

Recommendations and Strategies for Passenger Intermodality in Europe



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Disclaimer

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Executive Summary

The LINK project, funded by the European Commission, created a European Forum on Intermodal Passenger Travel. The specific focus of LINK has been on long-distance and cross-border travelling.

The LINK recommendations on Passenger Intermodality are the result of four Working Group meetings (November 2007 in Utrecht, June 2008 in Cologne, March 2009 in Madrid, and November 2009 in Bucharest). Five Working Groups (WGs) were set-up to discuss challenges and solutions in the following thematic areas:

- WG1: Door-to-door information and ticketing (moderated by Jacobs-Prague)
- WG2: Intermodal networks and interchanges (moderated by synergo and RATP)
- WG3: Integration of long-distance transport and the “last urban mile” (moderated by POLIS)
- WG4: Planning and implementation (moderated by Rupprecht Consult)
- WG5: Context conditions (moderated by ILS)

The LINK WGs provided a unique opportunity to bring together more than 100 experts from different scientific disciplines and institutional backgrounds such as public authorities, operators, lobbyists, user groups, academia, politics, business and industry.

The 19 recommendations generated by the WGs have been detailed and summarised in this report by the WG leaders in close co-operation with external experts. The target groups are:

1. Regulators and facilitators (e.g. EC, national governments)
2. Implementers (e.g. operators, interchange managers, transport authorities)

The recommendations have been categorised by six “fields of intervention” as shown in the table on the next page. They were subject to an assessment exercise against the criteria feasibility, cost, impact, timing and other specific factors. Many of the recommendations have been included in two online consultations to gather feedback from a wider expert community on the proposed measures.

The LINK Working Groups had the challenging task of developing recommendations for one of the most complex and multi-faceted topics in long-distance transport. The participating experts agreed that there is an urgent need for the further integration of transport modes to increase the efficiency of the overall transport system, tackle environmental challenges and improve the service quality for the long-distance traveller.

The LINK recommendations present a rich pool of concrete ideas on what should be done to enhance Passenger Intermodality in Europe. Their implementation would need a close co-operation of a variety of stakeholders. The list of recommendations is not comprehensive, but it covers many core areas that must be addressed. This report highlights “core measures”, “short-term measures”, “low cost wins” and “forward thinking” measures that point to future solutions.

Furthermore, the Working Groups identified many research gaps that still need to be filled as a pre-requisite to enhancing Passenger Intermodality.

The LINK Working Groups also provided a forum for stakeholders to exchange and network. The participants provided overall a very positive feedback on the activities in the Working Group meetings and LINK Conferences. This shows that there is the need to provide opportunities for discussion and the development of solutions to foster Passenger Intermodality in Europe.

Table 1: LINK recommendations by field of intervention

I Policy and funding	
1	Create a European vision/White Paper for a European door-to-door intermodal passenger travel information service
2	Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner
3	Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport
4	Introduce a new EU funding programme “Vasco da Gama” for long-distance, international Passenger Intermodality
5	Work towards advanced intermodal passenger rights
II Directives and regulation	
6	Establish obligatory delivery of data and information in the field of ticketing and information
6.1	Establish a European directive which requires transport operators to make travel planning data available to journey planning providers
6.2	Establish an obligation to make standardised tariff and timetable information available on request to authorities responsible for passenger transport information provision
6.3	Make provision of door to door ticketing information mandatory for long-distance rail-ticket distributors
III Standardisation and technology	
7	Develop a standard for long-distance electronic ticketing in TAP TSI to allow compatibility with local fare management systems
8	Create common quality standards for interchanges
IV Assessment and planning	
9	Develop and establish a city assessment tool and a quality label for long-distance intermodality
10	Elaborate and establish new business models for effective interchange management
11	Develop a toolkit for a good design of an interchange
12	Develop integrated airport accessibility plans
13	Foster intermodal business plans
13.1	Develop a framework methodology for quantification and monetary assessment of impacts in business plans
13.2	Establish long-term flexible profit sharing arrangements as basis for investments
V Innovative products and services	
14	Establish a common “CityFlex pass” concept
15	Develop innovative local taxi services
16	Integrate cooperation and information platforms for the mobility management of large events
17	Provide early information to travellers about airport links and accessibility
18	Create a pull and push strategy for business trips
VI Training and education	
19	Foster training and education on Passenger Intermodality

1 The LINK Project

The LINK project created a European Forum on Intermodal Passenger Travel. Thereby it contributed to enhancing the combined use of different transport modes in one single journey. The specific focus of LINK has been on long-distance and cross-border travelling.

The project - launched in April 2007 - was funded by the European Commission's DG Mobility and Transport (formerly Energy and Transport) within the 6th Framework Programme (FP6). The project ended in March 2010, but it has been intended to sustain the LINK Forum after that time. Different options on how to continue the work have been discussed within the project consortium.

Background

Intermodality, which describes both a quality criterion of the transport system and a policy objective, has evolved into a major focus for European and also for national transport policies, especially within the last ten years. However, whereas intermodality in freight transport is being promoted by a number of concrete initiatives at national and European level (e.g. Marco Polo Programme), Passenger Intermodality has not yet received the same attention. In consideration of the numerous benefits that Passenger Intermodality can offer to improve service quality and to make transport systems more sustainable and efficient, the concept needs much more promotion.

The current status in Europe is heterogeneous. Travel across Europe on a single ticket provided with door-to-door information is a splendid vision, but in reality often still very difficult. The study "Towards Passenger Intermodality in the EU" (EUPI, 2004)¹ proposed the creation of a Forum to bring together the stakeholders to overcome market and policy fragmentation. The main tasks of the LINK Forum, whose creation was a response to this, have been to provide a platform for exchange, knowledge transfer and the promotion of intermodal solutions.

Currently, the European Commission is developing a new Transport White Paper, due to be published in 2010. The three priorities, Integration, People and Technology were introduced in June 2009 in the Communication "A sustainable future for transport"². This communication is preparing the ground for the new Transport White Paper. The document highlights the importance of a better integration of transport modes: "The most immediate priorities appear to be the better integration of the different modes of transport as a way to improve the overall efficiency of the system and the acceleration of the development and deployment of innovative technologies. This approach always keeps the transport users and workers, with their needs and rights, at the centre of policymaking."

Other EU policy papers highlight the need for a better integration of transport modes or deal with selected aspects of Passenger Intermodality:

- EC Action Plan on Urban Mobility (9/2009): improved information, passenger rights, integrated planning.
- EC Action Plan for the Deployment of Intelligent Transport Systems (12/2008): originally road-only, now includes interconnections with other modes (public transport).
- Rail Passenger Rights and Obligations (Regulation 1371/2007): compensation in case of delays, travel information, bicycles on trains.
- EC Action Plan Airport Capacity (1/2007): Improve airport access and co-modality, air-rail intermodality.

¹ The study provides a good starting point with an overview on the state-of-the-art in Passenger Intermodality across Europe http://ec.europa.eu/transport/intermodality/passenger/studies_en.htm

² Communication "A sustainable future for transport: Towards an integrated, technology-led user-friendly system" has been adopted by the Commission in June 2009 [COM(2009) 279], available from: <http://eur-lex.europa.eu>

The rich output of strategies and recommendations from the LINK Working Groups (WGs) offer valuable contributions to current discussion on further integration of transport modes within EU transport policy. Results from the WGs point to possible solutions and steps that can help address current challenges in this field.

Definition of Passenger Intermodality

“Passenger Intermodality is a policy and planning principle that aims to provide passengers using different modes of transport in a combined trip chain with a seamless journey.” (EUPI final report, p. 6)

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 this sense. This may be true for a local or regional journey, but a door-to-door, long-distance journey with public transport often includes an interchange from long-distance to local train or from train to bus (or other forms of collective transport). Broken travel chains therefore exist in almost all public transport journeys. This is generally not regarded as intermodal transport, but faces similar situations and challenges and therefore is also an aspect looked at in the LINK Forum. LINK also considers niche services of collective transport (e.g. car sharing, demand-responsive transport), which can contribute to improved Passenger Intermodality.

Focus on long-distance Passenger Intermodality (including “first and last urban mile”)

The LINK Forum focuses on long-distance passenger transport (>100 km trip length), including the “first and last urban mile” and regional cross-border transport. While urban intermodality has been made a topic in many initiatives, the long-distance dimension has not yet been sufficiently addressed. Long-distance trips only have a small market share, in terms of total trips, but account for a considerable share of person-kilometres (p-km) (e.g. in Germany 1.3 % of the trips and about 20 % of p-km). They are of significance, due to their economic importance, their high ecological impact and their above average rate of growth, compared to urban and regional trips.

Consortium and stakeholders

The LINK consortium is composed of 17 experienced partners with different institutional backgrounds from 13 countries in Europe as listed below.

Core Partners

- ILS - Research Institute for Regional and Urban Development (Co-ordinator) – Germany (also National Focal Point)
- Rupprecht Consult - Forschung und Beratung - Germany
- Jacobs Consultancy - Czech Republic (also National Focal Point)
- POLIS - European cities & regions networking for innovative transport solutions – Belgium
- RATP - Régie Autonome des Transports Parisiens – France
- synergo - Mobilität Politik Raum – Switzerland (also National Focal Point)
- VTI - National Road and Transport Research Institute – Sweden (also National Focal Point)
- Mobiel 21 – Belgium (also National Focal Point)
- NL Agency (previously SenterNovem) - The Netherlands (also National Focal Point)
- ETT - Equipo de Técnicos en Transporte y Territorio – Spain

National Focal Points (Project Partners)

- CEDEX - Centro de Estudios y Experimentación de Obras Públicas - Spain
- FGM-AMOR - Forschungsgesellschaft Mobilität (Austrian Mobility Research) - Austria
- Intercollege Lanarca - Cyprus
- Transman Consulting for Transport System Management - Hungary
- URTP - Uniunea Română de Transport Public - Romania
- Zielone Mazowsze (Green Mazovia) - Poland
- URBA 2000 - France

National Focal Point (subcontracted)

- Martin Higginson Transport Research & Consultancy, UK (Focal Point for UK and Ireland)

The project provides a communication mode between authorities, associations, operators and user groups at different levels. It fills a current gap by serving as a focal point of a European network for Passenger Intermodality. A wide range of stakeholders, with a diversity of backgrounds and stakes in Passenger Intermodality, has been involved in the LINK Forum activities.³

Objectives of the LINK Forum

The strategic objectives of the LINK Forum are:

- to support a more favourable environment for intermodal passenger travel across Europe;
- to foster the integration of intermodality policies for passenger travel;
- to facilitate co-operation in implementing intermodal solutions; and
- to help overcoming the fragmentation of the current transport market.

Tasks

To achieve these objectives, three main tasks have been tackled:

- Exchange: build-up a European network for intermodal passenger transport to exchange experiences and work on better (trans-national) solutions.
- Transfer: set-up a knowledge centre for intermodal passenger transport which structures research, defines research questions, formulates policy recommendations and disseminates information (see: www.linkforum.eu).
- Promotion: mobilise political support, activate stakeholders and eventually develop a long-term perspective for the Forum as an active organisation.

Networking activities and expert involvement

The core of the Forum activities has been the Passenger Intermodality Network activities which included conferences, national workshops and five Working Groups, each with a different intermodal focus:

1. Door-to-door information and ticketing (moderated by Jacobs)

³ See Annex for list of Working Group Members and experts that supported the elaboration of recommendations.

2. Intermodal networks and interchanges (moderated by synergo and RATP)
3. Integration of long-distance transport and the “last urban mile” (moderated by POLIS)
4. Planning and implementation (moderated by Rupprecht Consult)
5. Context conditions (moderated by ILS)

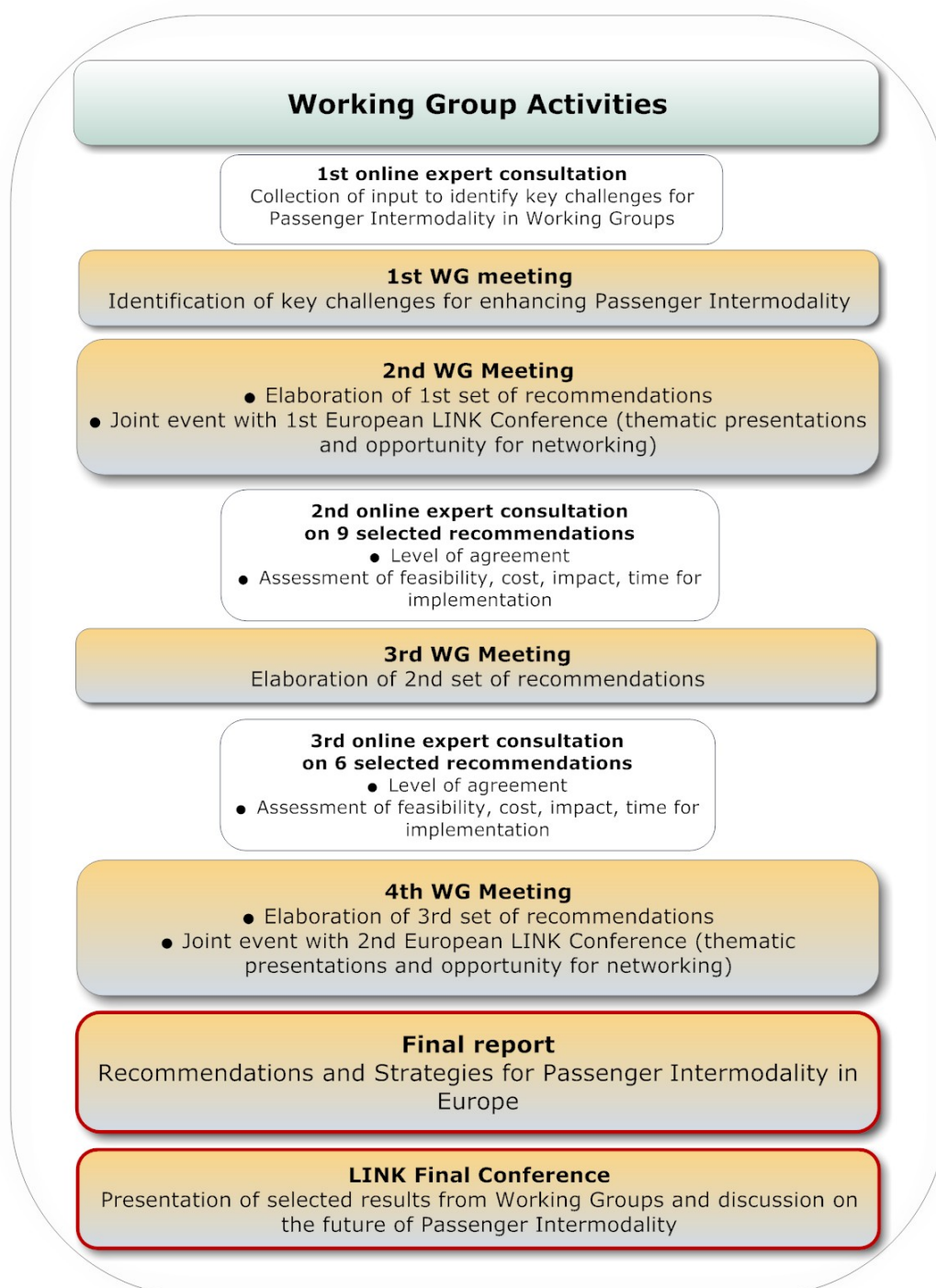
The Working Groups brought together different kinds of stakeholders: administrations, politicians, operators, researchers, user groups and industry, in order to work on promising solutions to enhance Passenger Intermodality. The corresponding work package was co-ordinated by Rupprecht Consult in close co-operation with the WG leaders.

2 Methodology

Working Group activities

The Working Group (WG) activities have been at the core of the LINK project. They were the basis for the elaboration of strategic recommendations and brought together a wide range of European stakeholders for exchange and discussion. The following figure provides an overview of the WG activities.

Figure 1: Overview of Working Group activities



LINK Working Group Agenda

At the first WG meeting in Utrecht (November 2007), 16 key challenges for Passenger Intermodality were defined. They have been summarised in the overall LINK Working Group Agenda⁴. As new priority topics developed throughout the project, changes were made to the Working Group Agenda.

The key challenges were the basis for discussion on suitable strategies to respond to priority challenges in Passenger Intermodality.

Figure 2: Key challenges of the Working Groups

	WG1 Door-to-door information and ticketing (Jacobs)	WG2 Interchanges & networks (RATP/synergo)	WG3 Urban mile (Polis)	WG4 Planning & Implementation (RC)	WG5 Context conditions (ILS)
1st WG meeting, 26-27 Nov. 2007, Utrecht	Identification of key challenges for enhancing Passenger Intermodality in Europe				
2nd WG meeting (with conference), 16-18 June 2008, Cologne	Business cases and co-operation for long-distance intermodal information	The well-being of the passenger	Interaction between local collective transport (incl. new modes) with long-distance travel	"Motivation models": business cases for Passenger Intermodality	Changing behaviour
3rd WG meeting, 2-3 March 2009, Madrid	Business cases and co-operation between stakeholders in long-distance intermodal ticketing and the one-stop shop for information and ticketing	Management of interchanges	Intermodality for mobility management of large events	"Passenger Marco Polo Programme" (proposing an EU funding programme for Passenger Intermodality)	Rights and treatment of passengers
4th WG meeting (with conference), 4-5 Nov. 2009, Bucharest	Standards and data quality for long-distance door-to-door intermodal information and ticketing	The design of interchanges: how to create a comfortable and secure atmosphere	Intermodal connections between regional airports and urban centres	Embedding Passenger Intermodality in institutional structures	Quality in tendering and licensing

⁴ www.linkforum.eu/docs/214/LINK_working_group_agenda.pdf

Working Group meetings

The recommendations, in their initial stages, have been developed with expert support at four Working Group meetings:

- 1st WG meeting in Utrecht (November 2007), definition of key challenges as basis for the elaboration of recommendations;
- 2nd WG meeting in Cologne (June 2008 in conjunction with 1st LINK Conference);
- 3rd WG meeting in Madrid (March 2009);
- 4th WG meeting in Bucharest (November 2009 in conjunction with 2nd LINK Conference).

Elaboration of recommendations

The recommendations published in the present document are the core outcome of the LINK Working Group Activities. They aim to provide practical recommendations on means to enhance Passenger Intermodality in Europe. Where possible, examples of good practice reveal these ideas are feasible.

The target groups are:

1. Regulators and facilitators (e.g. EC, national governments, transport authorities)
2. Implementers (e.g. operators, interchange managers)

A detailed overview of target groups for the individual recommendations can be found in chapter 3.1.

Based on results of WG meetings and supported by external experts, 19 recommendations have been developed. Chapter 3 also provides an overview of these recommendations, which are presented in full length in chapter 4.

Selected recommendations were subject to an online consultation among the LINK community (details below) and were fine-tuned according to the feedback from this exercise.

Synergies and overlaps between the recommendations have been summarised in chapter 3.3. Furthermore, each recommendation text includes information on synergies and interlinkages to other recommendations.

Assessment methodology

Each recommendation includes a section “Discussion of implementation”. At the beginning of the section, an overview box gives a quick assessment outline for:

- **Feasibility:** This refers to whether a recommendation seems overall viable from an economic, technical, social, or political point of view.
- **Cost:** This includes a rough estimate of costs for implementing the respective recommendation.
- **Impact:** This refers to the potential effect of the measure to enhance Passenger Intermodality in Europe.
- **Timing:** This refers to the estimated time, in years, needed to implement the recommendations.
- **Other factors:** If relevant, and recommendation-specific.

Example of assessment box

Overview	Feasibility	Costs	Impact	Time	Other factors
	- low - medium - high	- low - medium - high	- low - medium - high	- short - medium - long	recommendation-specific

The box is intended to give a quick overview. The additional text below each box provides a rationale for the assessment and explains details for each recommendation.

The assessments are based on the Working Group leaders' initial hypotheses, supported by discussions from WG meetings. For many recommendations, an expert from the Working Groups supported the elaboration of the recommendations and confirmed or amended the assessment together with the WG leader. Input from online expert consultation (see below) has supported the assessment for selected recommendation.

The assessment exercise, and especially the summary box, cannot be wholly objective. Nevertheless it was deemed as an important input to discussion on the realisation of recommendations. It should be understood as a valuable input to identify those recommendations with the highest potential to realistically enhance Passenger Intermodality (also see chapter 5 "Conclusions").

Expert consultation for selected recommendations

Aims and coverage

Three online expert consultations were carried out by LINK consortium partner ETT in co-operation with the LINK National Focal Points.

The first online consultation served to prepare the first Working Group meeting. The participating stakeholders were asked to provide input on the key challenges for Passenger Intermodality in Europe. This input served as discussion basis for the definition of the LINK Working Group Agenda at the first Working Group meeting in Utrecht.

The second and third online consultation collected feedback on 15 selected recommendations that had been developed at the Working Group meetings. The survey was carried out in 18 European countries. It was decided to focus in the consultation on certain recommendations to keep the survey short and thus to also improve the response rate. The five Working Group leaders selected the recommendations that they considered most important. The second consultation took place between February and April 2009, the third between December 2009 and February 2010.

The aim was to obtain a broad feedback on selected recommendations (in short version) that had been developed at the second and third WG meeting in Cologne and Madrid. Due to time constraints, recommendations elaborated at the fourth WG meeting in Bucharest, have not been subject to an online consultation.

The experts were asked if they agreed in general with the ideas presented in the recommendations. Furthermore, they were asked to provide a quick assessment regarding the criteria of feasibility, cost, impact and timing. In addition, they had the opportunity to provide additional personal comments.

The experts and stakeholders that participated in the consultation came from different backgrounds (from public sector to private operators), different modal areas and administrative levels.

The consultations covered the following recommendations:

Table 2: Recommendations covered by expert consultation

- Recommendation 1 (second consultation)
European vision/White Paper for a European door-to-door intermodal passenger travel information service
- Recommendation 4 (third consultation)
Introduce a new EU funding programme “Vasco da Gama” for long-distance, international Passenger Intermodality
- Recommendation 5 (third consultation)
Work towards advanced intermodal passenger rights
- Recommendation 6.1 (second consultation)
Establish a European directive which requires transport operators to make travel planning data available to journey planning providers
- Recommendation 6.2 (third consultation)
Establish an obligation to make standardised tariff and timetable information available on request to authorities responsible for passenger transport information provision
- Recommendation 7 (third consultation)
Develop a standard for long-distance electronic ticketing in TAP TSI⁵ to allow compatibility with local fare management systems
- Recommendation 8 (second consultation)
Create common quality standards for interchanges
- Recommendation 9 (second consultation)
Develop and establish a city assessment tool and a quality label for long-distance intermodality
- Recommendation 10 (third consultation)
Elaborate and establish new business models for effective interchange management
- Recommendation 13.1 (second consultation)
Develop a framework methodology for quantification and monetary assessment of impacts in business plans
- Recommendation 14 (second consultation)
Establish a common “CityFlex pass”⁶ concept
- Recommendation 15 (second consultation)
Develop innovative local taxi services
- Recommendation 16 (third consultation)
Integrate cooperation and information platforms into a mobility centre for the mobility management of large events
- Recommendation 18 (second consultation)
Create a pull and push strategy for business trips
- Recommendation 19 (second consultation)
Foster training and education on Passenger Intermodality

⁵ TAP TSI: Telematic Applications for Passenger - Technical Specifications for Interoperability, defined by the ERA (European Railway Agency)

⁶ Common concept of service provision within an integrated ticket for local transport services specifically designed for the long-distance traveller (proposed measure).

Consultation Results

The results of the consultations⁷, proved to be very useful to assess the value of selected recommendations to stakeholders working on Passenger Intermodality. Expert input (categories: feasibility, cost, impact, timing) was used to confirm or amend the assessment by the WG leaders.

The consultation provided only short summaries of the recommendations to the respondents. Therefore, the feedback focused only on the core message. There were certain limitations to the consultation results, as complex recommendations had to be simplified. The results, nevertheless, provided important feedback to WG leaders for their further elaboration of the recommendations.

In this report, each recommendation covered in the consultation, refers to individual results in the section “discussion of implementation”. The category “time for implementation” is, in many cases, not covered, as clear feedback was often lacking.

The key message of the consultations is that the recommendations generally meet high agreement among the respondents. More than 80 % of the participating experts stated that they agree or strongly agree with the recommended actions (consultation 2009: 84 %; consultation 2010: 88 %).

The results for the criteria costs, impact and time for implementation need to be looked at individually for the assessed recommendations. The assessment differs considerably for single recommendations. The look on the average would distort the picture. As mentioned the most important consultation results have been summarised for each recommendation in this report.

The two reports on the consultation results provide overview figures that summarise the key results for the respective recommendations at a glance.

Chapter 5 “Conclusions” includes an overview table on the assessment results as conclusion from the consultations, the expert reviews and the assessment of the WG leaders and categorises the recommendations according to the assessment results along 5 categories: core measures, short-term measures, low cost wins and forward thinking.

Most LINK recommendations have been confirmed in their relevance and potential impact, which is a positive result. This provides an important basis for communicating the relevance of the recommendations to stakeholders in the field of Passenger Intermodality.

It is clear, that consultation results have limitations. In some cases, it was difficult to clearly compact a complex recommendation and its potential impact into a few sentences, as required for the consultation. This may have affected consultation results. Nevertheless, it seems that respondents particularly see the need for practical solutions with high visibility (passenger information, interchanges, ticketing last urban mile, training and education).

⁷ “Conclusions of Midterm Consultation”, “Conclusion of the final consultation” - both available on the LINK website www.linkforum.eu/ download area

3 Overview of recommendations

The 19 recommendations presented in this document have been elaborated by the five different thematic Working Groups as stated above. The table on the following page provides an overview of all 19 recommendations and their target groups, structured along “fields of intervention”. Further below, you will find a short abstract for each recommendation and an overview of the main interlinkages between them. The next chapter presents the recommendations in full length.

3.1 Recommendations along “fields of intervention” and target groups

The LINK recommendations cover a wide range of topics. While they have been developed in the five above-mentioned thematic WGs, it makes sense to present them in a cross-cutting approach, according to “fields of intervention”. Seven areas, where the LINK Forum sees potential to decisively enhance Passenger Intermodality, have been defined to highlight the main areas in which stakeholders should act:

I Policy and funding

This includes targeted policy actions that help to define and plan how to enhance Passenger Intermodality. Not only does it include the setting of important framework conditions at EU and national levels, but also the co-operation of key stakeholders to define concrete actions (e.g. research tasks, regulatory issues, innovation policy) that foster the further integration of transport modes. Furthermore this field of intervention includes one recommendation that highlights the need for a dedicated EC funding programme in the area of Passenger Intermodality, with a focus on demonstration activities.

II Directives and regulation

This refers to legislative acts in areas, where the intervention of the EU or national states seems necessary to guarantee a minimum co-operation and integration of transport services. In the LINK context, this refers particularly to the field of ticketing and information.

III Standardisation and technology

This field deals with measures to achieve uniform technical, service and design specifications, in fields that concern Passenger Intermodality (particularly information, ticketing, interchange design).

IV Assessment and planning

This field of intervention covers a diversity of recommendations that point to methods, tools and processes to foster the enhanced implementation of Passenger Intermodality solutions.

V Innovative products and services

These are concrete and visible measures aimed at providing products and services that respond to the needs of the intermodal traveller.

VI Training and education

This area highlights the need to embed the topic of Passenger Intermodality in Universities and continuing education for practitioners, as an important fundamental to improve the expertise on Passenger Intermodality in the mid to long run.

Table 3: Overview of recommendations and key target groups

(⊙ = potential initiator role, ● = further stakeholders targeted by recommendation)

Field of Intervention and Recommendations	Key target groups of recommendations					
	European Commission and other EU institutions	Operators (incl. interchange operators)	Public authorities (national, regional, local)	Industry	Lobbying groups and associations	Research bodies
I Policy and funding						
1 Create a European vision/White Paper for a European door-to-door intermodal passenger travel information service	⊙	●	●	●	●	●
2 Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner	⊙	●	●	●	●	●
3 Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport	⊙	●	●	⊙	●	●
4 Introduce a new EU funding programme “Vasco da Gama” for long-distance, international Passenger Intermodality	⊙	⊙	●	●	●	●
5 Work towards advanced intermodal passenger rights	⊙	●	●		●	
II Directives and regulation						
6 Establish obligatory delivery of data and information in the field of ticketing and information						
6.1 Establish a European directive which requires transport operators to make travel planning data available to journey planning providers	⊙	●	●			
6.2 Establish an obligation to make standardised tariff and timetable information available on request to authorities responsible for passenger transport information provision	⊙	●	●			
6.3 Make provision of door to door ticketing information mandatory for long-distance rail-ticket distributors	⊙	●	●			

Field of Intervention and Recommendations	Key target groups of recommendations					
	European Commission and other EU institutions	Operators (incl. interchange operators)	Public authorities (national, regional, local)	Industry	Lobbying groups and associations	Research bodies
III Standardisation and Technology						
7 Develop a standard for long-distance electronic ticketing in TAP-TSI to allow compatibility with local fare management systems	⊙	●	●	●	●	●
8 Create common quality standards for interchanges	⊙	●	●	●	⊙	
IV Assessment and planning						
9 Develop and establish a city assessment tool and a quality label for long-distance intermodality	⊙	●	⊙		⊙	
10 Elaborate and establish new business models for effective interchange management	⊙	●	●		●	●
11 Develop a toolkit for a good design of an interchange	⊙	●	●	●	⊙	●
12 Develop integrated airport accessibility plans		⊙	⊙		●	
13 Foster intermodal business plans						
13.1 Develop a framework methodology for quantification and monetary assessment of impacts in business plans	⊙	●	⊙		⊙	●
13.2 Establish long-term flexible profit sharing arrangements as basis for investments		⊙	⊙			
V Innovative products and services						
14 Establish a common “CityFlex pass” concept	●	⊙	⊙		●	
15 Develop innovative local taxi services		●	⊙		●	
16 Integrate cooperation and information platforms into a mobility centre for the mobility management of large events		●	⊙			
17 Provide early information to travellers about airport links and accessibility	⊙	⊙	●		●	

Field of Intervention and Recommendations	Key target groups of recommendations					
	European Commission and other EU institutions	Operators (incl. interchange operators)	Public authorities (national, regional, local)	Industry	Lobbying groups and associations	Research bodies
18 Create a pull and push strategy for business trips	⊙	●	⊙			
VI Training and education						
19 Foster training and education on Passenger Intermodality	⊙	⊙	●	●	⊙	●

3.2 Abstracts of recommendations

I Policy and funding

Recommendation 1

Create a European vision/White Paper for a European door-to-door intermodal passenger travel information service (WG1)

Create a White Paper for developing a European intermodal passenger travel information service including a European vision and implementation plan (or part of a wider themed White Paper). It will serve as a unifying strategic document providing guidance for all countries and regions wishing to engage in such a service at a European level. This needs to be driven by a new European Steering Committee for Intermodal Passenger Travel Information and a supporting study.

Recommendation 2

Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner (WG1)

The idea is to develop a road-map for how technically to roll out a European journey planner in successive stages using a practical approach. There is a number of basic technical solutions for door-to-door intermodal journey planners (JPs) working in Europe, mostly on regional, in some cases national scale. The road-map should provide the answer how best technically and at the same time feasibly migrate to the European scale using a combination of available methods.

Recommendation 3

Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport (WG4)

Establishing of a joint Passenger Intermodality Working Group of the existing modally focused European Technology Platforms (ETPs) in the field of passenger transport to support the elaboration of intermodality roadmaps, strategic research agendas and to foster networking between key stakeholders.

Recommendation 4

Introduce a new EU funding programme “Vasco da Gama” for long-distance, international Passenger Intermodality (WG4)

Introduce within the frame of the upcoming Marco Polo III programme a new EU financing programme to support projects with European added-value with main emphasis on improving intermodality and integration in international long-distance passenger transport solutions.

Recommendation 5

Work towards advanced intermodal passenger rights (WG5)

Making intermodal transport more attractive by improving the quality and transparency of information about passenger rights. Enhanced co-operation between institutions with responsibility for those rights shall ensure passenger rights, supported by a coherent European intermodal passenger rights policy.

II Directives and regulation

Recommendation 6

Establish obligatory delivery of data and information in the field of ticketing and information (WG1)

This recommendation includes three sub-recommendations that are closely interrelated and contribute to the aim of better integrated passenger information and ticketing.

6.1 Establish a European directive which requires transport operators to make travel planning data available to journey planning providers

Making a minimum content and quality of travel related information available to local/ regional/ national/ European journey planning providers should be an obligatory requirement for transport operators and authorities. This is of key importance to kick-start cooperation on provision of long-distance intermodal travel information in many countries.

6.2 Establish an obligation to make standardised tariff and timetable information available on request to authorities responsible for passenger transport information provision

Basic tariff and timetable information should obligatorily be made available by all passenger transport operators to authorities responsible for passenger transport information provision. This will enable better choice and efficiency in intermodal planning and ticket purchase. Such information is not consistently available for long-distance door- to-door trips and is currently a major barrier to multi/intermodal journey planning.

6.3 Make provision of door to door ticketing information mandatory for long-distance rail-ticket distributors

When no door-to-door ticket service is available, provision of joined up information on ticketing should be made compulsory. The idea is to make it mandatory in rail and bus transport for the long-distance ticket retailers to provide information (and for local operators to cooperate) on fares (i.e. their structures and possible rebates) and fulfilment (i.e. how to get the tickets) for all legs of an already selected journey (from A to B).

III Standardisation and technology

Recommendation 7

Develop a standard for long-distance electronic ticketing in TAP TSI to allow compatibility with local fare management systems (WG1)

Neither paper nor ticketless solutions, as they are described in the current proposal for the TAP TSI⁸ standard for long-distance rail trips are applicable in the growing number of regional or local networks where control has been automated using contactless systems. A standard data model for electronic tickets, usable on smart cards or on any other similar electronic devices (e.g. NFC smart phones), should be developed for a long-distance ticket to enable future compatibility with local transport fare management systems. This standardisation work item has to be reopened within TAP TSI.

Recommendation 8

Create common quality standards for interchanges (WG2)

Create common and Europe-wide standards for the equipment of interchanges (focussing on interchanges which are important for long-distance passenger travel). The standards should serve as guidelines or principles for the building of new interchanges or the adaptation of existing interchanges. As a long-term

⁸ TAP TSI: Technical Specifications for Interoperability for Telematic Applications for Passenger, defined by the ERA (European Railway Agency)

vision, the standards should be integrated in the existing standards of the European Committee for Standardisation (CEN/ TC 320).

IV Assessment and planning

Recommendation 9

Develop and establish a city assessment tool and a quality label for long-distance intermodality (WG3)

The proposed benchmarking tool would help to assess the intermodal integration of long-distance transport with local mobility services in a specific city. The use of this tool would allow the award of quality labels for branding of high-quality services which could work as a strong incentive for cities to improve the situation and as a reference for the travel and events industry. The scheme could be the basis for mutual learning between cities and promotion of good practice.

Recommendation 10

Elaborate and establish new business models for effective interchange management (WG2)

Elaboration of new business models for effective interchange management and testing them by application in practice. The models should include possible working profiles and competencies of an Interchange Manager (central figure in the business models), her/his tasks and activities and possible financing models. In the elaboration of the business models required legal requirements would have to be taken into account.

Recommendation 11

Develop a toolkit for a good design of an interchange (WG2)

Creation of a standard Toolkit (preferably an interactive and web-based version) for stakeholders responsible for an interchange to get a better grasp of how an interchange must be designed. The aim of the Toolkit would be to help stakeholders to understand the important principles of good interchange design which should be taken into account.

Recommendation 12

Develop integrated airport accessibility plans (WG3)

Definition of integrated airport accessibility plans for all airports, to encourage smoother intermodal links between air travel and surface access to the airports and between the various modes for land access to the airport. Accessibility planning is a necessary condition to implementing intermodal solutions for airport links and efficiently supporting their use.

Recommendation 13

Foster intermodal business plans (WG4)

This recommendation includes two sub-recommendations that are closely interrelated. Sub-recommendation 13.1 is a pre-condition for sub-recommendations 13.2.

13.1 Develop a framework methodology for quantification and monetary assessment of impacts in business plans

Develop and agree a suitable framework methodology for the quantification and monetary assessments of intermodality impacts for business plans in the field of Passenger Intermodality. The long term impact of such a model would be for it to gain wider acceptance as the basis for long term cost and revenue share arrangements e.g. for the interchange area.

13.2 Establish long-term flexible profit sharing arrangements as basis for investments

In order to create the conditions necessary for a public-private sector partnership investment in multimodal schemes where the winners and losers will change over the lifecycle of the development it is necessary to have a flexible profit sharing arrangement in place. This will reduce risks to all parties and enable speedier progress towards business case sign off and project implementation.

V Innovative products and services

Recommendation 14

Establish a common “CityFlex pass” concept (WG3)

CityFlex pass is a common concept of service provision within an integrated ticket for local transport services specifically designed for the long-distance traveller. The traveller could purchase this as a standalone ticket for local transport on arrival or during the stay. Another solution would be to optionally add the CityFlex option to long-distance tickets.

Recommendation 15

Develop innovative local taxi services (WG3)

Shared taxis can contribute to mobilising the underused resource of taxi vehicles and drivers to offer new flexible and demand-responsive, reliable, accessible, affordable services with a low access threshold for visitors and well integrated into the public transport, especially long-distance interchange hubs.

Recommendation 16

Integrate cooperation and information platforms into a mobility centre for the mobility management of large events (WG3)

Creation of a mobility centre for the event, consisting in a cooperation platform between stakeholders, ideally including the participants, and an information platform for long-distance visitors to the event. Creation of the ICT tools to support this mobility centre and to provide tailor-made travel advice and information, possibly updated throughout the entire journey. Developing marketing-based combined travel products, tailored to the event target groups.

Recommendation 17

Provide early information to travellers about airport links and accessibility (WG3)

Airports and airlines should provide information to passengers at the different stages of the trip chain including at the airport of origin. The information should be on the flight, on public transport options and on accessibility at the destination airport.

Recommendation 18

Create a pull and push strategy for business trips (WG3)

Reducing monomodal car use for business trips and achieving a shift towards inter- and multimodality by calling upon companies' corporate social responsibility and by taking 'soft policy' actions to influence the rules and the organisation of business trips within companies and institutions (pull factor). An important lever to create supporting framework conditions is taxation regulation for (company) cars and reimbursement rules for (private) car use for business trips (push factor).

VI Training and education

Recommendation 19

Foster training and education on Passenger Intermodality (WG4)

Introduction of Passenger Intermodality and cooperative processes as topics for professional training courses for practitioners and in the curricula of transport related study programmes. Widely established training would contribute in the mid- to long-run to changing mentalities and processes.

3.3 Synergies and interlinkages between recommendations

A challenge of the LINK project is that Passenger Intermodality is a broad field for which it is difficult to address the large diversity of issues and challenges in a comprehensive manner. A Forum on Passenger Intermodality needs to identify a set of priorities that responds to the diversity of challenges. This was done in the LINK Working Group agenda.

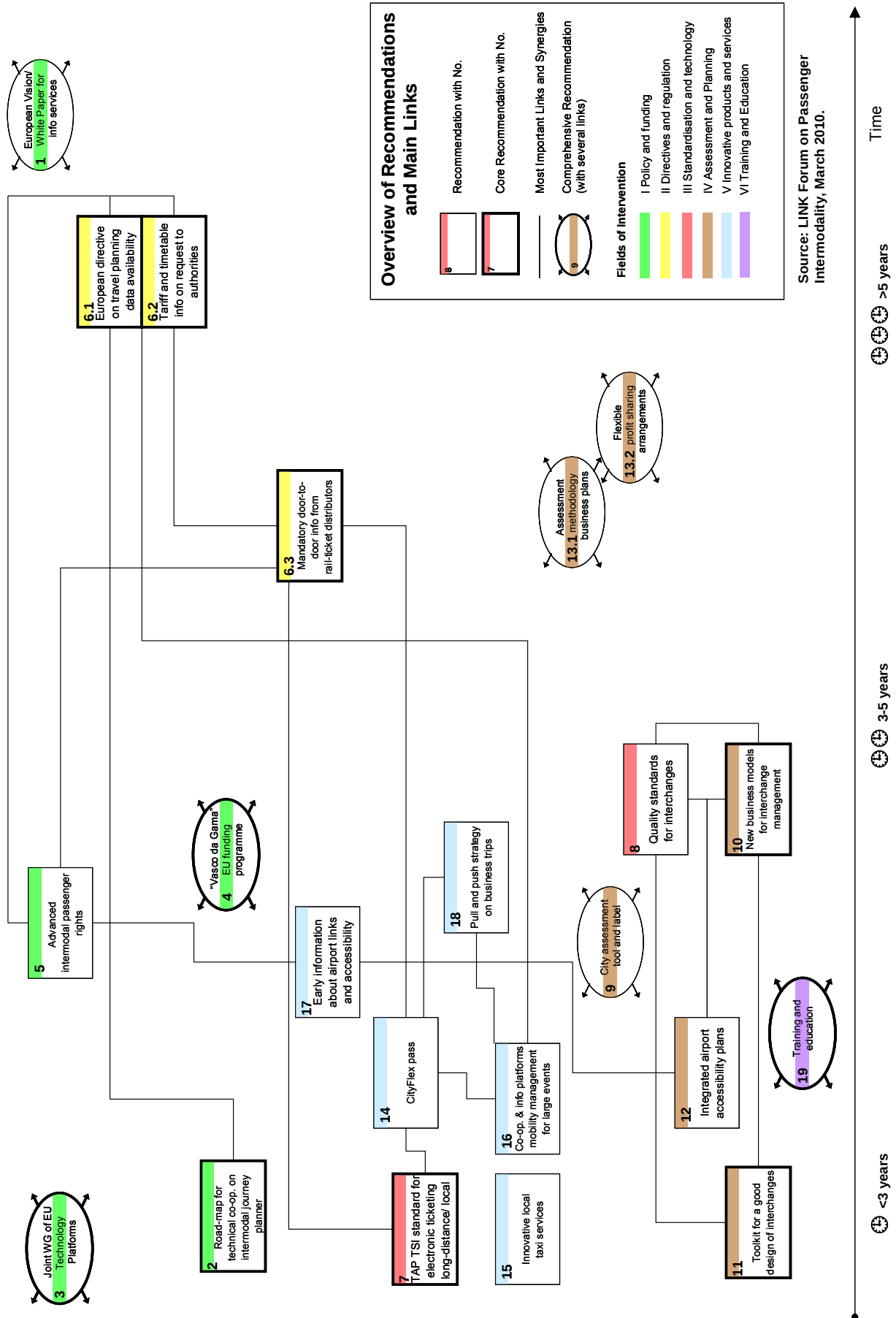
In the majority of cases the recommendations addressing these challenges cannot be looked at in an isolated way. Enhanced long-distance Passenger Intermodality can only be achieved, if integrated packages of measures are implemented and the travel experience for the whole travel chain is satisfying. If one important element in an intermodal journey (e.g. traveller information, disruption management for connections) does not meet the expectations, and the travel experience is a bad one, the concept of seamless travelling failed.

Many different aspects of long-distance Passenger Intermodality are reflected in the LINK recommendations. While the recommendations do not claim to be completely comprehensive, they cover a wide range of priority fields of intervention.

Various interlinkages, overlaps and potential synergies, exist between the recommendations. The figure below categorises the recommendations by fields of intervention and visualises the most important relations. The figure also indicates the estimated timing to implement the recommendations and highlights the core recommendations that seem to be particularly important to enhance Passenger Intermodality in Europe.

The most important interlinkages are mentioned in detail for each of the full recommendations (chapter 4) in the section "Interlinkages". This figure presents all recommendations by field of intervention. An indicative rough timeline for the potential implementation of the recommendations has been included to point towards a possible roadmap. The indicative timeline is based on assumptions that are discussed in more detail in the full recommendations. The timing is indicative and needs further discussion in detail.

Figure 3: Selected interlinkages between LINK recommendations



4 Full recommendations

I Policy and funding

This field of intervention includes policy actions that help to define and plan in a targeted way how Passenger Intermodality could be enhanced. It includes not only the setting of important framework conditions at EU and national level, but also the co-operation of key stakeholders to define concrete actions (e.g. research tasks, regulatory issues, innovation policy) that foster the further integration of transport modes. Furthermore this field of intervention includes one recommendation that highlights the need for a dedicated EC funding programme in the areas of Passenger Intermodality with a focus on demonstration activities.

Recommendation 1

Create a European vision/White Paper for a European door-to-door intermodal passenger travel information service

Working Group 1 - Intermodal information and ticketing (moderated by Jacobs)

Create a White Paper for developing a European intermodal passenger travel information service, including a European vision and implementation plan (or part of a wider-themed White Paper). It will serve as a unifying, strategic document, providing guidance for all countries and regions wishing to engage in such a service at the European level. This needs to be driven by a new European Steering Committee for Intermodal Passenger Travel Information and a supporting study.

Who should become active?

Initiative: The European Commission needs to take the initiative in the development of the vision and the White Paper, but very active support from key stakeholders will be crucial.

Implementation: The vision and the White Paper need to be developed, with strong interaction and guidance from the key European stakeholders, through a European Steering Committee to be formed for intermodal passenger travel information.

What is it about?

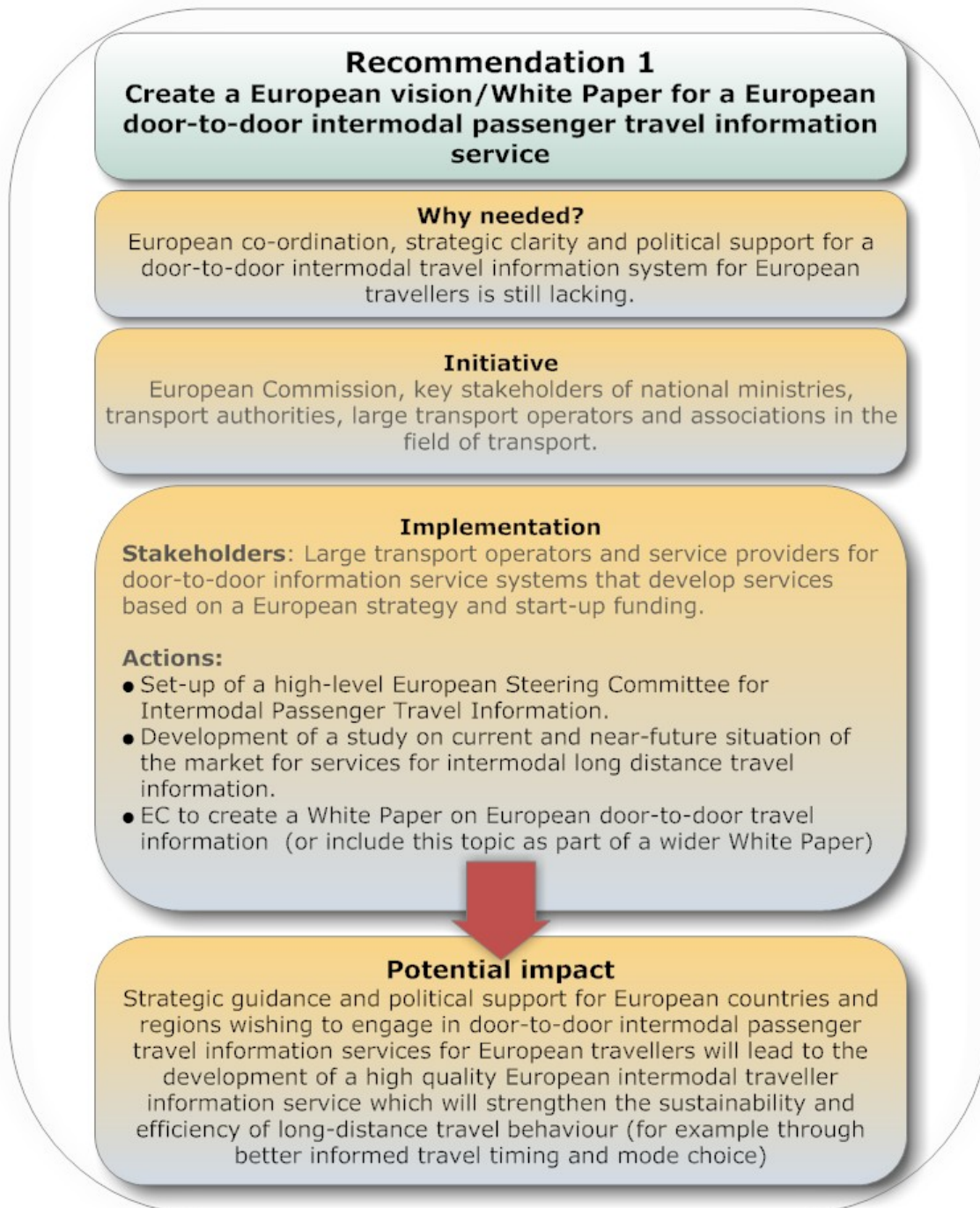
There is not sufficient strategic clarity or political support, at the European level, to build a door-to-door intermodal travel information system for the European traveller. Attempts, so far, such as the EU-SPIRIT project (see practice box below), are limited services that do not enjoy strong enough backing to gain critical mass.

The first missing link is a European document with rich input from key stakeholders, which lays out a clear vision and implementation path with clear actions at the European level.

There are three main steps to developing this White Paper.

1. The EU needs to encourage the creation of a fund for a **European Steering Committee for Intermodal Passenger Travel Information**⁹ (and perhaps a wider stakeholder forum). The Committee will guide the work and monitor progress. The Committee should include representatives of e.g. DG MOVE DG INFOSOC, UITP, POLIS, European Rail (e.g. ERA), the Air industry, as well as from the road sector (e.g. representation from the EASYWAY European Study on passenger information services and/or the roads' directorates conference, CEDR) and possibly from the ITS industry (e.g. ERTICO).

Figure 4 : Overview recommendation 1



⁹ There may be scope to include also ticketing and some other intermodal passenger issues in the remit of this group

The Steering Committee has to be high-level, laying out and monitoring progress in achieving the broad elements that need to be put in place in each Member State (according to structure/ protocols that allow European-wide integration). This Committee *might*, for example, start from UITP's Travel Information Market (TIM) Group.

Tasks of the Committee should include:

- Develop/implement national standards for intermodal passenger travel information within a European-wide framework;
 - Develop/implement a working system for gathering and maintaining data on public transport network characteristics (intervals, stops, time schedule, actual location, etc. - not of the services operating on that network), including interface/compatibility with transport network, as used by car drivers;
 - Develop/implement a working system for registering all public transport services, and consequently for gathering and maintaining public transport service features;
 - Develop/implement a legal and business framework for the participation of the private sector in deploying TTI10 services (Commission Recommendation C(2001) 1102 final).
 - Support for EC Member States on their path to door-to-door intermodality within their own territory and compatibility with an EC-wide approach. Only once it is clear, that each Member State is following a 'roadmap' to achieving this, should the focus be moved towards a cross-European approach, where different transport modal and other interest groups come together;
 - Push for EU funding to get each Member State to the required level necessary to enable European-wide implementation, with key actions stated.
2. The EU should commission a study to assess what sort of European long-distance passenger travel information service is possible and is realistic to deliver at the present time. This practical study, drawing on previous and ongoing research and trial work, should lay out the current and near-future situation of the market: what services (including at national level) are rolled out already, what is planned, what is known, what is possible, what works, in terms of the market and technical solutions? It will lead to the detection of gaps in knowledge and a better understanding of the market.

The study should cover, at least, the following grounds for the provision of long-distance intermodal information:

- Evaluate current capability against the concept of universal and future delivery of information; in particular, examining the potential role of distributed systems¹¹ in delivering a European travel information service;
- Establish realistic business model options (in the widest sense and including public funding) for development of such a service. See the case examples below;
- Outline possible institutional and regulatory frameworks for the implementation of such a service;
- Propose realistic guidance on co-operation models, including key technical issues;
- Elaborate data provision guidelines – tendering and contractual guidance on the provision of travel data to a central system.

¹⁰ TTI - Traffic and traveller information

¹¹ Distributed systems – system in which hardware or software components located at networked computers communicate and coordinate their actions only by passing messages, in this case a travel information system which has many different sources of data.

The results of EU research projects, such as e-motion, EU-SPIRIT, KITE, LINK and i-travel¹², and of other relevant activities, such as EasyWay (www.easyway-its.eu) and parallel forums for the development of standardised passenger travel information systems, need to be fed into this study.

The study should be used as a key base document for the final step which is:

3. The EU should create a White Paper on European door-to-door intermodal travel information, including at least the following aspects:
 - A vision that inspires relevant stakeholders to participate in a European door-to-door travel information service;
 - Description of how the system would look¹³;
 - Proposal for an institutional arrangement, including scope of legal requirements to provide data (see recommendation 6.1, 6.2);
 - Description of the European intermodal journey planner, potentially based on a distributed system, anchored in long-distance transport;
 - Recommend minimum technical requirements for participating systems;
 - Outline of differences in approaches between the pre-trip journey planning and on-trip journey planning and management, in particular issues of providing real-time information;
 - Particularly indicate how all modes can be fully included (in particular, car highway transport and urban modes);
 - Recognition of the need for an “agency of last resort” at national level to collate data not otherwise collated (i.e. to fill in data gaps, which arise from failures of co-operation between operators)¹⁴;
 - Advice on how to build a European backbone information system;
 - Recognition of the fact, that full coverage will be incomplete for many years and ensuring this can be handled.

Why is this necessary?

The Steering Committee, the study and the White Paper are needed to generate sufficient co-ordination, strategic clarity and political support at the European level, to build a door-to-door intermodal travel information system for the European traveller.

Practice example: EU-SPIRIT

This project is the closest thing we have in Europe to a European intermodal travel planner, at the current time. EU-SPIRIT is a cross-border and internet-based travel information service for customers of public transport. It is based on existing local, regional, and national travel information systems which are interlinked via technical interfaces, using a distributed approach.

¹² www.i-travelproject.com/, www.linkforum.eu, www.kite-project.eu, www.eu-spirit.com, www.emotion-project.eu

¹³ Establishing the scope of the service is important, particularly the distinction between universal features and discretionary features. It may be that there is a strong business case for some features of a European-wide service, but not for others. It might also be the case that a European-wide service could build on existing commercial services (e.g. OAG Airline Routeing guide, or DB European Rail Journey Planner, or similar) and deliver European door-to-door functionality at limited EC marginal expenditure: this should be examined.

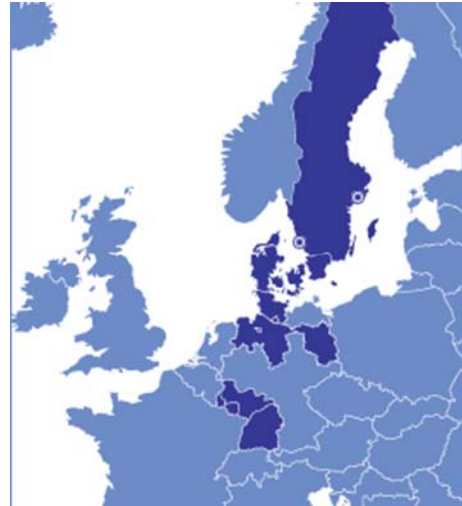
¹⁴ This is essential to have, but it is equally critical to establish the robust business processes, in all countries, to ensure that this agency of last resort is not needed in practice.

The EU-SPIRIT service provides door-to-door travel information for customers who do not only travel within one region. The service provides the calculation of an itinerary between stops, addresses or points-of-interest in different European regions. The information service includes any local or long-distance public transport provider, as well as additional services, for instance map and tariff information services. The EU-SPIRIT information service is provided without direct charge to the end-

user and via the customer's local information system in the native language.

Door-to-door timetable information (from starting point to destination, including local, as well as long-distance airline or railway transport), calculation of total travel times, information about fares and links to additional important local information sources are modules of the EU-SPIRIT service that bring cross-border travel by public transport to an unprecedented level of comfort and convenience for end-users and intermediate customers.

Up to now, providers from the following countries offer the EU-SPIRIT service: Denmark, Germany, Luxembourg and Sweden. The project is driven by public transport operators and regional-level travel planner providers.



Current geographical coverage of EU-SPIRIT system

It is critical that the reasons why EU-SPIRIT partners have continued with the service, and continue to support it, are analysed here, as well as the reasons why other partners have NOT joined. Also, whether there are, in hindsight, better ways of introducing and developing EU-SPIRIT than those actually followed. Are there features of EU-SPIRIT that could not be applied, in some other parts of Europe, and are there ways in which other Member States' systems have developed, which represent barriers to them joining EU-SPIRIT? The study must examine the various technical barriers to implementing such a service. The added value of a European-side service is likely to be hard to ascertain and a sound business-case for a comprehensive European-wide service, will be hard to make. The evidence must be fully analysed.

Website: www.eu-spirit.com

Contact person: Jürgen Ross, VBB Verkehrsverbund Berlin-Brandenburg GmbH

Practice example: Transport Direct

Transport Direct is Britain's very successful intermodal journey planner, which brings together numerous operators' regional and urban travel information services into an integrated national web-based information service. It is currently funded by the UK government and works on the basis of voluntary participation by data providers. The system utilises the so-called distributed approach, which means that a "meta" database top-level system requests data from autonomously-contributing lower-level information systems and then "sews" the results together.

This approach has the practical advantage of requiring few changes to existing systems, but at the cost of problems in providing guarantees of quality. The “sewing” of the results together has caused problems in the past and ownership of data and responsibilities for data accuracy are problematic. Great care needs to be taken to minimise the potential for such problems in any similar projects (e.g. through voluntary or binding quality standards or quality audits).



Website: www.transportdirect.info

Contact person: Roger Slevin, UK Department for Transport

Where is it applicable?

This is a framework for a European service.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factors
	low-medium	medium	medium-high	6-10 years	-

This recommendation was subject to an online expert consultation in spring 2009. More than 90 % of the experts stated that they strongly agree (40 %) or agree (54 %) with this recommendation.

Feasibility

The real barrier to creating the White Paper could be an insufficient level of political and administrative priority attached by the EC to this issue outside of the research field, and the level to which the process can realistically be directly financed by the EU, at least in the start-up phase. In our view, the feasibility is medium, because we observe that the EC, and many Member States, regard it only as a medium-term priority.

It is also a relatively narrow issue and may be that a White Paper is more likely to be produced on the topic of implementing a set of European services for intermodal long-distance passenger travel (e.g. including ticketing and interchange services) or an even wider sustainable transport document.

The key issue, in moving from national systems to a European-wide system, is not just political and administrative but also the business case. Prior to this, a key issue is establishing national journey planners in such a way that they could be combined at a later date. Many exist, but not in all countries by any means.

In the expert consultation, most experts (55 %) considered the feasibility to be medium, while only 6 % saw a high feasibility and 39 % stated that they would expect a low feasibility.

Costs

The financial outlay in creating a White Paper would be an estimated 1-5 million EUR, including co-ordination and study costs. The financial implications of what the White Paper proposes for the Member States, however, could be much greater and would require careful examination.

In the expert consultation, most experts (54 %) expected the cost of creating a White Paper to be in the “medium” range, some (0.5 to 5.0 million EUR).

Potential impact

If the White Paper was to be taken up politically, the impact would be significant for real movement on this topic. The impact is heavily influenced by the willingness of the EU Member States to implement recommended legislation and (at least co-fund) a European service start-up and further steps to implementation. It will not be taken-up, however, until a majority of countries grasp the vision for national journey planners for themselves. This has to happen, before they implement legislation and co-fund a European start-up.

In the expert consultation, the majority of respondents (68 %) would expect a “crucial” impact, if this recommendation were realised.

Time for implementation

If the actions, described above, will start in the near future (one-two years), it is possible to reach all goals stated, in this recommendation, by 2018.

Interlinkages/ synergies

As mentioned, it may be that a White Paper will be produced, more realistically, on the topic of implementing a concurrent set of European services for intermodal long-distance passenger travel (e.g. including ticketing and interchange services) or an even wider sustainable transport document.

Obviously such a wider White Paper would link-up many of the other LINK recommendations.

Expert support in developing this recommendation:

John Austin, Austin Analytics, UK.

Recommendation 2

Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner

Working Group 1 - Intermodal information and ticketing (moderated by Jacobs)

The idea of this recommendation is to develop a road-map for how technically to roll-out a European journey planner in successive stages using a practical approach. This could be part of the feasibility study described in the “White Paper” of recommendation 1 of LINK.

*There is a number of basic technical solutions for door-to-door intermodal journey planners (JPs) working in Europe : **centralised** and therefore fully integrated data; **shared (pooled) database** where partners copy their data regularly from each other instead of dealing with individual trip requests and a **distributed approach** with federated independent databases which receive/send requests for information to each other.*

Each approach has its pros and cons in terms of service data, information coverage/ quality and organisational feasibility, with centralisation being the highest quality, but with quickly diminishing organisational feasibility as the travel planner grows in geographic coverage and crosses administrative borders.

The current starting point in Europe is that most journey planners are regionally centralised and there are a number of national distributed/pooled or centralised systems, while some countries/regions have nothing or very fragmented local systems. There is also currently no experience with a true pan-European service providing end-to-end support for long-distance, cross-border intermodal journey planning and travel information.

Therefore the question that we do not yet know the answer to is how best technically and at the same time feasibly to migrate to the European scale using a combination of these methods. The answer should be provided by this road-map.

Who should become active?

This must be driven and funded by the EC with the support of Member States and possibly the agencies of the EC such as the TEN-T Executive Agency and the ERA, based on technical agenda overlap. Other actors to be involved include associations such as the UITP, POLIS, Air industry representatives, ITS industry (ERTICO) and possibly representatives from the travel industry (e.g. ECTAA).

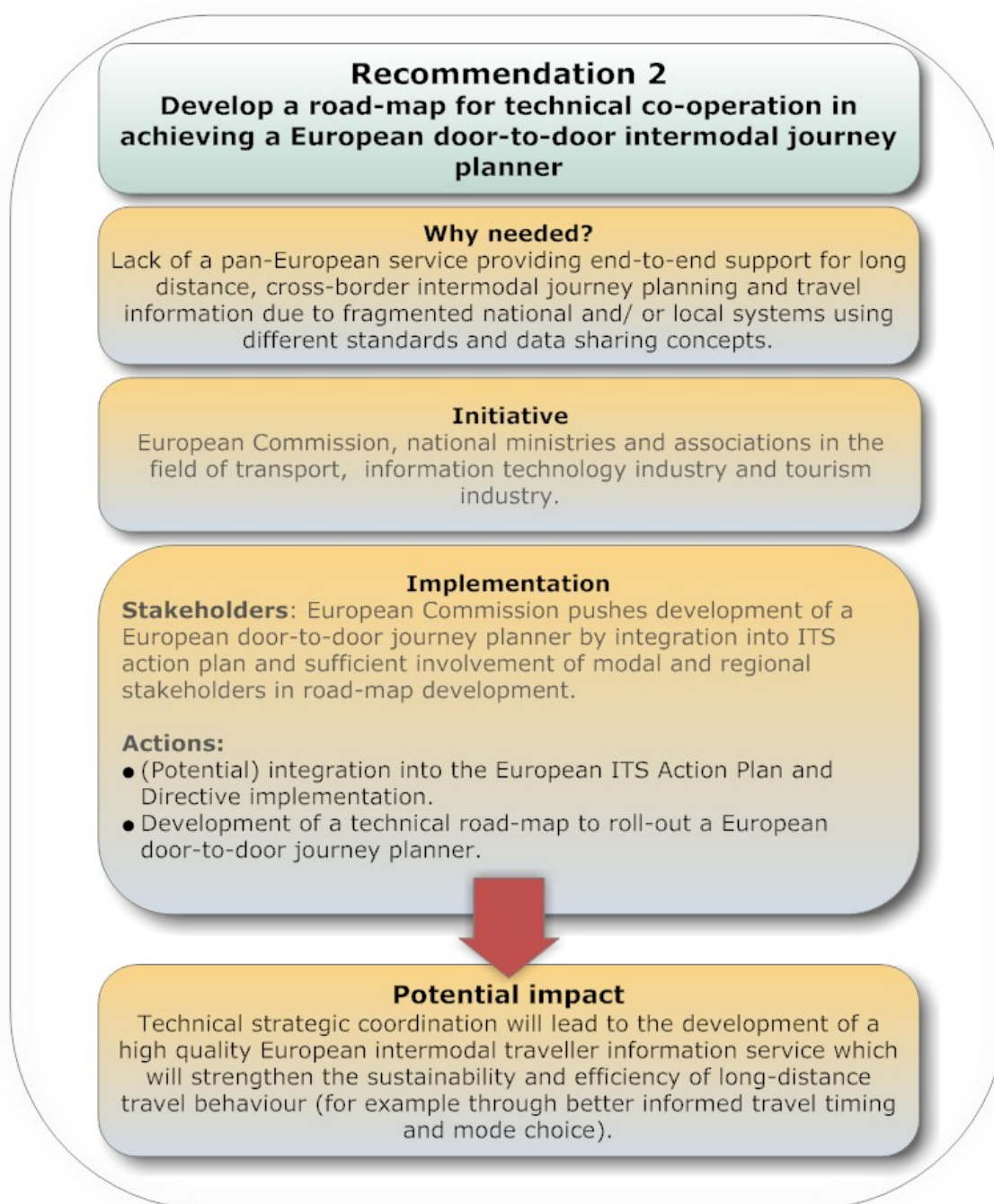
It would be reasonable to develop the necessary consensus in the framework of the European Steering Committee for Intermodal Passenger Travel Information advocated in the LINK recommendation 1.

What is it about?

Currently a number of basic technical solutions exist for door-to-door intermodal journey planners (JPs) working in Europe

- **centralised** and therefore fully integrated data is the building block of any system, usually working at the regional/urban level and sometimes for small countries as a whole. Centralisation does not necessarily have to stay within borders, particularly for green field projects (e.g. in new Member States). This is technically the best option but requires a strong organisational background such as a leading authority/organisation, efficient procedures to ensure timeliness and accuracy of the centralised databases with the data of the participating partners. Furthermore, organisationally its difficulty grows with size and the number and the diversity of institutional boundaries it crosses.

Figure 5: Overview recommendation 2 “Develop a road-map for technical co-operation to achieve a European door-to-door international journey planner”



- **shared (pooled) databases:** partners copy each other's data regularly instead of dealing with individual trip requests. This can be quicker, give better data quality transparency and can help build co-operation based on trust in each other's data quality (Austria is an example of this).
- **distributed approach:** federated independent databases which receive/send requests for information to each other. It is currently very popular, can be more tractable/practical (organisationally) as it involves less organisational interaction, but the speed can be poor and the quality can suffer due to sub-optimal travel option offers and difficulties knowing the quality of data being provided by black boxes. The more systems are involved with more hierarchical levels, the more difficulties arise.

While for these three basic technical solutions there are examples of services running at the regional or national level in several EU countries, there is currently no experience with a true pan-European service providing end-to-end support for long-distance, cross-border intermodal journey planning and travel information. We need practical integration of existing JPs and Travel Information Services (TIS) and to develop “green field” areas with an optimal and evolving combination of interoperable distributed, pooled and centralised components (or even looser interaction if necessary).

The idea of this recommendation is to develop a road-map for how technically to roll-out a European journey planner in successive stages using a practical approach. This could be part of the feasibility study described in the “White Paper” of recommendation 1 of LINK.

Part of the road-map may also be a recommendation for binding standards which would help the European journey planner move forward in a consistent way.

Why is this necessary?

One of the aims of this Working Group is to examine how to move towards a European journey planner which would make it easier to make long-distance intermodal journeys across Europe. The current starting point in Europe is that most journey planners are regionally centralised and there are a number of national distributed/pooled or centralised systems while some countries/regions have nothing or very fragmented local systems. So we have a very heterogeneous starting point and no significant European connections (with the exceptions of some regional pilots such as EU-SPIRIT)

The question we do not yet know the answer to is how to migrate to the European scale. It is not clear which long-term technical and organisational solution is best and what needs to be done to enable this. The risk is that we will never reach a European system or it would be of insufficient quality to be effective. The reality should be a progressive move towards better and better quality with a realistic starting point and approach.

There are a number of key issues the roadmap should investigate, including:

- a) *Data supply*, this is a central topic for any operation involving the ‘integration’ of different JPs. Main problems with current systems include use of different formats by different data providers, gaps in data coverage, varying frequencies of updating, difficulties in maintaining large data sets, poor integration of real-time traveller information.
- b) Available *technical standards* need to be assessed to achieve commonly agreed business to business interfaces standardising data exchange and enabling full interoperability of journey planners. Available solutions need to be considered looking at the European level – e.g. CEN TC278 SIRI; TPEG; IFOPT; ERA TAP TSI¹⁵ – as well as at *de facto* national standards – e.g. JourneyWeb (UK).
- c) *Quality and consistency* of data must be analysed, because of the existing differences across countries and between service providers¹⁶, identifying ways and concrete steps to implement technical solutions and procedures to ensure reasonable quality levels (e.g. accuracy, completeness, timeliness) for the integrated system.
- d) Most current JPs provide access and information in the various national languages of the EU with a very limited use of English. *Multilinguality* is an obvious requirement for planning international door-to-door travel, which technical and organisational solutions must ensure.
- e) The integration of *dynamic data* and *real-time information* and *alerts* to travellers (e.g. delay information, service disruptions and changes) is still under-played in current JPs, although this

¹⁵ All mentioned titles are expressions of technical standards related to transport, travel and traffic areas.

¹⁶ e.g. provision of public transport service times vs. frequencies, use of different timing conventions in timetable definitions, availability/formats of pricing information.

feature has high potential to increase the attractiveness of JP services for travellers and influence modal shift.

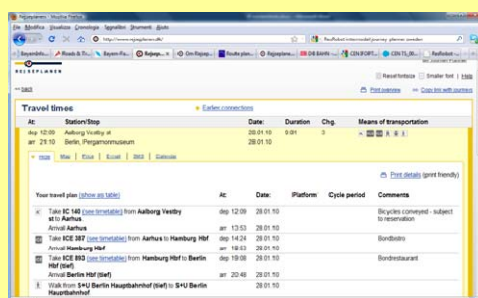
- f) feasible routes for the integration of end-to-end *booking* and *ticketing* services must be also investigated (relation to LINK recommendation 7 and 6.3) as these are highly desirable elements of any complete, end-to-end traveller service.

All of the above issues should be investigated in relation to the three reference technical (and organisational) co-operation models (centralised, shared/pooled data sets, distributed JPs) reviewing pros and cons, assessing alternative routes for adoption, recommending suitable options and providing clear indications for their implementation. Realistically, any concrete roll-out road-map will include an evolutionary implementation strategy able to reflect the key technical differences and state of development of public transport information across the Member States (as well as the different situations as regards the institutional and legal frameworks, operational practices, business models, financial drivers and barriers, etc.). Whatever solution is proposed will need to reflect the current state-of-the-art and legacy systems, particularly allowing integration of already established multi-national (e.g. EU-SPIRIT) or national (e.g. Travel Direct, UK) solutions.

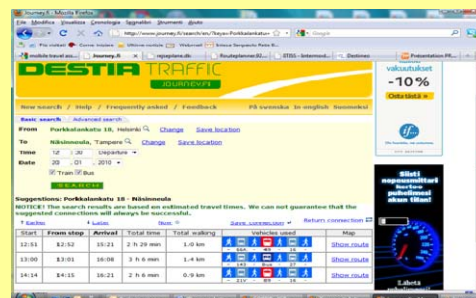
In our view this road-map is a key part of delivering the EU ITS Action plan and the provision of harmonised European intermodal travel information.

Practice example: national systems

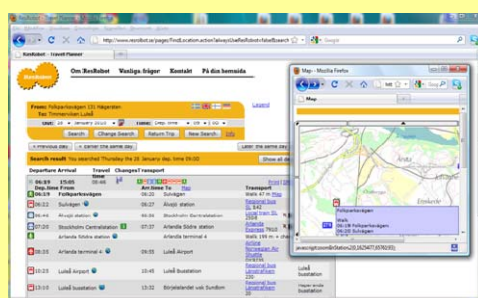
The provision of cross-border, intermodal door-to-door journey planning on a truly pan-European level is an untested area, as far as we know, although intermodal journey planning (typically covering buses, trains, planes) does exist on a national scale in several EU countries. Examples supporting international access (English user interface) include, for instance: Denmark (www.rejseplanen.dk/), Finland (www.journey.fi), Sweden (www.resrobot.se), The Netherlands (<http://journeyplanner.9292.nl/>). The '9292' JP in The Netherlands integrates timetables and route information from all Dutch public transport operators (buses and trains) nationwide and provides an integrated route planner (car) supporting P+R options. The 'ResRobot' travel planner allows comparing travel options by train, bus, boat, plane and car throughout Sweden. 'Rejseplanen' provides multimodal trip planning capability for the whole of Denmark and also to/from neighbouring countries (Sweden, Germany). Most travel planners are of a centralised type; some (e.g. 'Rejseplanen') interact with other travel planners to deal with foreign destinations and services (see ahead, EU-Spirit).



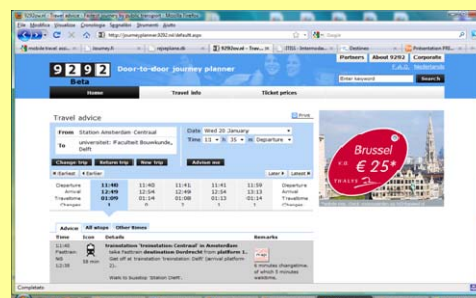
Rejseplanen (DK)



Journey.Fi (FI)



ResRobot (SE)



9292.nl (NL)

Practice example: Transport Direct

So far the most relevant example of a national journey planning system is Transport Direct (UK), implementing the distributed (federated) approach. It provides a key reference of a working system of this kind, with a consolidated market presence and a large customer base. The key elements are summarised above in the LINK recommendation 1. Reference: www.transportdirect.info

Practice example: EU-SPIRIT

EU SPIRIT is still the most important implementation of a cross-border European JP service. Initially part-funded by the EU (IST RTD program) it is now a running service covering Sweden, Denmark, Luxembourg and part of Germany. It implements a mixed approach where local TIS (e.g. Rejseplanen in Denmark) are connected via central components ensuring cross-border itinerary planning. Details can be found above in the LINK recommendation 1. Reference: www.eu-spirit.com

Where is it applicable?

This recommendation is applicable across the whole of Europe.

Discussion of implementation

In our view, the European door-to-door intermodal journey planner is a key part of the ITS Action Plan implementation, whose adoption by Member States should be encouraged by the EC. The EU has a consultancy framework contract for the ITS Action Plan which could be used for this roadmap.

Sufficient involvement of modal and regional stakeholders such as UITP, IRU, UIC and the Member States must be ensured. There is an opportunity here to aggregate consensus and achieve critical mass by building upon the above described EU-SPIRIT project. Also, complementary elements to shape the road-map and stimulate adoption could be derived from the concrete outcomes (common reference technical solutions, implementation of ITS standards) of a few recent RTD and pilot initiatives such as WISETRIP, In-Time and eMOTION (see section 'Further examples/sources'). The following overview presents the expert assessment of possible recommendation implementation. The assessment relies on the assumptions of the WG leader and the supporting experts

Overview	Feasibility	Costs	Impact	Time	Other factors
	high	low	high	1 year	-

This recommendation was not subject to an online expert consultation.

Feasibility

In order to gain European support, the road-map needs to be built on consensus and to respect the principle of national subsidiarity. A risk here is that this issue will not be a priority of work on the Action Plan. If not funded through the ITS Action Plan, this roadmap could be part of the European vision/White Paper for a European door-to-door intermodal passenger travel information service (LINK recommendation 1).

Potential barriers to acceptance of the road-map by the stakeholders might result from the wide range of governing legislation, institutional, operational and business frameworks in Europe.

Deregulated and competitive market conditions (with operators providing competing tariff schemes and service offerings) could increase the concerned providers' resistances to cooperate.¹⁷ A relevant element here could be the proposed Directive requiring public transport operators to make their data available to journey planning providers locally and at the European level (see LINK recommendation 6.1) or a broader directive on ITS, the provision of information of public interest or public transport regulation.

National and European frameworks regarding personal data privacy and protection should be also considered to identify and solve potential limiting factors¹⁸.

Costs

The roadmap study should cost circa 1 million EUR with additional costs for consensus building, which are hard to estimate.

Potential impact

An effective European door-to-door intermodal journey planner should have high potential impact on:

- Informing citizens (passenger rights etc.);
- Promoting sustainable modes of transport and influencing optimal travel behaviour and modal split at the European level (as proved in evaluation of Transport Direct for the UK);
- Saving money and time in travelling;
- Contributing to co-modal competition.

There is currently no Europe-wide experience able to provide assessed evidence about the anticipated benefits. However, evidence from national platforms such as Transport Direct have shown significant impacts on the efficiency of travel (e.g. rational changes of trip timing and modal choice based on travel planner information on routes costs and travel times). It can therefore be expected that the impacts will be high, as journey planning information is by far the most effective tool for optimising modal behaviour and is consistently under-played at the expense of on-trip information, for example.

Subject to experts' assessment during the LINK Meeting in autumn 2009, this recommendation was considered of a high or medium importance by 53 % and 40 % of the respondents respectively.

Time for implementation

In line with ITS Action plan; i.e. from 2010/2011, estimated time for implementation is 1 year for study plus time to reach consensus between stakeholders at the European level

If this is not possible then it could be possible within EU budget possibilities by 2018 according to LINK recommendation 1 on the creation of a "European vision/white paper for a European door-to-door intermodal passenger travel information service".

¹⁷ In several EU countries, public transport operators are used to share their data with the relevant transport authorities (e.g. due to contractual obligations). Allowing data access to journey planning service providers may however be less acceptable and generate opposition (fear of e.g. loss of control over own data, misinterpretation or loss of quality in final data for the users). On the other hand, one can see voluntary co-operation trends contrary to this, throughout Europe (e.g. GoogleTransit).

¹⁸ Possible barriers and difficulties should be investigated with reference to the relevant EU Directives; e.g. EU directives 2002/58/EC and 2006/24/EC relating to the processing, storing and protection of personal data in the electronic communications sector; and in connection with the provision of publicly available electronic communications services.

Interlinkages

Interlinkages with other LINK recommendations:

- The main LINK interlinkage is with recommendation 1 “*Create a European vision/White Paper for a European door-to-door intermodal passenger travel information service*”. The road-map could form a part of the preparatory documents for the White paper.
- Close synergies also exist with recommendation 6.1 “*Establish a European directive which requires transport operators to make travel planning data available to journey planning providers*”. Such a directive could facilitate the co-operation on an intermodal journey planner.

Other interlinkages of interest:

- RTD work in journey planning and traveller information under DG MOVE TPT programme (FP6 and FP7, theme “The connected traveller in the city, region and world of tomorrow”).
- Pilot activities within DG INFSO ICT Policy Support Program (ICT for Energy Efficiency).

Further examples/sources

There are no examples of a full study being carried out in this area. However, the following background initiatives under EC RTD and pilot actions on related topics are worth taking into considerations when developing the roadmap:

- WISETRIP RTD project (FP7, DG MOVE, 2008-2010; www.wisetrip-eu.org): a distributed approach for long-range international travel in Europe, integrating information from several connected journey planners in 4 EU countries (FI, GR, IT, UK) and China. Pilot phase in spring 2010.

Contact: Vassilis Spitadakis, ForthNet (vspit@forthnet.gr).

- eMOTION RTD project (FP6, DGTREN, 2006-2008; www.emotion-project.eu): addressed the broader theme of standardised distributed system architectures – as well as the underlying service, business and contractual frameworks – enabling integration of TIS and validating a European approach for interoperable multimodal pre- and on-trip traffic information. Small-scale pilots conducted in Vienna (AT) and Genoa (IT).

Contact: Marko Jandisits, ASFINAG Maut Service GmbH (Marko.Jandisits@asfinag.at).

- In-Time Pilot project (ICT-PSP, D GINFSO, 2009-2011; www.in-time-project.eu): currently taking forward eMOTION specifications and implementing/piloting a reference, standardised business to business interface to enable Traffic/Travel Information Service providers accessing local TIS and delivering journey and route planning as well as on-trip navigation. Pilots involving regional and metropolitan areas in 6 EU countries (Austria, Czech Republic, Germany, Italy, Norway and Rumania) due to start in spring/summer 2010 and end in late 2011.

Contact: Martin Boehm, AustriaTech (Martin.Boehm@austriatech.org).

Expert support in developing this recommendation:

Marco Boero. Head of Research and Innovation, Softeco Sismat SpA, Italy.

Recommendation 3

Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport

Working Group 4 – Planning and implementation (moderated by Rupprecht Consult)

Establishing a joint Passenger Intermodality Working Group of the existing modality-focused European Technology Platforms (ETPs) in the field of passenger transport to support the elaboration of intermodality roadmaps, strategic research agendas and to foster networking between key stakeholders.

Who should become active?

Initiative: European Technology Platforms (ETPs) in the field of transport and the European Commission (facilitators/regulators).

Implementation: ETPs and additional public and private intermodality stakeholders.

What is it about?

The ambition of European Technology Platforms (ETPs) is to bring together R&D-relevant stakeholders with various backgrounds (e.g. regulatory bodies at various geo-political levels, industry, public authorities, research institutes and the academic community, the financial world and civil society), who develop long-term R&D strategy in areas of interest to Europe. The set-up of an ETP follows a bottom-up approach, in which the stakeholders take the initiative and where the European Commission evaluates and guides the process.¹⁹ They bring together stakeholders, led by industry, to define medium- to long-term research and technological development objectives and lay down markers for achieving them.²⁰

The following ETPs are working on the field of passenger transport:

- European Rail Research Advisory Council (ERRAC);
- European Road Transport Research Advisory Council (ERTRAC);
- Advisory Council for Aeronautics Research in Europe (ACARE);
- Waterborne ETP.

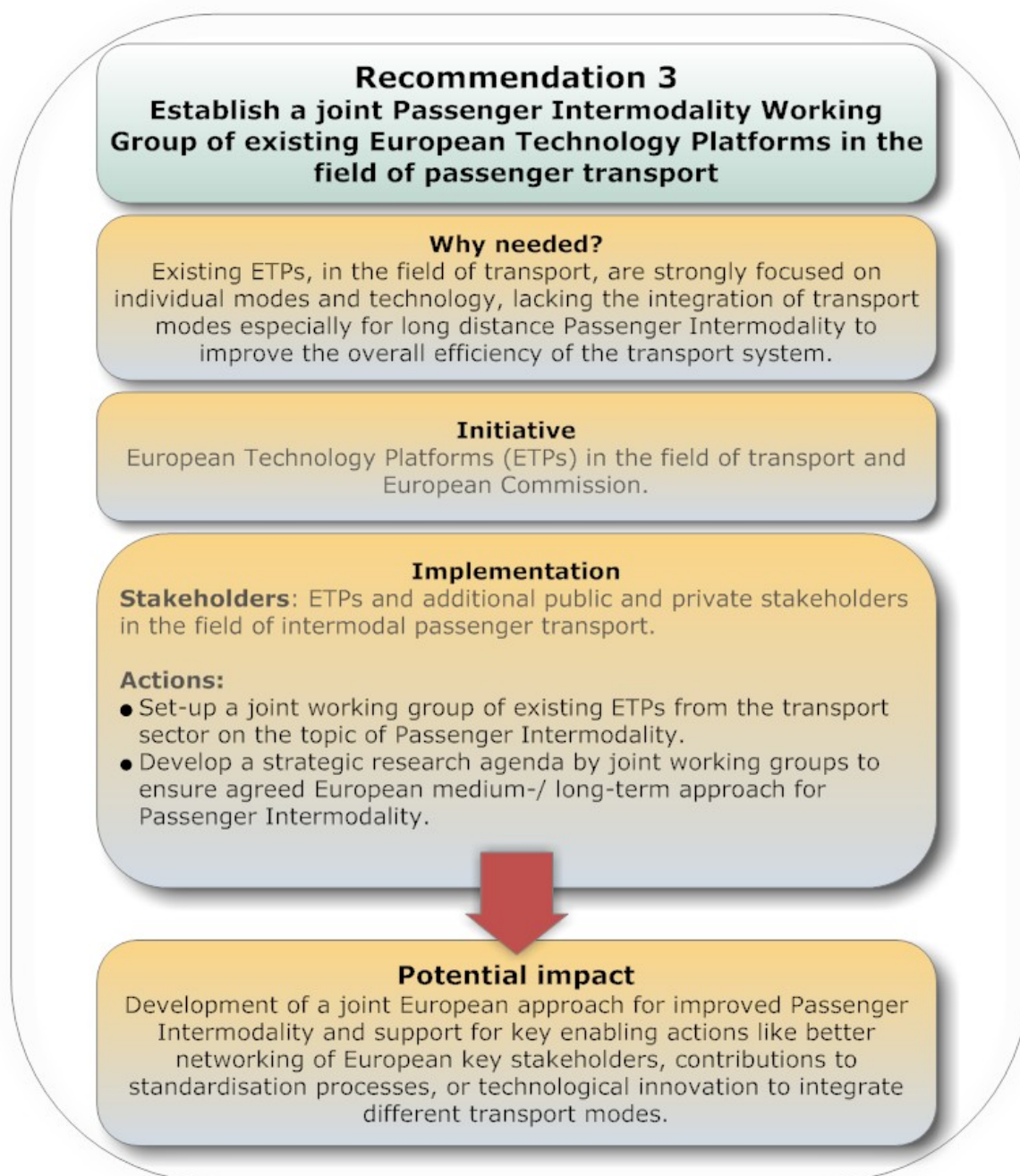
It is strongly recommended, that these ETPs set up a joint Working Group on the topic of Passenger Intermodality. Such a Working Group should include appointed members of the aforementioned ETPs and additional stakeholders from the field of Passenger Intermodality that are not well represented in existing ETPs. The European Commission should also be represented with one or several persons from the DGs that play a key role for the integration of transport modes (especially DG MOVE, DG Research).

The process of forming a joint ETP Intermodality Working Group should be supported strongly by the EC through encouraging its formation politically, by providing funding for a Working Group secretariat and by making available the necessary financial means for organising the meetings (e.g. travel budget).

¹⁹ Evaluation of the European Technology Platforms (ETPs). IDEA Consult. 2008. Available from: <ftp://ftp.cordis.europa.eu/pub/technology-platforms/docs/evaluation-etps.pdf>

²⁰ European Technology Platforms. Knowledge for Growth. EC 2005. Available from: ftp://ftp.cordis.europa.eu/pub/technology-platforms/docs/tp_leaflet_en.pdf

Figure 6: Overview recommendation “Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport”



The key task of the ETPs' Working Group on Passenger Intermodality would be to coordinate the EU research agenda to ensure that it contributes towards achieving the medium/long-term policy goals for Passenger Intermodality (with an emphasis on long-distance rather than pure urban transport).

Other tasks to be carried out by the Passenger Intermodality Working Group should include the following:

- Elaboration of Intermodality Roadmaps: What should Passenger Intermodality look like in 5, 10, and 25 years? How should we get there (context conditions, research, technology, breaking barriers, etc.);
- Definition of Passenger Intermodality Strategic Research Agendas as input to EU research programmes;
- Creation of effective links between the existing ETPs and channelling priority topics for Passenger Intermodality back into the ETPs' activities;
- Networking between key stakeholders in Passenger Intermodality;
- Connection to relevant standardisation activities (e.g. TAP TSI) and UIC and UITP actions
- Quantifying the benefits of Passenger Intermodality, and ensuring that the aggregate benefits are considered, in addition to individual mode benefits;
- Support in developing an implementation-oriented Passenger Intermodality Programme (see recommendation 4 on "Vasco da Gama" Programme);
- Support sharing of best practice examples between modes and across national boundaries.

The concrete agenda of discussion topics could include a range of issues such as traveller information, ticketing, interchanges, training and education, cross-border transport, timetable co-ordination, disruption management, cost-benefit analyses and further topics that come up in stakeholder discussion and consultation. The LINK Forum provides an extensive list of key challenges and recommendations that could feed the discussion in the ETPs' Intermodality Working Group.

Different topics may require attendance of different members of the existing ETPs that have an expertise in these areas. It is also possible that sub-groups on specific topics would be created. A permanent secretariat of the Passenger Intermodality Working Group should be established to organise the Working Group meetings and to prepare the documentation of results. This secretariat should be located with an organisation that has a real stake in Passenger Intermodality. It should receive funding from the EC.

Why is this necessary?

Existing ETPs, in the field of transport, are strongly focussed on individual modes and technology. In some of the ETPs, the aspect of the integration of transport modes and intermodality are mentioned, but there are still large gaps, especially regarding the coverage of long-distance Passenger Intermodality. Examples of where Passenger Intermodality has been touched in existing ETPs are in ERRAC's Strategic Rail Research Agenda 2020, where "seamless and integrated high speed passenger services" have been envisaged.²¹ ERRAC is also considering both long-distance and local rail/metro. In this way it has already a kind of intermodal perspective. In ERTRAC (road sector), the aspect of Passenger Intermodality is partially covered for the link between urban and long-distance transport. However, overall, there are a large number of "black spots" where Passenger Intermodality would need to be covered, especially with regard to the long-distance dimension.

²¹ Available from: www.errac.org/docs/SRRA-2007.pdf

The efficiency and integration of transport modes is currently evolving into a new priority for the EC's transport policy and will most probably be a prominent issue in the Transport White Paper 2010:

"The most immediate priorities appear to be the better integration of the different modes of transport, as a way to improve the overall efficiency of the system and the acceleration of the development and deployment of innovative technologies — within an approach that always keeps the transport users and workers, with their needs and rights, at the centre of policymaking." (European Commission's Communication 'A sustainable future for transport — Towards an integrated, technology-led and user-friendly system' 2009²²)

This need for an integrated technology-led approach to transport is by no means reflected by the current set-up of the ETPs in the field of transport, which are set up entirely along single modes. The 2008 evaluation of the ETPs highlights this and recommends that the "fragmentation between ETPs should be anticipated and remedied where needed".²³ The document recommends the investigation of "possibilities for extended collaboration between ETPs, e.g. by the creation of common Working Groups and common visions and SRAs." Another option put forward is to cluster related ETPs.

Example: Common activities of ETPs

"A group of ETPs has formed the FP-funded Bio-Economy Technology Platforms (BECOTEPS²⁴) group, which is focused on food, water and energy security and aims to support a stronger Knowledge-Based Bio-Economy (KBBE) in Europe.

Another example is a cluster of three ETPs - ERTRAC, EPOSS and Smart Systems - all keeping their own agendas, but joining forces in a specific activity cluster focused on sustainable mobility (electromobility). Their joint activities have been started in a number of ways – by the efforts of single personalities, based on existing networks or initiated by specific political requests, such as the 2009 European Commission recovery package to fight the financial crisis."

Source: Strengthening the role of European Technology Platforms in addressing Europe's Grand Societal Challenges, Report of the ETP Expert Group 2009.



BECOTEPS "The Bio-Economy Technology Platforms join forces to address synergies and gaps between their Strategic Research Agendas". Source: www.becoteps.org/

²² Available from: http://ec.europa.eu/transport/strategies/2009_future_of_transport_en.htm

²³ Evaluation of the European Technology Platforms (ETPs). IDEA Consult. 2008.

²⁴ Website: www.becoteps.org/

The same 2008 evaluation also highlights the need to “move beyond scientific and technology challenges” and focus on “socio-economic challenges with clear benefits for Europe”. In this context, LINK has clearly identified societal benefits from improved intermodality, but also found that the challenges to be overcome are not recognised or capable of resolution, if only a single mode perspective is adopted. In parallel, LINK has also highlighted that achievement of a collective benefit is often of marginal or no benefit to one or more individual modes. Only when modes are combined, and a holistic view is taken, can the collective benefits reach threshold levels to support investments. As shown by the diverse topics covered in the LINK Forum, this would also be a task for a joint Intermodality Working Group of the existing ETPs in the transport sector.

The 2009 document “Strengthening the Role of European Technology Platforms in Europe’s Grand Societal Challenges. Report of the ETP Expert Group”²⁵ also sees the need to work beyond the scope of a single platform. While the proposal of the report, which is to address key societal challenges in clusters, has a wider remit, the essence of Passenger Intermodality, as cross-cutting priority issue in the transport sector, points into a similar direction.

Where is it applicable?

EU level, potentially with links to national activities via the ETPs. The regional and local level should be represented among the members of the Working Group on Passenger Intermodality (e.g. city representatives).

Discussion of implementation

Overview	<i>Feasibility</i>	<i>Costs</i>	<i>Impact</i>	<i>Time for establishing WG</i>	<i>Other factors</i>
	high	low	medium-high	6 months	-

This recommendation was not subject to an online expert consultation. The assessment relies on the assumptions of the WG leader and the supporting experts.

Feasibility

The feasibility seems high, provided that:

- the existing ETPs are willing to kick-off the initiative of a joint Working Group on Passenger Intermodality, and;
- the EC supports this process politically with some project funding for a secretariat and the organisation of meetings.

This co-operation should not be difficult to get, since the ETPs all have the common aim to improve the efficiency and sustainability of the overall transport system. They also have their own specific interests to foster Passenger Intermodality, e.g. to remove bottlenecks that affect their own transport mode (e.g. airports, road congestion).

²⁵ Available from: ftp.cordis.europa.eu/pub/technology-platforms/docs/fa-industrialresearch-b5-full-publication-rp_en.pdf

Potential impact

The impact could be medium, with the potential to deliver a high impact in the mid- to long-term. Key impacts would result from:

- The delivery of projects with net societal benefits that would not have been delivered without cross-mode co-operation;
- The re-focusing of projects to include holistic benefit packages that encompass all modes, rather than single mode focus with secondary spin-off benefits to other modes.

These impacts would be achieved through the delivery of key enabling actions, notably: more research and demonstration funding for Passenger Intermodality (or such elements in mainly modally focused projects) from the EC, a better networking of stakeholders, contributions to standardisation processes, education and training offers and technological innovation to integrate different transport modes.

Costs

A Passenger Intermodality Working Group of transport ETPs would ideally have its own secretariat (1 staff), funded by the EC and/or key players from the ETPs for five years. Probably the EC would need to become the main financial contributor to establish such a structure. Furthermore a budget for the organisation of Working Group meetings would be needed, for which funding of travel costs would be essential.

Time for implementation

Six months for establishing a Working Group is realistic, on the assumption that the process is carried forward by a nominated individual or organisation, once funding is made available.

Other factors

It is essential to have the participation of all the transport ETPs (ERRAC, ERTRAC, ACARE, and Waterborne ETP), with sufficient presence at the Working Group level.

Interlinkages

Interlinkages with other LINK recommendations:

- A joint Working Group of the ETPs from the transport sector could address many of the topics that are highlighted in the LINK recommendations. It has a cross-cutting character.
- Particularly the interlinkages to the field of ticketing and information and interchanges would provide potential for common discussion in a joint Working Group.
- A joint Working Group could play a role in delivering input to recommendation 4 "Introduce a new EU funding programme "Vasco da Gama" for long-distance, international Passenger Intermodality".

Expert support in developing this recommendation:

Gareth Kybett, GK Consult, Frankfurt, Germany.

Bertil Hylen, VTI, Sweden (LINK Consortium partner).

Sylvain Haon, Polis, Belgium (LINK Consortium partner).

Recommendation 4

Introduce a new EU funding programme “Vasco da Gama” for long-distance, international Passenger Intermodality

WG4 – Planning and implementation (moderated by Rupprecht Consult)

Introduce within the frame of the forthcoming Marco Polo III programme a new EU financing programme to support projects with European added-value, with main emphasis on improving intermodality and integration in international long-distance passenger transport solutions.

Who should become active?

Initiative: European Commission and important stakeholders in the area of Passenger Intermodality (especially “big players” such as large rail companies, airlines, airports). Official passenger representative bodies (e.g. European Passengers' Federation) could also play a role in getting such a programme started.

Administrative handling of funding programme: The EACI (Executive Agency for Competitiveness and Innovation) seems to be the most suitable institution to administratively handle a new funding programme for Passenger Intermodality.

Implementation of concrete projects: Private, semi-public and public stakeholders in the area of Passenger Intermodality in co-operative approaches.

What is it about?

A European funding programme to enhance services and products in the area of international long-distance Passenger Intermodality would be very beneficial and is highly recommendable to overcome current barriers in this field. Funded project should focus on trip lengths >100 km and include a clear cross-border or transnational dimension²⁶, but also be open to urban and regional projects with a clear international, long-distance dimension (e.g. airport access, ferries, congested sections of local infrastructure with international relevance). The focus should be on demonstration projects with a strong evaluation element that prove maturity of Passenger Intermodality solutions.

A new funding programme for Passenger Intermodality would strongly support the better integration of transport modes and help to improve the overall efficiency of the whole transport system. Risk funding and properly evaluated demonstration projects would be a major contributor to establishing new technologies and innovation in long-distance passenger transport.

Setting up a new “Vasco da Gama” programme for Passenger Intermodality seems highly feasible within the context of a comprehensive Intermodality Funding Programme for both the passenger and the freight sectors that would also include the Marco Polo III (freight) programme from 2014 on. A phasing-in period could take place with first demonstrations in FP7 and other programmes (e.g. STEER for exchange and networking).

²⁶ Cross-border: physical transport connections across national borders.

Transnational: not necessarily including border-crossing connections, but involving partners from different countries who work on similar topics and exchange their experiences with long-distance intermodality (including purely national connections)

The main elements of the proposed funding programme are outlined in the overview below and described in detail in the following.

Figure 7: Overview recommendation 4 "Introduce a new EU funding programme 'Vasco da Gama' for long-distance, international Passenger Intermodality"

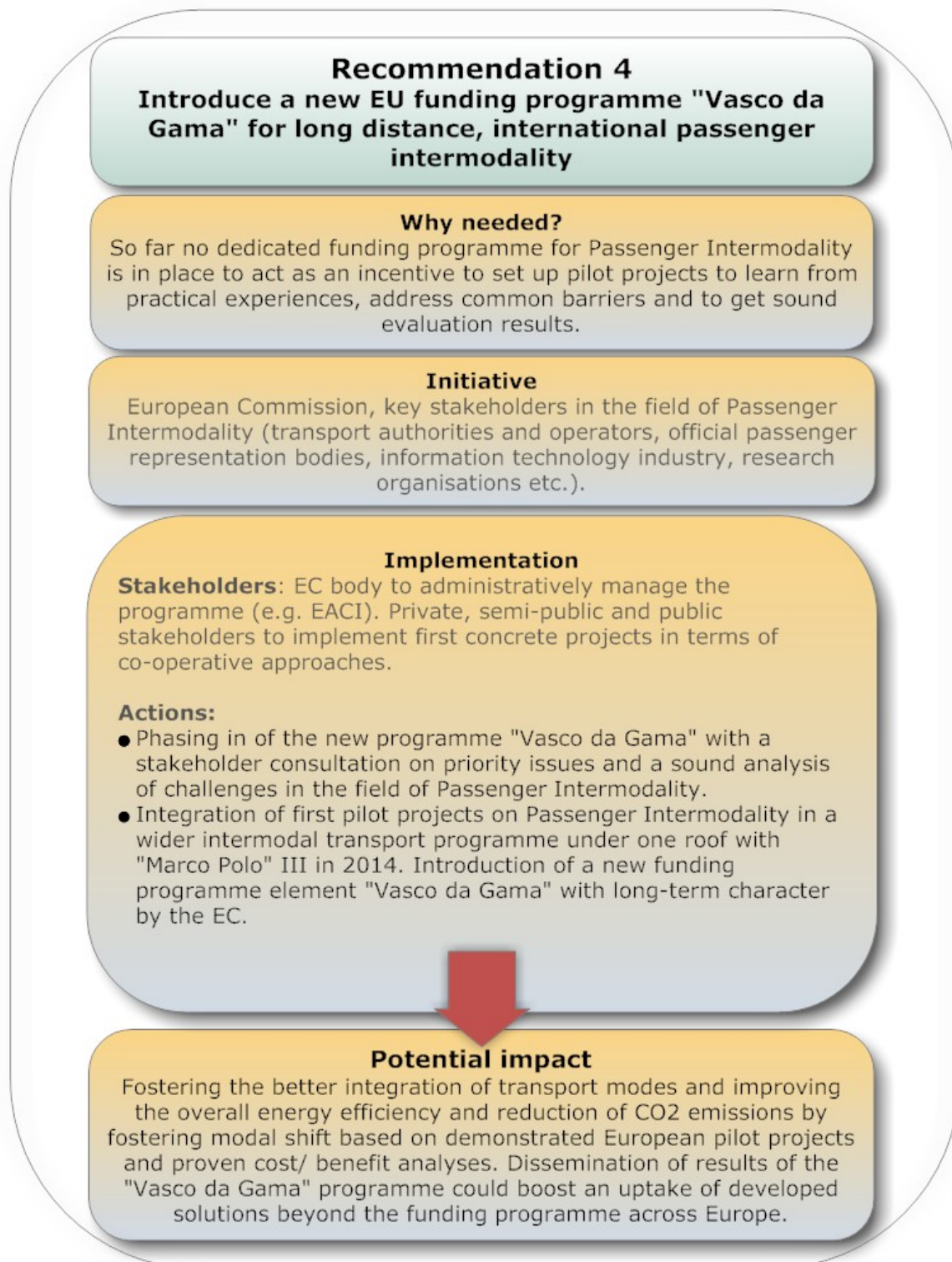
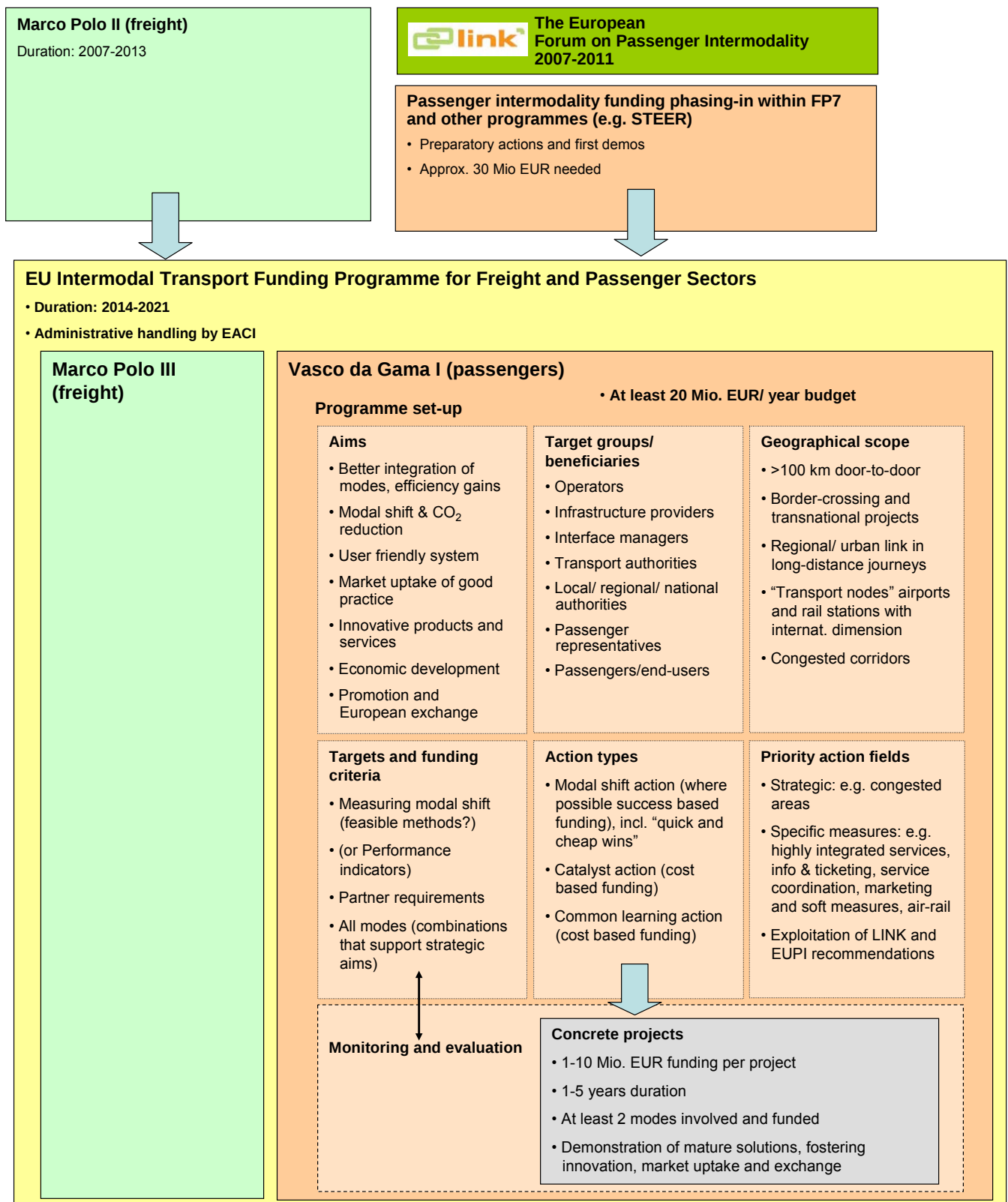


Figure 8: Detailed overview of proposed “Vasco da Gama” funding programme



Possible strategic aims of a funding programme

The following could be the priority aims of a “Vasco da Gama” programme:

- Foster the better integration of different modes of transport in the passenger sector and improve the overall efficiency of the transport system;
- Support actual modal shift that makes the overall travel chain “greener” in terms of CO₂ emission reduction and other environmental impacts;
- Counter negative economic effects of unsustainable forms of long-distance passenger transport by making the “green” part of the journey as long as possible (e.g. rail, long-distance coach, ship, public transport, human powered mobility). Making necessary car and air elements in the travel chain more sustainable where possible;
- Support provision of additional benefits for end-users to achieve a highly user-friendly transport system;
- Support market uptake of good practice;
- Support development and implementation of new technologies, innovative products and services;
- Support promotion and exchange on the European level;
- Support economic growth, job generation and European cohesion.²⁷

Geographical scope

Regarding the geographical scope of projects funded in a “Vasco da Gama” programme, the following is proposed:

- The focus of the funding programme should be long-distance transport. The minimum distance covered by an intermodal service should be 100 km from door-to-door. This can also include a link to intercontinental traffic. It needs however to be stressed that many improvements for long-distance travellers will also benefit regional and local travellers.
- The projects should include a border-crossing or transnational dimension. This would include physical border-crossing lines (also regional ones) and projects with European exchange about purely national long-distance intermodal projects of a similar nature.
- Mainly domestic long-distance routes that carry a relevant number of travellers in the course of international journeys should be eligible for funding as long as they have a clear intermodal dimension. This includes for example airport access connections or important inter-city flows.
- The regional and urban dimension should be included as urban link in a door-to-door travel chain when a clear international, long-distance dimension is given. Transport node traffic, especially to and from airports and major rail interchanges with international long-distance connections should be eligible. This includes also ferries or tunnels (e.g. channel tunnel). Purely urban or regional projects would be excluded from funding.
- For projects dealing with intermodal rail projects, the focus could be on the distances where rail services are most competitive. Depending on the type of connection (e.g. high speed rail) this would be 100-600 km.

²⁷ Open discussion point: How to deal with possible generation of additional demand in sustainable transport? Should this be avoided or accepted?

Modal scope

The modal scope would include all mode combinations in long-distance trip chains that support the strategic aims. A particular focus should be on strengthening the use of “green modes” such as rail, long-distance coaches, ship, regional/local public transport and human powered mobility. This should however not exclude projects that include car and air traffic, if the overall results contribute to the strategic aims or if these modes need to be considered to improve accessibility to less accessible regions. The interconnection of different modes needs particular attention (e.g. air-rail services, interchanges, park and ride, “seamless” information and ticketing). It would be desirable to strive for a reduction of the “interchange penalty” to the user within funded projects.

Key target groups/ beneficiaries

Key target groups in terms of the stakeholders for implementation of concrete projects should be:

- Operators;
- Infrastructure providers;
- Interface managers;
- Transport authorities;
- Local, regional and national authorities;
- Passengers (represented by passenger federations).

The programme should aim at involving private and public (also semi-public) stakeholders, also in concrete public-private partnerships²⁸. The operators should be the initiators of business-driven projects. As a minimum requirement for funded projects, there should be involvement of at least two private stakeholders from different modes. There should be no obligation to include public authorities, but proof of public policy endorsement and there should be a strong recommendation to include the public sector in a co-funding role. It is desirable to involve national governments in support of the projects.

²⁸ PPP models would need to be in line with legislative funding framework. This makes it recommendable to avoid models where the public sector is procuring a service on a pay-back of investments through monthly fees.

Possible criteria and action fields for funding

Three action fields should be established, similar to the Marco Polo programme for the freight sector:

- 1) *Modal shift demonstration actions* (and the related reduction of CO₂ and external costs) would be at the core of a funding programme for Passenger Intermodality. The criteria of CO₂ reduction, the reduction of external costs and modal shift achievements would be crucial criteria to provide funding for concrete intermodal demonstration projects on the ground with a sound evaluation component. It is subject to further discussion whether funding should be provided for investment costs, start-up operation costs or both.
It could also be discussed if a “business model” for each measure would be required by the end of each project. Where possible, a success-based funding model should be applied. The difficulty however is how to measure modal shift in passenger kilometres or the concrete reduction of CO₂ emissions and external costs²⁹. There is need for more in-depth discussion and possibly studies that would define sound criteria for modal shift actions and elaborate easily applicable methodologies for impact assessments. The criteria should however avoid too much administrative burden on the EC and the beneficiaries.
“Quick and cheap wins” projects. Within the Modal shift action, a part of the funding should be reserved for smaller projects that can be quickly realised in a cost efficient way. This would ensure that the funding affords good value for money and makes a visible return to investors and beneficiaries as soon as reasonably possible. It would also help to avoid an excessive concentration on long-term mega-projects.
- 2) *Catalyst actions* that focus on fostering innovation (e.g. products, services, organisation) in the field of Passenger Intermodality would receive cost based funding.
- 3) *Common learning actions* that foster European exchange between stakeholders (e.g. on spreading good practice, fostering market uptake) would receive cost based funding.

In strategic aspects, the priorities could focus on:

- “Making the best better”, e.g. improving successful transport nodes (rather than trying to create new ones or improving failing ones) and making the potentially good, but currently mediocre better.
- “Point to point” routes along corridors with currently high motorway congestion.
- Relieving congestion in agglomeration “bottlenecks”: Transport nodes with high activities of passenger transport and high levels of congestion (e.g. intersecting long-distance corridors in urban areas).
- Improving accessibility: So far poorly connected regions, e.g. with no long-distance access (rail,

²⁹ The following points were discussed by the experts that developed and reviewed this recommendation:

A shift in traveller-kilometres from unsustainable modes to rail is not easily measurable. Cause and effect are in most cases quite complex. Depending on action fields, there are however tools for ex-ante and ex-post studies that allow estimations of modal shift (e.g. air-rail projects). For other areas, e.g. traveller information, it does not seem to be possible to realistically measure these effects.

Market studies for an appraisal of potential impacts of modal shift projects could be made a requirement for funding, without including requirements for monitoring and ex-post evaluation, except where easily possible (e.g. easily available data on market share of particular origin and destination pairs before and after project implementation). This would mean that funding would not be linked to a proven shift of traveller-kilometres, but to the expected impact (with all shortfalls of ex-ante market studies).

If modal shift cannot be measured, so called performance indicators (cf. Eco Innovation programme of EACI) could be applied. This would mean that the output of the project would be the criteria for success (e.g. milestones in terms of new services opened, people reached in marketing campaign, deliverables). A mix of the 4-5 most important performance indicators (e.g. direct employment generated, number of access to new traveller info website) could be defined for each project to monitor and evaluate the success.

As measuring modal shift is hard, the criteria could also relate to increased patronage or proof that the measure has had sufficient positive impact (survey).

long-distance coach, air – if only option) to major hubs. Focus on regions with sufficient demand to support new services.

Regarding specific measures that should be funded, the following could be included:

- Integrated services that improve seamless travel; reliable and guaranteed connections.
- Good quality physical interchanges.
- Innovative multimodal dynamic traveller information for door-to-door information (mobile). Expected modal shift effect if sufficient level of information is provided (travel time, number of stops, costs).
- Better service co-ordination of key players, e.g. in combined multimodal ticketing for full travel chain and supplementary services (e.g. museum tickets).
- Liability, dispute settlement and complaint handling across the whole travel chain.
- Improved airport services with regard to interchange process (e.g. faster check-in).
- Integration of aviation with high-speed rail.
- Standardisation that contributes to integrated and interoperable transport system.
- Marketing and soft measures: Highly relevant to influence traveller behaviour.
- Include innovative new modes (e.g. car sharing) as add-on to the “last urban mile”, but always in intermodal connection to other modes.
- While this list is a starting point, the detailed results of the 5 different Working Groups within LINK and the EUPI recommendations will help to identify further potential priority fields that should be addressed in a potential funding programme.

Why is this necessary?

Passenger Intermodality provides many benefits and a high added value in the European dimension. As outlined in the EC Communication “A sustainable future for transport”³⁰, the European Transport Policy has achieved progress in many fields during the last years, but in many areas further improvements are still urgently needed.

Especially in the environmental area (climate change and energy), there are still many shortfalls that need to be urgently addressed. The EC can only reach its ambitious goals to reduce its overall emissions to at least 20 % below 1990 levels by 2020 and to increase the share of renewables in energy use to 20 % by 2020 (Climate action and renewable energy package) if decisive action is taken in the transport sector.

Congestion in agglomerations as a source of large costs and in terms of delays and higher fuel consumption is also mentioned in the EC’s communication as crucial field that also has impacts on the inter-urban traveller. Furthermore the communication stresses that more mobility and more transport can be expected from the trend to further globalisation.

The integration of different transport modes is recognised as a key priority to tackle existing and future problems in transport: “The most immediate priorities appear to be the better integration of the different modes of transport as a way to improve the overall efficiency of the system and the acceleration of the development and deployment of innovative technologies.”³¹

³⁰ European Commission: Communication ‘A sustainable future for transport: Towards an integrated, technology-led and user friendly system’ COM(2009) 279/4

³¹ *ibid*, p. 9

Enhanced Passenger Intermodality can thus be seen as a priority action area to reach European policy goals in the field of transport.

So far Passenger Intermodality, especially for the long-distance dimension, is not ranking very high on the agendas of the public and private sector. A dedicated funding programme for this area could raise awareness and help to overcome common barriers that stakeholders in the field often face (e.g. lack of risk funding for innovative solutions, difficult institutional co-operation). A “Vasco da Gama” programme would help to realise concrete projects on the ground and fill a real gap in the funding landscape.

This way, a new funding programme could also contribute to establishing an efficient trans-European transport network (TEN-T), which is an aim of the re-launched Lisbon strategy for competitiveness and employment in Europe. Enhanced Passenger Intermodality does not only mean more sustainable transport, but also to provide missing links and remove bottlenecks in the transport infrastructure. Passenger Intermodality solutions can thus also become tools to tackle economic downturn as they have good potential to improve the transport system efficiency.

A funding programme for Passenger Intermodality can contribute to achieving policy goals in a range of different fields³²:

User friendly and efficient transport systems

- Improved quality of intermodal travel services, using sustainable transport modes (especially rail) in seamless travel chains.
- Potentially reduced travel times through better intermodal co-ordination and integration of different modes.
- Less stressful travelling (e.g. easier ticketing and information, passenger friendly interchanges).
- Reduction of “interchange penalty” for users (e.g. time needed, distance to walk, stairs, lack of amenities).
- More and better travel options. Fostering the mode use according to particular strength of transport mode.
- More efficient use of available transport capacities by operators.
- Countering existing capacity problems (especially in air and road networks) of current modal and loosely connected networks. Potential to reduce traffic hotspots on corridors by introducing attractive intermodal services to relieve congested areas.
- Potentially better access to badly connected regions by providing travel options and connections to main transport network.

Contribution to economic development

- Customer growth (especially rail) and employment opportunities through new attractive intermodal services³³.
- Contribution to regional development strategies by facilitating easier access.
- Channelling funding to worthwhile projects that will otherwise not happen. This would include risk funding for innovative solutions. While in many cases commercial profitability is not yet

³² The LINK website (www.linkforum.eu) provides a case study database, which illustrates benefits that could be achieved through already implemented intermodal products and services.

³³ Open discussion point: More demand may lead to conflicts of aims with environmental targets.

achieved, or may even never be reached, there are clear societal benefits of many intermodal solutions. A funding programme for Passenger Intermodality could help to address this point, as it could help to identify those solutions that have the highest added value in a system perspective and can realistically be sustained in the long-run under participation of public and/or private actors.

- Counter negative economic effects of unsustainable forms of long-distance passenger transport by fostering modal shift making the “green” part of the journey as long as possible. The “green” part would particularly be rail, long-distance coach, ship and local/regional public transport as well as human powered mobility in urban areas.³⁴ Correct price signals that take the true costs of transport into account are needed to foster a sustainable transport system.

Enhanced technology, architecture, design and organisation of long-distance transport

- Fostering technological innovation in intermodal passenger transport, especially in ticketing, traveller information, interchange development (new interchanges and redesign), luggage transport and interoperability.
- Facilitating organisational innovation, e.g. passenger services, co-ordination of timetables, soft measures.

Environment and Energy

- Potential to counter negative environmental effects of long-distance transport. Increasing energy efficiency and reduction of CO₂ emissions by fostering modal shift and making the “green” leg of the journey as long as possible (rail, long-distance coach, ship, public transport, human powered mobility).

Enhanced networking and institutional co-operation

- Fostering cross-border co-operation in practical projects and European exchange on knowledge and experience.
- Overcoming conflicts of strategic positions between co-operation partners (e.g. air-rail sector).
- Building an “intermodal community” and higher awareness for potential benefits.

³⁴ “Each switch of 1000 passenger kilometres from car to rail would mean a benefit to society of 53.1 EUR on average. Most societal benefit comes from the reduction of accident costs and less air pollution, as well as regarding a lower potential impact on climate change. Each switch of 1000 passenger kilometres from air to rail would mean a gain to society of 29.6 EUR on average. This gain is mainly due to the less polluting effect of rail to climate change relative to air transport.” (Calculations based on: INFRAS: External costs of transport, Update study, Zurich/Karlsruhe 2004. Quoted in: ILS, Towards Passenger Intermodality in the EU, Dortmund 2004, p. 12) Is it sensible to make the last point in this report? We also here discussing improvements to intermodality to make airport access - and therefore presumably air travel - easier. The substantially lower external costs of rail compared to car and air traffic have also been confirmed by the study “Internalisation Measures and Policies for All external Cost of Transport (IMPACT)”, commissioned by the EC (details see: INFRAS/ CE Delft/ Fraunhofer Gesellschaft - ISI/ University of Gdansk. Handbook on estimation of external costs in the transport sector, Delft 2008.)

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time for phasing in	Other factors
	high	medium-high	high	2-5 years	Subsidiarity no barrier if cross-border or transnational projects and clear European added value State aid funding regulation to be analysed in detail

This recommendation was subject to an online expert consultation early 2010. 85 % of the respondents stated that they agree or strongly agree with this the suggested funding programme.

Feasibility

The recommendation is both desirable and quite feasible in the mid-term. There is a window of opportunity to include a Passenger Intermodality element in the context of the upcoming Marco Polo III funding programme of the freight sector. For the new funding period from 2014 on, a passenger element called “Vasco da Gama” could be included within an overarching intermodality funding programme that incorporates the passenger and freight sectors and makes a dedicated budget for Passenger Intermodality projects available.

In the expert consultation, most experts (54 %) considered the feasibility to be medium, 19 % assume a high feasibility, while 27 % only see as low feasibility.

Time for phasing in and implementation of the programme

The programme could be phased in with a stakeholder consultation on priority issues. Preparatory actions (e.g. studies) and first demonstrations could be included in FP7 (30 Mio. EUR) and/or other programmes. Other programmes could also provide opportunities for phasing in (e.g. STEER for exchange and networking activities). Priority research activities would include studies on the costs and benefits of Passenger Intermodality solutions (examples and methodology for impact assessment) as basis for future activities.

In a next step, the “Vasco da Gama” programme could be included in a wider intermodality funding programme that would also include the Marco Polo III programme for freight. A new passenger programme element, “Vasco da Gama”, could realistically start with Marco Polo III in 2014.³⁵ In preparation of such a funding programme, a sound analysis of challenges in the field of Passenger Intermodality with the time horizon 2014 to 2021 should be carried out.

The overall “Vasco da Gama” programme could have a duration of around 7 years (like Marco Polo), while individual projects could have a duration of 1 to 5 years. The programme should have a long-term character.

In the expert consultation the required time for implementation was seen very different. While 38 % see 3-5 years as realistic timing for implementing a new funding programme, 35 % would expect that more than 5 years are needed. 27 % stated that it would be possible to implement such a programme in less than 3 years.

³⁵ In preparation of a funding programme, the Member States should be asked for details of appropriate, but currently unfunded projects that might be suitable for funding under the proposed “Vasco da Gama” programme. Priority could be given to such proposals that are worked up to the greatest extent, as well as most strongly meeting the criteria for the envisaged funding programme. This could help to speed up the selection of suitable projects when funding becomes available.

Costs

A new Passenger Intermodality programme should have a dedicated yearly budget of at least 20 Mio. EUR. Such a programme would provide a high added value as outlined above and fill a real funding gap. The potential benefits and community added value justify setting up a Passenger Intermodality programme with its own dedicated budget as equally important counterpart to the Marco Polo freight programme (which in some years is not able to spend its whole budget). The funding volume per project could be around 1-10 Mio. EUR. As mentioned above, a dedicated budget for smaller “quick/cheap wins” projects should be included to avoid a focus on long-term mega-projects.

In the experts consultation 47 % of the respondents stated that 20 Mio. EUR budget per year would be the right funding level. 31 % stated that it should be more, 22 % that it should be less.

Potential impact

The expected impact would be high, given a funding level of 20 Mio. EUR per year or more. So far, no dedicated funding programme for long-distance Passenger Intermodality is in place. Concrete projects on the ground would make it possible to address common barriers in Passenger Intermodality and learn from practical experiences. A sound evaluation and documentation of such projects and wide dissemination of results could foster an uptake of solutions beyond the funding programme. Furthermore, the impact would depend on projects with sound business cases (including the public sector), which is key to sustainable solutions in the long-run.

In the expert consultation nearly half of the experts (47 %) stated that they would expect a high impact, 41 % see a medium impact and only 12 % would expect a low impact.

Other factors

Possible administrative handling in EC/ EACI:

- The EACI seems to be the most suitable institution to administer a new funding programme for Passenger Intermodality. The administrative requirements should be kept as simple as possible. The EACI could be supported by external partners, particularly in the evaluation of funded projects (including assessment of economic and policy impact of the implemented measures).

Evaluation of proposals:

- The time consuming comitology³⁶ process applied by the European Commission for Marco Polo (1 year delay before project start due to revision of projects) should be avoided, as this is a disincentive for potential applicants who want to realise their ideas in the market situation at the time of submitting a proposal and not later when conditions have already changed.

Evaluation of outcomes:

- While some mechanisms of success control are clearly needed, a funding programme also needs to remain attractive to potential applicants. The monitoring and evaluation set-up in Marco Polo (freight), including a mid-term review, could be used as orientation.

³⁶ Comitology in the European Union refers to the committee system which oversees the delegated acts implemented by the European Commission.

Discussion of limits to EC activities due to subsidiarity and market distortion

- The issue of subsidiarity is not likely to be a problem. Vasco da Gama would include a requirement to show a clear cross-border or transnational dimension. As the Vasco da Gama programme would support demonstration projects with a strong evaluation element and would address global issues such as CO₂ reduction and energy efficiency, a clear European added value would be given.
- State aid laws might be a risk in decisions on the layout of a Passenger Intermodality funding programme. Possible distortions of the market need to be avoided. The specific situation needs to be clarified for the passenger sector.³⁷

Interlinkages

- “Vasco da Gama” would potentially cover many fields that have been discussed in the LINK recommendations (cross-cutting character). The LINK recommendations and strategies provide substance to further define the content of a “Vasco da Gama” funding programme.
- Study “Towards Passenger Intermodality in the EU” (ILS, 2004). Recommendation 16 “EU programme for Passenger Intermodality” (p. 71)

Expert support in developing this recommendation:

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³⁷ In the (freight) Marco Polo Programme, there is no problem with this as long as the distortion of competition is only related to the environmental friendly “green modes” (e.g. a road carrier is suffering from new rail competition). There is also no state aid problem if funding is not exceeding 35%. For the passenger sector, unclear situations might occur. If, for example, a new intermodal high speed rail service was introduced with EU co-funding and an airline would suffer from this new competition, it might happen that the airline would go to court. This point requires further clarification.

Recommendation 5

Work towards advanced intermodal passenger rights

Working Group 5 - Context conditions (moderated by ILS)

Making intermodal transport more attractive by improving the quality and transparency of information about passenger rights. Enhanced co-operation between institutions, with responsibility for those rights, shall ensure passenger rights, supported by a coherent European intermodal passenger rights policy.

Who should become active?

Initiative: European Commission

Implementation: national enforcement bodies (NEB) and conciliation bodies (CB) for passenger rights, European Commission, transport operators, support by transport authorities

What is it about?

Improving the user rights and their implementation, as well as the information and knowledge about passenger rights, is seen as an appropriate and fundamental way to make intermodal transport more attractive. The recommendation points out two inter-related fields of actions, which are needed to achieve the objective of advanced passenger care:

- Improving the quality and transparency of information about passenger rights, both delivered by each operator and by a neutral/superior European platform for passenger care, is the main aim in this action field. Passengers for intermodal and international trips would benefit most, as all relevant information about passenger rights are provided by a central platform. This requires a set of (minimum) information about different modes, countries or contact details, in regards to passenger care and rights.
- Enhancing the co-operation between institutions, with *responsibility for passenger rights*, will help to establish a better performance for the passengers who want to complain and/or claim their rights. So far, an intermodal approach is missing, but is highly relevant, in order to ensure passenger rights, and should be supported by a European intermodal passenger rights policy.

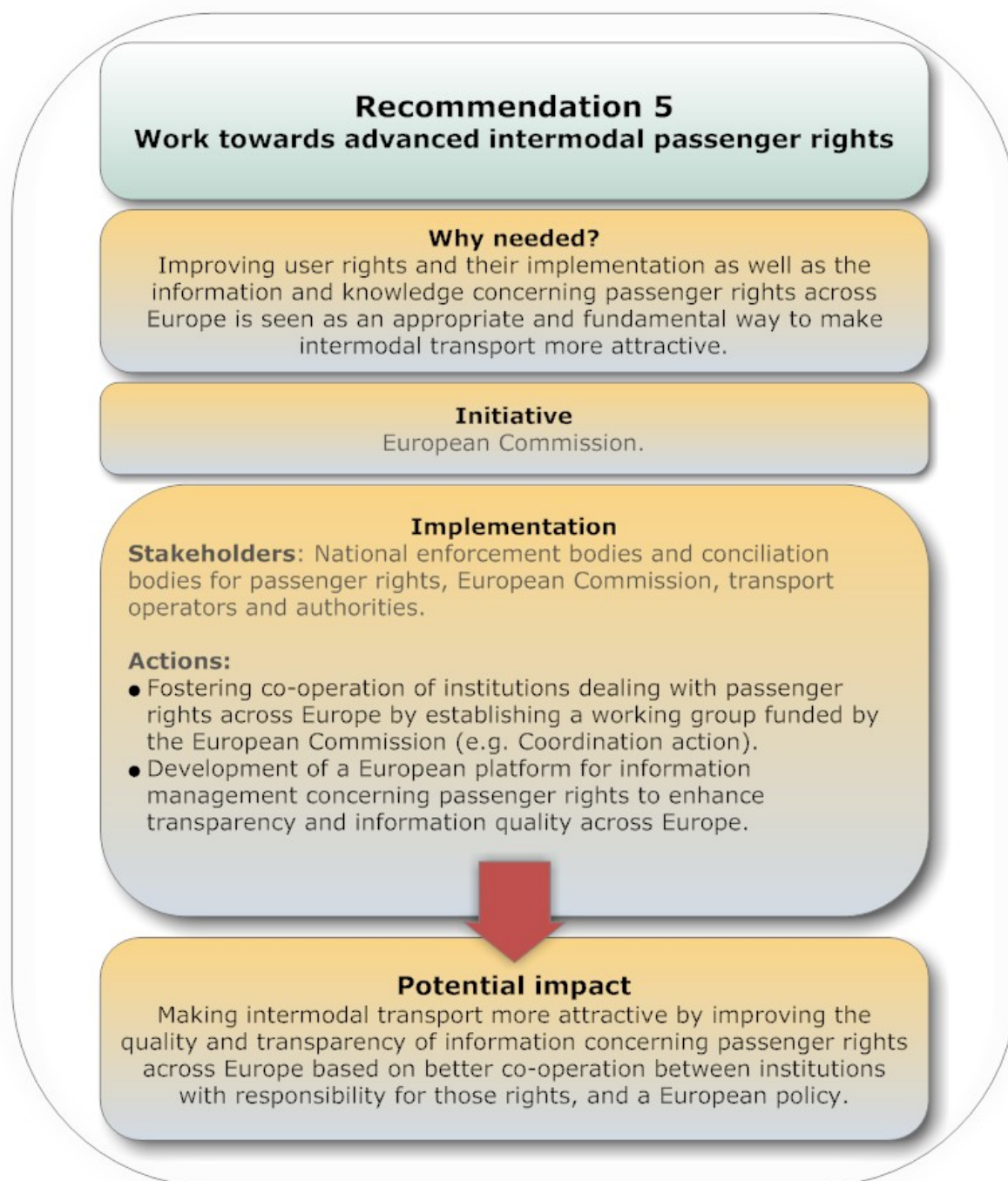
For the sake of intermodal travellers, all modal regulation have to be regarded as one and the same, apart from specific rules due to technical differences.

This recommendation considers following modal regulations:

- Regulation [EC 261/2004](#) (compensation and assistance for air passenger), in force since 2/2005; Regulation [EC 1107/2006](#) (rights of disabled persons and persons with reduced mobility when travelling by air);
- Regulation [EC 1371/2007](#) on rail passengers' rights, about to be implemented by the Member States;
- Draft regulation about bus and coach passenger rights [EC 2008/817](#); as well as the draft regulation about maritime and waterways passenger rights [EC 2008/816](#), envisaged to be implemented soon.

Figure 9: Overview recommendation 5

“Work towards advanced intermodal passenger rights



In regard to passenger rights, there are, in general, two levels of communication between the demand and the supply side. In case of being dissatisfied with transport services, individual passengers can turn first to the provider and then to institutions such as conciliation bodies. Alongside this, general passengers' interests are dealt with by passenger associations.

To illustrate today's dilemma for intermodal passengers, the example below presents possible problems for an intermodal and international long-distance travel and the difficulties for the passenger in claiming her/his rights.

Travelling from Koblenz (medium-size city in western Germany) via Athens to Cairo:

- Trip by long-distance train of Deutsche Bahn AG to Amsterdam's Schipol Airport: problems with the online purchased (printed) train ticket occur; basis for claims: terms of business of DB AG and German civil law (BGB); solution with support of newly publicly-funded passenger organisation in the Netherlands, "OV-loket" (providing advice, no conciliation body existing); since December 2009, there is a new conciliation body for railway passengers in Germany³⁸;
- Flight from Amsterdam to Athens: problem of short-term cancellation; basis for claims: reg. EC 261/2004, support of national enforcement body for aviation especially regulation EC 261/2004, but no conciliation body supporting to get the rights.
- Flight from Athens to Cairo: problem: no luggage - basis for claims: Montreal convention/ Warsaw convention, no CD or NEB existing; law enforcement by court (in Egypt, if airline established there - problem to find lawyer in Germany with expertise in according national legislation and willingness to work on not very profitable case).

The recommendation aims for easing those problems and foster intermodal travel. The measures are dealing with the after sales sector.

Enhanced information about passenger rights

Awareness, information and knowledge are fundamental prerequisites when dealing with passenger rights. Passengers who are not aware of their rights and don't know about the information channels and ways to get their rights, including the according restrictions and limits, cannot benefit from such regulations.

EU passenger regulation obliges operators to inform passengers about the relevant regulation, when entering the system (at interchanges). Reality reveals shortcomings, e.g. with regard to comprehensibility or to how information is presented³⁹; very often no information is provided at all. International agreements can function as another legal basis for claims⁴⁰. Here, no obligation for information exists, therefore many passengers simply do not know about their rights deriving from these legal bases. Communication about passenger rights is crucial, they should be published in mass media, as well as through special channels used by passengers for information and booking (especially websites of operators) and at interchanges⁴¹.

In case of a complaint, passengers first have to approach the operator who provided the service, due to the contractual relation of the purchased ticket⁴². Only as a second step can passengers address to

³⁸ [Schlichtungsstelle für den öffentlichen Personenverkehr](#) SÖP e.V.

³⁹ e.g. at airports: stickers at the check-in gates, info sheets at counters of airlines; at Berlin Schoenefeld airport, passengers of Air Berlin are informed at the counter by a 2-page sheet about various aspects related to aviation. Only one of these info boxes (in small letters) is about passenger rights referring to reg. EC 261/2004.

⁴⁰ In particular: Warsaw Convention and Montreal Convention, regulating the carriage of persons, luggage and goods by aviation.

⁴¹ A good example about this is the campaign initiated by the EC to display posters about transport passenger rights at airports.

⁴² In contrast, **package travel** is no matter for this recommendation and belongs to the discrete sector of traveller law (Karsten 2007), despite some overlaps (e.g. package travellers approaching passenger CB). In some cases, package travel concerns the tasks of the same conciliation body as for passenger rights (e.g. ADR in Sweden, which deals with all consumer matters; consumer agencies in Germany are on regional/ federal-state level).

a conciliation body⁴³. This is different from NEBs, which can be approached whenever passengers are affected by infringement of passenger regulations (for which the relevant NEB is designated). Regarding information, at least some CBs are highly relevant, as they have the duty to inform the public and have a budget for informing about passengers rights and contact details of CBs via brochures, posters or the internet.

In order to facilitate passenger contact with operators, a list of NEBs, concerning air regulation EC 261/2004, is made available at <http://apr.europa.eu>. The leaflet [from the EC informing about reg. EC 261/2004](#) is very useful, but it should be seen as a starting point. There should be a low-threshold information source for all EU regulations, and, in some cases, it would be already a success to get to know about a suitable contact to a company.

A recommended action, requiring reasonable resources, is to establish one information source for all modes (air, train, bus, ferry) and all countries: a *European platform for passenger rights*. All passengers with complaints - not only EU citizens, but also visitors in EU states - can approach the platform by all kind of communication (website, phone, postal address). There, especially on a website with search engine, they would also get information on how to contact all long-distance operators.

The provision of (standard) forms for complaints should be included. Additionally, there should be a common standard for the provision of contact details and conditions (e.g. limited phone toll, minimum opening hours). The European Passengers' Federation (EPF) has already proposed, to the Commission, the use of a standard form in all Member States.

A particular aspect of transnational travel is that additional language skills are required. This holds true not only for the planning and the journey itself, but even more in the case of complaining and asking for compensation. In the current situation of complaint handling by CBs and NEBs, only very few foreign languages (if any) are offered for customer communication. All relevant stakeholders, like a future European platform for passenger rights, the national CBs and NEBs should work in close co-operation. The ECC-NET⁴⁴, with its capacities for translations, seems to be an appropriate partner to minimise the language barriers. The fundamental vision is that cases of complaint have only to be forwarded to the according institution, which is responsible for further handling.

One likely positive impact of well-designed and transparent information for the users is an improved efficiency with regard to complaints. Institutions, such as CB, are often regarded as contact points by passengers. There is a high number of contacts which would be avoided, if passengers were better informed. CBs would not have to deal with all kind of different requests, but could concentrate on their original duties⁴⁵. Here, relevant information channels need to address both the actual passengers and the potential users (e.g. by using a well-known website of an operator, enforcement or conciliation body). Providing an (online) form⁴⁶ to submit complaints, without requests for documents (e.g. tickets) or justification (i.e. circumstances that justify a complaint), could be a step towards assuring the customers that their concerns are being taken seriously. Another way to channel the interests of the individual customers is communication with passenger associations or other relevant institutions⁴⁷.

⁴³ The service of CBs and NEBs is offered for free. It is not expected, that they, particularly CBs, bear the burden of all customer care tasks of operators, but care about only the remaining cases of dispute (on second level).

⁴⁴ Established in 2005, after merging the European Network for the Extra-Judicial Settlement of Consumer Disputes (EEC-Network) and the "Euroguichet Network" of National Information Points on Consumer Matters; [ECC-Network](#) has currently 30 centres (at least one National Contact Point in each Member State, Norway and Iceland).

⁴⁵ A major part of the citizens, who approached the German conciliation body for long-distance mobility (Schlichtungsstelle Mobilität; existed until November 2009) were information inquiries (9000), in contrast to 2000 completed cases of conciliation.

⁴⁶ e.g. online form of [10 minutes services guarantee of Rhein-Main-Verkehrsverbund](#); Pilot project in some parts of the regional transport association RMV (Frankfurt): local PT tickets (i.e. except rail) are refunded in case of delays >10 min, and in the evening (after 9 PM) one can chose reimbursement of taxi (up to 15 EUR).

⁴⁷ Good experience from the British CBs: The '[London Travelwatch](#)' assures a great deal of help to passengers, as well as help to the operators, for the area of Greater London. So is Passenger Focus, which covers Great Britain, outside Greater London.

The recommended and required provision of information is based on the existence and broad use of technology. It can be said, that such technology implementation has only started recently⁴⁸. Just like institutional structures and procedures, suitable technology and its implementation need much more attention. These issues belong to the thematic area of LINK Working Group 1 on intermodal information and ticketing.

Co-operation between institutions dealing with passenger rights

Passenger rights exist at different levels. They are handled by institutional structures, applying civil or public law⁴⁹. There is a need for better co-operation between these structures, in order to effectively implement passenger rights and to improve transport service quality. There are, on the one hand, the enforcement bodies for each mode on the national level (NEB), which are required by the directives and designated by national law. On the other hand, there are conciliation bodies (CB)⁵⁰ as national contact points for passenger complaints, which have a national and - sometimes indirect - transnational scope and cover all modes.

Close co-operation can combine the complementary strengths of both NEBs and CBs. It is very important to distinguish, in this respect, between the types of legal instruments respectively the field of law as well as between the purposes of each of the two institutions.

- National enforcement bodies can care about interests of passengers in a powerful way, because they refer to public law (enforcement of a certain EC regulation) and therefore have the option of imposing sanctions on parties which have caused infringement. Sanctions are to be seen as last resort. It is important to highlight that a NEB is restricted to a certain mode and a certain European regulation (on a single mode), and thus cannot enforce international law⁵¹.
- Conciliation bodies act on basis of both civil law and public law. But, as they cannot impose sanctions, their impact on enhancing passenger care depends on the goodwill of transport operators, thus a question of acceptance of a CB by a certain company⁵². This requires confidence (mostly on the part of an operator complying with a certain request or type of request by a CB), which needs years and sufficient positive practical experience by collaborating staff. In reality, some companies simply refuse to cooperate or even to communicate on cases of complaint. The advantage is that CBs work in an intermodal manner and have better opportunities to inform citizens (passengers and potential future passengers) in a comprehensive way about their rights, including opportunities of actually claiming them, thus including the boundaries.

Sanctions, imposed by NEB, are one of the most important instruments in the system ensuring passenger rights. Their impact on the compliance of operators is - amongst other aspects - strongly related to the level of sensitivity, i.e. to the level of a "punishing payment" as reaction to an infringement of a regulation. The difference between the different types and levels of sanctions in Europe is visible in the case of the "aviation regulation" EC 261/2004, despite the requirement of Member States to set "effective, proportionate and dissuasive penalties" for infringements.⁵³ The

⁴⁸ e.g. reg. EC 1371/2007 on rail passengers' rights and obligations says: "The provision of information and tickets for rail passengers should be facilitated by the adaptation of computerised systems to a common specification," (cf. Article 7, 8, 10, 29), and, in particular, for PRM (Article 20), more specified in the Annex.

⁴⁹ e.g. Schiefelbusch/Dienel 2009, Schiefelbusch 2007

⁵⁰ Conciliation is also called alternative dispute resolution (ADR) or out-of-court settlement.

⁵¹ e.g. lost luggage according to the Montreal Convention

⁵² Due to a good relationship, 85% of the ADR proposals of the German CB for long-distance transport are accepted by Deutsche Bahn.

⁵³ Whereas in Denmark, Hungary and the Netherlands, unlimited fines can be imposed for non-compliance, in other Member States, the maximum penalties are much lower; e.g. in Latvia, the maximum penalty is 213 EUR (EC 2007, p. 64ff).

maximum penalty for non-compliance should not be lower than the expenditure, which airlines might avoid through non-compliance⁵⁴.

Furthermore, the implementation of regulation is always refined by jurisdiction, as not all details and cases can be envisaged in advance. It would be helpful for both NEBs and CBs to rely on good knowledge of this by exchange of experience, despite the differences between the national legal systems.

An intensified exchange, as part of a closer co-operation between the different NEB and CB, should be facilitated by a European programme.

Why is this necessary?

Passengers' rights have been formulated in the situation when market based competition has been introduced in public transport. Basically seller and buyer have to find common solutions. Competition requires several parties entering the market (as suppliers), but also the demand side should be a recognised, equal part. Since this situation is still quite new in most countries, new forms of balance between seller and buyer have to and are about to be established.

Improving the user rights and their implementation is seen as an appropriate way to make intermodal transport more attractive. Users often perceive the system of collective modes as not reliable⁵⁵; and they perceive a worthwhile benefit to use different modes, if they – amongst others – are offered better rights, can find out about them and can actually get them (claim successfully with reasonable effort).

Despite the high profile of this objective and the effort by the EC⁵⁶, there are remarkable differences across Europe (Nexus 2007). User rights - refreshed by new directives - are to be seen as basis for a user-friendly approach. Already in the EUPI study (2004) fostering user rights has led to a recommendation (on a very general level) and was appraised as a relevant and adequate measure.

Improving the enforcement is related to the impacts. Unfortunately, there is only little knowledge about the positive impacts and consequences of improved passenger rights (e.g. higher satisfaction of users)⁵⁷. More advanced solutions are often avoided or hindered by claiming high costs related. Due to different implementation in different EU Member States and at subordinate levels (regional, local) it is hard to make general statements. The aspect of awareness and information - common in transport policy ever since - has to be tackled as well.

It can be expected that operators will benefit from user comments, if those are handled as an additional source for quality management, helping to improve the service quality. But collecting the feedback of (unsatisfied) users alone will hardly result in better quality. It must be part of strategic thinking, in terms of a comprehensive customer care system. Here, it is important to meet the expectations of disappointed users, which is not necessarily done by establishing (minimum) passenger rights. The EU rules ensure only a minimum compensation and do not compensate for

⁵⁴ There is an important legal difference between the types of sanctions that can be applied in different Member States. In the majority, sanctions issued for noncompliance with the regulation would be an administrative penalty and could be subject to appeal to a civil court. However, in Austria, Belgium, Denmark, Ireland and the UK, penalties would be applied under criminal law and, therefore, a higher standard of proof would be necessary.

⁵⁵ Empirical works show that for public transport users (especially rail) the criteria price and travel time are particularly important (IGES 2008). Concerning the problem of measuring single criteria in parallel, it is claimed that an improvement of several "soft" criteria, as part of a systemic approach, have a much larger impact (i.e. more than additive).

⁵⁶ '... the next step is to extend the Community's passenger protection measures to the other modes of transport [than air transport], notably rail and maritime navigation and, as far as possible, urban transport services. Specific new measures are needed on users' rights in all modes of transport, so that, regardless of the mode of transport used, users can both know their rights and enforce them....' (Transport White Paper, EC 2001)

⁵⁷ A study showed that a service guarantee on punctuality, which has voluntarily been introduced in and by Hannover region, resulted in a better general satisfaction of passengers with the PT service and had a higher impact than other parameters (e.g. tariff system, info on schedules) - comparing passengers knowing about the guarantee vs. those not knowing (Striefler/Isford 2008).

additional negative consequences (costs, inconvenience due to missed connections), although providers are free to offer schemes which exceed this standard.

The vision for the long-run is that Europe-wide passengers will not only have the same *minimum* rights for compensation (EC standards), but also the same standards for procedures and institutions for complaint handling. The different ambitions of operators have to be taken into account, when discussing a further development of the treatment of passengers. So - compared to the total – the few operators and transport authorities, which are in favour of advanced concepts, have to be highlighted, and the context conditions, as incentives, have to be improved. The starting point is to acknowledge that confident consumers, who take decisions on basis of sufficient information, promote the development of innovative and good-value products. A strong consumer advocacy is needed. It emphasises that better performance is good for both business and consumers.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time
	medium	low	high	2-4 years

This recommendation was subject to an (online) expert consultation in spring 2009.

Almost 90 % of the experts stated, that they strongly agree (33 %) or agree (54 %) with this recommendation.

Feasibility

The feasibility can be appraised “medium”, as some parts of the recommendations require long-term effort, like all efforts concerning a (better or even new) co-operation between institutions. Some elements will be hard to appraise as they touch on political processes (especially a European intermodal passenger rights strategy, with the according review of regulation).

In the expert consultation, the feasibility is considered in general medium (51 %) or easy (21 %), and about a quarter of the respondents see difficulties.

Potential impact

The impact is expected to be high, as passengers often complain about the lack of reliability when travelling by public transport, particularly in long-distance intermodal travel chains. Thus, successful efforts of improving this have substantial impact on both the actual reliability and the reputation of collective transport modes.

The majority of the respondents of the consultation consider that the impact of the measure is medium (42 %) or even high (33 %).

Costs

The costs can be estimated low to medium, as no huge investment is required, but costs for facilitating activities (e.g. structuring information on passenger rights: European platform as one source for all modes and all countries on a website) and costs for studies (evaluation of regulation) on side of the EU.

Around half of the respondents believed that cost of implementation would be 0.5 - 5 M EUR and more bit less than a third (30 %) that it would be lower than 0.5 M EUR.

Time for implementation

The timing has to distinguish between activities requiring relatively little effort (like the common passenger rights website, which can be implemented quite soon) and long-term efforts like the desired co-operation of institutions.

In the expert consultation, about three quarters (77 %) of the respondents considered the recommendation could be implemented in less than 5 years.

Other factors

On the one hand, it cannot easily be assessed to what extent political difficulties will occur (e.g. opponent Member States or important stakeholders like national railways). On the other hand, the potential benefit for EU citizens is high, as is the potential benefit for the image of European policy making.

Interlinkages

WG1 recommendations (1, 2, 6) have to be mentioned, as travel information systems support passengers by information on the actual services (e.g. include delays and could offer re-routing). Also comprehensive ticketing schemes are of concern for passenger rights, as tickets imply contractual relations and have implications also for disruptions. Both aspects are related to requirements of according EC regulation (particularly 1371/2007).

Sources: See Annex

Expert support in developing this recommendation:
Kurt Hultgren, Resenärsforum, Stockholm.

II Directives and regulation

This refers to legislative acts in areas, where the intervention of the EU or national states seems necessary to guarantee a minimum co-operation and integration of transport services. In the LINK context, this refers particularly to the field of ticketing and information.

Recommendation 6

Establish obligatory delivery of data and information in the field of ticketing and information

This recommendation includes three sub-recommendations that are closely interrelated and contribute to the aim of better integrated passenger information and ticketing. For an overview on the three recommendations see next page.

Recommendation 6.1

Establish a European directive which requires transport operators to make travel planning data available to journey planning providers

Working Group 1 - Intermodal information and ticketing (moderated by Jacobs)

Making a minimum content and quality of travel related information available to local, regional, national and European journey planning providers should be an obligatory requirement for transport operators and authorities. This is of key importance to kick-start co-operation on provision of long-distance intermodal travel information in many countries.

Who should become active?

Initiative: this should be taken up by the EC

Implementation: EC, European Steering Committee for Intermodal Passenger Travel Information

What is it about?

It is desirable to create and implement a European directive obliging transport/interchange operators and authorities to make accurate and timely travel data available in a standardised way to a nominated regional or national travel information co-ordinating agency, as part of their contract terms or licence allocation conditions. Vertical data sharing links between these agencies should also be obligatory. This data would then be made freely available to journey planning providers.

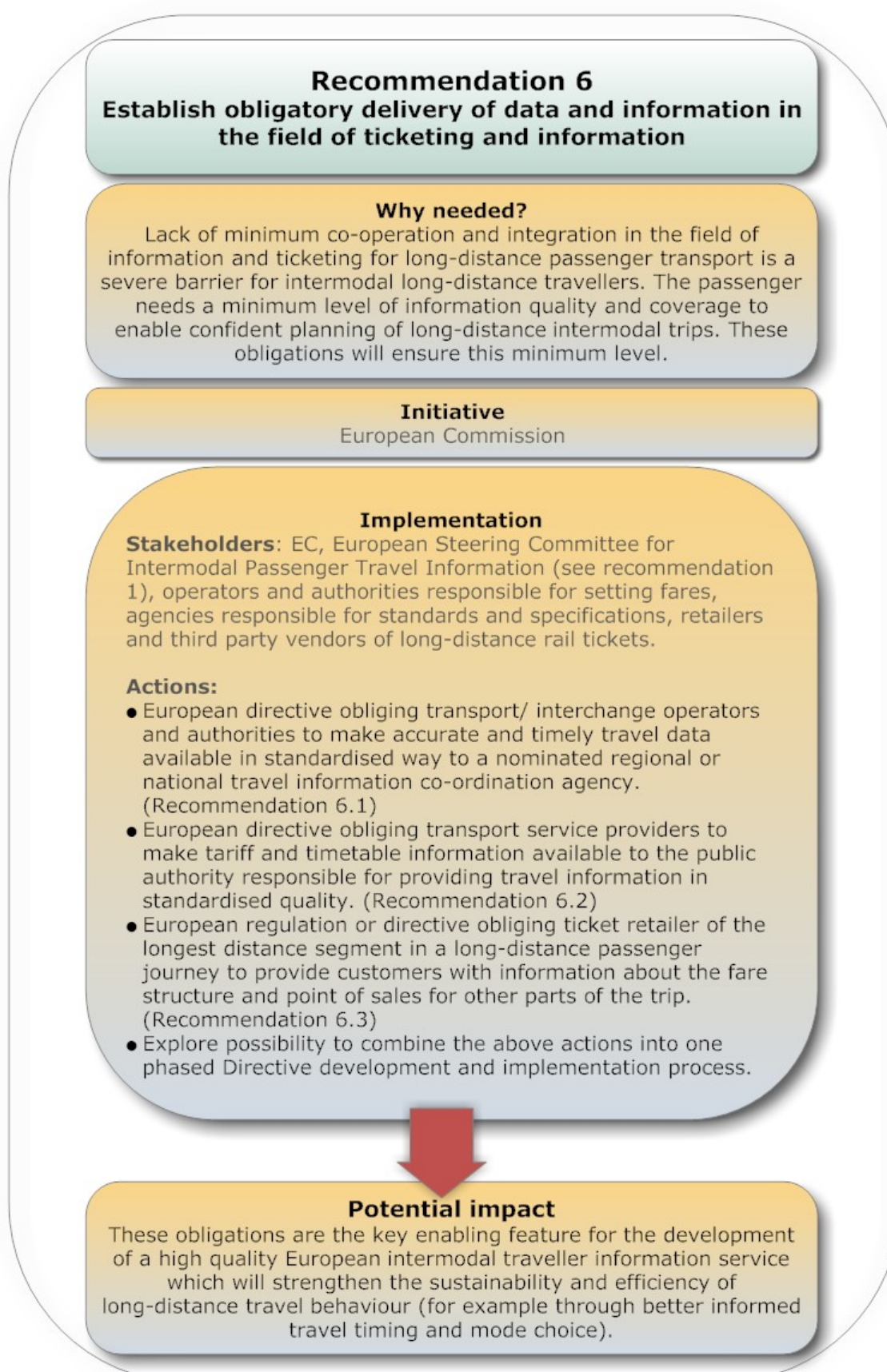
The technical execution of the interface at the European level might well be through a standard distributed architecture and would probably not necessitate a European data collection organisation or central database (relevant up-to-date databases would need to be made available by operators and national/regional journey planner operators for interrogation in a format compatible with a European standardised interface and some work would be required on standard European dictionaries of place names, stops, etc.).

At the national and regional level, the distributed architecture can work as well, although this is a regional decision and does not preclude the need for some organisation for regulation of compliance and quality control. The national or regional journey planners would take responsibility for supporting queries on planning of international trips (as in the example of EU-SPIRIT).

The directive should give clear instructions on the minimum content and quality of data that should be made available.

The requirements should also apply to road operators to provide clearly defined travel time and travel conditions data, in order to reach an overall intermodal/multimodal picture of the transport situation.

Figure 10: Overview recommendation 6 “Establish obligatory delivery of data and information in the field of ticketing and information”



In practice, the requirements of this proposed directive, whether the directive is implemented or not, should be implemented in national regulatory frameworks and included in any tenders and consequent tenders and licence agreements, wherever there is a will and legislative possibility to do so.⁵⁸

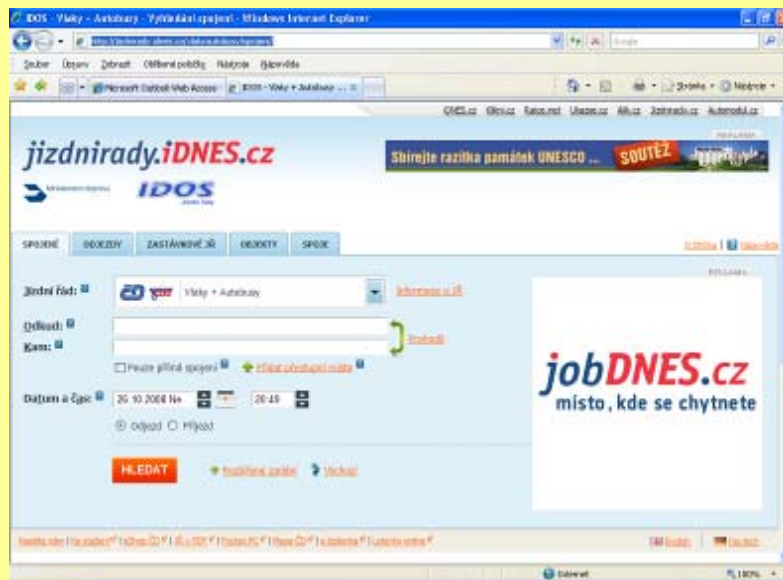
Why is this necessary?

The directive is of key importance, in order to kick-start co-operation in the number of countries where co-operation does not come so naturally, culturally or is hampered by over-competitive relationships between transport operators or even between dominant national and metropolitan authorities. Lack of standardised data availability is probably the single greatest barrier to providing complete joined-up travel information systems in many European countries.

Practice example: Czech integrated multimodal timetable information service

In the Czech Republic, a private sector company with a state mandate coordinates an integrated national data source on national and urban public transport timetables. The information contributes to the government objective of providing freely available intermodal public transport information for travellers. The state has provided the key input to support the service by setting up a regulatory framework, which ensures that all national and regional public transport operators with public sector funding must provide regularly updated information to this database in a standard format. Other operators without public funding have followed voluntarily into providing information to the service, given the excellent base provided by data that is already provided obligatorily. The system is 100 % self-financing through the revenues of the private Co-ordinator from third party sales (e.g. to mobile phone operators). Without this catalysing regulatory framework, the system would almost certainly not exist in the quality or coverage that it does today.

Website: www.idos.cz , Contact person: Martin Pichl, Czech Ministry of Transport



Web service for Czech intermodal journey planner

⁵⁸ Separate data provision requirements will be required for each separate mode to meet the Directive's requirements. e.g. in the UK, air and ferry services can be introduced or withdrawn almost instantaneously; and Transport Direct has had to establish a mix of different administrative procedures to capture their data and even then Transport Direct has not got 100% coverage.

Where is it applicable?

The directive would be applied across the whole European Union.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factor:
	low-medium	medium	high	5-10 years	-

This recommendation was subject to an online expert consultation in spring 2009. The level of general agreement to this recommendation was very high (53 % strongly agree, 37 % agree).

Feasibility

Implementing any directive in Europe is not easy given the plurality of national opinions on such topics, and like all directives, it imposes some costs on operators, many of which have strong lobbies⁵⁹. Many countries have good experience with voluntary operator co-operation.

It is also quite a narrow topic for a directive, and may well have to be part of some broader directive on ITS, the provision of information of public interest or the theme of public transport regulation.

It is essential that implementation of any directive is done with the close and full involvement of the relevant agency (e.g. Transport Direct in the UK), and the relevant national agency must also be involved in specifying it for their country.

Again, prior to this, a journey planning system must be in place (or a roadmap to delivery in place) for each Member State. Without this, Member States may have no interest in implementing this directive and no means of delivering on it.

To improve feasibility, there also must be a mechanism for financing this fully and without imposing costs on operators and hence on the public transport industry generally (unlike some government-funded impositions in the past).

The expert consultation showed that that most experts expect a low-to-medium feasibility of implementation (low 46 %, medium 42 %).

Costs

This is not an expensive measure, it will require some investigation as part of developing the White Paper of recommendation 1, but the cost of developing such a directive can be counted in the range of a few millions EUR.

In the expert consultation nearly half of the respondents (47 %) believed that the costs of developing the directive would be medium (0.5-5 Million EUR).

⁵⁹ Alternative approaches do exist which may push quality convergence without a directive :

a) Work through UITP, large public transport operating groups (e.g. Veolia, Keolis, Arriva, Transdev), and groups of cities (such as POLIS) to get them to develop information specifications which are both necessary for European-wide journey planner systems and can be applied straightforwardly. This assumes that such operating groups are in a position to reap economies through being able to apply standard travel-related information delivery systems across their operations, but this might not be the case. However, it is worth investigating.

b) Another alternative would be to work with information delivery and information service companies (e.g. mobile phone providers, or information providers such as Google) to build on the work done in EU Member States, where public transport travel information is good to develop intermodal public transport information products. If such products achieved large market share and high visibility this would of itself put pressure on excluded countries (or excluded cities) to ensure that their public transport travel information data was good enough to join the system.

It could however be an expensive option for Member States to implement after the directive is approved (it depends on implemented measures to gain data). Discussions on how to implement the directive in each Member State will be lengthy and more expensive. This cost is impossible to quantify accurately at the current time.

Potential impact

This would be of strong benefit for developing a fully European travel information service, as there are too many countries where there will be insufficient national will to push through such legislation otherwise. Without such legislation, starting off the required co-operation may prove an insurmountable problem in some countries, where the market and culture is not amenable to spontaneous multi-stakeholder co-operation⁶⁰.

In the expert consultation the possible impact was seen as being crucial by most respondents (74 %).

Time for implementation

By 2014 at the very earliest, practically it may take much longer given the uncertain process of preparing legislation and reaching of political consensus. There is an opportunity to address this within the implementation of the ITS action plan.

Interlinkages

- The precise content and minimum level of obligation should be recommended in more detail in the European White Paper for a European door-to-door intermodal passenger travel information service based on the recommendations of the study associated with the recommendation 1.
- Recommendation 2 “Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner”. A European directive on travel planning data availability could facilitate easier co-operation.
- Recommendation 5 “Work towards advanced intermodal passenger rights”. Travel information systems support passengers by information on the actual services (e.g. include delays and could offer re-routing).
- Close synergies with recommendation 6.2 “Establish obligation to make standardised tariff and timetable information available on request to authorities responsible for passenger transport information provision”
- Recommendation 16 “Integrate cooperation and information platforms into a mobility centre for the mobility management of large events” This recommendation would heavily benefit from a European directive for data provision.

Expert support in developing this recommendation

John Austin, Austin Analytics, UK.

⁶⁰ although commercial pressures/incentives from organisations such as Google and others may be a working stimulus to multi-stakeholder co-operation even in these conditions

Recommendation 6.2

Establish an obligation to make standardised tariff and timetable information available on request to authorities responsible for passenger transport information provision

Working Group 1 - Intermodal information and ticketing (moderated by Jacobs)

Further developing recommendation 6.1, this recommendation states that basic tariff and timetable information (the nature of which is described) should obligatorily be made available by all passenger transport operators to authorities responsible for passenger transport information provision. This will enable better choice and efficiency in intermodal planning and ticket purchase because such information is not consistently available for long-distance door-to-door trips and is currently a major barrier to multi/intermodal journey planning.

Who should become active?

Initiative: The obligation needs to be mandated by a European level directive (possibly through passenger rights legislation) under the direction of the EU through DG MOVE.

Implementation: Operators and authorities who are responsible for setting fares and agencies responsible for standards and specifications will need to be active in implementing such legislation.

What is it about?

An obligation is required on transport service providers to make available tariff and timetable information of a standardised quality to the public authority responsible for providing travel information if such a responsible authority exists.

Available timetable and fares data for long-distance door-to-door transport across different modes are not always complete, easily available, sufficiently or consistently up-to-date and fare information in particular is not always fully disclosed or presented in a comparable format to allow long-distance inter/multimodal planning.

To enable effective long-distance multi/intermodal journey planning, it is necessary to provide passengers with a basic level of standardised multimodal long-distance timetable and fare comparison information via the public authority that has the legal right or obligation to provide their citizens with journey planning advice. An obligation for operators to distribute the information themselves is not required.

The standardised quality of the information provided needs to be defined by a standardisation process such as the rail TAP TSI, but covering all modes of long-distance and local transport on request (see section “other factors” for ongoing standardisation activities, much is already “on the shelf”).

Why is this necessary?

Passengers need standardised, complete, easily available, up-to-date and comparable information for long-distance journeys to enable multi/intermodal travel planning and ticket purchase planning with a full knowledge of comparative service quality, trip times and total fare costs.

This is currently not consistently available for long-distance door-to-door trips and is currently a major barrier to multi/intermodal journey planning. It can only be done with the full support of transport operators providing services. Experience across the whole of Europe (standards of voluntary co-operation vary widely across Europe) indicates that this needs to be backed-up by European legislation: the transport operators have to provide this information to those national bodies responsible for ensuring the provision of passenger transport information.

Practice example

There is no precedent of making obligatory the provision of fare data as far as we are aware. Relevant examples of obliging operators to provide travel timetable information (such as in the Czech Republic) can be found in the above LINK recommendation 6.1.

Where is it applicable?

This must be applied to all legally licensed operators' services in the EU.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factors
	medium-high	medium	high	5-10 years	Tariffs/ fares Timetables

This recommendation was subject to an online expert consultation early 2010. The level of general agreement to this recommendation was very high (60 % strongly agree, 34 % agree). Almost half of respondents (42 %) assess the cost as a medium (less than 0.5 M EUR).

Feasibility

In general the feasibility is medium to high for planned timetables and "standard fares". Although many operators will require some investment, this should not be prohibitive if the standardised requests are reasonable. There are also benefits to operators to be gained by providing information in a widely and transparently available format, although this may be offset by the disbenefits of cost.

Costs

The costs of implementation (without operating costs) of national journey planners with such information could be up to 25 Mio. EUR per country (this is based on the Transport Direct example which gives national multimodal journey planning and prices). This works out to around 2 Euro/citizen. The actual costs of implementation on the side of operators is relatively low, but for operators already operating on tight margins this is significant and of course will increase their costs in comparison with car transport.

Potential impact

The impact could be relatively high, particularly for international long-distance trips it is self evident.

Time for implementation

The time required is approximately 10 years leaving enough time to propose and implement legislation.

Other factors

Tariffs/fares: Rules and regulations must consider that real-time pricing has many reasons to vary from standard fixed fares and that both operators and retailers continuously adapt prices for a better efficiency to increase the ridership and finally benefit the end users:

- Yield management (mainly for long-distance);
- Loyalty programs;
- Concessionary fares, among which some may only be locally available;
- Competition between retailers which can apply different margins;
- Differences of technical costs between vending channels (e.g. manned or automatic).

Two main types of information may therefore be provided to the customers in association with travel planning without interfering with these practices: guaranteed maximum price for the trip and possible conditions to get rebates from loyalty or concessionary fares.

The standardisation of the data and messages should be advanced, notably for regional and local public transport. EN 1545 needs to be complemented, which is also a conclusion of the IFM project (Interoperable Fare Management), due to end in June 2010.

Timetables: Similarly for timetables, they must make a clear distinction between normal planned services, adapted schedules to temporary events such as provisions of works or special needs and real-time information, when available.

For regional and local public transport, rules and regulations should stress the normal planned timetable which is stable and can be updated easily, and might leave to public or private initiatives the decision to propose real-time information as added-value services.

The standardisation of the data and messages is already well advanced by CEN TC278, based on:

- TRANSMODEL (EN 12896) as a data model;
- SIRI (EN 278181) Service Interface for Real time Information relating to public transport operations). SIRI gives an XML specification for real time information messaging, compliant with TRANSMODEL;
- IFOPT (Identification of Fixed Objects in Public Transport) which aims to provide a standard description and coding system of infrastructures and stops.

Interlinkages

- This recommendation is very closely related to LINK recommendation 6.1 and 6.3; but it puts emphasis on the content of the information to be provided including the need to provide fare information and clearly puts the obligation on providing the data to the national level authority.
- Interlinkage with recommendation 5 “Work towards advanced intermodal passenger care”. Travel information systems support passengers by information on the actual services (e.g. include delays and could offer re-routing).
- Synergies with recommendation 16 “Integrate cooperation and information platforms into a mobility centre for the mobility management of large events”. The proposed mobility centre would benefit from the measures proposed in recommendation 6.2.

Expert support in developing this recommendation

Gilles de Chanterac, senior engineer, external consultant to SNCF, France

Recommendation 6.3

Make provision of door to door ticketing information mandatory for long-distance rail-ticket distributors

Realistically, for reasons of technology divergence between long-distance and local transport and the corresponding poor business case to introduce the necessary cross-over technologies, the service to buy and get a door-to-door ticket (or set of tickets) using a single retailer will not frequently be available.

Therefore when this service is not available, provision of joined up information on ticketing should be made compulsory. The idea is to make it mandatory in rail and bus transport for the long-distance ticket retailers to provide information (and for local operators to cooperate) on fares (i.e. their structures and possible rebates) and fulfilment (i.e. how to get the tickets) for all legs of an already selected journey (from A to B).

Who should become active?

Action must be taken at three levels:

European legislation: The European Commission must become active to consult representatives of the different businesses and organisations involved such as UITP, CER and representatives of both the long-distance and regional/urban sectors, and then set the regulation or directive, possibly as an addition to TAP TSI.

Standardisation: A standardisation process should be launched, similar to that decided upon to define the indirect fulfilment (Ticket on Departure) method⁶¹, for which CEN (TC278) has been mandated by the European Commission.

The scope should cover:

- The precise definition of the basic information level.
- The two processes for bringing the information to the customer: direct (by the retailer) and indirect (by the transport operator on request from the customer routed by the retailer).
- The relevant messaging standards.

Operation: In particular the following specific actions will be required:

- Local authorities and operators need to be able to provide the information
- Long - distance operators, their retailers and third party vendors need to add this new item to their sales processes.

What is it about?

If there is no retail agreement that makes direct or indirect joined up ticket fulfilment possible for a door-to-door long-distance journey, the retailer of the longest long-distance segment should obligatorily provide the customer with information about the fare structure and point of sales for the other parts of the trip including the start and end legs of the trip.

The standardisation of the formats of the rail tickets is an objective of the European rail technical specification for interoperability of passenger telematics applications TAP TSI, in conformity with directive 2001/16 on interoperability and with the draft (rail) passenger rights regulation 1371/2007.

⁶¹ToD - A ticket that will be picked up by the passenger at the airport, station; primarily European usage.

The TAP TSI standard for rail, as it is currently written, will propose to rail operators four possible formats when concluding retail agreements:

- RCT2 format (traditional paper rail ticket standard);
- 2D bar code format (currently mainly used for A4 Print at home tickets);
- Electronic Ticket (technically ticketless, the travel access right being accessible from the system with an ID);
- Smart e-ticket which can be compatible with local public transport (PT) smart card systems:
 This smart e-ticket format has provisionally been added to previous proposals after recommendation 7 of LINK, from a previous Working Group meeting, to support integration with the last urban mile of local public transport.
 This format is already being implemented by conventional rail operators for example in Denmark, the Netherlands, Portugal, the UK and shortly in Hungary, and therefore needs to be included in the TSI discussions.
 However such a format will not necessarily be taken up by all long-distance rail operators as they may not see the business case for introducing (often expensive) extra media reading equipment in the vehicles/at stations, unless the market of NFC devices really generalises, providing low cost easily accessible solutions.

It should be noted that for the TAP TSI there will be mandatory formats for the first three methods of fulfilment, but only for international rail services. Operators will be open to offer which ever formats suit their business for all other services

To minimise the technical constraints for the retailers and the corresponding costs, two further possible methods are also proposed for the fulfilment of the ticket (i.e. for its printing or encoding and for its disposal to the customer):

- Direct fulfilment by the retailer upon authorisation by the product owner;
- Indirect fulfilment by the product owner upon information on the sale given by the retailer.

This method, currently named “ticket on departure” (ToD) makes it possible for the product owner to use a local, non standard, format. But it implies using a (yet to be defined) messaging and management standard between product owners and retailers.

For this reason, and due to the small proportion of customers interested, urban or regional transport operators may not make a business case for introducing the necessary back-office routines and organisations to allow such door-to-door sales and their settlement.

In the overall context of the lack of standardisation between long-distance and urban or regional transport, as well as the few possibilities for joined-up fare products, (which is a very difficult problem to solve for long-distance door-to-door ticketing) ticketing will remain a basic convenience problem to public transport customers with multi-leg journeys.

The ability to buy a door-to-door ticket (or set of tickets) using a single retailer will not frequently be available, although it should be actively encouraged that the final leg in the urban environment should be purchasable together with the long-distance ticket.

Therefore we suggest that when this service is not available, provision of joined up information on ticketing should be made compulsory through TAP TSI and in any future corresponding bus regulation. It could be introduced for local/regional ticketing products including those which include regional rail.

The idea is thus to make it mandatory in rail and bus transport for long-distance retailers to provide information (and for local operators to cooperate) on fares (i.e. their structures and possible rebates) and fulfilment (i.e. how to get the tickets) for all legs of an already selected journey (from A to B). This is considered to be a practical and very useful step of limited cost to the operators which will add significant comfort to an intermodal long-distance journey. As an extra value, third party GDS's (global

distribution systems for air traffic) vendors would become able to provide the same service for the last miles attached to air-tickets.

Why is this necessary?

At the present time, many long-distance travellers are put off by the complexities of continuing a journey in a city where they must work out how to buy a ticket to go by public transport, often in a foreign language and with complex orientation. It is a key part of the high perceived cost of transport.

Many travellers will simply drive the whole journey by car instead. Others will consider taxis as the only practicable solution for them, without even considering available public transport networks.

If the long-distance operator has to provide this ticketing information at point of ticket purchase, this would provide a minimum European level of service in ticketing. It would provide a basic level of convenience for the traveller and give the transport operators the ability to sell and provide tickets (fulfil) using methods best suited to his operations and within the constraints of their business model.

Where is it applicable?

It would apply across the whole EU and other affiliated European countries. However, the granularity of the last mile public transport systems may vary substantially from rural areas to capital cities. Cases may be very different from an organisational point of view as well as from the business point of view. Networks in the main European cities, over a certain level of density or number of population, could be defined as a first target.

Discussion of implementation

A combination of legal carrot and stick is most likely required:

- Mandate is probably required through European legislation using the TAP TSI route for rail and any future equivalent for coach transport for the basic information service;
- In the long-term, both long and short distance sectors may see the business case for getting more passengers this way, but in the short-term they may need some legal/contractual incentives to ensure they cooperate really actively.

Regional/urban transport has a very different organisation from Member State to Member State, and it may be necessary for the European directive to consider subsidiarity in the application. Depending on each legislative situation, or on each local difference in custom and practice, the product owner (responsible for defining the fare information), the retailer (in charge of selling the products) and the service operators themselves might be or not-be the same entities.

The following table summarises the implementation aspects for the main steps to fulfilling this recommendation (after issuing the European regulation it will take some time for the various elements to come into effect):

Overview	Feasibility	Costs	Impact	Time	Other factor
European regulation issued (through TAP TSI and future coach transport equivalent)	high	low	high	2 years	-
Obligation for important urban networks to make fare information available to customers and retailers from their website				4 years	-
Standardisation of fare information				4 years	-
Obligation for important urban networks to comply to the standard				6 years	-
Obligation for retailers to provide fare information (directly or by routing)				8 years	-
Generalisation to small urban networks or rural				15 years	-

Feasibility

Some difficulties need to be pointed out:

- The definition of the relevant fare information (see more in recommendation 6.2) may be very different for door-to-door long-distance journeys and for the local customers, which will be difficult for practical operation and for up-dating. This should be made in compliance with TRANSMODEL;
- The definition of the local points-of-sales and of their on-site location is a difficult question of geographic information. The work on the relevant European standard (IFOPT – Information about Fixed Objects in Public Transport) is currently being done by TC 278-WG3;
- Defining a user-friendly multi-language interface will be another difficulty.

Costs

Operating costs are relatively low as there is no major investment in real-time functions or technologies. It must however be kept in mind that information systems are often only renewed every 20 years and that public availability of newly defined descriptions of the fare systems may require modifying the architecture of the systems.

Potential impact

The main collective benefit is that long-distance public transport travellers travel more sustainable, as they will be less likely to take a taxi when reaching the end of the long-distance leg of their trip. To a lesser extent, providing more joined up information will encourage travellers not to drive by car.

Time for implementation

To make it effective in practice:

- As a first step, regional/urban transport providers will need to be pushed to define the appropriate information and make it available;
- As a second step, the long-distance operators will also need a positive motivation.

These two steps could be brought about by the directive itself, the obligation for regional/urban transport becoming compulsory first and the obligation for long-distance retail five years later.

Reaching consensus on the obligation will take a lot of time however. 5 to 15 years may be a realistic objective to implement the first step, depending on local conditions and on the level of the existing fare systems.

This is a long-term project and it could take up to 15 years before it becomes fully legally binding and standard across all operators. Contractual requirements and incentives can be introduced in the medium-term.

Interlinkages

- This recommendation is closely related to LINK recommendations 6.1 and 6.3 (obligations to provide travel and ticketing information) and recommendation 7 (e-ticket standard in TAP-TSI). Interlinkage with TAP TSI has been developed above and has been the initial reason for this proposal. The development of multi-application systems may be an opportunity for a simpler implementation, each network or each fare product owner having the possibility to define by himself the level of service he wishes and the appropriate way to display the information. In this respect, the proposal may be considered as a similar case as fare interoperability, as it appears in the IFM project. The technology allows flexible systems and various solutions and may avoid the construction of centralised organisations. This is very appropriate for regional/urban transport, which is decentralised by law in most Member States.
- Interlinkage with recommendation 5 “Work towards advanced intermodal passenger care”. Comprehensive information on ticketing support passengers.
- Synergies with recommendation 14 “Establish common ‘CityFlex pass’ concept”. CityFlex pass could make it easier for rail-ticket distributors to offer ticket information for last urban mile.

Further examples/sources

There is no precedent of this as far as we know. There are a number of examples of long-distance operators offering local public transport passes within their tickets and some travel planners offering contextual links to information about tickets. But they are more representatives of discrete agreements than of a general architecture of information.

Expert support in developing this recommendation:

Gilles de Chanterac, senior engineer, external consultant to SNCF, France.

III Standardisation and technology

This field deals with measures to achieve uniform technical, service and design specifications in fields that concern Passenger Intermodality (particularly information, ticketing, interchange design).

Recommendation 7

Develop a standard for long-distance electronic ticketing in TAP TSI to allow compatibility with local fare management systems

Working Group 1 - Intermodal information and ticketing (moderated by Jacobs)

Neither paper nor ticketless solutions, as they are described in the current proposal for the TAP TSI⁶² standard for long-distance rail trips are applicable in the growing number of regional or local networks where control has been automated using contactless systems. The possibility of issuing long-distance tickets in a format compliant with contactless systems would open up currently unanticipated intermodal solutions for long-distance door-to-door internet remote ticket sales. To meet this need, a standard data model for electronic tickets, usable on smart cards or on any other similar electronic devices (e.g. NFC smart phones), should be developed for long-distance tickets, to enable future compatibility with local transport fare management systems. This standardisation work item has to be reopened within TAP TSI.

Who should become active?

The ERA (European Rail Agency), CEN (European Committee for Standardization), CER (Community of European Railway and Infrastructure Companies) and the future consortia that will develop from the IFM (Interoperable Fare Management) Project under the direction of the EU through DG MOVE.

ERA should open this work item; DG MOVE should push for this by mandating the ERA and CEN to work on it. The IFM forum should bring a migration scenario and the ERA members need to be persuaded to agree.

What is it about?

TAP TSI is a European rail technical specification for interoperability of passenger telematics applications as indicated in directive 2001/16 on interoperability and must be in line with the prepared (rail) passenger rights regulation 1317/2007.

As the TAP TSI document is prepared, it includes two already-existing standardised formats for issuing passenger tickets:

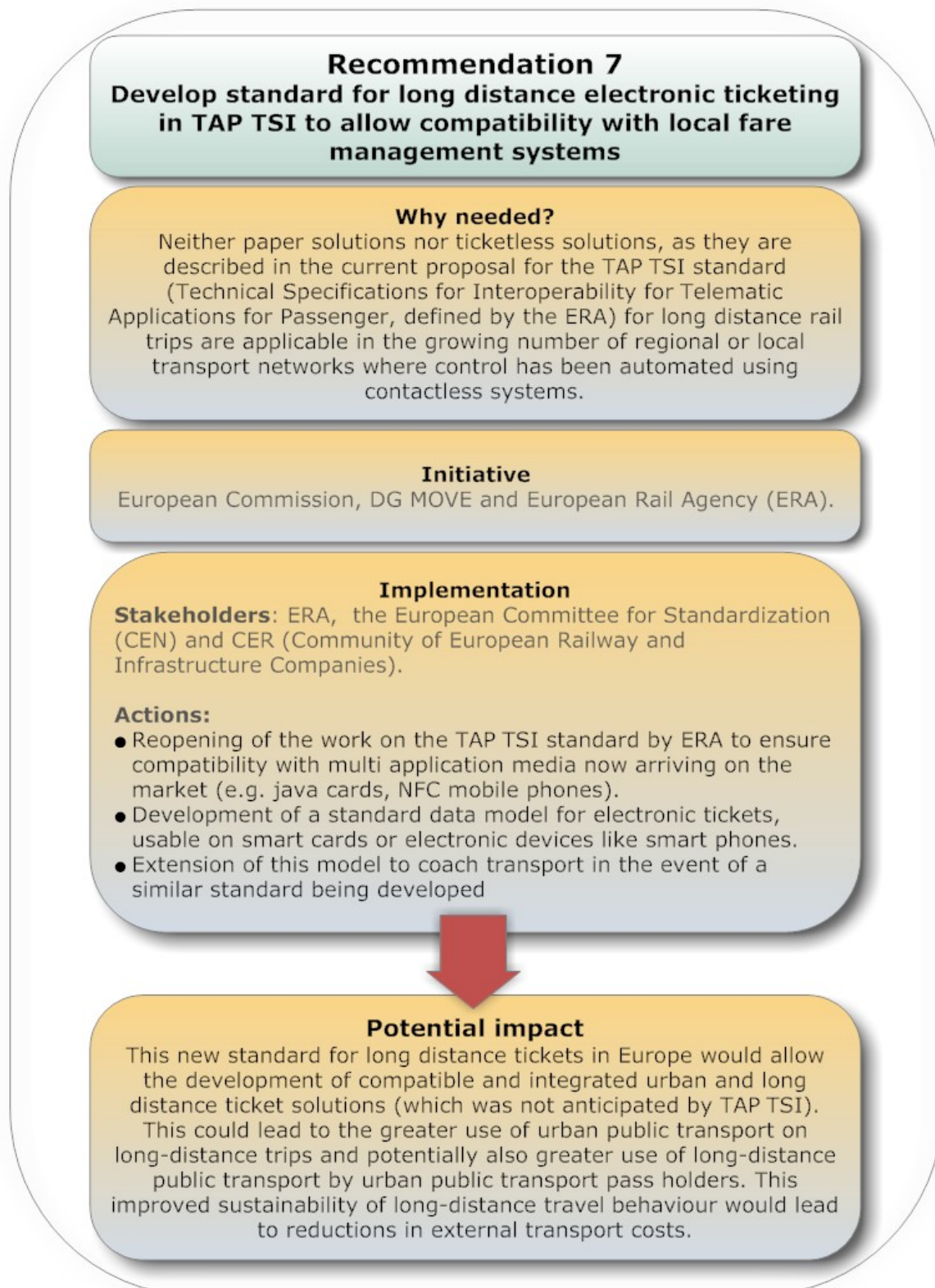
- Traditional railway type ticket - RCT2;
- A4 paper ticket with 2D BAR CODE.

Additionally, two procedures are also defined:

- Ticketless solution (the equipment on train knows that you have paid) - new CEN standard;
- 'Ticket on departure' procedure: to be standardised by the CEN TC278 commission to enable the customer to obtain the appropriate ticket at each point of departure of each segment of his global multimodal trip.

⁶² TAP TSI: Technical Specifications for Interoperability for Telematic Applications for Passenger, defined by the ERA (European Railway Agency)

Figure 11: Overview recommendation 7 “Develop standard for long-distance electronic ticketing in TAP TSI to allow compatibility with local fare management systems”



The standardisation of a chip card was also envisaged, but this has been judged too difficult for rail as the business case for long-distance rail chip cards is seen as poor, so a decision has been made to abandon this work item.

We propose that instead of a chip card standard (covering only smart cards), a standard data model for electronic tickets, usable on smart cards or on any other similar electronic devices (e.g. NFC smart phones), should be developed for a long-distance ticket to enable compatibility with local transport fare management systems.

This standardisation work item has to be reopened within TAP TSI.

Why is this necessary?

Paper solutions, as they are described in the current proposal for the TAP TSI standard for long-distance rail trips are not applicable in the growing number of regional or local networks where control has been automated using contactless systems. Ticketless solutions are not applicable either, as the on board smart card equipment in local and regional transport does not know who has paid.

The possibility of issuing long-distance tickets in a format compliant with these systems would open up advanced intermodal solutions for long-distance door-to-door internet remote ticket sales which are not currently anticipated. The customer could then load his long-distance tickets on to existing devices and would minimise the necessity of successive ticket issue at each entry point as proposed in the "ticket on departure" system.

Co-existence with regional and local transport will be made easier with the multi application media now arriving on the market, java cards, NFC mobile phones or other devices. This new standard would enable the development of electronic ticketing to include long-distance transport, as the migration to Interoperable Fare management continues (IFM Project).

A link to IFM needs to be made and the standard should be broadened to coach transport as well.

Where is it applicable?

This standard must be applied to the entire EU.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factors
	high for standard, medium for roll-out	low for standard, medium for roll-out	high	1 year for Standard definition roll-out (much longer)	-

This recommendation was subject to an online expert consultation early 2010. The level of agreement is very high (92 %). The feasibility of the proposal is considered in general medium (49 %) or difficult (45 %).

Feasibility

The technical feasibility is high, but the business case for long-distance transport depends on the development of contactless equipment for inspection.

The willingness of long-distance operators to pay the extra cost for enabling standard long-distance ticket with e-ticket recognition equipment is perceived to be lower as there is no demonstrated added value for them unless sufficient extra ridership or sufficient extra willingness to pay can be gained through the attractiveness of such measures.

The commercial case stills needs to be made, perhaps within a pilot. The passenger demand is there, but it is not clear what are they willing to pay for it. A survey is needed to understand willingness to pay extra for such a service amongst existing customers and to what degree it can cover additional costs.

Possibly DG MOVE could mandate some agreement if no natural consensus were found.

Costs

Designing the standard is low cost. Introducing the standard might be moderately expensive for long-distance operators.

Potential impact

It will have a high impact on movements from train/coach + taxi to use of train/coach + local public transport. The extent of switching from car use to train/coach + local public transport is not clear; it probably needs to be part of a stronger package of measures. The socio-economic case stills needs to be made to identify the ratio of benefits to cost, perhaps within a pilot.

Such a decision would clearly encourage multimodality and take in account the two modes of public transport: long-distance (rail and coach), plus regional/local connections (rail, light rail, trams and buses).

Time for implementation

To develop the standard requires circa 1 year. A standard for long-distance tickets has been developed by UIC and could be used or updated for this purpose.

Roll-out time is very hard to estimate, but will be several years including some demonstration of concept and benefits before it will become a large deployment.

Other factors

The work required is related to a number of completed or ongoing standardisation activities:

- ISO 24014-1 standard that describes the functional architecture of interoperable fare management;
- ISO 24014-3 will deal with the context of multi-application devices to develop interoperability between independent systems;
- The EU-IFM project, currently funded by DG INFSO, which aims to define a progressive migration path towards a wide European interoperability of fare management systems. The project ends June 2010. It proposes the progressive adoption of multi-application devices as fare media.

Interlinkages

- Close interlinkage with recommendation 6.3 “Make provision of door to door ticketing information mandatory for long-distance rail-ticket distributors”. Details see recommendation 6.3.
- Recommendation 14 “Establish common ‘CityFlex pass’ concept”. Compatibility of long-distance electronic ticketing would also benefit the proposed CityFlex pass.

Expert support in developing this recommendation

Gilles de Chanterac, senior engineer, external consultant to SNCF, France

Recommendation 8

Create common quality standards for interchanges

Working Group 2 – Interchanges (moderated by synergo and RATP)

Create common and Europe-wide standards for the design and equipment of interchanges (focussing on interchanges which are important for long-distance passenger travel). The standards should serve as guidelines or principles for the construction of new interchanges or the adaptation of existing interchanges. They should be targeting all stakeholders in European countries and regions involved in the planning and (re-)building of interchanges. To strengthen their relevance, the standards should be integrated (as a long-term vision) with the existing ones of the European Committee for Standardisation (CEN/ TC 320).



© Photo SBB

Who should become active?

Initiative: The European Commission or UITP should be the leading partner in the standard development. A close collaboration with the most important national railway operators, national transport departments and the CEN is a necessary precondition.

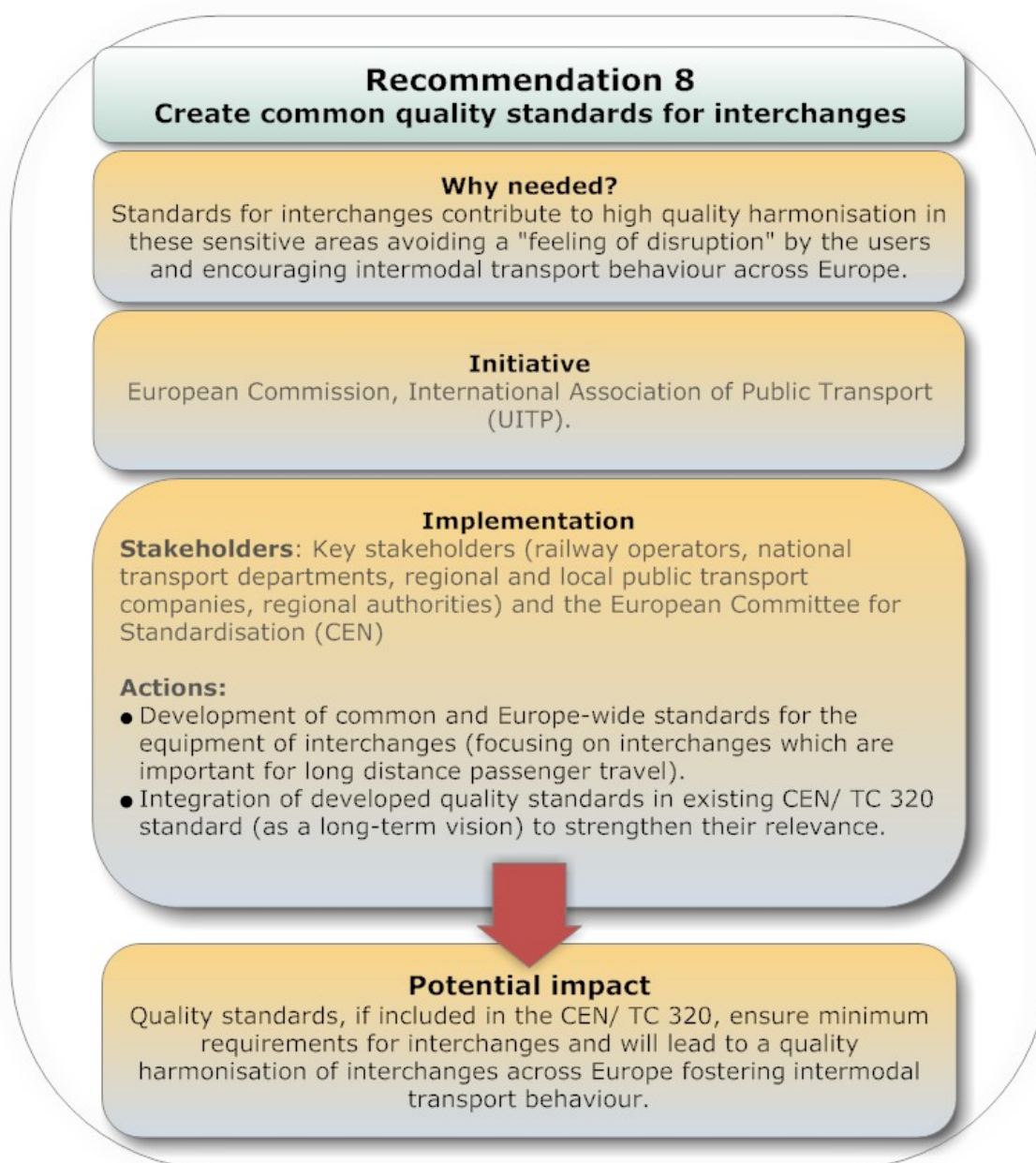
Implementation: Standards should be implemented by the relevant stakeholders (e.g. national railway operators, regional and local public transport companies, municipalities, regional authorities) involved in planning and building of concrete new or adapting existing interchanges.

What is it about?

Interchanges are composed of different “supply areas” with functional elements which can be distinguished as follows:

- **Accessibility of the interchange:**
The quality of the embedding of an interchange within the whole transport network that surrounds it is crucial for its use and the adoption for intermodal behaviour. For instance, the attractiveness of a sophisticated bike parking facility at an interchange is less relevant, if the access to the interchange, by bike, is not fast, direct and secure. For local public transport users, the access is attractive, if the interchange is served by a lot of lines with high-frequency. Pedestrians need to reach an interchange fast, secure and in a direct way. For car drivers, park and ride facilities, at an interchange become attractive if the access from the road network, within the surroundings to the interchange, is as easy as possible.
- **Transport-related infrastructure of the interchange:**
The transport-related infrastructure includes all types of parking facilities (for different modes and different kinds of vehicles): park and ride, kiss and ride, parking facilities for taxi, public transport stops, car sharing parking, and bike parking. Further elements are the connecting paths between the parking facilities and the platforms. Infrastructure also includes elements such as waiting facilities within the interchange and at the platforms. The quality of the infrastructure is defined by elements, like number and location of the parking facilities, distances to the platforms, quality of waiting facilities, and equipment and convenience of the access to the platforms.

Figure 12: Overview recommendation 8 “Create common quality standards for interchanges”



- Transport-related *information, sales and advice services*:
Transport-related information services, at the interchanges, are elements of the whole information chain, which includes also pre-and after-trip information. Available information, sales and advice services, at an interchange, can be distinguished according to how they are transmitted (active vs. passive, personalised vs. standardised) and the kind of information (static vs. dynamic). Functional elements with a need for common standards are: information principles, sign-posting to and within the interchange, service quality of public transport shops and/or mobility centres, dynamic and static trip information, information in case of disruption, tourist information, ticket-machines, etc.
- Transport-related *rental services*:
This “supply area” includes car-rental, bike-rental and car pooling (car sharing) services. The attractiveness of rental services at an interchange depends on the quality and diversity of existing offers and quality, the price and the modalities of utilisation.

- *Additional services:*

This “supply area” includes all not directly transport-related services, which help to make the waiting time as convenient as possible. Services in the fields of luggage (delivery, custody), communication (fax, telephone, internet), sanitation, food (restaurants, bars, food stalls), business activities (meeting rooms, W-LAN zones), retail, etc. The attractiveness of additional services at an interchange depends on the quality and diversity of existing offers, the price and the modalities of utilisation; and the quantity of passengers and other users and extent of demand for the additional services.⁶³

The quality of the single elements in each of the listed “supply areas” at an interchange determines (among other not directly interchange-related factors) the frequency of use of an interchange. Survey results⁶⁴ have shown that the following factors are crucial for interchanges from a user’s point-of-view: feeling of security, cleanliness and comfort. The permeability of an interchange (ease and convenience passing through it and of access to/from the surrounding neighbourhood) is a further factor to consider. These factors have to be considered in the definition of quality standards.

The work on the development of Europe-wide quality standards for interchanges - with particular relevance for long-distance travel - includes organisational and thematic aspects.

Organisational aspects:

- Creation of a *core Working Group* of experts/representatives of national railway operators (e.g. Swiss Federal Railways SBB, Deutsche Bahn, SNCF, Dutch national railways, RENFE) and regional public transport authorities (e.g. Transport for London, RATP, Zürcher Verkehrsverbund, transport association of Madrid and Stockholm), which are leaders in field of interchange equipment, and representatives from the European Committee of Standardisation and national bike associations. The core group should be installed and directed by the EC and/or the UITP.
- Creation of an *advisory group* of representatives of “future users” of the standards. Possible institutions are: national rail service operators and (local) regional public transport authorities from new EU (and selected old) Member States, representatives from national and selected local and regional transport departments of bigger cities in Europe, etc.

Thematic aspects: The tasks could include al or some of the following:

- Compilation of findings of previous research studies in the field at European level and national level (see Annex, chapter 6.3);
- Compile list of existing standards in the sector of national railway and regional/ local transport authorities;
- Definition of supply areas and functional elements;
- Development of quality standards, in terms of quality parameters and/or quantitative indicators for each functional element, in form of datasheets;
- Fine-tuning of standards by the advisory group and final guideline development;
- Development of a marketing plan and dissemination of the guideline to the relevant stakeholders all over Europe.

⁶³ Other purposes like shopping, leisure, passage depend on the specific situation (e.g. retail and food shops, location in the urban structure).

⁶⁴ See for example: Metron/University of Zurich, Sozialforschungsstelle: Equipment of multimodal transfer points, SVI 2004/096, Berne, 2007.

Why is this necessary?

Encouraging intermodal transport behaviour, for the purpose of achieving more sustainable growth in transport, is one of the crucial objectives in transport policy. In this context, interchanges represent sensitive areas in the intermodal trip chain. Interchange equipment and design should not trigger a “feeling of disruption” by the users. Therefore, standards as guidelines for stakeholders contribute to the quality harmonisation of interchanges on a high level all over Europe.

Practice example: Atocha Station, Madrid*



Atocha: aerial view on the old railway station building



Atocha: hall of the old railway station

Atocha station in Madrid is a fundamental node in the transport network of the city, the metropolitan area and the railway network of Spain. Since the new terminus was built (1985-1992), it has become a modern interchange connecting long-distance railway lines (including high-speed trains), metropolitan railway lines, together with the metro and bus system of the city. The former old station, just behind the new terminus, was meanwhile converted into a commercial zone and a covered tropical garden. The terminus is on two levels: on the lower level, the platforms of the long-distance, metropolitan and metro systems are located separately but connected with each other. The upper level contains the exits to the city, the passenger waiting rooms and service facilities (sales, information, etc.), bus stops and car parking. Nowadays, the Atocha interchange is used annually by around 15 million travellers. With the planned extension (in line with the continuous enlargement of the high-speed train system in Spain), the capacity will be enlarged in order to serve about 30 million travellers by 2020.

It is planned that the new station will be extended towards the south and will provide more space for taxis (that now are a considerable problem in the area) and a direct connection to the planned new tunnel for high-speed trains between Atocha and Chamartin train station. Furthermore, the Atocha enlargement project includes reorganisation of Atocha's accessibility by the different modes of transport (especially the accessibility by cars) and pedestrian flows (exit from and entrance to the interchange).



Atocha scheme

* information and photos from Javier Aldecoa Martinez Conde, Consorcio Regional de Transportes de Madrid (2008)

Where is it applicable?

The application of the standards is relevant to all planning and construction projects for new or re-developed interchanges all over Europe. In reality not all standards will be applicable in all situations, due to the existing contextual conditions. Thus, funding schemes could be a lever to raise the willingness for adoption.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factor:
	medium-low	low, <500K EUR for development of standards	high	<5 years	-

This recommendation was subject to an online expert consultation in spring 2009. The level of general agreement to this recommendation was high (31 % strongly agree, 54 % agree).

Feasibility

The feasibility of the development and dissemination of the standards should be easy, because partially-related work has already been carried out in several projects on European and national scale. Furthermore, national and regional/local transport operators are already applying standards and functional elements in certain supply areas. Hence, work is not starting from zero.

Another point is how far those standards will be applied by the relevant stakeholders all over Europe, when they are in the situation of developing new or redeveloping existing interchanges. This can vary from case-to-case. It has to be kept in mind what the function of these quality standards should be to serve as guiding principles, minimum requirements or guiding ideas (see also section potential impact).⁶⁵

Costs

The development of the standards and the dissemination do not require huge financial investments. The costs of implementing the quality standards would, of course, be much higher, but cannot be estimated.

Potential impact

If the standards could be included in the CEN/TC 320, the impact would be remarkable. The application of the standards, in a concrete situation, would depend not only on the willingness of the stakeholders, but also on the existing framework conditions, such as financial possibilities or availability of space. However, the main objective of the standards and the spin-off products would be to serve as guiding ideas of minimum requirements for the stakeholders, to monitor the progress of quality of the interchange and to compare it with others (good/best practice). This is seen as a way which could, in the long run, bring interchanges towards high-level quality all over Europe.



© Photo: SBB

⁶⁵ In the expert consultation, most experts saw medium (47%) to difficult feasibility (42%). However, results, in this case, are not clear, as it was not clear to the respondents if the question related to the development of the standards or to their implementation.

Time for implementation

Once the EC or the UITP decided to take action, the work described, in developing and disseminating quality standards, could be realised in less than 5 years.

Interlinkages

- Recommendation 4 “Introduce a new EU funding programme ‘Vasco da Gama’ for long-distance, international Passenger Intermodality”. Could be the “vessel”, where the guidance on quality standards will be developed.
- Recommendation 9 “Develop and establish city assessment tool and quality label for long-distance intermodality”. The quality of an interchange could be an important criterion in the assessment.
- Recommendation 10 “Elaborate and establish new business models for effective interchange management”. A good interchange management, with clear defined responsibilities among the stakeholders, facilitates the implementation of quality standards at an interchange.
- Recommendation 11 “Develop a toolkit for a good design of an interchange”. The Toolkit is an additional instrument to the quality standards, which gives in-depth information and provides helping instruments with focus on design aspects, as a part of the quality assurance of the functional elements at an interchange.
- Recommendation 12 “Develop integrated airport accessibility plans”. The quality standards support to define the quality of functional elements, regarding the public transport services at an airport.
- Recommendation 13 “Foster intermodal business plans”, could be a key factor to foster implementation of standards.
- Recommendation 17 “Provide early information to travellers about airport links and accessibility”. The quality standards could provide solutions on the information specifics of a multimodal information point located within an airport.
- Recommendation 19 “Foster training and education on Passenger Intermodality”. The guidance on quality standards could be an integrated part of training programmes.

Sources

List of sources see Annex, chapter 6.3.

Expert support in developing this recommendation

Javier Aldecoa Martinez Conde, Consorcio Regional de Transportes de Madrid.

IV Assessment and planning

This field of intervention covers a diversity of recommendations that point to methods, tools and processes to foster the enhanced implementation of Passenger Intermodality solutions.

Recommendation 9

Develop and establish a city assessment tool and a quality label for long-distance intermodality

Working Group 3 – “Last urban mile” (moderated by POLIS)

A benchmarking tool helps to assess the intermodal integration of long-distance transport with local mobility services in a specific city. The use of this tool allows the award of quality labels for branding of high quality services which work as a strong incentive for cities to improve the situation and as a reference for the travel and events industry. The scheme would be the basis for mutual learning between cities and promotion of good practices.

Who should become active?

Initiative: Will require joint, collaborative action involving most or all of the following:

- the European Commission, possibly with a European urban transport observatory if it is created;
- cities and local authorities
- passengers' associations, private business/chambers of commerce, tourist board, tourist industry, transport operators and associations

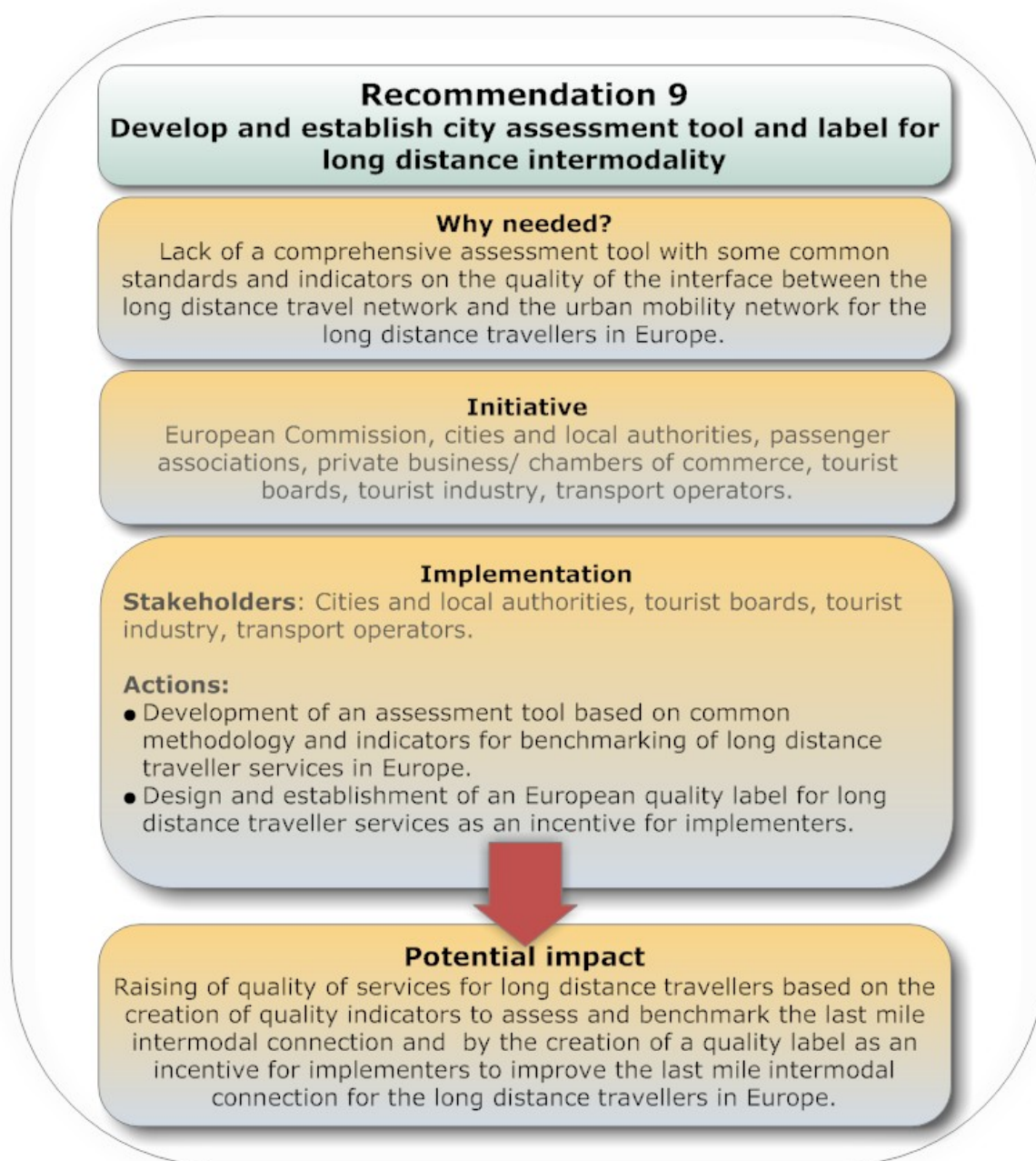
Implementation: At the *European level*, for the whole of Europe or starting with a first group of cities from different countries: the implementation at the European level consists in creating a common methodology for benchmarking with common indicators, a European information system to collect data from each city involved and a European label. At the European level, the tourist industry, federation of business centres or fair organizers may be the promoters as well.

At the *local level*, the implementation should come from the local actors, such as local authorities, but also organisations like tourist boards, for which the incentives should be the opportunity to benchmark themselves and to assess the quality of the services provided. It could also come from the tourist industry and the transport infrastructure managers, with the objective of improving services via the benchmark exercise or of promoting the quality of the location for visitors through the award of a good quality mark.

Incentives: The European Union should be interested in promoting such a scheme to encourage more sustainable travel behaviour for long-distance travellers for the last mile and to support the exchange of best practice between cities and a more efficient transport system, which are required to achieve its economic and environmental policy objectives. The EC should also become active if the other groups of promoters mentioned above, would express the need for it, as there is a clear added value for action at the European level and a clear need for the endorsement of the label scheme by the European Union;

Local authorities have an interest in this scheme since they would benefit from the identification of indicators and benchmarking tools to assess themselves, and could also promote themselves once they have gained a quality mark indicating that the level of services provided for the integration of the long-distance traveller with local mobility system is satisfactory. Together with local authorities, the local infrastructure managers share the same incentives.

Figure 13: Overview recommendation 9 “Develop and establish a city assessment tool and a quality label for long-distance intermodality”



The tourist industry, chambers of commerce and business events industry (fair and congress managers and organizers, etc.) have a clear incentive in this scheme. Federations and major international players gain from information on the quality of services in the places at which they are considering for organizing or promoting events and can therefore make better and more informed choices. The label scheme also creates incentives for improving the level of service, which in return will benefit their business. Local organizers would gain from the scheme, which will give them a stronger voice with the local players to guarantee the excellence of the integration of the long-distance traveller in the local network, or to attract more businesses locally if they benefit from the label.

What is it about?

Creation of a city assessment tool (CAT) and of a quality label recognising the integration of the long-distance traveller in the urban mobility network. The city assessment tool (CAT) for long-distance intermodality would assess the range and quality of choices a traveller finds upon his arrival.

This would be developed for different user groups, in different scenarios, and cover the main elements of the provision of efficient intermodal solutions, such as information, infrastructure or integration.

The CAT should be developed by a group of experts representing a variety of stakeholders and transport professionals (see paragraph “who should become active.”). The group of experts should be gathered by the promoter of the scheme, which could be the European Union, a group of European cities, or a professional federation such as the tourist industry, organizers of international events.

The CAT would assess the following features of the interface between the long-distance travel network and the urban mobility network, for the long-distance traveller:

- Information (integration of signage, languages, accessibility, on-line, in print, etc.);
- Quality and accessibility of the infrastructure (design, security, coherence, etc.);
- Payment (ticketing methodology, integration, interoperability with international payment standards, etc.);
- Integration of systems, for instance between hubs and local public transport, between hubs and alternative mobility services, between hubs and taxis, etc.;
- “Human interface” (information desks, interaction with local population, accessibility, etc.).

The CAT should assess this from the point of view of various types of users, and in particular:

- Nationals or foreign travellers;
- Business travellers;
- Tourists, by type of tourists;
- Mobility impaired persons;
- Short stay visitors, long stay visitors.

The CAT should consider various scenarios for the intermodal travellers:

- Peak;
- Off peak;
- Night time;
- Measures in case of disruptions.

Once the framework for the city assessment tool is developed, it should be made available to cities and groups of local stakeholders to evaluate the quality of their local system. This would help to draw their attention to the key elements to be improved.

Information could be gathered by a European platform on this topic, such as a consortium of interested industry federations, or of companies from these industries, or of cities.

The city assessment tool should lead to the definition and the award of a label for intermodal travel for the long-distance traveller in the city. This label would have a triple objective:

- Create a strong incentive for cities to provide efficient intermodal solutions;
- Inform the traveller on the quality of service they will find in a given city and plan their trip accordingly;
- Guide the interested industry actors (event organisers, chambers of commerce, tourist industry) and lead them to improve the situation in their city or in their potential destinations.

This label should first be designed for the travel, events and tourist industry. It could then be adapted, or translated for the general public.

The information gathered to award this label should lead to the establishment of a public database and portal which would make available the city assessment tool, identify the holders of the label in Europe, publish best practice and recommendations, and inform about the indicators and their definition. This data should be used for the creation of a manual for local authorities with recommendations of policies and measures to implement to obtain the level or upgrade it.

Why is this necessary?

The city assessment tool is necessary:

- To create a comprehensive assessment tool with common standards and indicators on the quality of the interface between the long-distance travel network and the urban mobility network, for the long-distance traveller, covering the features of this interface mentioned above, which are currently lacking;
- To be able to assess intermodal services for long-distance travellers and create a benchmark on this;
- To create incentives to improve the intermodal services for the long-distance traveller;
- To inform the long-distance traveller or any interested parties to enable them to improve their journey or the services they receive.

Practice example: Transport benchmarks

This European project aimed to foster best practice in urban transport service provision and was a European Commission initiative. The project built on previous transport benchmarking projects and focused upon developing practical and workable indicators in order to help cities move onto another level of urban transport provision.

Objectives

The objective was to help local and regional actors identify and develop best practice standards in order to identify what and how they might be able to improve their urban transport systems. This initiative helped participants draw practical conclusions about how to achieve more sustainable urban transport systems in European cities. Benchmarking involves three main stages; comparing performance, understanding differences and identifying best practices.

Partners

This European Commission supported project was managed by Transport & Travel Research Ltd (TTR), with support from the International Association of Public Transport (UITP) and the Regional Environmental Centre for the Eastern Europe (REC).

www.transportbenchmarks.eu

Practice example: The Blue Flag Programme

The Blue Flag is an example of international label. It is a voluntary eco-label awarded to over 3200 beaches and marinas in 37 countries across Europe, South Africa, Morocco, Tunisia, New Zealand, Canada and the Caribbean. The Blue Flag Programme is owned and run by the independent non-profit organisation Foundation for Environmental Education (FEE). The Blue Flag works towards sustainable development at beaches/marinas through strict criteria dealing with water quality, environmental education and information, environmental management, and safety and other services. The Blue Flag Programme includes environmental education and information for the public, decision makers and tourism operators.

History <http://www.blueflag.org>

Practice example: BYPAD

BYPAD is the Bicycle Policy Audit, developed by an international consortium of bicycle experts as part of an EU-funded project.

BYPAD is a methodology which allows assessment of the entire quality chain and consists of 9 modules which together ensure a balanced cycling policy. Each module obtains a separate quality score. Together they reflect the quality of the cycling policy in a town, city or region. Based on this quality score a bicycle action plan is prepared. BYPAD considers cycling policy as a dynamic process comprising 9 fields, under permanent development, and influencing each other (see figure below).



www.bypad.org

Where is it applicable?

This would be most efficiently launched at the European level. National initiatives of this sort would be of interest, but should be complementary to a European initiative, or pilots of a future European initiative.

Independent regional initiatives of this kind are not in the scope of this recommendation and are not necessary.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factor
	medium	medium	low	2-3 years	-

This recommendation was subject to an online expert consultation, with 87 % of the experts consulted agreeing or strongly agreeing with it. They are divided on its potential impact, with 46 % considering it can be crucial, while 49 % thinks it would only be low or irrelevant.

Feasibility

The feasibility of implementing the city assessment tool is very high.

Several partners could do it, whether European industry federations, the European Union or group of local authorities; ideally they would group to support this activity. The European Union could create it with a legislative initiative (directive or regulation).

While most of the experts consulted consider this recommendation feasible, a third of them (30 %) consider that it will be difficult to implement.

Potential impact

The potential impact is relatively high in raising the profile of services to long-distance travellers, especially in relation to the cost required for the implementation of this recommendation. The impact depends heavily on the involvement of an important European actor such as a major industry federation, the European Commission, and an association of cities.

The concrete impacts are:

- The creation of incentives for cities to improve the last mile intermodal connection for long-distance travellers;
- The support of the tourist and businesses for this incentives;
- The creation of indicators and a database to assess and benchmark the last mile intermodal connection;
- The creation of a benchmark reflecting the result of the assessment, which creates the incentives for the stakeholders to improve the last mile intermodal connection.

Costs

While the Working Group estimated the financial resources required for this at between 1 and 2 million EUR, at least to kick off the process, the larger group of experts subsequently considered this estimation too high and considered that the recommendation would have a low cost: 46 % believed that the cost of implementation would be between 500 K EUR and 5,000K EUR and 37 % thought it would be less than 500K EUR.

Time for implementation

If the initiative is properly funded, the development of the city assessment tool should not take more than a year. Then it could be implemented during a first testing period of one year.

During two following years, the label could be defined and launched, supported by a first communication campaign, which would conclude the initial launch phase.

A majority of the consulted experts (77 %) confirms that the recommendation could be implemented in less than 5 years.

Interlinkages

- Recommendation 4 “Introduce a new EU funding programme ‘Vasco da Gama’ for long-distance, international Passenger Intermodality” could be the “vessel”, where the guidance on quality standards will be developed.
- Recommendation 9 “Develop and establish city assessment tool and label for long-distance intermodality”. The quality of an interchange could be an important criterion in the assessment.
- Recommendation 10 “Elaborate and establish new business models for effective interchange management”. A good interchange management, with clear defined responsibilities among the stakeholders, facilitates the implementation of quality standards at an interchange.
- Recommendation 11 “Develop a toolkit for a good design of an interchange”. The Toolkit is an additional instrument to the quality standards, which gives in-depth information and provides helping instruments with focus on design aspects, as a part of the quality assurance of the functional elements at an interchange.
- Recommendation 12 “Develop integrated airport accessibility plans”. The quality standards support to define the quality of functional elements, regarding the public transport services at airports.

- Recommendation 13 “Foster intermodal business plans”, could be a key factor to foster implementation of standards.
- Recommendation 17 “Provide early information to travellers about airport links and accessibility”. The quality standards could provide solutions on the information specifics of a multimodal information point located within an airport.
- Recommendation 19 “Foster training and education on Passenger Intermodality”. The guidance on quality standards at interchanges could be an integrated part of training programmes.

Recommendation 10

Elaborate and establish new business models for effective interchange management

Working Group 2 – Interchanges (moderated by synergo and RATP)

Elaboration of new business models for effective interchange management and testing them by application in practice. The models should include possible working profiles and competencies of an Interchange Manager (central figure in the business models), her/his tasks and activities and possible financing models. In the elaboration of the models required, legal requirements would have to be taken into account. The validated models will serve as a base for effective interchange management for national public transport operators, public administrations and other main stakeholders at interchanges all over Europe. Their implementation and tailor-made application to the specific needs at a specific interchange would be in the responsibility of the main actors in each country. The elaboration of suitable models, tested in practice, should be initiated by the EC by installing a Task Force or by including it as a task in the framework of existing research and action programmes.



Source: © Photo SBB

Who should become active?

Initiative: European Commission includes the task in one of the existing research and action programmes or creates a designated Task Force (initiator).

Elaboration: For the elaboration and the test of suitable models in practice the following institutions should be involved:

- Selected experts in the field of interchange management all over Europe (universities, private consulting companies, national and/or regional public transport operators with experience in the topic like: Deutsche Bahn, Swiss Federal Railways, RATP, selected airports, etc.);
- Community of European Railways;
- European Bus Associations;
- European Passenger Federation;
- European Cycling Associations;
- Owners or main institutions of existing interchanges which are ready to test the elaborated models in practice (e.g. cities, national transport operators, regional transport authorities).

Implementation: Implementation of suitable validated models would be by interested national, regional or local public administrations all over Europe and/or of the relevant transport operators or authorities.

Figure 14: Overview recommendation 10 “Elaborate and establish new business models for effective interchange management”



What is it about?

In order to create consolidated new business models, the following steps should be undertaken by a Task Force under direction of the EC; or by integration of the task as a whole in existing or future EC research or action programmes (see section “Who should become active?”):

- *Development of draft new business models (maybe in form of different alternatives) (Step 1)*
This includes the analysis of existing and proposed models (taking into account also the management systems at airports or at selected other transport operators like Deutsche Bahn or RATP) and the development of alternative models, including possible working profiles of Interchange Manager, cost of their activities and possible financing models. The analysis of the legal requirements and the acceptance of the operators at an interchange have also to be taken into account.

- *Test of one or several different business models in practice (Step 2)*
In order to consolidate the models elaborated, these should be trialled and put in practice. How and where this can be realised is a topic which has yet to be investigated at the end of step 1. These test phases should be monitored carefully and evaluated in order to provide a good basis for selecting one or more preferred models for implementation. Institutions from the sector that are members of the task force would be involved in the selection process.
- *Definitive elaboration of one or more suitable business models (Step 3)*
Based on the findings of the test phase, suitable definitive models will be elaborated, the relevant aspects of which have to be considered.

A great challenge will be how the suitable models can be put in practice:

- Will the models have the status of a simple recommendation without mandatory character?
- Or can national governments or other public authorities impose the implementation of such models on the transport operators?
- Can the provision of financing sources be directed to the transport operators and linked to a requirement that the management of an interchange is led by an independent body?

Solutions to these and maybe other questions should be given in the proposed action.

Immediate answers will not be found for every country in Europe. It will be the task of the relevant institutions within each country to adapt the models to their needs and possibilities.

On the base of the main deficits identified in existing management structures at interchanges (see the following section “Why it is necessary?”), a first idea of a new organisational model is presented in the following (see also the following figure). This idea can serve as a base for the in-depth elaboration of new and suitable business models, which is the aim of the present recommendation. The organisational model presented is intended for important long-distance travel interchanges, excluding the largest hubs and airports. Especially at the main important airports in Europe and also in big railway stations (e.g. like Berlin or Munich), the management structure is already well developed and could serve as a “baseline” for the elaboration of new models at interchanges where the railway is the dominant mode.

INTERCHANGE MANAGEMENT COMPANY / INTERCHANGE MANAGER

The *Interchange Management Company* or the *Interchange Manager*⁶⁶ is an independent body with no economic connection to the performance of any single actor.

The main objective of the Interchange Manager is to secure the quality of the services provided and to improve the interchange “as a whole” in order to fulfil the requirements of the clients. He/she sees the intermodal transport chain as a whole and acts to improve it. Therefore he/she is able:

- To *identify and examine all problems* (which are not specific to the activities of a single actor but which are related to the co-operation between them and to the interchange as “one system with different actors involved”); and
- To *provide solutions* in the best interests of all, and notably passengers.

⁶⁶ For a better readability only the term *Interchange Manager* will be used in the following text. The term includes also the meaning of an interchange company because according to the size of an interchange central management activities provided by different persons (and not only from one person) can be appropriate.

The main *tasks* of an Interchange Manager would be:

- To *monitor the quality of service* of the single providers, that means actors of transport and non transport related services at an interchange (by ensuring for example a harmonisation of the information signs to facilitate the movements of passengers);
- To *monitor the quality of service* in the *public areas* of the interchange (safety and security, cleanliness, lighting, etc.);
- To *plan ahead further developments* (by anticipating for example on the development of the area surrounding the interchange or by developing new products and services to meet the needs of the clients of the interchange);
- To *be in charge of the facility management*, like renting floor space for service providers or space for advertising, which can be a valuable source of finance for the interchange (example: in Paris, the station manager can decide which shops she/he wants in the interchange according to the main types of passengers);
- To *ensure the marketing of the interchange* as a whole system with different communication tools (e.g. through a website) in order to “sell” the interchange to the users and further service providers and to make it a “pole of attraction” for the whole neighbourhood.

STEERING BODIES

The steering bodies would be those institutions that are *financing* the activities of the Interchange Manager, *defining* her/his working profile and *controlling* her/his activities. All these aspects have to be defined by contract. The steering bodies may include the National Government, the Region, the Municipality (or the Municipalities), the regional/local Transport Authority, the main transport operators involved at the interchange and others (like passengers associations with consultative status).

Two special issues have to be taken into account by the Steering Bodies:

- *Financing of the activities of the Interchange Manager*
Different solutions have to be taken into account. If possible the whole financing should be “cost-neutral” in the way that a part of the financing, which is actually provided directly from the public authorities to the transport operators, is re-directed to the Interchange Manager. This because her/his duties include overseeing activities which are provided by individual transport operators (for instance monitoring the service quality at an interchange). The amount of financing, the legal possibilities and the “political willingness” and acceptance to “take financing away” from the transport operators have to be developed and illustrated in a business-case which may differ from country to country in Europe.

Financial income can also be assured by generating income from other sources such as renting floor space to shops or wall space to advertisers. The opportunity for each interchange to manage the income generated by the non-transport service providers would improve its capacity for self-financing and for taking decisions, under control of the steering bodies.

- *Empowerment of the Interchange Manager versus the individual service providers*
One of the main tasks of the Interchange Manager is to guarantee the overall service quality at an interchange. On the basis of the defined quality criteria she/he will also monitor the quality of the services of the individual service providers. If those services do not achieve the required quality standards, she/he should have the power to intervene with the service provider.

The steering bodies have to assure that the Interchange Manager is given this power to influence individual service providers. This might cause a problem in the relationship with the transport service providers at an interchange. The relationship, duties of the parties and the consequences of not accomplishing the contractual levels of performance have to be defined contractually between the Interchange Manager and the service providers. Contractual aspects have to be taken into account in the development of suitable business models.



Source: © Photo SBB

SERVICE PROVIDERS (Actors)

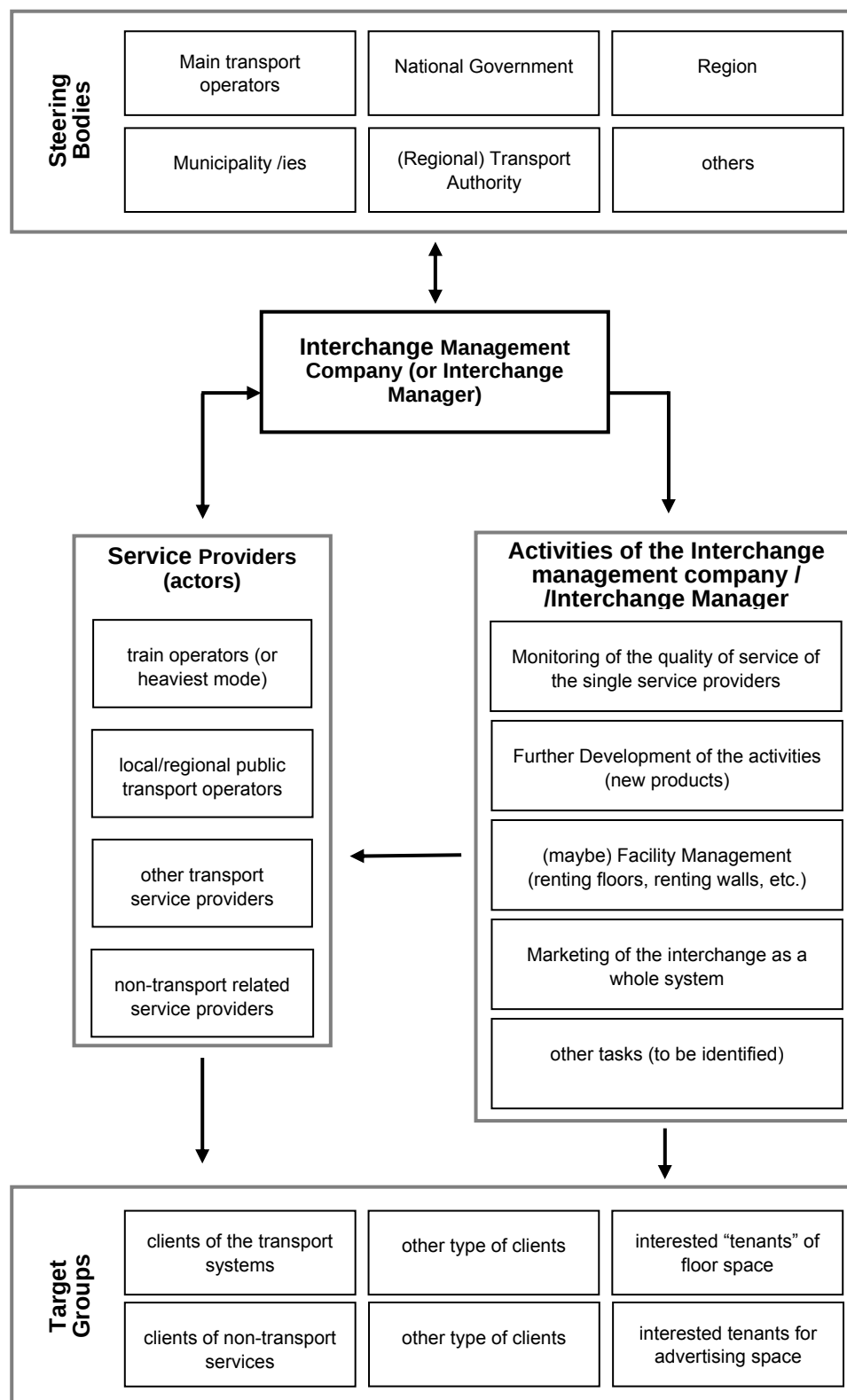
The service providers are the main actors at an interchange. They provide the services to the users and manage the *daily business at an interchange*; and include train operators (or the operator of the “heaviest” mode at an interchange), regional/local public transport operators and other transport service providers (private coaches, taxis, CarSharing, CarRental, BikeRental). In addition there also non-transport related service providers (coffee shops, flower shops, restaurants, tourism information centres etc.).

TARGET GROUPS

The target groups are the end users of the transport and non-transport related services at an interchange. But in addition and from the point of view of the Interchange Manager future service providers (transport and non-transport related) are also an important target group to consider. The target groups can be classified as follows:

- *Clients of the transport system:* These are the main group which are the “reason to exist” of the interchange. They are most especially clients of the transport service providers, but may also be clients of the shops. Whether they are regular commuters or occasional users, they deserve the full attention of all the providers. Those who are only occasional users need even more assistance and more information.
- *Clients of the non-transport system:* These are living in the neighbourhoods and are especially interested in the services provided by the shops (although at other times the same individuals may use the interchange for travel reasons). Although they are using the interchange like any other “shopping centre” and not as a connecting structure from one mode to the other, yet aspects such as accessibility should also be provided effectively and take in consideration the needs of this type of clients. The Interchange Manager, as the institution which has an overview of the system as a whole, must pay special attention also to this type of users in order that their needs are fulfilled.
- *Tenants of floor space:* These are the shop-keepers, retailers, etc., who rent space in the interchange for their commerce and who are therefore a substantial source of income for the interchange. Advertising both to the passengers and to the neighbourhood is essential for them as it ensures a constant flow of clients to them and enables them to thrive.

Figure 15: New organisation profile – key elements



- *Tenants of wall space*: Although less obvious, this activity is very profitable and brings income to the interchange. So they are also an important target group to be considered by the Interchange Manager.
- *Other types of clients, for example, non-users of the transport system*: those people who are non-users of the interchange because of the lack of safety, lack of information, lack of transfer between different transport modes, but who are necessary to increase the public transport demand.

Why is this necessary?

During the LINK Working Group Meeting held in Madrid in March 2009 experts in this field highlighted the following main deficits in the management of interchanges:

- Too often *municipalities are not involved*, although they are the closest governing authority to the interchange.
- *Passenger associations* are at best consulted for the building of an interchange, but are not *really associated* to its management.
- *Each actor* is focused on *its own field of activity* and there is *no real collective thinking*: the interchange is most of the time the juxtaposition of different stations, without a proper organisation or a holistic plan.
- A consequence of these individualistic attitudes is that *responsibilities are not clearly defined* and that "*grey zones*" or sorts of "*no man's land*" remain where the responsibilities among the actors are not clearly defined.
- Therefore each actor can introduce *redundant alteration works*, whereas a global management would in the end reduce the costs thanks to a careful planning of the adjustments needed.
- Transport demand is constantly increasing, and in order to face it and provide an improved offer, a *management with a broad overview* would help to meet this challenge and would facilitate further improvements of the interchange.

Current situation in selected European countries:

- In *Spain*, each operator manages its own space inside the interchanges. Only for the interchanges that are controlled by the Transport Authority of Madrid, is the overall management directed by an external company put in charge by the authority.
- In *France*, in long-distance train stations it is often the same situation like in Spain (exception in Paris, see therefore the following practice example).
- In the UK the interchange itself is often neglected, as each company looks first after its own field of activity before thinking globally.
- In *Sweden*, the national government looks after the buildings, but no one is responsible for the maintenance of the spaces, which are little by little falling down as the operators are too intent on competing against each other. Passenger Federation is in favour of a European law that has been passed and which recommends that one unique responsible body should be designated for each station.
- In *Switzerland* the Swiss Federal Railways (SBB) manages most of the interchanges and often owns the properties and the land where the interchanges are located. There are conflicts of interest due to the differing priorities of the Real Estate- and the Passenger Transport Divisions.

So it seems that the present management of many interchanges is deficient in several fields and that this situation calls for an improvement, if not a drastic change.

New business models have to be set-up, with an Interchange Manager at the centre of the activities, and given the necessary responsibilities and financial means to enable him to provide a better day-to-day overall management and to have a clearer view on future improvements.

Practice example: Site managers and site committees - the Paris example

Within the RATP Network in Paris an interchange manager is responsible for a single interchange. Normally the interchange manager in charge is represented by the heaviest mode passing through a single interchange. Examples of big interchanges where RATP provides the interchanges manager are La Défense, Châtelet or Gare de Lyon. The interchange manager chairs a site committee, which meets regularly (in the case of Gare de Lyon the chairmanship is alternatively hold by SNCF and RATP, in order to have a fair balance between the two companies). The site committee consists of:

- a representative of each mode of transport, who have authority to take decisions (e.g. closures of access),
- a representative of other entities involved in the interchange, like shop keepers or car parking managers,
- in some specific interchanges, or at specific meetings, representatives of the local authority or firms mandated to work at interchanges also take part in the committee.

The interchange manager must deal with any problem that arises at an interchange, be it passengers' safety and security, planning of the works on accesses, passenger information for any disruption that may occur, cleaning of the interchange, opening of new facilities or shops. She/he has the power to take immediate decisions if needed and/or can convene exceptional site committee meetings if the problems have an impact on modes not operated by RATP. In general, the interchange manager in the case of Paris is responsible for maintaining and enhancing the safety, well-being and comfort of the users of an interchange.

How site committee meetings at interchanges help dialogue and solve problems

A simple action which increased travellers' comfort has been set up at the Gare de Lyon interchange thanks to decisions taken during one of the quarterly "site meeting":

The context:

The Gare de Lyon interchange is operated by two different companies: RATP and SNCF. The site is composed of four different levels, each dedicated to one mode of transport and under the management of the company operating that mode.

The problem:

RATP staff working at level (n-1) had noticed that the escalators bringing travellers up from level (n-2) to level (n-1) were not running in the early hours of morning (from 5:00am till 9:00am), but this problem seemed to solve itself later in the day. Nevertheless, it meant that people carrying luggage and wanting to get to the main line trains or the metro had to walk up the flights of stairs. As the interchange is very big, with many exits and equipped with many escalators, it took some time to notice that none of the escalators was working in the morning.

The explanation:

This problem was brought up during the next quarterly meeting: SNCF, in charge of that part of the site, found out that the firemen, who run all the station and check security, shut down the escalators at the end of passenger service at night (1:00am) and that they did not reactivate them until their mid morning patrol, between 9:00am-10:00am !

The solution:

It was easy to solve this problem and to ask SNCF staff to use the same procedure as the RATP staff:

The SNCF staff so far was not authorised to deal with the escalators, but the firemen gave them a short training course and gave them the special keys so that they could start all the escalators just before the arrival of the first train at 5:00am.

This dysfunction could have lasted longer if the staff had not been used to paying attention to problems arising in another company's area, and if site committees, whose part is to facilitate dialogue between the different companies of the interchange and exchange experience, had not been implemented.

Website: www.ratp.fr

Contact person: Mr. Francis Vincent, RATP, Directeur des Gares RER Ligne A (e-mail: francis.vincent@ratp.fr)



Source: RATP

Where is it applicable?

The in practice validated models will serve as a base for new effective interchange management for national public transport operators, public administrations and other main stakeholders at interchanges in every country all over Europe. Their implementation and tailor-made application to the specific needs at a specific interchange is in the responsibility of the main actors in a single country.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time
	high	low	high	max. 4 years

This recommendation was subject to an online expert consultation in spring 2009. 80 % of the experts stated, that they strongly agree (22 %) or agree (58 %) with this recommendation.

Feasibility

The feasibility of the elaboration of the business models should be high. On the basis of existing good solutions, new models can be elaborated. At the moment it is difficult to judge if pilot interchanges can be found in the test phase at which to test the business models.

In the expert consultation, most experts (51 %) considered the feasibility to be medium, while 17 % saw a high feasibility, and 32 % stated that they would expect the feasibility as difficult⁶⁷.

Potential impact

The potential impact once the business models are applied in practice (that means at specific interchanges in Europe) is considered as high. A well organised and managed interchange, where task assignments between Interchange Managers and individual service providers are clearly defined, contributes to raising the attractiveness of the interchange for the single users which leads to an increase in the use of an interchange.

In the expert consultation, 34 % of the experts would consider the impact as high and 44 % as medium, if this recommendation was realised.

Costs

⁶⁷ It might be that the experts included in their opinion the fact that the regular implementation of new business models might be difficult. This can hardly be judged at the moment and was not subject of the consultation.

The costs for the development, testing and consolidation of suitable business models are estimated as low. Although at this stage it is difficult to estimate quantitative costs, they should be in between 200,000 and 500,000 EUR (including the salary costs of an interchange manager at two model interchanges for the trial period of two years).

Time for implementation

The time for the elaboration, testing and final consolidation of new business models should not exceed 4 years: 1 year elaboration of business models (step 1), 2 year testing phase (step 2), 1 year consolidation of the models and dissemination (1 year).

The time for implementation of the consolidated models cannot be estimated because it is up to the actors in individual countries, regions or cities to decide if and when they implement new management models at specific interchanges.

In the expert consultation, 41% of the experts considered that the recommendation could be realised in 3 to 5 years.

Interlinkages

- Recommendation 4 “Introduce a new EU funding programme ‘Vasco da Gama’ for long-distance, international Passenger Intermodality” could be the “vessel” where business-models for interchanges will be developed and tested in practice.
- Recommendation 8 “Create common quality standards for interchanges”. A good interchange management with clear defined responsibilities among the stakeholders facilitates the implementation of quality standards at an interchange.
- Recommendation 9 “Develop and establish city assessment tool and quality label for long-distance intermodality”. The quality of the interchange management scheme could be an important criterion in the assessment.
- Recommendation 11 “Develop a toolkit for a good design of an interchange”. A good interchange management with clear defined responsibilities among the stakeholders facilitates the consideration of design aspects in the planning and building of interchanges.
- Recommendation 13.1 “Develop framework methodology for quantification and monetary assessment of impacts in business plans”. Could provide an important basis for better interchange management that involved a variety of stakeholders.
- Recommendation 13.2 “Establish long-term flexible profit sharing arrangements as basis for investments” could be a key factor to foster implementation of standards.
- Recommendation 19 “Foster training and education on Passenger Intermodality”. Effective business-models for interchanges could be an integrated part of training programmes.

Further examples/sources

- Station Management at Deutsche Bahn, Germany:
http://www.deutschebahn.com/site/bahn/de/unternehmen/konzernprofil/geschaeftsfelder/dbnetze/personenbahnhofe/db_station_service.html (last access at 01.07.09)
- Interchange Programme at Transport for London, UK
<http://www.tfl.gov.uk/corporate/projectsandschemes/2323.aspx> (last access at 01.07.09)
- Interchange Programme at Consorcio Regional de Transportes de Madrid, Spain
http://www.ctm-madrid.es/servlet/CambiarIdioma?xh_TIPO=12 (last access at 01.07.09)

Expert support in developing this recommendation: Francis Vincent, RATP, Paris, France

Recommendation 11

Develop a toolkit for a good design of an interchange

Working Group 2 – Interchanges (moderated by synergo and RATP)

Creation of a standard Toolkit (preferably an interactive and web-based version) for stakeholders responsible for certain aspects of an interchange to get a better grasp of how an interchange must be designed. The aim of the Toolkit would be to help stakeholders to understand the important principles of good interchange design which should be taken into account. The European Commission in close co-operation with UITP, UIC and sponsors should initiate the development of the Toolkit and its dissemination. The work itself should be done by a Working Group of experts with a high level knowledge on design of interchanges.



Source: © Photo SBB

Who should become active?

Initiative: The European Commission, in close co-operation with UITP, UIC and sponsors, should be the initiators of the development of the Toolkit. The principal task would be to launch a Working Group of experts which would be responsible for the elaboration of the Toolkit and secure the financing.

Elaboration: The Working Group should include following type of institutions:

- Selected private experts (architects, urban planners, designers, engineers, human scientists) or other organisations with experience in interchange design;
- Selected experts within national railway operators and/or regional public transport operators which already have good design principles/standards for the (re-) building of interchanges.

Implementation: The Toolkit would serve as a practical instrument for all stakeholders involved in the planning and building of an interchange. It would be their own responsibility to use the Toolkit elements for their own work.

What is it about?

The design of an interchange includes all type of measures to make sure that interchange users (passengers, passers-by, staff of networks, retailers, products and service suppliers) “feel good” during their stay at the interchange. That means that interchange is well maintained and radiates a friendly, comfortable and secure atmosphere.

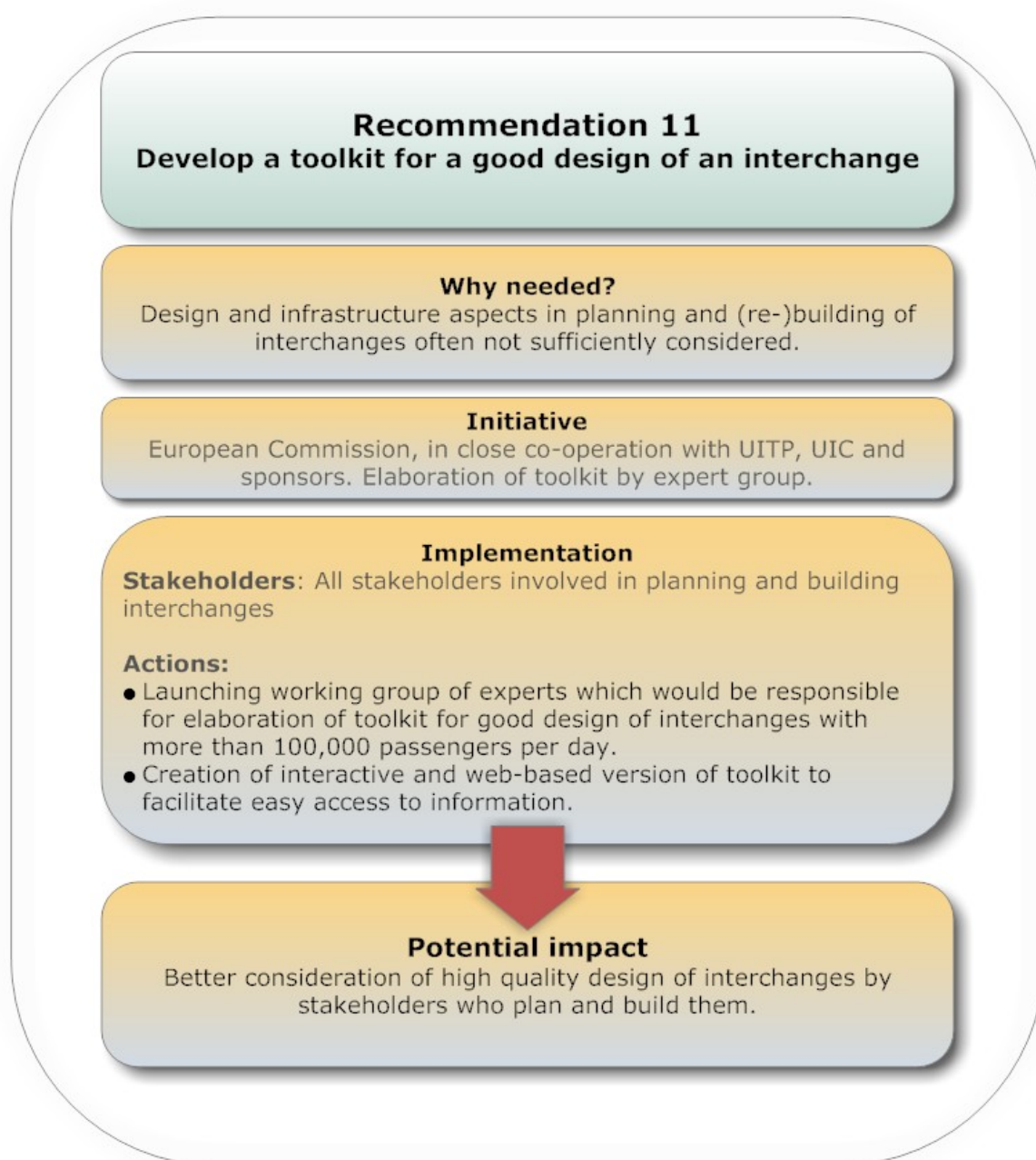
Given the budgetary impact of an interchange it seems also essential to build it with a vision for the future, bearing in mind the growth of the city and people's rising expectations on mobility, sustainability, safety and security as well as on other urban facilities and services.

In order to improve and spread out the existing knowledge of good interchange design all over Europe, the development of a “Toolkit for a good design of an interchange” should be envisaged.

The Toolkit should include following components (others will be identified by the Working Group to be installed):

- A video with best practice examples of interchanges, focussing on design aspects;
- A document addressing the basic principles of good design, visualized with existing examples of good application of the single principles;
- A self-assessment-tool for judging the quality of an interchange in terms of design;
- An instrument for collecting feedback from interchange users regarding the quality of the design at a specific existing or planned interchange.

Figure 16: Overview recommendation 11 “Develop a toolkit for good design of an interchange”



In practice we suggest the Toolkit to be holistic and to cover the following aspects:

- *Location and size*: This implies research on the optimal location of a big interchange, given the location of the network, future growth requirements, user needs, operational cost etc.
- *Intermodality and civil engineering*: This implies research on the requirements of and synergies between the different modes of transport, the passenger flows that coincide in the interchange i.e. research on the flows of passers-by (intelligent transport systems, passenger flow modelling) and intelligent stations.
- *Sustainability*: What to think of when designing an interchange in order to make it adaptable to changing needs/constraints (evolution), to increase its economic performance and limit or and reduce pollution? How to keep the interchange attractive? How to design it in order to make it CO₂ emission free?
- *Safety and security*: What is the optimal balance between technology (intelligent stations) and soft safety and security measures? How to strike a balance between human presence and the operator's and security staff, but also with shops (with extended opening hours)? How and where to close the passenger areas, the functional areas and the commercial areas from one another?
- *Retail*: What are the preferred types of shops to provide in the interchange in order to strike a balance between customer needs, revenue for the station/real estate owner and retailer's profit?
- *Design and architecture*: How to develop intelligent interchanges? And listing examples of best cases and recommendations on space layout, provision of clear lines of sight and convex spaces (no dark corners), daylight where possible with a "good use" of glass as material. How to provide a well balanced application of artificial light (having an artificial light concept)? How and where to create a "restful" atmosphere with green plants, arts, water or music? What are the materials and colours to use to limit the annual maintenance/repair cost bearing in mind ageing, destruction and vandalism?
- *Passenger needs*: What are their needs in terms of comfort, accessibility, usability, convenience, retail and service facilities? What are their aspirations in terms of entertainment/leisure/relaxation in practice? What shops/services to provide given the needs of the neighbourhood/environment and passers-by? How to provide comfortable and secure accessibility to the interchange for all types of users?
- *Signage and information*: What levels of information to provide (e.g. tourist, safety, personal contact with staff etc)? How to strike a positive balance between functional and commercial information?
- *Logistics, operations and maintenance*: What elements to think of when designing the different parts of an interchange in order to make it easy to operate, robust, resilient and functional, both for public transportation operators, facility managers and other daily users? How to design it so as to provide for optimal functioning of the non-visible activities to customers: catering, supplies and spare parts areas, cleaning of coaches and locomotives, staff rest and shower areas, etc.?
- *Synergies with third parties*: What type of services should be added to (or hosted by) each type of interchange (or its surroundings) to boost its functionality, sustainability and performance?

Given the global/international scope of the research, the proposal is to focus on interchanges that welcome more than 100 000 passengers per day and which combine high speed, regional, commuter and urban public & private transport.

The whole Toolkit should be developed as an interactive and web-based instrument in order to guarantee a comfortable access to all type of interested users, especially all type of users which are involved in the planning or the (re-)building of a specific interchange. Furthermore the Toolkit has to be regularly updated and relevant organisations like UITP or UIC should be involved in promoting the Toolkit among their members.

The European Commission, together with UITP, UIC and other expert organisations, should take the initiative in order to finance and install a Working Group of experts which will elaborate the Toolkit (see section “who should become active?”).

The design of an interchange is the sum of all the disciplines required to conceive and give shape to the interchange itself. Commonly it is possible to sort those disciplines according to their function in the *Global Design* of the interchange, using conventional coarse categorization as:

- *Territorial Planning disciplines:* Geography, Urban/regional Planning;
- *Engineering disciplines:* Civil Engineering, Mechanical Engineering, Electrical Engineering, IT/data Engineering;
- *Architectural disciplines:* Architecture;
- *Design disciplines:* Communication Design, Interior Design, Product/Equipment Design.

See also figure “Six requirements for a good interchange” on the next page.

The Global Design of the interchange requires the contribution of several of those disciplines, with different emphasis and combinations according to the type of interchanges to be designed. A *tram stop beside a taxi stand* forms a public transport interchange, but its design would require a much lighter combination of design disciplines than a *long haul train station connected to the underground or metro on a ferryboat port with several bus stops close by*. The mix and preponderance of each design discipline in the Global Design of an interchange depends both on the size and complexity of the interchange.

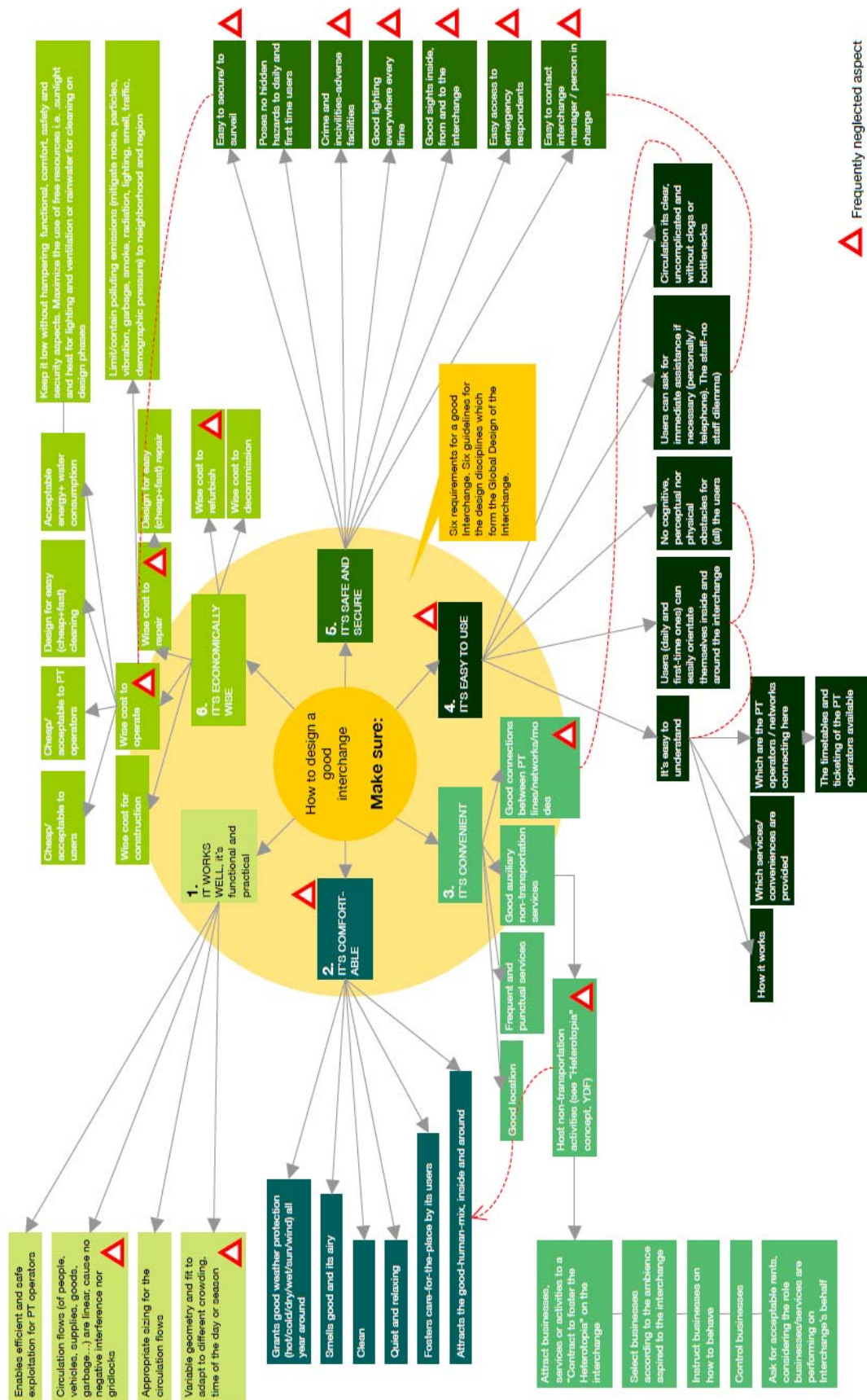
The form used to coordinate the contribution of the several design disciplines in the Global Design of the interchange greatly affects the final product. An interchange designed with a predominant Civil Engineering contribution will be structurally distinctively and functionally, but will probably miss the capability to attract and please travellers. Conversely, a design mix where Interior Design reigns and little contribution is made by civil engineers will probably result in a pleasant but impractical interchange. Likewise, architects might not pay due attention to the IT/data requirements of a complex interchange, if not assisted by engineers.

The correct balance of each contribution to the Global Design is a fundamental tuning that should be tailor-made to each Global Design enterprise, but some general useful guidelines, suitable for all design disciplines, can be compiled.

Travellers (the *raison d'être* of interchanges) use transport facilities without concern for those issues if their travel routine is smooth, unstressed and pleasant – if the interaction with the interchange runs trouble-free. In abstract terms, the product of each design discipline forms a shell around the individual traveller that shapes the interaction of the individual with the interchange. Several shells, juxtaposed in layers, shape the traveller's overall experience. Those shells place themselves in consecutive layers according to their *proximity* to the human traveller (see figure below). According to this model it is possible to attribute a structural role to the outer shells, determining the way the interchange is built and works, and to recognize at the inner layers the role of mediating and cushioning the relationship of the human traveller with the infrastructure. Outer layers are fundamental to ensure a functional interchange and inner layers are essential to ensure travellers, and other interchange users, really use it.

Recommendation 11: Toolkit interchange design

Figure 17: Six requirements for a good interchange (Source: YDesignFoundation)



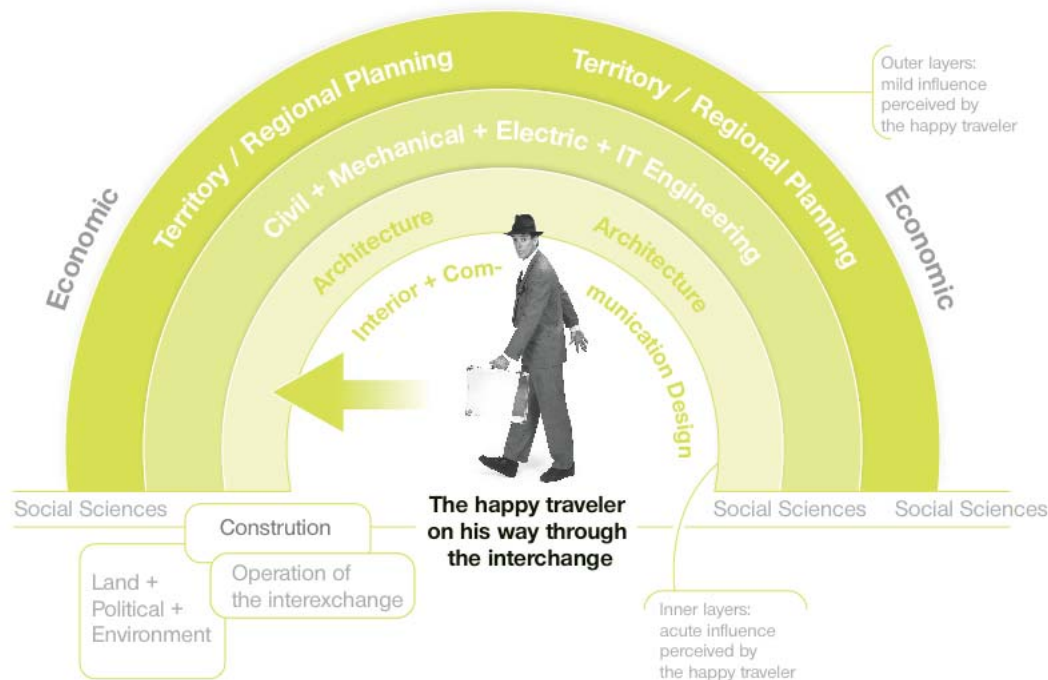


Figure 18: The Happy traveller (Source: YDesignFoundation)

To combine the wishes, needs and requirements (interests) of all stakeholders is difficult, if not impossible. Ultimately a good or bad interchange is determined by the level of satisfaction obtained by each of its stakeholders when comparing their interests to what the interchange provides. The Global Design of an interchange is a strategy long ago created to provide a satisfactory answer to those frequently dissonant and always demanding interests of the stakeholders - to design a complex product using specially trained professionals.

Public transportation interchanges have many stakeholders, some of them “hidden”, indirect or with little influence on the design phases.

Bad designs are those that are not able to combine the diverse interests of all stakeholders (visible or “hidden” ones) in a functional, appealing product. Some of the common reasons for bad designs are:

- Designers themselves are stakeholders in the design enterprise;
- Stakeholders called to participate in initial briefings and definition of product requirement are not those who operate/use/drive the product;
- Strong power/influence discrepancy among the set of stakeholders participating in the definition of product requirements;
- Great concern with the building and construction of the interface, but little care about the design of its maintenance over the lifecycle – common when design and construction are by the same contractor;
- Wishes and needs of “hidden” or weak stakeholders being underestimated or unknown –little time spent on investigation of initial design phases. Travellers and neighbourhoods are commonly misrepresented/ignored;
- Underestimation of potential social or environmental effects generated by the operation/use/drive of the product among misrepresented stakeholders.

Why is this necessary?

For many city authorities and even sometimes also transport authorities the construction of an interchange for in excess of 100 000 passengers/day is not a frequent activity, in most cases it can be even a once in a lifetime job. Therefore this recommendation aims to summarize and improve the knowledge in considering design and infrastructure aspects at interchange for all the relevant stakeholders in Europe involved in the planning and (re-)building of interchanges. We include elements such as location and infrastructure since they have an impact on the design of the interchange. The Toolkit would serve as a “practical instrument” composed by different players, to help convince the stakeholders about the importance of ensuring high quality design at an interchange.



In reality, design aspects are often not or hardly considered; the reasons are for example:

- Lack of “design know-how and awareness” among the stakeholders or different views with regard of its importance (e.g. different transport operators, municipality, region);
- Site constraints and conditions (e.g. lack of money);
- Conflicting objectives between the different stakeholders and unwillingness to co-operate;
- Absence of a holistic responsibility for the interchange;
- Changes of responsibility during the planning phase of an interchange (e.g. new administrations, new operators).

Present guidelines often focus on the range of functional elements that have to be considered at an interchange, but less on how they look and “feel” and their quality (and here design plays an important role).

The toolkit we would like to develop would cover all aspects of the building/renovation of a station step by step in a descriptive rather than a prescriptive way.

Practice example: Passenger’s interaction website of ProRail and NS-Dutch rail

The website serves as an instrument to obtain feedback from passengers on the visible aspects of stations. Elements and initiatives that are considered positive by the stakeholders are next applied to stations in different cities in the Netherlands. Mijnproefstation.nl stresses the effort of NS to make travel as comfortable and smooth as possible. It explains and asks for feedback on *visible measures* that have an impact on *travellers* from a *security* point of view: the need for access gates to the platforms, the introduction of led-lit tiles on the platforms, the pictogram on the escalators to indicate ‘walk here’, etc.

The website also interacts with *possible retailers* in order to engage them in a closer shop/retail-community spirit rather than just considering their own shop as a stand-alone unit. This attitude is important as more and more is asked of retailers to contribute to a *better-perceived security by travellers*.

The website doesn’t interact with any stakeholders (engineers, building companies, real estate developers, sustainability experts, etc) as regards the non-visible part of the station, such as the financing of the initiative, the architecture, the best location given future developments and needs of the city, given the presence of the different networks and nodes. The website doesn’t indicate either how one could access the station by car, find a parking space, go to platform X to travel by high-speed or intercity train to city ABC.

The merits of the website are substantial though. It is a cheap way to obtain feedback and to involve passengers in their future station, which in turn is likely to foster positive passenger participation.

It can be considered a good web-based application to foster community participation regarding station building.

Website: www.mijnproefstation.nl

Where is it applicable?

The Toolkit could be used as a practical instrument for all types of interchange planning and construction projects all over Europe. Which of the elements provided by the Toolkit to use would be in the responsibility of the stakeholders at a specific interchange project.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factor
	high	low, <600'000 EUR	high	<2 years	-

This recommendation was not subject to an online expert consultation. The assessment relies on the assumptions of the WG leader and the supporting experts.

Feasibility

The feasibility of the development of a Toolkit and its dissemination should be high, especially when experts with high interchange-design skills become members of the Working Group to develop the Toolkit. These can bring their own knowledge and experience in order that the single elements of the Toolkit can be elaborated in an effective way and with a high quality.

The dissemination of the Toolkit would be easy, including the most important public transport organisations at European and even international level, like for example UITP.

Potential impact

The potential impact of the Toolkit will be high if its content is used in practice. In practice means that stakeholders who are in charge of the planning and (re)building of interchanges take into account design aspects included in the Toolkit. Of special importance therefore are the principles of good design.

Costs

The costs of the development and the dissemination of the Toolkit are considered low, that means less than 600 000 EUR. Beyond the necessary working time, the technical construction and implementation of the website (depending on how sophisticated it will be) and the production of the videos of best-practice examples are the most important cost factors.

Time for implementation

The development and the dissemination of the Toolkit can be realised in less than 2 years once the financing is assured and the Working Group is defined.

Interlinkages

Interlinkages with other LINK recommendations:

- Recommendation 4 “Introduce a new EU funding programme ‘Vasco da Gama’ for long-distance, international Passenger Intermodality” could be the “vessel” where the Toolkit will be elaborated.
- Recommendation 8 “Create common quality standards for interchanges”. Design aspects can be included in the quality standards for interchanges. The Toolkit will be an additional and practical instrument for stakeholders focussing on design aspects of the single functional elements of an interchange.
- Recommendation 9 “Develop and establish city assessment tool and quality label for long-distance intermodality”. The quality of the design of interchanges could be an important criterion in the assessment.
- Recommendation 10 “Elaborate and establish new business models for effective interchange management”. A good interchange management with clear defined responsibilities among the stakeholders facilitates the consideration of design aspects in the planning and building of interchanges.
- Recommendation 13.1 “Develop framework methodology for quantification and monetary assessment of impacts in business plans” could be a key factor to foster implementation of interchange design principles.
- Recommendation 19 “Foster training and education on Passenger Intermodality”. The Toolkit with its contents could be an integrated part of training programmes.

Further examples/sources

- Transport for London (TfL): Interchange Best Practice Guidelines (www.tfl.gov.uk/interchange)

Expert support in developing this recommendation

Anne Leemans, Yellow Design Foundation, Brussels, Belgium

Recommendation 12

Develop integrated airport accessibility plans

Working Group 3 – “Last urban mile” (moderated by POLIS)

Definition of integrated airport accessibility plans for all airports, to encourage smoother intermodal links between air travel and surface access to the airports and between the various modes for land access to the airport. Accessibility planning is a necessary condition to implement intermodal solutions for airport links and efficiently support their use.

Who should become active?

Initiative: relevant regional/local public authority, which should also approve the plan once it has been prepared. Depending on the policy and legal framework, the planning process can be led by other entities such as the airport operator.

Implementation: The process should be led by the regional authority but a structured co-operation between all stakeholders is required. These stakeholders include:

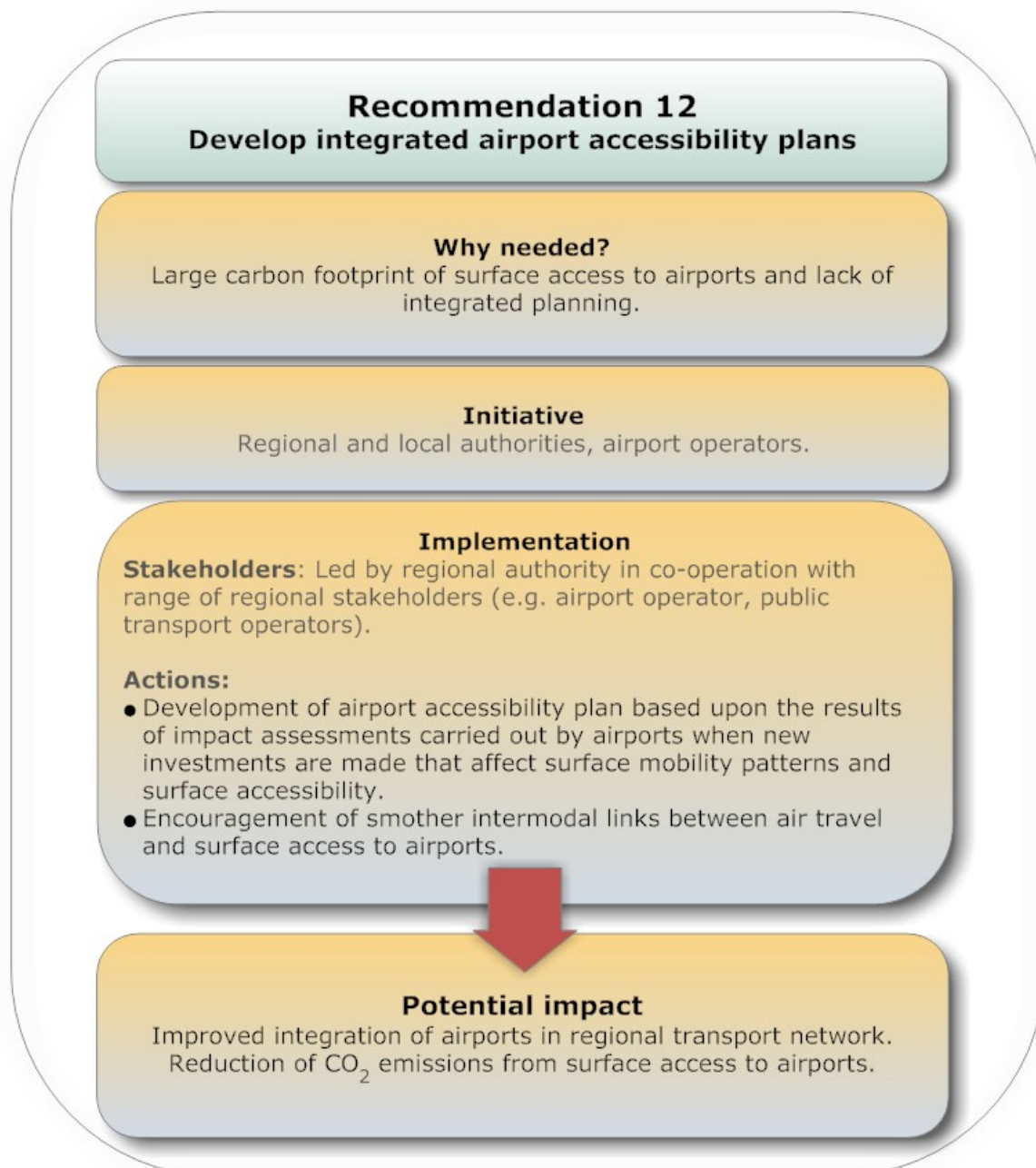
- Airport operators;
- Other regional and local public authorities;
- Public transport operators: local public transport operators, train operators;
- Employees and unions of the airport;
- Airlines;
- Road authority;
- Chambers of commerce, businesses (regional, airport businesses).

What is it about?

The recommendation is about how best to organize the accessibility of airports for all categories of persons travelling to and from these hubs, while minimizing the impact of this travel on the environment and optimizing the position of the airport as an intermodal hub in the surroundings transport networks. Defining accessibility plans maximises intermodality, between air transport and surface access modes of transport and between various land transport modes accessing the airport. It particularly targets regional actors and aims to make sure that airports are integrated with European and national transport networks. An accessibility plan should be developed on the results of impact assessments carried out by airports whenever new investment is made affecting the mobility and accessibility of the airport, including investment likely to increase travel from and to the airports. The aim of the plan is to organize accessibility to the airport while supporting local policy objectives such as economic development, reducing congestion and environmental objectives.

The process leading to the definition of the plan will include several steps and consider a broad range of issues. The planning process will help decide whether or not these issues require actions in the plan.

Figure 19: Overview recommendation 12 “Develop integrated airport accessibility plans”



The main challenges to be addressed during the planning process include:

- Develop the airport as intermodal hub for the region and as a gateway for the regional transport system:
 - The quality of public transport services from and to the airport, including reliability, good information provision or integrated ticketing;
 - Co-ordination of surface transport accessibility and air transport timetables;
 - Integration with local, regional, national and international transport networks; integration with regional transport networks and transport nodes, assessing the contribution of the whole network to accessibility (park and ride at regional train stations, etc.).

- The business model of the airport:
 - The structure of its revenues and how it influences modal split for the airport accessibility;
 - The funding of possible intermodal links and related public transport services;
 - Parking at the airport, space allocated to parking, number of parking places, parking fees;
 - An integrated approach to the pricing of transport services related to airport accessibility, encouraging the use of sustainable modes of transport for travellers to access the airport;
 - The various groups of airport users ;
 - The potential growth of the airport, in particular in terms of growth of air traffic.
- The various groups of users and the need to consider them as different target groups when planning accessibility: domestic travellers, international visitors, business trips, social trips, regular and occasional travellers, airport employees, meeters and greeters, etc. Also local, regional and long-distance surface transport passengers, if the airport is also to function as a surface transport hub.
- Potential growth of air traffic.
- Environment: impact on the environment of surface access in regards to CO₂ and local emissions to address noise and air quality.
- Traffic flows and congestion.

Integration between airport accessibility, urban and regional transport planning is necessary. This should take into account land use planning and population density. Regional transport nodes, which can accommodate park and ride, must be considered, as the regional airport should be considered as a gateway for the regional transport system. The potential to support sustainable intermodal journeys can be best exploited in this way.

The outcome of the planning process is an integrated airport accessibility plan approved by the political assembly of the regional authority.

It should be noted that some regions had considered the possibility of restricting the authorization for airports to increase their volume of air traffic to an equivalent decrease of CO₂ emissions related to airport access. The court has condemned this approach, as airport accessibility is beyond the responsibility of the airport manager. Airport accessibility plans are therefore even more important to answer the challenge of growing air traffic and climate change, encouraging travellers to use sustainable modes of transport.

Why is this necessary?

Intermodality can reduce the carbon footprint of surface access to airports. About 50 percent of carbon emissions related to airport activity result from airport surface access.⁶⁸

Integrated accessibility plans also allow the issue of the local emissions related to noise and air quality to be tackled, as well as the challenge of maximizing the use of space by integrating land use planning and airport accessibility planning in the relevant territory.

⁶⁸ Intermodality in airport regions, Airport Regions Conference, 2009 www.airportregions.org

Practice example: The development of Catalonia smaller airports

Catalonia is supporting the growth of air traffic at its smaller airport Reus and Alguaire (Lleida). An accessibility plan has been developed for both airports; that for Alguaire is just being inaugurated.

The mobility plan includes strategies for parking tariffs, planning encouraging alternatives to the private cars for accessing the airports, but in both cases also taking into account the absence of rail links.

For both airports, bus schedules from and to the airports are adjusted to flight schedules. Efforts are made for the integration of the bus fare with local transport networks. For instance in the case of Reus, the bus fare is entirely integrated with Reus public transport network, and partially integrated with public transport on the coast of Tarragona.

Practice example: Gatwick airport surface access strategy and action plan

Gatwick airport surface access strategy addresses the key elements of an integrated airport accessibility plan. Adopted in 2007, it set as objectives working with stakeholders and business partners to:

- Reduce the rate of growth of trips by private car and taxi to and from the airport by encouraging greater use of public transport;
- Ease congestion by better traffic management and implementing strategic road improvements;
- Manage on-site traffic emissions.

The access strategy was followed in 2009 by a surface access action plan.

www.westsussex.gov.uk/ccm/content/roads-and-transport/major-projects/gatwick-airport-surface-access-strategy-2007---surface-access-action-plan-december-2009-pdfs.en

Where is it applicable?

This is applicable for all airports. The recommendations particularly target national and regional public authorities. It is particularly important for regional airports expanding their traffic and investing in significant expansion plans.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factor
	medium	low	high	1.5-2 years	-

This recommendation was not subject to an online expert consultation. The assessment relies on the assumptions of the WG leader and the supporting experts.

Feasibility

The main challenge is to bring together stakeholders, in particular the public authority, the airport operator, businesses and operators, during the planning process. Rising environmental constraints and awareness are likely to encourage this co-operation.

Potential impact

The impact is potentially very important in terms of CO₂ reduction. It could allow the impact of expected growth of air traffic to be mitigated by the improvement in airport accessibility. It should also contribute greatly to the integration of the various regional transport networks as the airport becomes an important regional hub.

Costs

The cost of the planning process is reasonable, as it does not require any heavy investments or technological development. More than the absolute cost of the planning process, what is important is that these costs are anticipated and budgeted realistically. This is a condition for the success of the definition of the plan.

Time for implementation

Three phases are distinguished for the implementation of this recommendation:

1. In some regions or Member States, it is necessary to prepare the policy/legal framework allowing the preparation of airport accessibility plans, creating or convening a structure for preparing the plan. The time required for this can vary greatly between a few weeks and over a year.
2. The planning process in itself would probably not last less than a year, as it requires stakeholder consultation and various meetings, as well as study of issues related to accessibility.
3. The adoption of the plan by the political regional assembly requires a minimum of time, typically between one and 6 month.

It should therefore be expected that the time between the launch of the process and the final approval of the plan is unlikely to be less than 18 months.

As for the implementation of the plan, the implementation of governance related measures and economic incentives could be achieved in the short term (1 year), the development of services on the midterm (1-2 years) and the creation of new infrastructures on the long term.

Interlinkages

Interlinkages with other LINK recommendations:

- Recommendation 8 "Create common quality standards for interchanges" could contribute to the development of sound Airport accessibility plans.
- Recommendation 10 "Elaborate and establish new business models for effective interchange management". Airport accessibility plans should contribute to the definition of new business models for the effective management of interchanges. Indeed, by including a broader catchment area of the airport, considering interchanges on the whole local network in relation to the airport, it broadens the perspective to define business models of airport connected interchanges. The insertion of airport in carbon emission trading scheme may, depending to the evolution of the legislation, whether for instance rail interchanges in airport are considered and managed by the airport manager, contribute to the definition of new business models.

Other interlinkages of interest:

- Airport accessibility plans should be taken into account and coordinated with sustainable urban mobility plans, and therefore the EU should consider this in its initiatives on SUMP.
- They should also be considered for any EU investment in airports, and in the framework of the integration of airport into the TENs. These plans might be required for any airport receiving EU funding.

Further examples/sources

- Airport Regions Conference, www.airportregions.org, in particular the ARC report on Climate Change and Surface Access and intermodality in airport regions.
- ACI: Airport Council Internatinoal, www.airports.org
- IARO: International Air Rail Organisation, www.iaro.com

Expert support in developing this recommendation:

Peter Deschamps, Secretary, Social Economic Council Flanders/Flemish Airport Commission.

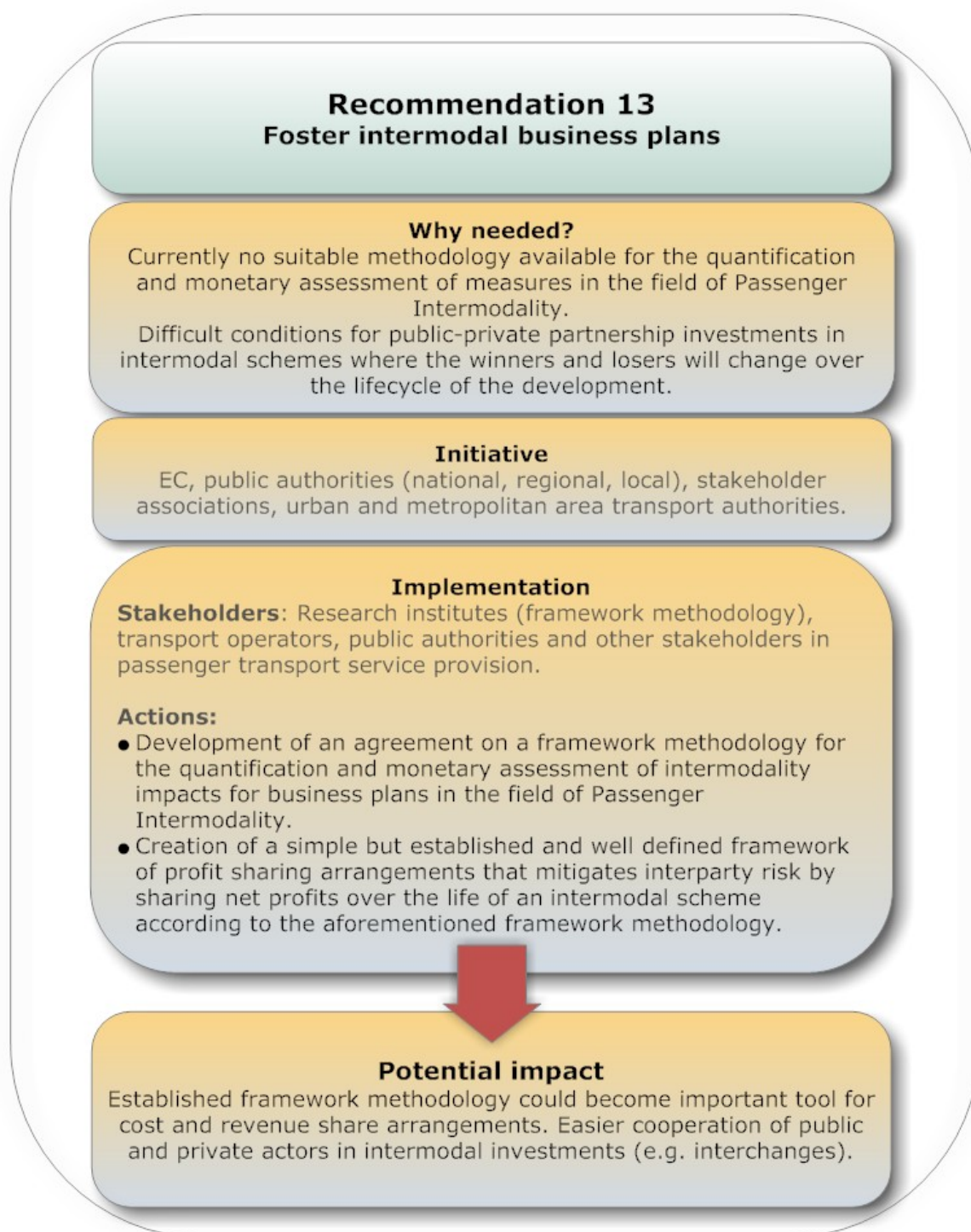
Bengt Christensson, Secretary General, Airport Regions Conference.

Recommendation 13

Foster intermodal business plans

This recommendation includes two closely interrelated sub-recommendations. Sub-recommendation 13.1 is a pre-condition for sub-recommendations 13.2.

Figure 20: Overview recommendation 13 “Foster intermodal business plans”



Recommendation 13.1

Develop a framework methodology for quantification and monetary assessment of impacts in business plans

Working Group 4 - Planning and implementation (moderated by Rupprecht Consult)

Develop and agree a suitable framework methodology for the quantification and monetary assessments of intermodality impacts for business plans in the field of Passenger Intermodality.

Who should become active?

Initiative: European Commission and National Authorities (e.g. Ministries of Transport), European and National stakeholder associations (e.g. UITP, VDV, SLTF), Urban and Metropolitan area transport authorities.

Implementation: Research institutes in co-operation with operators and other stakeholders in Passenger Intermodality. Private sector actors operating commercially or holding large and long-term urban transport operating concessions.

What is it about?

A sound business plan should be developed in any intermodal planning process, e.g. the construction of an intermodal interchange, integrated ticketing services or better intermodal traveller information. This should not only include short term commercial aspects, but also strategic and societal effects. Several studies show that passenger transport generates high costs to society that are not directly attributed to the personal transport costs of the users⁶⁹. Passenger Intermodality has substantial potential to address this and to contribute to more sustainable transport patterns.

“Secondary effects” as for example property development revenues related to a transport measure should also be considered in a methodology for quantification and monetary assessment of impacts in business plans. Interchange developments for example can often cause a long-term rise in property value. Appropriate public private partnerships can ensure that the public sector gains access to these benefits for the proper up front development of the necessary infrastructure (e.g. avoiding a situation where the public sector, having created a successful interchange, is faced with costly-to-resolve capacity constraints many years later – at the same time as property investments are achieving excellent returns and transport operators are achieving profitable levels of fare box revenue).

A fundamental problem is that there is currently no suitable methodology available for the quantification and monetary assessment of measures in the field of Passenger Intermodality that takes all these aspects into account. Such a methodology is important as the costs and benefits of any intermodal development are spread unequally and in varying proportions amongst multiple parties.

An easily applicable appraisal methodology should be developed and made widely available to encourage and enable stakeholders to develop sound business plans in Passenger Intermodality. Such a methodology should take into account three possible levels of intermodal business plans:

1. Each stakeholder involved in an intermodal undertaking develops his own business plan for his mode, including strategic benefits and indirect costs and revenues;
2. A joint business plan with participation by different private (or semi-public) stakeholders and modes;
3. A joint business plan with participation by different private stakeholders and the public sector (as well as semi-public institutions) which provides financial support as compensation for societal benefits of the intermodal product or service.

⁶⁹ Cf. EUPI Study. ILS (2004), Towards Passenger Intermodality in the EU. Report 3: Recommendations for Advancing Passenger Intermodality in the EU, p. 11ff

Such a methodology needs to cater for the varying levels of public and private sector involvement that might exist. A methodology focussed on public sector requirements cannot be expected to work in support of private sector organisations.

It cannot be expected that the private sector will develop such a methodology alone. The public sector would be needed to initiate and drive forward the development of an “assessment manual” in co-operation with practitioners that plan and implement intermodal solutions.

The European Commission and/or national authorities should provide funding for the development of such a methodology (e.g. in the 7th Framework Programme of the EC). The development of the methodology should be carried out by competent research institutes in co-operation with practitioners to provide input during the development and to test the methodology.

When a mature methodology has been developed, an “assessment manual” could be made widely available, to guide stakeholders on an easily applicable methodology. To foster the use of this methodology, public funding for implementing measures in the field of Passenger Intermodality could be made conditional to the application of the methodology.

Why is this necessary?

Many planning models exist in this general area, but none of these are designed specifically with the needs and interests of intermodality. Indeed, the models that do exist tend to be focused on one particular mode or business type, and therefore almost explicitly exclude consideration of the holistic view of an interchange environment which is necessary to understand the potential benefits.

Where multimodal interests are addressed in models, these tend to be in large, well developed and expensive models, such as LTS or TMfS (see practice examples below). Where such models exist they are clearly beneficial, but the creation of a Europe-wide standard that is easy to modify and apply in any location is clearly desirable. Private stakeholders' business plans are often biased towards commercial short-term effects. Frequently this is reinforced by the short term nature of concessions granted by public sector bodies. Many measures in the field of Passenger Intermodality do not show a quick return on investments and therefore do not seem to be attractive investments for private stakeholders. Indeed, they often have negative short term effects resulting from disruption during construction. The picture often changes, when strategic (private stakeholders) or societal benefits (public or semi-public stakeholders) are included in an appraisal. A framework assessment methodology that considers the whole picture could help stakeholders to better identify optimum opportunities for investments and co-operation in the field of Passenger Intermodality. This would also reduce the risks for the stakeholders, who can quickly gain a snapshot of viability.

Practice example: Methodological approaches to transport assessments, UK

The UK provides examples of guidance on assessment models that are relevant for the recommendation outlined above. While none of the methodologies is complete with regard to the proposed framework methodology for quantification and monetary assessment of impacts in intermodal business plans, the examples deliver valuable hints for a more comprehensive approach.

PDFH (Passenger Demand Forecasting Handbook), UK

The PDFH sets out a methodology for producing revenue forecasts (passenger journeys and passenger kilometres) for the main line rail network in Great Britain. This is an elasticity based model. In this approach statistical relationships are determined between the observed demand for travel (in this case rail services) and variables representing those factors (income, employment, service quality, fare etc.) that affect the demand for travel on a mode-by-mode basis. For example if improvements to rolling stock result in a more comfortable journey, the number of trips generated will be estimated by reference to the volume using the unimproved service and the change in service quality delivered by the new rolling stock.

The handbook does not extend to coverage multimodal modelling for competing modes (car, air, bus and Underground) and for these situations a bespoke forecasting approach is recommended. The existing multimodal models (such as LTS and RAILPLAN, see below) are seen as highly data intensive and costly to develop and operate – and these models are also weak in understanding the relationship of economic variables to overall demand.

Website: www.atoc.org/RPDFS/02_PDF_Handbook.asp

Railplan, UK

TfL (Transport for London) uses its Railplan model to identify and forecast levels of overcrowding on train services: this model is valuable in that it is multimodal and has a high level of detail for the London and South East area (although further outside London its usefulness becomes limited). In particular, it can forecast changes in use of Underground or bus services as a result of changes to heavy rail services.

LTS (London Transport Study)

LTS is TfL's (Transport for London) multimodal transport model for the London area. Several comprehensive transport studies have been carried out in London since the mid-1960s. The public transport operators and Government have agreed that, for evaluation of strategic issues, such as the provision of new rail infrastructure, a large, multimodal model of the conurbation should be used. For London, this model is known as the LTS model and it is in a permanent state of development and improvement, both to reflect new data as they are acquired and new modelling procedures.

Local Authority Models

Public sector transport programmes in the UK have earned a good reputation for the appraisal of schemes prior to implementation. Precise modelling tools and assessment techniques have been developed to forecast the costs and benefits of investment, but little subsequent work is done to evaluate whether funds have been used efficiently and effectively, or to learn lessons for future projects.

Many authorities monitor the impacts of major schemes, often as part of their wider Local Transport Plan monitoring. However, this tends to focus narrowly on traffic flows and patronage outturns, excluding some of the wider effects that were quantified in the appraisal. Some authorities have participated in Gateway Reviews that consider aspects of delivery, but these are concerned with the development of the project in hand rather than the evaluation objectives of accountability and systematic provision of lessons for future projects.

Transport Model for Scotland (TMfS)

Transport Model for Scotland (TMfS) is a multimodal transport demand and assignment model that incorporates an integrated Transport and Economic Land Use Model (TELMoS). The model contains an extensive dataset of both transport and land use data within Scotland and has a capability of forecasting the transport and land-use changes resulting from major infrastructure and/or policy initiatives.

The model is an important element of Transport Scotland's toolkit to assist in transport scheme and policy appraisal. It was developed by MVA Consultancy with its land-use capability developed by David Simmonds Consultancy.

Since October 2008, this model is managed under the umbrella of LATIS (Land-Use and Transport Integration in Scotland) The LATIS service provides a more outward looking and inclusive focus and is a valuable element of Scotland's transport planning inventory.

The model enables to:

- Provide robust traffic forecasts on all Trunk Roads within the model area over a twenty year horizon;
- Undertake traffic, economic and land-use assessments of proposed major inter-urban road schemes for Stages 1 (corridor assessment) and 2 (route option assessment) of the roads design process, as specified in the Design Manual for Roads and Bridges;
- Test the effects of and/or interaction between major inter-urban road and public transport schemes and major transport policy options such as: a) schemes to improve inter urban public transport; b) schemes or policies aimed at reducing congestion in accordance with the Road Traffic Reduction Act, National Targets Act and the Transport White Papers; and c) schemes which introduce road user charging (road tolls or congestion charging); and
- Provide consistent information and a framework for local scheme models, as a basis for the development of Local and Regional Transport Strategies or with a view to testing potential strategies.

Websites: www.tmfs.org.uk; www.transportscotland.gov.uk/reports/scottish-transport-analysis-guidance/LATIS

Contact: Hugh Gillies - LATIS Project Manager, Transport Scotland, Glasgow
hugh.gillies@transportscotland.gsi.gov.uk

EU Project HEATCO: Developing Harmonised European Approaches for Transport Costing and Project Assessment

The HEATCO project was an FP6 project (March 2004 - May 2006) with the primary objective to develop harmonised guidelines for project assessment at EU level. This included the provision of a consistent framework for monetary valuation based on the principles of welfare economics, contributing in the long run to consistency with transport costing. The current project assessment practice in the EU Member States was reviewed and analysed. The proposed harmonised guidelines were applied to 4 TEN transport infrastructure projects to illustrate applicability of the guidelines and the differences from existing CBA evaluations. While the project did not have a specific intermodal focus it nevertheless provides hints on a European approach to project assessment.

Website: <http://heatco.ier.uni-stuttgart.de/>

Contact: Universität Stuttgart, Institute of Energy Economics and the Rational Use of Energy (IER), Germany, Prof. Dr. R. Friedrich

Where is it applicable?

The methodology should be applicable all over Europe and take into account, where necessary, national and regional specifics.

The methodology framework should lend itself to bespoke development for individual circumstances, such that as a scheme proceeds, the same framework model can continue to function. In the operational phase, the model could play an important role in acting as a revenue and cost allocation method between modes and possibly also between the state sponsor and property owners.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factor
	medium-low	medium	?	<5 years	-

This recommendation was subject to an online expert consultation in spring 2009. More than three quarters of the respondents (79 %) of the participating experts stated that in general they strongly agree with the recommendation, while there was a heterogeneous picture on the expected impact.

Feasibility

The development of such a framework assessment methodology seems to be a thematically complex task. Properly funded, there should however be suitable research institutions to develop such a methodology in co-operation with operators and other practitioners. This way it could be made sure that the needs and views of the practitioners would be included. A barrier could be that market players might be hesitant to share confidential information from their business plans for the testing and optimisation of an assessment methodology.

By focusing on a framework model that is capable of development and customisation on a case by case basis, the upfront workload and data requirements are reduced, which mitigates these concerns.

In the expert consultation most experts considered the feasibility to be medium (55 %) or low (35 %).

Costs

This would include funding from the EU and/or national authorities in the range of 0.5 – 2 M EUR for developing and testing a suitable framework methodology and to foster the uptake. For the initial application, development of the customised methodology would require additional support, under a matched funding arrangement with those involved with the project. A further 2 M EUR total should be allocated to support the first [five] customisations.

An ongoing annual design and maintenance budget would be required to ensure proper control and update of the framework and to ensure consistent application. This would involve a modest cost in the range of 0.2 - 0.5 M EUR per annum.

In the expert consultation most respondents (60 %) expected medium (0.5-5.0 M EUR) costs, a result which confirms the aforementioned assumptions.

Potential impact

An assessment methodology that works well and is widely used could become an important tool to enhance Passenger Intermodality. A mere recommendation from public authorities to use the methodology would probably only have a limited impact. Providing financial incentives or making funding in the area of Passenger Intermodality conditional to the application of the assessment methodology could have a much higher impact, although it would be unrealistic to ask market players to make public confidential information.

The longer term impact of such a model would be for it to gain wider acceptance as the basis for longer term cost and revenue sharing arrangements e.g. for the interchange area. Properly established, this could transform the way interchange facilities are funded and provide a framework for long-term co-operation between the public and private sector actors involved.

In the consultation the experts provided a heterogeneous feedback on the expected impact. While about half of the experts (52 %) only saw a low or irrelevant impact, nearly half (45 %) considered the recommendation to have a crucial impact. A reason might be the scepticism of many experts whether it is possible to produce a generally applicable methodology that fits to a diversity of “real world” cases and will find wide application.

Time for implementation

It could be realistic to develop and test a suitable framework methodology within 6 months to 1 year. Mainstreaming the use of such an assessment methodology would take additional years, and would be an ongoing activity as each application would require a degree of customisation.

Interlinkages

- This recommendation is a fundamental aspect of planning and implementation for products and services in the area of Passenger Intermodality. It is a comprehensive recommendation that touches most of the fields discussed in LINK.
- Recommendation 13.2 “Establish long-term flexible profit sharing arrangements as basis for investments” is based on recommendation 13.1.
- EUPI Study (report 3). Recommendation 8 “Methods and Guidelines for Cost-Benefit Studies and Impact Assessments in the Field of Passenger Intermodality.

Expert support in developing this recommendation:

Gareth Kybett, GK Consult, Frankfurt, Germany

Recommendation 13.2

Establish long-term flexible profit sharing arrangements as basis for investments

Working Group 4 - Planning and implementation (moderated by Rupprecht Consult)

In order to create the conditions necessary for a public private sector partnership investment in multimodal schemes where the winners and losers will change over the lifecycle of the development it is necessary to have a flexible profit sharing arrangement in place. This will reduce risks to all parties and enable speedier progress towards business case sign off and project implementation.

Who should become active?

Initiative: National governments, regional and local authorities, interchange owners (e.g. operators).

Implementation: Partnership between public authorities and semi-public or private actors.

What is it about?

The nature of intermodal schemes is that there are a number of actors involved and/or affected. Almost always these actors will span the public and private sectors, and within each sector there may also be different ownership or governance arrangements in place.

This recommendation is aimed at creating a simple but established and well defined framework that mitigates interparty risk by sharing net profits over the life of a scheme according to an agreed and established method. This will enable parties to more readily agree a project. It may also reduce the burden of risk retained by the primary public sector actors since the private sector partners will have more certainty over their future revenues.

This approach is aimed at enabling economically viable schemes to proceed where the existing structure would lead to one or more of the affected parties bearing higher costs or risks than their expected future share of revenue.

An EU standard arrangement would enable speedier and more cost effective progress on individual schemes.

Why is this necessary?

The current situation presents challenges in agreeing schemes where although the taxpayer and public will have a net benefit, individual actors may stand to lose or be faced with unacceptable risks relative to the proportion of gain that they can reasonably expect.

For example, a station operator may face a certain future revenue loss from the removal of an existing retail concession to make way for improved bus stand provisions – yet has only indirect access to any revenue gain forecast as a result of the increased patronage such new bus stand provisions will bring. By bringing together all actors involved at a multimodal interchange, all parties benefit from actions taken which improve the success of the interchange.

While it could be left for each interchange to develop its own approach, this is costly and inefficient as well as slow. No individual project could develop and maintain the necessarily complex model needed to support a truly effective allocation mechanism. Although each instance may require a degree of customisation, the basic template and approach can be the same for any location in Europe.

Practice example: ORCATS, UK

All rail operators in the UK are required to participate in the Rail Settlement Plan (RSP). RSP is a company wholly owned by the UK passenger train operating companies who are parties to the Ticketing and Settlement Agreement (TSA). It has responsibility for the allocation of revenue from the sale of tickets. To do so, it operates the “ORCATS” (Operational Research Computerised Allocation of Tickets to Services) model to allocate revenue between different operators on a route.

Very considerable amounts of money are allocated through ORCATS. Although there are some “operator specific” tickets, the majority of train tickets sold in the UK are valid on any reasonable route, which means that the revenue needs to be allocated proportionally between the train companies providing part or all of these reasonable routes.

The ORCATS model makes its allocation on the basis of modelling concepts and a limited number of passenger surveys. It has considerable weaknesses and there is much commentary on the potential distortion of competitive actions that results from the impact modelling factors have on revenue as distinct from real actions. Such a revenue allocation system is very common in metropolitan areas around the world where tickets are valid on multiple networks.

Despite these weaknesses the interesting fact from experience in the UK is that the ORCATS model has been successfully developed and maintained in use during more than 10 years of wholly private sector operation. This demonstrates that such a system, provided it is sufficiently sophisticated, can be successfully used for the allocation of revenues between private and public sectors.

Website: www.atoc.org/rsp/index.asp (login restricted)

Where is it applicable?

Particularly on the regional and local level, related to interchange or infrastructure developments, where more than two actors are involved.

Discussion of implementation

The implementation of this recommendation logically follows from the implementation of Recommendation 13.1 “Framework methodology for quantification and monetary assessment of impacts in business plans”. The following overview assumes Recommendation 13.1 is also implemented.

Overview	Feasibility	Costs	Impact	Time	Other factor:
	high	low	medium	3 years	Assumes recommendation 13.1 has proceeded.

This recommendation was not subject to an online expert consultation. The assessment relies on the assumptions of the WG leader and the supporting experts.

Feasibility

This is a feasible concept, although there may be resistance from some organisations during trial implementations until the full details are fully understood and developed. The concept of revenue share is well established in metropolitan areas throughout Europe and the world where tickets valid on multiple modes are sold.

The concept is simple, and data usually exists that can support it. What is missing is a worked through and developed method that has been developed in an impartial manner, such that all interested parties at a location are comfortable with it.

As this approach would be used at multiple locations, organisations could become familiar with it, and would not have to deal with multiple revenue design approaches at different locations throughout Europe.

Costs

The costs to develop the template method, guidelines and approach will be low. There will be more significant costs in supporting the first few implementations, to ensure that effective customisation takes place.

There will need to be ongoing support of the method and guidelines, since this is in support of a process that will be in live operation throughout the entire operational life of the scheme.

Potential impact

This approach could have an impact on both large and small schemes. For large schemes, it will reduce the negotiation and development time for bespoke arrangements. For small schemes it could enable many such schemes to proceed where currently progress is stalled due to a lack of shared agreement amongst the actors.

This recommendation would also assist in the transfer of risk from the public sector to the private sector by creating more firm conditions under which the private sector can quantify and accept risk.

Time for implementation

If commissioned at the same time as Recommendation 13.2, then there would be minimal if any additional time required.

Once trial locations were identified for the pilot roll-out, timescales would be dependent on progress with these schemes.

Interlinkages

- This recommendation is a fundamental aspect of planning and implementation for products and services in the area of Passenger Intermodality. It is a comprehensive recommendation that touches most of the fields discussed in LINK.
- Recommendation 13.1 “Develop framework methodology for quantification and monetary assessment of impacts in business plans” is a pre-condition for recommendation 13.2.

Expert support in developing this recommendation:
Gareth Kybett, GK Consult, Frankfurt, Germany

V Innovative products and services

These are concrete and visible measures aimed at providing products and services that respond to the needs of the intermodal traveller.

Recommendation 14 Establish a common “CityFlex pass” concept

Working Group 3 – “Last urban mile” (moderated by POLIS)

CityFlex pass is a common concept of service provision within an integrated ticket for local transport services specifically designed for the long-distance traveller. The traveller could purchase this as a standalone ticket for local transport on arrival or during the stay. Another solution would be optionally to add the CityFlex option to long-distance tickets.

The integrated ticket would follow some standards common to all similar tickets in other cities. It will provide access to a range of local mobility services.

Who should become active?

Initiative: primarily local transport authorities, local authorities and local transport operators, but the initiative can also come from long-distance transport operators such as railways and airlines, hub managers, transport and public transport operators.

Implementation:

The implementation is a joint responsibility of the local transport operator and the local authority together with the long-distance transport operator which must cooperate to make the City flex pass possible.

Cityflex pass would make cities which implement it more attractive over others for business trips, fairs and meetings. Existing co-operation for ticketing with cities with which are connected could be the initial platform on which to start this initiative.

For airlines or railways it would be an additional marketing tool. International railway companies could develop it in partnership with cities they are connected to; this could be the case for Eurostar or Thalys. Airlines could be interested in triggering the development of such a pass for the cities where they have their hubs. Ultimately these long-distance transport operators could integrate this pass into their long-distance transport ticket. This would be a potential marketing tool towards customers as well as towards infrastructure managers allocating slots on railway lines or at airports.

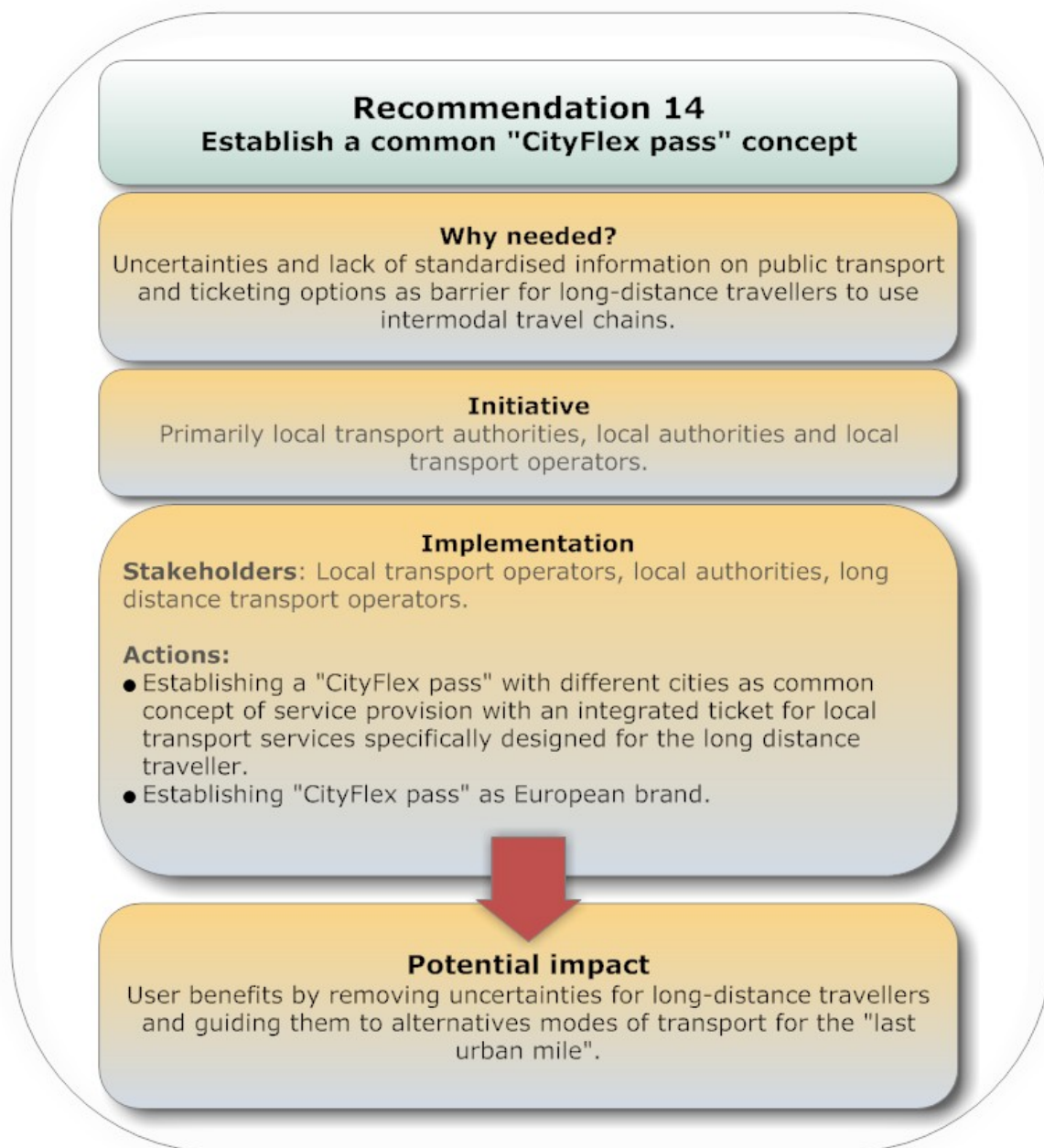
The creation of a European brand will require the support from national and European actors, which may be governments and the European Union, but also the Union of international railways or the airlines' association.

What is it about?

The CityFlex card would be a first step towards an integrated European mobility pass. It is a pass that gives access to a designated range of mobility services in the city, with an emphasis on more sustainable transport modes. This would include access for long-distance travellers to regular public transport, together with demand responsive transport services, rent-a-bike schemes and additionally car sharing and innovative taxi schemes.

Different cities would agree on a common concept, so that people travelling between these cities could be confident in what kind of services to expect at the end of their long-distance trip. Success in these core cities could raise interest from others, who could then join.

Figure 21: Overview recommendation 14 “Establish a common “CityFlex pass” concept”



In this regard, the CityFlex pass (or option on long-distance tickets) could become a European brand, possibly leading to the definition of a European standard at a later stage. This should be supported by a clear definition of the content, commercial branding and promotion.

Concretely, the CityFlex would be:

- A Pass for local mobility services sold to long-distance travellers to afford access to the local mobility system;
- This pass would be defined by a minimum common standard in all cities providing a CityFlex pass, among this standards would be access to a minimum range of mobility services;
- The pass could be purchased as a standalone pass or integrated to the long-distance ticket.

Promotion of the CityFlex pass towards the general public would be an important element of its success. It should be systematically offered to travellers visiting a city which has such a pass.

The technology supporting the pass can vary from place to place and evolves over time, and it could be juxtaposed on a smart card or mobile phone NFC support with other ticketing applications of various territories. It is likely that there would be a stronger business case with this approach. This would also allow further add-on products.

Why is this necessary?

It would give the long-distance traveller more standardized or at least harmonized tools to use the local mobility network. The standardisation would give the traveller more confidence in the transport system. The confidence and standards reside in the integration of the access to all mobility services with this pass. Therefore the core of services accessible with the pass will be common in all cities and here again build confidence in the local network.

This could trigger further improvements of interest for the frequent travellers which would benefit from this innovation.

Finally this recommendation would certainly create further value by promoting mobility solutions such as car sharing and demand responsive transport which are normally not immediately available to the long-distance traveller but can provide interesting mobility options.

Practice example: THALYS Connect

Thalys Passengers can travel free of charge on the German AVV public transportation network with their Thalys ticket, to or from Aachen (offer not available for Ticketless-travels).

Similarly, Thalys ticket gives free access to public transport in the city centre of Cologne (VRS zone 1) on the day of the journey on the Thalys. The ticket also includes travel by public transport to Bonn/Cologne airport.

www.thalys.com/be/en/holiday-travel-and-special-offers/holiday/thalys-connect

Practice example: MOBIB travel card in Brussels

MOBIB travel card, Brussels and STIB MOBIB is a contactless travel card for Brussels public transport network, which in the future it will be possible to use not only on the STIB network but also in the partner museums of the Brussels card and on the networks of De Lijn, TEC, (the two other Belgian public transport operators), SNCB (Belgian railway company), Thalys and the partners of STIB (Cambio car-sharing and interparking).

www.stib.be/mobib.html?guest_user=guest_en

Practice example: Crossing the Öresund

Ticketing co-operation between Sweden and Denmark for the crossing of the Öresund bridge, paying the toll and public transport tickets. The Öresundståg allows to travel between Skåne (Sweden) and Denmark. Wherever the destination may be one may start the travel at the nearest bus stop and get the ticket for the entire trip.

The Öresund region is divided in to 17 areas (zones). The price paid for the ticket depends on areas of origin and destination and which mode of travel is chosen. One may go by train crossing the Öresund bridge or ferry between Helsingborg-Helsingör. On both sides of the Öresund the ticket is valid for travelling with all buses and trains.

www.skanetrafiken.se

Practice example: German Rail City Ticket

The German Rail City Ticket is available at the national level for the connection from long-distance rail to local public transport. It is available for subscribers of the BahnCard, which gives you a discount on rail trips. It is also available for certain long-distance rail travel tickets on the German networks.

www.rmv.de/coremedia/generator/RMV/Tickets/Fahrkartensortiment/DBKooperationsTickets/ARTVOLL/FAHRK DB ARTVOLL CityTicket_fr.html

www.bvg.de/index.php/en/Bvg/Detail/folder/780/rewindaction/Index/id/3101/name/City+Ticket+Berlin

In German: <http://www.bahn.de/p/view/preise/bahncard/cityticket.shtml>

Where is it applicable?

It could be best applicable by groups of cities with strong links and between which there are important volumes of long-distance travelling.

For instance, it would be best launched in group of cities belonging to the Eurostar network, or the Thalys network, or group of cities in one country or a region of Europe (Vienna and Bratislava, BENELUX, Ireland and England).

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factors
	low	high	high	3 years	-

There is a high level of agreement (88 %) among the experts consulted on this recommendation, with 46 % of the respondents strongly agreeing and 65 % considering that it would have a crucial impact. Specifically, the majority of experts in the field of integration of long-distance with last urban mile involved or regularly involved in intermodal projects express strong agreement with the recommendation.

Feasibility

The feasibility of the city flex pass is generally considered low by the participants to the Working Groups as well as the experts (59 %).

The technical feasibility is good.

The allocation of revenues between operators of local transport services is one of the critical points threatening the long-term sustainability of the pass. This is very important if the scheme is to enjoy an initial success, increasing the benefit of the service for operators. It is also important that the long-distance transport operator benefits from it. It is likely that the public authority will have to play a role in financing the scheme, balancing this with the benefits gained by the improvement of mobility or from other sources (slots allocation, image, etc.).

The second challenge is the possibility of setting up co-operation frameworks between the various local operators, between them and long-distance transport operators, for the specific purpose of assisting long-distance travellers.

Potential impact

The potential impact is to increase the capacity to guide the long-distance traveller to alternative modes of transport such as car sharing and demand responsive transport, as well as obviously towards public transport, and to encourage her/him to consider alternatives to traditional taxis and car rental.

Costs

There would be high back office costs for the creation of this system. Among the experts consulted, nearly half of the respondents (47 %) believed that cost of implementation would be higher than 5 M EUR.

Time for implementation

Because of the need to set up a good co-operation framework between all actors, but also because of the time needed to make databases interoperable, the time required for the implementation of the scheme in a limited number of cities is three years. Considering the need for a significant communication campaign to support the launch of the service, three years are certainly necessary to implement this recommendation on a significant scale. The experts consulted agree with this estimation, (84 %) of the respondents considering the recommendation could be implemented in less than 5 years.

Interlinkages

- Recommendation 6.3 “Make provision of door to door ticketing information mandatory for long-distance rail-ticket distributors” could be linked to CityFlex pass idea.
- Recommendation 7 “Develop standard for long-distance electronic ticketing in TAP TSI to allow compatibility with local fare management systems” could help to develop the idea of a CityFlex pass further.
- Mobility management (recommendation 16 “Integrate cooperation and information platforms into a mobility centre for the mobility management of large events” and 18 “Create push & pull strategy on business trips”); CityFlex pass as tool for mobility management activities on Passenger Intermodality.
- Recommendation 13 “Foster intermodal business plans”. CityFlex pass needs sound co-operation and profit sharing agreement for set-up with variety of different stakeholders.

Recommendation 15

Develop innovative local taxi services

Working Group 3 – “Last urban mile” (moderated by POLIS)

The development of innovative taxi services is recommended. Shared taxis can contribute to mobilising the underused resource of taxi vehicles and drivers to offer new flexible and demand-responsive, reliable, accessible, affordable services with a low access threshold for visitors and well integrated into public transport, especially at long-distance interchange hubs.

Who should become active?

The key *initiative* lies with local (transport) authorities. They have the strongest interest in these new services within their sustainable transport policies, and are in the position to create the framework and incentives for their implementation.

For the *implementation*, sizeable local taxi operators need to be made aware of the business opportunities involved in terms of generating business and targeting new taxi customers; incentives may be needed. For optimal integration with public transport, close association with the local public transport operator is recommended from the first stages. For optimal service quality and marketing towards long-distance travellers, partnerships should be developed with long-distance transport operators and hub operators (air and rail), as well as the tourist and business sectors (hotels, tour operators and their business associations, event organizers and their associations).

What is it about?

Taxis are a well-known and attractive last-mile solution for the long-distance traveller, often strongly embedded in the image of the city. They are used for almost 1 in 2 trips to airports and 1 in 5 to railway stations (IVF-GFK⁷⁰). Their main strengths for visitors are:

- Easy availability on arrival at all times, pre-booked or not (also outside PT hours);
- Low competence threshold in an unfamiliar environment: no need to study PT networks, rules, timetables or ticket rates; no need for roadmaps, GPS, adapting to local driving styles or knowledge of parking regulations (involved when driving a rental car);
- Flexible response to individual traveller needs: door-to-door trips (also in outlying areas, not well served by PT), chauffeur knowledge and assistance, luggage handling, safety (a significant factor for women travelling alone, IVF-GFK), no need for parking space.

Despite the figures of taxi use relating to airports and railway stations, taxis capture a marginal trip share, typically less than 1 % in major cities, and are sometimes perceived as a last resort solution (taxis are not a ‘top of mind’ travel choice)⁷¹. From the travellers’ point of view, barriers to use are:

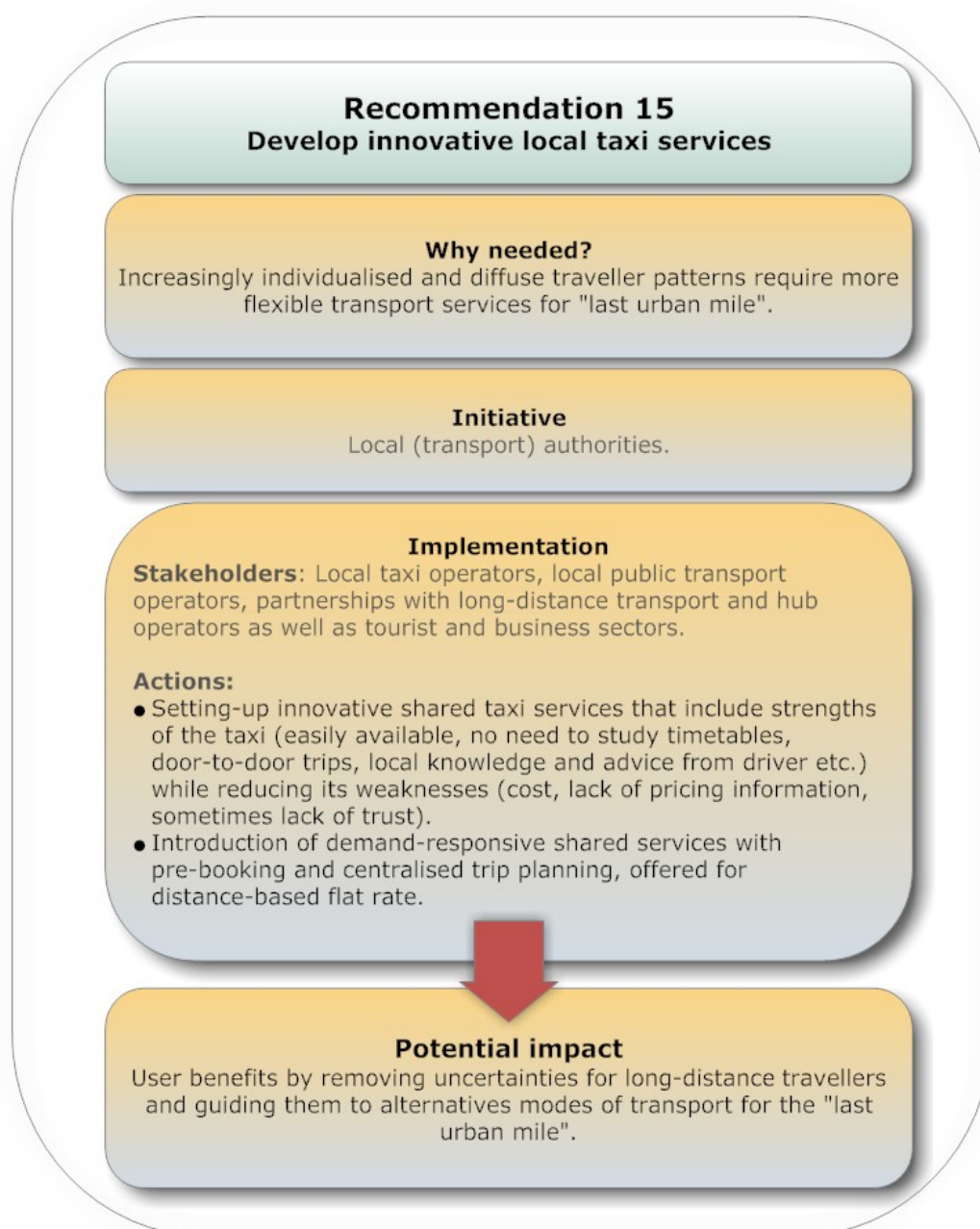
- Cost, real and perceived: lower income groups feel excluded from this flexible mode; shuttle services serving airports are typically at premium rates;
- Lack of information, especially relating to price, perceived as unpredictable (due to progressive rates) and overestimated by as much as 50 % to 200 %⁷²;
- Lack of trust in service reliability (will the cab be on time?) and drivers’ honesty (is this the shortest route and a fair price?), and additionally low awareness of rules and traveller’s rights.

⁷⁰ IVF-GFK = results from a 2007 survey of taxi use in major European cities, carried out jointly by L’Institut pour la ville en mouvement and GFK.

⁷¹ *ibid*

⁷² 2007, survey on taxi use in Brussels, Brussels Region, carried out by Espaces-Mobilités and Sonecom.

Figure 22: Overview recommendation 15 “Develop innovative local taxi services”



Uptake of taxis by long-distance visitors as well as locals can be increased by putting into place innovative services that optimize the strengths of taxis and reduce or eliminate its weaknesses.

Shared taxis have developed into a major service model to accomplish this. Most importantly, they can be launched without a prior general overhaul of the notoriously difficult taxi sector (see below), as it has been conceived as a major way to boost the quality and development of the taxi business.

Key steps in setting up a shared taxi service are:

- Determine the basic principles: a demand-responsive service with pre-booking and centralized trip planning; customers pay a flat rate (possibly tiered according to distance), accepting to share vehicles and to make detours/delays (max. values to be defined). Shared taxi rides are a service, performed by existing drivers and vehicles, which alternate between traditional rides and shared taxi rides.

- Detail the parameters of the service model, on a scale between extremes of high or low flexibility.

Maximum flexibility: 24/7, city-wide, door-to-door coverage (basically like standard taxis, only shared): high added-value to customers, but requiring automated trip optimizing technology (available off-the-shelf) and sufficient demand to allow significant passenger grouping;

Minimum flexibility: “virtual line taxis”, running on fixed routes or corridors in restricted areas (typically feeder routes for PT or serving city centres or major destinations), at set departure times, from stop-to-stop, only on weekdays and/or peak times (basically a demand-responsive PT service operated by a taxi company): offering low added-value to customers (close to a substitute for PT) but easy to run, low-tech and easy passenger grouping.

Intermediate flexibility can be set according to local objectives and context, e.g. from routes to corridors to restricted areas; stop-to-door; fixed start and/or end-points (such as transport hubs, business areas, hospitals) with flexible pick-up and drop-off points in between; only day/night service, etc.

Lower cost substitute for large-vehicle public transport services at times of low demand (example; to operate late night 'bus' services in Switzerland).

- Set pricing level between PT ticket and average taxi trip cost.
- Identify or, if necessary, adapt the legal framework for a public initiative or a call for a public service tender to operate the service. Setting up includes a call-and-dispatch-centre, trip optimization software and on-board equipment, availability of vehicles, specific driver licensing. Incentives to maximize passenger grouping are crucial for cost control. In a context of low supply of taxis, an obligation to give priority to shared taxi trips is necessary to guarantee customer satisfaction.
- Define a subsidizing mechanism to cover the difference between customer-generated revenue (flat fares) and real trips cost (as determined by taximeter and existing taxi pricing and legal framework for taxis); subsidy is typically on a per-trip basis. Subsidy levels are determined by pricing, but most strongly related to passenger grouping levels (an average of 2 passengers per vehicle journey is a recommended objective).
- Implement a marketing, publicity and information plan.

Uptake by visitors can be strengthened by *additional actions to upgrade service quality*, mostly at reasonable public cost. Here are some options specifically (but not exclusively) targeting visitors. They are presented here as add-ons to a shared taxi service, but most could be applied to taxis in general.

- A specific visitor-arrival/departure shared taxi service e.g. to and from transport hubs at night;
- Shared taxi driver as “city ambassador”: drivers are offered an upgrade training in languages and tourist and general visitor information (with incentives or as a condition for licensing);
- Transparent information on pricing, regulation and customer rights widely available;
- One-stop booking, made possible by the flat fares: integrated ticket with long-distance modes or travel package, booking on board long-distance trips;
- Move from a “premium” logic to a “voucher” logic: flat rate vouchers could be issued by transport operators, tour operators, hotels, event organizers, restaurants, theatres but also social agencies for the disabled etc., and possibly included in a CityFlex pass (see recommendation 14 “CityFlex”);
- Shared taxi without advance booking at transport arrival hubs around pooling centres for shared taxi users, to be distinguished from traditional taxi ranks. Passengers should be grouped according to roughly defined destination areas.

Why is this necessary?

Generally, European cities are in need of *more flexible collective transport solutions*. This is because, over the last decades, passenger transport behaviour has been steadily becoming more individualized and more diffuse, in space as well as in time, creating complex and diverse trip patterns.

Taxis are now emerging as a high-potential transport mode, to be upgraded as an integral part of *sustainable urban transport policy*. They are generally an underused resource with the potential to capture market share from private cars – offering high flexibility, with no parking problems – as well as to supply near private-car flexibility to non-car owners (for financial, physical or age reasons). Services for collective taxi use are a way to increase occupancy rates and reduce the number of cars per passenger transported. At the same time, shared taxi services complement traditional public transport at places and times where PT is not feasible. A 2007 survey has shown that most regular taxi users (estimated at around 20 % of urban dwellers, IVF-GFK) are also regular PT users.

As far as long-distance travellers are concerned, shared taxis are a flexible mode, for business travellers but also affordable for the less well off, more comfortable for the physically less able, safer (e.g. at night) for the single female traveller etc. Major attractive features are transparent and predictable pricing, as well as reliability if shared taxi service is perceived as a quality mode and linked to PT with a strong reputation. Shared taxis are an attractive additional option, not just on arrival but also during the visitor's entire stay, thus reducing the need and desire to drive a private or rental car.

For taxi operators and drivers, shared taxi services present an innovative business opportunity, potentially upgrading taxi image and making the business more dynamic.

If well-handled, a shared taxi service can be launched in current conditions, without a major overhaul of the taxi business to solve all these problems. A model of public tender with a degree of public subsidy and potentially increased ridership by attracting new customers should present an attractive incentive. At the same time, local authorities determine the rules and monitor the service, thus assuring a high-quality, well-regulated taxi provision.

Practice example: Collecto Bruxelles

Collecto is a collective taxi service which is available 7 nights a week between 11 p.m. and 6 a.m. throughout the Brussels-Capital Region (population about 1 million). Initially, Collecto covered the entire urban area (not peripheral suburbs), with 80 points of departure (existing STIB stops) and was extended to 200 points of departure in 2009. Collecto is highly flexible: travellers get in at a stop of their choice and get off at any address of their choice in the Brussels-Capital Region. Moreover, Collecto is not expensive compared to regular taxi fare: just 5 EUR per person for a journey of less than 3 km (as the crow flies) and 8 EUR for longer journeys. The collective taxis will supplement the STIB (Noctis) night bus network. No membership is needed, so visitors can use the service any time they want.

Brussels authorities designed the service model, including pricing, and the service was tendered and granted as a public service contract to a major taxi call-centre, which provides the necessary technology and guarantees sufficient numbers of drivers and vehicles. Subsidies cover the difference between customer-generated revenues and actual trip price, on a monthly basis. The service is monitored by a steering committee, including the public transport operator STIB. Future objectives are examining the feasibility of extending the service outside city boundaries and/or during daytime, with appropriately adapted service conditions, as well as developing synergies with PT, for instance integrating niche Demand Responsive Transport services with shared taxi.

www.collecto.org/indexen.php

Practice example: Regiotaxi

In 2000 the Dutch national authorities created a legal framework allowing public transport operators to organize collective demand-responsive transport (Collectief Vraagafhankelijk Vervoer), open to general public. This has stimulated local authorities to initiate shared taxi services, with the common label and service concept of Regiotaxi, tendered to taxi operators. These are highly flexible door-to-door shared taxis services, to be booked in advance, and covering entire urban regions.

Stadsregiotaxi Knooppunt Arnhem-Nijmegen, for instance, is a single service area covering two cities and their connected regions (20 municipalities, population about 680000), 7 days a week from 8h to 24h). Pricing is tiered following the familiar structure of public transport zones.

The service is mostly popular with non-car owners and the elderly. Future policy objectives are a further integration with public transport, including major long-distance transport hubs and public transport, strengthening the potential for use by visitors in a train-regiotaxi combination.

www.regiotaxi-kan.nl

Practice example: Genève Taxibus

In Geneva, a shared taxi service offers transport to and from the airport Genève Cointrin and the main railway hub Genève Cornavin for late arrivals (after midnight) and early departures (before 6h15), i.e. outside of PT service hours. Customers book in advance and pay a flat fee. The service is door-to-hub. The call centre can group passengers, but low levels of ridership mean that most passengers travel alone. The public transport operator TPG subcontracts to a taxi operator. In the daytime, traditional Demand Responsive Transport minibuses (not involving taxis) serve as feeder services in areas on the city edge (Proxibus, Telebus).

www.tpg.ch/fr/horaires-et-reseau/bus-sur-appel/taxibus/

Where is it applicable?

In cities with medium and high population densities, potentially extending to the entire urban region, and with a sufficiently large taxi business.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factors
	medium	medium	low	1 year	-

Among the experts consulted on this recommendation, 68% of them agree with it, but 32% also express disagreement. Most of them (64%) consider that its impact would be low or irrelevant.

Feasibility

The technical feasibility is now high: automated trip planning and booking, allowing short pre-booking times (down to twenty minutes), is now well-proven and available off-the-shelf. These can be “functionality modules” added to traditional taxi dispatch centres, or possibly integrated into or expanded to wider mobility service and fleet management. Emerging developments towards highly dynamic real-time planning (rerouting taxis while driving) are less proven and pose a number of organisational problems to be solved.

The real feasibility challenge lies with the capacity of the local authority efficiently to engage taxi drivers and taxi operators in the process of creating these new services. As the practice examples show, an attractive win-win business case can be made to the taxi business, opening up new customer markets, especially if revenue generated per trip is not less than for traditional taxi trips. If necessary, incentives can be added, such as financing on-board equipment, credit card readers, GPS etc. Partnership with public transport operators offers opportunities for publicity and marketing. The

taxi partner must be ready to accept oversight by public authorities within the framework of transport policy, as well as co-ordination with public transport. In this respect, an independent business-minded taxi culture, not used to working under public contract, is a risk to be aware of. Involving key players or representative bodies from the taxi business early on in the development stage is recommended to raise interest, awareness and motivation.

The feasibility of the proposal is considered in general medium (53 %) or difficult (35 %) by the experts consulted.

Potential impact

The potential impact for visitor uptake is good if there is a real and perceived innovation, not just a small improvement to existing services, and if this is supported by adequate communication efforts. In addition, innovative taxi services offer the opportunity to upgrade taxis into a stronger mode, and strengthen the choice of alternatives to private car use.

Costs

A degree of public financing will be needed. Cost-benefit analysis should compare this to avoided costs of offering a similar Demand Responsive Transport service with dedicated vehicles (typically minibuses) and drivers, and is expected to show significant savings. The service contract, subsidised on a per-trip basis, has the additional advantage of low start-up costs, gradually increasing as ridership picks up. Public cost forecasts can be made for a range of scenarios, on the basis of fixed elements such as current taxi trip cost (taximeter), expected/desired ridership, pricing level and level of customer grouping. The most influential variable on cost coverage is passenger grouping: the higher the average number of customers per trip, the higher the average trip revenue and the smaller the gap to be subsidised. Results, costs and cost parameters during early operation should be closely monitored to adjust forecasts or service parameters (such as pricing).

The negotiations and contract with the taxi partner should make it clear that there must be a trade-off between public financing and real innovation. Innovation is a growth and development strategy that will carry long-term benefits for the business in terms of customer-generation and image.

More than half of the experts consulted (55 %) believed that cost of implementation would be between 500K EUR and 5,000K EUR and a third (32 %) that it would cost less than 500K EUR.

Time for implementation

Twelve to eighteen months may be enough to develop the scheme of innovative taxi services once the political decision has been taken and the service model has been well-defined. However this can vary greatly depending on the local context and local barriers to co-operation with taxi drivers and operators.

A large majority (81 %) of the experts consulted agree that this recommendation can be implemented in less than five years.

Interlinkages

- Recommendation 13 “Foster intermodal business plans”, could provide important basis for set-up of new mobility services

Expert support in developing this recommendation:

Dirk Dufour, Timenco, Leuven.

Recommendation 16

Integrate cooperation and information platforms into a mobility centre for the mobility management of large events

Working Group 3 – “Last urban mile” (moderated by POLIS)

Creation of a mobility centre for the event, consisting of a co-operation platform between stakeholders, ideally including the participants, and an information platform for long-distance visitors to the event.

Creation of the ICT tools to support this mobility centre and to provide tailor-made travel advice and information, possibly updated throughout the entire journey.

Developing marketing-based combined travel products, tailored to the event target groups.

Who should become active?

Initiative: transport authority of the territory where the event is organized; or independent service integrator.

Implementation: transport and local authority, event organizers, all local stakeholders, long-distance travel operators, venue managers, ticketing companies.

What is it about?

It is essential to integrate *co-operation* and *information* platforms into a dedicated *mobility centre*, in order to manage travel to the event in an optimal way and to create the best opportunities for long-distance intermodal travel from origin (place of departure of the participant) to destination including the last urban mile (event).

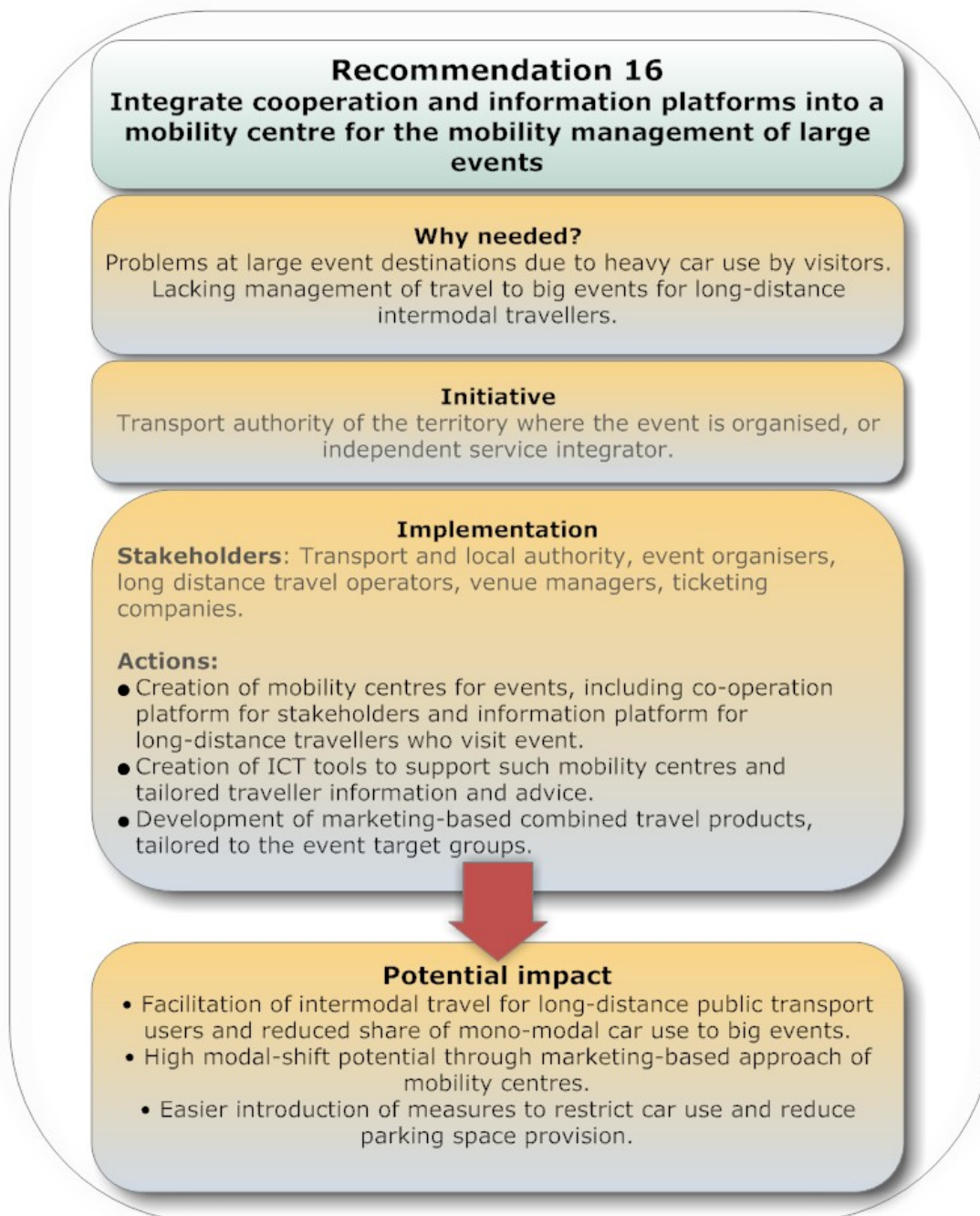
The *immediate purpose* is to influence the modal choice of the individual long-distance visitor. By offering integrated travel information and solutions, the mobility centre makes it easier and more convenient to opt for intermodal journeys, as early as possible in preparing the visit to the event. To the visitor, the mobility centre must appear as an integral part of event information (not as a separate information channel), so that planning the journey becomes part of taking part in the event: “the event starts at home”.

In terms of *co-operation*, such a platform would ensure that all the necessary stakeholders for creating an intermodal chain including the last urban mile are represented and contribute to making intermodality for travel to large events a reality. Key stakeholders include all levels of governance, local and long-distance public transport operators, event organisers, venue managers, tourism information centres, telecom operators, local businesses, etc. Co-operation with participants, for instance via social networks, is an important part of innovative mobility management for large events.

In terms of *information*, it is essential that all information relevant for travelling to the event is centralised and integrated into one platform. This will allow for the creation of optimal intermodal links.

The mobility centre should work towards a joint information and marketing effort, tailored to well-identified target groups specific to the event. For optimal results, it should present itself to the visitor as a *complete and integrated service*, a one-stop-shop for planning the journey, ideally including integrated formulas for booking the event and the journey at the same time, or at least being provided travel information at the time of booking. Integrated information and an intermodal trip-planner are an important first step, but beyond this a range of tailored offers and combined formulas would hugely increase the impact.

Figure 23: Overview recommendation 16 “Integrate cooperation and information platforms into a mobility centre for the mobility management of large events”



The mobility centre should create incentives of diverse kinds for intermodal long-distance travel choice. Three basic types of benefits for the visitor can be defined.

- *Ease*: easily accessible, complete and integration information; one-stop integrated package trip solutions (including access to the event), easily comparable in terms of costs, duration and comfort; personalized solutions etc.;
- *Financial benefit*: discounts on journey and/or event and/or side-events and/or local interests;
- *Experience*: the journey as an extension of the collective event experience; extending the event experience into overflow activities (themed city trips); premium offers for comfort or door-to-door solutions.

The mobility centre could allow for a range and a mix of services, approaches and push measures for intermodal travel, such as:

- Incorporate public transport use and offer from the start and for the entire journey;
- Provide information to the visitor beforehand about different integrated intermodal long-distance transport options through the co-operation with transport suppliers and other relevant stakeholders; these should be easily comparable as to costs, trip duration, comfort etc.;
- Provide targeted and personalised information (transport information, side events) when issuing the ticket through the information obtained on registered participants (e.g. address, postal code);
- Allow booking of integrated packages of travel services, including the entire long-distance trip chain, access to the event and access to local transport for longer stays (vouchers for PT, taxi, public bikes etc.);
- Offer individualised travel plans based on a system of pre-registration through co-operation between event organiser and mobility centre; pre-registration trip data allows trips to be grouped for efficient transport organisation. The visitor can customize her/his trip preferences, relating to for example acceptance of group travel (long-distance, at departure, upon arrival), transport mode, time of travel, price/willingness to pay), based on which she/he later receives a personalised integrated ticket offer with a choice of trip formulas.
- Provide event-centred city trip offers, encouraging earlier arrival and later departure, in order to disperse trips and, additionally, increase the economic benefits for the city through a prolonged stay.

In addition, the mobility platform can gather early information for event organisers and mobility management stakeholders:

- Early information about numbers of participants, modes of transport, arrival times, allowing for better inflow management;
- Early information about the profile of potential or confirmed participants through pre-registration and registration information, allowing for the timely management of long-distance travel solutions. Social networks are among the tools used for this purpose to refine this profile, support group travel and communicate with participants.

Why is this necessary?

Events are good for cities. Ambitious cities strive to host large-scale events considered to attract visitors, stimulate the local economy and boost the city's image and attractiveness. At the same time, events are complex challenges for local mobility managers, because they generate a large and concentrated inflow of visitors that needs to be managed. They can put great pressure on the urban transport system (road networks, parking, PT networks) and provoke disturbance and nuisance for local inhabitants. Events differ in complexity, from the annual international congress of a university department, drawing in 100 academics, to the totally unique organisation of the Olympic Games, drawing in hundreds of thousands. The uniqueness of the latter is such that it is not covered by this recommendation. Below table provides an overview of complexity factors to assess.

Generalised long-distance car use to events is, however, the worst case scenario for the cities. The inflow of space-consuming cars is difficult to predict as to volume and patterns of arrival. Constant and flexible management of routes, parking facilities and shuttle services is needed to guarantee a minimum of fluidity, but jams, queues and delay are nearly impossible to prevent. The event experience suffers from what is perceived as a chaotic, stressful situation. In addition, this puts stress on the environment and the urban quality of life.

Table 4: Complexity of events

Factors	Low complexity		High complexity
A. AUDIENCE	Niche	↔	General public
B. SCALE	Few participants	↔	Massive attendance
C. DURATION	One-day	↔	Several days/weeks
D. VENUES	Single/concentrated	↔	Multiple/dispersed
E. LOCATION	Near PT hubs	↔	Away from PT hubs
F. FREQUENCY	Regular	↔	One-off
G. OVERFLOW	Enclosed, restricted	↔	Side-events, engulfing the city

Source: Dirk Dufour, TIMENCO

The best-case scenario is to have visitors book their intermodal and collective trips early. Their inflow is then predictable and easier to plan for and manage with a minimum disturbance. While being efficient, this also happens to be the best option for sustainable and environment-friendly mobility. Long-distance trip management additionally adds to the event's image and can be publicised within the city marketing strategy.

For the individual traveller, a monomodal journey, most probably with a private vehicle, is often perceived as the most pleasant one. This implies that the 'horrible' (worst case, do nothing) scenario would seem to best meet the individual expectations, preferences and choices. It therefore all starts with *influencing people's individual behaviour*. What is needed is to lower the thresholds and create incentives for intermodal long-distance travel to events (in fact, this applies to all long-distance travel).

For this purpose, and to support intermodal journeys, it is necessary to create a platform of co-operation between stakeholders where they can find an interest in providing full information on recommended mobility options, associated with incentives for the intermodal journey, and adjusting the information to the profile of the traveller and the evolution of circumstances.

Practice example: Transport to Val d'Isère 2009 – World Ski Championship

The website of the Ski Championship in Val d'Isère provided good information on transportation, incentives to use intermodal transport and represents a first step towards the definition of a profile of the traveller, since it gathered traveller information with the purpose of organising transport at the time of the ticket booking. Extracts from the website of the event, transportation page:

Coaches run by the Savoy County Council as part of their "enjoy being a passenger" operation. 60 free coaches offering a non-stop free transfer service between Bourg St Maurice and Val d'Isère from 7am to 9pm during the entire Championship period, February 3rd to 15th 2009. Park and ride car park facilities in Bourg St Maurice at the "Stade" car park, opposite the "McDonalds" restaurant.

In Bourg Saint Maurice:

A "park and ride" car park with 800 spaces to park your car and enjoy the free public transport service to Val d'Isère set up for your comfort and safety

In Val d'Isère

- Car parking (fee charged)
- Bus and coach parking for 250 vehicles (Coaches/minibuses)
- Transport information website of the World Ski Championship in Val d'Isère
- During the entire competition period, access to Val d'Isère will remain open - no restrictions
- Innovative and free public transport network to travel to Val d'Isère

Regional trains:

Regional "TER" trains are to offer travel to and from the major towns in the Rhone Alps region for 1 euro. The Rhone Alps Region in association with its partner, the SNCF, will run this train service:

3 "TER" routes will offer direct travel to Bourg St Maurice train station from Lyon, Grenoble and Annemasse, everyday during the entire competition period.

Predefined daily timetable during the 2009 World Championships period. Stopping at the main "TER" train stations.

How to reserve my place?

Access to the World Championships is free for everybody. Show your invitation at the SNCF train station ticket office or at the Bourg St Maurice Coach station and enjoy free travel to Val d'Isère.

Request your invitation (from 01/10/2008) to use the free public transport system on:

<http://valdisere2009.org/en/spectateurs/invitation.php>

or call 0 800 02 2009

You will receive a downloadable version of your invitation (requests by internet) or a paper

<http://valdisere2009.org/en/spectateurs/transport.html>

Practice example: TripTicket

TripTicket is a transportation and information company for events in the Netherlands. In co-operation with large event organizations, like Mojo Concerts and Andre Rieu, it implemented a system on the internet which gives every visitor of the event door-to-door information for her/his transport.

For this door-to-door information, it uses a XML-feed of the travel information company in the Netherlands (9292) and some others. For example, it uses the free API of Google Maps to give the right information to visitors. All visitors to an event from a partner it cooperates with, will see a link to its website on the website of the event. Or, and even better, they'll get an e-mail with information and a link to its website when they have bought a ticket.

The next step in information is to bring a part of TripTicket system in the website of the location or the event. It is proven that more than 75 % of the visitors of an event will go to the website of the location (e.g. Amsterdam ArenA) or the website of the event (e.g. Lowlands festival) to find the right information about public transportation or parking space.

On the website of the location or the event, the visitor just fills in her/his postal code (ZIP) and in the next step they'll see an overview of the possible transportation to the event. They can make a decision on which mode is the best in price and/or expected travel time, and in the next step they'll see the detailed information. If they are convinced of their decision, they can book the trip of their choice online.

This brings advantages for many parties:

Event organizers know how visitors come and can benefit by paying for transportation in advance.

Public transportation organizations or others (e.g. coaches or parking places) know how many visitors will use their transportation and can be paid before the event starts.

Visitors can make and pay for their choice of transportation, so they don't have to think on the day of the event how to come to the location.

Where is it applicable?

For all types of events drawing large numbers of long-distance visitors:

- One day events;
- Multiple day events, with information taking into account the mobility demand of the traveller between performances and adjusted to the evolution of circumstances from one day to the next;
- Multiple venue events, with information about mobility between venues according to the personal profile and programme of the traveller;
- For multiple venue events concentrated on a small territory (a city) or on several locations on a larger territory (a country);
- For one-off events or for regularly repeated events (matches in a sports competition; concert in major events arenas), in which case a database of registered visitors, with their journey preferences, can be used.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factor
	medium	medium	high	2 years before the event	-

This recommendation was subject to an online expert consultation early 2010. The level of agreement with the recommendation is very high (92 %).

Feasibility

The first challenge consists of co-operation between a series of stakeholders affected by the event and involved with long-distance travel.

- Stakeholders with an immediate interest. The public authority can create strong incentives for the organisers and the managers of the venues to cooperate with them. The public authority and the public transport providers, as well as long-distance transport operators have a strong incentive to cooperate. This incentive can be reinforced by the public authorities. Event organizers have also a strong incentive to cooperate, considering the continuous growth of crowd management costs.
- Stakeholders with an indirect interest. Co-operation with travel agencies not related to transport services providers is a more difficult challenge, while in the situation when travel agencies are managed by transport operators (www.voyages-sncf.com), the incentives to provide integrated solutions for long-distance intermodal travel is much stronger. A convincing business case is needed for this group of stakeholders, exploring with them how to develop a market by tailoring new travel formulas integrating events with long-distance intermodal travel.

Once they agree to collaborate, the second challenge consists of convincing the stakeholders to adopt the approach of a dedicated mobility centre. Here, the dissemination of best practice is essential. The collection of information about the profile of the travellers is also a challenge. A first important type of information, the origin of the traveller, can however be gathered easily.

A mobility centre requires time to be set up but is feasible within the time allocated for the organisation of the event. Existing structures can be relied upon, or a dedicated facility can be set up.

Linking up information is fairly easy and straightforward on a basic level, but becomes a challenge for more ambitious schemes. Specific information on the transport offer available on this particular day to this particular place should be easily provided by the various operators. More ambitious approaches,

such as personalizing information to visitors' desires or dynamic updating during the journey and the stay, would require integrating the operational technology of various providers.

Linking up sustainable travel choices with incentives not related to travel operators or the event, such as discount or privileged access to certain services or attractions in the city will be a further challenge, requiring the co-operation of stakeholders less used to this approach, such as commerce, hotels, tourist venues etc. The local tourist board of the city marketing office, however, should be easy to convince of the potential, and then sensitize other tourism stakeholders.

Finally, the feasibility is highly dependent on the adequate supply of long-distance travel services by collective transport operators. For one off events such as concerts or sports game, attracting principally participants travelling only for this event, from a distance covered by regional or short national transport services, this supply does not always exist.

The use of social networks could greatly contribute to the effective implementation of this recommendation.

In the expert consultation, the feasibility is generally considered to be medium (49 %).

Potential impact

The impact is potentially very high.

- In a basic version, providing easily accessible information, possibly including an intermodal trip planner, it will mainly facilitate intermodal travel for PT users and reduce the risk of their shifting to the car for what is perceived as a complex long-distance journey.
- A more marketing-oriented approach has a much greater potential for modal shift, depending on how well it is tailored to the specific profile of the event visitors. The mobility centre can provide a range of value-for-money offers such as combined ticket offers, possibly including access to the event itself and further local attractions, tailor-made personalized trip plans, dynamic information on the move or premium services.
- In addition, the travel information collected, through advance bookings, about expected volumes by sustainable modes, can support drastic measures such as restricting car access and reduction of parking space provision (see the example of the organisation of the Commonwealth games in Glasgow). Real-time travel information can help to dynamically manage large movements of persons.

47 % of the consulted experts also consider the impact to be high, while 43 % see a medium impact.

Costs

The cost of the mobility centre is not very high. It requires a budget for organizing the co-operation and the flow of information.

Consulted experts consider this recommendation to be medium or low cost: 58 % believe the cost would range from 500 K EUR to 5,000 K EUR, while 25 % think it would cost less than 500 K EUR.

Time for implementation

A year seems to be a reasonable time for the implementation of this co-operation and information platform for a large event. This time can be reduced after a first experience, to 6-9 months or in cities where large events occur at least once a year.

For exceptionally large events such as the Football World Cup or the Olympic games, the creation and definition of the information and co-operation platforms and mobility centres would take several years and be implemented in parallel to the other preparatory activities for the event.

More than three quarters (79 %) of the respondents believe that the recommendation could be implemented in less than 5 years.

Interlinkages

Interlinkages with other LINK recommendations:

- Recommendation 6 “Establish obligatory delivery of data and information in the field of ticketing and information”. Information provision to local/regional/national/European systems should be a contractual requirement. This is of key importance to kick start co-operation in the many countries where co-operation does not come so naturally. It is the major barrier to co-operation. This should form part of a European directive.
- Recommendation 9 “Develop and establish city assessment tool and label for long-distance intermodality”. A benchmarking tool helps local stakeholders to assess the situation with regards to long-distance intermodality in a specific city. The assessment leads to a series of concrete improvements. The benchmarks could be translated towards a broader public by means of a quality label. The scheme would be the basis for mutual learning between cities and promotion of good practice.
- Recommendation 14 “Establish common “CityFlex pass” concept”. To bypass the problem of long-distance to local ticketing integration, cities could decide on a common concept of service provision within an integrated ticket. The traveller could purchase this as a standalone ticket for local public transport at arrival or during the stay. Another solution would be to optionally add the CityFlex option to long-distance tickets.
- Recommendation 18 “Create push & pull strategy on business trips”. Includes also large business events like fairs and conferences.
- Recommendation 19 “Foster training and education on Passenger Intermodality”. Public and private sector are both needed in enhancing Passenger Intermodality. While the public sector sets important legal and regulatory framework conditions and can provide incentives (e.g. financial) for intermodal investments, the private sector is also needed to take initiative and to provide resources for measures that correspond to the stakeholders objectives. Key elements of this recommendation are the need for a common language between all partners, education/ training arrangements on multi-stakeholder co-operation, formal co-operation agreements to avoid a “winner takes all” situation, the set-up of an “indicative business” case, the participation of both public and private sector and a strong leadership (without one partner becoming too dominant). These elements need to be communicated to the stakeholders. They can be considered to be “basics” that are needed as fundament to build a robust joint co-operation in intermodal business cases that relay on trust and good understanding between the involved actors.

Expert support in developing this recommendation:

- Jurgen Rutgers, Transelect B.V., The Netherlands
- Dirk Dufour, Timenco, Belgium

Recommendation 17

Provide early information to travellers about airport links and accessibility

Working Group 3 – “Last urban mile” (moderated by POLIS)

Airports and airlines to provide information to passengers at the different stages of the trip chain including at the airport of origin and on flight, on public transport options and accessibility at the airport of destination.

Who should become active?

Initiative: it can be a European initiative, an airline initiative if one airline has a strong dominant position in one airport, or an airport initiative though this is less likely.

Implementation: airport managers, airlines, public transport operators, regions and cities (reciprocal agreement between cities and regions), airlines, alliances, IATA.

What is it about?

Information about intermodal links, public transport and accessibility at destination airports should be available at all stages of the trip, including at the airport of origin or earlier. The information could be provided by a specific information point at the airport of origin, at registration and check-in, and electronically.

Passengers can use the waiting time at departure to be informed about which travel options they will have upon arrival. By moving the provision of information to the beginning of the trip, passengers will be better informed and more inclined to use sustainable travel options. Such information provision can also enhance city marketing, as well as the marketing of public transport providers (see for example co-operation between Transport for London and Easyjet). A number of airlines sell tickets for airport-London rail journeys on inbound flights to the UK. Information about city public transport connections is sometimes given in airlines' in-flight magazines.

This could be complemented with the provision of smart cards and with further information throughout the whole trip chain. It would lead progressively towards the provision of door-to-door information travel package covering the first mile, the flight and the last mile.

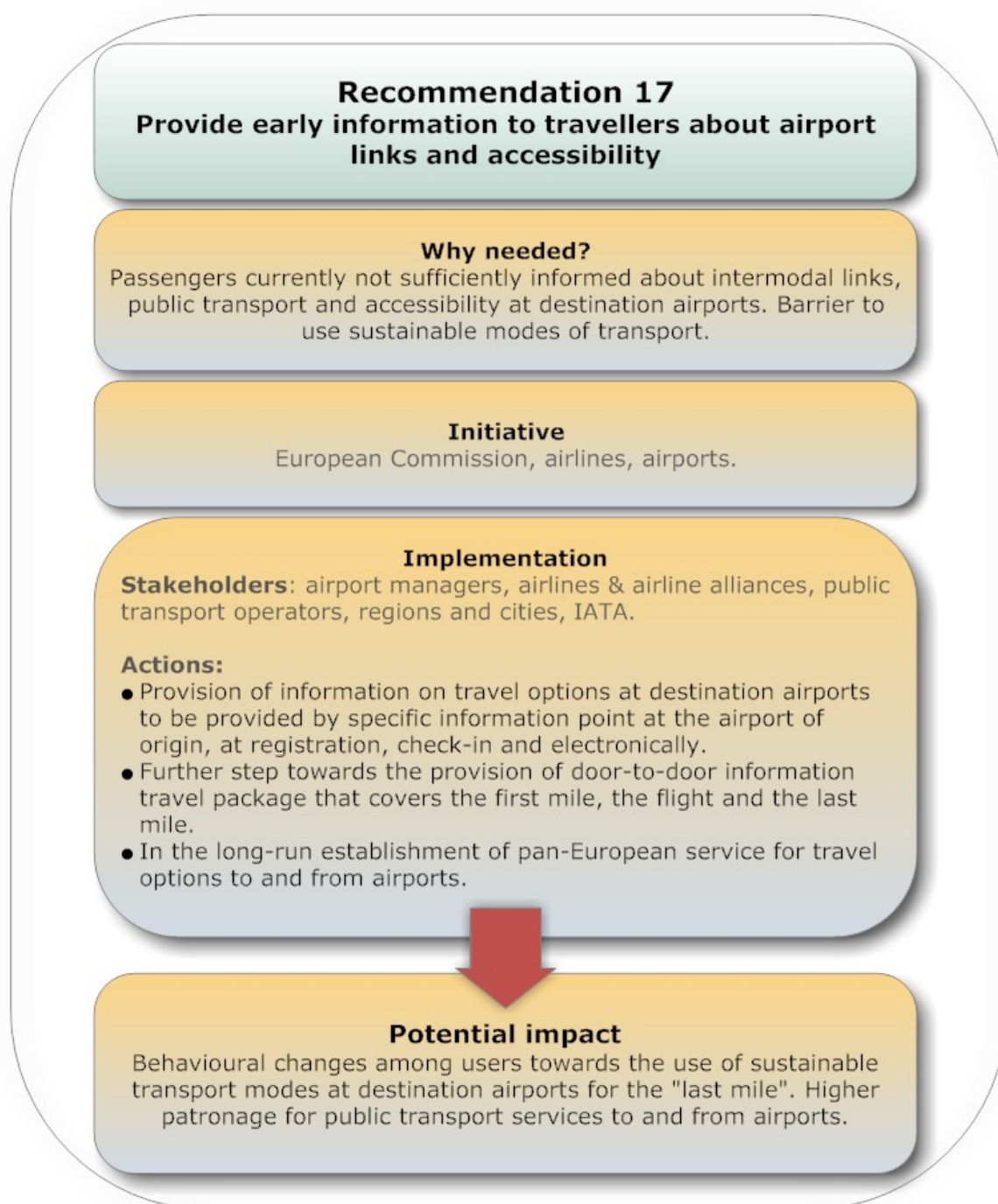
It would certainly contribute to move towards the integrated distribution of tickets. Low costs airlines could have an incentive in contributing to this scheme as they may be tempted to charge a marginal extra cost to the amount of the PT tickets, in particular for the sale of smart cards; or airlines could purchase the PT tickets at a discounted price, but sell them at their face value. Either option would contribute to their business model.

City marketing should be an incentive for regions and cities to co-operate in the provision of this type of information.

The key focus should be on the traveller and not on the transport system.

Progressively, this should lead to a pan-European service.

Figure 24: Overview recommendation 17 “Provide early information to travellers about airport links and accessibility”



As for previous recommendations, it should be noted that intermodality can reduce the carbon footprint of surface access to airports. About 50 percent of carbon emissions related to airport activity result from airport surface access.⁷³ It is therefore important to inform passengers about accessibility at the airport of destination to encourage them to use sustainable modes of transport.

⁷³ Airport regions Conference

Practice example: Airport accessibility websites

Several airports have portals containing information on access to the airport, though very few promote this at originating airports.

For example:

- Dublin airport: www.dublinfoirist.com/travel_info/dublin_airport/
- Brussels national airport (Zaventem): www.brusselsairport.be/en/parking_transport/

EasyJet cooperates with transport for London to sell Oyster cards on board. This is a step forward towards the provision of information and tickets on accessibility of the airport of origin.

www.easyjet.com/EN/Flying/easykiosk.html

Where is it applicable?

This is applicable for all airports, especially for information centres at airports of origin. It can start in airports where one airline has a dominant position, as it has a stronger interest in providing information about destinations and can take the lead at the originating airport. The fewer destinations and airlines at an airport, the easier it is to achieve this.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factors
	medium	low	medium	3 months > 3 years	development of mobile applications

This recommendation was not subject to an online expert consultation. The assessment relies on the assumptions of the WG leader and the supporting experts.

Feasibility

The main challenge is to bring the key actors together and to reach the required level of co-operation between airports, between airports and airlines, and between each of these and public transport providers.

The feasibility depends heavily on the ability for the key actors to find a business models, or to identify the proper incentives. Provision could start by involving individual airlines that perceived a commercial benefit from participation; either in the form of sales revenue from PT ticket transactions, or through greater customer satisfaction.

Potential impact

The impact is potentially important to trigger behaviour changes. This recommendation aims at more use of sustainable modes of transport at destinations for the last mile. It can also possibly mitigate rise in emissions due to growth of air traffic by increasing the modal share of sustainable modes of transport at destinations.

For public transport operators and local authorities, this would create a better return on investment in public transport services from and to the airport.

Finally, it would create incentives for integrated ticketing.

Costs

The cost does not exceed the cost of a multimodal information portal or of an information point at airports.

Time for implementation

The first trial can take place quickly with an information point at one airport of origin. Generally, airports with limited number of airlines and destinations could start quickly.

The provision of this information as part of city promotion packs at the point of origin can be done also reasonably quickly.

The deployment of comprehensive information about accessibility of airports at airports of origin across Europe is a long-term perspective (more than 3 years starting from the first trial).

Other factors

The implementation of this recommendation also depends heavily on the development and deployment of mobile travel information applications for air travellers, which could change the need for and the format of information provision.

Interlinkages

Interlinkages with other LINK recommendations:

- Recommendation 5 “Work towards advanced intermodal passenger care”. Passenger information as a key element.
- Recommendation 9 “Develop and establish city assessment tool and label for long-distance intermodality”. The availability of information to travellers at origin about airports links and accessibility at destination could be one of the criteria considered in the definition of the city assessment tool, to assess the situation in both, the location of origin and arrival.
- Recommendation 12 “Develop integrated airport accessibility plans” is closely related. Such plans would help to implemented recommendation 17 properly.

Further examples/sources

- Airport Regions Conference, www.airportregions.org.in particular the ARC report on Climate Change and Surface Access and intermodality in airport regions.
- Co-operation between public transport operators and rail operators
- eFreight

Expert support in developing this recommendation:

- Peter Deschamps, Secretary, Social Economic Council Flanders/Flemish Airport Commission.
- Bengt Christensson, Secretary General, Airport Regions Conference.

Recommendation 18

Create a pull and push strategy for business trips

Working Group 5 - Context conditions (moderated by ILS)

Reducing monomodal car use for business trips and achieving a shift towards inter- and multimodality by calling upon companies' corporate social responsibility and by taking 'soft policy' actions to influence the rules and the organisation of business trips within companies and institutions (pull factor). An important lever to create supporting framework conditions is taxation regulation for (company) cars and reimbursement rules for (private) car use for business trips (push factor).

Who should become active?

Initiative: Companies and institutions (pull factor); regulators/facilitators: national governments, European Commission (push factor)

What is it about?

The recommendation is a complementary pull and push strategy to increase the share of inter- and multimodal business trips⁷⁴. Currently, long-distance business trips are predominantly monomodal trips by car⁷⁵. The recommendation aims firstly at reducing monomodal car-usage by suitable intermodal offers within a mobility management approach and secondly at changing the vehicle fleet for those business trips (company car) that are still necessary by taxation. In particular the segment of short long-distance trips (100-400 km crow fly trip length) needs more attention, as it offers a high potential for intermodality. There are limiting factors that restrict the potential shift from car to other modes, including subjective attitudes, the purpose of a trip and the related luggage transport⁷⁶. Therefore, service industries and departments (consulting, customer training, R&D) are best suited for intermodal travel as they often only have to carry portable computers, paper/print material, but no heavy tools and machines.

Companies and institutions elaborate and implement the pull-factor. In their role as employers they are the relevant decision-makers concerning the travel management⁷⁷ of business trips by and, if existing, fleet management policies - trip decisions are largely not made by the traveller him- or herself. Decision-makers have the opportunity to support sustainable mobility by establishing rules for business travel⁷⁸ within a broader corporate social responsibility (CSR) policy. Public institutions have a particular role as companies' travel directives often follow them. Organisers of business trips should more often consider alternatives to the car⁷⁹. Mobility management (MM) aims to foster alternative modes to the car and to influence attitudes and behaviour towards sustainable and inter-/multimodal travel for business trips. Currently, MM is applied primarily on a site-based or local level, thus refers to

⁷⁴ all trips made by employees or free-lancers of a company or (public) institution, for the purpose of performing activities on behalf of the employer (i.e. regular commuting trips to/from the workplaces are not included)

⁷⁵ In Germany, 76% of the long-distance business trips (>100 km) are made by car, 12% by rail, 9% by plane (INVERMO 2005). A state of the art review of transport research concerning business trips found, at least for Germany, only little empirically based knowledge (Sauter-Servaes 2007).

⁷⁶ In Germany, a broad study by DLR examined in-depth the circumstances and constraints (a presentation on: http://linkforum.eu/docs/214/Cyprus_conf_-_Intermodal_Services_Menge.pdf). The study reveals also that the car-use is higher the smaller the company is in terms of numbers of employees.

⁷⁷ Car policy is the according instrument reflecting the narrow perspective, determining company car use e.g., the car category for each level of hierarchy or level of incentive. An example for special journals showing the technical way of thinking in this sector is the German journal "Flottenmanagement" (www.flottenmanagement-verlag.de).

⁷⁸ In Germany, 90% of all companies have a company travel directive; the average in Europe is 75% (VDR 2008).

⁷⁹ In Germany, 18 % of the long-distance business trips are resulting on considering other modes than the one chosen on a reporting day (average: 13 %; INVERMO study 2005).

local or regional trips and targets local stakeholders⁸⁰. But it can and should be extended to long-distance (business) trips. Benefits can be both direct (e.g. financial⁸¹) and indirect (societal) benefits⁸². Its acceptance can be improved by demonstrating the benefits and possible savings both for employers and employees.

Figure 25: Overview recommendation 18 “Create a pull and push strategy for business trips”



⁸⁰ Numerous projects have been fostering MM; one of the most recent projects at the European level was the project "MAX - Successful Travel Awareness Campaigns and Mobility Management Strategies" (www.max-success.eu).

⁸¹ > 50% of the costs for business trips are those for transport (example Germany, data 2006/2007, VDR 2008).

⁸² Referring to the concept of CSR which is often embedded in EMAS. The toolkit of the alternative German transport association VCD has been developed with this background.

MM requires making companies and institutions aware that they are part of the transport system. MM means improving the match between the supply and the demand side with the aim to improve the conditions for the users of transport system and increase at the same time the yield impacts of providers (e.g. by increased demand for services). In order to achieve a shift towards inter-/multimodality, suitable services for business trips have to be further developed. The need for improvement particularly for business trips is highlighted by a study which assessed – amongst other aspects – the usage of transport services by trip purpose in Germany (Eck/Starck 2007). It resulted in worse ratings for long-distance trips for business purpose and for commuting including educational purpose in contrast to shorter trips. The importance to improve services including their reputation is also shown by the result of a survey assessing the quality of business trips >100 km in Germany (Nordlight research 2007; N=500) which rates rail worst in contrast to car and airlines (excellent & very good: rail 23 %, car 45 %, air 51 %).

Approaching transport services for business trips must not exclude car-based services. Car-sharing fills the gap between owning and occasionally using a car, but further efforts to meet the needs of business travellers are required in order to gain momentum⁸³. Various offers have been developed targeting business travellers, such as lounges at major railway stations, WLAN hot spots and on board of high-speed trains, corporate portals for business travel, special advertisement. This shows that the needs of this target group are reflected by different operators and vendors. However, a wider thinking is required in order to adapt and improve suitable transport services that offer alternatives to monomodal car-use.⁸⁴ MM can only achieve its potential if the relevant players are involved, i.e. particularly the national railway companies and other transport service providers. Associations like chambers of commerce, business associations, and also user associations, which influence companies by providing expertise and advice, can be involved in implementation of MM as well⁸⁵.

On the “push-side”, the taxation of company cars can be a strong lever, contributing on the one hand to multi- and intermodality and on the other to environmental objectives such as reducing CO₂ emissions in the transport sector. The taxation of passenger cars should be re-designed in order to favour low emission cars, to treat all transport mode equally and to not support habitual car use. The rationale is that cars with significantly lower emissions and thus less fuel consumption than those of today offer the opportunity to cut the prestige and incentive effects of (big) cars⁸⁶ and to introduce intermodal services that meet business needs. This initiative includes the free provision of fuel - often used also for trips for private purpose, and changes to taxation. Often, provision of a company car and free fuel is more favourable for employees compared to “normal” income (salary) in terms of taxation or contribution to social assurance.

National state governments elaborate and implement the push-factor taxation, as they are responsible for taxation. Nevertheless, the *EU* should try to influence national taxation to green company cars or to reform car-related taxation. In terms of instruments it seems inappropriate to aim at launching a European directive with a long, difficult and open process without neglecting this strong instrument⁸⁷. It would be more worthwhile to influence national policy-makers by clear recommendations on this

⁸³ The Swiss car-sharing provider [Mobility](#) offers a variety of car types through a broad network of about 1150 terminals all over the country. Close co-operation with public transport associations (e.g. Zurich Region) results in attractive tariffs for users and raise the awareness of the offer.

⁸⁴ Flexible choice for business trips is offered in the Netherlands by the mobility card ‘Mobility Mixx’, which can be used for train, parking space at the railway station, ‘OV-fiets’ cycle rental and the ‘train-taxi’. Private use is possible, but has to be taxed (employer has to monitor this). www.mobilitymixx.nl is a daughter company of a large car lease company, offering also comprehensive and tailor-made travel management.

⁸⁵ A good example in this respect is the toolkit of the transport user association VCD in Germany (VCD 2008).

⁸⁶ In Germany, the average purchase cost of a company car for CEOs is about 60 000 EUR, for the next management level about 44 000 EUR (Kienbaum study 2008).

⁸⁷ States with a strong lobby of car manufacturing industries (Germany, France) are particularly likely to oppose such an attempt.

complex issue. This includes highlighting the impacts of this lever, demonstrated by the forward-looking Member States.

Examples

The **taxation of company cars in the UK** is a role model for a change of the relevant policy: The financial benefit for the private use of company cars depends on CO₂ emissions. The tax rate for petrol cars ranges from 15% of the list price for low emission cars (<140 g/ km) to 35% for high emission cars (>240 g/ km). Diesel cars pay a 3% supplement to reflect local air quality emissions. This change of taxation policy resulted in the reduction of the number of company cars by 25% within 4 years⁸⁸. Although an increase of use of private cars for business purpose has been observed, this is only partial compensation.

Additionally, in 2003 the company car tax fuel benefit charge was reformed. As consequence it can be observed that the proportion of company car drivers receiving free employer provided fuel for private use decreased significantly from 57% in 1997 to around 30% in 2005.

In contrast, the conditions in **Germany** are favourable for monomodal car-use: Taxation for private use of a company car doesn't take fuel consumption or emission into account ("flat rate tax": 1 % per month of the purchase price according to an official list, plus 0.03% of this value per km). This is similar to the company car tax system in the UK prior to April 2002 which encouraged employees to drive more business miles than they otherwise would have.

Why is this necessary?

Constant car availability is one of the strongest reasons for habitual car use and, once established, behavioural habits are not easily changed⁸⁹. Under these circumstances, and quite rationally, no real choice between different transport modes takes place, reducing at the same time the opportunities for fostering intermodality. Furthermore, car-based business mobility requires much less organisational effort than multi- and intermodal mobility⁹⁰, which needs organisational support, as part of a comprehensive approach of mobility management.

Business trips account for a remarkable share of the transport market⁹¹ (see table 26). And they show an increasing tendency⁹².

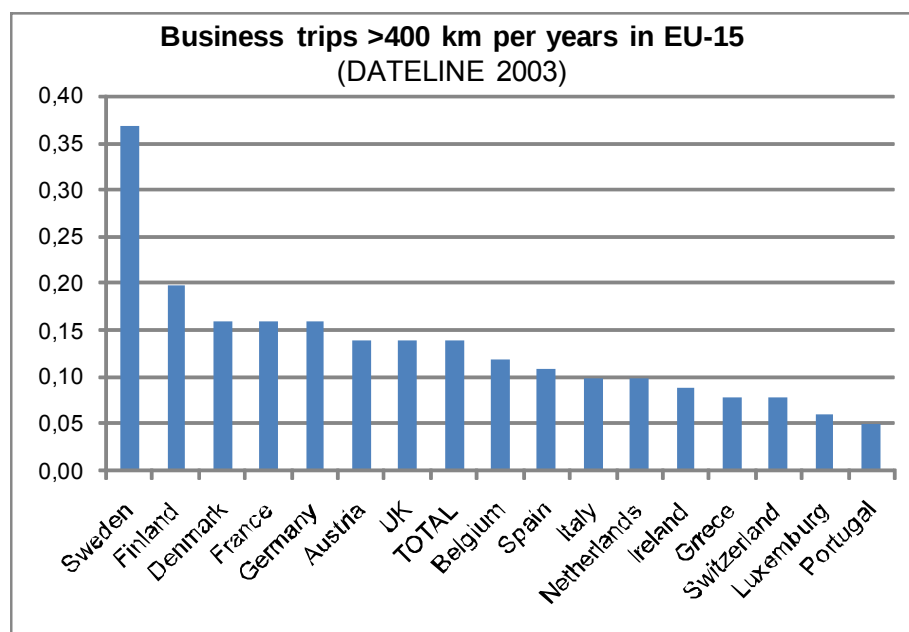
⁸⁸ The number of company cars in UK was reduced to around 1.2 million in 2005 compared with around 1.6 million in 2001 (source: HMRC 2006).

⁸⁹ There are sufficient research results highlighting the importance of car-ownership and (permanent/ regular) car-access on car-oriented transport behaviour.

⁹⁰ A company car offers permanent mobility with "flat rate" costs in contrast to the effort (transaction costs) to buy a train ticket - as backbone - and additional services (e.g. ticket for local public transport).

⁹¹ An overview of some European countries is given by the FP6 project KITE.

⁹² Increase of number of business trips 2004-2007 by 14% (companies and public institutions with ≥10 employees in Germany; VDR 2008)

Figure 26: Business trips per year**Table 5: Cars in Germany by type of registration and usage 2007**

<i>type of usage</i>	private only	private + business	business only
<i>type of registration</i>			
private car	78,3 %	15,1 %	0,5%
company car (free-lancer)	0,2%	1,7 %	0,0%
company car (employer)	1,2 %	1,9 %	0,5%

(N=420, source: INVERMO 2005)

The share of business journeys ranges in a European-wide (EU-15) survey on long-distance transport (EU-15) for distance from 100-400 km from 6% to 27%, and for trips of more than 400 km from 11% to 22% (DATELINE 2003). 5 % of the respondents reported to have made at least one business journey of more than 100 km length in the year in question – and 51 % holiday, 18 % other private trip (multiple answers possible). This makes average 0.6 long-distance business trips per year. In contrast, the share of business purpose of the total of journeys of more than 100 km is 22 % in EU-15 (ranging 8-25 %). In Germany, for example, 17% of all long-distance trips (>100 km) are business trips (average 1.3 business trips per person and year), 12% of the population (>14 years) actually makes long-distance business trips (INVERMO study). Business trips in general have increased in recent decades by number, but more significantly by distance⁹³. The majority of business trips are made by jobholders, mostly by those with permanent access to a car. This corresponds with the different opportunities to use a car for business purpose, which makes a share of 1/5 of all registered vehicles (see table). In addition to the existing fleet, a major share of *new* cars is registered for business purposes or by businesses⁹⁴. Controlling these will effectively affect the fleet as a whole.

⁹³ 1982 - 2002: increase of trips by 14 %, increase of distances by 2 Million km or by 50 % (Germany-wide survey MID 2002; own calculation)

⁹⁴ In Germany (2007): 62% (Kraftfahrt-Bundesamt); 50-70% of new car sales in UK; high market shares also in The Netherlands and Sweden (OECD/ITF 2008, p. 13).

Business trips follow other “rules” than trips for private purposes or trips by privately owned cars, mainly due the tax relief. Financial instruments and their reform have indirect, but massive impact on the transport behaviour (modal choice), but are even more relevant at the strategic level of car ownership. In addition to the ease of car purchase there is the dual usage of company cars for private purposes. Additionally, fuel is often paid for by the companies, and taxation makes this appealing, whereas alternative modes sometimes have less favourable conditions. Taxation policy is thus very relevant for achieving strategic political objectives. The EU objective on mitigation of CO₂ must also be noted (reduction of CO₂ emission in new cars 2008-2010 to 120 g/km with regard to the Kyoto objective)⁹⁵.

In addition to taxation and financial aspects, modal choice is driven by the status of car drivers (“big cars = prosperity”). This recommendation proposes breaking up the circle of favourable taxation for “big” cars with high emissions and incentives and additional tax benefits for employees.

Where is it applicable?

The practical steps towards inter-/multimodality in the companies need to be supported by “soft” measures which foster a modal shift from the monomodal car use.

Regulation concerning the usage of company cars is made at national level (legislation), but can and should be supported by the EU, e.g. through promoting convincing examples such as the British system and its financial and environmental benefits.

Discussion of implementation

Overview	Feasibility	Costs	Impact	Time	Other factors
	medium-difficult	medium	high	2-4 years	Depending on strong policy making

The overall agreement of about 200 stakeholders who took part in a consultation on LINK recommendations resulted in more agreement (79%) than disagreement (21%).

Feasibility

At the company level, strategic CSR and MM can be implemented easily. The desired changes of regulation should follow the existing examples of taxation such as the UK, but will face political difficulties⁹⁶, i.e. strong counteraction by the car industry. A crucial open question is whether application should cover existing fleets or just new vehicles. The complexity of the recommendation is reflected in the results of the consultation, that the feasibility would be difficult (43%). Only a minority thought it could be done easily (18%).

Potential impact

The impact of this condition is considered high due to the multiplier effect on companies and institutions. Changes need to be published (transparent reasons, changes easily to understand). In the consultation, a little over half of the stakeholders (55%) believed that this recommendation is crucial for enhancing intermodality (41% irrelevant or low, 4% counterproductive).

⁹⁵ A reform of the taxation related to car-use and car ownership - not only for business purposes - is an issue on a European scale (e.g. EC 2002, EC 2005, TNO 2006), but also at national level (FÖS 2008).

⁹⁶ The TNO Report (2006) states that “achievement of the harmonisation in the tax system proposed by COM(2005) 264 across Europe is likely to prove politically difficult” (p.12). The Impact Assessment accompanying this proposal noted that relatively few Member States explicitly linked their vehicle taxation with environmental objectives until then. But a survey of Member States undertaken for this project revealed that nine of the Member States have recently, or are considering, amending their vehicle taxation systems to take account of CO₂ emissions.

Costs

Regulation/legislation: indirect costs for adaptation of markets to new regulation (e.g. further development of energy efficient cars, etc.); additional measures (information, campaigns): medium costs (compared to e.g. infrastructure); in the consultation, almost half of the stakeholders estimated the costs “medium” in the category 500-5000 k EUR and a remarkable share (38%) as “low” (<500 k EUR), but only a minority as high.

Time for implementation

Depending on the political situation; the consultation resulted in almost equally 1/3 for short term implementation (<3 years), 1/3 medium term (3-5 years) and 1/3 longer term implementation (>5 years).

Interlinkages

- Recommendation 3.1 City assessment tool and quality label for long-distance intermodality. Such a tool and label would be helpful in mobility management activities targeting business travellers.
- Recommendation 3.2 CityFlex pass: would be a supportive tool to encourage more sustainable business trips.
- Recommendation 3.4 Mobility management for events, includes also business events like fairs and conferences.

Sources

- See Annex 6.3.

Expert support in developing this recommendation:

- Thomas Sauter-Servaes, mobilecular, Berlin, Germany.
- Bastian Chlond, TU Karlsruhe, Germany.
- Tom Rye, Napier University Edinburgh, UK.

VI Training and education

This field of intervention highlights the need to embed the topic of Passenger Intermodality in Universities and continuing education for practitioners as fundamental to improving expertise on Passenger Intermodality in the mid- to long-run.

Recommendation 19 Foster training and education on Passenger Intermodality

Working Group 4 - Planning and implementation (moderated by Rupprecht Consult)

Introduction of Passenger Intermodality and cooperative processes as topics for professional training courses for practitioners and in curricula of transport related study programmes.

Who should become active?

Initiative: European Commission, national transport ministries, transport authorities, large transport operators and associations in the field of transport

Implementation: Institutions of continuing education, associations in the transport sector that carry out training for their members, Universities

What is it about?

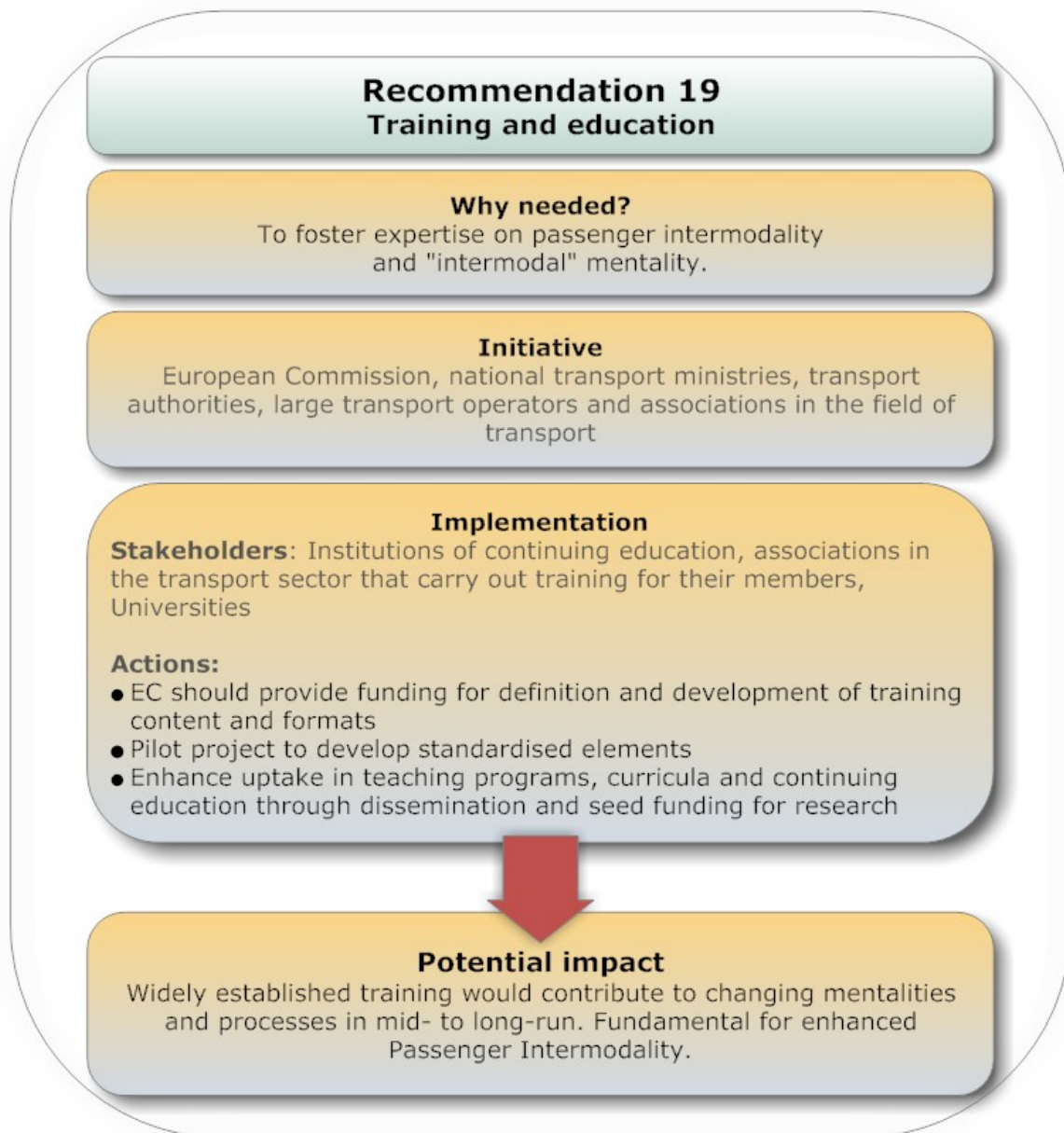
Intermodal related education must be provided from a total system perspective where the subject of intermodal transport becomes a component of existing and new degree and training programs for professionals.

New degree programs covering “Public Transport Management” (see Annex for details) need to enter the mainstream curricula of universities in Europe. In other words, initiatives that deal with “soft aspects” need to be coordinated with “hard aspects” of infrastructure platforms. “Public Transport Managers” (see definition in the appendix) facilitate the constructive interplay between infrastructure development and mobility management.

Passenger intermodalism deals not only with infrastructure integration and co-ordination, but also the human interface and behaviour. Consequently, it is important to include intermodality in professional training programs for potential stakeholders. A better knowledge of this field and a body of best practice incorporated in curricula would facilitate project success and move Europe forward on sustainable transport solutions.

The European Commission, in co-operation with national transport ministries and large transport operators and authorities should provide funding for the definition and development of relevant training contents. This could, partially, build on existing material from national, international or EU projects (see www.eu-portal.net) and research that have generated knowledge on passenger mobility and intermodality (cf. overview in EUPI study). The training material should take into consideration national specifics in the early implementation phases, eventually developing a “common language” of public transport management of which intermodalism is one important part, throughout the EU.

Figure 27: Overview recommendation 19 “Training and education”



In a pilot project, continuing education establishments and universities can in co-operation with local authorities and businesses develop and deliver education and training programs on best practice in public transport management, with clearly defined intermodal transport content. Such initiatives could test and refine offerings, to eventually represent standard elements of exemplary curricula throughout the European Union. Provision should be made at the European Union level to initiate education programs as widely as possible in the shortest possible time through existing and dedicated mechanisms. E-learning elements could help to disseminate the knowledge on a wider scale.

European and national associations in the field of transport (e.g. UITP, VDV - the public transport association in Germany) should actively make Passenger Intermodality a topic in training programmes for professionals. The training of practitioners should eventually become a task for stakeholders in the field of Passenger Intermodality and public transport management, as they would benefit most from better prepared staff in this field. There are two axes to this agenda:

- 1) “Mobility Managers” focusing on the soft aspects: facilitating use of existing provisions and creation of services using infrastructure; and
- 2) “Public Transport Managers” focusing on the co-ordination of infrastructure and service provision.

Examples of transport training programmes and teaching material at European level (e.g. TRUMP, UITP training programme) were successful and proved that there is demand for such activities (see box below). These programmes have demonstrated that the emphasis should be wider than transport per se and incorporate the “mobility agenda” by incorporating behavioural and management aspects.

In the freight transport sector there is a good example of the “Intermodal Masterclass” which has been organised by the EIA (European Intermodal Association) in co-operation with renowned academic institutions (see box below). Similar initiatives could also be undertaken in the Passenger Intermodality sector.

The key issue with those initiatives that already exist is to ensure that these are recognised and the initiators become participants in the EU wide drive to bring nations, regions and cities onboard in developing and managing public transport well. This can be achieved by providing seedcorn research funding into public transport and intermodalism to strengthen teaching programs, curriculum development and enhance the attractiveness of the field.

Why is this necessary?

Passenger Intermodality and multi-stakeholder co-operation are still rare topics in professional transport training. Continuing education courses on these topics are also lacking, although in some countries the topic of Passenger Intermodality is becoming more popular. Passenger Intermodality, especially for long-distance relations, is only slowly getting on to the curricula of universities, while the importance of more integrated transport is widely recognised as important element of modern transport policy.

The stronger introduction of training and education on Passenger Intermodality would have mid- to long-term benefits. It could help to make more people in charge of transport planning and related fields aware of the potential and the feasibility of multi-stakeholder co-operation to develop suitable intermodal products and services. Training and education on the topic of Passenger Intermodality should however not only focus on the direct contents of the topic but also link to topics such as public private partnerships, joint ventures, business planning and the wider aspects taught in the context of public transport management: management, psychology, marketing, strategy, sociology, etc.

Practice examples

TRUMP – Training Programme for Urban Transport Professionals

This EU project ran from 2002-2005. It offered a comprehensive European Training Programme for mid-career transport professionals working in local/regional authorities and for public transport operators. The Training Programme was funded by the Directorate General for Energy and Transport of the European Commission.



TRUMP was a broad training programme on urban transport. It included also an element on integration and intermodal services. The aim of the training was to improve the practical knowledge and competencies of professionals responsible for planning and managing more radical and integrated sustainable transport systems at the local/regional level.

Training Programme ★ ★ ★ ★ ★
for Urban Transport Professionals ★

The content of the Training Programme mainly built on the latest results of EU-sponsored research projects on clean urban transport, using as a starting point the whole range of relevant transport and energy projects. Particular attention was given to the policy dimension of the research projects in order to strengthen the links between Community research results and policy activities at all levels.

Evaluation showed that the training was seen as very useful. The project delivered on how to set up a European training programme on passenger transport and intermodality.

Website: Project website offline, summary available on:

<http://www.rupprecht-consult.eu/projects/trump.html>

Contact person: Siegfried Rupprecht, Rupprecht Consult (TRUMP Consortium Member),

s.rupprecht@rupprecht-consult.eu

PORTAL (Promotion Of Results in Transport Research And Learning)

In 2003 a first edition of training and teaching materials on Passenger Intermodality (integrated transport chains) was produced in the EU funded PORTAL project. The training and teaching materials are based on the results of EU funded research projects in 4th and 5th Framework Programmes. The PORTAL material was tested in various European Universities and higher education institutions, after which the material was adapted accordingly. In 2007 the material was updated with results from more recent EU funded research projects such as the EUPI project. All materials are free for downloading on the PORTAL website: www.eu-portal.net



Website: www.eu-portal.net

Contact person: Elke Bossaert, Mobiel 21, Belgium, elke.bossaert@mobiel21.be

UITP Training Programme on Public Transport

UITP offers regularly training courses for members and non-members. The target group are people working in the field of public transport. The trainers are UITP experts with extensive experience and knowledge of public transport. The courses usually take three days and enable to work intensely on the topic of the respective training course, e.g. training for public transport managers, training on public transport fundamentals, contracting.

This example shows that associations can become important providers of training and continuing education.

Website: www.uitp.org/events/trainings.cfm, Contact: Sarah Foulon, sarah.foulon@uitp.org

EIA Intermodal Master Class (freight sector)

The European Intermodal Organisation organised in co-operation with renowned academic institutions a training programme called the "Intermodal Masterclass", targeting professionals from the freight transport sector. The master class includes several sessions on different topics that are relevant to develop a sound understanding of freight intermodality issues (e.g. market structure and legal aspects, technical aspects, networks, business and operation models). The comprehensive training is given by experts on the different topics covered. Participants gain a greater understanding of freight intermodality, which also may help to better position themselves in the market.

Website: www.eia-ngo.com/file/Masterclass_results_press_GB.pdf

www.intermodaltransport.org/output.php?tid=2&menu=top&left=13&top=88

Where is it applicable?

Training arrangements seem to be suitable for the whole EU, while it is recommended to take into consideration national and regional specifics for the content of the courses. While certain general aspects of Passenger Intermodality seem to be valid across countries (e.g. need for cooperative processes), the national framework conditions and mentalities may be very different. Yet, it is important that a curriculum contains widely accepted standards and that best practice developed or used in one Member State is readily available to another one. Education programs are an excellent vehicle to achieve this, but their content should include best practice and research that can be “general”, whilst the format and procedures can be different. In this context it is important to observe the standardisation sought in the EU through the Bologna process (or Bologna accords) which seeks to create “the European higher education area” by making academic degree standards and quality assurance standards more comparable and compatible throughout Europe, in particular under the Lisbon Recognition Convention. It is therefore recommendable that national institutions are involved in defining tailored education and training material for different countries. The introduction of Passenger Intermodality as a topic in the curricula of Universities would also need to take into account national or regional structures that define the content of the courses. The Commission should make efforts to initiate and support degree programs in “public transport management” and ascertain that such programs cover not only the management aspects of co-operation, but also the physical aspects of intermodal transport.

Discussion of implementation

Overview	<i>Feasibility</i>	<i>Costs</i>	<i>Impact</i>	<i>Time</i>	<i>Other factor:</i>
	high-medium	low-medium	high	less than 5 years	Impact in mid- to long-run

This recommendation was subject to an online expert consultation in spring 2009. Nearly 90% of the participating experts stated that they agree (55%) or strongly agree (34%) with the need for more and better training and education on Passenger Intermodality issues.

Feasibility

In general it seems feasible to establish Passenger Intermodality and multi-stakeholder co-operation as topics in professional training, where the detailed operational and management aspects can be focused upon. In the expert consultation most experts saw a medium (54%) or high (37%) feasibility for the recommendation.

It is especially pressing to introduce education in public transport management, both as separate degree programmes and as individual modules in established university programmes such as civil engineering, transport engineering, transport planning, urban planning, and so forth in the Universities.

Intermodality-per se will probably not be introduced as self-standing university degree programmes. However, “public transport management” or “mobility management” certainly should. In such a degree program there should be a module covering “intermodal passenger transportation”.

The management aspect of public transport could even be offered through the business schools as well as through engineering and transport department in the universities. Such programmes should be designed on the basis of best practice, research and well supported curriculum development that can be readily accessed by the various Member States in order to facilitate the creation of standards and a common language throughout the European Union.

For both training and education strong EU and national support is needed to fund the development of training material and dissemination structures. The key to success is to involve as many stakeholders in such an initiative as possible in order to facilitate national, regional and local ownership. A degree of flexibility should be assumed to encourage smooth implementation and adoption.

Costs

This would include funding for pilot projects at EU and national level and for marketing activities to bring the topic into the curricula of universities and continuing education institutions. This could include earmarked funds for curriculum development in public transport management, starting programs in the field and supporting participants through contributions to fees to achieve impact as rapidly as possible. In the expert consultation most respondents (90%) expected low (<500 K EUR) to medium (0.5-5.0 M EUR) costs to realise the recommendation.

Potential impact

The impact would be difficult to measure. It can however be assumed that widely established education and training on the topic would contribute to changing mentalities and processes. Such a process would however take time and must assume a long-term horizon. The immediate impact of emission reduction targets in cities as part of national objectives for CO₂ reduction could facilitate this transformation and step up demand for both education and training in making intermodal transportation a success as well as public transport management in general, including mobility management.

In the expert consultation the majority of experts (59%) expected the impact to be crucial, while many experts stressed that a real impact can only be expected in the long-run.

Time for implementation

To set up pilot projects on this, approx. 3 years. Objectives for bringing public transport management and intermodal transport into curricula should be set as part of training programmes, continuing education and university degree programs. Exemplary programmes could be created rapidly in few pilot countries and then extended step by step across the EU. Given the role public transport plays in the quality of life in cities and the escalating concern over fossil fuel emissions, there is urgency to speed up changes – and intermodal transportation plays an ever larger role in luring people out of the car.

Interlinkages

- Priority fields for training and education can draw on the identified priorities for Passenger Intermodality that have been identified in selected other LINK recommendations. The training and education recommendation has cross-cutting character.
- EUPI study⁹⁷: Recommendation 26 “Training programmes for stakeholders”

Further examples/sources

- IARO (International Air Rail Organisation): Conferences, seminars and site visits on air-rail intermodality. Website: <http://www.iaro.com/events.shtml>
- Jerwell III, Jonathan BLK et al. (2000), Intermodal education in comparative perspective. In: Transportation Law Journal. Volume 27/ Issue 3⁹⁸
Available from LINK Virtual Library: http://www.linkforum.eu/vl_content.phtml?id=341
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website: www.svpt.de/Projekte/SchlussberichtLAIVEndfassung.pdf

Expert support in developing this recommendation:

Sveinn V. Gudmundsson, Toulouse Business School, France.

⁹⁷ EUPI Study. ILS (2004). Report 3: Recommendations for Advancing Passenger Intermodality in the EU.

⁹⁸ Abstract: “This article explores the current state of intermodal education and suggests steps to advance the state of the discipline. The study presented has two major foci, which will be pursued broadly in the context of supply and demand. The first, the demand side, delves beneath the process of intermodalism, to identify whether there are any particular skills or knowledge needed of the intermodal workforce, and to identify the skill sets involved. The second is to identify degree and training programs that are in place, and which supply the skills identified.”

5 Conclusions

The LINK Forum brought together several hundreds of stakeholders from the field of Passenger Intermodality in Working Group meetings, conferences and national events. The discussions, in the Working Groups and the follow-up activities, generated 19 recommendations that summarise substantial ideas on how to enhance Passenger Intermodality in Europe. It is the first time that such a broad discussion on Passenger Intermodality has taken place.

5.1 Highlight recommendations

While the presentation of the recommendations along the six (I-VI) fields of intervention guides the reader to important areas in which stakeholders can become active, it may be difficult to assess the potential and value of the recommendations at a glance.

To facilitate a clearer view on the recommendations, they are assessed, classified and presented by type and characteristics, to help stakeholders to identify the recommendations with most added-value. Recommendations are grouped into the following categories:

- **Core measures** that can make a major contribution to enhancing Passenger Intermodality in selected sub-areas in Europe. Core recommendations are those that have a potentially high impact and seem to be feasible.
- **Short-term measures** that can realistically be implemented in less than 2 years and have a medium to high feasibility.
- **“Low cost wins”** are those recommendations that seem to be feasible, can be implemented without high costs, and afford good value for the money spent.
- **“Forward thinking”** are those recommendations that have a potentially high impact, but cannot realistically be implemented in the short-to-mid run or lack feasibility in the current context conditions. Nevertheless they have been included in this report as “food for thought”, to provide ideas for the future of Passenger Intermodality. It may be that they become realistic and promising measures in the future.
- **Research needs** for the area of Passenger Intermodality, have already been summarised in the LINK Report “Identification of needs for further research” (Deliverable D23b). The recommendations in this report partially include research aspects. This can be particularly valuable as input to future research programmes at European or national level.

A recommendation can fit one or more of the types and characteristics mentioned above. The last column in the table below presents the results of the screening in an overview.

The recommendations provide, for core areas of Passenger Intermodality, a sound basis for further discussion and concrete actions. It is desirable that the European Commission and other stakeholders whose involvement is needed to foster the further integration of transport modes, make good use of the results from the LINK Forum. Some are highly feasible and could be quickly implemented. Others point more to possible future actions, in a context that, hopefully, will be characterised by the development of a more integrated perspective on long-distance passenger transport.

Assessment overview

The following table provides an overview on the discussion of implementation. As explained in chapter 2, this assessment exercise can not be completely objective, but facilitates the easier view on the most promising recommendations, based on expert views.

Table 6: Overview of assessment results

	Feasi- bility	Cost	Impact	Time	Type/ Charac- teristics
I Policy and funding					
1 Create a European vision/White Paper for a European door-to-door intermodal passenger travel information service	low - medium	medium	medium -high	6-10 years	Forward thinking
2 Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner	high	low	high	1 year	Core Short term Low cost
3 Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport	high	low	medium - high	6 months	Core Short term Low cost
4 Introduce a new EU funding programme "Vasco da Gama" for long-distance, international Passenger Intermodality	high	medium-high	high	2-5 years	Core
5 Work towards advanced intermodal passenger rights	medium	low	high	2-4 years	Forward thinking
II Directives and regulation					
6 Establish obligatory delivery of data and information in the field of ticketing and information					
6.1 Establish a European directive which requires transport operators to make travel planning data available to journey planning providers	low - medium	medium	high	5-10 years	Core
6.2 Establish obligation to make standardised tariff and timetable information available on request to authorities responsible for passenger transport information provision	medium-high	medium	high	5-10 years	Core
6.3 Make provision of door to door ticketing information mandatory for long-distance rail-ticket distributors	high	low	high	2 years to issue regulation	Core
III Standardisation and technology					
7 Develop standard for long-distance electronic ticketing in TAP-TSI to allow compatibility with local fare management systems	high for standard, medium for roll-out	low for standard, medium for roll out	high	1 year for Standard definition + roll-out (much longer)	Core Short term
8 Create common quality standards for interchanges	medium - difficult	low, less than 0.5 M EUR for developing	high	less than 5 years	Forward thinking

	Feasibility	Cost	Impact	Time	Type/Characteristics
		standards			
IV Assessment and planning					
9 Develop and establish city assessment tool and quality label for long-distance intermodality	medium	medium	low	2-3 years	Short term
10 Elaborate and establish new business models for effective interchange management	high	low	high	max. 4 years	Core Low cost
11 Develop a toolkit for a good design of an interchange	high	low, less than 600'000 EUR	high	Less than 2 years	Core Short term Low cost
12 Develop integrated airport accessibility plans	medium	low	high	1.5-2 years	Short term
13 Foster intermodal business plans					
13.1 Develop framework methodology for quantification and monetary assessment of impacts in business plans	medium-low	medium	n.a.	<5 years	Forward thinking
13.2 Establish long-term flexible profit sharing arrangements as basis for investments	high	low	medium	3 years	Forward thinking
V Innovative products and services					
14 Establish common "CityFlex pass" concept	low	high	high	3 years	Forward thinking
15 Develop innovative local taxi services	medium	medium	Low	1 year	Short term
16 Integrate cooperation and information platforms into a mobility centre for the mobility management of large events	medium	medium	high	2 years before the event	Short term Forward thinking
17 Provide early information to travellers about airport links and accessibility	medium	low	medium	3 months > 3 years	Short term
18 Create a pull and push strategy for business trips	medium-low	medium	high	2-4 years	Forward thinking
VI Training and education					
19 Foster training and education on Passenger Intermodality	high-medium	low-medium	high	< 5 years	Core Low cost

Core recommendations

Eight recommendations, as listed below, have been identified that have the potential to decisively enhance Passenger Intermodality in Europe over the next few years.

One of the key fields that provides feasible and high impact recommendations is **traveller information and ticketing**.

Recommendation 2

Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner

Recommendation 6 (with sub-recommendations 6.1 and 6.2)

Establish obligatory delivery of data and information in the field of ticketing and information

Recommendation 7

Develop standard for long-distance electronic ticketing in TAP TSI to allow compatibility with local fare management systems

There is urgent need to foster co-operation in this field and to ensure that necessary data and information for intermodal services is made available. It cannot be taken for granted that operators and providers of traveller information will co-operate sufficiently on a voluntary basis. Therefore it will be necessary to introduce directives and regulations that ensure that customers can be provided with truly integrated traveller information and ticketing solutions. Furthermore there are still open questions of technical co-operation to achieve a European solution of a door-to-door intermodal journey planner, which should be discussed among the relevant stakeholders and addressed in a common road-map. Standardisation issues that consider the integration of long-distance electronic ticketing to allow compatibility with local fare management systems have so far not been sufficiently covered. The LINK Working Group on the topic of information and ticketing has drawn-up feasible ways to address these issues.

The area of **interchanges** is highly relevant to enhancing Passenger Intermodality. Interchanges are the physical and organisational spots, where different transport modes come together. Many stakeholders need to co-operate to guarantee high-quality services for the passengers.

Recommendation 10

Elaborate and establish new business models for effective interchange management

Recommendation 11

Develop a toolkit for a good design of an interchange

There is still a lack of knowledge and guidance on how to design and operate interchanges that enable smooth and convenient travel chains. The LINK Working Group on the topic of Networks and Interchanges drew-up some promising ways of how this deficit could be addressed.

A recommendation that received a lot of encouragement from the side of practitioners is the proposal to introduce a new **EU funding programme on Passenger Intermodality**, working title “Vasco da Gama”. Similarly to the Marco Polo programme in the area of freight intermodality, such a recommendation could do a very important job to demonstrate the feasibility and benefits of products and services in the area of Passenger Intermodality. This is still a major gap and it seems that the European Commission is the only level that could feasibly take on the task to fill it. Without such a programme, many operators and other stakeholders would probably not dare to try innovative measures that always include some risks.

Recommendation 4

Introduce a new EU funding programme “Vasco da Gama” for long-distance, international Passenger Intermodality

The field of **training and education** is also a core area to foster Passenger Intermodality in the mid- to long-run. Throughout the LINK Forum it has become clear that mentalities and expertise in this area can only change if the stakeholders find more opportunities to learn about the complex issues surrounding Passenger Intermodality.

Recommendation 19
Foster training and education on Passenger Intermodality

Another recommendation points to a first step to make the topic of Passenger Intermodality more visible, particularly in the area of setting a research agenda by industry and other key stakeholders. A **Working Group of existing European Technology Platforms (ETPs)** in the area of passenger transport could play an important role in providing input to the EC and in enhancing networking activities between the participating stakeholders.

Recommendation 3
Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport

Short term actions

The following nine recommendations can be realised very quickly as a first immediate step in less than 2 years. It will be important to create some visibility in the short-term for the topic of Passenger Intermodality. Seven recommendations highlight areas where this is possible.

Some of the core measures from the area of **information and ticketing** and **interchange design** are feasible within a short period of time. These are activities that can be considered important fundamentals for further activities towards highly integrated services.

Recommendation 2
Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner

Recommendation 7
Develop standard for long-distance electronic ticketing in TAP TSI to allow compatibility with local fare management systems

Recommendation 11
Develop a toolkit for a good design of an interchange

A quick core measure that can help to bring Passenger Intermodality into research programmes in the mid- to long-run and that would serve for informal networking by key players is the formation of a **joint Working Group of existing ETPs**. This can also be considered a preparatory action for further actions.

Recommendation 3
Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport

Airports are important nodes where potentially many transport modes come together. Better **planning of access** to these nodes has the potential to lay the basis for further integration of air and other modes in the future.

Recommendation 12
Develop integrated airport accessibility plans

Finally there are also two concrete proposals for **innovative services and products** in Passenger Intermodality that would be feasible in the short-run. These measures will not change the fundamentals of how passenger transport works today, but could be important beacon projects to show the benefits of better integrated transport and information services.

Recommendation 15

Develop innovative local taxi services

Recommendation 17

Provide early information to travellers about airport links and accessibility

“Low cost wins”

The financing of proposals to enhance Passenger Intermodality will always be a critical discussion point. The LINK recommendations include high cost measures such as the proposed “Vasco da Gama” funding programme. Such a recommendation is justified due to the high expected impact. However, it is clear that EC and stakeholders' resources are tight and usually allocated to priority fields. Therefore it is important to highlight the five LINK recommendations, which can potentially achieve a good impact at relatively low cost.

This includes measures that would:

- provide important ground work for fostering an **“intermodal mentality” and enhanced co-operation** in different fields (recommendations 2, 3, 10, 19);
- provide **tools to become active on the ground** for better interchange design and operation (recommendations 10, 11);
- provide an **opportunity for exchange and networking** (recommendations 2, 3, 19).

Recommendation 2

Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner

Recommendation 3

Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport

Recommendation 10

Elaborate and establish new business models for effective interchange management

Recommendation 11

Develop a toolkit for a good design of an interchange

Recommendation 19

Foster training and education on Passenger Intermodality

“Forward thinking”

Some of the recommendations will not be realistically taken forward in the near future. The current situation is still not very favourable for some of the ideas that could have a strong impact on enhancing Passenger Intermodality. The LINK Working Groups however, had the freedom to think about what could be possible in the future.

For the field of **European intermodal door-to-door passenger information** services the idea of a **European vision or White Paper**, which would be driven by a European Steering Committee and supported by a study, is appealing. It seems however that the topic is only of medium priority for the EC and many member states. Maybe this will change with the activities surrounding the new European transport White Paper expected to be issued in 2010.

Recommendation 1

Create a European vision/White Paper for a European door-to-door intermodal passenger travel information service

In the field of **interchange design**, it would be relatively easy to develop and disseminate **standards**, based on existing material. The challenge would here be to make stakeholders apply them. This seems more difficult at the moment, but might change in the future if the topic receives a higher priority.

Recommendation 8

Create common quality standards for interchanges

Not necessarily better regulation is needed in order to improve the treatment of passengers and to make intermodal travelling in general more attractive, but the existing **passenger rights** should be enforced more strictly. So travellers with complaints can actually get their rights; but being informed about their rights is of the same relevance.

Recommendation 5

Work towards advanced intermodal passenger rights

Very important, but complex and challenging is the area of **intermodal business plans**. In an increasingly open passenger transport market, services and products for seamless travelling need to have a convincing business case. However, at the moment there is a lack of suitable methodologies and profit sharing arrangements. The complexity of the concept, the multi-stakeholder environment and the sensitivity of business data however, is a big barrier to realise this recommendation in the near future. Some ground breaking work however would be possible and highly important. This should include more research on the costs and benefits of Passenger Intermodality and the documentation of intermodal business cases.

Recommendation 13

Foster intermodal business plans

The idea of a common solution for an **integrated “CityFlex pass”** sounds appealing. However, revenue sharing and co-operation needs set high barriers for realising this in the near future.

Recommendation 14

Establish common “CityFlex pass” concept

Finally the concept for the segment of long distance **business trips** seems promising as combining incentive of reformed taxation with improved transport services suitable for the target group (using the approach of mobility management).

Recommendation 18

Create a pull and push strategy for business trips

Research needs in recommendations

“Research needs”, as understood in this section, comprise a variety of activities possibly to be funded by EU or national research programmes. It can include a variety of activities, from theoretical research on fundamental questions and methodologies, to feasibility studies, exchange and training to practical demonstrations. Therefore also tasks that point towards implementation and might be included under the roof of research programmes have been included in the list below. The aim of the table below is to highlight the most pronounced research needs identified in the working groups that could become elements of future research work programmes.

Table 7: Most pronounced research needs identified in LINK Working Groups

Recommendation		Identified research need
1	Create a European vision/White Paper for a European door-to-door intermodal passenger travel information service	Study commissioned by the EC to assess what sort of long-distance passenger travel information service is possible and realistic to deliver at the current time.
2	Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner	Development of road-map could be part of feasibility study proposed in recommendation 1.
3	Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport	Definition of Strategic Research Agenda for the field of Passenger Intermodality.
4	Introduce a new EU funding programme “Vasco da Gama” for long-distance, international Passenger Intermodality	Modal shift demonstration activities. Catalyst actions that focus on fostering innovation. Common learning actions to foster European exchange. Including monitoring and evaluation elements.
5	Work towards advanced intermodal passenger rights	European platform on passenger rights as one source for all modes and all countries on a website. Studies on evaluation of regulations.
6	Establish obligatory delivery of data and information in the field of ticketing and information	Recommendation 6.1: Partially based on investigations that would be part of recommendation 1.
7	Develop standard for long-distance electronic ticketing in TAP TSI to allow compatibility with local fare management systems	Evaluation of willingness of long-distance operators to pay for the extra cost for enabling standard long-distance ticket with e-ticket recognition equipment recognition. Possibly pilot project for commercial case.
9	Develop and establish city assessment tool and quality label for long-distance intermodality	Creating a common methodology for benchmarking and a European information system to collect data from each city involved.
10	Elaborate and establish new business models for effective interchange management	Development of a draft business model (different alternatives). Test of business models in practice.
11	Develop a toolkit for a good design of an interchange	Development of interactive and web-based standard toolkit by Working Group of experts.
13	Foster intermodal business plans	Recommendation 13.1: Development of a suitable framework methodology for the quantification and monetary assessment of intermodality impacts for business plans in the field of Passenger Intermodality. Recommendation 13.2: Elaboration of EU standard arrangement for flexible profit sharing.
16	Integrate cooperation and information platforms into a mobility centre for the mobility management of large events	Creation of ICT tools to support the mobility centres and to provide tailor-made travel advice and information, possibly updated throughout the entire journey. Development of marketing-based combined travel products, tailored to event target groups.
19	Foster training and education on Passenger Intermodality	Development of training contents. Pilot project to develop standardised training and educational elements. Seed funding for research in Passenger Intermodality.

5.2 Concluding key message

The LINK Working Groups had the challenging task of developing recommendations for one of the most complex and multi-faceted topics in long-distance transport. The participating experts represented a broad variety of stakeholders. All of them agreed that there is an urgent need for the further integration of transport modes to increase the efficiency of the overall transport system, tackle environmental challenges and improve the service quality for the long-distance traveller.

It is encouraging that the European Commission recognises the need for a better integration of transport modes to increase efficiency and innovation in the transport sector. This is visible in the EC's current work on the next Transport White Paper. In the LINK Working Groups it was stressed that the European Commission must become a key player that initiates and pushes forward actions to enhance the integration of transport modes. Neither the private sector nor national, regional or local authorities will be willing or able to do this job on their own. This does not mean that these stakeholders are not needed. They will have an indispensable role in moving things forward in the diverse fields that are comprised by Passenger Intermodality. Only true co-operation in a complex multi-stakeholder environment can realise actions that will have a real impact. The EC has the chance to initiate this process and to bring together the right actors.

The LINK recommendations present a rich pool of concrete ideas on what should be done by a variety of stakeholders to enhance Passenger Intermodality in Europe. The list of recommendations is not comprehensive, but it covers the core areas that must be addressed. The LINK Working Groups elaborated a rich portfolio of recommendations. This chapter highlights the "Core measures", "Short-term measures", "Low cost wins" and "Forward thinking" measures that point to future solutions.

Furthermore, there are still many research gaps, identified by the Working Groups, that need to be filled to move ahead in the area of Passenger Intermodality.

The LINK Working Groups also provided a forum for stakeholders to exchange and network. Overall the participants provided a very positive feedback on the activities in the Working Group meetings and LINK Conferences. This shows that there is the need to provide opportunities for discussion and the development of solutions to foster Passenger Intermodality in Europe.

6 Annex

6.1 Participants at Working Group meetings

Participants at 1st WG meeting, Utrecht

The experts who participated in the 1st WG meeting supported the elaboration of the LINK Working Group Agenda that defined the key challenges to be discussed in the following meetings.

Table 8: Participants at 1st WG meeting

Name	Function/ Institution
Working Group 1	Door-to-door information and ticketing
Gaetano BATTOCCHIO	Director of MOVELIA (Spain)
Margareta BERG	Managing Director SLTF Resekortet i Sverige AB (Sweden)
Manfred BRANDL	Project Leader of Steirische Verkehrsverbund GmbH (Austria)
François GUILLAUME	Project Manager RATP (Paris)
Bram MUNNIK	Manager of 9292ov.nl (Netherlands)
Berthold RADERMACHER	Leader of standardisation unit in VDV (Verband deutscher Verkehrsunternehmen, Germany)
Jürgen ROSS	Project Leader of EU SPIRIT, Head of Dept. Info Systems in VBB (Verkehrsverbund Berlin-Brandenburg GmbH, Germany)
Stephan SCHNITTGER	Managing Director Inovaplan GmbH (Germany)
Roger SLEVIN	Standards Manager DfT (UK)
Jan CHRISTIAENS	LINK/ Mobiel21 (BE)
Paul RILEY	LINK/ Moderator, Director of Jacobs Consultancy spol. (Czech republic)
Alexandra HOLUBOVÁ	LINK/ Rapporteur, consultant at Jacobs Consultancy spol. (Czech republic)
Working Group 2	Intermodal networks and interchanges
Mirela CHIURTU	Ministry of Transport, Romania
Alberto CILLERO	ALSA Intercity bus operator, Spain
Emile GAUMART	RATP Paris Public Transport, Paris, France
Stefan JUGELT	European Passenger Federation (Belgium)
Isabelle LAPLACE	M3 Systems consultants, France
Katrin NAPRAVNIK	Unique (Zürich airport) Switzerland
Carsten SCHABER	Darmstadt Technical University, Germany
Einar TUFVESSON	National Road Admin, Borlänge, Sweden
Jean-Frederic COLLET	LINK/ Moderator, RATP, Paris Public Transport, Paris, France
Bertil HYLÉN	LINK/ Rapporteur, VTI Transport Research, Stockholm, Sweden
Elke BOSSAERT	LINK/ Mobiel21, Leuven, Belgium

Name	Function/ Institution
Working Group 1	Door-to-door information and ticketing
Gaetano BATTOCCHIO	Director of MOVELIA (Spain)
Margareta BERG	Managing Director SLTF Resekortet i Sverige AB (Sweden)
Manfred BRANDL	Project Leader of Steirische Verkehrsverbund GmbH (Austria)
François GUILLAUME	Project Manager RATP (Paris)
Bram MUNNIK	Manager of 9292ov.nl (Netherlands)
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Stephan SCHNITTGER	Managing Director Inovaplan GmbH (Germany)
Roger SLEVIN	Standards Manager DfT (UK)
Jan CHRISTIAENS	LINK/ Mobiel21 (BE)
Paul RILEY	LINK/ Moderator, Director of Jacobs Consultancy spol. (Czech republic)
Alexandra HOLUBOVÁ	LINK/ Rapporteur, consultant at Jacobs Consultancy spol. (Czech republic)
Working Group 3	Integration of long-distance transport with the “last urban mile”
Javier ALDECOA	Técnico Principal (Director of intermodality planning)/Consorcio Regional de Transportes de Madrid.
Natascha VAN BENNEKOM	Advisor/Fietzersbond (Dutch cycling union)
Dominique DESCOLAS	VEOLIA TRANSPORT
Dirk DUFOUR	Spatial and Transport Planner/Espaces-Mobilité
Rob JEURING	Ecorys-AVM
Marcin WOLEK	Councilor/Gdynia City Council & University of Gdansk - Department of Transportation Market; LINK PAB Member
Raf CANTERS	LINK/ Mobiel 21
Ivo CRÉ	LINK/ Moderator, Polis
Leire IRIARTE	LINK/ Rapporteur, Polis
Working Group 4	Planning and implementation
Jacques BIZE	Head of systems and transport CERTU (France)
Katarzyna DARGIEL	Expert Ministry of Transport, Railway Department (Poland)
Hans G. FAKINER	Commissioner for intermodality Fraport AG (Frankfurt Airport, Germany)
Kurt HULTGREN	Secretary General Resenårsforum (Sweden)
Gareth KYBETT	Independent transport consultant GKT Consult (German/ UK)
Janos MANGEL	Head of rail transport engineering department Fomterv (Hungary)
Stephan SCHNITTGER	Managing Director Inovaplan GmbH (Germany)

Name	Function/ Institution
Working Group 1	Door-to-door information and ticketing
Gaetano BATTOCCHIO	Director of MOVELIA (Spain)
Margareta BERG	Managing Director SLTF Resekortet i Sverige AB (Sweden)
Manfred BRANDL	Project Leader of Steirische Verkehrsverbund GmbH (Austria)
François GUILLAUME	Project Manager RATP (Paris)
Bram MUNNIK	Manager of 9292ov.nl (Netherlands)
Berthold RADERMACHER	Leader of standardisation unit in VDV (Verband deutscher Verkehrsunternehmen, Germany)
Jürgen ROSS	Project Leader of EU SPIRIT, Head of Dept. Info Systems in VBB (Verkehrsverbund Berlin-Brandenburg GmbH, Germany)
Stephan SCHNITTGER	Managing Director Inovaplan GmbH (Germany)
Roger SLEVIN	Standards Manager DfT (UK)
Jan CHRISTIAENS	LINK/ Mobiel21 (BE)
Paul RILEY	LINK/ Moderator, Director of Jacobs Consultancy spol. (Czech republic)
Alexandra HOLUBOVÁ	LINK/ Rapporteur, consultant at Jacobs Consultancy spol. (Czech republic)
Víctor SÁNCHEZ SAURA	LINK/ Equipo de Técnicos en Transporte y Territorio S.A. ETT (Spain)
Siegfried RUPPRECHT	LINK/ Moderator Director, Rupprecht Consult GmbH (Germany)
Sebastian BÜHRMANN	LINK/ Rapporteur Rupprecht Consult GmbH (Germany)
Working Group 5	Context conditions for intermodality
Anke LOBMEYER	Schlichtungsstelle Mobilität c/o Verkehrsclub Deutschland (VCD), Germany
Bastian CHLOND	Universität (TH) Karlsruhe, Institut für Verkehrswesen, Germany
Botond ABA	Közlekedéstudományi Intézet - Organisation for Regional Public Transport Management, Hungary
Claes ERIKSSON	VTI Stockholm (LINK consortium partner) , Sweden
Maria LOPEZ-LAMBAS	TRANSyT-UPM (Transportation Research Center - Universidad Politécnica de Madrid), Spain
Richard WALLACE	Transport for London (TfL), London Rail, UK
Pierre MOISE	TRANSDEV
Herbert KEMMING	LINK/ Moderator, ILS, Germany
Patrick HOENNINGER	LINK/ Rapporteur, ILS, Germany
Rick LINDEMAN	LINK/ SenterNovem, Netherlands

Participants at 2nd WG meeting, Cologne

Table 9: Participants at 2nd WG meeting

Name	Function/ Institution
Working Group 1	Door-to-door information and ticketing
Tomáš STÁREK	Project manager, TELEMATIX Services a.s. (Czech republic)
Michel BARJANSKY	Project manager, RATP (France)
Stephan SCHNITTGER	managing director Inovaplan GmbH (Germany)
Roger SLEVIN	standards manager DfT (UK)
Mac LOGAN	Managing director, JourneyPlan Ltd.
Rick LINDEMAN	LINK/ SenterNovem (Netherlands)
Victor SANCHÉZ	LINK/ ETT (Spain)
Paul RILEY	LINK/ Moderator, Director of Jacobs Consultancy spol. (Czech republic)
Alexandra HOLUBOVÁ	LINK/ Rapporteur, consultant at Jacobs Consultancy spol. (Czech republic)
Working Group 2	Intermodal networks and interchanges
Claes ERIKSSON	VTI, Linköping (Sweden)
Kurt HULTGREN	Resenårsforum, Stockholm (Sweden)
Leszek WILCZYNSKI	Ship Design and Research Center (CTO), Gdansk (Poland)
Erl WILKIE	Cycling Scotland, Glasgow (Scotland, UK)
Markus PAUL	LINK/ FGM-AMOR, Graz (Austria)
Doina ANASTASE	LINK/ URTP, Bucharest (Romania)
Roberto De TOMMASI	LINK/ Moderator, synergo, Zürich (Switzerland)
Jean-Frédéric COLLET	LINK/ Moderator, LINK/ RATP, Paris (France)
Catherine ROGGE	LINK/ Rapporteur, LINK/ RATP, Paris (France)
Working Group 3	Integration of long-distance transport with the “last urban mile”
Dirk DUFOUR	Espace-Mobilité (Belgium)
Josef SCHNEIDER	European Passenger Federation (Belgium)
Rob JEURING	Ecorys-AVM (KITE expert) (The Netherlands)
Marcin WOLEK	Gdynia County Council (Poland)
Roberto PALACIN	Newcastle University, NewRail - Newcastle Centre for Railway Research (UK)
Javier ALDECOA	Comunidad de Madrid - Consorcio Regional de Transportes de Madrid (Spain)
Werner GRONAU	LINK/ Intercollege - school of business (Cyprus)
Elke FRANCHOIS	LINK/ Mobiel21 (Belgium)
Sylvain HAON	LINK/ Moderator, POLIS (Belgium)
Ivo CRÉ	LINK/ Rapporteur, POLIS (Belgium)

Working Group 4	Planning and implementation
Sveinn GUDMUNDSSON	Professor at Toulouse Business School (France)
Hans G. FAKINER	Commissioner for intermodality, Fraport AG (Frankfurt Airport, Germany)
Jörg LAST	Managing Director, STRATA Gesellschaft für Daten- und Informationsmanagement (Germany)
Gareth KYBETT	Independent transport consultant, GKT Consult (Germany/UK)
Veselko PROTEGA	Zagreb University, Faculty of Transport and Traffic Sciences (Croatia)
Elke BOSSAERT	LINK/ Managing director, Mobiel 21 (Belgium)
Gé HUISMANS	LINK/ Senior traffic expert SenterNovem (Netherlands)
Wojtek SZYMALSKI	LINK/ Zielone Mazowse (Green Masovia, Poland)
Siegfried RUPPRECHT	LINK/ Moderator, Director Rupprecht Consult GmbH (Germany)
Sebastian BÜHRMANN	LINK/ Rapporteur, Rupprecht Consult GmbH (Germany)
Working Group 5	Context conditions for intermodality
Yves AMSLER	UITP, Secretary General's Projects & Development Advisor, EuroTeam (Belgium)
John AUSTIN	Austin Analytics (Consultant) (UK)
Bastian CHLOND	Researcher at Universität Karlsruhe (TH) (Germany)
Willi DIETRICH	City of Zurich, Civil design Dep. (Switzerland)
Mikael HANSEN	Consultant & freelance journalist IMAGITA (Denmark)
Maria Eugenia LOPEZ-LAMBAS	Profesora Titular de Transportes at Transportation Research Center of the Universidad Politécnica de Madrid (Spain)
Bertil HYLEN (17.06.08)	LINK/ VTI (Sweden)
Janos MONIGL	LINK/ TRANSMAN (Hungary)
Jan CHRISTIAENS	LINK/ Mobiel 21 (Belgium)
Volker HOFFMANN	LINK/ FGM-AMOR (Austria)
Ulrike REUTTER	LINK/ Moderator, ILS (Germany)
Patrick HOENNINGER	LINK/ Rapporteur, ILS (Germany)

Participants at 3rd WG meeting, Madrid

Table 10: Participants at 3rd WG meeting

Name	Function/ Institution
Working Group 1	Door-to-door information and ticketing
John AUSTIN	Public transport consultant, Austin Analytics (UK)
Margareta BERG	Managing Director, Resekortföreningen (Sweden)
Gilles de CHANTERAC	Senior Engineer, SNCF (external consultant for them) (France)
Volker HOFFMANN	FGM-AMOR, LINK Consortium (Austria)
Jozef A.L. JANSSEN	Managing Director, VDV-Kernapplikations GmbH & Co.KG (Germany)

Miguel MATEOS	CEDEX (Spain)
Janos MONIGL	Consultant, Transman-Consulting for Transport, LINK Consortium - professor UNI Budapest (Hungary)
Chris QUERÉE	Head of Systems Innovation, Association of Train Operating Companies (ATOC) (UK)
Paul RILEY	Moderator, Director of Jacobs Consultancy spol. (Czech republic), engineering consultancy
Alexandra HOLUBOVÁ,	Rapporteur, consultant in Jacobs Consultancy spol. (Czech republic)
Working Group 2	Intermodal networks and interchanges
Javier ALDECOA	CRT, Madrid (Spain)
Doina ANASTASE	URTP, Bucharest, LINK Consortium (Romania)
Kurt HULTGREN	Resenårsforum, Stockholm (Sweden)
Michael KEANE	West Yorkshire, Leeds (UK)
Guillaume MATHIEU	EFFIA-SNCF, Paris (France)
Lola SANCHEZ	Intercollege, Cyprus, LINK Consortium
Francis VINCENT	RATP, Paris (France)
Christian WEISS	VBB, Berlin (Germany)
Roberto De TOMMASI	Moderator, synergo, Zurich (Switzerland)
Catherine ROGGE	Rapporteur, RATP, Paris (France)
Working Group 3	Integration of long-distance transport with the “last urban mile”
Jean-Frédéric COLLET	RATP (France)
Dirk DUFOUR	Espaces Mobilités (Belgium)
Sergio FERNANDEZ BALANGUER	Fundacion Movilidad (Spain)
Werner GRONAU	Intercollege school of business, LINK Consortium (Cyprus)
Nicola de JONG	Connexxion (The Netherlands)
Rick LINDEMAN	SENTERNOVEM (The Netherlands)
Alicia de MIGUEL	ETT, LINK Consortium (Spain)
Juan Ignacio SANCHEZ	CEDEX, LINK Consortium (Spain)
Sylvain HAON	Moderator, Polis (Belgium)
Karen VANCLUYSEN	Rapporteur, Polis (Belgium)
Working Group 4	Planning and implementation
Angelo AULICINO	Project Manager - Transport Engineer, INTERPORTO BOLOGNA spa (Italy)
Marco COWAN	Manager development unit, Connexxion Public Transportation (The Netherlands)
Hans G. FAKINER	Commissioner for intermodality, Fraport AG (Frankfurt Airport, Germany)
Juan Antonio GIL VERA (day 1)	Renfe-Operadora International Project Manager (European Affairs Department) (Spain)

Michael JORDAN	European Commission, DG MOVE (note: participation in the WG meeting was not in official function as for all experts)
Gareth KYBETT	Independent transport consultant, GKT Consult (Germany/UK)
Jörg LAST	Managing director, STRATA, Gesellschaft für Daten- und Informationsmanagement. Karlsruhe (Germany)
Patrick STUMM	Pastu Consult Sprl - European Affairs Consultancy (Brussels, Belgium)
Jan CHRISTIAENS	Project manager, Mobiel 21 (Belgium), LINK Consortium
Bertil HYLÉN	Project manager, VTI (Sweden), LINK Consortium
Siegfried RUPPRECHT	Moderator, Director, Rupprecht Consult GmbH (Germany)
Sebastian BÜHRMANN	Rapporteur, Project manager, Rupprecht Consult GmbH (Germany)
Working Group 5	Context conditions for intermodality
Elke BOSSAERT	Mobiel21/LINK (dissemination) partner (Belgium)
Bram van den BULCKE	Advisor at BTTB (Bond van Trein-, Tram- en Busgebruikers) new name: TreinTramBus/member of European Passengers' Federation (EPF), European co-ordination office Gent (Belgium)
Claes ERIKSSON	VTI/LINK (research) partner (Sweden)
Anke LOBMEYER	Project manager at Conciliation Body for Long-distance Travel in Germany (Schlichtungsstelle Mobilität) @ VCD (Germany)
Bernadette MOHME	Lawyer at European Consumer Centre (ECC) (Germany)
Martin SCHIEFELBUSCH	Researcher at NEXUS Institute, Berlin (Germany)
Katja STRIEFLER	Senior planner at Region Hannover, in charge of passenger rights, passenger security, participation, customer research (Germany)
Eva Maria TEMESVARI	Head of national enforcement body for air passenger rights at Civil Aviation authority Switzerland (BAZL) (Romania)
Ulrike REUTTER	ILS/LINK partner (WG5 moderator) (Germany)
Patrick HOENNINGER	ILS/LINK partner (WG5 rapporteur) (Germany)

Participants at 4th Working Group meeting, Bucharest

Table 11: Participants at 4th WG meeting

Name	Function/ Institution
Working Group 1	Door-to-door information and ticketing
Marco BOERO	Head of Research and Innovation, Softeco, information technology (Italy)
Manfred BRANDL	Project leader of Steirische Verkehrsverbund GmbH (Austria)
Gilles de CHANTERAC	Senior Engineer, SNCF (external consultant for them) (France)
Jozef A.L. JANSSEN	Managing Director, VDV-Kernapplikations GmbH & Co.KG (Germany)
Rick LINDEMAN	SenterNovem (Netherlands), LINK Consortium Member (The Netherlands)
Chris QUERÉE	Head of Systems Innovation, Association of Train Operating Companies (ATOC) (UK)
Roger SLEVIN	Standards manager DfT (UK)
Paul RILEY	Moderator, Director of Jacobs Consultancy spol. s r.o. (Czech republic), engineering consultancy, LINK Consortium Member

Alexandra HOLUBOVÁ,	Rapporteur, consultant in Jacobs Consultancy spol. (Czech republic), LINK Consortium Member
Working Group 2	Intermodal networks and interchanges
Doina ANASTASE	URTP, Bucharest, LINK Consortium Member (Romania)
Jean-Frédéric COLLET	RATP, Paris, LINK Consortium Member (France)
Constantin ENACHE	ATU, Bucharest (Romania)
Phil HAYWOOD	Independent Transport Consultant, Sheffield (UK)
Kurt HULTGREN	Resenårsforum, Stockholm (Sweden)
Anne LEEMANS	Yellow Design Foundation, Brussels (Belgium)
John Mc NULTY	Transport for London, London (UK)
Lola SANCHEZ	Intercollege, Cyprus, LINK Consortium
Octavia STEPAN	ATU, Bucharest (Romania)
Rob STRINGA	Movares, Utrecht (The Netherlands)
Erl WILKIE	Retired from Cycling Scotland, Glasgow (UK)
Roberto De TOMMASI	Moderator, synergo, Zurich, LINK Consortium Member (Switzerland)
Catherine ROGGE	Rapporteur, RATP, Paris, LINK Consortium Member (France)
Working Group 3	Integration of long-distance transport with the “last urban mile”
Pieter DESCHAMPS	Secretary Flemish Airport Commission/SERV Flanders (Belgium)
Dirk DUFOUR	Espaces Mobilités (Belgium)
Claes ERIKSSON	VTI, LINK Consortium Member (Sweden)
Per KRISTERSSON	Gothenburg region (Sweden)
Cristina POU	Head of Road Transport/Region of Catalunya (Spain)
Victor SANCHEZ	ETT, LINK Consortium Member (Spain)
Sylvain HAON	Moderator, Polis, LINK Consortium Member (Belgium)
Karen VANCLUYSEN	Rapporteur, Polis, LINK Consortium Member (Belgium)
Working Group 4	Planning and implementation
Attila GÖNCZI	Politechnica University of Timisoara, department of Transportation and Logistics, (Romania)
Hans G. FAKINER	Commissioner for intermodality, Fraport AG (Frankfurt Airport, Germany)
Gareth KYBETT	Independent transport consultant, GKT Consult (Germany/UK)
Jörg LAST	Managing director, STRATA, Gesellschaft für Daten- und Informationsmanagement. Karlsruhe (Germany)
Jan CHRISTIAENS	Project manager, Mobiel 21 (Belgium), LINK Consortium Member
Iva MACHALOVÁ	Brno City Municipality, Planning and Development Department (Czech Republic)
Heiko SENNEWALD	Ewals Cargo Care GmbH, Consultant (Germany)
Sebastian JURSCH	RWTH Aachen University, Scientific Assistant (Germany)

Sebastian BÜHRMANN	Moderator, Project manager, Rupprecht Consult GmbH (Germany), LINK Consortium Member
Wolfgang BACKHAUS	Rapporteur, Project manager, Rupprecht Consult GmbH (Germany)
Working Group 5	Context conditions for intermodality
Arne BECK	BSL Management Consultants (Berlin, Germany)
Hans BROUWER	Brouwer Consult International (Breda, The Netherlands)
Martin HIGGINSON	Transport & Research Consultancy (York) LINK National Focal Point for UK and Ireland
Pierre MOISE	Transdev (Paris, France)
Monica OREVICEANU	Ministry of Regional Development and Housing Romania
Richard WALLACE	Association of Train Operating Companies (ATOC), UK
Bertil HYLEN	VTI (Stockholm), LINK Consortium Member (Sweden)
Ulrike REUTTER	Moderator, ILS (Dortmund), LINK consortium (co-ordinator) (Germany)
Patrick HOENNINGER	Rapporteur, ILS (Dortmund), LINK consortium (co-ordinator) (Germany)

6.2 Reviewers/ experts that supported elaboration of recommendations

A final draft of this document was reviewed by Martin Higginson from Martin Higginson Transport Research & Consultancy (www.martinhigginson.co.uk).

The elaboration of recommendations was supported by experts by the providing of comments, texts and case studies. Most participated in one-or-more LINK Working Group meetings.

Table 12: List of experts that supported elaboration of recommendations

Recommendations	Experts that supported elaboration
I Policy and funding	
1 Create a European vision/White Paper for a European door-to-door intermodal passenger travel information service	John Austin, Austin Analytics, UK
2 Develop a road-map for technical co-operation in achieving a European door-to-door intermodal journey planner	Marco Boero, Softeco Sismat SpA, Italy
3 Establish a joint Passenger Intermodality Working Group of existing European Technology Platforms in the field of passenger transport	Gareth Kybett, GK Consult, Frankfurt, Germany Bertil Hylen, VTI, Sweden (LINK Consortium partner) Sylvain Haon, Polis, Belgium (LINK Consortium partner)
4 Introduce a new EU funding programme “Vasco da Gama” for long-distance, international Passenger Intermodality	Martin Higginson, Martin Higginson Transport Research & Consultancy, LINK National Focus Point Great Britain and Ireland Ad van Hommen and Peter van der Wilk, Ministry of Transport, Public Works and Water Management, The Netherlands Bertil Hylen, VTI, Sweden (LINK Consortium partner)
5 Work towards advanced intermodal passenger rights	Kurt Hultgren, Resenårsforum, Stockholm, Sweden
II Directives and regulation	
6 Establish obligatory delivery of data and information in the field of ticketing and information	

Recommendations	Experts that supported elaboration
6.1 Establish a European directive which requires transport operators to make travel planning data available to journey planning providers	John Austin, Austin Analytics, UK
6.2 Establish obligation to make standardised tariff and timetable information available on request to authorities responsible for passenger transport information provision	Gilles de Chanterac, senior engineer, external consultant to SNCF, France
6.3 Make provision of door to door ticketing information mandatory for long-distance rail-ticket distributors	Gilles de Chanterac, senior engineer, external consultant to SNCF, France
III Standardisation and technology	
7 Develop standard for long-distance electronic ticketing in TAP TSI to allow compatibility with local fare management systems	Gilles de Chanterac, senior engineer, external consultant to SNCF, France
8 Create common quality standards for interchanges	Javier Aldecoa Martinez Conde, Consorcio Regional de Transportes de Madrid, Spain
IV Assessment and planning	
9 Develop and establish city assessment tool and quality label for long-distance intermodality	N/A
10 Elaborate and establish new business models for effective interchange management	Francis Vincent, RATP, Paris, France
11 Develop a toolkit for a good design of an interchange	Anne Leemans, Yellow Design Foundation, Brussels, Belgium
12 Develop integrated airport accessibility plans	Peter Deschamps, Secretary, Social Economic Council Flanders/Flemish Airport Commission Bengt Christensson, Secretary General, Airport Regions Conference
13 Foster intermodal business plans	
13.1 Develop framework methodology for quantification and monetary assessment of impacts in business plans	Gareth Kybett, GK Consult, Frankfurt, Germany
13.2 Establish long-term flexible profit sharing arrangements as basis for investments	Gareth Kybett, GK Consult, Frankfurt, Germany
V Innovative products and services	
14 Establish common "CityFlex pass" concept	N/A
15 Develop innovative local taxi services	Dirk Dufour, Timenco, Belgium
16 Integrate cooperation and information platforms into a mobility centre for the mobility management of large events	Jurgen Rutgers, Transelect B.V., The Netherlands Dirk Dufour, Timenco, Belgium
17 Provide early information to travellers about airport links and accessibility	Peter Deschamps, Secretary, Social Economic Council Flanders/Flemish Airport Commission Bengt Christensson, Secretary General, Airport Regions Conference
18 Create a pull and push strategy for business trips	Thomas Sauter-Servaes, mobilecular, Berlin, Germany Bastian Chlond, TU Karlsruhe, Germany Tom Rye, Napier University Edinburgh, UK
VI Training and education	
19 Foster training and education on Passenger Intermodality	Sveinn V. Gudmundsson, Toulouse Business School, France

6.3 Material in support of selected recommendations

Recommendation 5: Work towards advanced intermodal passenger rights

- European Commission [EC] (2007): [Communication from the Commission pursuant to Art. 17 of Regulation \(EC\) No 261/2004 on the operation and the results of this Regulation establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights \[COM\(2007\) 0168\]](#)
- European Commission [EC] (2004): [Regulation EC 261/2004](#) on compensation and assistance to passengers in the event of denied boarding and of cancellation
- European Commission [EC] (2001): [White Paper - European transport policy for 2010: time to decide](#)
- European Commission [EC] (1998): [Commission Recommendation 98/257/EC on the principles applicable to the bodies responsible for out-of-court settlement of consumer disputes](#)
- IGES Institut (2008): [Verbrauchererwartungen an Dienstleistungsqualität im Bahnverkehr](#), Studie im Auftrag des Verbraucherzentrale Bundesverband
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- Karsten, Jens (2007): Passengers, consumers, and travellers: The rise of passenger rights in EC transport law and its repercussions for Community consumer law and policy; in: [Journal of Consumer Policy, Vol. 30, Number 2 \(June 2007\)](#), p. 117-136
- Nexus Institute (2007): [Evaluation and monitoring of trends with regard to passenger needs on the level of service and treatment of passengers \("EU service guarantees - EUSG"\)](#) on behalf of the EC (including Country Reports and Legal Assessment Report)
- Schiefelbusch, Martin; Dienel, Hans-Liudger (eds, 2009): Public Transport and its Users: The Customer's Perspective in Planning and Customer Care
- Schiefelbusch, Martin: Schlichten - aber richtig, Ombudsleute im Nahverkehr [Conciliation - but in a right way, ombudspersons in public transport]; in: Der Nahverkehr, issue 11/2007, p. 50-55
- Striefler, Katja; Isford, Adi: Mehr zufriedene Fahrgäste dank Pünktlichkeitgarantien? [More satisfied passengers due to guarantees of punctuality?]; in: Der Nahverkehr, issue 12/2008, p. 41-44

Recommendation 8: Create common quality standards for interchanges

- Bibliography of related education and training material from University of Nottingham, UK: <http://planning.rudi.net/BIBS/SUSTRAV/REFS/ST11A.HTM>
- Link to education programs in public transport:
www.uitp.org/Public-Transport/academic/education.cfm
www.eu-portal.net/material/materials/summary_kt7.pdf

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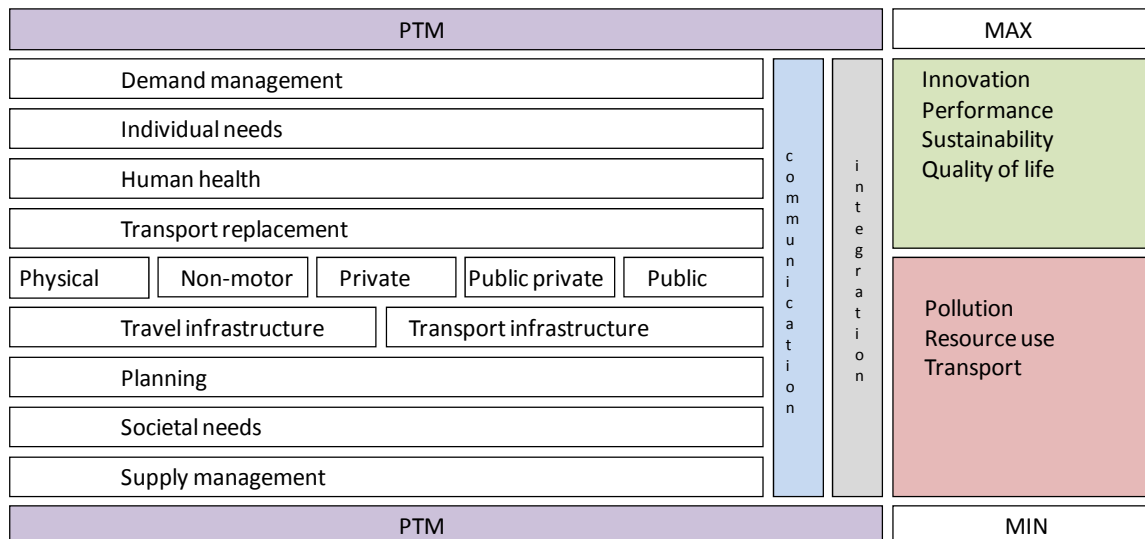
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Recommendations 19: Foster training and education on passenger intermodality

Figure 28: Definition of Public Transport Management [Gudmundsson, 2006]



Example of Public Transport Management programme

The MSc in Public Transport Management at the University Duisburg Essen could be used as a prototype program for a university degree incorporating intermodal systems and co-operation management as separate modules.

The programme takes 4 semesters and contains 11 modules:

- Modul 11/12: Comparison of students knowledge
- Modul M01: Infrastructure planning
- Modul M02: Planning and controlling
- Modul M03: Legal basis, legal aspects of infrastructure
- Modul M04: Personnel management
- Modul M05: Technical systems
- Modul M06: Management and information systems
- Modul M07: Traffic laws and regulation
- Modul M08 Key Characteristics of Public Transport in the Netherlands
- Modul M09 Legal Framework for Public Transport in the Netherlands and Portugal
- Modul M10 Change Management

For each semester, a semester project is defined, which connects the different courses in the different disciplines: economy, technology, law and human resources. This project also enables the application of knowledge in theory, methodology and facts under consideration of concrete and practical questions.

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