



Working Group 4

Seamless intermodal networks and services

Internal Report: Future trends, impacts and key challenges

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1. Introduction

In a first phase of the project, the Working Group (WG) 4 “Seamless intermodal networks and services” has identified the current status of development, driving forces, good practice examples as well as existing problems and barriers related to the following issues:

- Integrated intermodal PT networks and mobility services
- Management structures for integrated services
- Integrated ticketing and tariff systems
- Multimodal traveler information systems
- Attractive, customer-oriented interchange locations

In the second part of the project (WP 3 Key challenges and policy recommendations), the Working Group enters in the phase of strategic discussions, which has been kicked-off by the WG meeting in Bristol on 3-4 April 03. In this phase the discussion is focusing on identifying important external megatrends and future challenges related to the issue of intermodality as well as on exploring research and policy recommendations required to meet the challenges.

For ensuring focused discussions, the thematic content of the Working Group has been reshaped and is now referring to the following question: “How to reduce the gap between public transport offer and demand?”

Until today, there is often a discrepancy between the demand of public transport (PT) customers and the provision of PT services. Customers are increasingly requesting more flexible individualised, seamless and comfortable mobility services, which go beyond the traditional mass transport services. They also pay more attention to security while travelling and high quality traveller information (e.g. real-time, individualised). In addition to that, a wider differentiation of travel and information needs for specific target groups (elderly, businessmen, etc.) can be noted.

However, the PT offer is only adapting slowly to the changing needs and requirements. This is partly due to system reasons (e.g. track-bound PT modes are depending on pre-installed infrastructure), and partly caused by extensive planning and co-ordination efforts. Other reasons can be found in the often missing funds or unclear cost-benefit ratio for expanding existing or developing new services.

As a consequence, user demand and PT supply tend to drift apart. Rigid supply patterns and poor service quality of public transport systems has often led to a significant loss of market share over the last decades, since it could not offer a certain level of comfort, safety, speed, reliability and flexibility at a relatively low marginal cost, as the car can.

With respect to the key discussion topic: “How to reduce the gap between PT offer and demand?”, the main objectives of the WG meeting in Bristol were to:

- Identify external megatrends and its effects on PT (here: the development of PT demand and supply)
- Agree on new challenges for PT arising in the future in order to reduce the gap between PT supply and demand

This WG report basically reflects the key outcomes of the WG meeting in Bristol related to the discussion on external megatrends and key challenges.

2. WG-specific impacts of external megatrends on the development of PT till 2020

2.1 Introduction

The development of the demand of PT customers and the provision of PT services in the future are heavily influenced by various demographic and socio-economic trends as well as by external developments related to new technologies, resources and transport. The following megatrends have been identified as the most important ones, having an impact on the development of PT supply and PT customer demand:

- Ageing of population
- Changing lifestyles and individualisation
- Social exclusion
- Public funding
- Information and communication technologies
- Urban sprawl

2.2 Ageing of population

Given the growing number of elderly people in the future and growing specificity of their requirements, they will become a major market for public transport in their own right. However, it is important to differentiate between different groups of third age users. Pensioners who are able-bodied have not the same demands for public transport services than those with more or less serious handicaps.

Elderly people have mostly been considered as “captive users” of public transport, since they are often short on money and long on time. However, elderly people have become increasingly wealthy, remain healthier and lead active lives, well into their senior years. As a consequence, many elderly people will be short on time and use cars for travelling. For this target group, speed and comfort of PT services as well as security while travelling may become more important than low fares.

The current range of ‘special’ transport services for disabled and older people will no longer be seen as acceptable and integration with the mainstream will be crucial. This will mean that all bus/tram/rail/water-based transport will need to be designed to be accessible for people with limited personal mobility.

2.3 Changing lifestyles and individualisation

With the increase of new forms of work, changed consumption habits and more diverse leisure activities, lifestyles and social relationships are changing and will be more diverse than ever before. Furthermore, it is likely that the already pronounced wish of most customers to get individualised products and services will become even more obvious. This will be reflected by the demand of higher levels of services.

In the area of urban transport, this means that changing lifestyles, demographic developments and individualisation will strongly influence the mobility patterns of all users.

The overall traffic volume is mounting, because people’s activities rarely take place at the same time and at the same location. The demand for transport is becoming more individualised since it no longer follows collective schedules. The increased complexity of mobility patterns will have great impacts on local public transport, since the demand for “traditional” mass transport services will clearly be reduced.

Local PT service providers are forced to find new solutions to the steadily diversifying needs of the customers for more flexible, seamless and comfortable mobility services. Marketing strategies are taking this into account as customers become more discerning about the services that fit their specific lifestyle and daily needs.

2.4 Social exclusion

It is likely, that the problem of social exclusion of specific groups of the population (e.g. unemployed, immigrants, elderly, etc.) will further increase in the future.

Public transport policies can have a significant impact on the process of social exclusion in Europe. In a society, where car ownership is the norm in most of the households, individuals without access to a car can be considered as transportation disadvantaged, since their travel alternatives are limited. The limited travel options makes them “socially excluded” to some extent, since they do not have the possibility to fully participate in all day-to-day activities or cannot behave as the vast majority of society, who has access to a car. Especially in peripheral areas the “social exclusion” of non-car owners and non-drivers is obvious, since access to most facilities can almost be impossible without a car.

With the further introduction of competition in the PT sector, there is a risk that less profitable, but socially important services are losing weight under cost saving pressure. However, as a reaction to the increased competition, it can be expected that the importance of public transport policies to improve social inclusion and cohesion in Europe’s cities and rural regions will be increasingly recognised.

2.5 Public funding

Despite the in general limited availability of public resources in Europe, it can be expected that the level of public funding of public transport infrastructure and services will not necessarily decrease in the future. It is likely, that national and regional decision makers will get more convinced that current transport problems cannot be solved anymore with further investments in road infrastructure, but rather with investments in railway lines and public transport infrastructure and services.

Furthermore, the involvement of private actors in the financing of PT infrastructure and services is likely to grow with the increased competition of the PT market. This can have considerable effects on the efficiency and effectiveness of the PT service provision, since it may reduce the need for public financing/subsidising and may open the door to private capital.

In many CEE countries, however, experts believe that PT investment will first decrease and only increase again in the long term future. This can be mainly explained through the widely adopted political priority to catch up the huge backlog related to road infrastructure investments.

2.6 Information and communication technologies

The use of information and communication technologies, such as wireless communication, smart cards, the internet, and GPS in the PT field will further increase in the future. They will help to make travelling more comfortable and the management of PT systems more efficient. In particular the quality of traveller information services will largely increase with these technologies. Real-time interactive traveller information services, which offer customised, multi-modal journey planning through the internet, wireless devices (e.g. personal digital assistants), on-street kiosks, electronic signage, etc. will be widely available. However, it has to be noted that some devices (e.g. internet, wireless devices) will only be used by certain parts of the population.

2.7 Urban sprawl

The wish of people to combine both the advantages of living in cities and living in the “green” has led to the spreading of cities towards their surrounding rural areas. Cost of housing is a complementary reason. A continuation of this trend can be expected. As one part of this trend a high share of the retail shops has moved from the city centres towards car oriented locations on the outskirts.

The process of suburbanisation is one of the key problems that PT operators are facing today and in the future. With the still ongoing spreading of population and employment to suburban and peripheral areas, densities fall, which means that it is becoming increasingly difficult to attract and serve a significant number of PT customers with traditional PT services.

Although it can be expected, that the population density will slightly increase in some urbanised areas, the highest rates of population and job growth are likely to take place in suburban areas. The process of suburbanisation will lead to more complex travel patterns, which are more difficult to serve with traditional PT services.

3. WG specific key challenges for the further development of PT till 2020

3.1 Introduction

Related to the overall question “How to reduce the gap between public transport offer and demand?” the following key challenges for the future have been specified and discussed:

Challenge 1: Developing flexible and customer-oriented PT services

Challenge 2: Providing integrated mobility services instead of “isolated” PT products

Challenge 3: Making the use of PT as simple as possible

Challenge 4: Strengthening the political support for PT

Challenge 5: Achieving a more balanced use of urban space

Challenge 6 Supporting the development of a more comprehensive regional mobility planning approach

3.2 Developing flexible and customer-oriented PT services

In order to maintain the existing customers and gaining new ones, public transport has to respond to the varying mobility needs of the different customer groups. This means, that PT has to offer specific products for target groups with different travel requirements and expectations.

In this context, flexible small-scale services (e.g. demand responsive transport services with minibuses or taxis) that complement the classical mass transport, are needed. These services, bridge the gap between classical PT services and personal taxi services in terms of both flexibility and costs. Flexible, demand responsive services are particularly useful in suburban or rural areas and during hours of low demand (night hours, week-end) and are vital for addressing the needs of specific groups, such as the elderly, children and the disabled by providing a viable transport alternative to the single occupancy private car.

Another important condition to meet the increasing needs for more flexibility and customer orientation, is that PT operators have to link their services with individual means of transport, such as the car and the bicycle. For attracting potential customers, who usually use a car for travelling, PT has to offer services, which emulate the benefits of the private car, like availability, flexibility, speed and comfort. The integration of a car sharing or car rental module must be presented as a service improvement and must be offered in combination with the traditional PT services.

3.3 Providing integrated mobility services instead of “isolated” PT products

Customers are mainly interested in a high quality door-to-door mobility service, which uses the most efficient mode(s) for each stage of a trip. PT service providers therefore have to differentiate their products on the basis of services and not on modes (until today, the customers are mainly geared to using only one mode). This means that PT operators must become integrated mobility providers, making use of the appropriateness and benefits of the different modes. Companies that concentrate only on parts of the door-to-door mobility chain cannot be first-rate competitors. The provision of integrated mobility services includes not only the integration of different PT modes, the use of taxis and minibuses in low density areas, but also a close co-operation with car rental car sharing or even bike rental companies.

Only a few PT companies have started to develop the concept of offering complete integrated mobility solutions to large companies (e.g. “Mobility Mixx” of Connexion, The Netherlands). However, on the way to become the role of a provider of integrated mobility packages, PT operators have to meet huge challenges in terms of organisation and co-operation with other partners, operations and promotion.

3.4 Making the use of PT as simple as possible

With regard to the increasing complexity of mobility patterns, PT can only be competitive if its services are easy to use. For this reason, the simplicity of travelling, both in terms of seamless changing between different transport modes and getting intermodal traveller information is of great importance.

PT operators must develop easy high quality, understandable and ubiquitous travel information services, which provide real time and customised information for all transport modes. PT operators have to make sure that their customers can get access to information about all travel options at a certain place and time. Devices, such as the Personal Digital Assistant (PDA), which provide high quality traveller information everywhere, can be a useful tool to reduce “intermodal” barriers of the customers.

However, the willingness of customers to pay for high quality traveller information services has proven to be limited. This means that a large-scale introduction of this kind of information services can only be successful if they are financially supported by the PT operator. Many PT operators, who want to introduce high quality traveller information services, see the necessity of cost savings in other areas, mainly personnel costs. As a consequence the number of personnel at counters and stations is likely to be reduced.

3.5 Strengthening the political support for PT

In many cities, there are political debates over the benefits of supporting public transport and its value in solving transport problems. Opponents of further PT support often state that the benefits of PT are only limited in a modern society, because current travel patterns, land use patterns and consumer preferences favour automobile transportation. Therefore large investments in PT cannot be justified. Furthermore, critics of PT argue that PT has not succeeded in attracting travellers away from cars, although it has received massive public subsidies.

In order to weaken the arguments of opponents and to strengthen the position of PT supporters, PT operators have to intensify their efforts in articulating the wide range of social, environmental and economic benefits of public transport and new mobility packages (compared to the car for example) to decision makers and important stakeholders.

The lobbying efforts for PT does not only have to focus on local and regional political decision makers, but has to include also other stakeholders, like local interest groups, businessmen or shopkeepers. According to the experts, lobbying amongst local business people seems to be very important, since they usually play an important role in local decision making process and are mostly open for new approaches, as long as they promise economic benefits.

3.6 Achieving a more balanced use of urban space

In many urban areas, in which a high degree of access and mobility by car is provided, the use of alternative modes of transport is largely hampered and the overall quality of life limited. As a consequence, urban citizens are increasingly asking for more people centred environments, in which a widespread re-allocation of street space to PT, cycling and walking takes place.

The car requires much more space than other transport modes. Under urban peak conditions, PT requires a tenth as much road space (or even less) as a car and avoids the need to devote much valuable space to parking. Highly car dependent urban structures require that a large proportion of urban land has to be devoted to roads and parking facilities and encourages lower-density and urban fringe development.

Urban and regional policy makers have to understand, that PT oriented policies can largely contribute to reduce the urban space consumption for roads and parking, and encourages more pedestrian-, cycle- and public transport-friendly design of streets. This can finally lead to more accessible land use patterns, which reduces the total amount of travel needed to reach common destinations.

3.7 Supporting the development of a more comprehensive regional mobility planning approach

For the development of integrated mobility services in a region, organisational structures or “partnerships” amongst PT operators, local authorities and the private sector are necessary. For this purpose a supra municipal body, who can play the role of the system integrator, has to be developed. This body should define the principles of routes and timetables on key corridors, developing and managing integrated timetables for key interchanges, agreeing and promoting common tariffs and delivering integrated PT travel information and effective traffic management schemes. It should also be in charge of achieving a better integration of local and long distance transport.

In addition to the “intramodal” integration (synchronisation of all PT services) the intermodal integration of services has to be improved, which aims at fitting co-existing transport operators into an overall co-ordination of mobility services. This approach is expected to have considerable effects on the overall efficiency of the system and environmental impacts can be reduced without restricting mobility. Users will largely benefit from more comfortable and seamless journeys with reduced waiting times.

The supra municipal body has also to take responsibility for co-ordinating the common use of innovative systems, technologies or data (e.g. for PT management, traveller information services, etc.) amongst the different PT operators, authorities and mobility providers.

Finally, the supra municipal body has to play a role in co-ordinating regional mobility planning with land use policies and transport demand management strategies. In order to promote intermodal integration of different mobility services and to effectively reduce the adverse impacts of current transportation systems it is vital to influence future and existing transportation and land use development patterns. Once urban land use and transportation are integrated, it becomes possible to improve accessibility without increasing the need for travelling by car. The promotion of high density development, PT oriented housing or the introduction of innovative street use concepts are examples, which can help to reduce the reliance and demand for motorised travel.

4 Conclusions

The above mentioned challenges represent important starting points for reducing the gap between PT demand and offer.

Basically two main activity areas for reducing the gap between PT supply and demand can be differentiated:

- Adapting and customising the supply to the changing demands by developing high quality and more flexible and customer-oriented PT systems or introducing innovative intermodal mobility solutions.
- Influencing the demand by combining the PT policy with consequent travel demand management strategies or planning or fiscal policies which can help to influence the car use in cities.

In the following work step, the major barriers for the implementation of these challenges will be pointed out.

The identified list of challenges and barriers will provide the major input for discussing the concrete policy and research recommendations, which will take place in the fourth WG meeting in October 03.

5 List of references

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