the paragraphs below.

The first phase of the study titled “Analysis of the Key issues for Passenger Intermodality” examined the current status of passenger intermodality in Europe, the key issues and the barriers that hinder its implementation. This was accomplished through the realisation of a comprehensive literature review that was focused mainly on European research carried out up to now.

In this phase the study aimed at defining the relevant range of the work focused on a short scoping process carried out by a small number of researchers. Consultation with the European Commission was the first step in order to plan the work ahead. The main method for gathering information within this phase was a desktop review of literature and existing research. Further discussion among the multi-national research team assured the inclusion of a broad range of issues.

As a result, a number of key issues were identified in connection with the improvement of inter and intramodal passenger transport integration. The subsequent national inventories were structured along these issues within the three domains identified in the first analysis phase being:

- context or framework conditions for realising passenger intermodality;
- products and services linked with passenger intermodality; and
- planning and implementation issues.

The second phase of the study was titled “Analysis of the National Inventories on Passenger Intermodality” and analysed the existing policies, frameworks and practices in 28 European countries and Japan. This analysis served to identify promising models for action and recommendation at the European level. It was also useful to enrich the first phase of the project and its resources with information and details on the status of passenger intermodality at the national level. The inventories were realised by the consortium partners and additional 13 experts that provided further light to the issue. More than 100 interviews were conducted with national key persons and more than 400 bibliographic references were used to produce these national reports.

The national inventories were composed of country reports from 29 countries which were organised in a common and structured way. For this purpose, the consortium

agreed on the production of three outputs, which were presented in the templates provided.

- A country report structured by the three domains (context, products and services, planning and implementation). The country reports contained brief introductions explaining the main contents and scope of the category and description of the key issues related to it. A list of questions guided the national experts on the information requested, such as the status of the current situation or examples of best and bad practice, etc.
- An overall assessment file, structured by a number of questions. The assessment files consisted of a number of questions and a pre-structured questionnaire asking the experts for an overall assessment of the passenger intermodality situation in each of the countries analysed.
- Summaries of selected national material. The list of European references already compiled in the first analysis phase was extended with the summaries of the most interesting national sources used while producing the inventories. The result was a compilation of over 70 national references.

The final phase of the study has generated a number of proposals how to advance passenger intermodality on the European level. The recommendations that are proposed in this document are the result of a series of work steps.

First, they are based on the results obtained from the two previous phases of the study, which are:

- analysis of certain priorities of high interest from the EU perspective that have already been identified during the first phase of the study;
- a thorough review of previous recommendations already suggested by other European projects to the European Commission, which were taken as background information (cf. Annex C); and
- proposals made by the national experts during the national inventories carried out in the second phase of the study.

Secondly, central elements of the investigation have been a workshop and the external validation of the proposals that emerged from this workshop.

- Results of the workshop attended by the consortium partners, the European Commission and a group of experts of different backgrounds, whose objective was to develop proposals that could be supported by the EC.
- Written external validation of the proposals developed during the workshop by a group of 19 experts from across Europe.

On 11-12 October 2004 the project workshop was held in Dortmund, Germany. Considered one of the core elements of this phase, and in general of the study, the workshop was attended by five experts specialised in different aspects of inter and intramodal transport, by the European Commission officer in charge of the study and by the consortium partners (cf. detailed list in Annex D). The perspective of the European Commission was considered in the Workshop approach, thus the time horizons, the necessary resources and the impacts of the measures were discussed.

The inputs from the workshop allowed the consortium to come up with more than 30 recommendations distributed within the different intervention fields identified in the previous phases. However, it was necessary to check the conclusions against the views of other practitioners and experts, e.g. operators, transport providers, transport consultants, university researchers, legal experts, etc.

For this purpose, the recommendations resulted from the workshop were sent to a network of European experts from the following countries: France, Switzerland, Austria, United Kingdom, The Netherlands, Ireland, Poland, Denmark, Czech Republic, Finland, Belgium, Spain, and Germany (cf. detailed list of external validation experts in Annex E). A total of 19 experts were invited to comment on and validate the proposals. Their comments represent their personal viewpoints based on their professional experience and do not necessarily represent the view of their employer. These experts were chosen from the following different transport environments:

- operators of transport modes and/or intermodal terminals, (both airport and railways operators).
- single issue specialists, consultants with a focus on intermodality aspects;
- university researchers with a general transport background;
- public authorities with a broad political and transport background;
- experts with a broad knowledge on the EU scope of intervention;
- experts with broad knowledge on standardisation issues;
- representatives from European organisations or networks; and
- representatives from the EU-SPIRIT project.

The external validation was a process composed of three main steps:

- provision of guidance to external validation experts;
- submission of feedback by the experts; and
- analysis of the feedback submitted by the experts by the consortium partners.

In order to provide guidance to the external validation experts in the validation process of specific recommendations to the EU a “Guidance Document for external validation” was assembled. This document and its annex offered condensed and relevant information about the previous stages of the study, as well as guidelines on which they should base their reply to certain issues to contribute with their inputs to the study.

It was important to provide the experts with clear background information before they could supply any feedback. The document was structured in four different sections. A first section included a clear and general overview of the study through the presentation of a brief description of the study, the activities developed up to that moment and how the validation exercise related to the previous work accomplished. The second section detailed the objectives of the task, the task description of the experts and the recommendation’s evaluation criteria. Section three explained how the recommendations have been generated and the last section defined a classification of the recommendations that need to be validated according the fields of interventions

where they were grouped. Then, followed the recommendations, which were presented in individual tables, that included explanations about the aim, the description, evaluation criteria and space for general comments.

After the experts submitted their feedback, the consortium partners carried out an in-depth analysis of their comments and opinions to come up with a general impression of the feasibility of each measure. The expert's views have been considered when presenting the recommendations in this document.

As a result of the work accomplished during the three phases of the study, a complete set of proposals is presented in this document.

Please note that a completed list of the bibliography used as reference information during this research study may be found in Report 1 “Analysis of the Key Issues for Passenger Intermodality” and in Report 2 “Analysis of the National Inventories on Passenger Intermodality”.

1.3 Key results from the first two phases of the study

This chapter presents a summary of the key results obtained within the two previous phases of the study.

Key results of the first phase of the study: “Analysis of key issues for passenger intermodality”

As previously mentioned, the first phase of the study examined the current status of passenger intermodality, the key issues to be considered and the barriers for implementation.

Intermodality is both a technical term for a specific type of journey including several modes of transport and a policy principle. This study has focused on the following definition of intermodality:

“Passenger intermodality is a policy and planning principle that aims to provide a passenger using different modes of transport in a combined trip chain with a seamless journey.”

Intermodality may contribute to the creation of an integrated and efficient transport system, based on networks of interconnected modes, where transfers can be easily made by the passenger.

The Transport White Paper “European transport policy for 2010: time to decide” (2001) is one of the policy documents where intermodality has been put forward. It identifies integrated ticketing, baggage handling and continuity of journeys as priority aspects for passenger transport. Following the White Paper, DG TREN also set priorities on activities related to the freight sector (such as Marco Polo, intermodal loading units, freight integrators). A number of EU-research projects mainly focused on strategy, operations, design, standardisation and technology have been carried out in the passenger domain.

The main focus of this study, in compliance with the European Union priorities, is the inter-urban/long-distance (international travel and cross-border traffic) dimension of passenger travel. Special emphasis is also given to the last urban mile from the point

of view of long-distance travellers, as seamless door-to-door chains and integrated transport systems are the main objective of the study.

Trips over long distances (> 100 km) only have a small market share of 1-2 % of total trips but account for about 20 % of person-km. They are of significance due to their economic importance, their high ecological impact and their above average growth rate.³ (cf. chapter 1.4, page 11).

Intermodal passenger journeys can include a range of different mode combinations. In order to arrive at priorities for a supporting policy several principles can be applied. Assessment methods for the specific benefits of intermodal measures are widely lacking. A look at costs and benefits must include total cost including externalities (cf. chapter 1.4, page 11). European studies of total costs of transport modes consistently show rail to carry easily the lowest external costs, significantly below car and air modes. Therefore the long-distance rail mode should be preferred in transport policy. Both at the international and urban/regional level the integration of rail into the transport systems is still neglected. Concrete measures to improve this situation still have to be taken at the European level. This includes interoperability as well as intermodal combinations of air and rail, rail and urban public transport, cycling and walking, and car access to long-distance trains in an integrated system. The priorities set should also acknowledge contribution to other Community objectives, such as economic and social cohesion, accessibility, European competitiveness and the protection of the environment.

The first phase of the study reached the conclusion that in order to offer a seamless journey the product of “passenger intermodality” should consist of the following integrated elements:

Networks and interchanges: Interconnection and interoperability of networks is a key issue. Transport services of different public and private operators need to be co-ordinated to satisfy the passenger demand for flexible, convenient and fast transport systems, especially in terms of competition with the private automobile. The quality of interchanges in both physical design and operational integration is a central element of this field, as it may influence the quality of intermodal trips, causing for example loss of comfort or higher costs.

Door-to-door information: Another key issue in developing workable and attractive long-distance not only intermodal but also intramodal transport is the need to have integrated and real-time door-to-door information systems. Although much progress has already been made on the integration of information systems at the regional/urban level, there is lack of such a structure at the European level. At this point, technology is a major driver of the progress of intermodal passenger transport.

Tariffs and ticketing: Technical solutions to the integration of tariffs and ticketing is already available. A lack of a common European standard of card technologies will complicate the development of a completely integrated payment system. Standardisation in this field is considered to be a high priority, but the lack of co-operation among stakeholders, especially for long-distance and cross-border transport is still an important obstacle.

³ Last et al., 2003. Heterogenität im Fernverkehr: Wie wenige reisen wie viel? Internationales Verkehrswesen, (55) 6/2003, 267-273.
Eurostat (Author: Weckström-Eno, K.), 1999. Statistics in Focus. Theme 7, 4/1999. Long distance passenger travel. Luxembourg: Eurostat.

Baggage handling: Baggage handling is a burden specially for the elderly, travellers with children or heavy luggage, and passenger with impaired mobility. There are already solutions in place, such as check-in at the rail station, however further evaluation is needed in which areas of the transport chains baggage services are technically, financially and organisationally feasible.

Promotion of intermodality: The promotion of intermodality is essential. Awareness raising campaigns, mobility management at individual and site levels can be used to influence travel behaviour. Target group orientation is a governing principle but there is a lack of sufficient survey data for a market segmentation. In the case of long-distance and international journeys, it is not clear who should take the initiative.

Societal and demographic developments are playing important roles in the development of seamless travel chains. This is particularly evident the case of ageing population or mobility impaired travellers with special needs, regarding baggage handling, accessibility of interchanges, user-friendliness of information systems, etc. These measures oriented to these specific groups also contribute to an easier seamless journey of any other traveller, and should not be considered target group specific.

Besides the identification of user needs and the analysis of the current status of key elements of intermodal travel, the study identified major barriers for the implementation of intermodal solutions. Some of the obstacles identified are related to the lack of:

- lobby support for intermodality (compared to single modes);
- data availability (market data, cost/benefit evaluation);
- putting user needs regarding interchanges into practise;
- network level planning of interchanges;
- co-operation in a difficult multi-stakeholder and/or competitive environment; and
- successful business models for intermodal information systems.

As a conclusion, it is thought that a holistic approach with a strong combination of measures would be favourable in order to improve the situation of passenger intermodality. The potential technology base and the user needs assessment are quite advanced. It is, therefore, necessary to concentrate on certain implementation gaps regarding services and infrastructure, including integrated information systems (national/international, multimodal, real-time, disruptions) or user-friendly interchanges (security, accessibility, short transfers, intermodal management of disruptions, etc).

Priorities from the European policy perspective

Policy development has to account for large-scale trends such as demographic change, market opening for public transport services, increasing air travel volumes or the enlargement of the European Union. The current understanding of the subsidiarity principle gives the EU limited scope to systematically influence national and urban systems unless directly related to the principle of European cohesion or as a condition on financing of measures related to social policy.

Possible measures on a European level include research, funding, standardisation activities, regulations or the exchange of best practice and training. In terms of

services and infrastructure, an important point is the implementation of information and ticketing systems and interchanges as an important target for standardisation work. Special attention is also paid to the air-rail combination as it is closest to the European remit, with a large international market.

Overview of key issues for passenger intermodality

In the first phase of the study, 39 key issues for passenger intermodality were identified by the consortium. This list was narrowed to 14 more manageable categories of key issues related to the context, products and services and planning and implementation domains (cf. Annex A).

Key results of the second phase of the study: “Analysis of the national inventories on passenger intermodality”

The general conclusions of the second phase of the study are based on the analysis of the country reports and the personal assessments of the country experts who answered the questions. Based on this assessment and the conclusions of the 14 categories previously mentioned, key outcomes emerged.

1. The knowledge of the market for passenger intermodality in long distance trips is generally rather poor. At the national level, little attention is given so far to the study of this market and its potential.
2. Little national research and evidence is available on the evaluation of possible impacts of intermodality products and services through cost-benefit analyses or impact assessment studies.
3. In most countries, intermodality has not been a policy focus until recently and some countries are still in the phase of an unimodal focus on improving infrastructure. Nevertheless, intermodality is becoming a more important topic and consequently viewed with greater importance. The subject is generally mentioned in policy documents but implementation continues to be lacking in many areas. The first step in improving passenger intermodality is to raise the political awareness towards the importance of intermodality.
4. Existing legal and regulatory frameworks are generally not suited to enhance intermodality in a context of decentralised transport markets that are increasingly opened to competition. Currently there are no laws or regulations in place across Europe to treat intermodality as a central issue. Another important aspect has proved to be co-operation for the optimal development of long-distance passenger transport, especially when many stakeholders are involved. As a result of this research, it has become evident that there is no independent institution responsible for the co-ordination role of long-distance intermodal transport, and this is preventing the creation of a platform for data exchange between stakeholders, a integrated timetable, a ticketing system and other important structures.
5. Integration of networks and interoperability is weaker in cross border travel. In many instances in Europe it is easier to travel from one side of the country to the other than simply get on a train and travel to the nearest city over the border. When several authorities and operators are responsible, diligent cooperation is required. In most of the countries good progress is made regarding the general quality of the interchanges, however, the situation remains very heterogeneous. Public and political support, co-operation and co-ordination between operators

and providers along with legal frameworks are crucial factors for the development of better integrated transport services and timetables.

6. Providing high quality passenger information has largely evolved from a technological challenge towards an organisational challenge. The technology to provide high quality passenger information systems is already available. The situation is in general very heterogeneous, in some countries is still unsatisfactory, and therefore many problems need to be faced to obtain an integrated total-cost information for a trip.
7. Truly intermodal tariff and ticketing systems are still widely missing, although there are a few good examples. The main obstacles in the field of tariff/ticketing systems and booking/payment services are organisational instead of technological.
8. In most countries the responsibility to carry baggage remains solely with the passenger. To improve this situation, a better accessibility of stations and enlarged space for baggage on trains are the main factors that need to be advanced.
9. There are only a few examples of highly integrated products and services in the air-rail combination, in the field of mobility packages or in the tourism sector.
10. User needs assessments and intermodal transport network planning are not common practices in Europe. Governments should invest more in high quality data collection on user perception, needs and satisfaction. With regards to network planning, national, regional and local authorities should agree on the concept of the network and the potential for intermodality. A platform could also be created to help and stimulate private companies to invest on what they do not consider to be very profitable at first sight.
11. Co-operation and co-ordination is the main factor of success for realising passenger intermodality. There are no specific institutional guidelines to co-ordinate intermodal planning and operations. The major barrier identified in many countries is the lack of interchange management and common management of disruptions. The inventories showed that data sharing is a difficult topic. It seems necessary to approach problems of data sharing by setting a legal and regulatory framework and to establish a central clearinghouse or a linked network that integrates different information systems in one interface for public transport which is co-ordinated by public authorities. It has to be decided what kind of data should be made accessible in this way, as some data is sensitive for operators in a competitive market.
12. Awareness raising and promotion of passenger intermodality in long distance trips is rather an empty field throughout Europe. The overall conclusion is that campaigns focused on intermodality are non-existent nowadays, indirectly intermodality is promoted in campaigns towards more sustainable mobility patterns.
13. Opportunities for joint financing of intermodality investments are often complicated. A key barrier is often the restriction of funding resources to single modes and the complex distribution of benefits across many stakeholders.
14. Among the success factors in attracting and use of finances is the need for a project initiator and manager, given the large number of actors involved in

transport schemes. The ability to demonstrate clearly the benefits and then allocate the costs of a measure or project (including public funding where benefits are social and cannot be recovered in revenue), through the completion of a comprehensive cost-benefit analysis is also important, as it is the need for win-win situations between all operators in an increasingly free market environment.

15. There is a strong need for standardisation of technologies used for intermodal products and services. The general picture is that the technology is being developed separately in each country and there is no evidence that these systems are compatible. Further information and discussion is required regarding the potential use of customer media as smart cards or mobile phones for ticket and payment integration.

1.4 Benefits of Passenger Intermodality

What are the benefits and who are the beneficiaries of an enhanced passenger intermodality on the European level? It can be stated that the concept of intermodality offers high potential to improve the transport system, and may be beneficial regarding horizontal policy issues, but also for individual stakeholders. The costs of investing in intermodal products and services however have to be considered as well, a discussion that is still in an early stage. This chapter gives a first overview of relevant aspects providing some selected examples, and outlines some of the potential of passenger intermodality.

Horizontal policy issues

A higher degree of intermodality contributes to a number of objectives:

1. Intermodality increases the chances for a re-balancing of modes through supporting strong linkages e.g. with the public transport system. A reduction of negative social and environmental externalities can thus be achieved in a potentially cost-effective way.
2. A well-balanced and (physically and operationally) integrated transport system offers increased choice to the passenger and can foster mode use according to strengths and compensate for weaknesses.
3. More seamless journeys will lead to a higher efficiency of individual trips but also of the system as a whole (in the sense of total socio-economic costs).
4. Increased choice and efficiency can counter existing capacity problems (especially in the air and road networks) of current modal and loosely connected networks.
5. Finally, a better-organised transport system contributes to the main Community objectives competitiveness, employment, sustainable development and territorial cohesion.

To illustrate the above mentioned benefits, beneath the reader will find some figures on the external costs caused by passenger transport and on the characteristics and recent trends of the market for long distance passenger trips.

Several studies show that passenger transport generates high costs to society that are not directly attributed to the personal transport costs of transport users (such as

transport tickets, costs of fuel and maintenance, etc.). These costs are expressed by the concept of external costs, they refer to additional costs of e.g. medical care due to accidents, and health problems caused by transport emissions, costs of economic production losses, costs of suffering and grief due to accidents, damage to material, buildings and crop losses due to environmental problems caused by transport, etc.

During recent years, several estimations of these external costs have been conducted, refined and updated using different methods and covering different types of societal costs. Although there is no unique and commonly accepted method yet, current estimations of the total, average and marginal external costs of single transport modes are available and provide guidelines and justifications for policies that aim at an optimum use of each transport mode.⁴ Recently, a study of INFRAS (2004) estimated the total external cost (excluding congestion costs⁵) in 2000 to be 650 billion €, being 7,3% of the total GDP in EU15 + Norway and Switzerland. Two third of the costs were caused by passenger transport, one third by freight transport. The following table shows the average external costs of passenger transport by cost category and by transport mode in 2000 for the EU15 + Norway and Switzerland.

Average external cost of passenger transport (in €/1000 passenger km), EU15 (situation 2000) + Norway and Switzerland)⁶

	Road				Rail	Aviation	Overall
Cost category	Car	bus	Motor Cycle	passenger total			
Accidents	30,9	2,4	188,6	32,4	0,8	0,4	22,3
Noise	5,2	1,3	16,0	5,1	3,9	1,8	4,2
Air pollution	12,7	20,7	3,8	13,2	6,9	2,4	10,0
Climate change high	17,6	8,3	11,7	16,5	6,2	46,2	23,7
Climate change low	2,5	1,2	1,7	2,4	0,9	6,6	3,4
Nature landscape	2,9	0,7	2,1	2,6	0,6	0,8	2,0
Up/downstream	5,2	3,9	3,0	5,0	3,4	1,0	3,9
Urban effects	1,6	0,4	1,1	1,5	1,3	0,0	1,1
Total EU 17	76,0	37,7	226,3	76,4	22,9	52,5	67,2

Every 1000 passenger kilometers generate on average 67,2 € of costs to society. Looking at the external costs generated per transport mode, one immediately sees the high external costs of road transport (76 €) and aviation (52,5 €) relative to rail transport (22,9 €). Therefore the long-distance rail-mode should be preferred in transport policy. Interoperability and enhanced intermodality may contribute essentially to the integration of rail into the transport system which currently is still neglected on the international as well as urban/regional level.

Each switch of 1000 passenger kilometers from car to rail would mean a benefit to society of 53,1 € on average. Most societal benefit comes from the reduction of accidental costs and less air pollution as well as regarding a lower potential impact on climate change.

Each switch of 1000 passenger kilometers from air to rail would mean a gain to society of 29,6 € on average. This gain is mainly due to the less polluting effect of rail to climate change relative to air transport.

⁴ None of these studies focused on the intermodal dimension of passenger transport.

⁵ External costs generated by congestion are of a different nature; they refer to additional time and operating costs imposed by road users to other road users and not to society in general.

⁶ Infrass (2004), External costs of transport, Update study, Zurich/Karlsruhe 2004.

In terms of trips, 1000 passenger kilometers means approx. two business round trips Brussels-Amsterdam, one business round trip Frankfurt-Berlin, five leisure day round trips etc.

In general, long distance passenger trips in Europe (over 100 km) account for perhaps only 1 to 2 % of all trips per year, but approximately 20 % of total passenger kilometres, and therefore forming a significant proportion of the transport market. They are of specific significance due to their economic importance, their high ecological impact and their above average growth rate. Surveys conducted by Eurostat in seven member states showed that long-distance travel accounts for around 20 % of the total person-kilometres.⁷ The traffic forecast within the current TEN-STAC⁸ study (trend scenario) suggests an average growth in inter-regional passenger transport from 2000-2020 of 28 % in the current member states and 74 % in the new member states. Air travel is forecast to grow particularly strongly with 88 % and 133 % respectively. For these estimates the assumptions about economic growth have been rather conservative. Trip types are mainly holiday (31 %) and other personal reasons (47 %) and business trips (22%), and thus long-distance trips are essential both for the business world and the holiday industry. There is a strong asymmetry both in mobility rates and in travelling intensity. In Germany, for example, only 10 % of the persons account for nearly half of all trips.⁹

Modal split in the EU15 shows that 65 % of all long-distance trips use car as the main mode, followed by 14 % air, 12 % rail and 6 % bus.¹⁰ In contrast to a sufficient supply of general data on the long-distance traveller market there is generally very little data on intermodal behaviour. In Germany, which is a country with good rail and air infrastructure, 60 % of long-distance travellers have a monomodal¹¹ pattern and of these 75 % are car-drivers. The other 40 % are multimodal¹² travellers¹³ (for further details on the market for passenger intermodality please refer to report 1, chapter 1.2).

Enabling fair allocation of costs to the beneficiaries of intermodal services

Most intermodal products and services deliver benefits to many different stakeholders often including several different operators in different modes or network levels (e.g. integrated information systems and ticketing). It is essential that benefits are clearly evaluated and identified to individual beneficiaries and costs then allocated to the appropriate partners including the public sector where benefits are social and cannot be recovered through revenue increases. Otherwise few organizations, especially operators, will take the initiative to develop such services because either they will not get enough benefit for their large investment or will refuse to gift benefits to non-paying “free-loaders” who may also be their competitors.

⁷ Eurostat, 1999. Statistics in Focus. Theme 7, 4/1999. Long distance passenger travel. Luxembourg: Eurostat.

⁸ TEN-STAC consortium, 2003. *Report. TEN-STAC: Scenarios, traffic forecast and analysis of corridors on the trans-European Network. D1+Forecast 2020.* (Hyperlink: <http://www.nea.nl/ten-stac>)

⁹ Last et al., 2003. *Heterogenität in Fernverkehr: Wie wenige reisen wie viel, Internationales Verkehrswesen, (55) 6/2003, 270.*

¹⁰ DATELINE Consortium, 2003. *DATELINE - Design and application of a travel survey for European long-distance trips based on an International Network of Expertise. Deliverable 7. Data Analysis and Macro results.*

¹¹ Using in general always the same transport mode.

¹² Using over time different transport modes, but not necessarily during one journey.

¹³ Last et al., 2003. *Heterogenität in Fernverkehr: Wie wenige reisen wie viel, Internationales Verkehrswesen, (55) 6/2003, 267-273.*

Examples of successful cost sharing however can be seen in the Dutch national information system for example, where operators all pay a fee to a central independent coordinator.

Such cooperation requires mutually respected cost-benefit measurement methodology and strong stakeholder partnerships including otherwise competing private sector organizations and often the public sector as well either as financier and/or coordinator. The public sector and/or neutral coordinators often need to take the lead in setting up such partnerships given the natural market resistance. This report highlights a number of general actions which will develop an institutional and methodological basis for fair allocation of costs at the European level and indirectly support progress at national levels (cost-benefit methodology, EU platform for intermodality, initiation of national focus points, policy recommendation for intermodal institutional structures at national level, evaluation and support for third party data integrators etc.).

Specific further action is however also needed at the national levels to develop the policy, legal, institutional and third-party organisational basis which can help the right sort of stakeholder partnerships to form including any necessary public start-up or financial support. This includes legally enabling/enforcing and institutionally supporting multi-stakeholder arrangements for interchange development/management and centralized integrated information provision or database management for example.

The need for support with start-up

A common feature of many innovative systems supporting passenger intermodality is a need to create a critical mass of users before the systems become commercially or socio-economically net beneficial (investment costs and fixed operating costs are a large cost element). This can take years and because of the incumbent risk of failure to reach critical mass, public funding support with start-up of investing and operating of these systems is therefore an essential element in improving their take-up.

Examples of actions and benefits

Passenger intermodality is a wide field, offering many options to improve the efficiency and sustainability of the transport system. The topic however is complex and many questions, for example regarding the costs and benefits of concrete actions in this field, still have to be answered. The following section tries to give some examples of actions and benefits, and where possible costs. Many examples are from the urban and regional level, as data on long distance passenger transport is not always available, but may give first hints for the potential of similar solutions for long distance passenger transport.

Information systems¹⁴

Integrated real-time door-to-door information systems are a key tool in developing workable and attractive European passenger intermodality and deserve special attention. They have a proven significant impact on travel behaviour.

Acceptance of fixed multi-modal travel information is usually high (> 70% of traveller thought them to be useful). This could especially be proven on the local level, but is valid for the long distance dimension as well. Willingness of users to pay for information services is mostly low, e.g. for conventional internet based services. However, for quality mobile multi-modal travel information a willingness to pay in the

¹⁴ Cf. Chapter 2.3 Recommendations to the European Commission, recommendations 7.3, 8, 9, 12, 14, 16, 18, 26, 27.

range of 2 to 10 EUR per month has been shown in several projects.¹⁵ Willingness to pay is related to the payment mechanism, for example people are used to paying for mobile phone calls, so an effective business model for selling transport information is through more expensive text messages or WAP services while travellers are much less willing to pay for internet services because they do not expect to pay for internet services.

One of the main barriers to establish and maintain high quality passenger information systems are the costs. Examples on the national and regional level however showed that it is possible to establish self-financing systems of high quality passenger information systems that meet demand. Such examples might give hints for the development of integrated passenger information solutions on the European level as well. Problems arise when the quality of information is high and the difficulty of information procurement equally high – real time and/or highly intermodal including car transport, particularly if there is a very complex data collection, processing and integration process (in the common absence of multi- and intermodal data standards for example which was the case of the TRANSBASEL project)

The Italian Clickmobility (www.clickmobility.it) system is an example of a fully privately financed portal on local public transport. It has operated on-line since May 2001, satisfying the request of information of a community of more than 8,000 users. The portal offers to people involved in the mobility and public transport sector the first high added value information centre and customised on-line consulting services. At the end of 2002 the number of regular users of Clickmobility (those that are linked at least once per week) was around 8,000. The total number of visitors at that time was around 500,000. The system is fully self-financing through various sources such as advertising revenue and custom services.¹⁶

Also the experience of the Czech National Schedule Database is very positive. The timetable information covers all national and regional public transport and many towns, is of high quality and is well used through a number of relatively ubiquitous media. CHAPS, the private and fully self-financing operator of the system creates income by selling information through mobile phone operators, telephone, advertising on the Internet (around 17,000 users per day), CD-Rom + floppy discs (around 1,000 clients, own direct sale) and self-service terminals. Total National Schedule Database usage including mobile and internet access was an impressive 1.5 million requests per month (the population of the country is 10.2 million) in mid-2002.

The system very clearly demonstrates that many Travel and Traffic Information policy aims can be achieved to high quality and with minimal public investment with the use of and reliance on the private sector in a lightly regulated relationship. Support for start-up costs can be beneficial however.¹⁷

The TRAFIKANTEN public transport information system for the Oslo area provides some data on the increase of revenues that can be reached by providing high quality passenger information on local level. The information system had 2.6 million customers in 2002. A survey showed that 12-14 % of travellers would not use public transport in the area if the TRAFIKANTEN system was not in place. The extra revenues created by the introduction of this system cover twice the costs of the TRAFIKANTEN call center, which is certainly the most expensive element of this

¹⁵ Converge Consortium (1996-97). Converge Project TR 1101. Synthesis of Validation Results. Performance, Impacts, Cost/Benefits and User Acceptance of Transport Telematics Applications. Part 1: Main Text. Deliverable 3.4.2.

¹⁶ VOYAGER Consortium, 2002a. VOYAGER. Good Practice Case Studies Report. Deliverable 3.

¹⁷ Ibid.

information system.¹⁸ By creating increased revenues the system, which also includes an internet interface, pays off. Of course one has to be careful to transfer such results to the long distance dimension. However, the experience give hints regarding the general significance of high quality passenger information.

Ticket integration and improvement of public transport¹⁹

As the national inventories of passenger intermodality showed (cf. report 2), integrated transport solutions are already relatively advanced on urban and regional level in many European countries. The long-distance dimension of passenger transport is still far from this degree of integrated services and co-operation. The urban and regional level however has proven that integrated transport solutions can help to increase ridership significantly. Of course such results can only be seen in their individual context and not be easily transferred to the long-distance dimension, but may give certain ideas of the benefits of integrated transport solutions in general. As the examples show, also it is extremely difficult to identify clearly the causality between a single measure and an effect, when measures are bundled.

Selected experiences from Spanish cities show how the development of different measures such as the creation of Transport Consortia, and the implementation of ticketing and tariff integration systems have directly increased the number of user public transport in highly populated cities such as Madrid and Valencia.

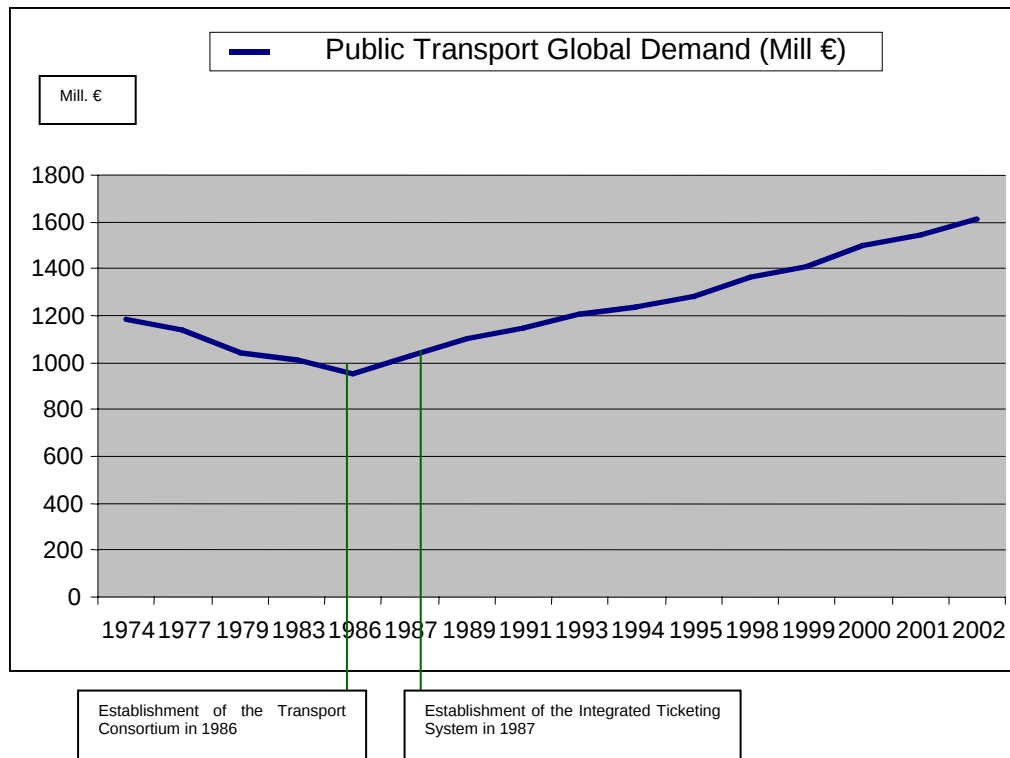
One of the first key actions that influenced the development of Public Transport in Madrid was the creation of the Regional Transport Consortium of Madrid in 1986. Up until this year the number of transport users had been continuously decreasing. The creation of the Transport Consortium meant a serious trend change. As a consequence, the demand figures started to change. One of the first measures implemented by the Transport Consortium in relation to passenger intermodality was the introduction of an Integrated Ticketing System in 1987, called “Abono Transportes”, a transport ticket that allowed the utilisation of a single ticket with free access to the entire public transport network on a monthly or yearly basis. After more than a decade of a continuous decrease in the number of passengers, in 1987 these figures turned upside down completely and demand figures started to climb (see figure next page). The introduction of this ticket not only rationalised the cost of transport services, but also brought other benefits, such as the tariff integration that provided a unified and homogeneous image of the transport system of the city. The main benefit has been the promotion of public transport against the private car in the city, by offering higher capacity and better quality. Other social benefits have been observed, specially linked to an improved mobility, time saving, space saving, energy saving and reduced accident rates, air pollution and emissions. Other measures implemented in recent years have been the construction of two interchange centers, in Avenida de América and Principe Pío. These have improved mobility considerably and users have benefited from easier and more convenient travel. The following tables and graphs show how the public transport demand evolved after the introduction of the integrated tariff and ticketing system in Madrid in 1986.²⁰

¹⁸ ATLANTIC Consortium, 2003. A thematic long-term approach to networking for the telematics and ITS community [online]. *Deliverable 5.1*

¹⁹ Cf. Chapter 2.3 Recommendations to the European Commission, recommendations 3, 4, 6, 7, 8, 9, 13, 15, 16, 18, 19, 27.

²⁰ Source: Regional Transport Consortium of Madrid.

Public Transport Global Demand in Madrid (1974 – 2002)
(Regional Transport Consortium of Madrid)



In the City of Valencia similarly the establishment of a homogeneous tariff system in the urban agglomeration, together with other measures as the improvement of the bus fleet and the image of public transport in the city, led to an increase in the number of users from 1999 on. The integration of the tariff system in the metropolitan area of Valencia served to promote the use of public transport and allowed the integration that has lowered the costs for regular passengers. Services and modal co-ordination enabled the users to easily interchange among the different transport networks. Within the first phase of the integration, an image plan contributed to establish a homogeneous signage system. In 2001 the Metropolitan Transport Entity of Valencia was created, which has also contributed to the development and implementation of actions that improved the current situation of mobility within the city.²¹

Electronic ticketing²²

Electronic ticketing solutions are developing fast in local and regional public transport, in the case of the Netherlands a system is even established on national level (cf. report 2). A critical question however are the costs and benefits and there can not be given a concluding assessment regarding these aspects, due to a lack of data and available experience from business cases.

Especially on urban and regional level electronic ticketing systems have good potential to reduce distribution costs and to reduce maintenance costs by changing mechanical to electronic devices. E-ticketing can help to offer faster, better services, can be handled flexible and makes it easier to offer a range of individual tariffs, and thereby may help to win new customers and to increase revenues. Electronic ticketing may

²¹ Source: Entidad Metropolitana de Valencia.

²² Cf. Chapter 2.3 Recommendations to the European Commission, recommendations 4, 6, 8, 13, 16, 18, 27

also help to introduce substantially simpler, more flexible sales organisations, and can provide more detailed data to better analyse user behaviour. Contact less systems, as magnetic stripe based systems, have proven to be appreciated by customers as they just have to swipe their bag or money purse over the card reader, which has a time saving effect with faster passenger check in systems with gates. Electronic ticketing systems have also proven to be popular with elderly people. A survey in Berlin found an acceptance of up to 78% in the user group over 60/65 years. Where offered, passengers also appreciate other mobility related applications that are stored on a single media such as parking and urban public services as in the case of Moscow, Washington or Rome.

Although benefits of e-ticketing can be seen on the urban and regional level, the introduction of such systems for long distance railway may have potential but is not necessarily beneficial at this stage. Long distance traffic is different in its nature, including for example questions of seat reservation and a complex mix of components like coaches, regional trains, intercity and high speed trains covering a large spatial area.²³ Currently in the Netherlands a nationwide electronic ticketing system is being established, counting on that the benefits of such a system prove to be worth the large investments(cf. report 2, page 57). In other countries the introduction of electronic ticketing systems is discussed critically and opposed by some experts, as the associated new infrastructure may be extremely costly. The costs of a national electronic ticketing system was one argument in Switzerland that led to the downgrading of the “EasyRider” project that aimed at a highly developed nation wide e-ticketing to a simple chip card that saves information about a certain ticket (cf. report 2, page 55 ff.).

In conclusion it can be stated that electronic ticketing has high potential, proven on the local level, but it is still too early to assess if the benefits of such systems justify large investments in new infrastructure, especially for long-distance passenger transport. The need for further discussion and further cost benefit studies is reflected in the recommendations given in this report (cf. recommendations 6, 13, 27)

Air-rail integration²⁴

Rail connections at large airports have an increasing importance and show clear benefits for airport operators, passengers and regarding the external costs of transport. A thesis at the Institute of Transportation Research at the University of Stuttgart, Germany, showed that rail connections to large airports make sense economically and contribute to an efficient handling of transport flows.²⁵ Large airports with good rail connections can in many cases increase their catchment area and usually achieve a higher share of public transport in the modal split for passengers, connected to a relief of the road network in airport regions and a reduction of environmental costs. Successful rail connections can also in some instances free slots for long haul flights by shifting short haul flights to rail. Integrated intermodal services that offer check-in and baggage services have potential to increase the usage of rail as a feeder mode to large airports.

If effective conditions for the use of public transport, especially the rail mode, are created, its modal share can be in the range of 25% to 40% for passengers according

²³ Kissinger, S., 2004. One for all – all for YOU! Smart electronic ticketing. *Public Transport International*, 6/2004. 10-13.

²⁴ Cf. Chapter 2.3 Recommendations to the European Commission, recommendations 3,7, 8, 9, 16, 18, 20, 27

²⁵ Rieck, C., 1999. *Nutzen und Kosten der Schienenanbindung von Flughäfen*. Thesis (Diplom). Institute of Transportation Research at the University of Stuttgart (VWI).

to estimates of the Working Committee of German Airports.²⁶ Frankfurt Airport for example has a share of 33% public transport users for passengers, amongst others a result of the new long-distance rail terminal and new high-speed rail connections. However, even higher shares are possible, as Oslo with 64%, Zurich with 59% and Copenhagen with 37% show.²⁷ In Zurich an obligation from public authorities to increase the use of public transport contributed to a relatively high public transport share for passengers. Good rail and bus connections and strong investments in measures to make public transport more attractive led to an increase from 47% in 1999 to 59% in 2004. However, facing increasing competition Zurich airport is currently focusing on the airside business only, as further investments in landside traffic and public transport would cause high costs which could not be compensated through operational benefits.

Given a good rail connection to airports, integrated intermodal services in the air-rail sector can be a further step to give passengers more travel options and to increase the use of rail as feeder mode to airports. The German AIRail service of Lufthansa, German Rail and Frankfurt Airport is one of the most advanced examples (cf. first and second report of the study), offering codesharing, integrated baggage handling and check-in at selected main railway stations. Participating companies are convinced of the potential of the concept although profitability could not be reached yet. In the network approach however the benefits are clear, as the customer friendly linking of air and rail results in the transfer of short-distance flights to rail and therefore opens up limited capacity in the air. For example, Lufthansa started to cancel some of their short-haul flights between Cologne and Frankfurt in 2003 due to the success of the AiRail service. This consequently freed 1,460 aircraft slots per year. The environmental impact of transferring flights from air to rail will be considerably, since most fuel is used during takeoff and landing.²⁸ It is understood that Lufthansa hopes to transfer even more short haul flights to rail. Experts estimate the potential capacity load reduction to be approx. 4 to 5% of all flights which are currently handled at Frankfurt airport.²⁹ Currently approx. 45% of all Lufthansa passengers between Cologne and Frankfurt take the train, and the share is still increasing.³⁰ The AIRail service has a good 60% utilisation, with currently approx. 280 users per day.³¹ 85% of users assess the service as “good” or “excellent”.³² Advantages for the traveller are savings in travel time and more travel options. Participating airlines see customer and competitive advantages.

Within the EU funded research project ARCH a demonstration project (August 2000 – June 2001) in Spain included an air–rail ticket to promote a modal shift from air to high speed rail (Talgo200 and high speed AVE trains) in the domestic part of an international trip involving Madrid, Córdoba, Málaga, or Sevilla. Within this Spanish demonstration, a new combined air-rail fare and ticket has been designed and promoted. More than 4000 travel agents and AVE-Renfe selling points have been

²⁶ Bernhardt, H., 2000. *Schiienenanbindung der deutschen Flughäfen*. Stuttgart: Arbeitsgemeinschaft Deutscher Verkehrsflughäfen.

²⁷ Different sources:

- Steinmann, O., 2002. Angestellte kommen lieber mit dem Auto. *Zürcher Unterländer*, 6 July (Online: http://www.zuonline.ch/stories/stories_archiv.cfm?vID=2372, accessed 10 December 2004).

- Updated numbers for Zurich from Unique (Flughafen Zürich AG) – June 2004.

²⁸ Aviation World Magazine. Intelligent connections for rail and air transport. *Aviation World*, 1/2004.

²⁹ Lufthansa (2004). *Mit AIRail schneller ans Ziel* [online]. Available from: http://konzern.lufthansa.com/de/html/ueber_uns/mobilitaet/vernetzt/intermod2 [Accessed December 2004].

³⁰ Krohn, O., 2004. Die Bahn verleiht Flügel. *Mobil* 03/2004, 51-53.

³¹ Lufthansa (2004): see above

³² Weinert, W., Zwei Jahre AIRail – eine Zwischenbilanz. In: BMG - Bayerische Magnetbahnvorbereitungsgesellschaft mbH, ed. *Transrapid Symposium 2002, 26 November 2002 Munich*. Munich: BMG, 41-45.

informed about this new ticket. The first 21 tickets were sold in August 2000; in the last month of the demo period in May 2001, 1856 combined tickets were sold. Notwithstanding this enormous growth in sales of tickets, it was only a small share of the global monthly target group of international travelers using the domestic air leg for their international air trip of 300 000 passengers. After ten months, the following mode shift could be presented: 32% of the new fare users previously took the plane, 30% used the private car and 16% used the bus. The remaining 22% already used high speed train in the first part of their international air trip.³³

Awareness raising³⁴

Also within the EU-funded ARCH project, an Austrian demonstration project in the period from 2000 to 2001 aimed at raising awareness amongst business travellers regarding rail alternatives to short distance flights (< 500 km). Within this demonstration project, 7 mobility advisors of the Austrian Federal Railways (ÖBB) and two employees of the mobility center of Graz were trained for special individual consulting sessions targeted at business travelers, company's travel managers and in-house travel bureaus in companies. The consultations were aimed to show the benefits of rail travel and to present the possible train alternatives to short flights. During these consultation sessions, a new product of ÖBB (a business card offering a discount for business trips by train) and the existing services (e.g. ticketing delivery) of mobility centers were promoted.

As a result within the 10 month demonstration period, 180 individual consulting sessions took place and 130 interviews were held. The interviewed business travellers made 21 business trips on average per year; the interviewed people responsible for bookings were booking 500 trips on average per year. The estimated return trip length was 800 km. A survey amongst the target group consulted revealed the following indications on possible mode shift. 12% of the interviewed persons stated that they would not use the train under absolutely no circumstances; 51% would use the train under some circumstances (no need to interchange, faster trains, cheaper, more comfort, etc); 37% already use the train or might use it without any further requirements. The fact that a large share of travellers want to avoid interchanges shows that this field has to be improved, to make interchanges more convenient and thereby create necessary preconditions for modal shift. In a further analysis - taking into account distances and restricting facts such as the need to transport equipment etc. – the potential for a mode shift to rail transport was calculated at 9% of plane using business travelers and 13% of car users. The potential energy saving was estimated to be 4 mio mega-joule. The amount of potential kilometers saved was estimated at 3 mio km.³⁵

³³ ARCH Consortium (2001). *The ARCH manual. Sustainable Alternatives to Short Air Trips: An overview of Possible Actions*, September 2001, Graz, p. 145-159.

³⁴ Cf. Chapter 2.3 Recommendations to the European Commission, recommendations 8, 9, 16, 18, 19, 27

³⁵ ARCH Consortium (2001). *The ARCH manual. Sustainable Alternatives to Short Air Trips: An overview of Possible Actions*, September 2001, Graz, p. 31-52.

2. Recommendations

2.1 Criteria for recommendations

The core element of this report is the presentation of recommendations to enhance passenger intermodality on the European level which will give decision makers in the EC an overview of options for taking actions.

The remit of this report is to look mainly at direct EU action required, rather than to develop a full EU policy or communication suggesting actions of member states on passenger intermodality. However, it is clear that such an EU policy could draw on most of the 28 recommendations and the conclusions and recommendations of the previous 2 reports (at an analogous national level) and not just the list of policy recommendations presented here.

An example is the promotion of some intermodality requirements in tendered public contracts for passenger transport (European perspective recommendation 7.1) which is probably desirable in some form at national level and should be promoted irrespective of the feasibility of EU legislation on the issue.

It has to be stressed that this report does not present an action plan itself. As the reader will see when going through this document, some recommendations are easy to implement, others are highly innovative and face many barriers and uncertainties. In addition, the time and the cost to realise the different recommendations are very heterogeneous. Intermodality is still an area with many open questions and there is still need for discussion regarding many recommendations. The 28 recommendations that are given in this report should be seen as a pool of ideas and options. They are an outcome of intense research and expert consultation and cover a wide range of aspects that are relevant to passenger intermodality.

The criteria for the generation of recommendations are focused on the aim to provide the EC with useful options for its future policy and actions in the field of passenger intermodality. The range of intervention for the EC is among others determined by political (e.g. horizontal policy issues), legal (e.g. subsidiarity principle) and financial frameworks.

An enhanced intermodal passenger transport can, in many areas, be an important element to influence horizontal policy issues. Passenger intermodality can help to increase transport choices and facilitate fast and convenient transport chains for the European traveller. Thereby it can contribute to the functioning of the single market and to the competitiveness of Europe. Social cohesion, accessibility, protection and enhancement of the environment are other fields that can positively be influenced through enhanced passenger intermodality. For some more details on the contribution of passenger intermodality to horizontal policy objectives in the EU's Common Transport Policy please refer to the first report of the study (cf. Report 1, page 14).

Regarding the legal framework that partially determines the range of intervention for the EC, many aspects are relevant when taking action on the European level. This report can not include a comprehensive legal assessment of the recommendations given, but aims to provide some suggestions regarding a certain aspects.

Actions at a European level have to be carefully evaluated if they are conform to the subsidiarity principle Art. 5 (2) or other Articles of the Treaty establishing the European Community. From the perspective of the European intermodal traveller, many obstacles for seamless travelling have still to be overcome to achieve a seamless travel chain. In particular barriers in border-crossing intermodal passenger transport can not be removed by member states on their own in an optimal way and can better be approached on the European level. Intermodality in long-distance passenger transport has got a clear Community dimension.

Article 2 and 3 (1)(l) of the Treaty oblige the Community to promote the improvement of the quality of the environment through its policy. Intermodality in passenger transport has potential to positively influence modal shift towards more sustainable transport modes, with a focus on rail transport and therefore may contribute to fulfil certain environmental goals of the EC.

Article 13 in the Treaty establishing the European Community includes a general article on combating discrimination, including that based on disability and age. European actions that help to guarantee accessibility and passenger rights for mobility impaired travellers in intermodal transport, as proposed in this report, should be seen in this context.

As further explained in Recommendation 7 of this report, the application of rules for creating a single market may influence passenger intermodality considerably and leaves many open questions that could be clarified by research projects. In a passenger transport market that is increasingly opened to competition it is important to provide a legal and regulatory framework that is promoting efficiency, choice and user-friendly provision of transport services while safeguarding social standards. Within a well thought legal and regulatory framework it is possible to improve the quality of the European transport system by promoting intermodal products and services that help to achieve a better integrated transport system which also contributes to environmental and safety objectives.

Financial framework for action in the field of passenger intermodality on the European level, are another important factor that determines the scope of intervention for the EC. Initial assessments of these are provided in this report.

Another important aspect that the recommendations have to take into account is the focus on the user perspective. Goal is to serve the European intermodal traveller. Also clear is the scope of the study, which focuses on the inter-urban/long-distance dimension of passenger travel. This includes international travel and also smaller scale cross-border traffic. Since seamless door-to-door chains and an integrated transport system – in its intermodal and intramodal dimension – are the aim, the last (urban) mile is considered as well. These general criteria for the work on the study also give a framework for the generation of recommendations.

As already explained in Chapter 1.2, an important element of this study has been an expert workshop. The result of this workshop, in combination with results from the first two phases of the study, led to the formulation of 28 recommendations that have been validated in a next step by 19 external experts from across Europe in written form. The analysis of all input led to the here presented recommendations.

Important criteria for the European Commission to assess the recommendations are their feasibility, costs, impact and the appropriate time horizon. In the context of this study monetary cost-benefit exercises have not been feasible in the timeframe given

and regarding the wide scope of the study. Furthermore, as it was identified in the course of the study that data on these issues is widely lacking.

Therefore an alternative approach was chosen, which provides overall assessments of feasibility, costs, impacts and time drawn from input that has been given by a wide range of experts. A first important input was the discussion regarding these criteria in the workshop, which has been taken into account for this report as one element. A second element was the external validation of draft recommendations that have been generated by the Consortium on the basis of previous work and the workshop. The experts were asked to score the assessment criteria and to provide their written comments. It is obvious that the experts could in most cases not be given guidance through objective criteria. In many cases it was necessary to ask them for a more intuitive assessment taking into account their professional experience. To provide the experts with an adequate framework, they were given the following guidelines for the assessment of each criteria:

- **Feasibility:**

Means whether a recommendation is viable from the economic, technical, political etc. point of view. The feasibility has been classified in three different categories:

- **Easy (☼):** Recommendations that can be considered to be easily implemented without any major resistance from the operators, public authorities, travellers and other stakeholders.
- **Medium (☼☼):** Recommendations that might face barriers for implementation either within the EC or by other stakeholders like operators, public authorities or travellers. A medium feasibility might also be caused by technical, legal, financial, institutional or organisational problems that might complicate their implementation.
- **Difficult (☼☼☼):** Recommendations that might face serious barriers for implementation which could possibly prevent the EC from taking action in this field.

It has to be stressed that experts were asked to justify their assessment and explain their underlying assumptions. In the external validation, experts also could state that they found a recommendation to not be feasible at all.

- **Cost:**

An approximate assessment of the estimated costs that the EC faces when implementing a recommendation (EC-cost). Of course the costs related to an action also depend on the scale (e.g. the number and size of funded projects). Experts were asked to explain how they came to their cost assessment and which scale (or other factors) they took into account.

The rough categories have been:

• Low (€):	< 500K Euro
• Medium (€€):	500-5,000K Euro
• High (€€€):	> 5,000K Euro

- **Impact:**

This aspect attempts to determine what the potential impacts of the implementation of a measure are. All possible impacts (economic, technical, administrative, political, for the user, ...etc.) were considered by the experts. There are no completely objective criteria regarding such an assessment. Experts were asked to explain their approach to this category and the assumptions that were the basis for their assessment. As it was clear that the experts could not exactly quantify the impacts, they were expected to deliver a qualitative assessment of the possible impacts for the target groups to which a concrete measure was directed. The possible impacts have been classified in:

• Low (!)
• Medium (! !)
• High (! ! !)

- **Timescale:**

This category refers to the possible time frame needed by the European Commission to implement or support the implementation of a measure.

• Short-term (☺):	< 3 years
• Medium-term (☺☺):	3-5 years
• Long-term (☺☺☺):	> 5 years

The experts also gave comments regarding their general view of a recommendation and could provide feasible alternative proposals. The input from the external validation was valuable to enable the formulation of the final recommendations presented in this document. Many initial recommendations have been altered and amended in the light of the feedback.

In the following section (chapter 2.3) each recommendation is presented under a standard format with a description and a discussion of its implementation as well as information regarding possible links to other recommendations and the previous two reports. The assessment of the feasibility, cost, impact and time criteria are covered in the text as well as in a table, which gives a rough overview of an overall assessment by using a number of symbols (see boxes above). A legend to this table can be found in the footer of each page in this subchapter.

It has to be stressed that due to the nature of some of the recommendations the table does not provide a completely objective assessment. The scores given are a summary of the feedback from the workshop, the external validation and the discussion in the consortium. In many cases it was clear how the majority of experts assessed a recommendation which was translated into the symbols (e.g. medium cost = €€). In other cases the picture was less clear and a certain range of opinions dominated the assessment (e.g. medium to high costs = €€ - €€€). Finally there were also completely heterogeneous assessments, giving no clear picture and showing a high uncertainty among the experts. In such cases you will find a question mark in the box.

The text beneath the table refers to the assessments and gives further explanations. It has to be stressed that the chosen approach provides a first overview of feasibility, cost, impact and time drawn from the assessments of the involved experts. However, in many cases it was quite clear how experts see certain recommendations and therefore the assessments can be a valid first guideline for the further work of the EC. The experts that have been consulted cover all important fields of passenger intermodality, from technical, over legal to organisational and political dimensions. Therefore the discussions relating to the implementation of recommendations in this report are based both on the opinion of generalists and of highly specialised experts and takes into account many important details. Also the experience of the consortium partners themselves contributed to the critical assessment of recommendations.

A substantial range of options is represented by the recommendations in this report, which is provided to the EC as one decision basis for taking action to promote passenger intermodality in the EU.

2.2 Overview of recommendations and interdependencies

The EU has a limited scope to systematically influence national and urban systems unless they are directly related to the principle of European cohesion or as a condition of financing measures related to social policy. Taking this into account the recommendations aim at where the EU can become active. In the following section, the 28 proposed recommendations are grouped according to eight general fields of intervention that seem to be suitable:

- I. Policy Recommendations
- II. Research and Studies
- III. Standardisation Activities
- IV. Funding for European Intermodal Products and Services
- V. Existing EU Funding Structures
- VI. Directives and Regulations
- VII. Introduce and Support of Intermodality Co-ordinating Organisations
- VIII. Training Programmes and Exchange of Best Practice.

The table presented on page 28 provides a general overview of the proposed recommendations and how they have been classified according to determined fields.

While reading through the list of recommendations the following consideration has to be kept in mind. All 28 individual recommendations are considered to have their value in contributing to enhanced passenger intermodality throughout Europe. However they

are not stand alone recommendations and it is clear that the clustering of different recommendations can generate more impact if they are introduced at the same time or successively. Moreover, depending on the status of passenger intermodality in a member state, a different clustering of recommendations may turn out to be the optimal one.

The following figure gives an overview of the interdependencies, synergies and sequencing of the recommendations. All recommendations are clustered along the three domains "Context", "Products and Services", "Planning and Implementation". A time horizon is introduced which shows the rough timing of recommendations and suggests possibilities for implementing a more comprehensive EC strategy step-by-step. It refers to the time needed by the European Commission to implement or support the implementation of a measure as assessed by the experts in the validation exercise of the last phase of the study. It is important to point out that some relevant recommendations which are placed later on the time scale, e.g. on European data exchange formats (No.12) or on standards for an Interoperable Fare Management (No.13), would still require early preparatory action (cf. chapter 3).

The figure shows the most important links between recommendations. For some recommendations, it is clear – irrespective of the status of passenger intermodality - that combining them would yield more impact. For example recommendation 7.3 "Legal and regulatory intervention to guarantee a minimum level of information" can be considered a prerequisite for the implementation of recommendation 17 "European third party information integrator". In other cases, the implementation of a recommendation might simply increase the impact of introducing another recommendation. For example recommendation 28 "Training and Exchange Regarding Mobility Providers" may contribute to increase the impact of recommendation 21 that deals with "Pilot Projects for the Establishment of Mobility Providers".

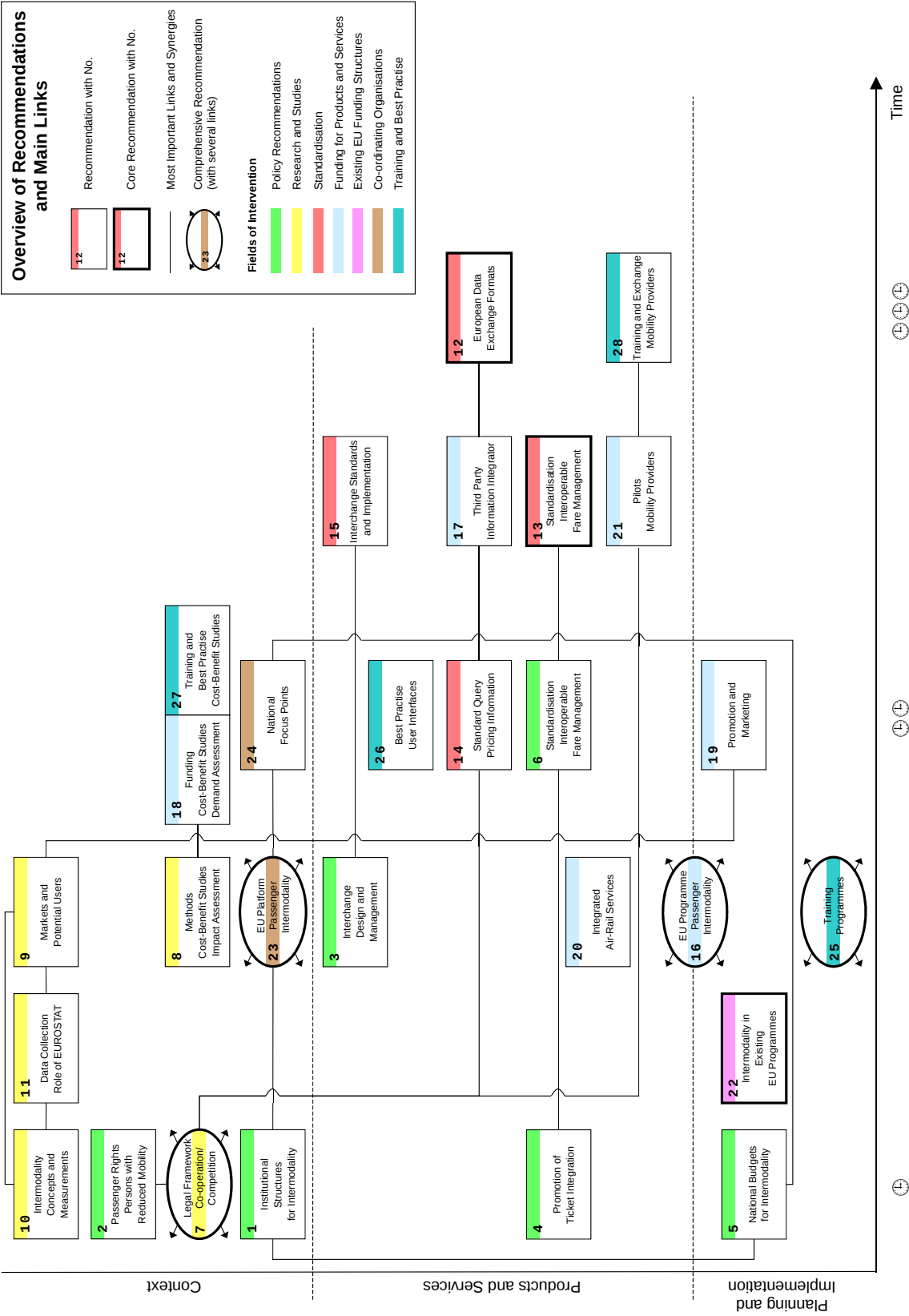
There are four comprehensive recommendations that have links to many others. These can serve as "umbrella actions" for a variety of other activities. The four comprehensive activities include a European Platform and a EU Programme for Passenger Intermodality, specific training programmes as well as several specific studies on the legal framework. These four recommendations are the basis of the proposed core action programme, which is being described in chapter 3.

In the next chapter each recommendation will first be described and assessed in detail. For each one, a paragraph 'Links to other recommendations' makes further reference to connected recommendations in the same and or other fields of intervention for the EC.

Furthermore for each recommendation, links to chapters in the first and second report of the study are given that facilitate easy access to in-depth background information on specific fields of intermodality and show on which knowledge base a recommendation has been generated.

Towards Passenger Intermodality in the EU: Overview of recommendations

I Policy recommendations	
1	Institutional structures for passenger intermodality
2	Passenger rights for persons with reduced mobility
3	Design and management of user friendly interchanges
4	Promotion of ticket integration for the first and last urban mile
5	Allocation of budgets for intermodal programmes at the national level
6	Standardisation of interoperable fare management
II Research and studies	
7	Co-operation among operators in a competitive environment
	7.1 Contractual requirements in service procurement for intermodality and integration
	7.2 Passenger rights charter regulation/directive
	7.3 Legal and regulatory intervention to guarantee a minimum level of information
	7.4 Liability issues regarding mobility providers
8	Methods and guidelines for cost-benefit studies and impact assessments in the field of passenger intermodality
9	Markets and potential users of intermodal services
10	Concepts and measurements for intermodality in passenger transport
11	Role of Eurostat in standard data collection
III Standardisation activities	
12	European data exchange formats for data relevant to intermodal traveller information
13	Interoperable fare management for public transport
14	Discussion on standard query for pricing information in traveller information systems
15	Consensus on interchange standards and support of implementation
IV Funding for European intermodality products and services	
16	EU programme for passenger intermodality
17	European third party information integrator
18	Cost-benefit analyses and user-demand assessments in concrete projects
19	Promotion and marketing strategies
20	Integrated air-rail services
21	Pilot projects for the establishment of mobility providers
V Existing EU funding structures	
22	Introduction of intermodality to existing EU funding programmes
VI Directives and regulations	
<i>Further studies required (see 7 and sub-recommendations 7.1 – 7.4)</i>	
VII Introduction and support of intermodality co-ordinating organisations	
23	EU platform on passenger intermodality
24	Network of national focus points
VIII Training programmes and exchange of best practice	
25	Training programmes for stakeholders
26	Design of user interfaces for passenger information
27	Cost-benefit studies in passenger intermodality
28	Training and exchange regarding mobility providers



2.3 Recommendations to the European Commission

Field of Intervention

I Policy Recommendations

The field of policy recommendations within this report is considered to be the weakest level of EU intervention as the EU has no strong levers or control over its implementation. In this category are included ideas that particularly need to be promoted and recommended to the member states to include in their own policies and action plans. As indicated before, however, this is not an exhaustive list for a full EU policy on intermodality for take up by member states.

Recommendation 1

Institutional Structures for Passenger Intermodality

Minimal requirements regarding a national institutional structure responsible for the co-ordination of passenger intermodality

Description

The European Commission could make national, regional, local authorities and major operators aware of the need for some kind of intermodal institutional structure in order to facilitate co-operation and resources devoted to intermodal products and interfaces.

This study concluded that one of the main barriers for enhancing the implementation of high quality intermodal passenger products and services is the lack of co-operation that exists both between operators and authorities and among operators themselves. Most barriers refer to organisational matters more than technical matters. One element that could help in removing this barrier and that is put forward by several national experts is a strong national institution that has a genuine interest in pushing the topic of intermodal passenger transport at the national level, that feels responsible and brings all various stakeholders together in a complex network.

The survey amongst national experts of 29 countries pointed out that currently such national (or regional) institutional structures responsible for passenger intermodality are widely missing. In most of the countries investigated clear national objectives on intermodality are missing or are at least very vague. As a result there are mostly no clearly dedicated resources towards national intermodality investments. Without such a national co-ordinating structure on intermodality, national experts felt it to be difficult to vertically integrate all local and regional initiatives in this field and it was felt to be difficult to deal with conflicting intramodal and intermodal priorities.

It was perceived also that the opening of passenger transport markets to competition can make co-operation among competing operators even more difficult. Fields of passenger information, ticketing or timetable co-ordination may be affected seriously in a competitive environment and new barriers for intermodal long-distance passengers may develop. This development increases the need for a co-ordinating and responsible institution or for new responsibilities dedicated to an already existing department (e.g. in national ministries) dedicated to passenger intermodality issues.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗⊗ - ⊗⊗⊗	€	?	⊕

Although at first sight, it might seem easy for the European Commission to develop recommendations on minimal institutional requirements, several experts considered the feasibility as potentially medium to even difficult. Most of them fear quite some resistance towards EU-interference in national policies. Most resistance is expected in countries with already very complex public transport authority structures and where in the past some initiatives within this respect have already been undertaken. Some experts point at the fact that it will be difficult to recommend on how this structure should look like because the situation differs considerably between countries. However good practices in this field do exist and might be interesting but their transferability to other member states is less certain.

The majority of the experts have estimated the EU-costs of this recommendation as low. For the individual member states costs depend on the fact whether a completely new institution should take up the co-ordinating role or whether some existing body could extend its responsibilities towards passenger intermodality.

The picture on the expected impact of this recommendation is quite varied; indeed there is no consensus among the experts. First of all, some find it hard to predict the impact of this measure; as it is considered as one of the first steps towards enhancing passenger intermodality and therefore far from concrete realisations on the field. Some low impact assessments refer to the fact that in some countries an extra institutional setting would not provide any value added if there is any resistance from only one of the stakeholders. Most impact therefore is to be expected in new member states. One potential option therefore would be to support the set up of an institutional structure in a limited number of test sites (some new member states e.g.) as a first step. In this way, the feasibility can be demonstrated and stronger policy recommendations – also treating the process of setting up a new structure – can be formulated. Some critical experts are more in favour of recommendations that focus on policy requirements within existing institutions.

Regarding the timing, most experts agree on the fact that this recommendation can be - and some say 'have to be' - elaborated in the short run, as it can take quite some time to get any impact in the field.

The here presented recommendation could have a political significance, but also might be criticised as not appropriate. It is not legally binding, but aims at the national framework and a transnational or cross-border dimension of this policy recommendation is not visible at first glance. Intermodality may be an effective tool however to improve the quality of the environment, with institutional structures for passenger intermodality being an important element to promote a more sustainable transport system, which could be an argument to justify a policy recommendation from the EC in this field.

Links to other Recommendations

No. 23: EU platform on passenger intermodality
No. 24: Network of national focus points

Links to first and second Report

Report 1:

2.3 Policy levels: European, national, urban/regional (p. 15, 16)

6.1 Political support and policy basis (p. 46)

6.3 Co-ordination and co-operation (p. 48, 49)

Report 2:

2.3 Policy and politics (p. 12-18)

2.10 Planning (p. 80-83)

2.11 Co-ordination and co-operation (p. 83-92)

Field of Intervention I Policy Recommendations

Recommendation 2 Passenger Rights for Persons with Reduced Mobility

Integrate the aspect of intermodality in ongoing work regarding general EU policy and legislation on passenger rights for persons with reduced mobility

Description

Currently, the European Commission is working on a general policy or legislation concerning passenger rights in all modes and protection of persons with reduced mobility or visibility impaired people. The Commission is elaborating on a communication “Reinforcing passengers’ rights in the European Union: the way forward”, which should be adopted in early 2005.

In March 2004 a “Proposal for a Regulation of the European Parliament and of the Council on International Rail Passengers’ Rights and Obligations” was presented by the Commission, containing the rights of mobility reduced persons in several articles. Also a “European Commission Staff Working Paper: Rights of Persons with Reduced Mobility when Travelling by Air” was published in 2004, which is to be seen as preparation for a proposal. Working on these issues has been undertaken separately for each mode on a (pre-)proposal stage. However, the next step should implement a mandatory policy or legislation considering the intermodal state of the art for elderly people and mobility or visibility impaired person and passengers’ rights. In this context the intermodal state of the art has to take the following criteria into account:

- integration of all single modes of transport;
- transfers between modes and physical design of interchanges; and
- availability of products and services (e.g. information) for persons with reduced mobility

Therefore the communication “reinforcing passengers’ rights in the European Union: the way forward” is recommended to integrate an intermodal comprehension of passengers’ rights and mobility impaired people.

For this transfer it is important to recognise and to consider the passengers view from the perspective of an intermodal door-to-door trip, inclusive necessary intramodal transfers in public transport.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗	€	!!	⌚

While the European Union is already working on the issue of passengers’ rights for mobility impaired and proposals are available for single transport modes, integrating the intermodal state of the art with regard to passenger rights could be achieved without significant resistance. Additionally the knowledge for a detailed consideration of the passengers view can be made through the integration of target groups and their response to the previous European policy.

The European Disability Forum states their incorporated organisations view in a response paper to the “Proposal for a Regulation of the European Parliament and of the Council on International Rail Passengers’ Rights and Obligations” and one to the “European Commission Staff Working Paper: Rights of Persons with Reduced Mobility when Travelling by Air”. Thereby adding an appraisal and recommendations for incorporation of passenger rights.

This recommendation on passenger rights for persons with reduced mobility deals with a field in which the EU has a special interest. International travelling is still severely hindered for people with reduced mobility. However, the treaty establishing the European Community includes a general article on combating discrimination, including that based on disability and age (Article 13). Therefore, guaranteeing passenger rights and accessibility for this group of travellers wherever they go may be easier achieved by European action than by a mixture of national rules.

Links to other Recommendations

No. 7.2: Passenger rights charter regulation/directive

Links to first and second Report

Report 1:

- 1.2 Intermodality and the long-distance passenger transport market (societal and political developments, p. 6)
- 5. Core elements for a seamless travel chain (p. 26-45)
- 7.3 Technology development and user-needs assessment (p. 54)
- 7.4 Services and infrastructure for passenger intermodality (p. 55)

Annex Report 1:

- Cost 335 passengers’ accessibility of heavy rail systems (p. 12)
- ECMT, 1999. Transport chains and disabled persons (p. 53)

Report 2:

- 2.4 Legal and regulatory framework (p. 19-25)
- 2.5 Networks and interchanges (p. 26-43)
- 2.6 Information (p. 43- 55)
- 2.7 Ticketing/fares, booking/payment (p. 55-67)
- 2.8 Baggage handling (p. 67-73)
- 2.9 Integrated services/products (p. 73-79)
- 2.10 Planning (user-needs assessment, p. 80, 81)

Field of Intervention I Policy Recommendations

Recommendation 3 Design and Management of User Friendly Interchanges

Provide information on (1) existing standards and guidelines for user friendly interchanges and on (2) good business models for interchange management

Description

The EC could provide information about existing guidelines or standards on the design of interchanges, signage, etc. and facilitate the use of them. Moreover, it could highlight good business models of management of interchanges.

The experience regarding design and layout of interchanges varies throughout Europe. Different issues have been defined as critical success factors for good interchanges, such as the location, the interoperability between modes, the timetable integration, the passenger friendliness (information and ticketing, waiting facilities, layout, accessibility, language), security issues and the financial structure. The status of these issues is highly depending on the interchange management.

The role of the EU is not to support financial investments in the design of interchanges. As this should remain mainly a task for partnerships on the national, regional or local level. Also, there is no further EU-support needed to set up new guidelines or standards for the design and lay-out of interchanges; this study has shown that guidelines/standards are available (cf. recommendation 15). However, the EC has an important role to play in providing information on these guidelines and standards and in facilitating their use. Moreover, it should highlight good business models of management of interchanges. This policy recommendation aims at increasing the use of existing standards and recommendations on interchange design and management. It also aims at providing information on good business models for interchange management.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⚙⚙	€€	!	🕒 - 🕒🕒

No major problems are expected regarding the feasibility of a policy recommendation for the field of interchange management and design. The implementation however would probably encounter some barriers as co-operation of many different stakeholders in interchange management and the adaptation of the built environment are complex tasks that may take time. The cost of this recommendation is estimated to be medium.

The majority of the experts assess the impact of this measure as only low. As this measure has no direct impact on the level of use of the interchange and/or this type of impact is difficult to measure. Some experts expect only a low impact of a measure which only spreads good practice and gives information on existing guidelines and good business models. A recommendation that enforces the adoption of guidelines and standards would have more impact, according to some experts. Other experts have concerns over the quality of existing standards and their applicability to specific local conditions. They strongly advice a good screening of these standards first – they rather like to speak of guidelines instead of standards - before recommending their

application. Most impact is expected in new member states where information on good design and management of interchanges is currently missing in several places. Regarding the timing, there is almost consensus among the experts that the EU can take action in the short run.

Links to other Recommendations

No. 15: Consensus on interchange standards and support of implementation
No. 23: EU platform on passenger intermodality

Links to first and second Report

Report 1:

5.1 Networks and interchanges (p. 26-31)
6.2 Planning and design (p. 47)
6.3 Co-ordination and co-operation (p. 48, 49)
7.4 Services and infrastructure for passenger intermodality (p. 55)

Annex Report 1:

GUIDE (p. 20)
Interchange and travel choice (p. 28)
MIMIC (p. 33)
PIRATE (p. 38)

Report 2:

2.5.1 Integrated networks, interoperability (p. 26-33)
2.5.2 Design, layout of interchanges (p. 34-38)
2.5.3 Integration of transport services and timetables (p. 38-42)
2.10 Planning and implementation (intermodal transport network planning, p. 81)
2.11 Co-operation and co-ordination (p. 84)

Field of Intervention I Policy Recommendations

Recommendation 4 Promotion of Ticket Integration for the First and Last Urban Mile

Introduction of policy recommendations to support the integration of ticketing in urban-interurban and urban-urban fields to encourage operators to integrate the first and last urban miles of a trip into the long-distance journey

Description

The European Commission could launch initiatives to support the integration of ticketing in both urban-interurban and urban-urban fields, so that national, regional and urban Transport Authorities and the operators would be encouraged to integrate the first and last section into the main long distance component of a trip.

This recommendation regarding ticketing integration is mainly focused on the first and last element of the journey. Most of the European urban and metropolitan areas already have highly integrated fare systems which enable users to travel using a simplified, meaningful ticketing system. When a trip involves more than one urban area as well as an interurban mode, the integration is more limited. The first and last urban mile however are essential elements of a long-distance trip. Ticket integration of these elements of the travel chain may contribute to make intermodal trips easier and more attractive to the customer. Solutions to the integration of the first and last urban mile are feasible in the short-term, as has already been proven. Recommendations 6 and 13 deal with Interoperable Fare Management in general, offering opportunities for the complete public transport system and have to be seen in context with the here presented recommendation, but have a longer time horizon (cf. figure “Overview of Recommendations and Main Links”, page 29).

A positive example of a conventional ticketing integration concept for the last urban mile in a long-distance trip that is already in place in Germany is the so-called “City-Ticket” of German Rail. All customers that hold a BahnCard, a subscription which gives you a discount on the normal price, are entitled to the “City Ticket” and to continue their long-distance rail trip - without the need for a further ticket or payment - by local public transport from the station of arrival to their destination within the urban area in more than 60 cities in Germany.

Such conventional agreements between long-distance and local transport operators are currently feasible for many countries, and should be promoted through a policy recommendation from the European Commission. It is suggested to progress this with the assistance of a large key player such as, for example, the German Rail in Germany.

Conventional co-operation in this field is a feasible first step that can be quickly realised in the short term before, in a second step, e-ticketing (cf. recommendations 6, 13) could facilitate further ticketing integration for the first and last urban mile. Current activities in the standardisation of Interoperable Fare Management are developing also on European level, and may contribute in the medium to long term perspective to the enhancement of passenger intermodality on the European level.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗⊗	€	! - !!	⌚

Experts consider that launching a set of recommendations is feasible, although it may be difficult due to the long and complicated negotiations required among operators and authorities. A recommendation to promote ticketing integration could influence the political level, but in order for it to be viable there have to be incentives for the operators (such as win-win solutions) as a pre-condition.

In many cities and regions, operators are currently developing ticketing systems that may not be interoperable, which can cause serious difficulties. The experts consulted are not opposed to the use of conventional “city tickets”, such as the ones already available in some countries in Europe, but some of them recommend the introduction of Electronic Fare Management systems. This would enable organisation to apportion revenues between operators easier and therefore overcome an important barrier (cf. recommendation 13). It is expected that in the short term this could be introduced using conventional ticketing with electronic ticketing being introduced in the medium to long term.

The costs for the policy recommendation are considered to be low in general. However, the introduction of an Electronic Fare Management system of course requires co-operation arrangements and investments causing much higher costs.

A low to medium impact is expected depending on the take-up. However, other aspects such as guidance on how to use the system, information about the service, availability of car parking at the station or of a local service, etc. are important to remove barriers and increase public confidence in the system.

Experts expressed certain reservations regarding the measure of policy recommendations. It is thought that policy recommendations will be more adhered to if there is experience that shows that their implementation will raise passenger numbers/kms and therefore raise fares incomes. This experience might be gathered from Germany or the UK PlusBus experience.

The implementation may be difficult. A number of experts are of the opinion that this approach could be certainly possible for specific places that experience a large number of travellers (agglomerations, metropolises, tourist attractions), but it is essential that the actors see the benefit, otherwise operators will not have the required incentive to concentrate on intermodal services.

Integration of ticketing for the first and last urban mile has a clear community dimension if transnational and border-crossing travelling is involved. Integrated ticketing is a priority issue for seamless international travelling. National activities will reach limits faster than a European approach and would not be able to achieve a similar impact. Therefore this recommendation does not conflict with the principle of subsidiarity of Art. 5 (2) ECT. Especially in the field of Electronic Fare Management European action seems to be required as a patchwork pattern of different systems could develop over time in different European regions, which would pose a severe barrier to a European integration of ticketing for the intermodal traveller. This problem can only be solved in a European approach.

Links to other Recommendations

No. 6: Standardisation of interoperable fare management
 No. 13: Interoperable fare management for public transport

Links to first and second Report

Report 1:

5.3 Tariffs and ticketing (p. 37-40)

6.3 Co-ordination and co-operation (p. 48, 49)

6.6 Technical issues (p. 51)

Report 2:

2.7 Ticketing/fares, booking/payment (p. 55-67)

2.14 Technical issues (information and ticketing technologies, p. 103, 105)

Field of Intervention

I Policy Recommendations

Recommendation 5

Allocation of Budgets for Intermodal Programmes at the National Level

Introduction of policy recommendations that will help to expand the intermodality concept by stimulating national governments to allocate national budgets for intermodal programmes

Description

The European Commission could introduce recommendations to national authorities to promote the allocation of budgets for intermodal programmes at the national level through a series of actions.

The European Commission may help to expand the intermodality concept and stimulate its consideration in future transport plans and budgets. There would need to be a clear feed-through of intermodality concepts in national plans to regional and local plans to achieve effectiveness. This can be done in general terms, through the following tools:

- preparation of recommendations and criteria that should be included in the national transport plans that include intermodality related issues.
- demanding the inclusion of appropriate intermodal programmes in the national transport services and infrastructure plans that receive European funding, directing the investment programmes towards the connection of different modes.
- incorporating intermodality improvement programmes in the transport services and infrastructure plans at the national level.

Although the general situation in most European countries is that intermodality issues have not yet been considered in their infrastructure and transport services plans, the national inventories performed within the study showed that national authorities have started to address the importance of intermodality as a necessary step to improve public transport. Some member states have already incorporated national plans. Every day more attention is paid to the creation of new rail stations, airports and urban interchanges in the infrastructure sector attending to modal interchange aspects in interurban modes (air-rail) or urban-interurban modes.

Discussion of Implementation	Feasibility	Cost	Impact	Time
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This recommendation is viewed in general as a feasible measure, although it could face various difficulties. For this measure to have a worthwhile effect, however it is necessary to ensure that member states are fully signed up to the principle of intermodality so that national transport plans include real improvement programs.

There are also opinions that reflect a more conservative position towards this measure. Although setting minimum requirements might be quite simple, the implementation could be more complicated. Member states should have well structured transport planning policies, and these policies should be linked to political

interests and negotiations. It would be easier to include intermodality in the public transport services tendering process, as it is difficult to develop specific intermodality criteria, that have to be included in national plans or as a condition for receiving EU funding. At present the national budgets for passenger transport have a strong modal focus, relating to a mostly modal organisation of transport ministries. Changing the current situation may be difficult, as at present every transport mode keeps its part of the budget very carefully. There could be some resistance that affects national decision-making levels, but it should be possible for most nations to respond positively. In general it could be accomplished in the short term.

Regarding the costs, it is considered to be a low cost measure, since major costs fall on national governments and not on the EU. However, higher costs could be foreseen on the national level when planning and allocating budgets.

The general impression on the impact that this recommendation may have is diverse. Most experts estimate a low impact, depending on the response from member states. On one side, it is thought that unless there is a EU regulation to make this compulsory and to enforce somehow implementation and assessment, these ideas might lead to words and no actions. Another opinion is that recommendations and supporting programmes at the national level can mobilise operators and actions of authorities. In this case, promotion of the measure would be crucial, for instance through a training programme, awareness-raising campaigns, dissemination and marketing activities. Some level of best practice guidance along with a knowledge of all the different national and regional plans into which such guidance might have to be incorporated would be required. Europe wide awareness raising techniques would also be needed, thereby ensuring that those responsible for developing plans actually know what the EU wants them to do. It is presumable that some material related to structural funding of transport measures would also need to be changed.

Preparing a policy recommendation is feasible in the short term. The implementation however might require some more time, for example to make changes in transport policies but the recommendation is necessary as in the long term it could favour intermodality as a whole.

State subsidies, as could occur in funding programmes for passenger intermodality, may relate to this recommendation. They are subject to the subsidy regime of Art. 87-89 ECT on aids granted by states. For the transport sector three further articles (Art. 73, Art. 75 and Art. 77 ECT) give the general rules for authorisation of certain aids. The prevailing opinion in the literature is that intermodal transport or combined transport falls in either case under the requirements of co-ordinated transport, such that subsidies for intermodal passenger transport under Art. 73 ECT are regularly subject to approval.³⁶

Links to other Recommendations

- No. 1: Institutional structures for passenger intermodality
- No. 22: Introduction of intermodality to existing EU funding programmes
- No. 24: Network of national focus points
- No. 25: Training programmes for stakeholders

³⁶ Cf. Erdmenger in: v.d. Groeben/ Schwarze, Commentary on the European Union Treaty and on the Establishment of the European Community, 6th ed., Baden-Baden 2003, Art. 73 N° 1, 14.

Links to first and second Report

Report 1:

5.5 Promotion of intermodality (p. 43, 44)

6.1 Political support and policy basis (p. 46)

6.5 Financing/resources for intermodality (p. 50, 51)

Report 2:

2.13 Resources (p. 96-101)

3.1 Conclusions regarding planning and implementation (Opportunities for joint financing of intermodality investments are often complicated, p. 116)

Field of Intervention I Policy Recommendations

Recommendation 6 Standardisation of Interoperable Fare Management

Creation of European policy recommendations to standardise an Interoperable Fare Management Architecture that would allow fare and ticketing integration for public transport

Description

The EU, by generating policy recommendations, may influence national governments and other key players to take actions to promote the ongoing European standardisation and implementation of an Interoperable Fare Management (IFM) architecture for public transport.

Policy recommendations regarding the development and implementation of a European IFM standard could be a first step to create favourable pre-conditions for the harmonisation of ticketing systems on a European level. A number of key players at the European level need to start working on the design, implementation and exploitation of IFM systems. Policy recommendations on IFM should be followed by further topics such as revenue sharing, integration of pricing schemes, cost-benefit evaluations, also consideration of the needs of vulnerable groups and other related topics. Special emphasis should be given to the generation of policies that address the fair division of incomes among operators.

Currently public transport operators work on distinct environments based on different fare policies and subsidy models that make ticketing integration a difficult proposition. It is the case in most of Europe, that travellers need to purchase different tickets from different places for an intermodal long-distance trip. In some countries there is an acceptable level of ticketing and fare integration at the urban, regional or national level, but problems persist in general when larger distance trips are being made.

Studies have shown that the technology for the integration of ticketing systems is already available, but the main problems relate to organisational obstacles. Even if these obstacles could be overcome, further difficulties for European integration could arise given the fact that the technology available is not always based on a common standard.

As described in recommendation 13 important activities to create a European Standard for an IFM architecture are already going on at CEN level. Through specific policy recommendations from the EC to national key players, these activities could be promoted and encourage the use of a common standard. However, to have an impact from these standardisation activities it is essential to make a standard known and to encourage its implementation.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗⊗	€ - €€	!!	⊕⊕

The general view on this recommendation is that it has a medium feasibility as such attempt may also face obstacles (technical, institutional and organisational barriers) difficult to overcome as they impinge on the goals and culture of various organisations.

Certain stakeholders might feel that they lose out by following a standard, especially if investments in systems that are not compatible have already been made. Experts agreed on the fact that competition between operators and the development of technology are the main barriers in the field of integrated ticketing.

However, past experiences and projects in other fields such as EU-SPIRIT for traveller information have shown that co-operation towards practical implementation of common European solutions is possible. Although in doing so there has to be a commercial rationale and a “project driver”. Unless all parties involved in implementing the practical outworking of such a policy recommendation are commercially driven to deliver it, such an approach may fail.

The general impression is that this measure will involve a low to medium cost. This could be moderately costly in consultation effort, equipment, staff time and travel. Of course other costs related to standardisation activities and the implementation of IFM systems may be considerably higher (cf. recommendation 13).

The impact expected could be medium, depending on the degree to which operators and authorities take notice or become aware of policy recommendations.

One of the reasons for the impact not being higher is because integration of rail ticketing for long distance and local ends of journeys is not thought to be a major determinant of demand for intermodal rail: price and convenience are considered more important determinants. Although it can help current users, there is no assurance that this would bring more users to public transport. Thus, it needs to be accompanied by other measures.

Experts agree on the need for a medium term to standardise an e-ticketing system, implementation. Implementation especially if aiming at European co-operation would need much longer.

Support could be given to existing activities of e.g. CEN (cf. recommendation 13) to promote a feasible European solution for IFM.

It is the general view that action to push European co-operation is needed quickly, as many countries have already defined or are currently involved in on-going projects, using different approaches that may lead to a patchwork pattern of Fare Management systems across Europe. Integrated ticketing is a priority issue for seamless international travelling. As national activities can only have limited impact in this field, a clear Community dimension is given and action in this field does not conflict with the principle of subsidiarity of Art. 5 (2) ECT.

Links to other Recommendations

No. 4: Promotion of ticket integration for the first and last urban mile
No. 13: Interoperable fare management for public transport

Links to first and second Report

Report 1:
5.3 Tariffs and ticketing (p. 37-40)
6.3 Co-ordination and co-operation (p. 49)
6.6 Technical issues (p. 51)

Annex Report 1:
VOYAGER (p. 51)
TAP-Programme (p. 45)

Report 2:
2.7 Ticketing/fares, booking/payment (p. 55-67)
2.9 Integrated services/products (p. 73-79)
2.14 Technical issues (information and ticketing technologies, p. 103)

Field of Intervention II Research and Studies

The field of research and studies includes the most important areas where either information is missing, or basic general building blocks and information for an objective and analytical approach to the subject are still missing, thereby preventing specific action to be taken at a European level.

Recommendation 7 Co-operation among Operators in a Competitive Environment

Analyse significance and impact of existing legal and regulatory structures and scope for intervention by the EU in achieving better co-operation among operators in a competitive environment

Description

The project has highlighted that competition between operators is a potential barrier to intermodal co-operation for example in the areas of shared ticketing, fares and central travel information systems. This is a particular issue for the deregulated national and international transport sector, but becomes more of a sector wide issue as competition is progressively introduced into railway and urban / regional transport sectors.

Legal and regulatory frameworks on national or European level may favour or inhibit passenger intermodality in a competitive environment. In most countries legal and regulatory frameworks for passenger transport often influence passenger intermodality but do not explicitly regulate it or co-ordinate competition models to improve it.

Another issue which can be a major barrier to intermodality and integration are the potential liabilities of mobility providers when establishing their business. Of course, single elements that a mobility provider would deal with, as integrated timetables or integrated ticketing, are of interest in context with other services related to passenger intermodality as well.

A basic problem regarding this is the lack of suitably robust information, thereby resulting in many open questions on how existing national and European legal and regulatory frameworks affect passenger intermodality, how they would have to be amended to favour seamless passenger transport, and which direct legal and regulatory measures would need to be implemented to support the integration of passenger transport systems at national / European levels.

A research project should be set up to provide:

- *a general information and analytical basis for the European regulative level and a national comparison which could help to design appropriate legal and regulatory frameworks on a European and/or national levels*

Detailed research (cf. recommendations 7.1 to 7.4, may be part of one research package) should look in particular at the feasible scope and desirability of various EU legal interventions.

- *Amending the draft of planned public transport EU regulation (for controlled competition in regional and urban public transport) to include*

intermodality/integration contractual requirements (recommended or obligatory) where transport services are being contracted (cf. recommendation 7.1).

- *Developing a passenger rights charter regulation/directive which supports intermodal and integrated transport (cf. recommendation 7.2).*
- *Developing a regulation for operators to provide a minimum level of information (cf. recommendation 7.3).*
- *Developing a regulation covering liability issues for mobility providers (cf. recommendation 7.4).*

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⚙	€	!!! - !!!!	⌚

Expert evaluation indicates that this recommendation is desirable and important. The implementation of any subsequent research recommendations may be very hard and potentially costly to implement at a pan-European level and almost certainly not in the short-term, mainly because competition law is such a sensitive topic with wide differences in philosophies prevailing in different countries.

The research itself, however, is quite feasible and necessary in order to devise feasible and desirable measures and could be very beneficial to national governments as an overall impact analysis and benchmarking analysis of their own policies.

The basic research into existing national frameworks might be recommended to be repeated in more detail in individual countries (funded nationally). This may identify many improvements that might be made in individual countries, rather than at an EU level.

Recommendation 7.1 **Contractual Requirements in Service Procurement for Intermodality and Integration**

Analyse feasible and desirable scope of amending the planned regional and urban public transport competition regulation to include integration/ intermodality contractual requirements in service procurement

Description

A major problem for passenger intermodality lies in providing common standards and necessary co-operation between operators both within and across modes, even in the market of regional and local public transport which often provides the last urban mile of an intermodal trip.

Keeping in view any developments of the planned but currently dormant public transport regulation for awarding public service contracts applying controlled competition in public transport (last version "COM (2002) 107 final") and the planned proposals for railway integration outlined in "COM (2004) 107 final", the project recommends to investigate the feasible and desirable scope of imposing intermodality contractual requirements where transport services are being procured or operated by the public sector.

The current version of the proposed regulation for award of public service contracts in public transport (*COM (2002) 107 final*) contains a requirement to take into account integration between operators and services in the assessment of tenders but does not explicitly refer to non-public transport modes and does not make these elements mandatory.

The research should address the costs and impact of existing legislation relating to intermodality in different states, the market demand for such a change as well as its realistic implementation feasibility in different states of the EU.

Contractual requirements may (but not necessarily or exclusively) include:

- full participation in a standard integrated, intermodal and inter-operator information system;
- obligation of data-sharing among operators and to an independent third party information integrator regarding timetables, fares and other relevant information (also cf. recommendation 7.3);
- full participation in integrated ticket systems and ticket sales systems;

and possibly:

- guarantee of some inter-modal and intra-modal connections together with the length of waiting times, in particular should there be a delay on the first leg of the journey with respect to some modal combinations; and
- co-operation with interchange operators on standard orientation and incident and delay information and management systems.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⚙	€	!!	⌚

This recommendation was originally presented as a recommendation for a directive/regulation. The feedback of the experts on this basis implies that it is very important to research the impacts and then carefully define feasible and desirable content before pressing ahead with any specific legislative proposals.

Therefore the recommendation has been re-defined as a research need.

The expert evaluation indicates that this recommendation is on the whole desirable and would have medium to high impact but the implementation may be very hard or impossible to implement at a pan-European level and almost certainly not in the short-term.

Many experts agree that probable feasible and desirable amendments include obligatory participation in information systems, data sharing and integrated ticketing systems. It has been highlighted that this is made easier when authorities are in charge of a system in an area, a problem lies in how to integrate all regional systems together.

However, concerns were raised regarding guaranteeing connections and stipulating standards of orientation and providing incident and delay information because it will

not be clear exactly what co-operation will be required and this could push up tender prices.

The experts differed in costing the implementation mainly because some included the high costs of legally binding standards to operators and authorities including the costs of retrofitting interchanges.

The research itself is of high importance and should be of limited cost and relatively quick to carry out.

Links to other Recommendations

No. 3: Design and management of user friendly interchanges
 No. 4: Promotion of ticket integration for the first and last urban mile.
 No. 6: Standardisation of interoperable fare management
 No. 12-15: Standardisation activities
 No. 17: European third party information integrator

Links to first and second Report

Report 1:

5. Core elements for a seamless travel chain (p. 26-45)
 6.3 Co-ordination and co-operation (p. 48, 49)
 6.4 Legal and regulatory issues (p. 49, 50)

Report 2:

2.5 to 2.9 Products and services (p. 26-79)
 2.11 Co-ordination and co-operation (p. 83-92)

Recommendation 7.2

Passenger Rights Charter Regulation/Directive

Analyse feasible and desirable scope of passenger rights charter regulation/directive which supports intermodal and integrated transport

Description

A major problem for passenger intermodality lies in providing common standards and necessary co-operation between competing operators both within and across modes, especially in the deregulated long-distance collective transport travel modes.

Passenger rights are an issue that has been and is still being dealt with by the EU in several areas, e.g. for air-transport (information about flights and reservations, overbooking, air travel as part of a package holiday etc.). In order to establish a general set of passenger rights that protect European citizens a draft communication has been issued in May 2004 by the European Commission on "Reinforcing passengers' rights in the European Union: the way forward". The planned proposals for railway integration outlined in "COM (2004) 107 final" also addresses this issue for rail passengers

A passenger rights charter with intermodal requirements might force operators to co-operate and authorities to facilitate the development of some integrated/intermodal services.

Bearing in mind the current developments regarding a general set of passenger rights, the project recommends investigation into the feasibility and the desirable scope of a passenger rights charter with intermodal requirements aimed at putting pressure on operators to co-operate and authorities to facilitate the development of some integrated/intermodal services.

The research should address the costs and impacts of existing legislation in different states and the market demand for such changes as well as its realistic implementation feasibility in different states of the EU.

The charter might for example (but not necessarily or exclusively) address the following aspects with regard to different modes:

- standard minimum level of orientation and comfort at interchanges (in a very clearly defined way);
- standardised central source of integrated, intermodal and inter-operator information (see recommendation 7.3 for an alternative view); and
- one-stop ticket purchases for inter-modal and intra-modal trips;

and possibly even

- guarantee of some inter-modal and intra-modal connections together with the length of waiting times, in particular should there be a delay on the first leg of the journey with respect to some modal combinations; and
- a minimum right to basic connecting luggage services for selected modes and mode combinations (e.g. air-rail).

Such a regulation might be enforced by refund rights and/or operator fines for non-compliance with the integration schemes (e.g. failure to provide timetable or fare data). There could also be obligations for authorities to set-up integration schemes such as integrated information systems.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗	€	!!	⌚

This recommendation was originally presented as a recommendation for a directive/regulation. The feedback of the experts on this implies that it is very important to research the impacts and then carefully define feasible and desirable scope before pressing ahead with any specific legislative proposals.

Therefore the recommendation has been re-defined as a research need.

The expert evaluation indicates that the recommendation is on the whole desirable and would have some but perhaps not great impact and that the implementation may be very hard or impossible to implement at a pan-European level and almost certainly not in the short-term.

Views in fact vary widely between experts. There are some who consider such a charter as a minimal basic need or a milestone in intermodal transport. Others did not see this as an appropriate or practical instrument for improving passenger intermodality.

Many highlighted implementation as extremely difficult in particular with reference to enforcement together with the perception that there is not enough political power to reach a common position. The expert evaluation also differed in costing the implementation mainly because some included the high costs of legally binding standards to operators and authorities including the costs of retrofitting.

The research itself, however, is of high importance and should be of limited cost and relatively quick to carry out.

Links to other Recommendations

No. 2: Passenger rights for persons with reduced mobility
 No. 3: Design and management of user friendly interchanges
 No. 4: Promotion of ticket integration for the first and last urban mile
 No. 6: Standardisation of interoperable fare management
 No. 12-15: Standardisation activities
 No. 17: European third party information integrator

Links to first and second Report

Report 1:

5. Core elements for a seamless travel chain (p. 26-46)
 7.3 Technology development and user-needs assessment (p. 54)
 7.4 Services and infrastructure for passenger intermodality (p. 55)

Report 2:

2.5 to 2.9 Products and services (p. 26-79)
 2.10 Planning (user-needs assessment, p. 80, 81)

Recommendation 7.3

Legal and Regulatory Intervention to Guarantee a Minimum Level of Information

Analyse feasible and desirable scope of legal and regulatory intervention to guarantee that operators provide a minimum level of information

Description

This recommendation is suggested to analyse the possible scope of legal and regulatory intervention to guarantee that operators provide free access to all data necessary for high quality intermodal traveller information systems.

To improve conditions for passenger information, it is recommended that the EU could carry out further research that studies the possibility to establish a legal and regulatory framework for data-sharing and free access to information relevant to this field. This is important as it could contribute substantially to the improvement of intermodal passenger information systems at the EU level.

High quality intermodal passenger information systems only work, if information on timetables, fares and other elements is available from all operators that provide services in a travel chain. Currently throughout Europe a good co-operation in data sharing issues from the operators' side is still lacking and this is a major barrier for the realisation of complete intermodal passenger information. Voluntary data sharing works in some cases, such as the integration of timetable information of non-competing transport operators into common information systems, but

nevertheless is poor in many countries. Of particular concern is the lack of integration of fare information for all elements of a travel chain and border-crossing passenger transport. The increasing introduction of competition to the passenger transport market poses in many cases a further obstacle to the free provision of data for traveller information from the operators' side.

However, a free access to operator information on timetables, fares and other elements relevant for passenger information is essential for the establishment of (European) intermodal traveller information systems. It is a pre-condition for operators or other (public or private) information providers to offer integrated information to the user which could be facilitated through the establishment of a third party information integrator (cf. recommendation 17). Such an approach could, as a clearinghouse, make available all necessary (European) data regarding intermodal passenger transport from the operators and/or authorities by providing a technical interface to support intermodal information queries.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗	€	!!	⌚

This recommendation was originally presented as a recommendation for a directive/regulation. The general view of the experts is that considerable research through consultation and lobbying is necessary. Therefore, this measure has been re-designed, as a need for further research has been identified.

The feasibility of this measure as initially designed (directive/regulation) was graded as difficult by most experts. Introducing directives and regulations to oblige operators to share information is likely to be complicated. Experts agreed on the fact that amending directives is a lengthy and delicate process, and the feasibility depends on the consultation process, provided that a fair and open debate with all the relevant parties is achieved.

For this reason, research based on consultation and debate with all stakeholders involved is needed and would be very useful. The implementation of this research action would imply low costs and it is seen as easy to carry out in general terms. The foreseen impact would be medium as research on this area will determine the feasibility for its implementation. Research however is a “must” to prove if a regulation or directive is the way forward.

Links to other Recommendations

No. 7.4: Liability issues regarding mobility providers
No. 17: European third party information integrator

Links to first and second Report

Report 1:

5.2 Intermodal and integrated passenger information (p. 31-37)

6.3 Co-ordination and co-operation (p. 48, 49)

6.4 Legal and regulatory issues (p. 50)

Report 2:

2.4 Legal and regulatory framework (p. 19, 21, 22, 23)

2.11 Co-ordination and co-operation (p. 86, 88, 90, 91, 92)

Recommendation 7.4

Liability Issues Regarding Mobility Providers

Analysis of liability issues regarding mobility providers for individual integrated and intermodal passenger transport solutions

Description

The EC could support research on the liability issues that are directly related to the services provided by the mobility providers concept.

The idea of commercial mobility providers that offer travel packages to the passenger for integrated long-distance and local mobility services, including complete information and ticketing for intermodal travel chains, is being discussed as a market conform means of promoting intermodal travelling. For a more detailed description of the idea, that is also dealt within recommendation 21 and 28, please refer to the box on the next page.

Related to the feasibility of the mobility provider concept is the question, whether a third party mobility provider is liable for incidents related to the sold services e.g. for delays and lost connections concerning an intermodal travel package. Should EU or national legislation make the vendor of a tour package liable for incidents related to a sold journey, this could be a strong barrier that could prevent the establishment of mobility provider services. This problem would also have to be solved related to the support and testing of such business models in pilot projects, which is recommended in this document (cf. recommendation 21). Therefore the EC should support research in this field.

In addition to mobility providers the issue of liability may also affect those providing single elements that a mobility provider would deal with, for example integrated timetables and integrated ticketing. Therefore research regarding liability issues for mobility providers may also prove to be useful for liability questions regarding other services and could be transferable in many cases.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊛	€ - €€	! - !!	⌚ - ⌚⌚

The proposal to undertake research on liability issues for mobility providers seems to be viable and is itself not largely disputed among the consulted experts. However the here presented recommendation is a pre-condition related to the final goal to support the establishment of mobility providers in the market in a first step as pilots. This proposal (cf. recommendation 21) is highly disputed among experts. Consequently, for experts that do not believe that the idea of mobility providers is feasible in a market environment, the recommendation to do research on liability issues is not considered useful. However, it is considered that research on liability issues can remove uncertainties for potential providers and therefore should be supported by the EC, if it is decided to consider the idea of mobility providers in general.

Feedback from experts implies that it is very important to do research on the impacts of liability issues as a first step and then, in a second step, to carefully define if it is feasible to aim at specific legislative proposals. In terms of competition law, a

European directive to regulate liability issues of mobility providers could be introduced at any time.³⁷

The estimated costs to put research into practice would be low. The expected impact is low to medium, also depending of the outcome of the research and the general assessment of the mobility provider idea.

Links to other Recommendations

No. 7.3: Legal and regulatory intervention to guarantee a minimum level of information
 No.17: European third party information integrator
 No. 21: Pilot projects for the establishment of mobility providers
 No. 28: Training and exchange regarding mobility providers

Links to first and second Report

Report 2:
 2.9 Integrated services/products (p. 79)

The Idea of Mobility Providers (cf. recommendation 7.4, 21 and 28)

Many travellers face the challenge to look-up on their own a variety of travel information and obtain several tickets necessary for an intermodal journey. A European long-distance traveller may end up accessing the passenger information systems of the public transport operator at the origin of the journey, the national rail operator, an airline, and the public transport operator at the destination. And the traveller still may have to buy four different tickets for his journey. The idea of “mobility providers” is to relief the traveller from such tasks.

The concept of competing “mobility providers” that buy a wide range of mobility services (rail, car sharing, rental car, leasing car, public transport, rental bike, taxi, airline tickets, ferry tickets etc.) from the transport operators, combine them according to customer needs and sell them to the clients as an intermodal package, is discussed among some experts as one way of promoting passenger intermodality. Competing mobility providers would have a real interest to offer their clients the most attractive mobility combinations for a journey and to make a good price (if the journey contains flexible pricing elements).

In the tourist industry it is already common standard to provide the traveller with most of the necessary tickets and vouchers as well as with necessary travel information in form of tour packages. In some countries specialised companies offer integrated services for business travellers that include many features of mobility providers. Mobility centres, that have been established in some European regions, frequently offer information and tickets for a wide range of – mostly – regional transport services. The idea of “mobility providers” would combine many of the features of the aforementioned services in a more holistic approach for long-distance travelling and the “last urban mile”, combining a wide range of mobility services.

This idea sounds interesting, but is disputed among experts regarding feasibility and the market for such services. Please see recommendation 21 and 28 for further discussion of the topic.

³⁷ This was stated by the legal expert Dr. Matthias Mehl who participated in the external validation (see annex p. A-17).

Field of Intervention II Research and Studies

Recommendation 8 Methods and Guidelines for Cost-Benefit Studies and Impact Assessments in the Field of Passenger Intermodality

Provision of funding for research and studies that allow the preparation of high quality methods and guidelines on cost-benefit assessments for intermodal products and services

Description

This measure aims at providing guidance for the evaluation of activities in the field of passenger intermodality and to remove uncertainties for operators and authorities regarding decisions to be taken when introducing and promoting intermodal products and services. An essential issue to be addressed is in understanding and modelling the distribution of benefits between the many beneficiaries from intermodal products and services. This will support the setup of appropriate and mutually acceptable cost share models between different partners.

In a first step, it is necessary to provide clear and high quality methods and guidelines on cost-benefit assessments for intermodal products and services. This can be supported by the EC by providing funding for research in this field. In this context the willingness of users to pay for intermodal products and services has to be evaluated (e.g. in the field of information systems). In addition Impact assessment methods and guidelines regarding intermodal products and services should be developed to make costs and benefits transparent.

In a second step, using standard methods and guidelines, cost-benefit assessments are necessary in concrete projects (cf. recommendation 18) to quantify the economic and social impact of the measures to promote passengers intermodality. Still unanswered is the question: which are the most effective measures for promoting passenger intermodality. Regarding tight resources all efforts have to be made to realise the measures that fit best the political goals (e.g. environment, social cohesion etc.) on the level of the authorities, and economic and strategic goals on the level of the operators.

Cost-benefit studies regarding intermodal products and services are widely missing. Better knowledge in this field is necessary to remove uncertainties for operators, authorities and other key players that are willing to implement and promote such concepts.

Research in the aforementioned fields can contribute essentially to remove uncertainties and help to promote passenger intermodality. The role of any new EU initiative could be to share and encourage best practice and to develop guidelines based on existing work (cf. recommendation 27).

Discussion of Implementation	Feasibility	Cost	Impact	Time
	☼ - ☼☼	€€	!!	⌚ - ⌚⌚

Operators should be involved in developing methodologies to ensure that it meets their needs and answers their questions. Experts estimate a medium cost for a preliminary

phase, which would be focused on the compilation of research, assuming that the EU's role would be essentially that of financing and facilitating consultation, development and acceptance of guidelines. European Universities have already achieved work on these issues, which could be used as a basis to proceed.

Experts agree on a medium impact of this proposal as it may raise the perception of the value of intermodality and result in concentrating investment in intermodal products and investments that may serve to deliver modal shift. If the research outcomes could be fed into policy at a national level, a medium impact may be estimated.

It is thought that promotion and education, as well as clarification of the costs and benefits of efficient measures are necessary to increase the impact. If the findings show reduced car use and reduced congestion, they can have a high political effect, which in turn could encourage private operators and authorities at the local and national level, to support investments to fund and plan interchange centres.

There is a partial consensus among the experts on the timeframe for implementation of this measure. It is estimated that the first step could be taken in the short term and the results of the second step could be expected in the medium term.

In general terms, this recommendation has a great potential impact and is considered very important, as it can help to demonstrate what intermodality can do in terms of increased patronage and revenue, and how much it costs. Information on costs and benefits is needed to persuade operators that the investments made will maximise profits. This recommendation is important because it will help operators and public authorities target investments in those areas that will produce the greatest effects to enable them to develop multimodal initiatives.

The scepticism relates to the idea that this proposal might also lead to more insight into the willingness to pay for multimodal transport services such as information provision and mobility providers. Experiences show that willingness to pay for such services is low while it is expected that the benefits of intermodal transport are more related to externalities or transport providers than the travellers themselves.

Links to other Recommendations

No. 18: Cost-benefit analyses and user-demand assessments in concrete projects
No. 27: Cost-benefit studies in passenger intermodality

Links to first and second Report

Report 1:

2.1 Costs and benefits (p. 11-14)
6.5 Financing/resources for intermodality (p. 50)
7.2 Policy priorities (p. 52, 53)

Report 2:

2.2 Assessment data on passenger intermodality (p. 10, 11, 12)
2.13 Resources (p. 100, 101)

Field of Intervention II Research and Studies

Recommendation 9 Markets and Potential Users of Intermodal Services

Support and finance research on the markets for long-distance and intermodal passenger transport and on the potential users of intermodal products and services

Description

In most countries data on long distance trips is available or could be derived from national travel surveys (e.g. DATELINE project). However, there is often less focus on the long distance passenger market. Specific data on intermodal trips and users is with few exceptions, not available. To promote passenger intermodality on a European level, market data and knowledge about the intermodal traveller is a highly important decision basis. Measures to promote passenger intermodality need reliable data to be effective and efficient.

It is recommended to provide funding and support for further research on the market for passenger intermodality and the potential users to obtain a better knowledge base for decisions to be taken in the field of passenger transport.

A positive example of research in this field that, in existing or amended form, might be transferred to the European level is the German project INVERMO (Intermodal Network Integration) (cf. Report 1 and 2). INVERMO provides data on the long distance passenger market and analyses travel behaviour, user demands and the market potential for intermodal measures. Compared to traditional market studies INVERMO's more differentiated segmentation of current travel demand could be very useful to satisfy continuously increasing requirements in transport planning, especially in the field of passenger intermodality.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⚙	€€	?	🕒 - 🕒🕒

Among the consulted experts there is relatively broad agreement on the need for better market data on passenger intermodality, as this would be an important base for decisions of the public and private sector. Despite the confirmation regarding the need for better data, there seems to be uncertainty what impact such research would have. Some experts believe that applied market research with case studies of market potential are what is needed to have a real impact, whilst basic research on the market would only have a limited effect. Cost of the proposed research project on European level would probably be medium. The time depends on the scale and design of the research, but would probably be short to medium term.

In practice the EC could in a first step evaluate the INVERMO approach in depth to confirm that the design of this research project is transferable to the European level. Amendments or extensions may be necessary. The research would have to be carefully designed to cover all relevant questions. Included should for example also be the question if and how much users are willing to pay for intermodal products and services (e.g. for information services), which is highly relevant for the introduction of intermodal products and services to the market.

Certain elements of research on the market could be jointly undertaken with the research on adequate ways to measure intermodality (cf. recommendation 10).

Research on the markets and potential users of intermodal services at a European level has a clear Community dimension. A co-ordinated approach at a European level is required as comparable data for intermodal long distance trips are still missing for international travelling and it can not be expected that member states can solve this problem in a satisfactory way.

Links to other Recommendations

No. 10: Concepts and measurements for intermodality in passenger transport
No. 16: EU programme for passenger intermodality

Links to first and second Report

Report 1:

1.2 Intermodality and long-distance passenger transport market (p. 4, 5, 6, 7)
7.1 The market (p. 53)

Annex Report 1:

DATELINE (p. 14)
MEST Methods for European surveys of travel behaviour (p. 31)
INVERMO-Project (p. 57, 58)

Report 2:

2.1 The market (p. 5, 6, 7, 8, 9)
2.9 Integrated services/products (p. 73-79)
2.12 Promotion (p. 93, 94, 95)

Field of Intervention II Research and Studies

Recommendation 10 Concepts and Measurements for Intermodality in Passenger Transport

Support and finance research on the most appropriate ways to define and measure intermodality in passenger transport

Description

The concept, and especially the measurement, of intermodality in passenger transport is not very well investigated yet. Therefore an important knowledge base for the promotion of passenger intermodality is still weak. Intermodal passenger travel includes very heterogeneous trips and travel related activities (e.g. information, ticketing) depending on trip length and mode use, which should be reflected in concepts and measurements.

The share of intermodal trips in the modal split is only one possible indicator. However, depending on the question this indicator is not always sufficient to provide a full understanding of the principle of intermodality. It seems to be more adequate to use a portfolio of indicators for different purposes, taking also into account intramodal transfers within public transport chains where necessary.

To promote passenger intermodality it is important to look at other fields than the modal split that make it possible to evaluate the market and the commercial potential of intermodal products and services. There are no defined concepts for achieving this as yet, but a range of measurements is possible. The potential for intermodality among users for example may be a measure that still has to be further elaborated and may be highly interesting to operators that want to establish new intermodal products and services. Another possible measure would be to compare the share of spending for services related to passenger intermodality (e.g. in form of a rail and air ticket) in a person's individual budget for passenger transport compared to the share of spending for self performed services (e.g. driving a car). Such a measurement would also need further elaboration, but could help to clarify another dimension of intermodality related to the market for intermodal services. However, it has to be stressed that the discussion about possible measures for intermodality that fit different purposes is not very advanced and needs clarification through research.

A range of well developed indicators, which is harmonised across Europe could help to establish and evaluate actions to promote passenger intermodality. This is an adequate task for a research project on European level that could be supported by the EC.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	☼ - ☼☼	€€	! - !!	⌚

A majority of experts agree on the proposal and see it as an important action, that is needed as a basis for further steps. Political decisions, the work of the proposed platform on passenger intermodality (cf. recommendation 23) and decisions regarding investments in intermodal products and services all would benefit from a better knowledge regarding ways to measure intermodality in the passenger transport sector. The impact of such research itself on traveller behaviour is limited but nevertheless it

is necessary to create background knowledge in this field. A more concrete impact on policy and investments and finally on the traveller would probably need time to become visible.

The proposed research seems feasible, although not easy, and depending on the scale of the research project probably would have medium costs.

The EC should support an adequate research project because of its value in European harmonisation. The start of such a project could be made by a workshop (e.g. in co-operation with ECMT). Basic insights on how to measure intermodality in passenger transport are already available from research on European and national level and should be screened in a first step.

Some experts recommend a close co-operation with the private sector in research on the topic, e.g. in form of “before and after” travel surveys that could be made a condition of providing funding from the EC within a passenger intermodality programme (cf. recommendation 16).

Links to other Recommendations

No. 9: Markets and potential users of intermodal services
No. 16: EU programme for passenger intermodality

Links to first and second Report

Report 1:

- 1.2 Intermodality and the long-distance passenger transport market (p. 4-7)
- 2.1 Costs and benefits (p. 11-14)
- 6.5 Financing/resources for intermodality (p. 50)
- 7.1 The market (p. 53)
- 7.2 Policy priorities (p. 52, 53)

Report 2:

- 2.1 The market (p. 5-9)
- 2.2 Assessment data on passenger intermodality (p. 10, 11, 12)
- 2.13 Resources (p. 100, 101)

Field of Intervention II Research and Studies

Recommendation 11 Role of Eurostat in Standard Data Collection

Investigate the role of Eurostat in the collection of standard data regarding passenger intermodality across the EU

Description

The EC should investigate the feasibility to involve Eurostat in the collection of data on passenger intermodality based upon a common methodology across EU-member states.

Currently, good data on intermodality in passenger trips is not available. Nevertheless these are considered a crucial basis for an EU-action programme on passenger intermodality and are essential to measure progress of actions undertaken within the field. At the same time it is considered important to entrust the data collection to an independent EU-body with expertise on data collection and data control, using a common methodology for all member states. Therefore Eurostat can be seen as the ideal institution to set up the standard methodology and to collect the data on a regular basis. Another benefit in involving Eurostat is that the data can be linked to other EU data on transport as well as to data on demographic changes, etc.

The aim of investigating the role of Eurostat is to provide high standard data to measure status and progress in passenger intermodality throughout Europe.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗	?	!!	?

An important point in the discussion about data collection in general and the involvement of Eurostat more specifically, is the need to clarify what kind of data are needed for what type of analysis. This should be done in an early phase as once a data collecting process has started, it is important to construct time series that are consistent in time and format.

Feasibility does not constitute many problems. EU-regulations and directives are in place to start up the procedure of collection data between Eurostat and the individual member states in the short run. Overall, experts feel it as a valuable recommendation to involve Eurostat as it provides a strong basis for the continuity of the data collection process and for the guarantee of the cross country comparability of data.

The opinions about the EU-cost of this measure differ significantly. The question is raised by one expert whether it would not make sense to investigate other options that might provide perhaps better value for money when looking at it from a methodological point of view.

Most experts expect a medium impact: on the one hand data collection does not directly influence behaviour but on the other hand, most experts believe in the necessity of good data as a policy basis.

A crucial factor in the timing of this recommendation is the status of the methodology of data collection (i.e. its complexity, definitions and tuning).

This recommendation has a clear Community dimension as it would be difficult for individual member states to collect data on cross-border intermodal transport and provide it for comparison. Therefore the Principle of Subsidiarity is no obstacle. Introduction of Community regulations and directives, which obligate the member states to collect data on cross-border transport and to forward it to Eurostat is also unproblematic in terms of law on authorities. Such regulation must be based on Art. 285 ECT, which permits to adopt measures for the production of statistics where necessary for the performance of the activities of the Community.

Links to other Recommendations

No. 9: Markets and potential users of intermodal services

No. 10: Concepts and measurements for intermodality in passenger transport

Links to first and second Report

Report 1:

1.2 Intermodality and the long-distance passenger transport market (p. 4-7)

7.1 The market (p. 53)

7.2 Policy priorities (p. 54)

7.5 Implementation issues (p. 55)

Annex Report 1:

DATELINE (p. 14)

Report 2:

2.1 The market (p. 5-9)

2.2 Assessment on passenger intermodality (p. 12)

2.4 Legal and regulatory framework (p. 19)

2.11 Co-ordination and co-operation (p. 86, 88, 90, 91, 92)

Field of Intervention III Standardisation Activities

The field of standardisation activities includes the most important areas of intermodality where priority should be placed on initiating or accelerating the standardisation process

Recommendation 12 European Data Exchange Formats for Data Relevant to Intermodal Traveller Information

Evaluate the need for and potentially support the standardisation of European data exchange formats for data relevant to intermodal traveller information

Description

One of the main barriers to provide intermodal traveller information on the national and European level, taking into account intramodal transfers in public transport systems as well, are the costs of establishing and maintaining such systems. Willingness among users to pay for traveller information is low, which requires that operators and/ or authorities pay the costs of traveller information systems. Diverse and often incompatible data sources in a multi-stakeholder environment make it a challenging task to provide travellers with truly multimodal and intermodal information, especially in a cross-border approach.

A common European standard for data-exchange formats can help to lower costs related to the introduction and maintenance of European intermodal traveller information systems. Such a standard could help to facilitate an easy exchange of timetable, routing, tariff and other information relevant to the traveller to achieve truly integrated provision of intermodal and multimodal information and could be supported by the EC if need for standardisation in the area of common data-exchange formats was confirmed by the stakeholders.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗⊗	€€	!!!	⌚⌚⌚

The idea of a common standard for European data exchange formats is seen by many consulted experts as important for the improvement of intermodal passenger information and as a measure with potentially high impact. Nevertheless it is a challenging task which has to involve many stakeholders. Financing and political issues seem to be the main barriers for implementation of a standard for relevant data exchange formats. Several obstacles have to be overcome to realise this task, e.g. an enormous amount of information would have to be converted for the new format. The stage of conversion of existing data to the new format would cause considerable costs. However in the end, the idea has potential to contribute to lower costs in providing travellers with high quality intermodal passenger information.

For the practical implementation as always in standardisation, it is crucial that it is done by the affected stakeholders who otherwise might reject a new standard. In a first step, it is recommended to the EC to approach stakeholders and to discuss the willingness to harmonise data-exchange formats on a European level. The appropriate stakeholders could be approached through the Technical Committee TC 278 Road Transport Traffic Telematics of CEN, which deals with related work items. Additional

stakeholders (e.g. suppliers of information systems) could be involved through the members of the Technical Committee. If need for standardisation in the area of common data-exchange formats was confirmed by the stakeholders, it could then be introduced as new work item to the Technical Committee. The EC could support the work of the Technical Committee for example by giving political support and by providing funding for travel costs of the members of the Technical Committee to enable sufficient exchange of knowledge between relevant actors. Further supporting measures should be flexibly handled by the EC according to the need of the stakeholders that would work on the topic.

The European Commission should, in the discussion with stakeholders, also raise the question, what is the potential of a connection of different existing passenger information systems through a standard interface (e.g. EU-Spirit, DELFI approach) for the improvement of intermodal passenger information on the European level?

For international intermodal travelling high quality and homogeneous passenger information is an important element, showing a clear Community dimension of the recommendation. The approach to seek discussion with relevant stakeholders and to evaluate a non binding European standard are proportionate measures to be taken.

Links to other Recommendations

No. 14: Discussion on standard query for pricing information in traveller information systems

No. 17: European third party information integrator

No. 7.3: Legal and regulatory intervention to guarantee a minimum level of information

Links to first and second Report

Report 1:

5.2 Intermodal and integrated passenger information (p. 32-37)

6.6 Technical issues (p. 51)

7.5 Implementation issues (p. 55)

Report 2:

2.4 Legal and regulatory framework (p. 19)

2.6 Information (p. 43-47)

2.11 Co-ordination and co-operation (p. 86, 88, 90, 91, 92)

2.14 Technical issues (p. 101-106)

Field of Intervention III Standardisation Activities

Recommendation 13 Interoperable Fare Management for Public Transport

Support of ongoing standardisation activities in the field of Interoperable Fare Management for public transport

Description

Integrated tariff and ticketing schemes are an area of high importance for a user friendly intermodal travel system. European integration of ticketing and fare systems is still weak. Technical solutions to integrated ticketing are available but, especially when long-distance and border-crossing relations are involved, organisational issues often prevent co-operation between operators.

The past has shown that problems related to revenue sharing are still among the main reasons why operators refuse to co-operate in integrated tariff and ticketing schemes. The introduction of an Interoperable Fare Management (IFM) Architecture for public transport (e.g. use for interoperable smart cards and other traveller media) is among other aspects linked to the hope that it will be easier to obtain necessary data to achieve a generally accepted key for revenue sharing among operators and thereby facilitate co-operation in integrated fare and ticketing schemes.

Important activities to create a European IFM standard are already going on at CEN level and should be supported as much as possible by the EC. From the European perspective it has to be considered as a high priority to establish a European standard in this field as otherwise heterogeneous implementations of Electronic Fare Management systems throughout Europe may evolve as severe obstacle for a European integration. A common standard, and wide interoperability for different elements of the public transport system could also lower barriers for passengers caused by ticketing, booking and payment hassle in intermodal transport chains.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗⊗ - ⊗⊗⊗	€€	!! - !!!	⊗⊗ - ⊗⊗⊗

The introduction of a common European standard for an IFM Architecture is a potentially important and promising initiative but also a highly complex task. The co-operation of many different stakeholders and the high sum of necessary investments in infrastructure for the implementation are barriers should not be underestimated.

However, the approach has high potential to lead to improvements for operators and travellers. This has been realised by many stakeholders, and activities at CEN level to establish a necessary standard are already relatively far reached. CEN TC 278 WG 3 SG 5 deals with a standard of an Interoperable Fare Management System Architecture that describes an organisational independent interoperable (intermodal) fare management system on a functional basis for public transport, including urban and long distance travels. The standard is based on national projects in France, Germany, Norway and the UK. CEN TC 224 WG 11 SG 1 (Technical Committee machine readable cards working group – transport group – subgroup public transport) is defining the organisation and structure of an application for Public Transport.

Meanwhile the CEN standard for an IFM Architecture was also established as a work item internationally at ISO level.

The work of CEN should be supported by the EC. In a first step the EC should get involved in discussions with the relevant establish stakeholders through the relevant Technical Committees of CEN and in a second step support measures for the work of the technical committees flexibly at current needs. One way to support CEN activities would be, for example, to provide funding for travel expenses to support exchange of knowledge and constant work in the committees. In a later stage the EC could also provide support for the dissemination of the standard and promote its implementation across Europe.

It is the general view that action to push a European IFM standard is needed quickly. If not, as many countries have already defined or are currently involved in on-going projects, using different approaches this may lead to a patchwork pattern of Fare Management systems across Europe. Integrated ticketing is mentioned as one priority field for user friendly intermodal transport in the EC's Transport White Paper, taking into account its value as service of general interest for the public benefit. As national activities can only have limited impact in this field, especially regarding transnational co-ordination, a clear Community dimension is given and action in this field does not conflict with the principle of subsidiarity of Art. 5 (2) ECT.

Although the chances of IFM standardisation are obvious, the EC should also keep an eye on critical expert voices, that raise questions regarding the financing of the necessary infrastructure for IFM (related to the introduction of customer media, like e.g. contact-less smart cards). In this context the use of mobile phone technologies like SMS or JAVA as alternatives for Europe wide electronic payment is discussed. However, at the moment this technology is not sufficiently developed for implementation in the short-term, among others due to technical problems and security concerns. However, it may have potential in the medium to long-term. In many countries activities that deal with this field have been initiated by industry and other stakeholders. The EC should get involved with these stakeholders to evaluate the potential of mobile phone technologies for electronic payment and to discuss opportunities for a European approach.

Links to other Recommendations

No. 4: Promotion of ticket integration for the first and last urban mile
 No. 6: Standardisation of interoperable fare management
 No. 16: EU programme for passenger intermodality
 No. 18: Cost-benefit analyses and user-demand assessments in concrete projects

Links to first and second Report

Report 1:

5.3 Tariffs and ticketing (p. 37-40)
 6.3 Co-ordination and co-operation (p. 49)
 6.6 Technical issues (p. 51)

Report 2:

2.7 Ticketing/fares, booking/payment (p. 55-67)
 2.9 Integrated services/products (p. 76-79)
 2.14 Technical issues (Information and ticketing technologies, p. 103)

Field of Intervention III Standardisation Activities

Recommendation 14 Discussion on Standard Query for Pricing Information in Traveller Information Systems

Evaluate in co-operation with relevant stakeholders the potential of a standard query for pricing information in traveller information systems

Description

A current problem in many web based passenger information systems is frequently the lack of pricing information for all modes in a travel chain. Many national web based passenger information services that are offered e.g. by rail companies include as intermodal element already the schedules and connection information to local public transport or the air mode. Fare information however are frequently not available for all elements of such travel chains, leaving open questions to the user.

A practical problem of providing accurate fare information is that in many cases there are flexible prices depending on demand and/ or taxes vary from country to country. This makes it necessary to query case by case the prices for an individual connection on the web page of a special operator, accessing his data base.

A standard query format for pricing and other travel information on the internet would enable commercial (e.g. travel agencies) or private entities to lower the costs of gathering information from web pages that provide information on passenger transport services. Without a standard query the information collector would need to check each web page (e.g. rail operator, airline, public transport operator) individually for the current fare. Also travel agencies in many cases lack adequate tools for international search for prices. Accessing different systems may undermine the motivation of staff to selling intermodal products, as it is time consuming and costly. In case of the recommended standard query format it would only be necessary to query all these web pages in one action by using a special software product that addresses several web pages that respond to the same query code. All queried web pages would respond in the same format making it possible for the software product to integrate this information, including up to date and site specific pricing information. Also the comparison of different prices for the same trip (e.g. using different operators or special offers) would be possible, although technically challenging.

The EC could, in co-operation with relevant stakeholders, initiate a discussion on a standard query for pricing information in traveller information systems, which could help to lower the barriers for the collection of pricing information from web based traveller information services and thereby increase the transparency of prices for different transportation services.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	☼☼ - ☼☼☼	€€	!	⌚⌚

Regarding the initially formulated draft recommendation to establish a standard query for pricing information in traveller information systems experts' feedback in the external validation has been very heterogeneous. Many experts see serious technical and organisational barriers to realise the proposal and question the need for such a

standard. Acceptance of a new standard is in the eyes of some experts uncertain. However, some experts that deal in depth with the field of passenger information systems think that it has potential and would be used a lot, especially if other elements like an interface to travel planners would be included in a standard.

Due to the high uncertainty involved with the feasibility and impact of this recommendation, the EC should approach relevant stakeholders and in a first step start an informal discussion about this topic, to come to a clearer picture whether the establishment of a standard in this area makes sense. The right place to start this discussion could be the Technical Committee CEN TC WG 278. The topic could be brought up together with a question regarding a standard data-exchange format for data relevant to intermodal traveller information (cf. recommendation 12). If relevant stakeholders agree on the usefulness of a standard query format, the next step could be a more formal standardisation process.

For intermodal travelling high quality and homogeneous passenger information is an important element. Especially on the long-distance there is a clear Community dimension of the recommendation, which might best be approached on the European level. However, in discussion with stakeholders, the EC should also check for easier alternatives to a complex standard for pricing queries. In this context ease of referring the traveller who is inquiring about the line haul section of their trip to the relevant local information service should be considered, e.g. after an inquiry on the national rail company's web page is completed the inquirer could be given the web address and phone numbers of the relevant local public transport operator. Such an approach would not be perfect but less expensive.

Links to other Recommendations

No. 7.3: Legal and regulatory intervention to guarantee a minimum level of information
 No. 12: European data exchange formats for data relevant to intermodal traveller information
 No. 17: European third party information integrator

Links to first and second Report

Report 1:
 5.2 Intermodal and integrated passenger information (p. 31-37)
 5.3 Tariffs and ticketing (p. 37-40)

Annex Report 1:
 VOYAGER (p. 51)

Report 2:
 2.6 Information (p. 43-55)
 2.7 Ticketing/fares, booking/payment (p. 55-67)
 2.14 Technical issues (p. 103, 104)

Field of Intervention III Standardisation Activities

Recommendation 15 Consensus on Interchange Standards and Support of Implementation

Support a fast track standardisation process for interchanges by supporting the development of a starting document for a European standard, and then supporting consensus development through a pan-European consultative standardisation process involving operators, authorities and passenger representatives

Description

Interchanges can be made very confusing to the traveller due to the use of different orientation and information systems and concepts, when moving between modes.

There are also a number of consistency issues including general interchange qualities including, among others, personal security and standards of accessibility and general attractiveness and comfort of the interchange space. Solutions between countries, cities and even within interchanges where different modes meet and levels of national standardisation differ widely.

There are in fact a number of existing guidelines/standards for interchange developed within numerous EU research projects and more importantly at the national level in a number of countries.

The EU should support (including financing) the synthesis of these guidelines and standards as a starting document for a European standard, with consensus then developed through a pan-European consultative standardisation process involving operators, authorities and passenger representatives.

The first task of the EU as an input to the starting document is to research and define the limits of feasible and desirable interchange standardisation at a pan-European level and what should be left as best-practice or for national standards.

The EU should then support the implementation of the standard in practical ways, among others, by giving policy recommendations (cf. recommendation 3) and supporting wide ranging dissemination and training (cf. recommendations 25, 26).

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗⊗	€ - €€	?	⌚⌚ - ⌚⌚⌚

The standardisation of signs, symbols and pictograms has a number of supporters and is seen as a relatively easy consensus to develop together with minimal standards of access for the mobility impaired. However, the experts indicate that a consensus on many other issues across the EU would meet with much resistance and therefore this may be better left to each member state. To have more informal guidelines or best practice is also preferred by a number of the experts.

Views on impact varied widely mainly due to some scepticism about compliance unless they were binding and the likelihood of weak compromises in practice which might drag down good existing national standards.

Cost very much depends on the scope of standardisation and the need to include expensive retrofitting of interchanges.

Links to other Recommendations

No. 3: Design and management of user friendly interchanges
 No. 25: Training programmes for stakeholders
 No. 26: Design of user interfaces for passenger information

Links to first and second Report

Report 1:

5.1 Networks and interchanges (p. 27, 30, 31)
 6.2 Planning and design (p. 47)
 6.3 Co-ordination and co-operation (p. 48)
 7.4 Services and infrastructure for passenger intermodality (p. 55)

Annex Report 1:

GUIDE (p. 20)

Report 2:

2.5 Networks and interchanges (p. 26)
 2.5.1 Integrated networks, interoperability (p. 26, 27)
 2.5.2 Design, layout of interchanges (p. 30-38)
 2.5.3 Integration of transport services and timetables (p. 38-42)
 2.10 Planning and implementation (intermodal transport network planning, p. 81, 83)
 2.11 Co-operation and co-ordination (p. 84)

Field of Intervention**IV Funding for European Intermodality Products and Services**

The field of Funding for European Intermodality Products and Services outlines proposals for a separate EU funding line for intermodal projects with a European significance and indicates the priority content and some suitable criteria for funding

Recommendation 16**EU Programme for Passenger Intermodality**

Introduce a new EU financing programme to support projects with European added-value with main emphasis on improving intermodality and integration in passenger transport solutions.

Description

Although amendments may be made to existing programmes, it is felt that the topic of passenger intermodality might be so important and difficult to cater for in other programmes that a separate programme is required for intermodal passenger projects.

The programme might partially fund the following sorts of projects, where necessary, both in terms of investment costs and start-up operation costs:

- regional cross-border solutions as a laboratory for larger international projects
- European projects with international significance beyond regional border crossing (such as international travel information systems);
- feasibility studies for high risk, high potential ideas;
- innovative urban/regional intermodal solutions demonstrating measure feasibility and transferability between international groups of cities, regions;
- cost-benefit analyses and user-demand assessments in concrete projects (cf. recommendation 18);
- thorough monitoring and evaluation activities; and
- development and dissemination of best practice. In this context close links to a training programme for stakeholders (cf. recommendation 25) could be developed as an element of the funding programme similarly to the “Common learning actions” in the Marco Polo programme in the freight sector.

Among the specific thematic areas that might be funded in the programme might be:

- highly inter-modal interchanges and interchange management (both public sector and PPP projects of high quality);
- European third party information integrator (cf. recommendation 17);
- evaluation of integrated air-rail services (cf. recommendation 20)
- pilot projects for the creation of “mobility providers” (cf. recommendation 21);

The main selection criteria might include:

- positive socio-economic pre-assessment and demonstration of user demand;
- demonstrated sustainable financing model beyond EU funding;
- reduced external costs of trips;
- addressing regional disparities;
- addressing accessibility and other issues related to major demographic trends; and
- excellent co-operation of organisations.

Funding would start off at a lower level and grow based on its success demonstrated by positive evaluation of results. The EC's existing Marco Polo Programme in the freight sector may give hints how to develop a funding programme for European Intermodality Products and Services in the passenger sector.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗ - ⊗⊗	€€€	!! - !!!	⊕ - ⊕⊕

The expert evaluation indicates that this recommendation is both desirable and quite feasible even in the relative short-term although it might be difficult to get higher levels of funding from the EU. The programme should be of a long-term character however.

There would be no barrier to the programme as articles 71 (1) No. 4 and Art. 80 (2) ECT would provide the authority for such a programme as long as a cross-border reference can be demonstrated.³⁸ An improvement of international intermodal passenger services can not be approached in an optimal way by the member states on their own. European action would have a much higher impact and could contribute better to a modal shift in passenger transport towards more sustainable modes of transport, helping to ease road congestion and to improve the environmental performance of passenger transport. An EU programme for passenger intermodality would fit into an integral approach towards transport, as presented in the White Paper. Such a programme could provide a specific added value by providing a framework for the passenger transport industry to deal with structural problems in certain areas which are an obstacle for the functioning of the internal market and for the improvement of passenger intermodality.

Further comment emphasises the need for a clear business case or path for further implementation beyond the demonstration. The costs are considered high if the programme is to make a visible impact, experts however emphasised the need for programme growth based only on stringent evaluation of the first projects.

Impact is considered potentially high, particularly if projects are well evaluated and documented and their results widely disseminated. In this context a training programme for stakeholders (cf. recommendation 25) could contribute essentially to the exploitation and dissemination of knowledge and experiences from projects.

³⁸ This was stated by the legal expert Dr. Matthias Mehl who participated in the external validation (see annex p. A-12).

Links to other Recommendations

No. 8, 9 and 10: Research and studies
 No. 17, 18, 19, 20 and 21: Funding for European intermodality products and services
 No. 22: Introduction of intermodality to existing EU funding programmes
 No. 23 and 24: Introduction and support of intermodality co-ordinating organisations
 No. 25, 27 and 28: Training programmes and exchange of best practice

Links to first and second Report

Report 1:
 5.1 to 5.5 Core elements for a seamless travel chain (p. 26-43)
 6.5 Financing/resources (p. 50, 51)
 Report 2:
 2.5 to 2.9 Products and services (p. 26-79)
 2.13 Resources (p. 96)

Field of Intervention**IV Funding for European Intermodality Products and Services****Recommendation 17****European Third Party Information Integrator**

Provide funding for the evaluation of the idea of a European third party information integrator and if assessed to be feasible also for its implementation

Description

Data that is of interest to the traveller to plan a journey, e.g. information regarding timetables and ticketing, is an important element of a seamless intermodal travel system. Therefore co-operation regarding the sharing of this data between operators themselves or providers of information services and easy access to it is essential. Given the precondition that the sharing of data is guaranteed through suitable commitments or regulations (cf. recommendations 7.3, 12), the idea of a third party data integrator European level may contribute essentially to better intermodal passenger information. Following the “open source” idea, a clearinghouse could make available all necessary (European) data regarding intermodal passenger information from the operators and/or authorities by providing a technical interface to support intermodal information queries. It has to be stressed that this proposal does not include sensitive operational data, which the operators understandably are reluctant to share.

It could be expected that operators and other providers of travel information services (e.g. mobile phone companies) would make (intermodal) passenger information accessible to the travellers in affordable ways and in a user friendly format if access to the basic data is free and easy available. It can be assumed that the support and start-up financing of a European third party information integrator could be an effective measure to be taken, if the relevant data is readily available.

The EC could support the idea of a European third party information integrator by providing funding for the evaluation and if seen as feasible also for its implementation, aiming at the provision of free access to all information needed to offer high quality intermodal passenger information systems

Discussion of Implementation	Feasibility	Cost	Impact	Time
	☼☼ - ☼☼☼	€€	!! - !!!	⌚⌚ - ⌚⌚⌚

To most experts that have been consulted, the provision of high quality passenger information to the traveller is seen as essential for passenger intermodality. The specific idea of establishing a European third party information integrator however is viewed heterogeneously. Technical integration of data and especially organisational matters as well as the co-operation of many different stakeholders are mentioned as strong barriers. Feasibility is by many experts therefore seen as difficult. A European approach seems much more challenging than national strategies that have already been implemented in different forms in the Czech Republic, in Denmark and in the Netherlands³⁹, where a high level of public transport information integration could already be achieved. Also in the UK the Travelline project proved that an information

³⁹ For some details on these and other examples please refer to the second report of this study „Analysis of the National Inventories on Passenger Intermodality“, Chapter 2.6 Information.

clearinghouse can be realised. A European approach is not out of reach but faces serious challenges. Experiences from nation states suggest that it takes years to implement a data integrator and causes considerable start up and operational costs, although such investments have proven to be very successful (e.g. in Denmark) and provide value for money.

The impact of improved passenger information on travel behaviour is an area of some uncertainty, But many experts consider a medium to high impact could be achieved if intermodal European passenger information to a sufficiently high quality would be made available to the traveller.

The EC should support the evaluation and, if finally seen as feasible, the implementation of a European third party information integrator. A first step could be surveys and a pilot project to remove current uncertainties. Experiences from the Netherlands, the Czech Republic or Denmark could serve as models. If the outcome of these activities was positive, the EC could support in a next step a wider approach to establish a European third party information integrator. Regarding the practical approach to this, experts on information systems recommend to build up in a first step third party information integrators in form of regional clusters (3-20 million inhabitants), where systems with strongly integrated information should be established if not already in place, and then integrate these regional systems through an open standard as done in the EU-SPIRIT project. The EC could get involved with experts that have been involved with this project to evaluate this option in-depth.

Provision of traveller information for international passenger transport has a clear community dimension, as it is an essential element for user friendly intermodal transport in international travel chains. This problem can not be approached satisfactory by member states on their own.

Links to other Recommendations

- No. 7.3: Legal and regulatory intervention to guarantee a minimum level of information
- No. 12: European data exchange formats for data relevant to intermodal traveller information
- No. 14: Discussion on standard query for pricing information in traveller information systems
- No. 21: Pilot projects for the establishment of mobility providers
- No. 26: Design of user interfaces for passenger information

Links to first and second Report

Report 1:

5.2 Intermodal and integrated passenger information (p. 34-37)

6.3 Co-ordination and co-operation (p. 48, 49)

Annex Report 1:

EU-Spirit (p. 19)

Report 2:

2.6 Information (p. 45, 46)

2.11 Co-ordination and co-operation (p. 86, 88, 90, 91, 92)

3.2 Conclusions regarding intermodality products and services (p. 111)

Field of Intervention**IV Funding for European Intermodality Products and Services****Recommendation 18****Cost-Benefit Analyses and User-Demand Assessments in Concrete Projects**

Provision of funding for the improvement of the current knowledge on cost benefit analyses and user demand assessments by realising costs-benefit analyses in concrete projects and making the results publicly accessible

Description

Apart from general research in this field which also aims at developing standard methods and guidelines for cost-benefit studies and impact assessments, the EC could provide funding for such studies. Alternatively the EC could oblige operators that obtain funding for the realisation of intermodal products and services to include cost-benefit analyses in their projects and to make the main results accessible to the EC. This way, cost-benefit information for a variety of intermodal products and services could be collected in the real market. Such results could also be used in training programmes and best practice transfer to promote passenger intermodality among key players (cf. recommendation 27).

This recommendation aims at improving the knowledge base regarding costs and benefits of intermodal products and services and to facilitate easier assessment of potential actions.

As previously described in recommendation 8, cost-benefit studies regarding intermodal products and services are widely missing but would be an essential contribution to remove uncertainties for operators and authorities when implementing and promoting passenger intermodality.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗ ⊗	€€	!!	⊕ ⊕

Cost-benefit studies might be controversial, even if agreed criteria existed. Some experts view this recommendation with certain reservations and foresee a medium feasibility. The more pessimistic views relate to the difficulties likely in determining the extent and application of the cost analyses to be performed. There is also scepticism about the need for this measure, because many existing projects have to carry out cost-benefit studies for evaluation purposes in any case.

Some opinions state that based on the assumption that cost-benefit studies already exist in a wide range of transport applications, the only question to be solved relates to the determination of the topics (such as for example, time, energy consumption, harmful effects, externalities, etc.) to be taken into account and the values of social costs and benefits to be used in the models. It is suggested that it could be necessary to modulate these models according to the needs in each country as there are obvious differences between old and new member states of the EU.

An estimation of medium costs is agreed to be realistic to support and finance the development of an application of cost-benefit assessments in concrete projects.

The impact of this measure on intermodality would not be very high, although cost-benefit studies may serve largely to help operators to assess the implementation of potential intermodality actions. However, it is not evident that this proposal could produce more than what could be achieved by a review of best practice.

On the other hand, it is also thought that operators like to see and hear the results of real case studies and therefore this work could be as important as the market research studies using hypothetical questions and evaluating as many projects as possible. A medium timeframe would be needed to implement this measure, given the fact that engaging in specific projects can take time and should be an on-going work over time.

It is suggested that cost-benefit assessments should also include social and soft, direct and indirect effects. These cost-benefit analyses should especially result in business models that are acceptably cost-effective to integrate travel information, electronic fare management, etc. since old ones did not prove to work. These models for cost-benefit analyses could be developed at EU level and would help operators in the process.

Links to other Recommendations

No.8: Methods and guidelines for cost-benefit studies and impact assessments in the field of passenger intermodality

No. 27: Cost-benefit studies in passenger intermodality

Links to first and second Report

Report 1:

2.1 Costs and benefits (p. 11-14)

6.5 Financing/resources for intermodality (p. 50)

7.2 Policy priorities (p. 54)

Report 2:

2.2 Assessment data on passenger intermodality (p. 10, 11, 12)

2.13 Resources (p. 100, 101)

3.3 Conclusions regarding planning and implementation (p. 114, 115)

Field of Intervention**IV Funding for European Intermodality Products and Services****Recommendation 19****Promotion and Marketing Strategies**

Provide funding to innovative initiatives that aim to promote the use of sustainable transport modes in long-distance trips

Description

The EC could support the introduction of promotion & marketing strategies directed towards the use of sustainable modes in long distance trips by providing funding to demonstration projects that aim to raise awareness and promote intermodal travelling amongst long distance market segments.

Existing awareness campaigns and promotion activities to enhance passenger intermodality and multi-modal travel behaviour are predominantly related to city transport (e.g. clean urban transport, In town without my car) or to regional transport (e.g. home-school traffic, commuter traffic). Far less awareness raising campaigns relate to long distance transport for leisure and business trips. One example could be a tool that provides passengers with information on personal and external costs of different modes and mode-combinations in long distance trips. Also new concepts and products such as integrated air-rail services need promotion.

Therefore, awareness raising and promotion of initiatives in both public and private organisations or in Public/Private-partnerships (e.g. travel agencies, PT-providers, mobility centres, ...) into these new market segments should be partially funded. Both the implementation structure and the impacts of the marketing strategies should be assessed.

The aim is to introduce new promotion and marketing strategies adapted to the needs of specific market segments (e.g. ageing people, business trips, leisure trips) for long distance trips and to demonstrate good practice on promotion and marketing methods in sustainable long distance travel.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗	€€	!!	⊗⊗

A general view of several experts is that the EU-support for promotion campaigns and marketing should be very selective: it should be based on a robust analysis of the user needs. Furthermore the campaign strategies and pilot areas need to be selected with care.

The feasibility is assessed by most experts as easy: no problems of conflicting interests are to be expected. Some experts argue that promotion and marketing are essential elements in a policy enhancing passenger intermodality. So this type of support might not be forgotten. The EU-cost of this recommendation is estimated as medium; most experts consider campaigns as not being cheap. But the role of the EU in offering financial support in these activities is agreed. As an intermodal trip lacks a kind of brand image and many stakeholders are involved, an individual mobility provider will probably be hesitant to take the full financial risk of a campaign. The impact is estimated to be medium sized; it will be highly depend on the good user

needs assessment. The timing for the support of promotion and marketing activities is expected in the medium term.

Links to other Recommendations

No. 9: Markets and potential users of intermodal services

No. 23: EU platform on passenger intermodality

Links to first and second Report

Report 1:

1.2 Intermodality and the long-distance passenger transport market (p. 3-7)

5.5 Promotion of intermodality (p. 43-45)

Report 2:

2.1 The market (p. 5-9)

2.12 Promotion (p. 93, 94, 95)

Field of Intervention**IV Funding for European Intermodality Products and Services****Recommendation 20****Integrated Air-Rail Services**

Funding for the evaluation and - in selected cases - for the start-up phase of integrated air-rail services.

Description

Integrated air-rail services combine a variety of services for the traveller. For example remote check-in at special facilities in train stations (issuing of boarding card and baggage check-in), integrated air-rail ticketing, codesharing and liability of the airline for the connection between air and rail are all excellent initiatives. They exist for long-distance relations, connecting the main rail station of a city in the airport's catchment area to the airport (e.g. Lufthansa's AiRail service in Germany), and as "City Access" type connecting the city centre of a large city with its airport (e.g. Vienna, London, Madrid). Air-rail services have proven to be an attractive service for the traveller. However, it is clear that this concept is in the case of long-distance air-rail services (e.g. as to Frankfurt Airport) only transferable to few large European hub airports and is not a feasible solution for air-rail service connections to smaller airports. Also the "City Access" type of air rail services like in Vienna and London is limited to larger airports. Remote check-in facilities and other technical and organisational questions need substantial investments and co-operation between different key players, which limits the transferability of the air-rail idea. Air-rail integration is only feasible where a win-win situation of all key players (e.g. airports, airlines, rail companies) can be achieved.

There are still uncertainties regarding the market for air-rail concepts. The EC should support funding on market studies to remove this barrier. To maximise the full potential of air-rail services, funding for the evaluation of feasible air-rail connections to larger airports that can be self financing in the long run should be provided. In a second step viable services could be supported with start-up funding to encourage operators to realise air-rail connections within the proposed passenger intermodality programme (cf. recommendation 16), also taking into account the detailed recommendations of the RAIFF group⁴⁰ (see box page 82).

Discussion of Implementation	Feasibility	Cost	Impact	Time
	☼ - ☼☼☼	€€ - €€€	! - !!	⌚ - ⌚⌚⌚

Many experts think that air-rail services are a good idea that can make an important improvement in the passenger experience and increase the use of intermodal air-rail connections instead of using the car or air mode as a feeder to large airports. The idea has proven to be feasible, although logistical difficulties and organisational barriers are often not easy to overcome. However, many experts doubt, that there is a large market for air-rail services and therefore the overall impact of the idea could be limited. Costs

⁴⁰ Detailed recommendations to the European Commission regarding integrated air-rail services have already been made by the Rail Air Intermodality Facilitation Forum (RAIFF), a group of industry experts from both the air and rail services. See box on page 82 and information regarding other EU projects in Annex C.

for the EC to take action in this field may be modest for pure evaluation of feasible connections, but may be considerable when providing start-up funding.

Many of the existing air-rail services are quite successful. At least for some major airports where this idea has not been exploited fully yet, there may be potential to achieve important improvements that serve the customer.

Therefore the EC should follow the here presented recommendation and also consider the detailed recommendations made by RAIFF (see box next page).

Because of its distinctive transnational reference intermodal air-rail services could not be promoted satisfactory at the member state level. There is a clear Community dimension of this recommendation. Air-rail services may help in some areas to promote rail as more sustainable feeder mode to large airports easing road congestion and reducing the environmental impact of passenger transport. The air-rail concept has been identified in the EC's transport White Paper as promising approach to promote user friendly intermodal products and services.

Links to other Recommendations

No. 16: EU programme for passenger intermodality

Links to first and second Report

Report 1:

Priority mode combinations: 4.1 Rail/air (p. 19, 20, 21)

5.3 Tariffs and ticketing (p. 39)

5.4 Baggage handling (p. 42)

Annex Report 1:

COST 318 (p. 11)

ECMT, 2003. Airports as multimodal interchange nodes (p. 54)

Gioveni, M. (Unfinished). Airline and railway co-operation (p. 55)

IATA Air/rail intermodality study (p. 22)

Report 2:

2.7 Ticketing/fares, booking/payment (p. 66)

2.8 Baggage handling (p. 67-73)

2.9 Integrated services/products (p. 73-79)

RAIFF

“The Commission launched the RAIFF, Rail Air Intermodality Facilitation Forum, initiative to stimulate a debate on the ways to develop combined use of rail, in particular high speed services, and air. In order to determine desirable priority improvements, the Commission has turned to professionals of the industry : airlines (Air France, KLM, Lufthansa), rail operators (DB, Eurostar, SBB/CFF, SNCF, Thalys), airport operators (Paris, Brussels, Frankfurt, Schiphol, Leipzig), global distribution systems (Amadeus, Galileo, Worldspan), air (ACI, ATAG/IATA, Eurocontrol, OAG), and rail (UIC) professional bodies, other professionals from the sectors involved (UITP,...).

In the framework of RAIFF, these professionals, with the Commission’s technical support, have, from September 2003 to June 2004 tried to answer questions such as:

- What has to be done so that air-rail trips can be organised and sold by the whole sales system: global distribution systems, internet portals, travel agencies, operators’ distribution networks ... ?
- What has to be done so that sales agents and passengers have ready access to air-rail possibilities?
- How to make the trip as seamless as possible for the passenger: automated check-in, remote check-in, luggage handling, standardisation of information,...?
- How to protect passengers in case of problem, at least as well as if they travelled either only by air or only by train?
- How to prompt air and rail operators to develop air-rail products?

...

and, of course,

- How could the European Union contribute to fulfilling these recommendations: financial support, adaptation of the legal framework, ... ?

For each question, RAIFF, on the basis of the results of three working groups (in charge respectively of legal issues, distribution and passenger information, operational integration) has made concrete recommendations to the Commission: from a “Marco Polo like” programme for financially supporting air-rail initiatives, to strengthen passenger rights, to develop distribution software and other measures. These recommendations are assembled in a final report, complemented the more detailed reports of the working groups.

The Commission will now examine these recommendations and prepare future action taking full account of the proposals of the group.”

Excerpt from the Introduction to RAIFF, available from:

http://europa.eu.int/comm/transport/air/raiff/doc/2004_communique_en.pdf

Final RAIFF report with more details available from:

http://europa.eu.int/comm/transport/rail/raiff/doc/2004_finalreport_en.pdf.

Field of Intervention

IV Funding for European Intermodality Products and Services

Recommendation 21

Pilot Projects for the Establishment of Mobility Providers

Support and finance pilot projects for the establishment of mobility providers and the evaluation of the idea.

Description

The idea of mobility providers that offer travel packages to the passenger for a wide range of long-distance and local mobility services, including complete information and ticketing for intermodal travel chains and intramodal connections in public transport, is discussed among some experts as a market conform way to promote intermodal travelling (see the box on page 54 for a more detailed description of the concept).

The theoretic concept sounds interesting, but there are still many doubts about its practical feasibility, one important question being the market chances and the financing of such services.

To investigate the idea of mobility providers in depth in a real world environment it seems necessary to provide start-up funding for first pilot projects. Existing services that already include elements of the mobility provider concept, as travel agencies, mobility centres or companies that organise business trips for their clients, may be a basis for a gradual development of a more comprehensive mobility provider concept. If the idea is feasible and a sufficiently large market can be assumed, potential to establish mobility providers throughout Europe would be given and could contribute to a convenient access to information and ticketing services for an intermodal travel chain through mobility providers.

It has to be stressed that other recommendations in this paper regarding the access to travel information from operators or the clarification of liability issues for mobility provider services (cf. recommendations 7.3 and 7.4) are necessary to create favourable framework conditions to realise mobility provider services on a larger scale. Also the questions of ticketing for a large number of transport services through mobility providers (technical and organisational questions) and the possible organisation forms of such businesses still have to be answered.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗⊗ - ⊗⊗⊗	€€	!	⊙⊙ - ⊙⊙⊙

Among the consulted experts the idea of pilot projects to evaluate the mobility provider concept received a varied response. Many experts doubt the feasibility and the impact of the idea in general. A core question is, would the user be willing to pay for the services of information provision and ticketing that would be offered by mobility providers? Despite the uncertainties regarding the feasibility and impact of the idea, other experts see chances in the concept that might help to promote intermodal products and services among travellers. Pilot projects themselves obviously would have a low impact on general travel behaviour, but a more marked impact could be achieved if implemented more widely.

Giving their advice for a practical approach to promote the idea of mobility providers some experts refer to existing services of travel agencies, also web based services, mobility centres or companies that deal with the organisation of business trips for companies. These existing structures already include a lot of features that could be suitable for mobility providers and could be a basis to develop gradually the idea further. Such an approach could be a feasible and realistic way to develop more comprehensive mobility provider services.

A first step to implement the mobility provider idea could be market research and tests of the concept, and a review of existing experiences of services that include elements that are suitable for mobility providers. If these first analyses, are positive, the next step could be the launch of pilot projects that might be built on existing structures as for example services for the planning of business trips or mobility centres. However, mobility providers would have to combine information and ticketing for long-distance and local transport services to cover the whole travel chain, and therefore would require the extension of existing concepts. It has to be stressed that the idea of mobility providers is afflicted with many barriers and uncertainties. Pilot projects may proof the feasibility of the concept or show that it should be dropped. In case of a positive outcome, dissemination would be essential to convince relevant stakeholders to establish mobility providers on a larger scale.

Links to other Recommendations

No. 7.3: Legal and regulatory intervention to guarantee a minimum level of information
 No. 7.4: Liability issues regarding mobility providers
 No. 16: EU programme for passenger intermodality

Links to first and second Report

Report 2:
 2.9 Integrated services/products (p. 79)
 2.11 Co-ordination and co-operation (p. 87)
 2.12 Promotion (p. 94)

Field of Intervention

V Existing EU Funding Structures

Recommendation 22

Introduction of Intermodality to Existing EU Funding Programmes

Undertake review of structure of current EU funding programmes and make recommendations for their amendment to improve the prospects for acceptance of intermodal/integrated passenger transport projects

Description

Funding of intermodal projects such as information systems, ticketing systems and interchange development that cross network levels, different modes and involve a high ratio of operations costs to investment costs can be very difficult within existing funding structures for a number of reasons.

- Existing funding programmes often have explicit or implicit network level and modal focus and do not cater for projects crossing these boundaries. An example is the cohesion fund which limits itself strictly to infrastructure projects on international corridors either road or rail, a clear bias against intermodal projects which cross network and modal boundaries.
- Many programmes subsidise investment costs only, while many intermodality projects need start-up funding for a few years including the coverage of significant operations costs
- Regional structural funds programmes often give most points to projects which aim to create new transport services rather than focus on improved quality of existing services which will raise utilisation and revenues. This plays against intermodal products and services which generally support the quality of transport services

The rules of existing EU funding programmes should be reviewed as regards the feasibility and desirability of amendments to allow an easier fit for applications of appropriate intermodal and intra-modal integration projects which cross network and transport sectoral boundaries.

The rules and programme objectives should also enable significant funding of start-up operation costs for several years (where socio-economically justified and where a sustainable financing case has been made) as many programmes currently will finance only initial investment costs.

A stronger requirement of project inter-modality compliance or, more positively, project application assessment bonus points for high inter-modality content might also be considered, including, for example, demonstration of an inter-modal and multi-modal planning approach and inclusion of intermodal/integrated information and management systems as a part of national road and rail projects.

Programmes / funds in the review should include at least:

- the cohesion funds;
- TEN-T funding (including the Euro-regional telematics projects);

- possibly Interreg (although this has more flexible rules already); and
- EU funded regional programmes (although this needs to happen at national and regional levels).

It is therefore of great importance for the development of intermodality in the new member states and other countries with weaker economies receiving EU support through many of these programmes

Where programme definition is highly decentralised, the findings of the review should be formulated as programme formulation policy recommendations for member states

Discussion of Implementation	Feasibility	Cost	Impact	Time
	?	?	!! - !!!	?

A number of comments received highlight the importance of this recommendation. Views range from “a good idea” to “a crucial measure for success in the short term”.

A large number of experts have graded the feasibility of this recommendation as quite easy, however, most of the comments received highlight that it is difficult to change the priorities of existing EU funds without lobbying, good PR and EC political willingness.

The cost issue was once again hard to define. A number of experts expressed scepticism that space could be found in existing programmes without increasing funding levels. In such a case costs would be high and feasibility uncertain.

Timing is also unclear as programmes have varying lead times and programme rules review opportunities will vary widely.

Links to other Recommendations

No. 5: Allocation of budgets for intermodal programmes at the national level
 No. 16: EU programme for passenger intermodality
 No. 23: EU platform on passenger intermodality
 No. 24: Network of national focus points
 No. 25 – 28: Training programmes and exchange of best practice

Links to first and second Report

Report 1:
 6.5 Financing/resources (p. 50, 51)
 Report 2:
 2.13 Resources (p. 96, 99)

Field of Intervention VI Directives and Regulations
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The project has brought to attention that competition between operators is a potential barrier to intermodal co-operation for example in the areas of shared ticketing, fares and central travel information systems.

This is a particular issue for the deregulated national and international transport sector, but becomes more of a sector wide issue as competition is progressively introduced into railway and urban / regional transport sectors.

Another issue which can be a major barrier to intermodality and integration is the potential (and unclear) liabilities of mobility providers who may support integration.

Legal and regulatory frameworks on national or European level may in fact favour or inhibit passenger intermodality. In most countries legal and regulatory frameworks for passenger transport often influence passenger intermodality but do not explicitly regulate it or co-ordinate competition models to improve it.

A basic problem is that there is insufficient robust data available, thereby this leaves many open questions on how existing national and European legal and regulatory frameworks affect passenger intermodality, how they would have to be amended to favour seamless passenger transport, and which direct legal and regulatory measures would need to be implemented to support the integration of passenger transport systems at national/European levels.

Although there is a general feeling in the project that there would be significant impact from a number of legal interventions at EU level, due to the lack of analytical information, there is still much uncertainty about the feasible and desirable scope of such intervention at a pan-European level or importantly if intervention is at all feasible.

The issue of regulations and directives is therefore addressed by a number of research recommendations (cf. recommendation 7 and sub-recommendations 7.1 to 7.4) and no firm recommendations to introduce specific directives and regulations are made in this report.

A research project (cf. recommendation 7) should be set up to provide a general information and analytical basis for the European regulative level and a national comparison which could help to design appropriate legal and regulatory frameworks on a European and/or national levels.

Detailed research should look in particular at the feasible and desirable scope of the following EU legal interventions:

- amending the draft of planned public transport EU regulation (for controlled competition in regional and urban public transport) to include intermodality/integration contractual requirements (recommended or obligatory) where transport services are being contracted (cf. recommendation 7.1);
- developing a passenger rights charter regulation/directive which supports intermodal and integrated transport (cf. recommendation 7.2);

- developing a regulation for operators to provide a minimum level of information (cf. recommendation 7.3); and
- developing a regulation about the liability issues faced by mobility providers (cf. recommendation 7.4)

Field of Intervention**VII Introduction and Support of Intermodality Co-ordinating Organisations**

The field of introduction and support of intermodality co-ordinating organisations makes proposals that will help fill the institutional gap for coordinating intermodality at a European level and to a lesser extent at the national level

Recommendation 23**EU Platform on Passenger Intermodality**

Finance an EU platform that will set up and co-ordinate activities to promote passenger intermodality at the EU, national and regional level among all key stakeholders

Description

The EC could fund the establishment and working of a EU platform on passenger intermodality. This could be the EU's driving force to promote new concepts on intermodality, spread information on good practice, screen market developments, define research questions and formulate policy recommendations amongst key stakeholders of passenger intermodality at the EC-level and in the EU-member states.

The study indicated that many fields related to passenger intermodality require action at the European level as national interests are low and a national lobby for passenger intermodality is widely missing. A good example where EU-action is needed is border crossing transport. Here, different planning focuses and policy priorities, differing organisational structures and often language and cultural problems ask for transnational solutions.

Tasks of a platform could include the provision of guidance and spreading good practice on interchange design, location and management, on impact assessment, on screening market developments in passenger intermodality, on defining research questions. Also, such an EU platform could promote European data sharing for information and ticketing. It could be the communication channel between national/regional authorities, major operators and the EU-level on highly innovative intermodal products and services and the focal point for a European network on intermodal issues.

A good management formula should be set up in order to ensure enough power to this EU platform. Membership should be opened up to different kinds of stakeholders of passenger intermodality at different levels both EU, national, regional and local. This EU platform on passenger intermodality should be funded completely by the EU. The range of products and services of this platform could consist of: conferences, a website, and a newsletter to spread good practices throughout Europe, setting up working groups on specific issues (such as the current RAIFF working group on air-rail issues), bringing together different stakeholders to feed the EU-level with possible solutions for very specific items, organisation of workshops to disseminate and discuss EU-policy recommendations on passenger intermodality.

Before installing a completely new EU platform, consideration should be given to how far co-operation with related EU platforms could take place (e.g. the European Platform on Mobility Management - EPOMM) and what role existing European institutions and associations (e.g. on public transport) can take up.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	✱	€€	!!	⌚ - ⌚⌚

Most experts like this idea of an EU platform on passenger intermodality as an instrument to integrate many of the recommendations made in this report.

Feasibility is not considered to be a significant problem, according to most of the experts. There is however a fear amongst some experts that this new platform would duplicate the work of existing platforms at the EU-level. Therefore, in the first stage it should be looked upon if existing EU platforms could not extend their work in order to take up tasks of the EU platform as defined here. The EU-cost of such an EU platform is assessed as medium by the majority of the experts.

The impact is estimated to be medium. Experts argue that the level of impact is highly related to the ambition and to the tasks of this EU platform. If it is linked to an action programme for funding research and demonstration in a way that this platform can get the commitment of all partners around specific targets, co-funding of research, developing of test sites etc. then the impact is expected to be higher than if its main task is to disseminate good practice.

Most experts believe that this EU platform should be installed in the short to medium term.

Many problems of intermodal passenger transport, especially in international transport chains, can only be satisfactory approached on the European level. An EU platform on Passenger Intermodality would take account of this and could help to communicate the importance of the topic to the national and regional level. The here presented recommendation therefore has a clear community dimension.

Links to other Recommendations

An EU platform on Passenger Intermodality would have important co-ordinating character with regard to actions in other fields of intervention, as also becomes clear in the links to other recommendations. Please refer to the Overview of Recommendations and Main Links (see page 29) for the position of this comprehensive recommendation in relation to the bundle of measures proposed.

No. 7 – 11: Research and studies

No. 16: EU programme for passenger intermodality

No. 22: Introduction of intermodality to existing EU funding programmes

No. 24: Network of national focus points

No. 25 – 28: Training programmes and exchange of best practice

Links to first and second Report

Report 1:

2.3 Policy levels: European, national, urban/regional (p. 15, 16)

5.5 Promotion of intermodality (p. 43, 44, 45)

6.1 Political support and policy basis (p. 46)

6.3 Co-ordination and co-operation (p. 48)

6.5 Financing/resources (p. 50, 51)

Annex Report 1:
INTERCEPT (p. 27)

Report 2:
2.12 Promotion (p. 93, 94, 95)
2.13 Resources (p. 96, 99)

Field of Intervention**VII Introduction and Support of Intermodality Co-ordinating Organisations****Recommendation 24****Network of National Focus Points**

Financially support the set up and working of national focus points to act as national driving forces to promote passenger intermodality at the national, regional and local level

Description

The political support for intermodality varies largely between countries.

In some countries the topic is covered in national/regional policy papers but in none of the countries there is a single institution responsible for the co-ordinating role of long distance intermodal transport. We also found out that the market knowledge is in most of the countries very poor. In the new member states, attention and priorities are currently more focused on issues such as the availability of transport funding, the improvement of existing infrastructure, the rigidity of current public transport management and operation, a lack of information on travel patterns and needs, rather than on passenger intermodality.

It is both impossible and not desirable for the EU to impose a national institution responsible for passenger intermodality in each country if political awareness is often missing or at least not particularly high. Moreover, it is important to start from existing national forces to develop political awareness and these differ between countries.

What can be done at the EU level is to financially support the establishment of national focus points, give these national points a role of helpdesk, of promoting passenger intermodality, and of gathering national information on the market development.

One might think about partially EU-funded (30-50%) national focus points. Regarding their composition, some guarantees on the involvement of particular national stakeholders (main public transport-providers, customer associations, governments) should be built in.

A national focus point would only be successful if it is accepted by all national key players or in other words if there are individual benefits to the stakeholders in exchanging information with it. Moreover, the network of the focus points would only be successful if there is a mutual benefit in co-operation in between the national focus points in the EU. For these reasons, it is important to link the set up of national focus points to the set up of the EU-funding programme (cf. recommendation 16) and to plead for a gradual introduction of these focus points. In a first step the national focus points could work more as national contact points aiming only at promoting EU-funding activities in the field of passenger intermodality and supporting potential proposals. Once all national stakeholders found their way to the national contact points and the national focus points have experienced first transnational co-operation, more and more tasks could be attributed to these points so that they can grow out into national key players for the national promotion of passenger intermodality and for the exchange of information and experience on the national and EU-level.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⚙	€ - €€	?	⌚⌚

In general, no major problems with regard to the feasibility are expected; The majority of experts assess the feasibility as 'easy'. Some doubts however are formulated on the quality of these (new) national focus points. How to guarantee that all stakeholders are represented? Problems are expected also with allocating appropriate national funding in some cases. Therefore the question raises whether existing organisations could not perform this task with minimal additional costs. EU-costs are assessed to be low. However costs can become high if this system of national focus points is to be spread all over Europe. The opinions about the impact of the recommendation vary between the experts. In general experts find it difficult to assess the effects as national focus points have no direct impacts on intermodal travel patterns as they are not related to specific products or services. More impact is expected the more powerful the national focus point is (e.g. when integrated into a transport planning department). The timing to realise this measure is set in the medium term as it takes some time to raise political awareness.

Links to other Recommendations

A network of national focus points for passenger intermodality would be closely linked to an EU platform on passenger intermodality, which could help to reach synergy effects on the European level. The national focus points also could have some co-ordinating character with regard to actions in other fields of intervention.

No. 1: Institutional structures for passenger intermodality

No. 5: Allocation of Budgets for intermodal programmes at the national level

No. 23: EU platform on passenger intermodality

Links to first and second Report

Report 1:

2.3 Policy levels: European, national, urban/regional (p. 15, 16)

5.5 Promotion of intermodality (p. 43, 44, 45)

6.1 Political support and policy basis (p. 46)

6.3 Co-ordination and co-operation (p. 48)

7.6 Priorities from the perspective of EU influence (p. 57, 58)

Report 2:

2.10 Planning (p. 80-83)

2.12 Promotion (p. 93, 94)

2.13 Resources (p. 98, 99)

Field of Intervention**VIII Training Programmes and Exchange of Best Practice**

The field of intervention 'Training Programmes and Exchange of Best Practice' includes measures which will increase the level of know-how and spread good experience from individual countries, regions and cities across the whole of Europe

Recommendation 25**Training Programmes for Stakeholders**

Implementation of training programmes and best practice exchange activities to promote the topic of passenger intermodality and the application of measures by the key players

Description

The EU could put in place training programmes and best practice exchange activities to raise awareness and knowledge concerning the topic of passenger intermodality and to encourage the application of feasible measures by key players.

Training programmes could be an important element of promoting passenger intermodality on the European level. Such training programmes have already been applied by the European Commission for example in the fields of clean urban transport (TRUMP). They are aiming at transport professionals from authorities and private operators and could include a variety of topics related to passenger intermodality.

Substantial knowledge and some guidelines already exist for example on such topics as interchanges and facilities (e.g. location, design, transfer, signage), passenger information, border-crossing transport and air-rail services. Training programmes for example could help to spread this knowledge among transport professionals from authorities and operators, as well as staff, and to implement solutions to improve specific fields that relate to passenger intermodality. An important task would also be to introduce the concept of intermodality in passenger transport to professional training for people that are preparing to work in areas that relate to passenger intermodality, including all levels from universities to vocational schools that train for example future travel agents.

Regarding the growing importance of the group of mobility impaired travellers, it is also recommended to provide training on awareness for disabled, elderly and other travellers that need special attention. Such training could contribute to a better accessibility of the transport chain for this group.

There is a need to define which fields should be treated with priority for training programmes, at whom exactly they should be directed, and what kind of training should be provided. To have the most impact on users, the training should concentrate on improving those aspects of the intermodal trip that are of most importance to users. In this context a training programme for passenger intermodality could also be integrated into a funding scheme for passenger intermodality (cf. recommendation 16), contributing to the exploitation and dissemination of knowledge and experiences from projects.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	✱	€€	!!	⌚ - ⌚⌚

To have intermodality accepted this recommendation is certainly very important including the demonstration of the benefits of practical schemes.

A wide information campaign on passenger intermodality with an extended explanation of the aims and benefits for passengers is also needed (cf. recommendation 19). In order to minimise confusion among passengers, such as for example among mobility impaired users, appropriate management systems should be in place to help operators' staff deal with the needs of this type of users. Mention is made to the need to establish training programs and training guidelines at every level to manage attitudes and skills of the staff.

It is the general opinion that the costs of the recommendation could be medium due to the longer term investment in the setting up and maintenance of the training programs. The expected impact is also medium, although if the measure would be part of a group of measures the impact could be higher. Although the programme could be implemented in the short to medium term, the results would only be visible in the long term.

To make intermodality work participation of different government sectors in a co-operative way would be essential. It is also crucial to secure attendance of private operators to the programmes, and overcome the shortage of trainers with practical experience on implementing intermodal improvements.

Links to other Recommendations

No. 1: Institutional structures for passenger intermodality
 No. 5: Allocation of budgets for intermodal programmes at the national level
 No. 16 – 21: Funding for European intermodality products and services
 No. 23: EU platform on passenger intermodality

Links to first and second Report

Report 1:
 5.5 Promotion of intermodality (p. 43, 44, 45)

Report 2:
 2.12 Promotion (p. 94, 95)
 2.13 Resources (p. 96, 99)

Field of Intervention**VIII Training Programmes and Exchange of Best Practice****Recommendation 26****Design of User Interfaces for Passenger Information**

Support best practice transfer and guidelines on the design of user interfaces for passenger information on a European scale

Description

For travellers that access different passenger information media and systems, it can be quite time consuming to use and understand specific user interfaces that vary strongly in their appearance. This is true for a wide range of user interfaces from conventional paper printed timetables to mobile information systems and poses barriers for the intermodal traveller, especially in border-crossing transport.

Use of best practice transfer and guidelines on the design of user interfaces for passenger information could facilitate easier use of different information media throughout Europe for the long-distance traveller and could be supported by the EC. Language support, signage, design of web pages and paper printed information are only some of the fields that could be approached in this way.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗	€€	!!	⊕⊕

Best practice transfer and the use of guidelines regarding the design of user interfaces seem to be highly feasible and worthwhile actions. Such soft measures are preferable compared to the establishment of regulations or standards, which probably would not find a high acceptance and would discourage innovation. In the worst case such strong measures even could be counter-productive as they might produce less user-friendly results than some of the current practise in many European regions that has been developed over a long time.

Many good examples for user friendly and self-explaining passenger information interfaces have already been developed on different levels, many of them taking into account regionally relevant details. In addition, the introduction of different language options has proven to be successful in some countries. For some areas guidelines have already been prepared and can be used (e.g. INFOPOLIS 2, some national guidelines in the UK). Still missing guidelines could be easily assembled from the wide experience with the design of user-friendly passenger interfaces that is available across Europe. The support of relevant languages in user interfaces, taking into account local requirements, is also a field that should be covered. An idea mentioned by an expert for passenger information systems is to benchmark the user interfaces available today and to award the best examples which could be models for others.

A voluntary approach based on guidelines and best practice transfer as proposed here also fits the fast technological development in the are of user interfaces. New technologies come up, as for example the use of SMS for passenger information which has not be expected just a few years ago. Such fast developments are difficult to handle by standards or regulations that need time to be developed and may be out-dated when finally available.

However, wide dissemination of guidelines and best practice is key for the proposed measure, and would require sufficient financial resources to be effective. Co-operation in cross-border areas may need special attention and efforts.

Links to other Recommendations

No. 23: EU platform on passenger intermodality
 No. 24: Network of national focus points
 No. 25: Training programmes for stakeholders

Links to first and second Report

Report 1:

5.1 Networks and interchanges (p. 26-31)
 5.2 Intermodal and integrated passenger information (p. 31-37)
 5.5 Promotion of intermodality (p. 43, 44, 45)
 6.2 Planning and design (p. 47, 48)
 6.3 Co-ordination and co-operation (p. 48)
 6.7 Language (p. 52)

Annex Report 1:

ROSETTA (p. 40)

Report 2:

2.5.1 Design, layout of interchanges (p. 34-38)
 2.6 Information (p. 43-55)
 2.12 Promotion (p. 93,94, 95)
 2.14 Technical issues (p. 103)

Field of Intervention**VIII Training Programmes and Exchange of Best Practice****Recommendation 27****Cost-Benefit Studies in Passenger Intermodality**

Implementation of training programmes and activities of best practice exchange to spread the results of the research done on cost-benefit studies in the field of passenger intermodality

Description

The EU could put in place training actions and best practice exchange to assure that the knowledge is spread among transport professionals, operators and authorities.

The goal of this recommendation is to encourage operators and authorities to realise cost-benefit studies for actions in the field of passenger intermodality.

As described under recommendation 8, it is still necessary to do research on methods and guidelines on cost-benefit assessments in the field of passenger intermodality. Such methods and guidelines are important tools to assess the chances to realise intermodal products and services in the market. However, research activities in this field have to go hand in hand with training programmes and exchange of best practice to ensure that knowledge is spread and applied in practical situations. It is probable that many key players are still hesitant regarding the implementation of intermodal products and services due to the uncertainties and risks related to this innovative field. Training and best practice transfer may help to implement assessment methods that help to remove such uncertainties and support the introduction of intermodal products and services in the passenger transport market.

Such training programmes and best practice exchange may be supported by the EC through funding and other activities. Existing fora and networks should support this exercise, especially the best practice exchange. The EU could also support focus groups and site visits on cost-benefit aspects. It is important that the cost-benefit analysis is linked to test demonstrations of intermodal services and products. In-house training could also be offered to operators to attract candidates and to lower costs.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗	€€	! - !!	⊕⊕

This recommendation is considered a potentially useful project, as it would eventually lead to the existence of more evidence of the benefits of intermodality. There is a general consensus on the medium costs of implementation of this measure, given the high number of stakeholders, their different roles and backgrounds, products, and services and the costs for preparing and offering the training measures. A moderate beneficial impact (low to medium) is foreseen given the availability of information on how to carry out cost-benefit analyses and evaluation of intermodal projects.

Experts think that methodologies need to be developed before they can be disseminated, therefore the time frame necessary is medium. The impacts will be felt in the medium or long term as practitioners take on recommendations. Researchers need to change the way they think and adapt to the new tools and applications.

Links to other Recommendations

- No. 8: Methods and guidelines for cost-benefit studies and impact assessments in the field of passenger intermodality
 No. 18: Cost-benefit analyses and user-demand assessments in concrete projects
 No. 25: Training programmes for stakeholders

Links to first and second Report

Report 1:

- 2.1 Costs and benefits (p. 11-14)
 6.5 Financing/resources for intermodality (p. 50)
 7.2 Policy priorities (p. 52, 53)

Report 2:

- 2.2 Assessment data on passenger intermodality (p. 10, 11, 12)
 2.13 Resources (p. 100, 101)
 3.3 Regarding planning and implementation (p. 114, 115)

Field of Intervention**VIII Training Programmes and Exchange of Best Practice****Recommendation 28****Training and Exchange Regarding Mobility Providers**

Promotion of the mobility providers concept through the organisation of training programmes and best practice exchange activities

Description

Through this measure, the EU could spread the concept of “mobility providers” and promote its introduction to the European market under the pre-condition that its feasibility has been proven before in pilot projects.

The idea of mobility providers that offer travel packages for daily mobility to the passenger, including all information and ticketing for intermodal travel chains has been explained on page 54 (also see recommendations 7.4, 21). As previously mentioned, the idea of “mobility providers” is quite new and in a first step its feasibility would have to be proven by pilot projects. If it was shown that such pilots can be realised successfully and feasibility in the market is given, a second step would be to spread the concept widely throughout Europe. Given that the idea has a market and is feasible it would in the long-run be successful without public support. In a start-up phase however, professional training programmes and exchange of best practice would help to remove uncertainties for companies willing to enter the “mobility provider” market and assist in the promotion of the concept.

The participation of training professionals and research centres in the transport field would be necessary, as well as the establishment of a link with existing training schemes. A web could be created to include best practices, conferences, etc with the co-operation of organisations such as UITP, IRU and UIC.

Discussion of Implementation	Feasibility	Cost	Impact	Time
	⊗	€€	! - !!	⊕⊕⊕

More knowledge is needed on mobility providers to be able to set up training programmes. Technology, data, and infrastructure are needed to be in place for this purpose.

In general, the idea is considered easily feasible but its implementation would be dependant on the success of the pilot projects and market tests, which would show if mobility providers are a promising concept.

A medium cost may be estimated, as the dispersal of trainees throughout Europe and the lack of information may increase the cost to develop a training programme. The expected impact is low to medium depending on the market potential of the mobility provider concept.

The time for implementation could be long term as its content needs to be planned thoroughly with the right parties in the transport sector. The widespread introduction of the mobility providers concept requires the right infrastructure and technology. Training and exchange regarding mobility providers would, as a last step in the gradual evaluation and implementation of the idea, follow pilot projects

(cf. recommendation 21), under the pre-condition that the idea's feasibility has been proven. It is recommended that since there are cases where technology and infrastructure are not in place at the required level, this concept could be first initiated in the more experienced member states.

Links to other Recommendations

No. 7.4: Liability issues regarding mobility providers
 No. 21: Pilot projects for the establishment of mobility providers
 No. 25: Training programmes for stakeholders

Links to first and second Report

Report 1:
 5.5 Promotion of intermodality (p. 43, 44, 45)
 Report 2:
 2.9 Integrated services/products (p. 79)
 2.11 Co-ordination and co-operation (p. 87)
 2.12 Promotion (p. 94, 95)
 2.13 Resources (p. 96, 99)

2.4 Responsibility for implementation

Introduction

The European Commission will be primarily responsible for financing and instigating all 28 recommendations highlighted. The following paragraphs summarise the organisations required to fulfil each recommendation together with the responsibilities and role of each individual organisation. In this analysis the European Intermodality Platform and National Focus Points recommendations are not included. It is assumed that many of the activities allocated to the EU and National governments will be charged to these bodies for implementation and / or procurement.

I Policy recommendations

The European Commission will take the lead in developing policy recommendations 1-5. However, National Governments, Regional and Local Authorities and Transport Authorities have a significant role in the development of policy and the major role in practical implementation of these policies. The European Commission and National Governments together with the Transport Operators and the Service/Supply Industry are the key players in terms of developing a European standardisation and implementation of an Interoperable Fare Management (IFM) architecture for public transport.

II Research projects

The European Commission will need to fully finance and adopt a primary role in developing all research initiatives recommended here. National Governments will have a secondary role in all research projects. The Transport Operators will have a primary role under recommendations 8-11. The Local Authorities, Transport Authorities, Transport Operators and the Service/Supply Industry will be secondary organisations as each recommendation demands (please see table page 105).

III Standardisation activities

The European Commission will be the main financier for all standardisation activities; the European Commission will also perform the role of a secondary organisation for all these activities together with the Local Authorities and Transport Authorities. The main organisations in all standardisation activities will be the National Governments and the Service/Supply Industry. The Transport Operators will also be a main organisation in the standardisation of European data exchange formats.

IV Funding for European intermodality products and services

The main financiers and recipients of funds together with the parties responsible for implementation vary considerably within this group of recommendations. The European Commission, however, will be a financier under all recommendations, and will perform the role of a secondary organisation in all recommendations with the exception of the European Commission's primary role under the cost benefit analysis and user demand assessment recommendation. Please see table page 106 for the breakdown of financiers and those responsible for realising each recommendation.

V Existing EU funding structures

The introduction of intermodality to existing EU funding programmes will require funding (or transfer of funding from other priorities) from the European Commission, National Governments and Local Authorities. Primary organisations will include the European Commission and the National Governments with secondary support from Regional and Local Authorities and Transport Operators.

VI Directives and regulations

The European Commission will need to finance all studies and research required in the development of directives and regulations. The European Commission will also be primarily responsible for this work with National Governments, Local Authorities, Transport Authorities Transport Operators and the Supply/Service Industry performing a secondary role as necessary.

VII Introduction and support of intermodality co-ordinating organisations

The development and support of a European Union platform on passenger intermodality will need to be financed by the European Commission. Both the European Commission and National Governments will be the main organisations in this platform with support from all other organisations.

National Governments will be primarily responsible for the network focus points; they will also act as the joint financier with the EU.

VIII Training programmes and exchange of best practice

The European Commission will need to finance most of the training programmes and the exchange of best practice. There is no clear main organisation in this category, this will vary from project to project, with the exception of training programmes where the EU and the National Authorities should take the leading role in procuring training at a European or National level.

Summary table

A table summarizing the responsibilities of implementation follows on the next 3 pages

Main groups of responsible organisations

EC	European Commission
NG	National Government (and/or more autonomous regions in some cases)
LA	Local and Regional Authorities
TA	Transport Authority
TO	Transport Operator (includes interchange operators)
SI	Service / Supply Industry (excluding PT operators and consultants developing studies and research)

Key to levels of responsibility

€	Main financier of measure implementation
€	Secondary financier of measure implementation
✓	Main organisation in implementation of measure and/or recipient of grant
✓	Secondary organisation in implementation of measure and/or recipient of grant

Timescales

⌚	Short-Term < 3 Years
⌚⌚	Medium-Term 3-5 Years
⌚⌚⌚	Long-Term > 5 Years

Recom- mendation	Action	Organisations actively involved in development / implementation						Timing
		EC	NG	LA	TA	TO	SI	
I Policy recommendations ⁴¹	1 Institutional structures for passenger intermodality	✓	✓	✓	✓			⌚
	2 Passenger rights for persons with reduced mobility	✓	✓	✓	✓			⌚
	3 Design and management of user friendly interchanges	✓	✓	✓	✓			⌚ - ⌚⌚
	4 Promotion of ticket integration for the first and last urban mile	✓	✓	✓	✓			⌚
	5 Allocation of budgets for intermodal programmes at the national level	✓	✓	✓	✓			⌚
	6 Standardisation of interoperable fare management	✓	✓			✓	✓	⌚⌚
II Research and studies	7 Co-operation among operators in a competitive environment	€✓	✓	✓	✓	✓		⌚
	7.1 Contractual requirements in service procurement for intermodality and integration	€✓	✓	✓	✓	✓		⌚
	7.2 Passenger rights charter regulation	€✓	✓	✓	✓	✓		⌚
	7.3 Legal and regulatory intervention to guarantee a minimum level of information	€✓	✓	✓	✓	✓		⌚
	7.4 Liability issues regarding mobility providers	€✓	✓	✓			✓	⌚ - ⌚⌚
	8 Methods and guidelines for cost-benefit studies and impact assessments in the field of passenger intermodality	€✓	✓	✓		✓		⌚ - ⌚⌚
	9 Markets and potential users of intermodal services	€✓	✓	✓	✓	✓		⌚ - ⌚⌚
	10 Concepts and measurements for intermodality in passenger transport	€✓	✓	✓	✓	✓		⌚
	11 Role of Eurostat in standard data collection	€✓	✓			✓		?

⁴¹ Creation and ratification of the EU policy recommendations is meant here as the activity of the main implementer. Implementation of policy in practice will mainly be the domain variously of national, regional and local authorities, even transport operators

EC-European Commission, **NG**-National Government + Autonomous Regions, **LA**-Local and Regional Authorities

TA-Transport Authority, **TO** –Transport Operator, **SI**-Service / Supply industry (excluding PT operators)

✓ - Main organisation in implementation of measure and/or recipient of grant

✓ - Secondary organisation in implementation of measure and/or recipient of grant

€ - Main financier of measure implementation, € - Secondary financier of measure implementation

⌚ - Short-Term < 3 Years, ⌚⌚ - Medium-Term 3-5 Years, ⌚⌚⌚ - Long-Term > 5 Years

Recommendation	Action	Organisations actively involved in development / implementation						Timing
		EC	NG	LA	TA	TO	SI	
III Standardisation activities ⁴²	12 European data exchange formats for data relevant to intermodal traveller information	€✓	€✓	✓	✓	€✓	€✓	⌚⌚⌚
	13 Interoperable fare management for public transport	€✓	€✓	✓	✓	€✓	€✓	⌚⌚ - ⌚⌚⌚
	14 Discussion standard query for pricing information in traveller information systems	€✓	€✓	✓	✓	€✓	€✓	⌚⌚
	15 Consensus on interchange standards and support of implementation	€✓	✓	✓	✓	✓	✓	⌚⌚ - ⌚⌚⌚
IV Funding for European intermodality products and services	16 EU programme for passenger intermodality	€✓	€✓	€✓	€✓	€✓	€✓	⌚ - ⌚⌚
	17 European third party information integrator	€✓	€✓	€✓	€✓		€✓	⌚⌚ - ⌚⌚⌚
	18 Cost-benefit analyses and user-demand assessments in concrete projects	€✓	✓	✓	✓	✓		⌚⌚
	19 Promotion and marketing strategies	€✓	€✓		€✓	€✓		⌚⌚
	20 Integrated air-rail services	€✓	€✓			€✓		⌚ - ⌚⌚
	21 Pilot projects for the establishment of mobility providers	€✓	€✓		✓	✓	€✓	⌚⌚ - ⌚⌚⌚
V Existing EU funding structures	22 Introduction of intermodality to existing EU funding programmes	€✓	€✓	€✓		✓		?
VI Directives and regulations	<i>Further studies required (see 7 and sub-recommendations 7.1 – 7.4)</i>							

⁴² Responsibilities for creation of the standards is meant here, not their implementation in practice

EC-European Commission, **NG**-National Government + Autonomous Regions, **LA**-Local and Regional Authorities

TA-Transport Authority, **TO** –Transport Operator, **SI**-Service / Supply industry (excluding PT operators)

✓ - Main organisation in implementation of measure and/or recipient of grant

✓ - Secondary organisation in implementation of measure and/or recipient of grant

€ - Main financier of measure implementation, € - Secondary financier of measure implementation

⌚ - Short-Term < 3 Years, ⌚⌚ - Medium-Term 3-5 Years, ⌚⌚⌚ - Long-Term > 5 Years

Recom- mendation	Action	Organisations actively involved in development / implementation						Timing
		EC	NG	LA	TA	TO	SI	
VII Introduction and support of intermodality co-ordin. Organis.	23 EU platform on passenger intermodality	€✓	✓	✓	✓	✓	✓	⌚ - ⌚⌚
	24 Network of national focus points	€✓	€✓					⌚⌚
VIII Training programmes and exchange of best practice	25 Training programmes for stakeholders	€✓	€✓					⌚ - ⌚⌚
	26 Design of user interfaces for passenger intermodality	€✓	✓	✓	✓	✓		⌚⌚
	27 Cost-benefit studies in passenger intermodality	€✓	✓	✓	✓	✓		⌚⌚
	28 Training and exchange regarding mobility providers	€✓	✓	✓	✓	✓		⌚⌚⌚

EC-European Commission, **NG**-National Government + Autonomous Regions, **LA**-Local and Regional Authorities

TA-Transport Authority, **TO** –Transport Operator, **SI**-Service / Supply industry (excluding PT operators)

✓ - Main organisation in implementation of measure and/or recipient of grant

✓ - Secondary organisation in implementation of measure and/or recipient of grant

€ - Main financier of measure implementation, € - Secondary financier of measure implementation

⌚ - Short-Term < 3 Years, ⌚⌚ - Medium-Term 3-5 Years, ⌚⌚⌚ - Long-Term > 5 Years

3. Conclusions

This report deals with 28 recommendations to the EC which should be understood as a range of options for taking action to enhance passenger intermodality at the European level. As already shown by the first two phases of the study, passenger intermodality, including intramodal connections in the public transport system, is a wide field and the approach to this study had to cover a variety of questions related to technical, organisational, financial, legal and other aspects. This is also reflected in the recommendations within this report, that are based on an intense research and discussion process. The width of the topic is well described in the first report of the study that dealt with the analysis of key issues for passenger intermodality and in the second report that analysed the national inventories on passenger intermodality. Please refer to these documents for more detailed background information that were considered as one building block for the generation of the recommendations.

The proposals in this report are structured along possible fields of intervention, providing thoughts on how to deal with them in a comprehensive strategy on passenger intermodality. This chapter aims at giving some more structure to the recommendations by identifying some priorities and interdependencies, by giving some comments on the time horizon and on the practicability of the recommendations for the EC. The ultimate aim is to draw a clearer picture of the value of certain recommendations, trying to give first guidance for the further work of the EC.

In a first step it is useful to provide an overview of the recommendations and their criteria assessments. The following overview table serves to get a broad idea of feasibility, cost, impact and time horizon and will help to draw some conclusions. As already explained in Chapter 2.1 on the criteria, it has to be stressed that these assessments are giving a valid orientation but are not based on objective criteria. However, they are very useful to identify some important groups of recommendations that could be dealt with in different ways.

Overview of assessments

	Feasibility	Cost	Impact	Time
I Policy recommendations				
1 Institutional structures for passenger intermodality	*** - ****	€	?	⊕
2 Passenger rights for persons with reduced mobility	*	€	!!	⊕
3 Design and management of user friendly interchanges	**	€€	!	⊕ - ⊕⊕
4 Promotion of ticket integration for the first and last urban mile	**	€	! - !!	⊕
5 Allocation of budgets for intermodal programmes at the national level	**	€	!	⊕
6 Standardisation of interoperable fare management	**	€ - €€	!!	⊕⊕
II Research and studies				
7 Co-operation among operators in a competitive environment	*	€	!! - !!!	⊕
7.1 Contractual requirements in service procurement for intermodality and integration	*	€	!!	⊕
7.2 Passenger rights charter regulation/directive	*	€	!!	⊕
7.3 Legal and regulatory intervention to guarantee a minimum level of information	*	€	!!	⊕
7.4 Liability issues regarding mobility providers	*	€ - €€	! - !!	⊕ - ⊕⊕

	Feasibility	Cost	Impact	Time
8 Methods and guidelines for cost-benefit studies and impact assessments in the field of passenger intermodality	✱ - ✱✱	€€	!!	☉ - ☉☉
9 Markets and potential users of intermodal services	✱	€€	?	☉ - ☉☉
10 Concepts and measurements for intermodality in passenger transport	✱ - ✱✱	€€	! - !!	☉
11 Role of Eurostat in standard data collection	✱	?	!!	?
III Standardisation activities				
12 European data exchange formats for data relevant to intermodal traveller information	✱✱	€€	!!!	☉☉☉
13 Interoperable fare management for public transport	✱✱ - ✱✱✱	€€	!! - !!!	☉☉ - ☉☉☉
14 Discussion on standard query for pricing information in traveller information systems	✱✱ - ✱✱✱	€€	!	☉☉
15 Consensus on interchange standards and support of implementation	✱✱	€ - €€	?	☉☉ - ☉☉☉
IV Funding for European intermodality products and services				
16 EU programme for passenger intermodality	✱ - ✱✱	€€€	!! - !!!	☉ - ☉☉
17 European third party information integrator	✱✱ - ✱✱✱	€€	!! - !!!	☉☉ - ☉☉☉
18 Cost-benefit analysis and user-demand assessments in concrete projects	✱✱	€€	!!	☉☉
19 Promotion and marketing strategies	✱	€€	!!	☉☉
20 Integrated air-rail services	✱ - ✱✱	€€ - €€€	! - !!	☉ - ☉☉
21 Pilot projects for the establishment of mobility providers	✱✱ - ✱✱✱	€€	!	☉☉ - ☉☉☉
V Existing EU funding structures				
22 Introduction of intermodality to existing EU funding programmes	?	?	!! - !!!	?
VI Directives and regulations				
<i>Further studies required (see sub-recommendations 7.1 – 7.4)</i>				
VII Introduction and support of intermodality co-ordinating organisations				
23 EU platform on passenger intermodality	✱	€€	!!	☉ - ☉☉
24 Network of national focus points	✱	€ - €€	?	☉☉
VIII Training programmes and exchange of best practice				
25 Training programmes for stakeholders	✱	€€	!!	☉ - ☉☉
26 Design of user interfaces for passenger information	✱	€€	!!	☉☉
27 Cost-benefit studies in passenger intermodality	✱	€€	! - !!	☉☉
28 Training and exchange regarding mobility providers	✱	€€	! - !!	☉☉☉

As the overview table shows the recommendations are quite heterogeneous regarding feasibility, cost, impact and time horizon for implementation. To give guidance regarding the practical relevance of recommendations it seems useful at this point to identify:

- Core measures, that seem to be highly relevant for an enhancement of passenger intermodality on the European level.
- Recommendations that can be implemented as immediate action in the short run with relatively low costs.

- Innovative measures, which, although the feasibility is uncertain, should nevertheless be considered as measures that have relevant potential to promote passenger intermodality.

As will become clear beneath, these groups only include a part of the recommendations. It has to be stressed, that the list includes a large number of other solid recommendations that are feasible in the medium to long-run with mostly medium costs having an assumed average impact. These recommendations also may contribute substantially to the improvement of certain aspects of passenger intermodality and should not be neglected when designing a European action programme.

In the following section core measures, immediate actions and innovative measures will be identified.

Core measures

A number of recommendations can be seen as core measures, that seem to be essential for the enhancement of passenger intermodality on European level. These recommendations deserve special attention.

As core measures have been identified:

The legal and regulatory framework:

Recommendation 7:

“Scope of legal and regulatory intervention by the EU to support co-operation among operators in a competitive environment”
and the related Recommendations 7.1 to 7.4

In research and discussion with experts it became clear that the frame of legal and regulatory interventions on national or European level may in fact favour or inhibit passenger intermodality as there is insufficient robust information on such issues that leaves many open questions. Therefore, it seems crucial to set up research projects to clarify how national and European legal and regulatory frameworks affect passenger intermodality, how they would have to be amended to favour seamless passenger transport, and which legal and regulatory measure would need to be implemented to support the integration of passenger transport systems at national and European level. There is a general feeling by many experts that there would be significant impact from a number of legal interventions at EU level. Research to clarify how to proceed in this field may lead to concrete legal actions. As such measures may have a high impact they therefore have been identified as core measures. Research in this fields seems feasible and could be done in the short run with relatively low costs. It is also clear that taking concrete legal and regulatory action is a sensitive area, that needs a firm decision base which can be created through the proposed research.

Measures in this field are linked e.g. to the field of passenger information or the development of the mobility provider idea.

Funding and financing

Recommendation 16:

“EU programme for passenger intermodality”

Recommendation 22:

“Introduction of intermodality to existing EU funding programmes”

These recommendations have to be seen as core measures, as funding and financing seem to be crucial for the development and spreading of intermodal products and services. A passenger intermodality programme is highly feasible and desirable, as funded projects may provide clear business cases or show a path for further implementation beyond the demonstration. Such a programme with an evolving long-term character could contribute essentially to spread intermodal products and services. Introducing intermodality to existing EU funding programmes (e.g. cohesion funds, TEN-T funding, possibly Interreg) seems more difficult but could have a high impact on implementing measures to promote passenger intermodality regarding a wide range of issues – taking into consideration the high financing volumes of some programmes. Introducing passenger intermodality in new or existing programmes could also have a relevant impact on the mentality of important stakeholders, as passenger intermodality would be an important element to be considered by stakeholders that apply for funding. The aforementioned recommendations should therefore be considered as core measures.

They provide diverse links to other recommendations, especially related to the development and implementation of intermodal products and services (e.g. information, ticketing, air-rail services, interchanges).

Standardisation**Recommendation 12:**

“European data exchange formats for data relevant to intermodal traveller information”

Recommendation 13:

“Interoperable fare management for public transport”

Certain standardisation activities are crucial for the fields of intermodal passenger information and integrated ticketing. These areas have already been recognised by the EU’s Transport White Paper and other documents. Standardisation of European data exchange formats for data relevant to intermodal traveller information and standardisation of an IFM architecture for public transport may be lengthy and difficult undertakings, but also may have a relatively large impact and ease intermodal European travelling considerably. High quality intermodal passenger information and integrated ticketing are core elements of an intermodal journey. In the case of cross-border relations many barriers have been identified for the European traveller due to very varied nature of information and ticketing systems. Therefore standardisation on a European level, may in the long run contribute essentially to improve this situation and should be considered as core measure.

As mentioned in the recommendations, in a first step it is necessary to initiate discussion on these issues with relevant stakeholders, leading to more detailed strategies how to approach concrete standardisation issues.

The field of standardisation also relates to other recommendations as for example innovative ideas regarding mobility providers or a third party information integrator, which benefit from adequate standards. New or existing standards could be promoted in relation with funding programmes.

Transfer of knowledge and networking

Recommendation 23:

“EU platform on passenger intermodality”

Recommendation 25:

“Training programmes for stakeholders”

As shown by research and expert consultation in this study, a lot of good examples and a even more ideas regarding the topic of passenger intermodality are available.

It seems crucial that existing and newly created knowledge is transferred to and between relevant stakeholders and that a lobby for intermodality develops. Change starts in minds and only if the topic of passenger intermodality is taken seriously by a wide range of stakeholders a real impact can be achieved. Work of a platform on passenger intermodality and training programmes seem to be important steps. Existing EU platforms should be involved where possible or could extend their work. Platform and training programmes would require some investments and some patience to show effects, but in any case should be seen as core measures.

Links to other recommendations are obvious. Products and services need promotion and organisational matters can be made easier through the work of a platform. Similarly policy recommendations can be communicated to relevant stakeholders.

Overview of core measures

<i>Legal and regulatory framework</i>
No. 7: Co-operation among operators in a competitive environment
<i>Funding and financing</i>
No. 16: EU programme for passenger intermodality
No. 22: Introduction of intermodality to existing EU funding programmes
<i>Standardisation</i>
No. 12: European data exchange formats for data relevant to intermodal traveller information
No. 13: Interoperable fare management for public transport
<i>Transfer of knowledge and networking</i>
No. 23: EU platform on passenger intermodality
No. 25: Training programmes for stakeholders

Immediate action

A second group of recommendations deals with measures that are feasible in the short run. A strategy to enhance passenger intermodality on the European level has to grow over time. Immediate action can be a starting point for such a wider approach.

Two main fields can be identified that should be approached within the near future:

A Short run activities:

measures that are highly feasible in the short run and can be implemented with relatively low budgets.

B Preparative measures:

Measures that have a longer term-perspective but which already need preparations now to be successfully realised at a later stage, especially paying attention to core measures.

Regarding the measures that are highly feasible as immediate action, a focus could lie on policy recommendations, research projects as well as on the preparation and realisation of first projects of a programme for passenger intermodality.

A Short run activities

Policy recommendations

Policy recommendations can be developed relatively quickly on the basis of existing knowledge. Even if their impact may be uncertain or low, they are an important step to address important issues for passenger intermodality to spark public debate. Out of the six policy recommendations that have been developed, four may be implemented in the short term.

Recommendation 1

“Institutional structures for passenger intermodality”

The European Commission possesses the necessary tools to create awareness among the national and regional administrations, transport authorities and operators about the high importance of implementing measures that promote and improve intermodal passenger transport. Of special importance is the need for some kind of intermodal institutional structure in order to facilitate co-operation and resources devoted to intermodal products and services. As has been shown by the national inventories in the second phase of this study, such institutional structures are still widely missing. In this context different measures can be considered to be relevant in the short term.

The creation of a European policy recommendation to deal with the main institutional structures for passenger intermodality and intermodal topics at the interurban and urban levels, within each national framework would be a first step that could be realised immediately. Such a “Paper” would principally be directed to countries where intermodality is still a scarcely extended and used concept, such as the Mediterranean and the new member states. Its function would be to inform and promote, spread and divulge the main actions, advantages and disadvantages when applying the concept of intermodality in the field of passenger intermodality. Of course, a promotion of intermodality on the international level through policy recommendations could be an additional field to approach especially border crossing problems.

Linked to a policy recommendation on institutional structures could in the short to medium run be the work of an EU platform on passenger intermodality (cf. recommendation 23 and overview of recommendations and main links page 29). Regarding such a platform the EU could introduce organisational structures, such as round tables, working groups, seminars and workshops and study and work sessions to discuss specific aspects of intermodal transport. Also, in this case, the topics to be

developed, the experts level and the location of the meetings should include a focus on the new member states, whose situation regarding passenger intermodality is in many areas less favourable. An EU platform on passenger intermodality would offer potential to support a policy recommendation on institutional structures for passenger intermodality.

Recommendation 2:

“Passengers rights for persons with reduced mobility”

As previously indicated, the EU is currently working on a policy that will favour the mobility of impaired persons. In this context, and based on the “Commission Staff Working Paper: rights for persons with reduced mobility when travelling by air”, the European Commission could develop new or adapt existing documents to include intermodal information recommendations, physical design of interchanges and procedures for integrated travelling directed to persons with reduced mobility. It would be important to review new proposals in this field now, to give feedback regarding aspects that are of importance to the intermodal and mobility impaired traveller. A key issue here is how to deal with existing infrastructure as retro-fitting infrastructure and rolling-stock is a very expensive business. Particularly for the new member states, the EU should consider parallel financing support to cover more expensive requirements.

Recommendation 4:

“Promotion of ticket integration for the first and last urban mile”

It is understood that ticket integration on the intermodal level is not an easy target to be accomplished in the short term within urban and interurban transport systems at the national and European level. However, it is possible to develop initiatives such as pilot projects supported by the implementation of actions that are already successful in certain areas.

In a first step policy recommendations regarding a conventional ticket integration of urban legs of a long distance journey, as the so-called “City-Ticket” of German Rail (cf. recommendation 4), could help to promote and evaluate the application of such concepts. Border crossing ticket integration, in the regional and long distance dimension, is a field with many barriers but feasible short term solutions and could be considered in policy recommendations as well to raise awareness.

In the medium to long term ticket integration solutions that apply Electronic Fare Management, offer much wider opportunities for a better integration of the complete public transport system or even intermodal integration (e.g. public transport and car sharing) and may develop gradually to a complex system. This of course also could help to integrate in more sophisticated ways the first and last urban mile into the ticketing for a long-distance journey.

Recommendation 5:

“Allocation of budgets for intermodal programmes at the national level”

This recommendation is linked to recommendation 1 and would focus on an introduction of intermodality in national strategies on passenger transport. The basic mechanism would be to support the study of various measures and the application of new intermodal elements within transport plans, programmes and foreseen actions by the national and regional governments aiming to improve intermodality.

National transport plans, transport service plans and infrastructure plans as well as programmes may be modified to include intermodal passenger elements and

programmes and concrete actions that could help to increase intermodality. This might be achieved if budgets and an “intermodal culture” could be introduced over time. A policy recommendation could help to start such a process of changing existing structures.

In new member states in particular, allocation of budgets to intermodal programmes will be much harder than introducing intermodality into the policy process, mainly due to the scarcity of funding and the greater conservatism as regards practical funding priorities. Direct support could be provided by the EU to help Governments to promote and develop intermodality/integration strategies which would then compete for funding on an equal footing with standard transport infrastructure.

Research projects

Research projects aim at creating a better base for decisions to be taken in the development of an effective strategy to promote passenger intermodality. Regarding the importance of research for many fields of passenger intermodality it seems crucial that existing uncertainties are removed quickly, so that decisions to be taken can be based on a reliable pool of knowledge. It should be feasible to determine in the short term relevant questions and to initiate research projects. Some research may be carried out relatively quickly, other projects would take more time. The following research could realistically be realised in the short term:

Recommendation 7

“Co-operation among operators in a competitive environment ”

An immediate proposal is the realisation of one or various research projects that identify feasible and desirable changes to European (and national) legal frameworks that affect and influence co-operation in intermodal passenger transport:

- 7.1 “Contractual requirements in service procurement for intermodality and integration”
- 7.2 “Passenger rights charter regulation/directive”
- 7.3 “Legal and regulatory intervention to guarantee a minimum level of information”
- 7.4 “Liability issues regarding mobility providers”

Recommendation 10

“Concepts and measurements for intermodality in passenger transport”

This is another research recommendation that could relatively quickly be realised, building on basic insights on how to measure intermodality in passenger transport which are already available from research on European and national level but at the same time developing new concepts and methods.

B Preparatory measures

Already identified as one of the core measures, the proposed EU programme for passenger intermodality (cf. recommendation 16) is another field, where immediate action would be necessary. Such a programme needs some time to be prepared, although a small number of first projects could already be realised in the short run. The programme realistically could then grow over time. The EC's experience with the

Marco Polo programme for the freight sector can surely provide some important hints, how to start the first steps for a passenger intermodality programme and how to extend it over time.

It has to be stressed that there are also other fields that seem to have a longer term perspective but require immediate action, such as the IFM architecture standardisation activities (cf. recommendations 6, 13). Due to the time pressure in this field resulting from the emergence of a patchwork of different systems across Europe, it seems recommendable to begin discussion with relevant stakeholders quickly and to accompany the development and implementation of a standard further.

Within the recommendations there are a wider range of such preparatory and accompanying actions for measures that have a medium to long term perspective, as will be obvious to the reader.

Overview of immediate actions

A Short run activities
<i>I Policy recommendations</i>
No. 1: Institutional structures for passenger intermodality
No. 2: Passenger rights for persons with reduced mobility
No. 4: Promotion of ticket integration for the first and last urban mile
No. 5: Allocation of budgets for intermodal programmes at the national level
<i>II Research projects</i>
No. 7: Co-operation among operators in a competitive environment (incl. 7.1-7.4)
No. 10: Concepts and measurements for intermodality in passenger transport
B Preparatory measures
<i>I Policy recommendations</i>
No. 6: Standardisation of interoperable fare management
<i>III Standardisation activities</i>
No. 13: Interoperable fare management for public transport
<i>IV Funding for European intermodality products and services</i>
No. 16: EU programme for passenger intermodality

Requirements of new member states

For new member states all the above applies equally as for the original EU 15.

The main difference (which became clear from the country reports prepared in stage 2 of the project) between new and other member states in general is in the degree of policy profile and more importantly practical priority that passenger intermodality receive and the level of know-how and importance placed on intermodality within the profession itself. The competition for limited funding in the new member states is large and incumbent priorities have a great advantage.

In a number of new member states there is a gathering movement of integration within regional and urban public transport, but this viewpoint has yet to be extended beyond public transport or up to a national level.

From this perspective EU awareness raising and support for in-country activities raising the profile and knowledge of intermodality issues in the political, policy and funding agendas are of particular importance. In addition, specific EU support in national strategy and programme development could be of particular help for some new member states.

Therefore measures of particular key short and medium term importance to stimulate political, policy and financial priority for intermodality in most new member states include the following:

Requirements of new member states

<i>I Policy recommendations</i>
No. 1: Institutional structures for passenger intermodality
No. 5: Allocation of budgets for intermodal programmes at the national level
<i>IV Funding for European intermodality products and services</i>
No. 16: EU programme for passenger intermodality
<i>V Existing EU funding structures</i>
No. 22: Introduction of intermodality to existing EU funding programmes
<i>VII Introduction and support of intermodality co-ordinating organisations</i>
No. 23: EU platform on passenger intermodality
No. 24: Network of national focus points
<i>VIII Training programmes and exchange of best practice</i>
No. 25: Training programmes for stakeholders
No. 27: Cost-benefit studies in passenger intermodality

Innovative measures with uncertain impact

It seems worthwhile to mention in the conclusions some recommendations that have been disputed among experts and which are attached with uncertainties regarding their feasibility and impact.

Perhaps the most disputed recommendations are the ones that relate to the idea of mobility providers (cf. recommendations 7.4, 21, 28). Assessments regarding this concept have been very heterogeneous. The approach might have potential, but requires considerable efforts to be further developed. In a first step research regarding liability issues for mobility providers would be necessary to remove uncertainties for the realisation of first pilot projects. If such projects proved to be successful and a market potential could be identified, the idea could be further promoted by training measures and best practice transfer to encourage the establishment of businesses in a market environment. Of course, the idea also might prove to be unfeasible. Despite the problems attached to the recommendations related to the mobility providers idea, the EC should at least further discuss such a measure as a fresh idea that could make a contribution to passenger intermodality.

Another field to be mentioned in this context is the recommendation to establish a third party information integrator (cf. recommendation 17). It seems very challenging to establish such a clearinghouse on the European level, nevertheless many experts see a potentially high impact of such a measure and refer to successful national examples. Risks attached to this idea may still be high, but further discussion with stakeholders and experts could contribute to clarify the feasibility of the proposal.

The recommendation to initiate discussion on a standard query for pricing information (cf. recommendation 14) is a relatively specific detail in the field of passenger information. Regarding other recommendations such a proposal that might be complicated to realise and takes time might not seem to be very worthwhile. However, it has to be stressed that certain experts that deal in depth with passenger information systems found it to be a very positive idea. Further discussion in this field might show that in the end it could be useful, maybe in a package with other measures in the field of passenger information.

Another recommendation that provoked controversial feedback from the experts was the one on policy recommendations to make national, regional, local authorities and major operators aware of the need for some kind of intermodal institutional structure (cf. recommendation 1) in order to facilitate co-operation and resources devoted to intermodal products and interfaces. The impact of such a measure is highly uncertain. Experience shows that national governments in many cases are not easily to be influenced by such recommendations from the European level. Although it seems highly difficult to convince national governments to adapt institutional structures to include passenger intermodality aspects, it may be worthwhile to try it. Small changes in institutional structures may occur over time and might have important impacts. If seen as an ongoing task to lobby for an inclusion of intermodal thinking in institutional structures, commitments from the EC's side may accumulate in the long-term and help to achieve a change towards a better intermodal passenger transport.

Next steps

The proposals of this study have many interdependencies among each other which are expressed for each recommendation in a special section (cf. "Overview of recommendations and main links", chapter 2.2, page 29). It has to be stressed that the recommendations should not be viewed in isolation. Only a package of measures can have a real impact. The structures given in this concluding chapter and chapter 2.2 may be first guidance regarding the question which combination of recommendations could be chosen for an action programme to have the highest impact with given resources.

This one year study dealt with a wide range of issues that are relevant for passenger intermodality. It proved to be useful to start the study with a broad scoping of relevant sources for the field of passenger intermodality and to narrow a long list of issues down to relevant key issues. The results presented in this report present a step ahead to make the topic manageable. However, at this point certain limitations due to the tight timing of the study and a lack of information in many fields should not be hidden. Many recommendations are still general and the need for further discussion and research regarding certain points has to be stressed. For the practical development of an action programme on passenger intermodality it would be desirable to have more substantial analysis on cost and benefits of certain actions. Within this study such analysis was not possible as information on cost-benefit issues is widely lacking. The approach to give a rough assessment of feasibility, cost, impact and time however provides a first valid base for the development of a strategy. Of course the EC has to seek further discussion with experts and stakeholders on specific recommendations.

Suggestions for relevant next steps have been included in the recommendations section of this report. Also the need for further research regarding some important fields of passenger intermodality has already been stressed.

Passenger intermodality is a field that is developing across Europe as has been shown by the national inventories. Regional disparities are obvious and some thematic fields are further developed than others. Nevertheless, it seems that the value of better intermodal travelling is slowly been realised by many important stakeholders. This study hopefully contributes as further step to the promotion of passenger intermodality and a more sustainable and user friendly passenger transport system in Europe.

Annex

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A. Overview: Key issues for passenger intermodality

Within the first analysis phase of the study, 39 key issues for passenger intermodality have been identified by the Consortium. This extensive list has been narrowed down to better manageable 14 categories of key issues that relate to the following three domains:

- A. Context,
- B. Products and services,
- C. Planning & implementation.

Short list: Domains and categories of key issues

Domains	Categories of key issues
A. Context	1. The market
	2. Assessment and evaluation
	3. Policy and politics
	4. Legal and regulatory framework
B. Products and Services	5. Networks and interchanges
	6. Information
	7. Ticketing/fares, booking/payment
	8. Baggage handling
	9. Highly integrated products/services
C. Planning & Implementation	10. Planning
	11. Co-ordination and co-operation
	12. Promotion
	13. Resources
	14. Technical issues

Extensive list of 39 key issues identified in the first phase of the study

No.	Domain Category Key issues (by key word)
A. Context	
The Market	
1	Modal split, travel behaviour with regard to intermodality
2	Market weaknesses of intermodal travel
3	Market segmentation
4	European vs. national long-distance intermodality
5	Modal conflicts, operator priorities
6	Disaggregated ownership
7	Impact of competition models
Assessment	
8	European long-distance transport models
9	Cost-Benefit analyses
Political, Policy and Legal Framework	
10	Problems of political will and lobby for intermodality
11	EU policy and activities
12	National, regional and local policies and priorities with regard to intermodality
13	Policy consistency (between states, regions etc.)
14	Preferred modal combinations
15	Key players (interests, power)
16	Legal framework
17	Mega-trends (demographic change etc.)
B. Products and Services	
Networks and Interchanges	
18	Status of (intermodal) infrastructure
19	Integrated networks, interoperability
20	Interchanges: <i>location, accessibility, services, orientation, transfer/waiting, security, management etc.</i>

Services and operation	
21	Integration of transport services, timetables
22	Information: <i>range/integration, accessibility/channels, real-time/dynamic</i>
23	Marketing
24	Ticketing/fares, booking/payment
25	Baggage handling
C. Implementation	
Planning	
26	User needs assessment
27	Network level planning
28	Integration with land use
Co-ordination and Co-operation	
29	Institutional structures (with regard to co-operation)
30	Operations/management
31	Co-operation operators – authorities
32	Cross border co-operation
33	Data sharing (institutional aspect)
Resources	
34	Joint/mixed financing (public-public, public-private, several operators etc.) and business cases
35	European and national funding structures and levers (compatibility with inter-modality projects)
36	Human resources and institutions to implement intermodality concepts, training and education
Technical	
37	Standardisation
38	Interfaces to integrate existing products/services, procedures
39	Data exchange (technical aspect)

B. One paragraph summaries of the recommendations

I Policy recommendations	
1 Institutional structures for passenger intermodality	<i>Minimal requirements regarding a national institutional structure responsible for the co-ordination of passenger intermodality</i>
2 Passenger rights for persons with reduced mobility	<i>Integrate the aspect of intermodality in ongoing work regarding general EU policy and legislation on passenger rights for persons with reduced mobility</i>
3 Design and management of user friendly interchanges	<i>Provide information on (1) existing standards and guidelines for user friendly interchanges and on (2) good business models for interchange management</i>
4 Promotion of ticket integration for the first and last urban mile	<i>Introduction of policy recommendations to support the integration of ticketing in urban-interurban and urban-urban fields to encourage operators to integrate the first and last urban miles of a trip into the long-distance journey</i>
5 Allocation of budgets for intermodal programmes at the national level	<i>Introduction of policy recommendations that will help to expand the intermodality concept by stimulating national governments to allocate national budgets for intermodal programmes</i>
6 Standardisation of interoperable fare management	<i>Creation of European policy recommendations to standardise e-ticketing systems that would allow fare and ticketing integration for public transport</i>
II Research and studies	
7 Co-operation among operators in a competitive environment	<i>Analyse significance and impact of existing legal and regulatory structures and scope for intervention by the EU in achieving better co-operation among operators in a competitive environment</i>
7.1 Contractual requirements in service procurement for intermodality and integration	<i>Analyse feasible and desirable scope of amending the planned regional and urban public transport competition regulation to include integration/intermodality contractual requirements in service procurement.</i>
7.2 Passenger rights charter regulation/directive	<i>Analyse feasible and desirable scope of passenger rights charter regulation/directive which supports intermodal and integrated transport</i>
7.3 Legal and regulatory intervention to guarantee a minimum level of information	<i>Analyse feasible and desirable scope of legal and regulatory intervention to guarantee that operators provide a minimum level of information</i>

7.4 Liability issues regarding mobility providers <i>Analysis of liability issues regarding mobility providers for individual integrated and intermodal passenger transport solutions</i>
8 Methods and guidelines for cost-benefit studies and impact assessments in the field of passenger intermodality <i>Provision of funding for research and studies that allow the preparation of high quality methods and guidelines on cost-benefit assessments for intermodal products and services</i>
9 Markets and potential users of intermodal services <i>Support and finance research on the markets for long-distance and intermodal passenger transport and on the potential users of intermodal products and services.</i>
10 Concepts and measurements for intermodality in passenger transport <i>Support and finance research on the most appropriate ways to define and measure intermodality in passenger transport</i>
11 Role of Eurostat in standard data collection <i>Investigate the role of Eurostat in the collection of standard data regarding passenger intermodality across the EU</i>
III Standardisation activities
12 European data exchange formats for data relevant to intermodal traveller information <i>Evaluate the need for and potentially support the standardisation of European data exchange formats for data relevant to intermodal traveller information</i>
13 Interoperable fare management for public transport <i>Support of ongoing standardisation activities in the field of interoperable fare management for public transport</i>
14 Discussion on standard query for pricing information in traveller information systems <i>Evaluate in co-operation with relevant stakeholders the potential of a standard query for pricing information in traveller information systems</i>
15 Consensus on interchange standards and support of implementation <i>Support a fast track standardisation process for interchanges by supporting the development of a starting document for a European standard, and then supporting consensus development through a pan-European consultative standardisation process involving operators, authorities and passenger representatives</i>
IV Funding for European intermodality products and services
16 EU programme for passenger intermodality <i>Introduce a new EU financing programme to support projects with European added-value with main emphasis on improving intermodality and integration in passenger transport solutions</i>
17 European third party information integrator <i>Provide funding for the evaluation of the idea of a European third party information integrator and if assessed to be feasible also for its implementation</i>

18 Cost-benefit analyses and user-demand assessments in concrete projects <i>Provision of funding for the improvement of the current knowledge on cost benefit analyses and user demand assessments by realising costs-benefit analyses in concrete projects and making the results publicly accessible</i>
19 Promotion and marketing strategies <i>Provide funding to innovative initiatives that aim to promoting the use of sustainable transport modes in long-distance trips</i>
20 Integrated air-rail services <i>Funding for the evaluation and - in selected cases - for the start-up phase of integrated air-rail services.</i>
21 Pilot projects for the establishment of mobility providers <i>Support and finance pilot projects for the establishment of mobility providers and the evaluation of the idea.</i>
V Existing EU funding structures
22 Introduction of intermodality to existing EU funding programmes <i>Undertake review of structure of current EU funding programmes and make recommendations for their amendment to improve the prospects for acceptance of intermodal/integrated passenger transport projects</i>
VI Directives and regulations
<i>Further studies required (see 7 and sub-recommendations 7.1 – 7.4)</i>
VII Introduction and support of intermodality co-ordinating organisations
23 EU platform on passenger intermodality <i>Finance an EU platform that will set up and co-ordinate activities to promote passenger intermodality at the EU, national and regional level among all key stakeholders</i>
24 Network of national focus points <i>Financially support the set up and working of national focus points to act as national driving forces to promote passenger intermodality at the national, regional and local level</i>
VIII Training programmes and exchange of best practice
25 Training programmes for stakeholders <i>Implementation of training programmes and best practice exchange activities to promote the topic of passenger intermodality and the application of measures by the key players</i>
26 Design of user interfaces for passenger information <i>Support best practice transfer and guidelines on the design of user interfaces for passenger information on a European scale</i>
27 Cost-benefit studies in passenger intermodality <i>Implementation of training programmes and activities of best practice exchange to spread the results of the research done on cost-benefit studies in the field of passenger intermodality</i>

28 Training and exchange regarding mobility providers

Promotion of the mobility providers concept through the organisation of training programmes and best practice exchange activities

C. Key recommendations from other EU projects and initiatives

As background information we provide at this point an overview of recommendations that have already been made by other European projects and initiatives that deal with or relate to the topic of passenger intermodality.

In general it can be stated that most recommendations from EU projects that dealt with or related to the topic of passenger intermodality were of very general nature. Most research projects did not give much practical advice how to improve specific aspects of passenger intermodality with concrete measures that would be feasible for DG TREN.

However, some general and some more specific recommendations could be extracted from the large amount of sources that have been reviewed. Highlighted in this context have to be the very specific recommendations of the Rail Air Intermodality Facilitation Forum (RAIFF), a group of industry experts from both the rail and air transport modes to develop recommendations for encouraging operational integration of air and rail services for the benefit of travellers and operators (see also page 82). This group has been brought together on initiative of the European Commission and presented very specific recommendations on how to promote air-rail integration. A cornerstone of the group is the proposal to the European Commission, the European Parliament and the Council of Ministers to launch an action programme on passenger air-rail intermodality, covering the main issues in the information/distribution, legal and operational areas (RAIFF 2004). At this point the RAIFF proposals can not be explained in depth. Some aspects however will be mentioned beneath. For details please refer to the original RAIFF report.⁴³

Beneath, a summary – structured by the possible fields of intervention that have been identified by the Consortium – will give an overview of recommendations from various EU projects, institutions and initiatives.

Policy recommendations

This field has only been touched by very few EU projects. Some aspects mentioned are:

- The VOYAGER project sees policy recommendations as most significant for the improvement of public transport. Incentives for public transport operators, improvements of stakeholder interactions, clear EU mobility policies and a stronger public transport image are mentioned as some of the relevant fields.
- In the ATLANTIC project, TTI policy formulations and the promotion of mainstreaming of TTI into sectoral policies is seen as highly important to foster a more co-ordinated and integrated approach in European and national policy domains and programmes.
- Land-use planning and integrated mobility policies should be linked. Urban and regional plans should include the aspect of passenger intermodality (CARISMA, PORTAL).

⁴³ available from: http://europa.eu.int/comm/transport/rail/raiff/doc/2004_finalreport_en.pdf

- The EU funded research project SORT-IT recommends to focus first on the introduction of more competition in the European transport market and then in a second step, once the strategic reorganisation of the transport market is consolidated, to focus on increasing interoperability, interconnection and intermodality.

Research and studies

Passenger intermodality is a field with many open questions, which is reflected in the large number of recommendations from EU projects and other sources to do more research and studies in this field. At this point only a small excerpt from the wide range of recommendations can be given:

- Costs-benefits studies of intermodal products and services seem necessary to remove uncertainties (ATLANTIC, VOYAGER⁴⁴, COST 318⁴⁵) for operators and other key players (ATLANTIC, VOYAGER, COST 318).
- More detailed knowledge of the market for intermodal products and services is required (IATA ATCS Study, Task Force Transport Intermodality).
- In the air-rail sector the further development of mobile check-in technologies is recommended (RAIFF).
- Privatisation and regulation may have adverse effects on co-operation and integration of public transport services. Therefore the CARISMA project sees the need to further investigate the effects of different contracting schemes on the quality of seamless travel.
- The development of standardised agreements for co-operation in the air-rail sector by reviewing existing intermodal agreements is proposed by IATA's ATCS Study.

Standardisation activities

Some projects and institutions mention the need for standardisation of certain products and services. The standardisation body CEN for example dealt in several Technical Committees and in the Workgroup BT/WG 141 "Intermodal and Interoperable Transport – Telematics" with a wide range of issues to be covered. Also in other EU projects and initiatives the need for standardisation to enhance the quality of intermodal travel chains has been stressed (e.g. CONPASS, RAIFF, SORT-IT⁴⁶, CARISMA), but mostly in less detail.

Examples of fields where CEN and others see the need for standardisation activities are the following fields:

- (European) standardisation of interfaces at the level of components that make up a multimodal system.
- High priority: Electronic ticketing (e.g. European smart card system) and common European travel planning systems.

⁴⁴ VOYAGER (2001-2004) – Thematic network for local and regional public transport development covers two important workgroups for intermodality: seamless inter-modal networks and services and the public transport ITS group.

⁴⁵ COST 318 – Interactions between High Speed Rail and Air Passenger Transport (1994 – 1997).

⁴⁶ SORT-IT – Strategic Organisation and Regulation in Transport (1996-1999).

- Standardisation of data exchange formats for border crossing passenger transport.
- Standards and guidelines for the accessibility of transport chains, especially regarding the multimodal transport of people with disabilities.

Funding for European intermodality products and services

To support or finance intermodal products and services is a possible field of intervention that has been covered widely by previous EU projects.

The most concrete recommendations have – again – been made by the RAIFF group, which covered a wide range of products and services regarding air-rail integration. Technical issues are dealt with very practically. The RAIFF group also recommends EU financial start up support in the form of a Passenger Intermodality Programme, similar to the European Commission's Marco Polo programme in the freight sector. This would contribute to the development and promotion of intermodal products and services in the air-rail sector. Such a programme could aim at actions that directly or indirectly shift the transport of air-rail passengers or their baggage to the airport from private car and feeder flights to intermodal public transport (modal shift actions). So called facilitating actions could support baggage handling, information systems, integrated ticketing, reservation systems, software developments, check-in operations, security logistics or any other action facilitating modal shift to air-rail. Common learning actions as a third element could contribute to the improvement of co-operation by structurally optimising working methods and procedures in the land transport chain of the air passenger and their baggage.

Compared to the RAIFF group proposals, most recommendations from other projects and institutions stay at a very general level, leaving many open questions regarding the practical implications. Priority fields for improving intermodal products and services that have been identified by a large number of projects and institutions are:

- Intermodal passenger information systems

Most projects and institutions that dealt with questions of passenger intermodality came to the conclusion that intermodal passenger information systems have a high priority for providing the user with a seamless travel chain (e.g. EU-Spirit⁴⁷, Task Force Transport Intermodality, STEMM⁴⁸, CARISMA; TRANS-ITS⁴⁹, RAIFF). Aspects that have been mentioned linked to this field were the provision of real time information, multilingual services, clear and visible signs as well as personalised information services.

- Integrated ticketing and booking

This has been identified as a second area of high importance (e.g. ARCH⁵⁰, EU-SPIRIT, HSR-COMET⁵¹, Task Force Transport Intermodality, MINIMISE⁵²,

⁴⁷ EU-SPIRIT – European System for Passenger Services with Intermodal Reservation, Information and Ticketing (started 1998, after completion of the EU research project the participants decided to continue the work).

⁴⁸ STEMM – Strategic European Multi-Modal Modelling (1996-1999).

⁴⁹ TRANS-ITS (2001-2003) – a thematic network project with the aim to define research priorities for public transport ITS within the EU.

⁵⁰ ARCH – Alternatives to Short Distance Air Connections through Organisational Measures (1999-2001).

⁵¹ HSR-Comet – Interconnection of the High Speed Rail Network with other Transport Modes: Connection in Metropolitan Areas of HSR Terminals (1996-1997).

CARISMA). Also the EC's White Paper "European transport policy for 2010: time to decide" mentions integrated ticketing as one of the three fields that should be given priority in the short term by the member states (EC 2001, page 76-78).

Integrated ticketing in some projects is recommended for specific modal combinations like air-rail, public transport-rail or taxi-rail. Other projects recommend a general integration of ticketing for all modes to achieve a truly seamless system.

The introduction of smart card systems was mentioned in a few sources as promising action to improve conditions for multimodal and integrated ticketing. At the same time it was mentioned that tariff regulations have to be adapted to integrated ticketing, e.g. in border-crossing transport (CONPASS). The use of the internet and other technologies for intermodal booking was recommended as well.

Most projects scratch on the surface of the topic. An exception this regarding are the recommendations of the RAIFF group, that gives specific proposals for the EC how to promote the development of software required for selling integrated services in the air-rail sector.

- Baggage services

Baggage handling issues have only been dealt with in relatively little sources. However, it was considered to be an important topic, mostly related to rail or air-rail services (EUROTRACS⁵³, HSR-COMET, RAIFF). Baggage handling was one of the fields mentioned as a priority action field by the EC's Transport White Paper. The RAIFF group dealt in depth with (remote) check-in issues in the air-rail sector, giving a good idea of practical problems and how to approach them.

Further fields that have been identified as being important for improving intermodal products and services are:

- Interoperability between networks and harmonisation of schedules – contributing to seamless travel chains and enhancing the quality of the journey for the traveller (CARISMA).
- Park and Ride services (MINIMISE).
- Improved access to railway stations and accessibility of rolling stock especially for mobility impaired and elderly travellers (COST 335⁵⁴, PORTAL "Integrated Transport Chains" 2002, CEM 1999⁵⁵).
- Marketing: development of conditions and strategies for intermodal and inter-operable service operations (COST 335), making passengers and sales agents aware of air-rail offers with an air-rail EU logo (RAIFF).
- Mobility Management (PORTAL 2002).

⁵² MINIMISE – Managing Interoperability by Improvements in Transport System Organisation in Europe (1996-1999).

⁵³ EUROTRACS – within the TAP-Programme, defined user-needs for European inter-modal travel including information requirements and multimodal baggage management.

⁵⁴ COST 335 – Passengers' Accessibility of Heavy Rail Systems (1996-1999).

⁵⁵ CEM – European Conference of Ministers of Transport, Conference proceedings "Transport Chains and Disabled Persons" (1999).

EU funding structures

Only few projects have made comments on this topic.

- The CONPASS project, that dealt with border-crossing public transport gives advice how to use public funding from the INTERREG and PHARE initiatives, but does not provide further recommendations.
- The CARISMA project states generally that TEN-T guidelines should be revised so that interconnection with local networks receives higher priority (e.g. information and payment systems).
- More specific are the recommendations of the ATLANTIC project for the field of Traffic and Traveller Information (TTI) services, aiming at the provision of financial incentives for integrated planning and realisation of TTI services in support of policy goals and regional development objectives. One important recommendation is to provide public funds for the transition from successful demonstration to permanent operation, and for take-up projects.

Directives and regulations

Research regarding the possible introduction of directives and regulations has been identified by the Consortium as one field of possible intervention for the European Commission. This issue however is only dealt with in few sources. In many cases not direct recommendations are given, but the contents imply possible action fields that could be further elaborated by the European Commission:

- The most detailed recommendations in this field have been made by the RAIFF group. To enable and encourage operators to offer integrated air-rail services it has been proposed that the European Commission should for example take an initiative aimed at harmonising the VAT rates for intermodal transport services at a zero rate to serve all operators providing integrated transport services in the internal market. Further the RAIFF group provided detailed advice on actions to ensure the legal protection of passengers in case of problems, either in form of self-regulation by the industry, as already practised in some instances, or in form of legislation by the European Community. The RAIFF group also gives advice on other very specific details like the adaptation of distribution fees to the value of segments sold (RAIFF 2004).
- Very general statements regarding directives and regulations have been made by the European Conference of Ministers of Transport, that published in 1999 the proceedings of their Conference on Transport Chains and Disables persons, stressing the need to build a solid legislative framework and appropriate use of standards and guidelines to improve access for people with mobility handicaps (CEM 1999).
- The PORTAL teaching material on “Integrated Transport Chains” mentions the need for a good regulatory framework for incident management (e.g. delays of departures, guaranteeing links between modes and services and reducing waiting time) (PORTAL 2002).
- The CARISMA⁵⁶ project mentions that a strong framework for local public transport is needed to ensure an inter-operable and co-ordinated system while introducing

⁵⁶ CARISMA - Concerted Action for the Interconnection of Networks (1997-2000).

more competition at the same time. Strong regulation (legislation) is for example needed to enforce co-operation of operators with important issues being time tabling and shared information on high priority service disruptions (CARISMA 2000).

- The CONPASS⁵⁷ project, that dealt with cross-border public transport, recommended not to wait for a change in legal conditions for improved services. It recommends to deal with barriers caused by different national legislation and regulation frameworks that are causing unpleasant framework conditions for border crossing public transport by aiming at “infiltrating” the different frameworks and bridging existing gaps and differences out of a local perspective.

Introduction and support of intermodality co-ordinating organisations

Organisational questions have been identified by many projects as key for an improvement of the intermodal travel chain. Concrete recommendations in this difficult field however, are mostly lacking.

For some specific fields that relate to passenger intermodality the following more useful recommendations have been made:

- Standardisation related to passenger intermodality: The CEN BT/WG 141 Workgroup “Intermodal and Interoperable Transport-Telematics” sees the need to ensure that the responsibility of the harmonisation of standardisation activities in the area of multimodal transportation is assigned, for co-ordination, to an appropriate organisation, as an ongoing task (e.g. ICTSB ITS Steering group).
- Traffic and Traveller Information (TTI) service deployment: The ATLANTIC⁵⁸ project sees need to establish a European consensus building process for TTI service deployment and, recommends to create an independent central body as a driving force.
- Integration of border crossing public transport: The CONPASS project developed recommendations for practitioners how to improve co-ordination in border-crossing public transport, starting on a voluntary basis and increasing the grade of liability in a co-operation in a step-by-step approach.
- Air-Rail: The IATA'S ATCS Air/Rail study⁵⁹ recommends to the EC to support the creation of a syndicated group of smaller competitors to enter jointly the intermodal market as intermodality may act as a barrier for this group (insufficient critical mass, technical issues) in the field of air-rail intermodality.

Training programmes and exchange of best practice

Good practice guides are already available in some important fields (e.g. border crossing passenger transport – CONPASS). However, there is still need to spread good practice and to raise the level of professional skills in the field of passenger intermodality, as the Task Force Transport Intermodality already stated in 1997.

⁵⁷ CONPASS – Better Connections in European Passenger Transport (2000-2002).

⁵⁸ ATLANTIC – A Thematic Long-Term Approach to Networking for the Telematics and ITS Community. (2001-2003).

⁵⁹ IATA'S ATCS Air/Rail study – seminal document on air-rail intermodality analyses in depth the issues for development and promotion of high speed rail and intermodality where there is competition with air services.

A few reviewed sources provide proposals which fields should be approached:

- As already mentioned the RAIFF group recommends “Common learning actions” in the field of air-rail. These actions should aim at improving co-operation by structurally optimising working methods and procedures in the land transport chain of the air passengers and their baggage. Knowledge transfer between operators of different modes, European training programmes for intermodal services and the production of an (air-rail) manual or check list (strategic, economic, and operational aspects) for potential investors are examples of feasible measures.
- The COST 335 project and the CEM conference on “Transport Chains and Disabled Persons” identified the need to provide training and work on disability awareness amongst transport operators, passengers, general public and planning practitioners to improve the accessibility of transport chains especially for these groups.
- The ATLANTIC project recommends to create awareness and provide training Europe-wide on TTI services, involving all stakeholders, and provide targeted training for key actors at all levels.

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⁶⁰ The experts' comments represented their personal viewpoints based on their professional experience and do not necessarily represent the view of their employer.

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