



56th UITP World Congress
Plenary Session A
“The world is spinning fast: can public transport keep pace”
Rome, 05 – 09 June 2005

***Societal megatrends:
like it or not,
the framework is set***

***Werner Brög
Franz Barta
Erhard Erl***

Socialdata



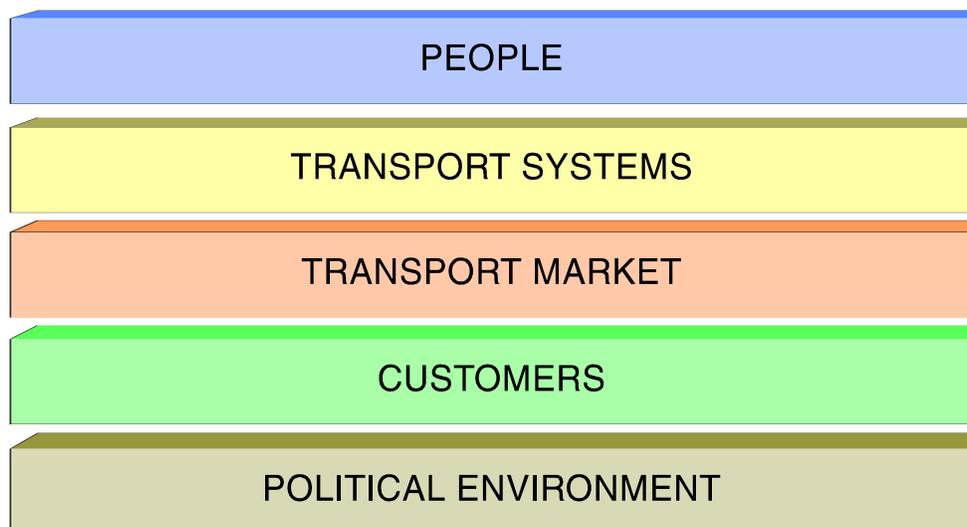
*Institut für Verkehrs- und Infrastrukturforschung GmbH
Hans-Grässel-Weg 1
81375 München*

*Telefon: 089 / 71 08 - 1
Telefax: 089 / 71 64 20
E-Mail: socialdata@socialdata.de*

1. Positioning of public transport in a changing world

In a changing world, public transport is an important and integral part. This means that public transport cannot act without taking into account the external world and that it is not possible to view public transport separately. To understand public transport and to secure and improve its chances in the future it is important to keep in mind the setting in which public transport exists:

POSITIONING OF PUBLIC TRANSPORT IN A CHANGING WORLD



1.1 People

At the base of any kind of transport services there are the people, who have individual mobility needs. These mobility needs have shown some constants and variables over the last decades. While the number of out-of-home activities per person and day, the travelled time per person and day and the number of trips per person and day remained closely the same, the distances travelled per person and day have increased significantly. The main reason for the increase of distances travelled was the increase of the modal share of motorised individualised modes and the reduction of walking trips¹.

However, people's travel behaviour should not only be evaluated by these general travel characteristics, it is also necessary to take into account individual behaviour. In this regard every person can be viewed as 1000 persons, as every person makes around 1.000 trips per year, and for each trip there are different objective and subjective

¹ Brög, W., Erl, E.: Can daily mobility be reduced or transferred to other modes? European Conference of Ministers of Transport (ECMT), Round Table 102, Paris 1996

circumstances ("situation") which constitute the framework for the choice of a mode. These situations can be very different for different groups of people, but there is the need to give all people suitable access to mobility.

1.2 Transport systems

To fulfil their mobility needs people have created transport systems, which can be separated into collective (public transport) and individualised modes (motorised individualised transport, cycling, walking). As neither collective nor individual transport systems present a complete solution for all mobility needs it is often necessary to combine both systems and offer intermodal services. People do not travel because they want to get from bus stop to bus stop, they are travelling because they want to get from point A to point B.

1.3 Transport market

Together collective and individualised transport systems make up the transport market. Within this market there are segments for both the collective and the individualised transport systems. None of the two systems can cover the entire market, instead they should concentrate on their segments and cooperate at the contact points.

In recent years the market for collective systems (public transport), has transformed from a provider market with mostly captive customers into a choice market where many customers can freely choose whether they want to use public transport. Therefore public transport companies should always keep in mind that their customers could also use other means of transport and that most non-customers are also potential customers.

This can easily be proven by observing the patronage of public transport services, which changes significantly over time. This also shows that an antagonistic approach towards individualised modes is not sensible as someone who uses the car for one trip can use public transport for another trip. Especially walking and cycling are not competitors, but complementary means of transport for access and egress from stops/stations.

1.4 Customers

Public transport has one problem when dealing with (potential) customers: In general, public transport is perceived more negatively than it really is (travel time and costs are always overestimated compared to car use). To keep and gain customers it is necessary to change this perception by fulfilling the expectations of the customers and by providing them with positive experiences. When dealing with their customers, progressive public transport companies have started with "customer satisfaction management" in the 80's, moved toward creating "loyal customers" in the 90's and are now trying to become their "friends and partners". This development is backed up by the increasing self-awareness of the customers, who have clearer expectations regarding the supply and quality of public transport services. The customers see the public transport companies more and more as service providers and expect the same service quality as from other service providers (value for money; customer orientation, customer communication).

1.5 Political environment

As the framework for public transport as a whole is set by the political environment it is important to understand the thinking of politicians. Despite a general interest in the support of sustainable transport modes there are still a lot of mental barriers. Often politicians do not realise that a majority of the population is in favour of supporting sustainable modes against individualised motorised modes. Another problem are the more and more limited public funds in the European Union countries, together with the increasing struggle of different interest groups to get their share of these funds and the political pressure to finance all kind of public services.

2. VOYAGER Project

The VOYAGER project was an initiative funded by the European Union under the 5th Framework Thematic Programme “Competitive and Sustainable Growth” of the European Commission.

The VOYAGER project aimed to consolidate current experience, “to create a vision and **make recommendations for the implementation of attractive, clean, safe, accessible, effective, efficient and financeable European local and regional public transport systems for the year 2020**” ².



A Vision for Public Transport in Europe

Funded by the European Commission under the
5th Framework Thematic Programme
“Competitive and Sustainable Growth”

² Further information can be found on the VOYAGER Website <http://www.voyager-network.org/>

The project began in September 2001 and continued until the end of 2004. The project consortium was led by UITP, the International Association of Public Transport, and involved eight partners: AMT Genoa (Italy), Baktie (Czech Republic), CERTU (France), POLIS (Belgium), Rupperecht Consult (Germany), *SOCIALDATA* (Germany), TIS (Portugal) and the University of the West of England.

The project was a thematic network activity, designed to gather practitioners' input and expert knowledge to assess whether results of current research and development are known by the stakeholders and whether these meet the needs of the sector. The project provided a platform for all relevant actors to discuss future challenges for the public transport sector and to provide a clear set of recommendations and expectations from the public transport sector's perspective for inclusion in future research and policy agendas. 120 public transport experts with different backgrounds from all over Europe discussed the present situation and the future chances of public transport.

An important part of the project was the analysis of external megatrends, that describe major societal developments expected for the future. The developments may not have a direct link to public transport, but they are likely to have an impact on the sector.

3. Megatrends

If public transport policies and strategies are subject to review, it is not sufficient to update current practice with the latest research results, legal provisions or land use developments. In order to assess future needs and develop action plans, we need to review our picture of society itself. It is essential to monitor and anticipate societal megatrends and underlying factors, which will provide the environment for any future developments in the public transport sector.

Within the VOYAGER project a number of development aspects have been taken into consideration. Socio-economic trends have been analysed to depict the future business environment. Demographic and social / behavioural changes provided the basis to discuss future user needs. Technology developments are highlighting new opportunities that may arise. The identification and validation of the megatrends was done by desk research, by an expert survey among public transport professionals and by discussion with the working group members.

3.1 Economic trends



ECONOMIC TRENDS

Globalisation / European integration

Economic growth

Limited financial resources

Globalisation / European integration

The phenomenon of globalisation refers to the way that people, goods, services, money and ideas are moved around the world faster and cheaper today than ever before and to the overall increase of global interconnections. In Europe this trend is closely connected with the process of European integration, with the two added elements of barrier reduction and harmonisation of frame conditions between Member States to the processes that can already be observed within globalisation.

As regards urban public transport, emphasis is often put on its local and regional character, yet globalisation has an impact here too. It emerged first in the manufacturing sector, but is now increasingly evident in the operation of public transport services.

In Europe there is a shift starting toward CEE countries. Direct service provision has to be realised locally, yet management expertise could be applied anywhere. Thus, there are an increasing number of operators seeking growth in other countries, taking advantage of the opening up of public transport markets³.

European legislation plays an important role in this respect. Directives have been established to ensure a harmonisation of technical and operational standards and to

³ White P.: Globalisation in public transport, in UITP – Public Transport International, 1, 2002

open the market up to fair competition. The role of governments in the operation of public transport services is declining, but their importance as organising authorities - as enablers of competition and custodians of environmental and social interests - will increase.

Public transport will also be affected by the global and European integration of the financial markets, since this will widen the financial options for public transport investments (e.g. international loans), especially for public transport infrastructure.

The implementation of directives directly influencing public transport will have a wide-sweeping impact on the organisational and financing structure of public transport in all New Member States. A positive aspect for them will be that they can expect access to new know-how and also some (limited) direct funding of public transport projects.

Economic growth

Sustained economic growth is expected for European Union countries. Since 1945, continuous GDP [Gross Domestic Product] growth has been observed for Western industrial countries. Although this process has slowed down, there was still an average growth of 2 % per annum in the fifteen European Union countries in the 10-year period from 1993 until 2002. The highest growth rates are expected for the new Member States, both due to their own efforts and the efforts of the European Union to close the gap between old and new Member States⁴.

Increasing individual wealth has underpinned steady growth in car ownership a trend that is set to continue. Highest growth rates are expected in the CEE countries, where the degree of motorisation is still lagging far behind the EU average. The car still is perceived as an expression of individuality that allows a level of freedom, which public transport could not provide⁵.

Along with the growing car ownership rate, land use patterns will continue to change. Individual motoring allows people to live in a green environment, yet to benefit from the cities' facilities. Urban sprawl will continue with decentralised employment, shopping and leisure facilities. While car availability is a trigger for such development, it will soon result in a car dependency, as making traditional public transport services available in dispersed suburban structures would be very costly⁶.

While part of the society will directly benefit from economic growth, another part will not. The shift from an industrial / manufacturing economy to a service oriented economy that requires both highly paid knowledge labour and low paid support labour, will result in a rising income gap and social exclusion of a remarkable share of the population. On average 15% of the European Union population live at risk of poverty, a share that would be considerably higher (40%) if social transfers were not taken into account.

The public transport sector largely depends on non-renewable fossil fuels. Consumer prices will continue to grow due to increased taxation and the unpredictability of global political developments. This is forcing the public transport sector to put more effort into research into the potential of renewable fuels (biofuels for instance) or other resources such as hydrogen. Emission norms for cars and public transport vehicles will become harder while the promotion of alternative propulsion systems continues.

⁴ EUROSTAT: Year book 2002

⁵ EUROSTAT: Enlargement of the European Union 2002

⁶ EEA: Environment in the European Union at the turn of the century, 1999

Financial resources

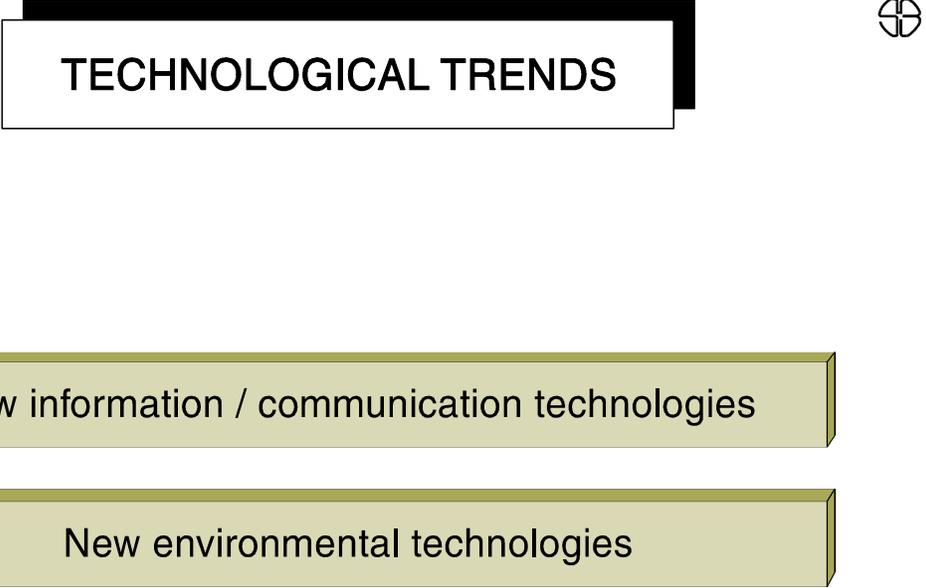
Public funds are limited and strongly disputed. Although the economic growth implies a potential growth in public funds, it could not be concluded that potentially higher funds would be available for public transport. The fight against poverty and social exclusion will require heavy investment in employment, health and education. The shortage of public funds forces both justifying public expenditures for public transport and looking for alternative financial resources.

Limited public funds will not concern public transport, but foster the discussion about “cost truth” in the transport sector. It will become more important to check the real costs/benefits of public transport and other transport sectors to justify the distribution of funds.

Private involvement in infrastructure investment is being explored as an option. The number of examples where attractive infrastructure has been developed based for instance on private loans or public private partnerships, is growing. This trend will continue, but it seems to be an option for selected projects only.

For operational activities the scarcity of public funds is problematic due to the limited cost coverage of urban public transport services. In line with other sectors, European legislation is opening up the public transport market. The resulting competition is expected to streamline existing operators and increase the economic efficiency of public transport.

3.2 Technological trends



TECHNOLOGICAL TRENDS

New information / communication technologies

New environmental technologies

Information / communication technologies

The further development and diffusion of “new” information and communication technologies (ICT) will have a significant influence on the daily life of all citizens. The use of ICT means, such as wireless communication, smartcards, Internet, etc. in the field of public transport will further increase. These innovations can help to make travelling more comfortable but at the same time increase the risk of excluding people who are not so comfortable with the use of such technologies.

Interactive services will increasingly offer tailor-made services. E-ticketing systems could reduce access barriers to intermodal systems. However, it should be noted that some devices (e.g. Internet, wireless devices) will only be used by certain parts of the population. An important aspect will be the continued requirement for public transport companies to deliver information to the people instead of waiting for the people to get the information. This can be supported by new information / communication technologies, however it also requires the use of already proven media. Public transport companies have to be aware that there are groups who cannot or do not want to use these new technologies.

The optimisation of public transport is essential for reducing traffic congestion, pollution and other negative features. ICT innovations will also contribute to improving public transport system management and operation. Upcoming technologies will enhance system efficiency and safety. A milestone in Europe will be the implementation of the GALILEO system, which although not specifically designed for public transport, could well assist the co-ordination of systems and fleet management⁷.

Along with the potential outcome described above, information and communication technologies will have an increasing impact on people’s private life. Depending on a wider spread of new technologies, the concepts of e-commerce and tele-working will gain importance.

Although the trend towards e-commerce is evident, its impact on daily life and travel behaviour is strongly disputed. Doubts remain that e-commerce has the potential to change mobility for shopping, social and leisure activities. In a service-oriented economy tele-working has the potential to grow and contribute to reducing commuter travel. However, the extent to which this impact might become a reality will strongly depend on human behaviour.

Environmental technologies

New environmental technologies have been developed, or are under development, that can reduce or even solve existing environmental problems. Driven by increasing public awareness, major efforts have been put into the development of cleaner power systems for public transport vehicles. Further progress in engine technology should contribute to improving the environmental performance of public transport systems, but it will raise the issue of investment and running costs. Technological innovations in the automobile industry mean that air and noise emissions, and energy consumption of motorised vehicles, can be reduced considerably. Consequently, the previous great advantage public transport had in terms of environmental impact, compared to cars, is reduced. This trend will continue when the latest technologies, such as fuel cell cars, enter the market.

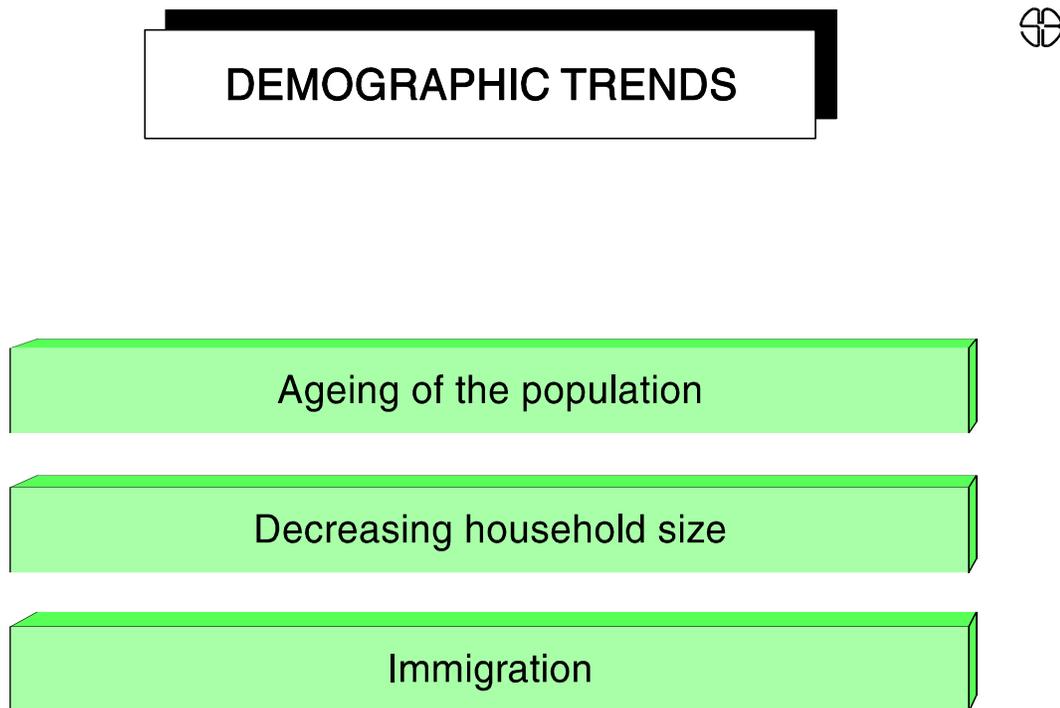
Public transport operators will also be forced to invest in clean technologies. In the future, the main environmental argument for promoting public transport in urban areas will be

⁷ ESA: GALILEO - The European Programme for Global Navigation Services, 2001

the consumption of urban space for roads and parking spaces. In urban areas, which provide for a high degree of access and mobility by car, the use of alternative modes of transport is largely hampered and the overall quality of life limited.⁸

However, new technical developments are neither a solution for all problems nor a means in itself. Before implementing new technologies it is essential to check critically whether they provide clear benefits for the customer and/or lead to a better capacity utilisation and an increase of productivity on the side of the public transport operators.

3.3 Demographic trends



Ageing of the population

The demographic developments that are considered to have the highest impact on public transport in Europe are the continuous decline in birth rate and the ever-increasing life expectancy of the European population. Both trends lead to a significant shift in the age structure towards higher ages.

According to Eurostat, the share of the population above the age 65 will grow from around 16% in 2000 to about 21% in 2020. A figure as high as 28% is expected in 2050. Today the share of elderly PT users is higher than the population average. However the

⁸ OECD: Strategies for the implementation of clean and fuel efficient vehicles 2001

elderly are expected to be more active in future, and to keep driving their cars for longer, and cannot thus be considered as captive users.

Decreasing household size

Most European countries have seen the average household size drop by 10-15%. By 1995, the average European household contained 2.5 people. This number is expected to decrease further as the number of one-person households increases from 30% in 2000 to 36% by 2015.

Along with a generally increased consumption of resources by smaller households, there is a close relation to car ownership. Young professionals in smaller households take more trips to manage their daily activities and are less likely to see traditional public transport services as viable option than people living in bigger households.

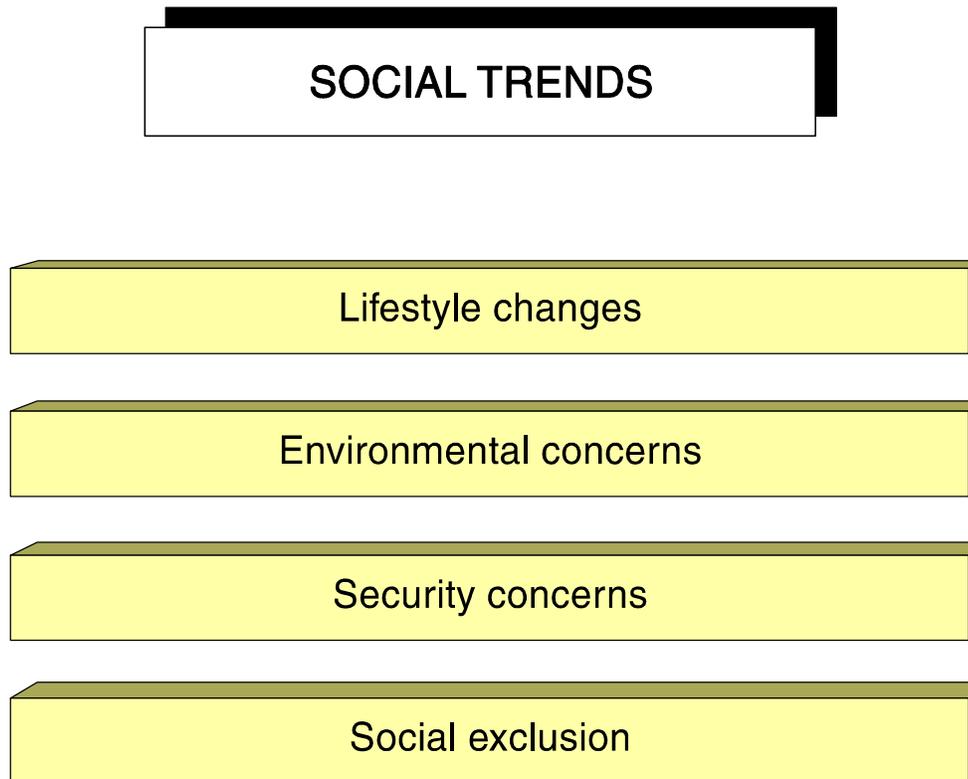
Immigration

Immigration into the European Union was a major source of population growth during the 1990s. Of the overall annual increase in population of 0.25% per year, immigration has accounted for 0.20%. Given the stagnation of the working age population resident in the EU, immigration will continue and strengthen its impact on the labour market as well as society as a whole⁹.

Shortly after immigration, immigrants are expected to use public transport more often than the average population. A major consequence for public transport is translated into an increasing demand for multilingual information services.

⁹ Thorogood D., Winqvist K.: Women and men migration to and from the European Union, 2001

3.4 Social trends



Lifestyle changes

Major lifestyle changes will continue in the future with an increase in new forms of work, different consumption behaviour and diversified leisure activities. An accompanying development will be the greater expectations of most customers for individualised products and services.

Travel patterns will become more individual and complex. Traditional public transport services that focus on regular schedules between home and work place will not be adequate and will have to be adapted accordingly. Otherwise this could lead to a gradual decline in public transport patronage and with it, subsequent erosion of its cost coverage potential.

Furthermore, it is likely that the share of new “family patterns”, such as less children, less traditional families, more single mothers, and the number of people sharing a flat and “double households” will increase. For an increasing number of people, a “double household” or commuting will be the only way to combine family life with their own career aspirations.

Environmental concerns

Public and political awareness for reducing environmental damage will further grow, the citizens not only expects that pollution and noise emissions are reduced, they also want a reduction of the number of accidents and a reduction of stress, hectic and frustration

caused mainly by congestion but also by other transport related issues. With its specifics as an environmentally-friendly mode, public transport could significantly contribute to support these demands. The general public's increasing awareness about environmental issues along with major efforts of car manufacturers to produce cleaner cars has led to a changing approach towards public transport and might diminish the psychological environmental advantage public transport enjoys.

Another topic are the increasing health concerns of the people coupled with the discussion of how to finance the increasing costs of the health service. People will think more about their own health and how to improve it by a more physical active lifestyle. Public transport has a big chance in this regard as it is always connected with some kind of physical activity walking and cycling to/from stops and stations.

Security concerns

A growing security concern exists regarding the use of public transport, especially during off-peak hours. A tendency towards automatisisation and reduced staff presence is likely to further erode the feeling of security. Recent incidents have focused attention to the vulnerability of public spaces. The metro attacks in Tokyo or South Korea have also demonstrated the sensitiveness of public transport systems with their high concentration of people¹⁰.

However these security concerns are only one aspect, another aspect is safety (reduction of accidents) which will also play an increasing role. Even though safety measures like seatbelts and airbags have reduced the number of fatal accidents we are still a long way from the zero death goal. Compared to the car public transport still remains the safer mode.

¹⁰ Jenkins B.M.: Protecting public surface transportation against terrorism and serious crime: Continuing research on best security practices. San Jose, CA: Mineta International Institute for Surface Transportation Policy Studies, 2001

4. Conclusions

Public transport has its strengths and in order to increase its ridership it should concentrate on these strengths. It is not necessary for public transport to become a means of transport for all people or all trips. Within the last years public transport has become a customer-oriented service provider and with the increasing importance of individual demands this development will continue. Public transport – together with walking and cycling – is a major player in a sustainable world and will continue to play this role in the future.

CONSEQUENCES



Concentration on strengths of public transport

Customer orientation

PT is a major player in a sustainable world

All the megatrends shaping the future face of the world will have a significant impact on the future development of public transport. They will lead to new key challenges but also new chances for public transport, which will be described in the co-presentation “The development of society: threat or opportunity for public transport?” by Andrea Soehnchen.

Literature:

Brög, W., Erl, E.: Can daily mobility be reduced or transferred to other modes? European Conference of Ministers of Transport (ECMT), Round Table 102, Paris 1996

Brög, W.: Just Do it! Wegweiser für Verhaltensänderungen. Beitrag zur Tagung Unde Venis – Verkehr – Quo Vadis, Universität für Bodenkultur, Wien, März 2004

EEA: Environment in the European Union at the turn of the century, 1999

ESA: GALILEO - The European Programme for Global Navigation Services, 2001

EUROSTAT: Year book 2002

EUROSTAT: Enlargement of the European Union 2002

Jenkins B.M.: Protecting public surface transportation against terrorism and serious crime: Continuing research on best security practices. San Jose, CA: Mineta International Institute for Surface Transportation Policy Studies, 2001

OECD: Strategies for the implementation of clean and fuel efficient vehicles 2001

Thorogood D., Winquist K.: Women and men migration to and from the European Union, 2001

VOYAGER Website <http://www.voyager-network.org/>

VOYAGER Consortium: VOYAGER – A Vision for Public Transport in Europe. Final project brochure, Brussels, 2004

White, P.: Globalisation in public transport, in UITP – Public Transport International, 1, 2002