

THE INTEGRATION OF PUBLIC TRANSPORT

in a competitive environment.
CASE STUDY
BERLIN

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Cornelie de Jong

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Faculty of Spatial Sciences

Rijksuniversiteit Groningen

Tutor: Paul van Steen

Humboldt Universität Berlin

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ABSTRACT

The integration of transport modes is a qualitative approach in transport planning that is expected to attack current transport problems like congestion, emission, excessive space use and accidents and at the same time could be an answer to the expected rise in mobility demand in the future. The approach focuses on organisational improvements and a better matching of the different transport modes between each other. The highest level of transport mode integration is intermodality. The European Union expresses the need for further intermodality in its transport paper, the White Paper

In this research, the integration of Berlin's public transport in fields of network, tickets, information and the integration with private and shared transport modes is investigated. In the end the implementations regarding integration of public transport in Berlin are compared with the European level.

SUMMARY

A new approach that came into transport policy last years is about the integration of the transport system. This qualitative approach is expected to improve the transport system in general and public transport in particular. Improvements in public transport could lead to a change in the division of transport modes, the modal split. A further change of the modal split in the direction of the so called clean transport modes, bike and public transport might benefit a sustainable transport system. Sustainability in transport seems to be more relevant than ever, since car use and transport problems like congestion and environmental damage are expected to rise further in the twenty-first century.

The integration of transport modes is defined as a main goal by the European Union. The highest level of integration of transport modes is called intermodality. Intermodality is the use of different transport modes during one trip. This concept contrasts with monomodality, which means the single use of one transport modes. Between monomodality and intermodality, there is the concept of multimodality. Multimodality is the use of more transport modes in more trips. In an intermodal transport system network, tickets and information should be integrated between the different transport modes.

The case study is executed in Berlin. The public transport system in Berlin consists of subways, city rail (S-Bahn), trams and busses. Those transport modes are provided by two companies, the BVG and the S-Bahn GmbH. The network of the different public transport modes in Berlin is highly integrated, qua network, tickets and information. The two different transport modes subway and city rail form one network. The trams and busses often drive from and to subway and city rail stations and complement the system.

Qua tickets the public transport system in Berlin is highly integrated, because the different transport modes all have a common ticket. The provision of information is partly integrated. The websites of the transport companies provide information of all the transport modes. The BVG introduces real time displays at the stations, but information about S-Bahn times is not provided. The S-Bahn has no real time displays. The city council triggered an intermodal information centre, which gathers and investigates all the the public transport and individual transport data. Though the project seems ambitious, the company is young and still small.

The integration with other modes of transport can be either with private transport modes or shared transport modes. The private transport modes can be divided into the car and the bike. The intermodal facilities for private transport modes can be summarized in Park and Ride, Bike and Ride and the opportunity to take bikes in the public transport modes. The goal of Park and Ride is to brake car use of inner city visitors. At the city edges the visitor has the opportunity to park the private car at a public transport station and to travel further with public transport. The future of Park and Ride in Berlin seems a bit over, since the costs of the Park and Ride places are high and the places don't seem to change transport streams.

The future of Bike and Ride is much more hopeful. Bike and Ride are park places for bikes at public transport stations, mostly in the inner city. The idea is to further integrate public transport use with biking. Bike and Ride improves the accessibility of public transport stations. In the near future Berlin's transport actors plan to expand the number of Bike and Ride in Berlin.

Shared transport use could play an important role in the development of intermodality. In Berlin forms of organized car and bike sharing can be found. At the moment the share of organized shared transport use of car and bikes compared with the total transport use is very small, but the market share is growing. Car sharing has benefits in fields of economy, flexibility, easiness and environment. The concept fits the demand for more flexible and individual transport. Car sharing has proved to strengthen the public transport. Berlin has two car sharing companies.

Bike sharing strengthens public transport as well. The bikes are meant to be used from and to public transport system. There is one bike sharing company in Berlin. The company expects to grow the coming years.

The further integration of the transport system in Berlin depends mainly on the actors expectations and willingness to implement the idea of intermodality. Main outcome of this research is that the co-operation between the actors should improve.

As above is shown, it seems that the integration of Berlin's public transport differs between the different subfields.

In general, the transport policy in Berlin matches the European level in so far that both intend to change the modal split and focus on a better organisation of the existing infrastructure.

1. INTRODUCTION

Mobility can be viewed as an elemental part of human life and the accessibility of mobility modes to everyone is considered as an important means to make people independent. This independence in terms of mobility experienced an enormous increase in the 20th century with the rise of the private car (Engel and Pötschke, 2003). However, this increase in car use is not without problems. Congestion, excessive space use for roads and parking places, environmental damage and a high proportion of accidents are more and more considered as serious problems of modern society. And, these problems can become more thorough since the future mobility demand is expected to rise (Mezghzani, 2003).

Traffic policy seems to play a key role in counter playing the problems that came with excessive car traffic. The case is quite complicated since a 'simple' reduction of car use alone won't be enough, because good mobility opportunities to everyone are considered as a basic human right, which doesn't make reducing mobility an attractive option.

The European Union recognized the need to defeat the problems of car dependency and at the same time not to break down mobility changes of the population. In the White Paper of 2001 a change in modal split, which is the division of traffic modes, is declared as a main future goal. The direction of this change should be from the car to the cleaner transport modes like public transport and bikes (EU, 2001).

The reaching of the modal shift change will be difficult because of the fixed and strong position of the car. Though, a change in modal split might have changes in the urban areas. Here the negative sides of car dependency occur in a more dense traffic system and might be considered as more present than anywhere else, which can result in a higher willingness to change something. Beside that, the urban public transport system is much more developed than in non-urban areas and is an important alternative to urban car use.

One means to reach a change in modal split in urban regions can be the integration of public transport modes with each other and with other transport modes, in such a way that the public transport reaches a higher quality level. With this integration the term intermodality, which is the linking of different traffic modes during one trip, comes in. This qualitative improvement of transport modes use might be a successful way to organize future traffic systems. Successful transport integration should at least occur at fields of network, tickets and

information and will require good co-ordination by the actors in the transport system (Beutler, 2004). This co-ordination might be a difficult theme, because of the intensified competition in transport the last years. Traditionally public transport has been organized by state companies which proved to be inefficient. Last decades the withdraw of the state has become an important theme in society. In the transport sector liberalization is expected to increase the efficiency and fit better the custom needs (Fox, 2000).

The new task of the transport sector will be to combine deregulation and intermodality, since they are both expected to reach a more efficient transport system. So the need to reach a high level of co-ordination and integration between different actors in the transport sector should fit in a competitive environment, which means that coordination and competition have to go hand in hand. Though, competition and coordination do not exclude each other immediately, some difficulties might rise in the process of the implementation of both.

In this research, the possibilities of an integrated mobility system in a competitive environment will be analyzed. First, a closer look will be given to the European traffic policy and the role it gives to the integration of transport systems. After this part a case study will take place to analyze to which degree the European transport goals are implemented and what the actual state of intermodality is. At this level, the co-operation between different competing companies will be analyzed.

The case study took place in the city of Berlin. The capital of Germany exhibits a public transport system with quite a lot of different traffic modes. Beside the traditional public transport modes like subway, bus, train and tram, more recently some experiments started with organized shared transport in combination with public transport modes in the city. These are car sharing and bike sharing (Berndt and Blümel, 2003).

After analyzing the integration of the public transport modes with each other and with other modes like car and bike, this study will investigate until what level Berlin's traffic system fits the goals of the European Union and reciprocal what lessons can be learned of the transport policy of city of Berlin.

1.2 Research Goals

The aim of this research is first to identify the different transport modes in Berlin and the relevant actors. Secondly it aims to test the actual intermodal implementation of intermodality in the city of Berlin and thirdly these intermodal developments will be compared with the European transport policy.

In the end, the ultimate aim of this research will be to define further developments and recommendations for improving urban public transport systems in the direction of a more sustainable urban transport system, with less congestion, better accessibility of traffic modes, less accidents, less space use and better air quality, which will all contribute to a better quality of urban life.

1.3 Research Questions

- 1a. What are the different modes of public transport in Berlin?
- 1b. What is the relative share of the different modes?
- 2a. Who are the actors involved in Berlin's public transport?
- 2b. What are the main goals of the different actors?
- 2c. Is there strong competition between the different actors?
- 3a. To what degree is there integration of the network?
- 3b. To what degree is there integration of ticket and fares?
- 3c. To what degree is there integration of information?
- 4a. To what degree is the public transport system in Berlin integrated with other modes of transport?
- 4b. How can the intermodality of transport modes in Berlin be improved?
5. Do the present and forecasted developments in Berlin's public transport system match the recently formulated EU policies?

1.4 Research Design

Chapter two gives a description of the theoretical background of integrated public transport. First a distinction between transport modes is made and the current urban transport problems are described. In chapter 2.3 the idea of integrated public transport is grouped in the broader approach of mobility management. The concept of intermodality is explained in chapter 2.4. The rest of the chapter focuses on intermodality as fitting answer to social trends. Further, the chapter gives examples of intermodal projects and a description of the main implementation barriers of intermodality.

The third chapter concentrates on the European transport policy and the value of intermodality in the European transport policy.

The practical part of the research starts with chapter 4. Besides websites, research reports, policy reports and press information, important sources of information for the practical part of the research were interviews and inquiries with the transport actors in Berlin. In chapter four the characteristics and history of the public transport in Berlin can be found. The fifth chapter brings a deeper insight in the different main actors of the public transport in Berlin and their goals and the reciprocal relations.

In chapter six the level of integration of the public transport in Berlin on fields of network, tickets and information is explored. The integration of public transport in Berlin with other modes of transport is investigated as well.

Chapter seven concentrates on the future of intermodality in Berlin. Main purpose of the interviews and inquiries was to get a better insight in the actors' ideas of intermodality and the opinions of other actors' intermodal intentions. The perceived co-ordination between the different actors was also investigated.

A comparison of the European policy and the transport policy and implementation of Berlin is worked out in chapter eight.

2. THEORETICAL BACKGROUND

2.1 Urban Modal Split

Passengers' transport into the urban area consists mainly of individual car transport, public transport, biking or walking. The division of transport mode use is called the modal split. The modal split is relevant for the planning and organization of a transport system. In this research a transport system is defined as the set of different infrastructures that supports the movements of passengers and freight that form the transport system, and expresses the accessibility of the area.

The modal split is a result of the modal choice of travellers, which depends on a number of factors like technology, availability, travel time and income. If those factors are on a low level the modal choice will be more an expression of modal constraint.

In general the modal split distinguishes between the car, public transport and biking and walking. Sometimes walking is grouped together with biking because walking occurs without the use of a transport mode. Figure 2.1 demonstrates the different modal splits of grouped cities in the world in 1995. It shows lots of difference between urban modal split all over the world. In West European cities the share of car use in the total number of trips is around fifty percent. Public transport accounts in western cities for twenty percent and the share of biking and walking is around thirty percent.

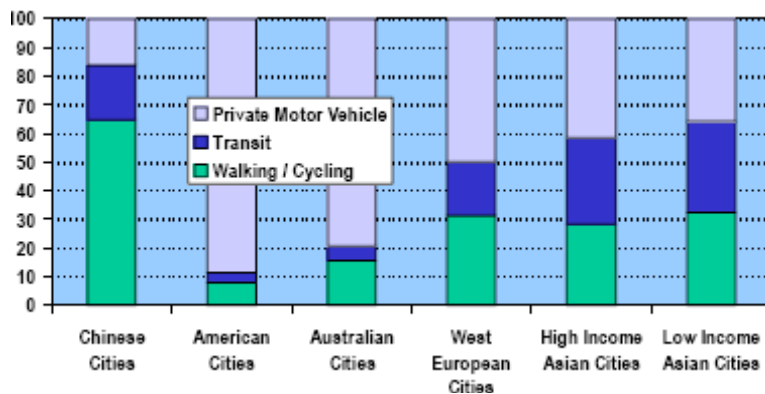


Fig 2.1 modal split grouped cities 1995 (CECTG, 2000)

With the growing attention for sustainability a further distinction is often made, the clean transport/car division. In this division clean transport modes part consists of public transport, walking and biking. This clean transport division is often mentioned together with the wish to

develop a sustainable transport system. A sustainable transport system should contribute to economic and social welfare without depleting natural sources, destroying the environment or harming human health (CECTG, 2000).

2.2 Transport Modes

Transport modes can be classified in private, public and shared transport modes. The twentieth century experienced an enormous rise in private transport mode ownership, with the rise in car ownership. The car became affordable for ordinary people after Henry Ford's introduction of assembly production techniques. The car increased the independence of the traveller enormously with its door-to-door opportunity and developed itself as a symbol of status, individuality and personal freedom (Rodrique, 2005).

Another private transport mode is the bicycle. The bicycle and the car can be considered as complements in terms of distance. There where the car can traverse long distances in a relative short time, the bicycle suits short distances. Other differences between car and bicycle can be found in fields of price, energy consumption, emission and comfort. For example, the owning and operating costs of a bicycle are lower than those of a car. A bicycle has no emission and non-renewable energy consumption. The comfort standards of the different modes are quite different. The car offers a level of comfort regardless the weather and has the possibility to carry more passengers. To a certain degree the comfort of biking relies on the weather, and asks for physical activity, which will be considered as a challenge by some and as a disadvantage by others (FHWA, 1992).

The most common alternative of private car use is public transport. In public transport modes the passenger is driven to different targets, which includes the assumption that the passenger is not able to change the direction of the transport mode. Public transport provides publicly accessible transport and is based on transporting large numbers of people. Contrary to the car, public transport does not provide a seamless door-to-door opportunity and misses the image of independence. At the other hand, public transport uses less energy, space and has fewer emissions than private cars. Most common public transport modes are train, tram, bus and subway (Petersen, 2003). Train and subway have a separated network system. Bus and tram often share road areas (Rodrique, 2005).

Besides private and public transport modes, a third distinction in transport mode can be made, the shared transport modes. In general shared transport modes are the same modes as private transport modes but with a shared ownership. It is expected that an increase in shared transport modes will result in a decrease in the number of those transport modes. Shared transport modes bundle the benefits of private transport modes and public transport modes, in so far that they do provide the door-to-door opportunity and do have some environmental benefits (Beutler, 2004).

Shared transport modes and public transport modes can be seen as each others complements and a stronger integration between public transport modes and shared transport modes is often seen as an improvement for both. Figure 2.2 demonstrates the expansion of the traditional public transport with shared transport modes.

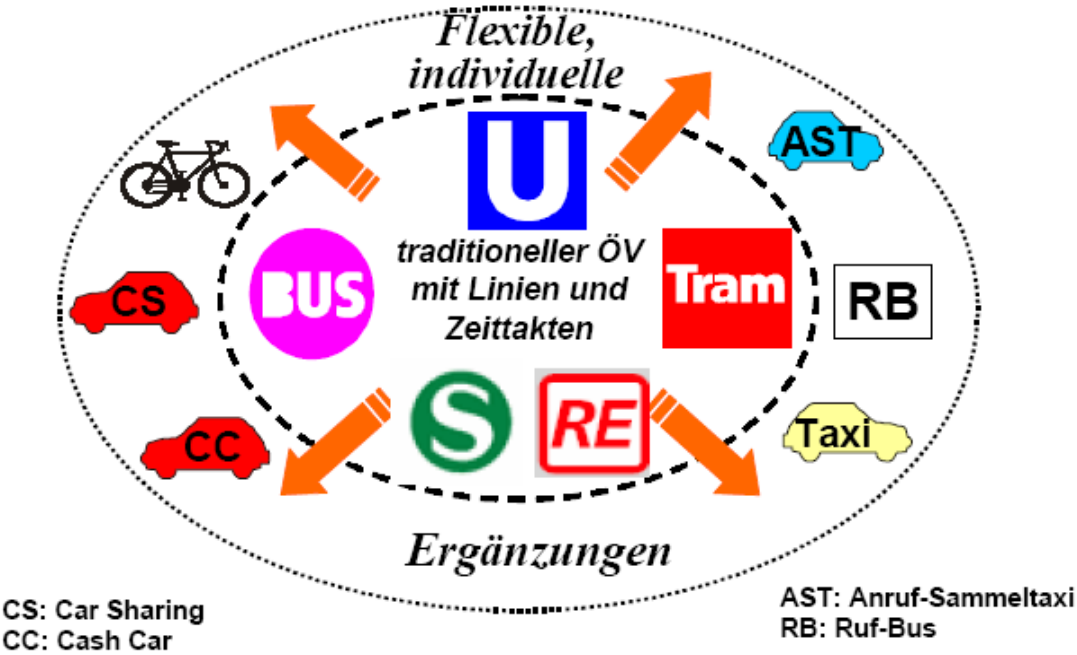


Fig 2.2 Extension traditional public transport modes (Berndt and Blümel, 2003)

2.3 Urban Transport Problems

At the end of the twentieth century it seems that the personal independence that came with car use, at the same time created a strong car dependency. This strong reliance on car transportation makes it difficult to tackle the problems caused by intensified car use. These problems are congestion, excessive space use, environmental problems and an increase in traffic accidents.

Especially in urban regions, the problem of congestions is often enormous because of the concentration of many activities, which makes the diffusion of cars difficult. The urban transport problems are expected to rise in the future, because the world's urban population will grow.

Urban regions are also characterized by parking problems. The search for a parking place can be very difficult in certain areas, despite the high relative share of parking places in the total urban space.

Last decade a growing environmental awareness has emerged, and resulted in a growing concern about traffic emissions. Car traffic accounts for a relevant part of the air and noise pollution, which are considered as health threats. Beside health problems caused by emission and noise, the number of accidents that happen in a crowded traffic system is also a problem. As last transport problem could be stated that the need for petroleum for car use can create a dependence of petroleum producing regions (Rodrique, 2005).

2.3.1 Urban Transport Control

Since the transport problems are most intense in the urban region, because of its concentrated character, some policy measurements have been implemented in several cities in the world. The strongest measurement is the prohibition of downtown traffic during certain parts of the day. This strong measurement won't be a very popular option, because though it will solve many of the transport problems, it will limit the accessibility of inner city.

Less thorough measurements can be made with financial incentives. For example, the inner city will open for car traffic but travellers have to pay a toll to enter the inner city. Restrictive measurements are also possible in fields of parking place organization. For example, the lack

of parking places in the inner city might discourage car traffic. Park management with paid parking places are expected to have the same effect (Rodrique, 2005).

All those measurements suggest the existence of alternative transport. Otherwise the discouraging of car use would lead to a decrease in mobility, which will result in a worsened accessibility of city centers and a decrease in personal independence as well.

2.3.2 Integration of Transport Modes in Urban Region

The main alternative way of transport of the car is public transport, but it misses the flexibility and image of independence of the car. Therefore public transport should be improved, if it really wants to combat car dependency. Last years, the better integration of public transport modes with each other and with other transport modes has become a more important theme in policy domain, because it is expected that this can improve the quality of public transport and change the modal split.

2.4 Mobility Management

A modal split change in the direction of clean transport modes could reduce the problems of car dependency and a more sustainable transport system could be developed. One approach which aims to encourage and develop a more sustainable transport system is mobility management. The approach became more popular in transport planning in the second part of the nineties and has its origins in the growing concerns about car dependency in society. The rise in attention for mobility management shows a change in thinking in transport planning. Traditional transport planning used to focus on expanding the transport system. This mainly resulted in the construction of new roads and other infrastructural projects. Mobility management, however, has its target in the more efficient use of the existing transport system. In general this is an attempt to change private transport mode use into public and shared transport mode use.

Mobility management's emphasis on organizational improvements is often referred to as the software side of transport planning. At the other side there is the hardware side with a focus on physical measurements, like infrastructural projects (Vancluyse, 2004).

The key term of mobility management is information and it is expected to play a key role to reach the goal of a sustainable transport system. Co-operation together with communicational and organizational improvements should lead to an optimal used and flexible public transport system and marketing should improve its image, which finally has to result in a successful change in mobility use (Beutler and Brackmann, 1999).

Another import term of mobility management is innovation. Since mobility management tries to develop alternatives for the use of the private car, a growing interest is pointed in the development of new mobility ideas, like car sharing, public bikes and mobility centers. The attempt to further integrate public transport can be seen as a part of mobility management (Vanclyusen, 2004). One concept that is relevant in terms of further integration of transport systems is intermodality.

2.5 Intermodality

The idea of intermodality has its origins in freight transport in the US during the sixties. With the invention of the container, transport organization changed. Before the container a focus on single transport modes use prevailed, but the use of the container changed this focus towards the *chain* of transport modes (Donovan, 2000).

After its start in freight transport intermodality has expanded its use into two other dimensions. The three dimensions are (Beutler, 2001):

1. intermodality in traffic systems in freight transport
2. intermodality as traffic behaviour in passenger transport
3. intermodality as a strategy in traffic policy

This research focuses on intermodality as a strategy in traffic policy (third dimension). The expectation is that a successful implementation of intermodality in traffic policy and planning forms the precondition for intermodality as traffic behaviour and could trigger intermodal behaviour (the second dimension). Though this relationship is not part of the research and needs further investigation.

Like in freight intermodality, the chain of transport modes is important in passenger intermodality. There are many definitions of intermodality. In this survey the EU work definition will be used:

Passenger intermodality is a policy and planning principle that aims to provide a passenger different transport modes in a combined trip chain within a seamless journey (EU, 2001).

According to this definition intermodality as policy and planning means the providing of a transport system where the use of more transport modes during one trip brings a seamless journey for the traveller. Prerequisite for changing transport mode during one trip is a certain level of integration between the different transport modes. In a situation where only one traffic mode is used, there is no integration between different transport modes. This is called monomodality. Monomodality is defined as the optimal use of one traffic mode for one trip. In modern society monomodalism is very dominant and is mainly based on private car ownership.

The opposite of monomodality is multimodality. This means the changing use of different traffic modes for different trips. In this case there is a certain level of integration between different transport modes, because more of them are used by the same person. Though, multimodality doesn't ask for a highly integrated transport system, since the traveller doesn't use the transport modes during one trip, which doesn't create transfers between the different modes during the trip. Intermodality always includes a change of traffic mode during the trip, which requires a high level of integration between the transport modes and is therefore an expanded version of multimodality. The foregoing leads to the conclusion that every intermodal movement is multimodal, but the reverse is not necessarily true (Beutler and Brackmann, 1999).

MOBILITY CONCEPTS	LEVEL OF INTEGRATION
Monomodality	None
Multimodality	Middle
Intermodality	High

Table 2.1 Mobility concepts and their level of integration

2.5.1 Intermodality In The Urban Region

Last years the concept of intermodality in passenger transport received more attention in research, but most of this attention concentrates on long-distance trips. Though there is a growing interest for short-distance trips intermodality, passenger intermodality in urban regions receives less attention. This relative low share of attention for passenger intermodality in urban regions seems a missing link, because the spatial dimension of the urban area proves to be perfect for an intermodal traffic system. Urban space is relatively small and the traffic network is dense. Another characteristic that makes passenger intermodality suit the urban area is the big number of traffic mode alternatives that cities in general provide (Beutler, 2004).

2.5.2 Intramodality

An extra conceptional difference is made by the Project group on mobility of the science institute of Berlin, WZB. This group identifies the term intramodal integration as the synchronized deployment of all public transport. This intramodality is a specified form of intermodality and is a precondition of an intermodal traffic system (Project Group on Mobility, 2003).

2.6 Intermodal Traffic System

The term intermodality will in this research be used exclusively for the dimension in which intermodality is seen as a strategy in traffic policy to reach an intermodal traffic system. In an intermodal transport system the different transport modes will be integrated with each other in such a way that a seamless journey is possible. This integration of different transport modes, like car, bus, tram, train and bike should occur at least at the fields of network, tickets and information. The actual, preferred and possible level of integration between the different transport modes at the different fields will be several. In the end, the ultimate intermodal

traffic system will be a system in which the modes, car, bus, tram, train and bike will be used under the following four conditions (Petersen, 2003):

1. presence of instant access
2. one-way possibility of traffic mode use
3. idea of pay-as-you go
4. change of traffic mode occurs under minimal transaction costs

The first condition embraces the simple accessibility of a traffic mode and the use of different traffic modes without planning in advance. The obtaining of instant access will reduce the psychological transactions costs of intermodal behaviour. The second condition is the possibility of one-way use of traffic modes. This one-direction-traffic means that it is not necessary to bring back a traffic mode to the starting point of the trip. In case of the implementation of this condition, the traffic mode can be left at the destination point and another traffic mode can be used to return or at least travel further. The third condition is the pay-as-you-go idea, which means that travellers only pay for the moments that they actually travel. With this idea, the fixed costs of the traffic costs will go down and the variable cost will be become more important (Beutler, 2004). The last condition makes clear that the increase of the number of changes during trips are only then acceptable is when the cost of change stay minimal. These costs can be money, but also time or loss of comfort (Petersen, 2003).

In reality, the complete implementation of these four conditions will be impossible, because of the radical character of the conditions. Especially the second condition will be difficult to combine with private car and bike use, since car owning means automatically a go-and-come-back (two-way) use. The ultimate intermodal traffic system will be a system without private ownership of traffic modes and it will be clear that this ideal definition is a utopian one (Beutler, 2004).

However, a less rigorous implementation of intermodality might be useful in changing the modal split. The modal split is the division of different traffic modes, which is in modern society determined by the high proportion of car use. The idea behind this is that an integrated

transport system will benefit public transport, which will result in a change in the modal split (Chlond and Lipps, 2000).

In the context of intermodality, Beutler has invented the concept of urbanibility to develop a vision for the future of urban intermodality. This word suggests a relationship to the relevant spatial dimension of the urban area and the words mobility, sustainability, flexibility and ability, four concepts that are important in society at the beginning of the 21st century and fit the concept of intermodality. Urbanibility corresponds to a successful urban intermodal transport system. The reaching of such an intermodal transport system depends, beside on the organization and implementation of intermodal services, on the behaviour of the traveller (Beutler, 2004).

2.7 Intermodality and Social Trends

Intermodality can be seen as a way of improving the capacities of the existing transport system and is therefore a qualitative approach. This change from mainly traditionally quantitative traffic improvements to more qualitative improvements is expected to be a fitting answer to the combination of intensified environmental problems and a growing mobility demand.

At other fields, intermodality might be a fitting strategy too. For example, the rise in attention for intermodality is related to some social changes. Figure 2.3 shows the reciprocal relationship between society and economy at the left side, to the transport supply at the right side, with the intermediate steps of space-time structure and transport demand.

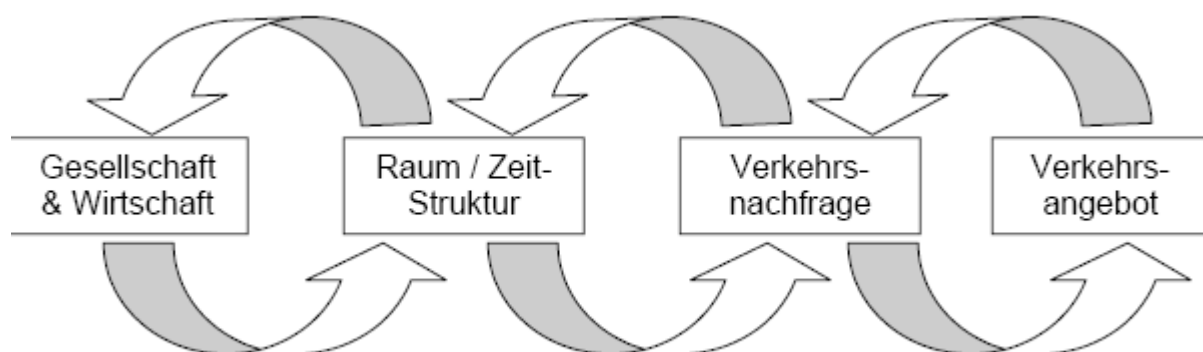


Fig. 2.3 Relationship society and transport supply (Berndt and Blümel, 2003)

These changes in society can be summarized in trends like individualization, differentiation of life styles and globalization, which all trigger a change in individual's space-time structure, which result in a different transport demand (Berndt and Blümel, 2003).

Current society asks for a more flexible transport system since the distance between living, working and leisure has increased and working hours have become more flexible. Another thing is that the share of leisure journeys has increased. This led to a more unpredictable extension to morning and evening travel peaks. In general, the need for transport is diversifying in time and space, with more complex routes (Mezghani, 2003).

2.8 Integration with Other Transport Modes

There are many different ways of intermodal transport use. The focus on the combined use of transport modes, results in the fact that there is not one general optimal way of transport mode use. A lot of possible combinations of different transport modes can form the chain of transport modes.

This research concentrates on the integration of public transport modes with each other and with other transport modes. Conceptionally public transport modes can be integrated with private transport modes and with shared transport modes.

In order to organize such successful integration integrated ticketing and information supply is important.

2.8.1 Integration with Private Transport Modes

Park and Ride

Park and Ride is with its start in the seventies one of the oldest concepts to increase passenger intermodality. The idea of Park and Ride is to divide a traveller's trip in a car driving part and a public transport part. The park and ride facility itself consists of reserved parking places at public transport stations, which becomes an intermodal nodal point. The traveller can park his car here and then travel further with public transport. In general the goal of the Park and Ride is to organize the traveller stream into an inner city, and is therefore a measurement against congestion and over parking in inner cities. The traveller drives to the city edge and takes

public transport for the last trip into the city centre. The last decades has shown that especially for small and historic city centres this concept has been successful because of the most often scarcity of parking places. The Park and Ride places are for free for the user. To avoid misuse of Park and Ride most often the use of the parking places is prohibited during the night (CPRE, 1998).

Ride and Bike

The concept of Ride and Bike is the same as Park and Ride in so far that it consists of parking opportunities at public transport stations but for bikes. The development of Bike and Ride is much simpler than Park and Ride, because it needs less space and money to build. Other difference is the geographical position of Ride and Bike. There where Park and Ride are localized at city edges, Ride and Bike is localized in the city centre. In general Ride and Bike improves the accessibility of urban public transport stations.

2.8.2 Integration with Shared Transport Modes

The role of shared transport modes is often considered as the future of intermodality. If public transport is extended with shared transport modes, the journey will become more flexible and the door-to-door-opportunity will come in. Shared transport modes can be cars and bikes (Beutler, 2004).

Car Sharing

The idea of car sharing can be summarized as an organized form of sharing of a car. It has its origins in the eighties and is characterized by the formula of using instead of owning. In general a car sharing company will have several reserved parking places (mobile stations) in a defined area, where its cars are parked when they are not in use. First the costumer has to become a member of the company. Than, the costumer receives an electronic mobile card, which functions as key and as paying card as well. The costumer only pays for the time he uses the car. The booking of a car can be done by internet or phone and the cars can be brought to every mobile station of the car sharing company.

Car sharing has benefits at the fields of cost efficiency, flexibility, easiness and environment (Bundesverband Car Sharing, 2005). First, car sharing can lead to a more cost efficient use of cars. The success of this concept is based on the difference between fixed car costs, like insurance, taxes and maintenance and variable car use costs which are related to the actual *use* of the car. The fixed costs make the owning of a car quiet expensive for people who do not drive so much. Car sharing can be a good alternative for those users, because with car sharing the user only pays for the variable costs only and no initial investment is needed in contrary to a private car. According to a German commodity test car sharing is very favourable for people who drive often short distances and don't drive more than 10.000 kilometres a year (www.stiftung-warentest.de).

Secondly, car sharing offers opportunities in flexibility. First, the broad car stock gives the user the possibility to use different cars for different sort of trips. Second, the reserved parking places for shared cars make parking much easier, less time consuming and less stressful. Third, the partnerships of the car sharing companies make it possible to leave the car in another city than the city of destination. Another benefit from the point of flexibility is that the possibility of 24 hour internet booking and telephone booking make the costumers independent of company opening times. At fields of easiness, car sharing offers benefits too. Especially the things related to the fixed car costs do not have to be organized by the customer. The car sharing company takes care of the insurances, taxes and maintenance.

The environmental benefits of car sharing are several. According to the German car sharing foundation one car sharing car replaces 6 till 8 cars. This means fewer cars on the streets and especially less need for parking places (since cars are in general parked around 23 hours a day). At the car producing side, the need for fewer cars means a lower demand for raw materials for car productions (Bundesverband Car Sharing, 2005).

Another environmental benefit of car sharing can be found in the changed customer behaviour towards a more public transport friendly behaviour. Small empirical research has proved that that people who use a shared car, use the public transport more often than they did before car sharing.

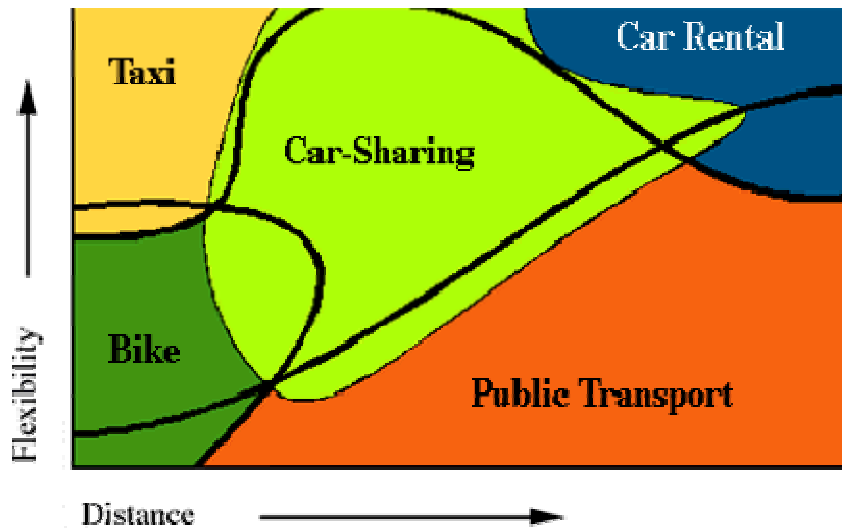


Fig. 2.4 Car sharing and other ways of transport (Agenda21bremen, 2005)

Car Sharing and Intermodality

Car sharing receives much attention in intermodal transport planning, and is seen as the ideal way to integrate car use with public transport. Quite often in literature car sharing and public transport are referred to as complements. A developed car sharing system has the opportunities to fit some of the four conditions for an intermodal transport system given in chapter 2.3. The existence of several mobile stations at which the car can be left, provides car sharing costumers the one-way possibility of travelling, which private transport modes don't have. Car sharing completely works with the pay-as-you-go principle. This in contrast to the car, which has a lot of fixed costs. A certain level of presence of access could be reached with the existence of several mobile stations that are even divided. Many car sharing company work co-operate with public transport companies, which often result in a reduction for car sharing costumers who use public transport or opposite (Project Group on Mobility, 2003).

The main problem with car sharing is that success of the company depends on its size. If a car sharing company has few costumers, this will influence the number of cars and mobility stations. A small number of cars and mobile stations will worsen the accessibility of the transport mode, which probably won't attract new costumers. This will keep car sharing act in a small niche of the transport market.

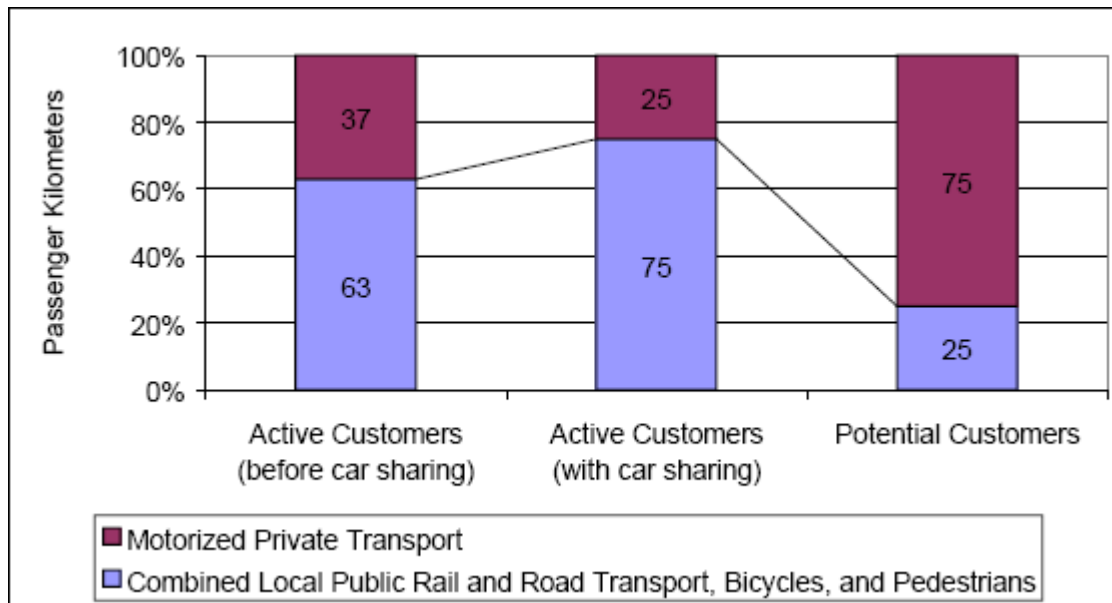


Fig.2.5 Car sharing and change in Transport Mode Choice (Project Group on Mobility, 2003)

At the moment the overall share of car sharing is low, though it is growing. There is a European car sharing foundation, but its site is not very up to date and informative (ECS, 2005)

Bike Sharing

Another new transport mode idea is the use of public bikes. Shared bikes can be considered as car sharing for short trips, with the same goals and benefits. The emphasis on short trips makes bike sharing very practical in the urban area. Main difference between bike sharing and car sharing is that bike sharing companies don't need mobile stations.

Another benefit of using the bike can be found at the field, that's normally not part of transport planning, namely health. There is no other transport mode that lets the users move themselves and in modern (especially urban) societies, the lack of movement and related weight problems become a growing problem. Daily biking might be a simple solution for this problem. Necessary condition for this is a certain level of traffic safety, since bikers are vulnerable victims of traffic accidents.

A lot of cities and town have developed ideas for using public bikes. Biggest problem, however, was the high proportion of stolen bikes. It is expected that new techniques with chips will reduce this (Beutler, 2004).

Technology plays an important role in the further development of car and bike sharing. The development of car and bike sharing already showed a quite high level of technology with the use of board computers, GPS and personal key cards. However, more technological innovations are needed in order to give intermodality the flexibility it needs. Most important new developments should be on fields of further integration of information and tickets.

2.9 Further Ticket and Information Integration

One way to make car sharing attractive will be the successful developments of a paying card that is valid for car sharing and public transport. This card should be an entrance, identity and paying card in all transport modes, and will provide the intermodal traveller an easy and financial attractive accessibility to all transport modes. With this card the price of the trip is less related to the sum of the single trips, but more to the whole trip including the turnovers. It seems that the technological developments of such a card might be possible. However, the implementation of such a card is still difficult. The biggest obstacle is often the lack of co-ordination between the different transport actors (Beutler, 2004).

It seems that the further development of intermodality partly depends on the further progress in telematics, which combines telecommunication and information science. Another further to develop intermodal project is the personal travel assistant. This travel assistant should provide the traveller real time intermodal travel information. The traveler should have the possibility to receive this information on his handy, personal agenda, e-mail or wap. The information could be gathered by an intermodal information management centre. With the introduction of the accessibility of information, the in chapter 2.3 presented table can be further developed.

MOBILITY CONCEPTS	LEVEL OF INTEGRATION	OF AVAILABILITY OF INFORMATION
monomodality	None	before the trip
multimodality	Middle	before the trip
intermodality	High	during the trip

Table 2.1 mobility concepts and availability of information (Brackmann and Beutler, 1999)

2.10 Implementation Barriers

Despite the growing interest of the idea of intermodality the last decades, monomodal thinking, behaviour and lobbying is still a dominant thing in transport. Though, the relative share of intermodal trips is growing, but the number of intermodal trips is still very low compared to the monomodal trips (Beutler, 2004).

The European Union determined some obstacles that could explain this low share of intermodality. Those are the lack of:

- intermodal lobby support (against a strong single transport mode lobby)
- data availability
- putting user needs regarding interchanges into practice
- co-ordination in a difficult multistakeholder and/or competitive environment
- network level planning of interchanges
- successful business models for intermodal information systems

According to the European Union, the greatest barrier is most often considered the lack of co-ordination between the different modes and different levels, whose actors have all different priorities (ILS NRW, 2004)

3. TRANSPORT POLICY EU

3.1 The White Paper

The traffic policy of the European Union is presented in the White Paper, European transport policy for 2010. This paper defines the future goals of the European transport policy in order to adapt to the growing mobility demand in the region. The first White Paper was published in 1992. The main goal of this paper was the opening of the transport market. This primary principle has mainly been achieved in the freight sector and is considered as a big contribution to the industry. In the passenger sector the implementation of liberalization is much more slowly.

In the last White Paper of 2001 new transport problems have been identified. According to the paper, the main traffic problems in the beginning of the 21st century are the unbalanced division of transport modes, congestion and ecological and health problems.

In order to solve these problems around 60 measurements are presented as actions. The intention is that the implementation of these measurements will lead to the ultimate goal of an European sustainable traffic system. This sustainability should be reached at the economical, social and ecological dimension within thirty years.

The White Paper consists of four parts (Box 1). The first is about changing the current unbalance of traffic modes and includes intentions to develop an intermodal strategy. The last decades the transport and the air transport have experienced an enormous growth. This resulted in congestions problems. In reaction to this unbalance, the White paper points out two priority objectives. The first one is regulating competition between modes and the second one is the link-up of modes for successful intermodality.

In order to regulate the competition between modes the car and air traffic has to get under control and more environmentally friendly modes like train have to be stimulated. Targets will be the improving of the quality of the road sector, the revitalizing of the train and the control of passenger air traffic.

With the link-up of different modes is meant the integration of more traffic modes in order to optimize the freight transport. Target in this point will be the linking up of sea, inland waterway and rail, helping to start up intermodal services by stimulating the Marco Polo

program for freight intermodality and encouraging integrators of freight and standardizing container and swap bodies.

The second part of the White Paper is about the eliminating of bottlenecks in the European traffic network. A focus will be on the unblocking of the major roads and on the headache of funding.

The third part of the White Paper places the users at the heart of the traffic policy. A closer look is given to road safety, the passengers travel costs, passenger intermodality and urban transport. In this part there is a chapter about urban transport.

Much attention is given to problems as safety, congestion and pollution in urban regions. Controlling the use of the car in cities seems to be the biggest objective, though the regulative means to reach this are weak. This is because the subsidiarity principle of the EU, which defines that the jurisdiction at this theme should stay at the national level. The task of the EU can be found in stimulating and promoting. Three proposals are made in the White Paper. The first is to promote clean vehicles and public transport to all users. The second is to support pioneering towns and cities by community funds. An example of this is the CIVITAS project which started in 2001. The last task is the identification and dissemination of best urban transport system practice

In the fourth part of the White Paper, managing the globalization of the transport system is the core theme (European Communities, 2001).

Box 1 The four parts of the White Paper 2001 (European Communities, 2001)

1	<p>SHIFTING THE BALANCE BETWEEN MODES OF TRANSPORT</p>	<ul style="list-style-type: none"> • REGULATED COMPETITION BETWEEN MODES • LINKING UP OF MODES FOR SUCCESSFUL INTERMODALITY
2	<p>ELINIMINATION BOTTLENECKS</p>	<ul style="list-style-type: none"> • UNBLOCKING MAJOR ROUTES • HEADACHE OF FUNDING
3	<p>PLACING USERS AT THE HEART OF TRANSPORT POLICY</p>	<ul style="list-style-type: none"> • UNSAFE ROADS • USER COSTS • INTERMODAL TRANSPORT • RATIONALISING URBAN TRANSPORT
4	<p>MANAGING THE GLOBALISATION OF TRANSPORT</p>	<ul style="list-style-type: none"> • GLOBAL OPPORTUNITIES • ENLARGED EUROPE ASSERTIVE ON WORLD STAGE

3.2 Civitas

Civitas is an initiative co-financed by the European Committee and is a derivation of the words City, Vitality and Sustainability. Its aims are to get cleaner and better transport in cities. The approach is an integrated one and focuses on transport and energy elements. Main goal is to reach integration in transport policy and technologies in order to get a sustainable transport system.

In 2002 Civitas 1 started with 19 cities in 4 demonstration projects. In 2005 Civitas 2 started with 17 other cities. The different cities are all grouped into one demonstration project. Though the demonstration projects have some little differences in local focus, common theme of those demonstration projects is the goal of sustainability in urban transport.



Fig. 3.1 Map with cities involved in Civitas project (Civitas, 2005)

The four demonstration projects of Civitas 1 are:

1. Tellus, for the integration of urban transport systems
2. Trendsetter, ameliorate urban air quality and noise levels
3. Vivaldi , combats congestion and pollution
4. Miracles, increasing urban transport's system sustainability

The four projects of Civitas 2 are:

1. Success, for smaller urban areas and reaching sustainability
2. Smile, for intermodal traffic system
3. Mobilis, creates a culture for urban mobility
4. Caraval, bringing together different actors

There are also two horizontal projects, which are Meteor for Civitas 1 and Civitas Guard for Civitas 2. The last two programs are set up with the goal of monitoring, disseminating and evaluating the projects.

Civitas has identified eight basic building blocks which could be used for defining measures to reach integrated solutions for clean urban transport. Each participating city chooses a set of those building blocks. Those building blocks are:

The eight Building Blocks of an integrated Strategy

- 1.** Energy-efficient, cost-effective and clean public and private vehicle fleets using 'alternative fuels' plus the necessary fuelling infrastructure
- 2.** Demand management through access restrictions to the inner city areas and other sensitive zones
- 3.** Demand management and revenue-raising strategies based upon integrated pricing strategies
- 4.** Stimulation of collective passenger transport and improved quality of service to passengers
- 5.** New forms of vehicle use and ownership, and less car-intensive lifestyles
- 6.** New concepts for the distribution of goods
- 7.** Innovative 'soft' measures for managing mobility demand, walking and cycling and integrated planning approaches
- 8.** Transport management systems and related information services

The Civitas program works under the condition of 'of cities for cities'. Other important key elements of Civitas are the presence of local public private partnership and commitment of politics. Learning is also an important goal of the project. Civitas considers cities as living laboratories in which learning and evaluating is very important (Civitas, 2005).

3.3 Intermodality in EU Traffic Policy

The EU introduces the concept of intermodality as an important strategy to adapt to the expected increase in mobility and to change the modal split into the direction of 'clean transport modes'. Intermodality can be seen as a way of optimizing of the use of different transport modes (European Communities, 2001). It is a qualitative answer to the rising mobility demand. This change of quantitative improvements of transport modes to qualitative improvements fits the European principle of sustainability (Mezghani, 2003).

In the European freight transport the implementation of intermodality has been quiet successful and accepted. In passenger transport the concept of intermodality has been implemented on a more smaller scale. Though, with the recognizing of the concept in passenger transport in the White Paper of 2001, intermodality is expected to become more important in the coming decades (EU, 2001).

In 2004, a report has been written in charge of the EU about intermodality. The European department that is responsible for this theme is the Directorate Generale Energy and Transport (DG TREN). The report consists of three parts, a theoretical one in which the concept is defined and explored, a practical one which gives insight in the actual implementation of intermodality in the EU countries and a part in which possible future actions are given.

The intermodality report identifies several elements which should be strengthened and integrated in the process of reaching a seamless journey, the aimed product of intermodality. These elements are networks and interchanges, door-to-door information, tariffs and ticketing, baggage handling and promotion of intermodality (DG TREN, 2004).

In the White Paper the EU considers the current changing of transport modes as problematic. With the introduction of intermodality, this should change. The EU introduces three priority action fields to reach intermodality. These are integration of information, baggage and continuity of journeys

In the intermodality paper of the EU, some obstacles for the implementation of intermodality have been recognized. Main things are the lack of lobby support for intermodality (against strong monomodal lobbying), data availability, putting users needs according interchanges into practice, network level of interchanges, co-operation into a competitive environment (DG TREN,2004).

4. PUBLIC TRANSPORT IN BERLIN

4.1 Characteristics Berlin

The German capital Berlin experienced politically a remarkable twentieth century. The city headed till 1918 the feudal Kaiserreich. The following experiment of the Weimar Republik, which is often referred to as the golden twenties, ended in 1933, when Berlin became the capital of the Nazi Regime. During the Second World War the city suffered from thorough bomb attacks by the allies. After the war Berlin was divided into four sectors, a Russian, an American, a British and a French part. Later this division resulted in an eastern and a western part. In 1961 the Berlin Wall was built, which meant the absolute separation of the city. East Berlin became capital of the socialistic GDR and West Berlin became an island as part of western Germany. In 1989 the Wall fell and in 1990 the GDR became part of Germany with the re-united city of Berlin as capital. One of the reasons behind the decision to remove government from Bonn to Berlin was to stimulate the reunited Berlin in employment, rise in population, image and cultural life. Despite all this, Berlin experienced a decrease in population since 1990 (Appendix 4.1). In 2005 around 3.400.000 inhabitants lived in Berlin. The improvement in the economic climate hasn't come until this moment and Berlin is with an unemployment of around 18% one of Germany's regions with the highest unemployment. Another explanation for Berlin's population decrease is the rise in suburbanization (fig 4.2). The spread of urban population into the surrounding region is a very recent phenomenon. During the dividing of the city, suburbanization wasn't possible in West-Berlin because it was an island surrounded by the socialistic GDR. Suburbanization of East-Berlin didn't occur because it didn't fit the ideology of the GDR (Berlin.de, 2005)

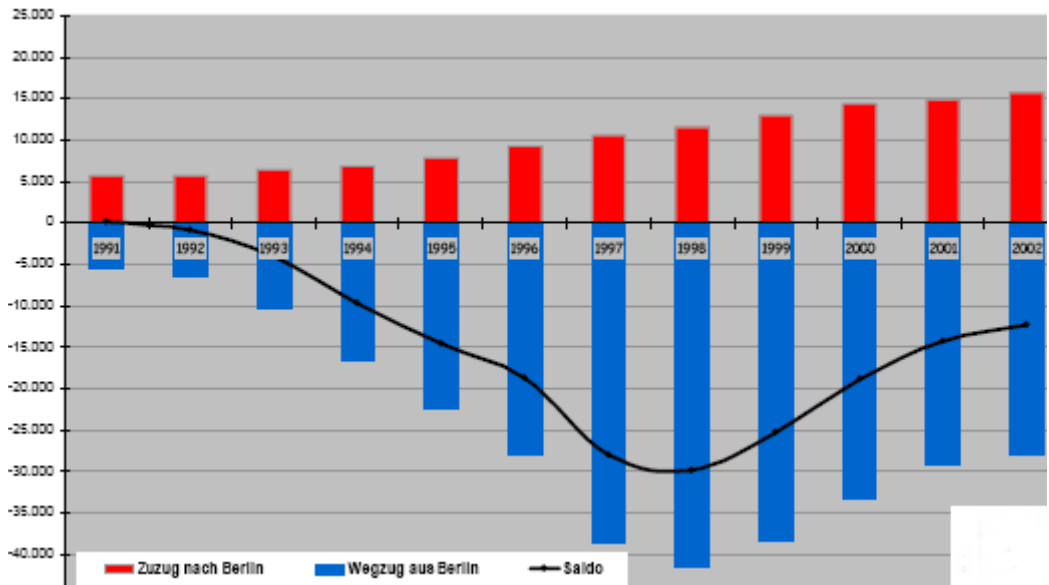


Fig. 4.1. Suburbanization Berlin (Krautzberger, 2005)

Another remarkable characteristic of Berlin is its multi-centrism (fig 4.2). Besides the two centres of the former east and west part (the red points in fig 4.2), there are many other city centres (green and dark blue points) and centres in neighbourhoods (light blue) (Stadtverwaltung, 2005).

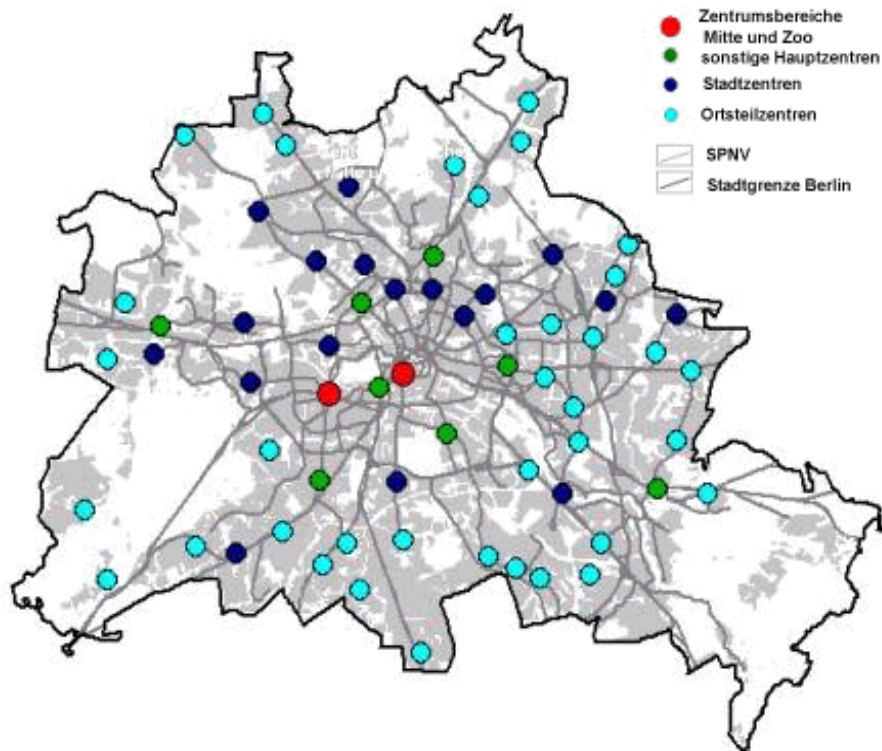


Fig. 4.2 Multi-centrism in Berlin (Stadtverwaltung, 2005)

This multi-centrism resulted in the so called ‘Berliner Mischung’ which means the territorial mix of activities as working, living, leisure and shopping (Arndt and Becker, 2003).

4.2 History Public Transport Berlin

The oldest electric transport mode of Berlin is the tram. In 1889 the world’s first electric tram was invented in Berlin by Walther Siemens. In the following decades the tram became an important traffic mode. This growth stopped with the expansion of the U-Bahn and S-Bahn. The first subway in Berlin (U-Bahn) was built in the first years of the twentieth century, between Potsdamer Platz and Stralauerplatz. In the same period the first motorized busses replaced the horse busses. Berlins S-Bahn is the oldest of Germany. The electrification of the rail system started in 1924. The name S-Bahn was developed in 1930 and is an abbreviation of Stadt-Schnell-Bahn.



Fig 4.3 U-Bahn, S-Bahn and Tram (BVG, 2005 and S-Bahn, 2005)

The public transport system of Berlin is strongly determined by the history of the city. Until the Second World War, the development of the different traffic modes into one transport system was characterized by expansion. The networks of the S-Bahn and U-Bahn suffered from several bomb attacks from both the allies and the SS during the Second World War. Directly after the war, parts of the S-Bahn and U-Bahn inventory were taken away to the Soviet Union, as part of the so called ‘reparation costs’. The first years after the war the networks and inventories improved slowly. At the end of the fifties, (the years in which the rebuild of the country was the central theme), public transport experienced a modernization. After the declaration of the GDR as an independent country, the city of Berlin was officially split but

traffic between the two parts was still possible. With the construction of the Wall at the 8th of August 1961 the network was split (Bley, 2003).

Network Split during the Wall Period

The Berlin Wall changed the transport network thoroughly. Some lines were split and other lines were blocked. The inner S-Bahn ring was split and the central city S-Bahn line was divided in an eastern and a western part. The U1 was shortened with one station (until Schlesische Tor) because station Warschauer Strasse was in the eastern part (Dittfurth, 2003). The S-Bahn North-South line and the U-Bahn lines U6 and U8 were blocked. The biggest parts of these lines were in the western part. At these lines the so called ghost stations emerged, which were stations in the eastern part where western trains passed without stopping. For the population in East-Berlin the stations were closed (Wikipedia, 2005).



Fig. 4.4 Map and picture of ghost stations (www.eku.de, 2005)

Station Friedrichstrasse became the central border station, where transits from East to West and West to East were possible. At the border between West-Berlin and the GDR the lines to Potsdam were blocked (Dittfurth, 2003).

Different Transport Modes in Both Parts

Both parts of the city developed different traffic modes. The western part focused on the U-Bahn system and the bus. In the eastern part, the tram and the S-Bahn became important traffic modes. This different development had practical and political reasons. First the main part of the U-Bahn infrastructure was situated in West-Berlin. Except for the U5, most U-Bahn stations in the Eastern part became ghost stations and weren't used. As substitute a lot of tram lines were constructed, because the construction of these lines was much easier, faster and cheaper than building new underground lines.

Another maybe more influencing reason was based on the different political ideologies both parts tried to express. Like many other former non-political things in Berlin, the transport network became part of the political fight between the two Berlins. The traffic mode that suffered the most under this political situation was the S-Bahn.

The whole S-Bahn was part of the Reichsbahn, which became the railway company of the GDR after the separation of Germany. In both parts the S-Bahn stayed in operation, but because it was organized by the eastern part the S-Bahn became a very unpopular transport mode in the Western part. A couple of weeks after the construction of the Wall, a passenger's boycott of the S-Bahn in the western part of Berlin started. The S-Bahn was as part of the eastern Reichsbahn considered as part of the 'evil East' and travelling and paying for a service that came from the Eastern part was seen as 'helping the enemy'.

With this boycott, the non-use of the S-Bahn by the West-Berlin's population was set for years. On her side the S-Bahn management neglected the boycott, which led to the remarkable situation of empty S-Bahn trains driving through West-Berlin during the seventies. These empty trains were often accompanied with crowded busses on the side road, which followed the S-Bahn routes. These 'replacement busses' were so popular that an over-crowded bus network developed in West-Berlin during the seventies. At the same time, the U-Bahn experienced an increase in passengers as well and investments were made to improve the system.

Though the almost non-used S-Bahn system in West-Berlin kept working, there was a thorough lack of maintenance of the network in this part. West-Berlin was considered as a foreign country by the Deutsch Reichsbahn and the around thousand daily passengers that used the S-Bahn in the seventies weren't strong incentives to invest. The offer of service

decreased, but finishing S-Bahn services in West-Berlin was somehow no real option because it could be interpreted as sensitivity to West Berliner capitalistic behaviour.

The beginning of the eighties was characterized by more public resistance against the fall down of the S-Bahn in West-Berlin. The over-crowded busses and the more public awareness of environmental themes create a need for other transport modes than the bus and the car. After a long period of public protest the Senate of the western part and the Deutsche Reichsbahn of the DDR negotiated and finally agreed to organize a take over of the S-Bahn in West-Berlin by the BVG, the underground and bus company of West-Berlin, in 1984. After the BVG took over the S-Bahn, its network and trains were modernized slowly in the western part. Though it would stay a transport mode in the margin compared with the U-Bahn and bus in West-Berlin (Jurziczek, 1999).

Contrary to the development in West-Berlin, the tram and the S-Bahn became the most important public traffic mode in the eastern part of the city. With the construction of new neighbourhoods in East-Berlin, the S-Bahn network expanded (Bley, 2003). Figure 4.5 shows the current division of the underground and tram lines in Berlin, which is highly determined in the time the city was divided.

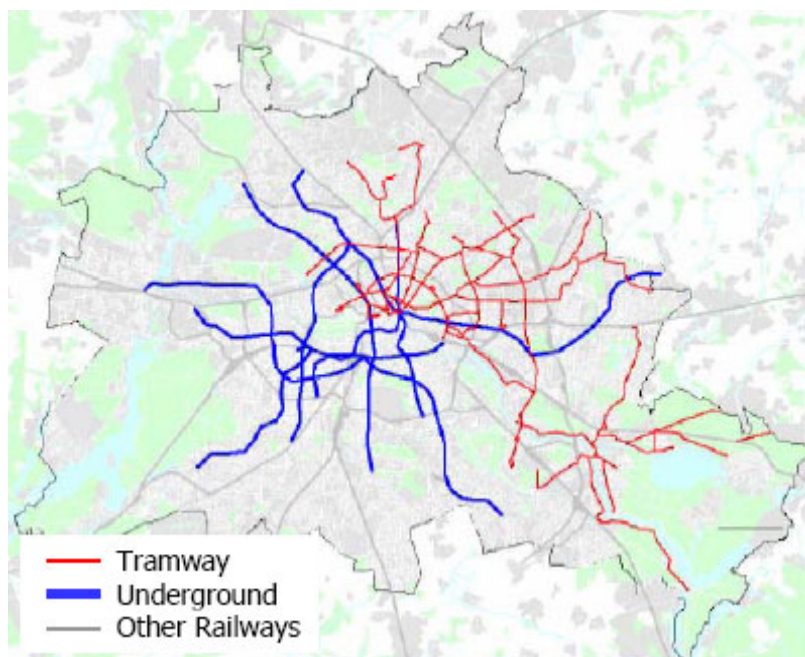


Fig. 4.5 Spatial Division U-Bahn and Tram (Kreutzberger, 2005)

The Reunification of the Network

After the fall of the Wall in 1989, the transport network experienced thorough changes. The ghost stations opened in the first months after the fall of the Wall. After the reunifications of Germany, all border stations lost its particular function. Main goal of the early years of the united city of Berlin was the unification of the network.

Besides the reconnection of former east and west stations, a lot of bridges and rail parts had to be repaired. Big parts of the western Inner Ring had to be rebuilt completely, because of the thorough lack of maintenance of the S-Bahn in West-Berlin. It took until 2002 before the Inner Ring was finished. In February 2005 the reconnection of the S-Bahn line between Teltow and Lichterfelde Sud was finished. Since the re-unification the total length of tram U-Bahn and S-Bahn rails has been extended with 183 kilometres.

The state had a strong role in the operation. The two companies who were involved, the BVG and the Reichsbahn (S-Bahn was part of the German rail company until 1995) co-operate, to re-open the former ring and other S-Bahn parts (13.1, 13.2, 13.3).

4.3 Private Transport Modes Berlin

Berlin has the lowest car ownership of Germany, with 330 cars per 1000 inhabitants. Car use accounts for almost forty percent of the traffic in Berlin and this share is expected to rise the coming years. The total distance of roads in Berlin was in 2004 around 5.300 kilometres. In 1995 the length of Berlin's roads was around 5.100 kilometres (Stadtverwaltung,2004)

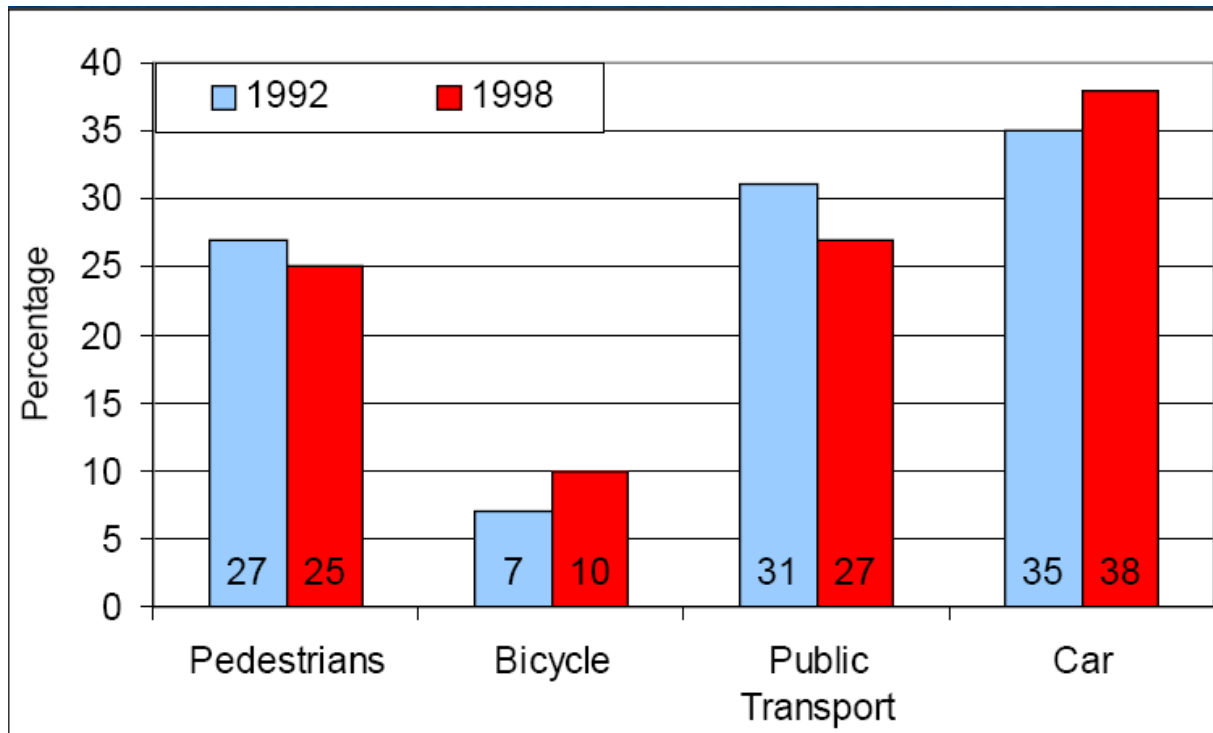


Fig. 4.6 Modal Split Berlin in 1992 and 1998

(Kreuzberger, 2005)

Like every city Berlin has congestion problems. The environmental problems caused by traffic can be tested by the level of noise, CO₂ emission, NO₂ emission and the level of particulates in the air. The emissions of CO₂ gas in Berlin is shown in figure 4.7. The red bar is the transport share in CO₂ emission. In contrast to the decline in emission of CO₂ in households and industry, the emissions caused by traffic stabilized.

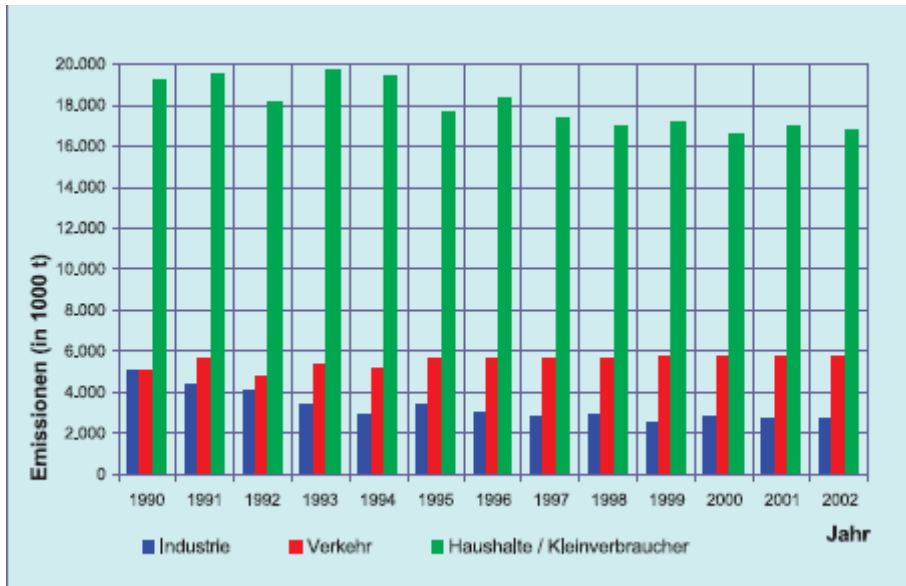


Fig 4.7 CO2 Emission Berlin by originator (Stadtverwaltung, 2005)

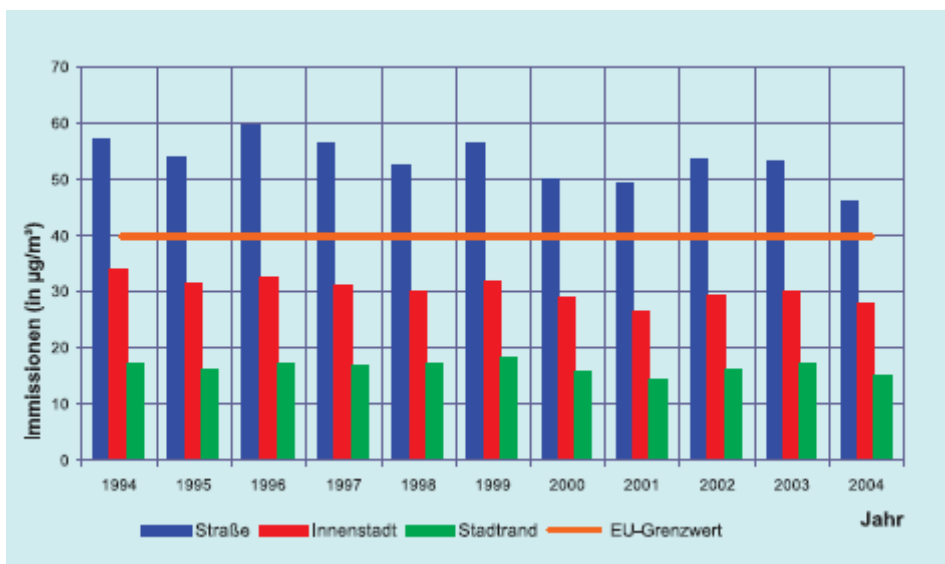


Fig 4.8 NO2 Emission in parts of Berlin (Stadtverwaltung, 2005)

The diagram above shows the positions and the level of NO₂ in Berlin. At bigger streets the level exceeds the European Union norms. As expressed in figure 4.9 the number of accidents has fallen last years in Berlin. The proportion of pedestrians is high.

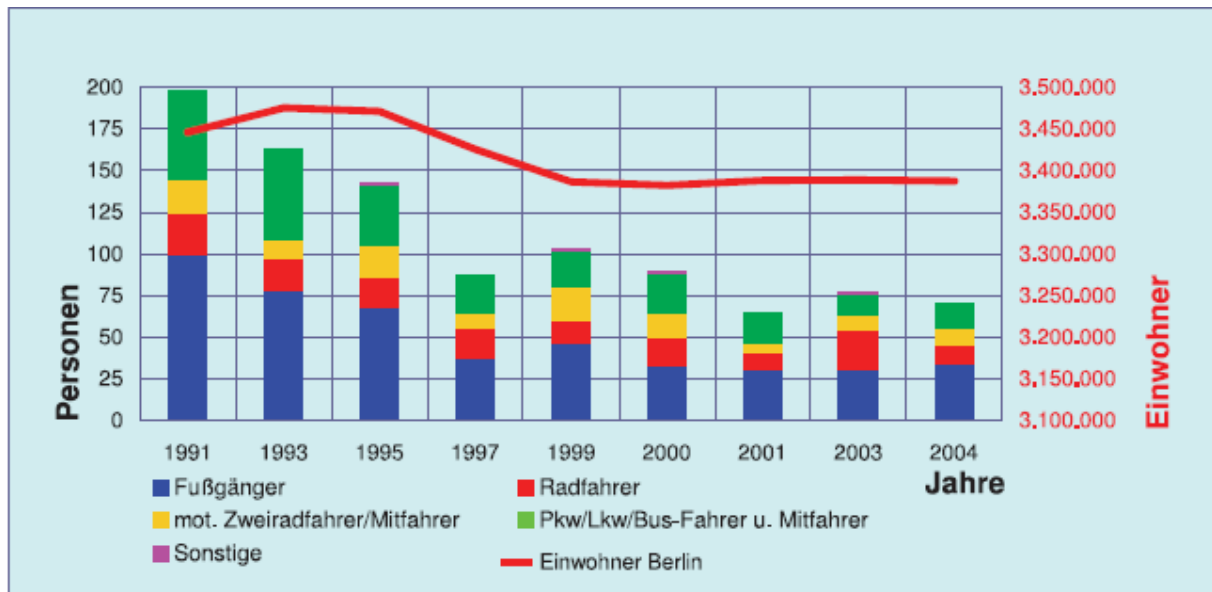


Fig 4.9 Number of deadly accidents by transport mode (Stadtverwaltung, 2005)

Figure 4.10 shows the development of bike ownership in Berlin. The figure is based on the year 2001. The strong decline in bikes came together with the rise in car ownership.

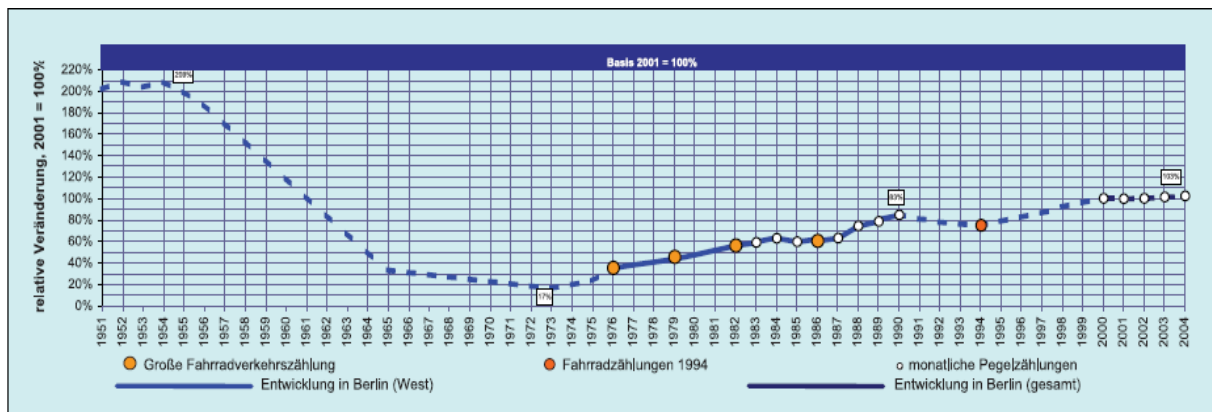


Fig 4.10 Bike ownership in Berlin (Stadtverwaltung, 2005)

The relative share of biking was in 1998 ten percent and is expected to rise the coming years.

4.4 Public Transport Use in Berlin

The city of Berlin has, compared with other German cities, a quite developed public transport system. The public transport in Berlin accounts for almost thirty percent of the total trips (figure 4.6 Modal Split). The Berlin public transport system exists of different traffic modes. The backbone of the system is the U-Bahn together with the S-Bahn. The other traffic modes are the bus, the tram and some ferries. The network consists of 15 S-Bahn lines, 9 U-Bahn lines, 21 tram lines, and 150 bus lines (BVG, 2005).

The U-Bahn and S-Bahn work on direct current. Biggest difference between the two is the ground level they operate on, the U-Bahn mostly under ground level and the S-Bahn mostly above (Wikipedia, 2005). The most important public transport mode in Berlin is the U-Bahn, followed by the bus, the S-Bahn and Tram.

TRAFFIC MODE	2002	'02(%)	2003	'03(%)	2004	'04(%)
U-BAHN	399	33	457	34	457	34
BUS	361	30	398	30	407	30
S-BAHN	305	25	315	24	318	24
TRAM	142	12	157	12	171	13
TOTAL	1207	100	1327	100	1353	100

Table 4.1 Number of passengers per year and relative share public transport modes Berlin (www.bvg.de, 2005 and www.s-bahn.de, 2005)

The relative shares of the public transport modes, biking and walking can be accounted and compared with the relative share of car use. The result is the clean transport division. The clean transport: car use division of Berlin in 1998 is: 62:38

Metrobus and Metrotram

Since 2005 the name of the bus and tram system in Berlin has been changed into metro system. This concept might be a bit confusing since the word metro in many cities stands for the underground. The idea behind this change was to suggest that the metrotrams and metrobusses have the same quality of the underground in so far that the metrobus and the metrotram have the similar timetables as the U-Bahn and S-Bahn concerning frequency (13.2).

5. CO-OPERATING IN A COMPETITIVE ENVIRONMENT

The main sources of information for the present chapter are deep interviews with the main actors the city council (Stadtverwaltung) and BVG and an inquiry with the S-Bahn (13.1,13,2, 13,3). The interviews gave a closer look to the actual situation of Berlin's public transport, the goals of the actors and the future expectations. Core theme of the interview was the estimation by the actors of the mutual co-operation. In chapter six the actual integration of the network, tickets and information are investigated. With an overview of the integration of Berlin's public transport and other modes of transport, this research expands its focus from only the traditional public transport modes, and the concept of intermodality comes in. The primary data of chapter six and seven consist of interviews and inquiries with other actors in the transport sector of Berlin. Those actors are public private partnerships or private companies. This research investigated the co-operation between the traditional public transport and the other actors. In chapter seven the interviews are used to detect the future of intermodality

5.1 The Actors

The main actors of Berlin's public transport system are the two public transport companies, the BVG and the S-Bahn GmbH, which deliver the traditional traffic modes. The company BVG is responsible for all the underground (U-Bahn), tram, bus and ferry lines. The BVG (Berlin Verkehrs- AG) exists since 1929 and emerged of three traffic firms of Berlin. With the separation of the city in 1949, the BVG splits into an eastern part (BVB) and a western part (BVG). After the fall of the Wall, the two companies became one again (BVG, 2005) .

The S-Bahn Berlin GmbH was set up 1995. This company is for 100% a daughter company of the Deutsche Bahn AG (S-Bahn Berlin GmbH, 2005). Both companies experienced a small rise in costumer numbers last years and expect the costumer number to rise in the coming years (13.2 and S-Bahn, 2005).

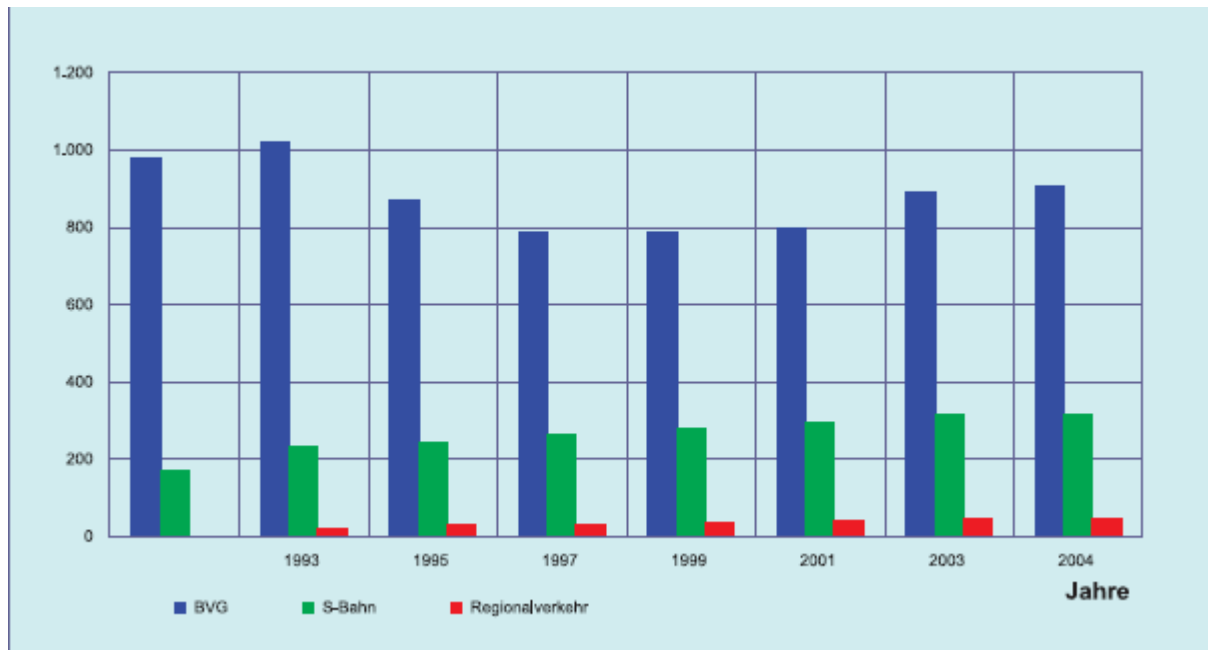


Fig 5.1 Rise in costumer numbers BVG and S-Bahn (Stadtverwaltung, 2005)

5.2 The Transport Goals

Both public transport companies have in the first place the goal to increase the passenger numbers, in such a way that public transport will be accessible for all citizens of Berlin, with a guaranteed quality of service.. In order to reach these goals the BVG started to create better physical conditions for disabled and elder travellers (13.2, 13.3). Of course, the two companies have the purpose to reach economic benefit, since the companies are privatized.

The goals of the city council have been collected and presented in the Stadtentwicklungsplan Berlin (StEP Berlin). The motto of the plan is sustainable mobility for all. Besides that, the attainability of the different parts of the city should be secured and the disadvantages of motorized traffic should be minimized. In the end the city council plans to change the modal split in the direction of more clean transport modes. As clean transport mode the city council has grouped the public transport, the bike and the amount of walked trips. At the moment the share of clean transport modes is almost sixty percent in Berlin against a share of forty

percent of car traffic. The ultimate goal of the city council is to change this division into eighty: twenty for respectively clean transport modes and car traffic.

In box 2 the main targets of Berlin's transport plan are shown. One of the main targets is the stimulation of non-motorized ways of transport, which are biking and walking. A successful implementation of this will change the modal split. The city council has a deep faith in this focus, since Berlin's polycentrism makes the traffic stream spread and the routes short, which are good conditions for biking. Another striking idea in the plan is the focus on maintaining the existing infrastructure instead of expanding, this due to the poor financial situation of the city and the belief that the existing system possesses enough growth opportunities. Better road conditions will also reduce accidents and noise. The attractiveness of the public transport should be triggered with good network maintenance, flexible supply under acceptable prices. Car sharing initiatives will be stimulated by city council and the accessibility of traffic information will be improved. Another relevant goal of the city council according to this research is the attempt to reduce the negative impact of car use. One important measurement to reduce car use in the inner city is the expansion of the paid parking area (Stadtverwaltung, 2003).

Box 2 Transport Goals Stadtverwaltung Berlin (Stadtverwaltung, 2003)

1	STIMULATION OF NON-MOTORIZED TRAFFIC	<ul style="list-style-type: none"> • FURTHER DEVELOPMENT OF BIKING STRATEGY • FURTHER DEVELOPMENT PEDESTRIAN STRATEGY • TAKING CARE OF MOBILITY OF CHILDREN AND YOUTH
2	MAINTAINING EXISTING TRAFFIC INFRASTRUCTURE	<ul style="list-style-type: none"> • FINANCIAL INCENTIVES FOR MAINTAINING INFRASTRUCTURE • PROGRAM FOR SHORTENING IMPORTANT TRANSIT DISTANCES • ELIMINATING BOTTLENECKS • SECURE FUTURE RAIL INFRASTRUCTURE
3	BETTER USE OF EXISTING INFRASTRUCTURE CAPACITIES BY INTELLIGENT ORGANISATION	<ul style="list-style-type: none"> • DATA TRAFFIC MANAGEMENT CENTER (VMZ) • PARK MANAGEMENT • REDUCTION OF INNER CITY TRAFFIC STREAMS BY NEW ORGANISATION • MARKET ENTRANCE OF NEW RAIL COMPANIES • RAISING SPEED TRAMS AND BUS • INCREASE IN MARKETING, INNOVATION AND CO-OPERATION PUBLIC TRANSPORT • PRIORITY LANES FOR TRAMS • ORGANISATION DIFFERENT TASKS TRANSPORT ACTORS • SPACE FOR CAR SHARING PARKING PLACES
4	SMALL ENLARGEMENT NETWORK	<ul style="list-style-type: none"> • INFRASTRUCTURE TO LEHRTER BAHNHOF • ENLARGEMENT S25, TIERGARTEN TUNNEL AND ROADS B101, B96, B158
5	IMPROVEMENT NATIONAL AND INTERNATIONAL ACCESSIBILITY	<ul style="list-style-type: none"> • FOCUS ON AIRPORT SCHÖNEFELD AND NBB • SECURE ACCESSIBILITY BY ROAD, TRAIN AND WATER
6	UNBURDEN URBAN SPACE OF NEGATIVE TRAFFIC EFFECTS	<ul style="list-style-type: none"> • FIGHT SAFETY PROBLEMS WITH SPEED CONTROLS • DECREASE TRAFFIC NOISE AND EMISSION • REDUCE AND ORGANIZE TRUCK TRAFFIC
7	LIMIT RISE IN NEW TRAFFIC STREAMS FROM NEW NEIGHBORHOODS	<ul style="list-style-type: none"> • PLANNING AND CONTROLLING NEW NEIGHBORHOODS TOGETHER WITH BRANDENBURG
8	IMPROVING TRAFFIC POLITICAL INFORMATION SUPPLY AND CONSULTATION	<ul style="list-style-type: none"> • REPORTING GOALS AND MEASUREMENTS • SET UP COUNCIL



Fig. 5.2 Park Management Berlin (Krautzberger, 2005)

5.2.1 Public Transport Policy City Council

The city council defined public transport as an important part of its transport policy. Public transport should be accessible for all inhabitants of Berlin, which means that the ticket prices should be moderate. This resulted in the introduction of tickets for students, scholars and family tickets last years. The city council defined the further improvement and facilities for disables travellers.

The last decades have been characterized by the re-construction of the network, to get back the network from before the construction of the Wall. The main part of this has been finished and the future will be characterized by further improvements of the existing network. Enlargements of the network are only planned to connect the new main railway station Lehrterbahnhof (Stadtverwaltung, 2003).

5.2.2 Bike Policy City Council

Besides the restrictive policy of paid parking places in the inner city, the city council expects to influence the modal split with the improvements of biking facilities. A main project of the city council is the construction and improvement of bike paths. The bike path system in Berlin has a total length of 620 kilometres in 2005. Not all the biking paths are separated roads. Sometimes the bike paths are separated from the road with a line. The total length of those lined biking roads is around 60 kilometres. The pictures on the next page show three projects to improve the biking opportunities in Berlin. Those projects are the construction of bike paths, the marking of bike paths by white stripes on the road. In order to make biking a bit more comfortable, the city council started asphaltting some stone roads. This last measurement has as second benefit, the decrease of noise of car traffic (Stadtverwaltung, 2003).

Before



After



Before



After



Before



After



Fig 5.3 Bike measurements in Berlin

(Stadtverwaltung, 2005)

5.3 Competition and Co-operation

Co-operation and competition BVG and S-Bahn GmbH

Since the liberalization the two traditional transport companies operate in the same market and are therefore competitors. New market entrance in the traditional public transport sector has not occurred. Except for some bus companies who operate between the border between Berlin and the surrounding region Brandenburg, no other public transport companies in Berlin than the BVG, the S-Bahn GmbH and on a very low scale the German rail company Deutsche Bahn are active. Though the BVG and the S-Bahn are competitors they complement each other in their supply, since they both provide another product, mostly in other parts of the city.

The BVG considers the S-Bahn as an import partner, but according to a spokesman of the BVG the quality of the co-operation between the companies has decreased the last years. Data exchange between the two companies has been stopped (13.2). The S-Bahn considers the quality of cooperation with partners as trade secret. Parts of the co-operation between the S-Bahn and BVG are coordinated by the VVB, the regional transport organization of Berlin and the surrounded region. For example, the attuning of the new ticket prices coordinated by the VVB. Unfortunately the spokesman of the VVB lacked time for an interview or the filling in of an inquiry during the research period.

Co-operation with City Council

With the liberalization a slow decrease in public funding in public transport began. From the year 2000 until 2004, the financial supplement the BVG receives is stabilized at 420 million (against 520 Million in 1990). The S-Bahn received in 2004 194 million Euro (Stadtverwaltung, 2005).

The defined relationship between the city council and the two companies is an order-and-provide principle. This means that the city council orders (and partly finances) a certain level of public transport service and the BVG and the S-Bahn provide this. The relationship between the city council and the S-Bahn GmbH and the BVG differs, since both companies have signed a different contract with the city council. The S-Bahn and the city council have a detailed contract until 2013, in which is defined what services the S-Bahn should provide and the reciprocal financial incentives. Until this moment such a contract has not been signed with

the BVG. The BVG and the city council have only a very general contract. The city council hopes to start a more detailed contract with the BVG in 2008. The BVG did not mention these intentions (13.1 and 13.2).

The spokesman of the city council considers the co-operation with the S-Bahn as good. This is due to the clearly defined contract. The co-operation with the BVG is estimated as less than with the S-Bahn and as quite difficult, because of the absence of a detailed contract. The spokesman of the BVG confirms the image of difficult cooperation between the city council and the BVG. According to the BVG the co-operation with the city council has worsened last years, since the city council seems to use their right to permit as a means to stop plans of the BVG. The city council mentioned the improved co-operation between the city council and the VBB after a change in personnel in the VBB.

The perceived co-operation between the different main actors is designed in a simple model. The red lines indicate the direction and perception of difficult co-operation. The blue line indicated a good perceived co-operation. The dotted line shows absence of information, because of trade secret.

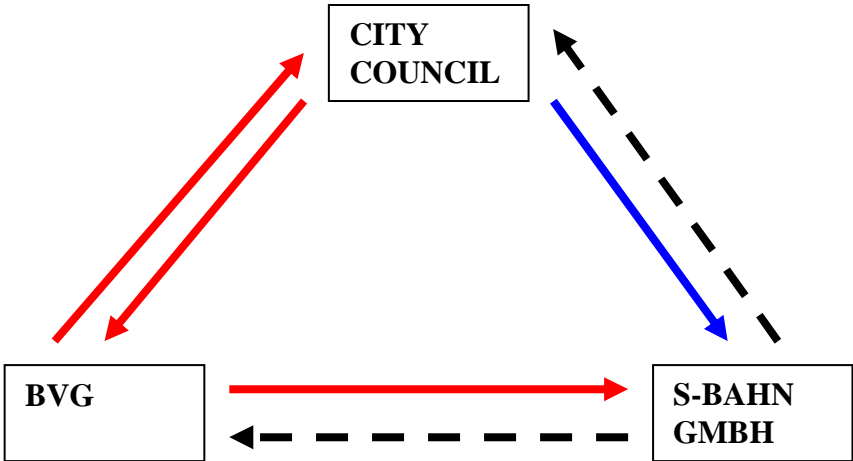


Fig. 5.4 perceived co-operation between main actors in Berlin

6. INTEGRATION OF TRANSPORT MODES IN BERLIN

6.1 Integration of the Network

Integration of the U-Bahn and S-Bahn Networks

The transport modes that are the most integrated with each other are the U-Bahn and S-Bahn. The two rail systems form one network and according to a BVG-spokesman, the costumers do not distinct between the two transport modes. All lines have a possibility to change from U-Bahn to S-Bahn and the opposite. After the re-unification of the city some improvements on network integration have been made. The line U8 and U2 have been extended with two stations, in such a way that the U-Bahn is connected with the S-Bahn.

After the re-unification of the network some transit distances have been shortened. With the reconstruction of the S-Bahn Ring, the distance of S-Bahn station and U Bahn station Bundesplatz has been decreased from around 1.000 meter into 500 meter. All the other distances between U-Bahn station and S-Bahn stations are determined by the physical environment and won't be changed (13.2).

The city council started a program for the shortening of transit distances at important change stations (StEP,2003). Between 1990 and 2005 the change possibilities between U-and S-Bahn at the stations Hermannplatz, Heidelbergerplatz, Spandau, Charlottenburg, Bundesplatz and Gesundbrunnen have been improved. The most ideal change station is Wuhletal where the U-Bahn and the S-Bahn stop at the same platform since 1989 (13.3).

At the moment there are plans to decrease the distance between U-Bahnhof and S-Bahnhof Warschauerstrasse and Frankfurter Tor and Ostkreuz, but this won't be in the direct future because it will be a very costly project

Lehrterbahnhof

In the summer of 2006 the new main station of Berlin will be opened for trains. The S-Bahn already passes the station. The BVG has no connection with the station, but started to expand the U-5 line from Alexanderplatz to Lehrter Bahnhof. The new constructed part of the U-5 will be integrated with the S-Bahnhof Unter den Linden. This extension should have been finished before the Word Championship football in June 2006 in Germany, but the construction is delayed. The BVG is also busy with the extension of the tram line from

Nordbahnhof to the new station. A bus line will also be connected with the new station. When all these lines will be finished, the Lehrter Bahnhof is expected to become a nodal point where travellers can change the transport modes train, bus, tram, U-Bahn and S-Bahn easily.

6.2 Integration of Tickets

The public transport in Berlin has one single ticket for all public transport modes. The traveller can buy the ticket at ticket machines at the S-Bahn and U-Bahn stations and in shops. Since a couple of years and after long negotiations between S-Bahn GmbH and BVG, the financial division of ticket revenues depends on the number of passengers carried, known by counts. Just a small part of the revenues stays at the company that sold the ticket. Before this adjustment the whole revenues stayed at the company where the ticket was sold. The prices are arranged with the VBB, which is the traffic organisation of the regions Berlin and the surrounding region Brandenburg.

There is bike ticket for U-Bahn and S-Bahn and month cars holders can take their bike for free. Chapter 6.4 deals with the integration of tickets between public transport and other modes of transport.

6.3 Integration of Information

Regarding information supply to the costumers the two companies differ a lot. The BVG transport modes all have the Daisy system (Dynamic Advice and Information System). This system is responsible for the process of distributing and applying transport information. The basis for the Daisy system is GPS for buses, positioning beacons (induction loops) for trams, and the LISI system for the subways. Those three techniques give insight to target and actual data. The data are gathered in a dynamic database. Data transmission and communication is possible by a digital radio and wireless LAN.

Daisy is implemented in the whole subway system. There are 764 train destinations displays and 92 connection displays. The data on the displays is real time information, and is updated 24 hour a day. In 2003 the Daisy system started in the bus and tram network as well and 104

displays are installed at 40 stations until now. Picture 7 shows one of those displays (BVG, 2004).

The BVG offers real time information service to travellers. Costumers can call a number that's written on boards on the stations and can receive real time travel information 24 hours a day.



The S-Bahn does not have such a computerized system and no real time information service. In the direct future the S-Bahn has no plans to implement such a computerized information system..

The two transport companies provide travel information by announcements on the stations and their websites as well. The information is for all public transport modes.

Traffic Management Center Berlin

The key factor for a successful intermodal traffic system is the broad accessibility of information. The city of Berlin made an attempt to improve the traffic information availability. In 1999 the city council awarded Siemens AG en Daimler Chrysler to develop an information centre. Result of this public-private-partnership is the VMZ (Verkehrs Management Zentrum) Berlin. Since July 2003 the VMZ is an independent company. The city council paid for the investments costs of 16 million Euros and is the owner of VMZ. There is a strong connection between the traffic running centre of the city (VLZ). The private participants are responsible for the financial part of the company the first ten years (Stadtverwaltung, 2003).

Originally the operating part of the private part of the VMZ consisted of Siemens AG for 51% and Daimler Crysler for 49% Siemens was responsible for the technical development and the

content management of the information centre and Daimler Chrysler for the public transport part and the services. However, Daimler Chrysler decided in 2003 to concentrate more on their own core business, which is the development of cars, and gave over their part to Siemens AG. Since then Siemens AG is the mother company of the VMZ.

The main means of the VMZ is the collecting and interpreting of traffic data in Berlin. The company has detectors all over the city to detect congestion. Public transport data are delivered by the BVG and the S-Bahn. The data of the BVG are very detailed because of the computerized system. The S-Bahn data are more general and received by mail.

The services of the company can be divided in three parts, the B to C (business to customer), B to B (Business to business) and traffic research and planning. The B to C part consists of a website monomodal personal route planner, information about public transport, actual delays, actual car queues, information about parking places, information about taxis and flight information of three airports of Berlin. Customers can find city maps and information about big events in the city at the site as well. Besides the website the VMZ started a SMS-congestion service in which travellers can receive real time congestion information by SMS for free. Registering for this service can occur via internet and around 500 customers use this service at this moment. In future this service might be enlarged from an economical point of view. The B to C services bring the VMZ in reciprocal contact with customers, but has no economic relevance.

The earnings of VMZ come from the B to B and the research and development parts. The B to B part consists of the providing of traffic information to other companies. The data for the traffic news at the city radio is for example provided by VMZ and also sent from the VMZ. The research and planning part consists of studies for the city council or companies. For example, the city council charged the VMZ to investigate the traffic conditions for the coming World Cup Football in summer 2006. The BVG charged the VMZ to investigate the current state and possible improvements of the night bus network. The VMZ detected for this research the actual punctuality of the night busses and the streams of nightly car use with sensors. The combined information resulted in a change in bus lines, frequency and times. Remarkable thing in this research was the use of car use data for public transport. (13.6)

6.4 Integration with Other Transport Modes

The public transport companies in Berlin provide some opportunities for combined public transport use with private transport mode use. The main measurements can be summarized in the attempt to increase the accessibility and the parking opportunities of public transport stations. This section will give a description about the Park and Ride and Bike and Ride opportunities in Berlin and the opportunity to take bikes in public transport modes.

The part about shared transport modes will describe the car sharing and bike sharing initiatives in Berlin and their intermodal opportunities. In the end the coordination between the public transport actors, the shared transport actors and the pure intermodal actors is investigated.

6.4.1 Integration with Private Transport Modes in Berlin

Park and Ride in Berlin

The number of Park and Ride places in Berlin is around 7250 divided over 68 points (Appendix 3A). In 1992 the senate decided to expand the number of Park and Ride places to 10.000. However, this decision has never been executed. At this moment, the city council decided to stop the further development of Park and Ride. The costs of one Park and Ride place are around 10.000 Euro and the effects on lowering car traffic are considered to be low. The city council considers to change some of the Park and Ride places into car sharing places (Kühne and 13 1).

Like the city council, the BVG stopped the further development of Park and Ride too. The places have turned out to be not-used or used by other purposes. The BVG blamed the geographic positioning of Park and Ride in the former West Berlin for the non-use. The places at U Bahn station are often in former West-Berlin and are relatively nearby the city centre since West Berlin was an island, which means that the traveller has almost reached its destination at the moment the Park and Ride places turns up. It will be likely that he will travel the last kilometres by car too. The S-Bahn is not involved in Park and Ride and has no plans to (13.1, 13.2, 13,3).

Bike and Ride in Berlin

Last years the BVG, S-Bahn GmbH and the city council increased the number of Bike and Ride places around stations and all actors plan to extend the number in the future. A map from 2005 shows around 22.500 Bike and Ride places in Berlin (Appendix 3B). In the inner city there is a high concentration of small Park and Ride sites. Outside the city centre there are less Park and Ride places but with a higher number of places. The lower availability of space in the city centre might be an explanation for this difference (13.1, 13.2 and 13,3).

Costumers with a public transport membership don't have to pay for the bike In the S-Bahn and U-Bahn trains the costumers have the possibility to take their bike with them in certain wagons.



Fig 6.1 Bike in S-Bahn

6.4.2 Integration with Shared Transport Modes in Berlin

Car Sharing in Berlin

In 1988 Germans first car sharing company started in West-Berlin. The name of the company was StattAuto, which refers to the German translations of 'instead of a car' and 'city'. StattAuto is active in Hamburg, Rostock and Potsdam too. Until June 2005 StattAuto Berlin was the biggest car sharing company in Berlin. In 2001 StattAuto became partner of the DB Car sharing of the Deutsche Bahn, but in 2005 this partnership was stopped by Deutsche Bahn. In June 2005 StattAuto is taken over by the Dutch company Greenwheels. Greenwheels is the most successful car sharing company in the Netherlands with 600 stations in 40 cities. At the moment of the takeover StattAuto possessed 130 cars for 5500 costumers and there where 50 mobile stations. The new partnership gives the costumers the possibility to use the shared cars from and to Germany and the Netherlands (Greenwheels, 2005).

How it works and who it uses

The first step for a new costumer of StattAuto is to sign contract. The costumer has to pay a guarantee of 200 Euro and 10 Euro 'start money'. Then the costumer receives a car sharing card (Greenwheels card). After this step everything will be 'self service' by internet or telephone. The booking can take place twenty four hours a day. In practice 90% of all bookings is done at the last moment. Costumers can enter the mobile stations and cars with the card or with a universal safe key.

Every month the costumers receives a bill with the used time and kilometres. If the costumers have to tank they receive the money back later, because fuel is included in the using price.

Car sharing proved to be attractive for young male costumers with a high income. The target population does need a higher flexibility than car or public transport alone could provide and the costumers were already used to multimodal behaviour (Petersen, 2003).



Fig. 6.2 Car of BD RENT (dbrentfuhrpark, 2005)

Co-operation and Intermodality

Between 2001 and 2005, StattAuto had a partnership with DB Rent, which is the car sharing and bike sharing company connected to the national German rail company. DB Rent is 100% daughter of Deutsche Bahn. As local partner, StattAuto provided railway costumers the car sharing opportunity. In August 2005 DR Rent decided to stop the partnership and to provide their services under their own name. It looks like that the two companies have turned from partners into competitors. The exact reason for this decision stays a bit unclear. DB Rent was not attainable for this research and StattAuto marked information according this theme as trade secret. An article in the Berlin paper, Berliner Zeitung cites Birger Holm of StattAuto, who expresses the disappointment of StattAuto for this decision (Müller, 2005).

DB Rent car sharing plans to enlarge its services the coming years in Berlin. The company plans to expand the number of cars from 50 till 300. DB Rent received financial help from the European Tellus program for these new cars, since car sharing is one important part of the Tellus program (for Tellus see chapter 9) (Klingberg, 2005). Together with Tellus BD Rent started the Metropolitan Fleetcar project. This project targets on business costumers since the car sharing cars are mostly use outside of working times and for leisure activities (13.7). The German commodity organization, Stiftung Warentest, tested DB Rent as the best car sharing company of Germany in 2004 (Stiftung Warentest, 2004).

Both companies, Greenwheels and DB Rent car sharing have strong bonds with public transport companies. After experience with co-operation with the national Dutch train company and local traffic companies, Greenwheels started a co-operation with public

transport companies in Berlin, too. Customers who have a Berlin or Brandenburg (Berlin's surrounded region) public transport ticket receive reduction. DB Rent is related to the national rail company. DB Rent customers receive reduction when they have a rail card or a Berlin public transport card.

There is no real intermodal mobile card, which combines entrance, paying and identification for all transport modes. In the year 2000, StattAuto started such a card together with the BVG and Choice, and intermodal development and research centre in Berlin. Car sharing customers could use this car for car sharing and in public transport as well. However, after a couple of months this project was stopped by the BVG, because it lacked confidence in the project. There are no new plans to introduce a intermodal mobile card.

Choice

Since 1998 Berlin has a transport research and development institute, called Choice. This institute is the result of a cooperation between the Berlin Science Centre (WZB), StattAuto, Audi AG and the BVG, which was stimulated by the Technology and Education department of the German Government (BMBF) with the project cash car, a field experiment that run from 1999 till 2003. The last years Choice participated in the Cash car and the above mentioned Metrocard.

Cash-Car

With the cash car experiment, the participants in Choice were testing the role of the private car in an integrated transport system. Cash car was a full-service-leasing opportunity and provided the full access of a car together with the option to hand in the car at a car sharing company when non-using. In this situation the private car becomes a shared one. The company rented the car, which gave the car owner the possibility to receive some money. Biggest goal of the experiment was to create some kind of 'mental acceptance' of sharing transport modes. With this experiment the basic behaviour needed for intermodal behaviour was tested. The result were that potential customers should be used to the use of more than one transport mode and that the public transport should be attractive (Cashcar, 2005).

Economically the project was not very successful. The first intention was to reach 1000 customers for the cash car project but at the end of the project there were 45 customers (13.7).

Since 2003 Choice is a small independent consultant company with partnerships with DB Rent. Sustainable transport is the ultimate goal of Choice. Choice develops improvements in car sharing concepts and public transport. In 2006 the company focuses on a project to keep public transport economic remunerative in the sparse populated surrounded region Brandenburg. Besides cooperation with DB Rent car sharing and bike sharing Choice has at this moment no other cooperation with transport actors in Berlin (13.7)

Bike Sharing in Berlin

DB Rent started besides car sharing also a bike sharing initiative in Berlin. This bike sharing is a relative new concept and uses the name Call a Bike. There are three other German cities participating in the project, Köln, München and Frankfurt am Main. The bike sharing project started in 2001 in München. In the four cities together, there are 4000 bikes used by more than 70.000 costumers. On average those bikes are used for 1635 trips per day. In general costumers use the bike 40 minutes per trip. All four cities experienced an increase in the year 2005. The grey line in figure 6.3 demonstrates the increase of call a bike costumers in the four cities.

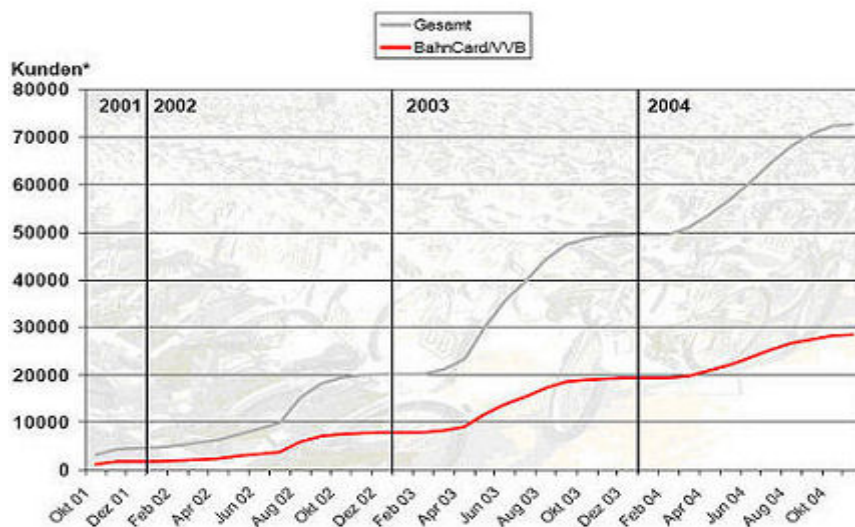


Fig. 6.3 Total costumers DB bike sharing 2001-2004 (dbrentfuhrpark, 2005)

DB Rent started call a bike in Berlin in 2002. In 2005 the number of costumers here raised from 23.000 till 32.000. Those costumers share around 16.000 bikes which are divided all over the inner centre. The area has a size of around 100 square meter and is bordered by the S-Bahn ring (Appendix 6). In 2005 the total number of trips in Berlin was 135.000

(Klinkberg, 2005). In 2006 DB Rent bike sharing expects a rise in customer number. The accessibility of the bikes in the most central parts of the city centre will be organized (13.4).

How it works and who it uses

Bike sharing is quite simple concept. Like car sharing, the customer needs to register once, and then receives a customer number. The DB-bikes (see picture under) are parked at the bigger street crosses in the inner city, and most often public transport stations. The electronic lock of the bike is either green or red. When the lock is red, the bike is used by somebody else, if the light is green the bike can be used. The customer has to call the customer service, which phone number is written on the bike and receives a unlock code. At this moment the bike can be used and the customer pays 7 cents per minute and 5 cents per minute when he posses a German railway card (Bahncard) or Berlin public transport season card. Once the customer wants to finish the trip, he calls the service line again. He can park the bike at nearest street cross. Once a month the customer receives a bill with the biking minutes. The customer service can also be called for information about the up-to-the-minute accessibility of bikes, since the bikes have GPS.



(dbrentfuhrpark, 2005)

Like car sharing customers bike sharing customers are young, mainly between 18 and 35. Almost 90% of the customers use the mobile phone booking option. The customers mainly use the bike from U-Bahn and S-Bahn stations to work and back during the day. In the evening they use the bike to reach places for leisure (Klingberg, 2005).

Bike Sharing and Intermodality

The bike sharing concept of DB Rent completely fits the idea of intermodality. The main goal of the project was to provide railway costumers the door-to-door travel opportunity. The red line in figure 5.1 shows the number of costumer of DB Rent bike sharing with a railway card. Costumers with a railway card or Berlin public transport season-ticket receive reduction. Most travellers do use the bikes from and to a station.

7. FUTURE OF INTERMODALITY IN BERLIN

The future of an intermodal transport system in Berlin depends for an important part on the planned and intended further intermodal implementations of the actors. This chapter will discuss the expectations and possible implementation of further integration of Berlin's public transport system with private transport modes, like Park and Ride and Bike and Ride. The actors' intentions to further integrate the network, tickets and information play an important role in the future development of intermodality, as well. The further expectations of integration with shared transport modes, like car sharing and bike sharing are also discussed in this chapter. The actors' opinions according the need to implement intermodality were investigated and their opinion about the other actors' intermodal services and plans is as well. In the end some improvements for intermodality are suggested.

7.1 Future of Park and Ride and Bike and Ride in Berlin

The Park and Ride places are conducted by the city council and BVG. The S-Bahn GmbH has no Park and Ride. The future of Park and Ride in Berlin seems a bit constraint, since none of the actors has any confidence in Park and Ride. The City council cancelled the former plans to enlarge the number of Park and Ride. The BVG sees no future in Park and Ride too. The company uses a consolidation approach to attack financial losses and use with other purposes. The future of Bike and Ride seems the opposite of that of Park and Ride. The three main actors of the public transport in Berlin, the City council, the BVG and the S-Bahn GmbH, share a strong reliance on the further development of combined bike use and public transport use and all plan to expand the number of Bike and Ride and to improve the quality of them. The new train of the S-Bahn, number 481, provides more space for bikes since the seats are posited in another position. The companies expect the number of bikes taking with them to rise. Further plans to improve the easiness to take bikes in the trains have not been mentioned. The stations do not have bike gullies to take stairs easier and the trains have no bike racks.

7.2 Future of Bike and Car Sharing

Car and bike sharing do stimulate the public transport and make it more flexible. Car sharing in Berlin has experienced customer growth since its start. The two car sharing companies have turned from partners into competitors. According to press information the DB Rent car sharing expects further customer growth, which will result in a bigger number of cars and mobile stations. Greenwheels/StattAuto plans to double its number of mobile stations from 50 till 100 places. Like car sharing DB Rent bike sharing expects to grow further coming years.

The actors who participated in the research (StattAuto, DB Rent bike sharing) did not mention any new intermodal projects to be expected for the near future. No participant mentioned the re-introduction of the Metrocard. After the severing of this pilot project it seems that the co-operation between the involved actors has diminished or worsened (chapter 13)

Despite the expected growth, it should be mentioned that the number of car and bike sharing customers is still very small compared with the total number of travellers in public transport. From this point of view, car and bike sharing could be called a successful product in a niche of the transport market. The reached target group of car and bike sharing is a young clientele. In general, the customers were used to the use of more than one transport mode (multimodality) before they became shared transport customers. The level of technology will attract relatively technology minded customers. It is likely that shared transport modes will reach new customers under young urban inhabitants, who are already multimodal.

7.3 Actors' Perception of intermodality and Co-operation

Important part of the interviews and inquiries was the investigation of the actors' opinion of the need to implement intermodality in Berlin. The opinion about the other actor's way and labour in the direction of intermodal services was investigated as well. In earlier chapters the reciprocal co-operation between the different actors is described. A comparison with the quality of the co-operation and the opinion about the other actor's way and labour in the direction of intermodal services shows a high level of correspondence.

The city council considered the implementation of intermodality as important. As example the city council mentioned the increase in attention for combined use of bikes and public

transport and car sharing. The city council reviews the S-Bahn GmbH as a good actor in terms of intermodality, because of the clear agreement on Bike and Ride places. The BVG is according to the city council a less good intermodal actor, because of the absence of an agreement with the city council (13.1). It is clear that this opinion about the other actors reflects the quality of co-operation between the city council and respectively the S-Bahn and the BVG .

From their side, the BVG spokesman is not very positive about the intermodal intentions of the city council, which could be seen as ‘alibi events’. In reality the city council has not really changed its historically positive attitude towards the private car.

The BVG defined its own role in future intermodal developments as reserved interested. Some new technological developments like an intermodal card or new information technology might be interesting for the company, but the BVG won’t be the initiator (13.2).

The BVG does consider the combined use of bike and public transport as important, but besides the enlargement of new Bike and Ride places, there are no further intermodal plans.

The S-Bahn considers intermodality as an important means as well. Like the BVG the company places its faith in the further enlargement of Bike and Ride. The S-Bahn was not willing to participate in an interview and did not answer the inquiry questions about the other transport actors, because of trade secret reasons.

The actors in the shared transport mode field considered intermodality as important and a fitting answer to transport problems and a growing transport demand. This is quite understandable since shared transport modes have a strong relationship with public transport modes and trigger the combined use of them. The car sharing department of DB Rent has not been reached for this research and DB Rent bike sharing did not utter any opinion about the other actors and their intermodal intentions, because of trade secret. StattAuto/Greenwheels praised the coordination with the city council and their intermodal intentions, but considered utterances about the intermodal activities of the BVG and the S-Bahn as trade secret.

Like the other actors, the VMZ considered the implementation of intermodality in Berlin as useful and relevant. The spokesman of the VMZ considered intermodality as an intelligent combination of transport modes use and emphasized the possibility of *free choice* to use different transport modes in one trip in order to reach a seamless trip. This enlargement of the definition combines the absence of modal constraint with intermodality. The VMZ was very positive about the city council’s intermodal intentions. As an example the spokesman

mentioned the city council's attention for the multimodal accessibility of the Olympic Stadium in Berlin during the World Cup football in summer 2006. According to the VMZ spokesman the BVG is on the right path, but not finished yet. The VMZ considers the BVG as a customer friendly company. The S-Bahn is according to the VMZ spokesman much more technocratic organized. Though, the VMZ thinks the S-Bahn also quite intermodal, because it is able to use the services of the other German rail daughters. As mentioned in chapter 6.3 the VMZ opinion about the intermodal services of other actor's corresponds with the opinion of the quality with that actor.

Since the Tellus program is a project which aims to improve intermodality, it won't surprise that the Tellus program considered intermodality as important. Tellus is positive about the co-operation and the intermodal intentions of the city council and it does judge the co-operation with the city council as good.

The consulting company Choice, which was involved in the cash car project and the Metrocard project considered intermodality in order to reach sustainable transport as important. According to Choice the city council, the BVG and the S-Bahn all miss ideas to reach a future sustainable transport system. As last proof for the suggested relationship between the opinion of co-operation with other actors and the opinion of those actors' intermodal intentions and supply, Choice considers the co-operation with the city council, BVG and S-Bahn as not too good.

7.4 Improvements

In general the above investigation of future expectations of intermodal possibilities shows a quite positive image for the intermodal services in Berlin. Except for Park and Ride all intermodal services are expected to grow in the future.

However, this trust in the future for the single examples does not immediately mean that Berlin's intermodal future is automatically brilliant. Some intermodal services are incomplete or missing in Berlin. One of those incomplete intermodal services is the difference in information provision of the two traditional transport companies. Information is considered as a key term in a successful intermodal transport system, in which the provision of information should overarch the level of the single companies. The BVG has a quite developed

information system, but this is not integrated with the S-Bahn GmbH information system, which is less developed. Among other things, this results in quality differences of the data the information management centre receives. At the other hand the existence of this information management centre suggests a strong intention to develop an overarching of integrated information. The further information developments might be in the further development of the VMZ, which is at this moment a young and small company, but does possess capacities that might be useful for an integrated transport system. The main benefits of the VMZ lay in its ability to collect and use different types of data of different types of transport for different types of goals, which gives it the possibility to combine data of the whole transport system. No other transport actor seems to have this intention and possibility at this moment.

Another development that is completely missing at this moment is the development of an intermodal card. At this moment car sharing costumers receive reduction when they are public transport costumers, but there is not such a card which combines the paying, identity and entrance function for shared and public transport modes. With the absence of this card there is still a focus on single trips, though the reduction is for sure a start in the direction of intermodality.

Further intermodal developments in Berlin will depend on the actor's willingness to cooperate more and better. The practical part of the research showed that the actual co-operation between the main actors is not good at all fields. The city council and the BVG should improve their reciprocal co-operation. The city council has a deep trust in contracts, but the concluding of a contract alone might not be enough. The reciprocal image of each other should be improved as well. One solution for this might be consulting and an open debate.

The opinions about intermodality, the perception of co-operation and the opinions about other actor's intermodal activities shows that the quality of co-operation between the different actors is not as good as it could be. Better co-operation between the BVG and the S-Bahn is necessary as well. Both actors complement each other, which makes good attuning at each other important.

8. BERLIN AND THE EUROPEAN GOALS

Theoretically the transport policy of Berlin should match the transport goals defined at the European level. This chapter examines whether this is the case in reality or not. A comparison of the boxes 1 and 2 shows a high level of similarity. Both policy reports express the will to change the modal split away from dominant car use. The city of Berlin tries to achieve this goal by the improvement of bike facilities. Another measurement in Berlin that matches the European goal of changing the modal split is the enlargement of the park management area. The idea behind this financial restrictive measurement is that people will choose other modes of transport for trips into the inner city because car parking makes the trip expensive. In relation to this restrictive measurement there should be mentioned that the enlargement of park management might probably be triggered by the bad financial situation of the city and not by the intention to get cars out of the city. Though, in the end the result will be the same. A practical example which shows the city council's intention to change the modal split is the defining of the bike as an important transport mode. The city started with bike path improvements and the construction of bike racks all over the city. Combined with the increase in transport speed control and the increased implementation of reduced speed zones it is expected that this will reduce the number of transport accidents and trigger bike use. However, a real safe bike path system with many separated bike paths will probably take much more time and money.

Like the European transport report, Berlin stopped the traditional focus on infrastructural expansion. Except for the public transport extensions to the new main station Lehrter Bahnhof in Berlin there are no new infrastructural expansions planned in Berlin. This matches with the ideas on the European level, which turned into maintaining the existing system and optimizing it by organizational changes instead of big infrastructural changes. The existing public transport network in Berlin is considered as suitable and the re-constructions after the re-unification of the city generally finished.

At fields of better organization of the existing network Berlin fits the European goals with its set up of an intermodal information management centre. This project seems quite ambitious.

The emission reduction is a theme at the European level and the city level as well. The increased use of bike combined with public transport is expected to reduce the CO₂, NO₂ and particle emissions. The speed controls and an increase in reduced speed zones will reduce

traffic noise. The development of clean vehicles is important at both levels too. The Tellus program started this program.

8.1 The Tellus program

The idea to get Tellus to Berlin was initiated by the city council and FAV, a private public partnership and transport development institute. Its aims fit the traffic strategy of the city council, since both are aiming to increase flexibility, reach better organization and increasing the urban/environmental compatibility. This matching was a key condition for the Tellus project, because of the smallness of the project compared with the city size. This means that only in a bigger overall sustainable city strategy the project could be effective and function as an triggering example (Stadtverwaltung, 2003).

Between January 2002 and January 2006 Berlin participated in the Tellus project, financed by the European Union. The Tellus project was part of the Civitas initiative (see chapter 3.1). Tellus stands for Transport & Environment Alliance for Urban Sustainability and besides Berlin there were four other cities in the program, Bucharest, Rotterdam, Gdynia and Göteborg. Tellus Berlin focused on clean transport, logistics and intermodal transport telematics.

Financially Berlin was an important city in the project because it received 10 million of the total 33 million.. Most important motorized transport modes projects were handy parking, stimulation of gas transport modes, and stimulation of user participating. Handy parking, which is a more flexible way of paying for parking by mobile phone, reached a number of 7.500 users. The stimulation of gas vehicles has also been very successful, with the implementation of 200 gas driven freight vehicles and 7 gas driven busses. The user participation project focused on youth, in order to let young people think about sustainable transport and to share ideas about future transport.

In order to make public transport more attractive Tellus cooperated with the BVG to develop the Daisy project (though the BVG spokesman did not confirm this cooperation). The Tellus project in Berlin concentrated on car sharing as well. The car sharing for business of DB Rent

is one successful implementation Tellus was involved in. The number of those business cars, the Metropolitan Fleetcar, was 200 at the end of the project.

9. CONCLUSION

The public transport system in Berlin consists of the transport modes, U-Bahn (subway), S-Bahn (city train), tram and bus. The most important transport mode is the U-Bahn (subway), which carried thirty four percent of the total number of public transport travellers in 2004. In terms of number of transported passengers the second important transport mode is the bus, with thirty percent of the travellers. The S-Bahn follows with twenty four percent. The tram is with a share of thirteen percent the smallest transport mode qua carried passenger number. The expectation is that all transport modes will experience an increase in passenger number the coming years.

The main actors of the transport system in Berlin are the city council, the BVG and the S-Bahn GmbH, the two providers of traditional public transport modes. The goals of the two companies can be summarized in the wish to provide a high level of quality of services for the whole population of Berlin. An increase in passenger number is included in the future goals as well.

The city council wants to keep public transport accessible for all. This means that prices should not rise too much and that some population groups, like students, scholars and families receive reduction. Facilities for disabled people should be improved in the future. Since the re-unification of the city, the main focus in public transport was the reconstruction of the split network. In 2005, the largest part of the construction works that came with the re-unification of the city have been finished. Now the existing network is expected to be good enough to carry the expected rise in traveller numbers. The only planned enlargements of the network are the U-Bahn, tram and bus line extensions to the new main rail station Lehrter Bahnhof which will open in summer 2006.

The different actors' roles would ideally be framed in an order and provide principle. The city council would have the position of the ordering side and the companies will provide the demanded services.

The transport market in Berlin has been liberalized in so far that the two transport providers aren't full state companies anymore. The two companies are competitors but do not compete at the same parts because the S-Bahn complements the transport system of the BVG transport modes. In the far future the transport market should be completely open for new entrance, but at this moment there are no signs in that direction.

The BVG is the bigger of the two public transport suppliers and it delivers the U-Bahn, bus and tram. It is the former public transport organization of the city. The S-Bahn GmbH was historically part of the German railway company. Since 1995 the S-Bahn GmbH is a daughter company of the national German railway company.

In reality this situation of ordering and delivering is only reached at a certain level. The main reason for this disturbance in the principle is the difficult co-operation between the actors. In the past few years the co-operation between the two companies seems to have worsened. Data exchange between each other is stopped. There is a difference between the relation between the city council and respectively the BVG and the S-Bahn GmbH. The reciprocal perceived co-operation between the BVG and the city council is not as good as the co-operation between the city council and the S-Bahn GmbH. The S-Bahn GmbH and the city council signed a contract in 2003 which defined the reciprocal expectations in a very detailed way. The contract will last till 2017. With this contract the order and provide principle is established at a quite high level. There is no detailed contract between the BVG and the city council. The expected order and provide relationship between the BVG and the city council is not optimal because of the co-operation difficulties.

There is a high level of intramodality in Berlin, which means that the different public transport modes are integrated with each other. In terms of network integration, the public transport network improved thoroughly after the re-unification of the city. With the reconnection of the former West and East transport systems, the change possibilities between the different transport modes enlarged enormously. The U-Bahn lines U2 and U8 have been enlarged in such a way that a connection between the S-Bahn Ring occurred. The new main rail station will be connected with all public transport modes and those enlarged lines will be further connected with each other as well.

The city council started a program to improve the transit quality between different transport mode stations. This plan consists of practical and organizational measurements. Some bigger infrastructural improvements to decrease the transit distance of U- and S Bahn station Warschauer Strasse and Frankfurter Tor are planned for the far future, because of the current lack of money.

The level of ticket integration between the different transport modes of Berlin is high, because there is one ticket for all public transport modes. This ticket makes no difference between the

two companies. Since a couple of years the two companies have increased the mutual division of the earnings, which is now divided into a direct part and a part that depends on counts.

The intramodal information provision in Berlin differs between the two companies. The BVG informs the costumers about timetables and connections with real time displays. The S-Bahn does not deliver such information and there are no direct plans to implement such a system.

The city council triggered the set up of an information management centre, the VMZ. This public private partnership collects all transport data of the city, from congestion to public transport. This centre can be seen as an attempt to overarch the single transport mode information. The computerized information system of BVG delivers the VMZ accurate data about their actual, planned and expected times. The data of the S-Bahn are less accurate, because the S-Bahn has not such an information system.

The public transport of Berlin has some integration opportunities with private transport modes. All actors identified the intermodal combination of the bike and public transport as important. The Bike and Ride facilities have been extended in the last years and will experience further expansions coming years. The city council plans to improve the bike route system in order to improve safety and bike comfort.

The future of Park and Ride in Berlin seems a bit over. The two actors that are involved in the organization of those places have no plans to enlarge the number of Park and Ride. The current approach of the existing Park and Ride strategy is a strategy of consolidation. The city council thinks changing some Park and Ride places into car sharing park places.

The integration with shared transport modes has started in Berlin too. Germans first car sharing company started in 1988 in Berlin and registered an increase in costumers since its start. This company, called StattAuto, is taken over by the Dutch company Greenwheels in 2005. At the moment of take-over the costumers number of StattAuto was 5.500.

In summer 2005 DB Rent car sharing stopped the partnership with StattAuto and became an independent actor on the car sharing market in Berlin. DB Rent expects to grow in coming years. In 2005 the number of costumers of DB Rent car sharing was 8.000. DB Rent was the best car sharing company of Germany according to a German commodity test in 2004. DB Rent car sharing fits the condition of an intermodal system in so far that it provides instant access with its flexible booking system and spreading of mobile stations. The paying system is according to the pay-as-you-go-principle and the one-way possibility is guaranteed. With the

reduction for public transport members, the fourth condition of intermodality is partly reached. This condition is the assumption that the change of traffic modes occurs under minimal transaction costs. After the failure of the Metrocard project there are no new plans for an intermodal travel card. From an intermodal point of view this seems to be a missing thing.

Since 2003 DB Rent started bike sharing as well. This project experienced an increase in customer numbers. In 2005 the customer numbers of DB Rent bike sharing in Berlin was 32.000 and is expected to rise the coming years.

Though, the car sharing and bike sharing do have growth potential, the share of it in the total number of transport is still very low. The image, the flexibility and technological character of the transport modes make it attractive for young urban citizens.

The future development of intermodality in Berlin partly depends on the future co-operation between the different actors. Especially the co-operation between the order and provide triangle (city council, BVG and S-Bahn) should improve.

Berlin's transport policy does match the European level at important points. Both levels plan to change the modal split away from car use and in the direction of combined public transport use and biking. Like the EU, the city of Berlin focuses on the improvement of the existing transport infrastructure and not on the expansion of infrastructure. The Tellus program is one example of the linking of the European level and the city of Berlin. However, the program should be seen as a little incentive in a big city. The future will show whether the small triggers from Tellus and the other relatively small initiatives like car sharing, bike sharing, VMZ, park management and bike policy change Berlin's transport system in the direction of a more sustainable transport system or not.

10. DISCUSSION

The quality of the data of this research is mainly based on the transport actors' willingness to participate. Unfortunately DB Rent car sharing and VBB could not be contacted and the VBB is left out of the research because of lack of time in the research period. The first intention to interview the three main actors, is partly reached, because the S-Bahn GmbH refused an interview, but was willing to fill in an inquiry. The level of trade secret reduced the quality of the data. This was the case in the inquiries with the S-Bahn GmbH, StattAuto and DB Rent bike sharing.

Another important note is that a research about intermodality is never complete without a deeper insight in the passengers' willingness to behave intermodal. The passengers' willingness to use public transport and bikes should be investigated as well.

11. LIST OF CONCEPTS

- Bike and Ride:** *bike racks at public transport stations in order to increase the accessibility of public transport*
- Clean transport division:** *the division between public transport, biking and walking at one side and private car use at the other*
- Congestion:** *strong concentration of cars at a certain place, which results in stopped or slow traffic streams*
- Door-to-door opportunity:** *level of transport quality which is so flexible that the passenger is brought from its starting point to its final destination seamlessly.*
- Intermodality** *is a policy and planning principle that aims to provide a passenger different transport modes in a combined trip chain within a seamless journey*
- Intramodality:** *synchronized deployment of all public transport modes*
- Intermodal mobile card:** *a paying, identity and entrance card that could combine shared transport modes with public transport modes*
- Intermodal information management center:** *information center that organizes and distributes intermodal information of all transport modes and provides it to costumers.*
- Mobility management:** *new approach in transport policy that aims to reach a sustainable transport system by better organization and use of the existing transport system*
- Monomodality:** *refers to a transport system in which the use of one single transport mode dominates*
- Modal split:** *division of transport modes*
- Modal choice:** *travelers' choice to use a certain transport mode*
- Modal constraint:** *is the case if the modal choice is not a free and open choice but a result of inaccessibility of other transport modes for several reasons*
- Multimodality:** *refers to a transport system in which more transport modes are use by the same person during more trips*
- Transport system:** *the set of different infrastructures that support the movements of passengers and freight form the transport system, and expresses the accessibility of the area.*
- Urbanibility:** *corresponds to a successful intermodal transport system and refers to the relation between the urban area and the words mobility, sustainability, flexibility and*

ability

One-way opportunity: *opportunity to use the transport in one direction. Means that the transport mode can be left before or at the destination and the travel can change to another transport mode without the need to bring back the first transport mode*

Pay-as-you-go scheme: *paying system in transport terms in which the customer only pays for the moment he uses the transport modes*

Park management: *paid parking, restrictive measurements to decrease car use in crowded areas.*

Park and Ride: *car parking places at public transport station, mostly at city edges, in order to increase public transport and decrease inner city traffic*

Private transport modes: *transport modes that are owned by the traveler, like private cars and bikes*

Public transport: *In public transport modes the passenger is driven to different targets, which includes the assumption that the passenger is not able to change direction of the transport mode. Public transport provides publicly accessible transport and is based on transporting large numbers of people*

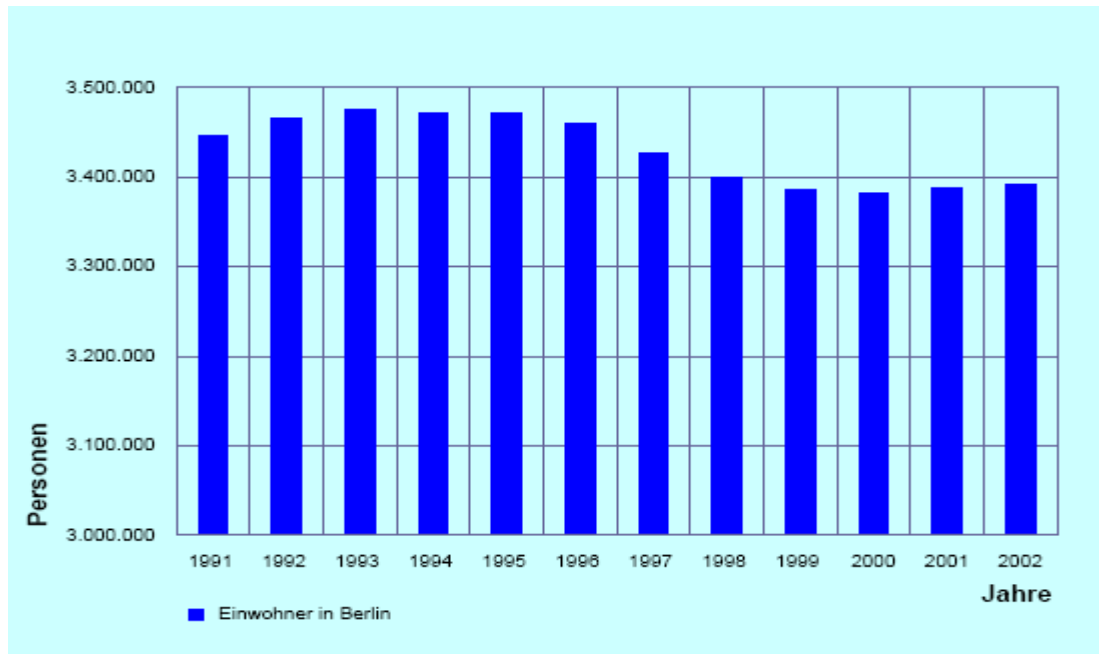
Shared transport modes: *organized way of sharing of private transport modes*

Sustainable transport system: *A transport system that should contribute to economic and social welfare without depleting natural resources, destroying the environment or harming human health*

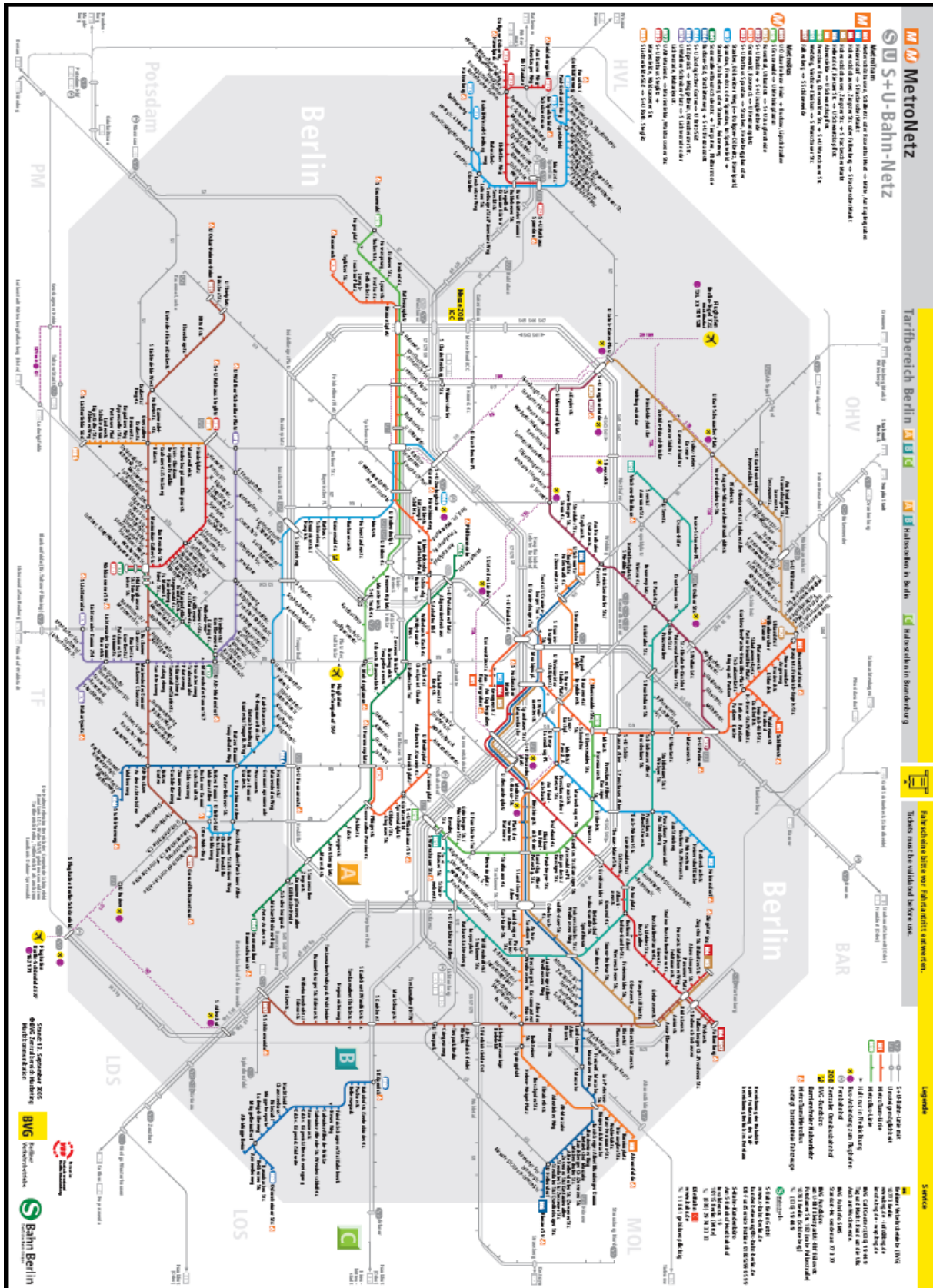
12. APPENDIXES

APPENDIX 1 FIGURES

Development population Berlin



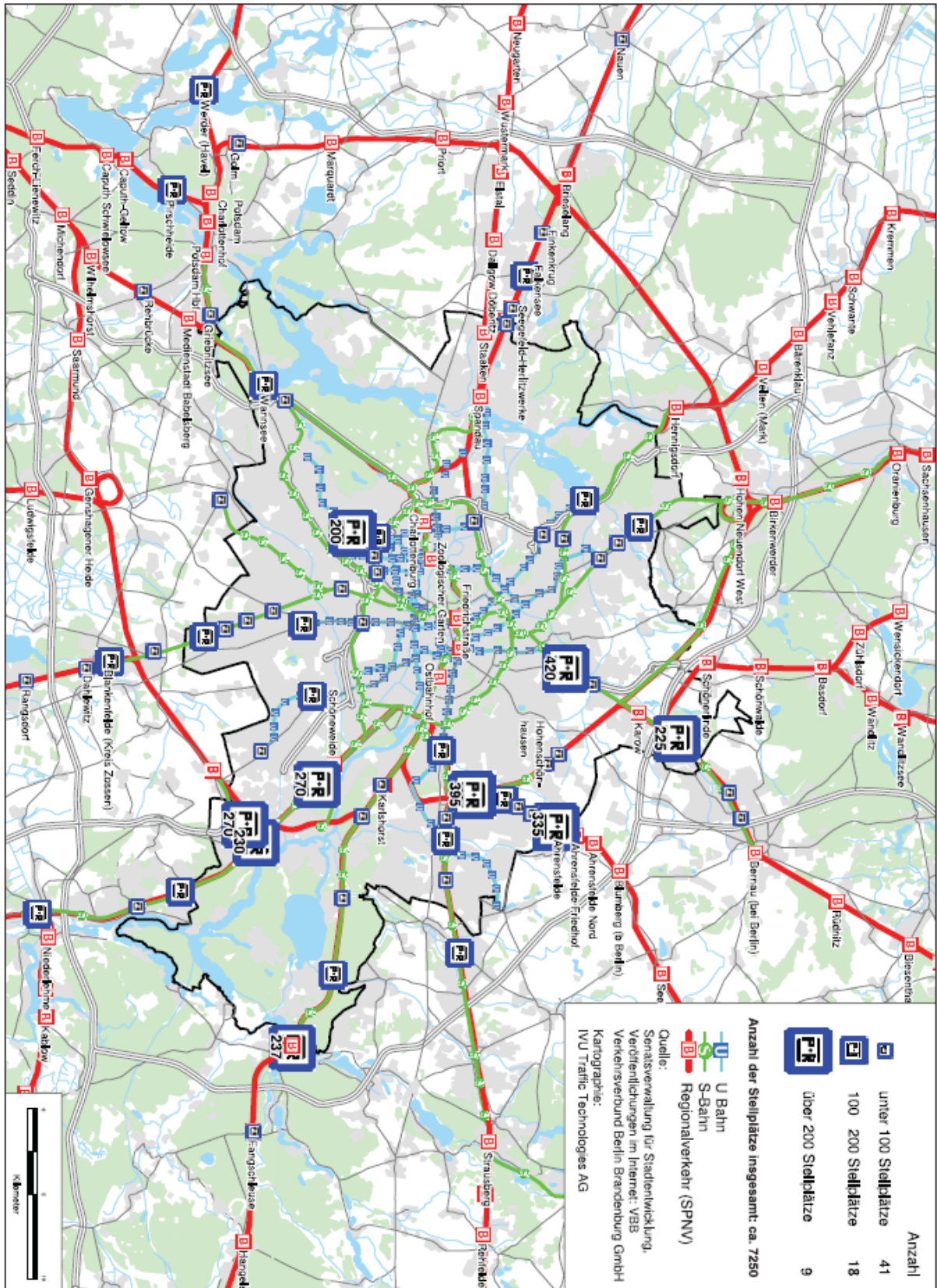
(Senatverwaltung, 2005)



(BerlinerVerkehr,

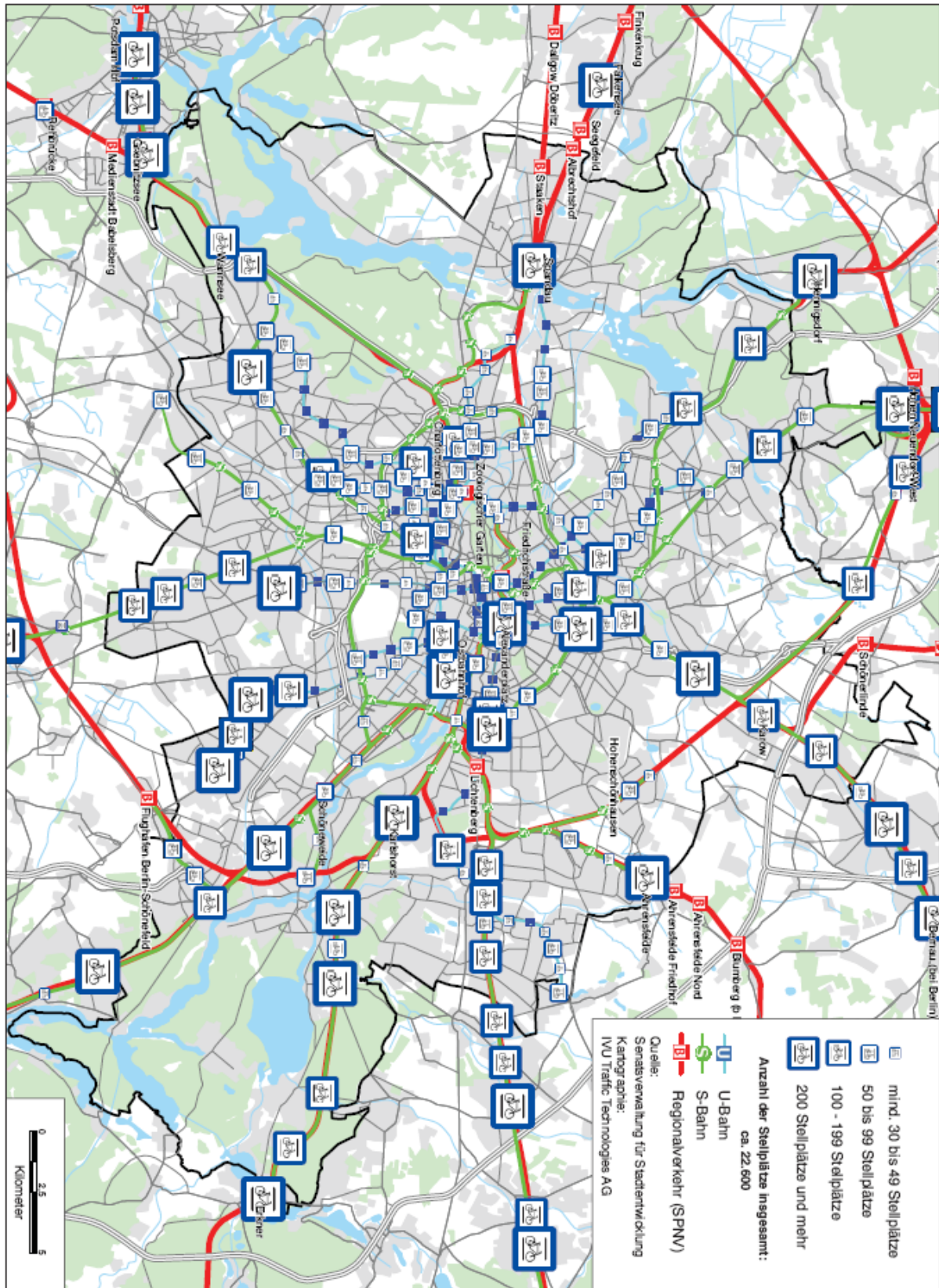
2005)

APPENDIX 3A NUMBER AND POSITION PARK AND RIDE IN BERLIN



(Stadtverwaltung,

2005)



(Stadtverwaltung, 2005)

13. INTERVIEWS

13.1 Interview Stadtverwaltung

Abteilung Verkehr

19/12/2005 10:00 Uhr

Frau Kemphy

Abteilung ÖPNV-Angebot

Berliner Verkehr

1. Was sind die Schwerpunkte von der Berliner Verkehrspolitik?

Bezogen auf den Öffentlichen Bereich. Dann muss man zurückgehen in der Geschichte. Gleich nach der Wende war der Schwerpunkt die beide Städteteile zu verbinden. Viele Investitionsmittel sind rein geflossen in die Herstellung von Streckenschienenverbindung, also S-Bahnaufbau, U-Bahnaufbau und die Rekonstruktion von Gleisen, neue Fahrzeug-Beschaffung und teilweise auch neue Herstellung Straßenbahn. Das ist jetzt alles praktisch vorbei.

Jetzt geht es darum die vorhandene Netz faktisch so zu befahren dass die Verkehrsströme so gelenkt werden das den ÖPNV bevorzugt genutzt wird. Wir haben letzte Zeit die privaten PKW's gemessen, und das ist 38%. Damit liegen wir Deutschland weit sehr gut. Wir haben nur 330 PKW pro 1000 Einwohner und das ist relative geringe Zahl. Es sind auch nicht mehr PKW geworden die letzte 10 Jahre. Das zeigt und dass das ÖPNV-Angebot relativ gut ist und das wollen wir aufbauen. Am Ende wollen wir ohne großer Investitionen ein gutes Angebot bieten

2. Berlin hat ein Stadtentwicklungsplan für Verkehr, Mobil 2010, mit dem Motto: Mobilität für alle und zwar stadtverträglich. Auf welche Weise versucht Berlin dieses Motto zu erreichen?

Der letzte Jahre und in den nächste Jahre wird der Radverkehr gefordert. Auch versucht man eine vernünftige Tarifpolitik um das ÖPNV für jedermann erreichbar zu halten. So ist das Schülerticket, Geschwisterticket und das Semesterticket da gekommen. Die Stadtverwaltung kann bestimmte Akzente setzen in Gespräche und Genehmigungen so etwas erreichen, aber die Geschäfte sind verantwortlich für die Tarife.

3. Hat die Stadtverwaltung viele Möglichkeiten das Verkehrssystem zu beeinflussen?

Mit der S-Bahn gibt es ein langfristiger Verkehrsvertrag bis 2017 und hat angefangen in 2003. Hierin ist festgelegt welche Leistung die S-Bahn anbieten muss und die Taktzeiten. Jedes Jahr wird mit der S-Bahn der Fahrplan vor das nächste Jahr abgestimmt. Und dafür zahlen wir auch.

Mit der BVG gibt es so etwas noch nicht. BVG hat ein Unternehmungsvertrag bis 2007. Es hat sich nur Pauschal, so nicht auf bestimmte Linien, verpflichtet in die zu Stadt zu fahren. Ab 2008 soll es auch ein Langfristvertrag, wie mit der S-Bahn, geben.

4. Versucht die Stadtverwaltung das motorisierte Individualverkehr zu bremsen? Und so ja, wie?

Die Parkraumbewirtschaftung ist ausgeweitet. Rigide Maßnahmen gegen PKW wird es nicht geben, weil ist es nicht gestiegen ist seit 1994.

Fahrrad

5. Die Stadtverwaltung hat viel vertrauen in Fahrradverkehr. Auf welche Weise wird versucht das Fahrradverkehr zu steuern?

Es gibt ein Radwegeprogramm. Das ist ein Entwicklungsprogramm das Fahrradwege das läuft über 5 Jahre. Dabei ist noch die Bearbeitung von Fahrradabstellplätze, und die Fahrradmitnahme in U-und S-Bahn ist hier initiiert worden.

6. Die Fahrradwegen sind ziemlich oft nur vom dem Fahrweg getrennt mit Fahrradstreifen (zwischen Parkplatz und Fahrweg). Hat die Stadtverwaltung vor um da etwas zu ändern wegen Verkehrsicherheit?

Nach Verfügbarkeit

7. Gibt es viele Pläne um Kopfsteinpflaster zu wechseln für Asphalt, wegen Fahrradkomfort?

Wenn es möglich ist möchten wir das machen.

8. Hat die Stadtverwaltung viele Bike and Ride Plätze?

Unterschiedlich, die werden teilweise gefordert vom Land und die Unternehmungen teilweise eine eigene Beitrag.

9. Wie sind die zukünftige Erwartungen von Bike und Ride?

See part 2

10. Die VLB (Verkehrslenkung Berlin) existiert seit September 2004 und ist ein Sonderbehörde? Was machen die genau?

See part two

11. Wie sieht die zukünftige Parkraumbewirtschaftungspolitik der Stadtverwaltung aus?

See part 2

12. Hat die Stadtverwaltung auch Park und Ride Plätze?

See part 2

13. Wie sind die zukünftige Erwartungen von Park und Ride?

See part 2

Intermodalität im allgemeinen

14. Kennen Sie das Begriff Intermodalität?

See part

15. Betrachtet die Stadtverwaltung die Implementierung von Intermodalität als wichtig?

See part two

ÖPNV

16. Die BVG und die S-Bahn sind die wichtigste Öffentliche Verkehrsmitteldiensten in Berlin. Wissen Sie ob es noch andere Öffentliche Verkehrsmitteldiensten in Berlin gibt?

DB regio A

17. Hat die Stadtverwaltung viel Einfluss auf Erweiterungen von Verkehrslinien, so wie bei der U5?

Ja es ist ein Beschluss der Stadt, die es finanziert. Die Stadt hat generell auch die Möglichkeit Einfluss zu haben mit Genehmigungen

18. Auf die Karte des U-Bahnnetz ist zu sehen das U-Bahnhof Warschauerstrasse verschoben wird. Wann wird das sein und wer wird das machen? (BVG findet es zu teuer.)

Es ist noch in der Sterne, aber Ostkreuz wird umgebaut
Umsteigeverbesserung nach 2010

19. Hat die Ampelvorrangbeschleunigung um ÖPNV zu beschleunigen Erfolge?

Zusammen mit BVG, bezahlt durch der Stadt. Schon erfolg

zusammenarbeit

20. Wie ist die Zusammenarbeit mit der S-Bahn GmbH?

Ja. Es gibt ein Vertrag das funktioniert. In diese Vertrag steht die Leistungsabrechnung und die Qualitätserwartungen genau beschrieben

21. Wie finden Sie das die S-Bahn GmbH umgeht mit Intermodalität?

See part 2

22. Wie ist die Zusammenarbeit mit der BVG?

Kein Vertrag Abstimmung, deshalb ist Einfluss ein Schwer Prozess.

23. Wie finden Sie dass die BVG umgeht mit Intermodalität?

See part 2

24. Können Sie etwas sagen über die Zusammenarbeit zwischen BVG und S-Bahn GmbH?

Ja, das gibt es in Arbeitsgruppen über die VBB.

25. Ist da Zusammenarbeit mit der VMZ?

Ja, VMZ ist von der Stadt ins Leben gerufen worden.

26. Ist da Zusammenarbeit mit StattAuto/Greenwheels?

nein

27. Kennen Sie die Metrocard?

nein

28. Wissen Sie warum der Metrocard nicht eingeführt worden ist?

29. Ist da Zusammenarbeit mit VBB?

Ein Zusammenbeschluss von Berlin und Brandenburg

30. Ist da Zusammenarbeit mit Deutsche Bahn Bikesharing (DB Rent)?

nein

31. Gibt es Kontakte zwischen Stadtverwaltung und Choice?

Beendet?

32. Gibt es Kontakte zwischen Stadtverwaltung und WZB?

nein

33. Gibt es Kontakte zwischen Stadtverwaltung und FAV?

34. Spielt die Stadtverwaltung eine Rolle im Tellus/Civitasprojekt?

See part 2

35. Findet die Stadtverwaltung das Tellus Programm wichtig?

See part 2

36. Denken Sie dass Intermodalität eine Zukunft hat in Berlin?

See part 2

Interview Stadtverwaltung Part Two
Abteilung Verkehr
20/01/2006 10:00 Uhr
Herr Murach
Abteilung Verkehrspolitik, EU Angelegenheiten

1. Hat die Stadtverwaltung viele Bike and Ride Plätze?

Ja, jedenfalls bei S-Bahn Stationen. Bei der U-Bahn gibt es mehr Problemen zum Aufbau der Bike and Ride, weil es unklar ist wo die Verantwortung liegt. Es ist auch Abhängig wem der Grund besitzt. Ist diesem Jahr von 60.000 bis 22.000 Plätze erweitert worden.

2. Wie sind die zukünftige Erwartungen von Bike und Ride?

Wird so viel wie möglich ausgebaut

3. Hat die Stadtverwaltung auch Park und Ride Plätze?

Im Moment gibt es noch 5500 Plätze. Die geplante Verdopplung ist abgeschoben. P&R sind teurer und haben am Ende wenig Effekt auf

4. Die VLB (Verkehrslenkung Berlin) existiert seit September 2004 und ist eine Sonderbehörde? Was machen die genau?

Die VLB ist das publik Teil der PPP VMZ. VMZ bietet die VLZ umsonst Daten (sind auch Nachbarn)

5. Betrachtet die Stadtverwaltung die Implementierung von Intermodalität als wichtig?

Ja, jedenfalls die Verknüpfung von Fahrrad mit ÖPNV und Carsharing

6. Wie ist die Zusammenarbeit mit der S-Bahn GmbH?

Gut. Diesem Vertrag funktioniert.

7. Wie finden Sie dass die S-Bahn GmbH umgeht mit Intermodalität?

Gut, im Vertrag gibt es klare Verabredungen über z. B. R&B.

8. Wie ist die Zusammenarbeit mit der BVG?

Weniger gut als mit S-Bahn GmbH, weil es nicht so ein Vertrag gibt. Das gewünschte Besteller-Erstellerverhältnis gibt es nicht. Die BVG ist mitten in einer Sanierung und nicht wettbewerbsfähig.

9. Wie finden Sie das die BVG umgeht mit Intermodalität?

Weniger gut als S-Bahn GmbH.

10. Ist da Zusammenarbeit mit der VMZ?

VMZ ist von der Stadt ins Leben gerufen worden und ist das private Teil. Verkehrsablenkung ist das öffentliche Teil.

11. Ist da Zusammenarbeit mit StattAuto/Greenwheels?

Ja, die Stadtverwaltung versucht Carsharing zu verbessern und beim Parkraumbewirtschaftung Carsharing Parkplätze zu machen. Im Moment gibt es 2 davon.

12. Ist da Zusammenarbeit mit VBB?

Ja, die ist besser geworden seit einem Personalwechsel.

13. Ist da Zusammenarbeit mit Deutsche Bahn Bikesharing (DB Rent) oder Carsharing?

Ja, die Stadtverwaltung versucht Carsharing zu verbessern und beim Parkraumbewirtschaftung Carsharing Parkplätze zu machen. Im Moment gibt es 2 davon.

14. Gibt es Kontakte zwischen Stadtverwaltung und Choice?

Das ist ein bisschen eingeschlafen

15. Gibt es Kontakte zwischen Stadtverwaltung und WZB?

Ja, die werden immer eingeladen beim runden Tisch Gespräche.

16. Gibt es Kontakte zwischen Stadtverwaltung und FAV?

Ja, die FAV ist auch ein PPP und die Stadtverwaltung und die FAV bearbeiten zusammen die Wirtschaftsstrategie

17. Spielt die Stadtverwaltung eine Rolle im Tellus/Civitasprojekt?

Ja, es gibt 8 Projekte. Davon waren das Handyparken und das Versuch Autos auf Erdgas wechseln zu lassen sehr Erfolgreich. Auch gab es ein Projekt die Kommunikation mit Kinder und Jugendlichen zu verbessern. Der Cabin Taxi war weniger Erfolgreich.

18. Findet die Stadtverwaltung das Tellus Programm wichtig?

Ja.

19. Denken Sie dass Intermodalität eine Zukunft hat in Berlin?

Ja, jedenfalls die Verknüpfung von Fahrrad mit ÖPNV und carsharing

13.2 Interview BVG

Dienstag 13 Dezember

13.00 Uhr

Herr Heinz Krafft-Neuhäuser

Projektleiter Angebotsoptimierung

BVG

1. Der totale Kundenzahl der BVG wächst seit 1999 (787 ML.) wieder (nach eine Abnahme seit 1991) Wie sind die Erwartungen für das Jahr 2005 für die BVG qua Kundenzahl?

Die Kundenzahl wird wieder ein bisschen steigen

2. Die BVG ist die größte Öffentliche Verkehrsmittel Dienstleister. Gibt es neben der BVG und der S-Bahn GmbH noch andere Öffentliche Verkehrsdienstleister in Berlin?

Die DB Regio und Umlandbetrieben von Umland bis Rand-Berlin.

3. Was ist genau das Geschäftsziel der BVG?

Guten ÖPVN für jeden in Berlin

4. Wie sind die unterschiedlichen Wachstumserwartungen für die unterschiedliche Verkehrsmittel?

Kein große unterschieden, allen werden steigen.

5. Wie sind die zukünftige Erwartungen der BVG?

Auf alle drei die bereiche wachsende Nachfrage

6. Wie viel hits hat die BVG Seite pro Tag? (Oder pro Monat, Jahr)

Keine Ahnung

7. Die BVG ist die Nachhaltigkeitscharta des IUP beigetreten. Werden darauf konkrete Maßnahmen fortkommen?

Keine Ahnung

Intramodalität

8. Es gibt viele Umsteigmöglichkeiten zwischen S- und U-Bahnstationen. Was ist die größte Entfernung von dem U-Bahn Gleis bis dem S-Bahn Gleis? Am welchem Bahnhof?

Keine Ahnung, die meisten sind Physisch oder Plantechnisch determiniert, aber als Beispiel: Bei der Wiedervereinigung ist der S-Bahnring in West-Berlin erneut worden und dabei ist die Abstand zwischen Bundesplatz S-Bahnhof und U-Bahnhof zurück gebracht bis etwas 200 Meter (es war 500 Meter)

9. Wird es physische Änderungen/ Verbesserungen geben um diesen Abstand zu verringern?

Nein. Die Abstand ist räumlich bestimmt. Man könnte vielleicht der Abstand zwischen U-Bahnhof und S-Bahnhof Warschauerstrasse verringern, aber das wird jedenfalls eine Milliarden Euro kosten, und dass ist viel zu teuer für so etwas. Eher wird es organisatorischen oder kleine baulichen Maßnahmen geben.

10. Wie sind die Busse und Trams mit der S- und U bahn integriert?

Das ist unterschiedlich, weil es meistens Geschichte abhängig ist.

In Westberlin gibt es schlechte Übergänge zu S-Bahn, weil das ein Ost-Geschäft war und kaum genutzt werde.

Nach der Wende hat es Versuchen gegeben die Unterschiedlichen Verkehrsmittel mehr mit einander zu verbinden. Ein Beispiel davon ist die Verlegung von der Buslinie nach S-Bahnhof Wuhlheide

11. Was ist dass Unterschied zwischen ein Metrobus und ein Bus?

Der Metrobus ist ein mehr höherwert Produkt als dem Bus, er fährt mit einem 10-Minutentakt im Zukunft wird er 24 Stunden pro Tag fahren, es ist gemeint als Immer-Da-Produkt

Der Metrobus fährt auf Hauptstrecken, die wirtschaftlich interessant sein.

Das Idee der Metrobus und Metrotram kommt aus Hamburg

Assoziation mit U-Bahn und S-Bahn, wegen dieser Vielminutentakt

12. Was ist dass Unterschied zwischen ein Metrotram und ein Tram?

Der Metrotram ist ein mehr hochwertiges Produkt als dem Tram, sehe Frage 11.

13. Was war das Ziel der Implementierung dieses Metroprinzip?

Ein besseres Produkt

14. Könnten Sie bitte etwas sagen über das Erfolg des Metroprinzips?

Ja, diese Produkte haben für die BVG Fahrgäste gewonnen

15. Gibt's Pläne die verschiedenen Öffentlichen Verkehrsmittel noch mehr mit einander zu verbinden?

Es gibt seit 2 Jahre ein kleines Programm für Verbesserung von Umsteigeanlagen. Das Programm behält zum Beispiel bessere Informationsversorgung und Überdachung. Meistens von Bus nach dem Bahn.

Es versucht das Informationssystem zu verbessern, Abstand zu verringern, Überdachung machen, reisen bequemer machen.

Es gibt viele beteiligten und das macht die Ausarbeitung des Programms problematisch

16. Hat die BVG neue Maßnahmen geplant ins Netzwerk?

Ja, es wird eine Straßenbahnverlängerung via Nordbahnhof bis dem neuen Hauptbahnhof geben. Die sollte eigentlich schon fertig sein für die kommende Weltmeisterschaft, aber es hat viele Klagen gegeben und jetzt wird die Erweiterung in 2008 fertig sein.

Der U-5 wird auch verlängert bis Hauptbahnhof

17. Gibt es Versuchen die Netzwerken von S-Bahn und U-Bahn weiter zu verknüpfen?

Nicht wirklich, aber in der Vergangenheit hat es einige gegeben und jetzt wird es mit der Verlängerung der U-5-linie neue Verknüpfungen geben mit den S-Bahnstationen Unter den Linden und Hauptbahnhof.

Nach der Wende ist die U8 verlängert von Leinestrasse bis Hermannstrasse wegen der Verknüpfung mit dem S-Bahnring, sowie der Verlängerung von der U2 mit einem Station nach der Ring. Die U1 ist auch verlängert worden von Schlesischen Tor bis Warschauerstrasse um die Stadtbahn (S-Bahn) erreichen zu können.

18. Sind die arbeiten am Netzwerk die die Wiedervereinigung mit sich mitgebracht hat fertig?

Es gibt immer noch Dinge, sowie die Verlängerung von der U5 zum Hauptbahnhof

19. Wie war die Zusammenarbeit mit der S-Bahn Organisation in die erste Jahren nach der Wende?

Die war da. Es gab ein Beschluss die S-Bahnstrecke die stillgelegt worden, wieder auf zu bauen wie es für die Mauerbau war.

S-Bahn

20. Wie beurteilen Sie die S-Bahn GmbH als Geschäft?

Die ist ein ganz wichtiger Partner. Die Kunden unterscheiden nicht zwischen die BVG und S Bahn. Die unterschiedlichen Systeme ergänzen und konkurrieren sich eigentlich nicht und sind deshalb keine echte Konkurrenten

21. Sehen Sie die S-Bahn GmbH als einem Konkurrent?

Immer mehr.

22. Wie ist die Beziehung mit der S-Bahn GmbH?

Die Liberalisierung hat die Zusammenarbeit problematisiert. Die Zusammenarbeit ist schlechter geworden und nicht sehr produktiv. So gibt es zum Beispiel kein Datenaustausch mehr.

Ticket

23. Seit wie lange gibt es diesem Ticket das gültig ist in alle ÖPVN?

Relative schnell nach der Wiedervereinigung hat es das gegeben.

24. Wie ist die Bezahlung unter einander organisiert?

Es gibt seit 2 Jahre eine Einnahmeaufteilung. Das meint das jeder direkt ein kleines Teil bekommt von das was er verkauft. Das größte Teil (90 %) kommt in einem Pot und wird nach Personen Kilometer verteilt. Die Personenkilometer werden durch Zahlungen berechnet. Wir haben 10 Jahre gebraucht ehe diese Einnahmeaufteilung da ist. Dafür hat jeder einfach dass bekommen was er verkauft hat.

Eigentlich war das alte System ein Wettbewerb in Betrieb.

25. Es hat bis 1995 gedauert bis es *ein* Einzelfahrtschein für Ost und West Berlin gab. Hat es zwischen 1990 und 1995 Problemen mit diesen Unterschiedlichen Tickets gegeben?

Weiß ich nicht

26. Die Preise des Monatstickets für Ost und West Berlin sind in 1998 gleich geschaukelt. Warum war das später als das Einzelfahrtticket?

Weiß ich nicht

27 Gibt's es Pläne die Tickets zu kombinieren mit Carsharing oder Bikesharing?

Es hat mal so ein Projekt gegeben. Das war Metrocard, aber das gibt es nicht mehr. Das Projekt war fossiert betrieben und Stattcar hat finanzielle Problemen und ein geringe nachfrage

Intermodalitaet

28. Kennen Sie das Begriff Intermodalität?

Ja

29. Wie Beurteilen Sie die Notwendigkeit dieser Idee zu implementieren?

Es gibt eigentlich verschieden Bereiche von Intermodalität. Intermodalität Zusammen mit Fahrrad finden wir interessant.

30. Spielt die BVG eine Rolle bei der Anbau von Ride und Bike anlagen? Im Zukunft?

Ja, wir haben viele Plätze und möchten im Zukunft mehr bauen am höheren technischen Standards.

31. In der S-Bahn kann man das Fahrrad mitnehmen. Wie sind die Fahrradmitnahme Möglichkeiten in der U-Bahn, Tram und Bus?

Keine Beschränkungen in U-Bahn und Straßenbahn.

32. Wird es oft genutzt? Und gib es ein Fahrradticket?

Das denken wir ja.

Qua Ticket gibt es eine Verschlechterung mit diesem heutige Fahrradkarte, weil früher war Fahrradmitnahme inklusive im Umweltticket oder in Premiummonatskarte.

33. Erwarten Sie dass die Fahrradmitnahme im Zukunft wachsen wird? Wie wird die BVG darauf reagieren?

In U bahn ist die Möglichkeit zum Mitnehmen da, so da wird sich nichts ändern.

Ein eigenes Fahrradprogramm gib es nicht wirklich aber hat es gegeben. Und es gibt ein Aufzugprogramm, die hilfreich sein können für Radfahrer und es wird mehrere Abstellplätze geben. Die Zahlen der Radfahrer erhöhen sich.

34. Wie ist die Nutzung der Park und Ride Möglichkeiten?

Schwierig. Park und Ride sind immer funktional in Außenbereich aber da West Berlin praktisch ein Insel war, waren die Außenbereiche ziemlich weit im inneren Bereich und sind die Pike und Ride kaum genutzt worden. Bei S-Bahnstationen gab es kaum Park und Ride weil man die S-Bahn in Ostbereich nicht unterstützen wollte. Deshalb ist Park und Ride jetzt relativ disfunktional. Wir stellen fest dass es viel Fremdenutzung gibt und es wird auch nicht bewirtschaftet und Park und Ride ist eine kleine Menge.

35. Gibt es Wachstumspotential für Park und Ride?

Nein, es gibt kein Ausbauprogramm für Park und Ride. Wir machen gerade eine Konsolidierung von der Situation und versuchen dass die Plätze weniger fremd genutzt werden.

Lieber wollen wir Bike und Ride ausbauen und verbessern. Am besten wird es eine sinnvolle Optimierung von den Plätze geben, was meint das die Plätze die nicht genutzt worden getauscht worden für bessere Plätze.

Die Plätze gehören zum Teil der BVG, S-Bahn und der Land Berlin.

36. Seit wann ist die Taxi-ruf Möglichkeit da?

Schon eine weile

37. Wird es oft genutzt?

Nein, weil wir es nicht so offensiv kommunizieren, weil es Problemen mit den Fahrzeiten geben könnte wann es einfach mehr genutzt wird und werden wir mehr Betriebsleistung brauchen. Es ist mehr gedacht um die Hilfe zu vergrößern, weil die flexible Bedienungsformen wichtig sind.

Es gibt keine Pläne die Taxi-ruf Möglichkeiten zu vergrößern. Höchstens gib es Pläne flexible Bedienungsformen auszuweiten, mit dem Möglichkeit mit einem kleinen Bus bis der Haustür zu kommen.

38. Wird es im Zukunft vielleicht ein Ermäßigungsticket geben für VVB-karte Besitzer die die Taxi nutzen?

Nein, nichts konkretes

Kontakte mit anderen Akteuren.

39. Wie ist die Beziehung der BVG mit der Stadtverwaltung Abteilung Verkehr?

Intensiv, alle Planungen sprechen wir ab. Wir brauchen eine Konzession für jede Linien, und wir brauchen eine Genehmigung

Die Beziehung hat sich auch verschlechtert durch der Liberalisierung. Die Kooperation die es vorher gegeben hat ist durch verschieden Vetomöglichkeiten kompliziert worden und jetzt gibt es immer wieder Blockadesituationen wobei der Senat diese Genehmigungsverfahren dazunutzt und das macht die Zusammenarbeit schwer und die Inhaltliche Fortschritte eher hemmt.

Es soll wegen der Europäische Union eine Nahverkehrsplan geben das alle Verkehrliche Entwicklungen vorplant und dafür hat die Senat hat nicht genug Kompetenz und viel zu große Distanz zu den Kunden.

Qua Intermodalität gibt es offiziell viele Aktivitäten da, so mit Radverkehr und in der Bezug auf bessere Verknüpfung von Rad und ÖPVN.

Aber in unser Gesicht sind das nur Alibiveranstaltungen. Eigentlich ist die Verkehrsverwaltung noch in der alten Ideologie verfallen, nämlich die Strassen auszubauen und zu verbessern so dass das motorisierte Individualverkehr gut Fließen kann.

Aber es gibt da auch unterschiedliche Institutionen die durchaus unterschiedlich handeln und so allgemein wie ich es gesagt habe, kann man dass sicherlich nicht für alle Institutionen sagen

40. Gibt's Kontakte mit Deutsche Bahn?

Ja, doch gering
Mehr mit Töchterunternehmen, S-Bahn
Regional Bahn ist noch relative klein in Berlin

41. Und mit DB Rent?

kein

42. Und mit VBB?

Ja, relativ wenig im Bezug Verkehrsthemen
Es ist mehr für die Tariffragen

43. Und mit Stattauro/Greenwheels?

Die sind ziemlich abgebrochen, seit dem schalten der Metrocard und seit dieser Geschäft Zurückgegangen sind im Angebot

44. Gibt es Zusammenarbeit mit WZB?

Kann nicht sagen

45. Gibt es Zusammenarbeit mit Choice?

Bei der Metrocard gab es Kapitalverflechtung, aber jetzt wahrscheinlich nicht.

46. Gibt es Zusammenarbeit mit VMZ?

Die sind Auftragnehmer. Zum Beispiel machen die Verkehrsumlegungsrechnungen für uns.
Wir sind Datenlieferanten für deren Datenpool aber ich sehe auch noch nicht wo die viel Nutzen gebracht haben in der Stadt.

47. Es gibt diese Website für intermodalen Routeplaner von VMZ. Wie finden Sie dieser Site?

Die kenne ich

47. Wie bewerten Sie diese Initiative?

Ich weiß es nicht. Es ist schon seit 20 Jahren ein Thema, und ich habe noch nicht gesehen dass es irgendwie viel Nutzen generiert. Es hat aber viel Forschungsgeld und Papier gekostet.

48. Kennen Sie die Civitas/Tellus Initiative?

Tellus kenne ich, Civitas hat mich nichts gesagt. Aber die BVG ist wenig daran beteiligt. Und es sind Sachen die uns nicht interessieren. Zum Beispiel gib es so ein Programm um in dünn besiedelten Umland Verkehr zusammen zu bringen.

Mit der Liberalisierung hat Tellus bei uns organisatorisch etwas gemacht. Die haben versucht das unlösbare Problem der Liberalisierung versucht zu lösen.

Schauen was interessant ist, aber zurückhaltend.

49. Wie beurteilen Sie Civitas/Tellus?

Dabei habe ich keine interessanten Ergebnisse gesehen.

50. Wie sieht die BVG die Zukunft von Intermodalität in Berlin?

Wir schauen natürlich immer ob dass in Zukunft interessant werden kann, wie eine Mobilitätskarte oder solche Dingen, aber das ist mehr ein zurückhaltendes Interesse, die BVG wird nicht so einer sein die so etwas treibt. Jedenfalls nicht in Absehbare Zeit.

13.3 Inquiry S-Bahn GmbH

Jens Hebbe

24.01.2006

Wir haben Ihren Fragebogen erhalten und dokumentieren unsere Antworten im Anschluss an die einleitenden Worte. Bitte haben Sie dafür Verständnis, dass wir aus prinzipiellen Erwägungen grundsätzlich keine wertenden Auskünfte über unsere Wettbewerber und Besteller der Verkehrsangebote abgeben. Wettbewerbsrelevante unternehmensinterne Daten können wir Ihnen leider nicht zur Verfügung stellen.

1. Die Kundenzahl hat sich seit dem Bestehen der S-Bahn GmbH 1995 stetig erhöht. Im Jahre 2004 gab es 318 Millionen Kunden. Wie viele Kunden hatte die S-Bahn GmbH im Jahre 2005? Und wie viele erwartet sie 2006?

Die Fahrgastzahlen der S-Bahn Berlin GmbH haben sich von 244,7 Mio. im Jahr 1995 über 291,1 Mio. im Jahr 2000 bis auf 318,2 Mio. im Jahr 2004 gesteigert. Für das Jahr 2005 liegen uns noch keine endgültigen Zahlen vor. Wir gehen aber davon aus, dass wir wiederum eine deutliche Steigerung der Fahrgastzahlen verzeichnen konnten.

2. Wie sind die Zukunftserwartungen der S-Bahn GmbH?

-

3. Was sind die Zukunftsziele der S-Bahn GmbH?

-

4. Hat die S-Bahn GmbH neue Baumaßnahmen in ihrem Streckennetz geplant?

(Siehe Frage 5)

5. Sind die Arbeiten am Streckennetz, die speziell die Wiedervereinigung mit sich mitgebracht hat, beendet?

Mit der Inbetriebnahme der Neubaustrecke von Lichterfelde Süd nach Teltow Stadt am 24.02.2005 fand die Wiederherstellung des Berliner S-Bahn-Netzes einen vorläufigen Abschluss. Auch in den nächsten Jahren wird jedoch die Grunderneuerung des S-Bahn-Netzes durch die Eisenbahninfrastrukturunternehmen (EIU) DB Netz AG und DB Station & Service AG weitergeführt. Nach derzeitigem Planungsstand sind dabei u.a. folgende Schwerpunkte vorgesehen:

-Umbau und Grunderneuerung Bahnhof Ostkreuz einschließlich der Strecke Ostkreuz – Ostbahnhof

-Grunderneuerung des Streckenabschnittes Baumschulenweg – Adlershof – Königs Wusterhausen / Flughafen Schönefeld inkl. Umbau der Bahnhöfe Baumschulenweg und Adlershof

-Grunderneuerung der Streckenabschnitte zwischen Wollankstraße und Frohnau, Biesdorf – Strausberg Nord, Ostkreuz - Erkner und Pankow - Bernau

Der Stadtentwicklungsplan Verkehr (StEP Verkehr) enthält zudem einen Ausblick auf zusätzliche Netzerweiterungen. Zu nennen sind u.a. die Nord-Süd-Anbindung des Hauptbahnhofes (Lehrter Bahnhof), die Wiederherstellung der Strecke nach Falkensee und die weitere Verlängerung nach Finkenkrug sowie die Anbindung des neuen internationalen Flughafens in Schönefeld. Die Netzerweiterungen müssen von den Bestellern des Verkehrsangebotes (Länder Berlin und Brandenburg) bestellt und mit finanziert werden).

6. Es gibt viele Umsteigemöglichkeiten zwischen S- und U-Bahnstationen. Gibt es Pläne die Entfernung zwischen manchen U- und S-Bahnumsteigestationen zu verringern?

Seit 1993 wurde mit der Wiedereröffnung des Südringes von Baumschulenweg über Neukölln nach Westend eine Vielzahl von Maßnahmen zur Vereinfachung und Verkürzung der Umsteigewege zwischen S- und U-Bahn umgesetzt. Dazu zählen zum Beispiel die Stationen

Hermannstraße, Bundesplatz, Heidelberger Platz, Gesundbrunnen, Spandau und kürzlich auch Charlottenburg. Ideale

Umsteigemöglichkeiten sind im Gemeinschaftsbahnhof von S- und U-Bahn in Wuhletal vorzufinden, wo – einmalig in der Region Berlin – seit 1989 S- und U-Bahn an einem Bahnsteig halten. Auch in den nächsten Jahren wird abhängig von den finanziellen Möglichkeiten weiter an der Verbesserung der Umsteigeverhältnisse gearbeitet.

7. Gibt's es Pläne die Streckennetze von S-Bahn und U-Bahn weiter miteinander zu verknüpfen?

Im Sinne von Linienverknüpfungen und Fahrzeugübergängen S- und U-Bahn nein, sonst siehe Frage 6!

8.

Gibt's es Pläne die Streckennetze von S-Bahn und Bus und Tram weiter miteinander zu verknüpfen?

Die Verkehrsunternehmen der Region Berlin arbeiten unter dem Dach des Verkehrsverbundes Berlin-Brandenburg zusammen. Nach Bestellung der Verkehrsangebote für den Eisenbahnbereich (Schienenpersonennahverkehr, SPNV) und der Bestätigung der Angebotskonzepte für den öffentlichen Personennahverkehr (BVG, etc.) treffen sich die Verkehrsunternehmen regelmäßig zu Detailabstimmungen der Fahrpläne, um Umsteigebeziehungen für die Fahrgäste so günstig wie möglich zu gestalten. An exponierten Stellen im Netz werden auch die Umsteigeverhältnisse S-Bahn / Straßenbahn weiter verbessert, ähnlich wie dies zwischen U- und S-Bahn erfolgt.

9. Beschäftigt die S-Bahn GmbH sich mit dem Bau von Ride-und-Bike-Anlagen?

Die S-Bahn Berlin GmbH fördert die Einrichtung von B & R-Anlagen an den S-Bahnhöfen seit ihrem Bestehen als GmbH. In Zusammenarbeit mit den Ländern Berlin und Brandenburg wurden in den letzten 10 Jahren eine Vielzahl von B & R-Anlagen an den S-Bahnhöfen

eingrichtet. Die S-Bahn Berlin GmbH unterstreicht ihr Engagement dadurch, dass sie für 15 Jahre nach Bau einer B & R-Anlage die Betriebskosten übernimmt.

10. Wird es in Zukunft mehr Ride-und-Bike-Anlagen geben bei S-Bahnstationen?

Übersichten zu den vorhandenen B & R-Anlagen finden Sie im Serviceteil unseres kostenlosen S-Bahn-Fahrplanheftes (Seiten 20 bis 25) und im Internet unter der Adresse

http://www.stadtentwicklung.berlin.de/verkehr/verkehr_in_zahlen/de/entwicklung/fahrradverkehr.shtm

Der Einrichtung weiterer B & R-Anlagen steht die S-Bahn Berlin GmbH offen gegenüber. Bitte beachten Sie, dass neben den erforderlichen Investitionsmitteln auch geeignete Flächen zur Verfügung stehen müssen.

11. In der S-Bahn kann man das Fahrrad mitnehmen. Wird diese Möglichkeit oft genutzt?

Unsere Erfahrungen haben gezeigt, dass unsere Kunden gern die Verkehrsmittel S-Bahn und Fahrrad kombinieren. Sicherlich konnten Sie das auch bei Ihren eigenen S-Bahnfahrten beobachten.

12. Erwarten Sie, dass die Fahrradmitnahme in der S-Bahn in Zukunft zunehmen wird?

Wie wird die S-Bahn auf die erwartete Entwicklung reagieren?

Die S-Bahn Berlin GmbH hat bereits mit der Entwicklung der Fahrzeugbaureihe 481 Wert darauf gelegt, dass ein großer Mehrzeckbereich in den Viertelzügen (Zwei-Wagen-Einheiten) vorhanden ist. Dort können u.a. Fahrräder befördert werden. Bei einer entsprechenden Gestaltung der verkehrspolitischen Rahmenbedingungen geht der Stadtentwicklungsplan (StEP) Verkehr des Landes Berlin davon aus, den Umweltverbund (inkl. Fahrradverkehr) zu stärken. Bei einer Umsetzung der im StEP Verkehr vorgesehenen ordnungspolitischen und infrastrukturellen Maßnahmen sind wir auch als Verkehrsunternehmen optimistisch, dass eine

Nutzung des Fahrrades im Vor- oder Nachlauf zu einer S-Bahn-Fahrt häufiger genutzt werden könnte.

13. Hat die S-Bahn GmbH Park-und-Ride-Anlagen? Und wenn ja, wie ist die Nutzung der Park-und-Ride-Möglichkeiten?

Nein, die S-Bahn Berlin GmbH betreibt keine eignen P & R-Anlagen.

14. Gibt es Wachstumspotential für Park-und-Ride in Berlin?

Zweifellos ja, aber sinngemäße Fragen 12 beachten. Die S-Bahn ist nicht Eigentümer oder Entwickler solcher Anlagen.

Die nächsten Fragen behandeln die Qualität der Zusammenarbeit zwischen der S-Bahn GmbH und den anderen Akteuren im Berliner Verkehrssystem.

15. Wie beurteilen Sie das gesamte Auftreten der BVG?

-

16. Sehen Sie die BVG als einen Konkurrenten?

-

17. Wie bewertet die S-Bahn GmbH die Zusammenarbeit mit der BVG?

-

18. Die S-Bahn GmbH hat mit der Stadtverwaltung einen langfristigen Verkehrsvertrag geschlossen, der bis 2017 läuft. Wie bewertet die S-Bahn GmbH diesen Vertrag?

-

19. Wie bewertet die S-Bahn GmbH die Zusammenarbeit mit der Stadtverwaltung Abteilung Verkehr?

-

20. Seit 1999 gibt es die Verkehrsmanagementzentrale (VMZ) in Berlin. Wie bewertet die S-Bahn diese Initiative?

-

21. Wie beurteilt die S-Bahn GmbH das Tellus Projekt, das 2002 in Berlin angefangen

hat?

-

22. Können Sie bei den folgenden Verkehrsorganisationen bitte angeben, ob die S-Bahn mit ihnen zusammenarbeitet oder Kontakte hat und wie die S-Bahn GmbH diese bewertet.

Verkehrsorganisation	Zusammenarbeit	Bewertung Zusammenarbeit
VBB	JA	
DB Rent Carsharing	JA	
DB Rent Bikesharing	JA	
StattAuto	NEIN	
VMZ	JA	
Choice	NEIN	
Tellus	NEIN	
WZB	NEIN	
FAV	NEIN	

23. Was verstehen Sie unter Intermodalität im Verkehr?

Intermodalität ist die individuelle Benutzung verschiedener Verkehrsmittel für eine Wegekette von der Quelle (Start) bis zum Ziel (Endpunkt).

24. Wie wichtig findet die S-Bahn GmbH die Einführung von Intermodalität?

Intermodalität wird bereits heute von einem Großteil der Verkehrsteilnehmer gelebt. Die Personen wählen individuell für ihren konkreten Weg die für sie relevanten Verkehrsmittel aus. Wir versuchen im Rahmen unserer Möglichkeiten, die Vernetzung der Verkehrsträger untereinander im Kundeninteresse zu fördern.

25. Wie geht Ihrer Meinung nach die BVG mit der Idee der Intermodalität um?

-

26. Wie geht Ihrer Meinung nach die Stadtverwaltung Berlin mit der Idee der Intermodalität um?

-

27. Hat Ihrer Meinung nach die Einführung der Intermodalität in Berlin Zukunft?

Eine Vielzahl von Wegen lässt sich nur in Kombination mehrerer Verkehrsmittel zurücklegen. Daher wird Intermodalität auch zukünftig gelebte Realität in der Region Berlin sein. Entscheidend wird sein, ob es gelingt, den individuellen Nutzer stärker als bisher vom Gebrauch öffentlicher Verkehrsangebote zu überzeugen.

13.4 Inquiry StattAuto Car Sharing

Birger Holm

29.12.2005

Dienstleistung StattAuto

1. Die Kundenzahl hat sich seit dem Anfang von StattAuto immer erhöht. Wieviele Kunden gibt es jetzt in Berlin?

Keine Antwort - Betriebsgeheimnis

2. Wie viele Autos und Mobilzentren hat StattAuto im Moment in Berlin?

Keine Antwort - Betriebsgeheimnis

3. Über wie viele Parkplätze können Ihre Kunden verfügen? Und wie sind diese über die Stadt verteilt?

50, über die ganze Stadt verteilt mit Schwerpunkt innerhalb des S-Bahn-Rings

4. Reicht die Anzahl der angebotenen Parkplätze für Ihre Kunden aus?

Wir streben eine Verdoppelung innerhalb von 2 Jahren an

5. Stattauto hat im Jahre 2000 trotz Jahre von Wachstum, finanzielle Probleme. Welchem Umstand schreiben Sie das zu?

Keine Antwort - Betriebsgeheimnis

Partner

6. Bis Ende 2005 ist DB Rent ein Partner von Stattauto. Wie hat diese Zusammenarbeit ausgesehen?

Keine Antwort - Betriebsgeheimnis

7. DB Rent hat dieses Jahr die Partnerschaft gekündigt. Wie bewerten Sie diese Entscheidung?

Keine Antwort - Betriebsgeheimnis

8. StattAuto ist von Collectcar aus den Niederlanden übernommen worden, und wird mit dem Markennamen Greenwheels weiterarbeiten. Wie verläuft die Zusammenarbeit mit Greenwheels?

Keine Antwort - Betriebsgeheimnis

9. Wie sind die zukünftige Erwartungen für Greenwheels Berlin?

Keine Antwort - Betriebsgeheimnis

10. Daimler Chrysler hat im Jahre 2004 bei jedem verkauften Smartauto einen Carsharing Gutschein gegeben, falls der Kunde mal ein größeres Auto nutzen möchte. Sind die Gutscheine in Berlin auch tatsächlich genutzt worden?

Einige ja, es handelt sich aber nicht um größere Volumina

11. Gibt es sonst noch Zusammenarbeit mit Daimler Chrysler?

Nein.

ÖPNV

12. Der Metrocard war ein Projekt das 2001 eingeführt worden ist, aber wieder aufgehört hat. Was war der Grund des Scheiterns?

Keine Antwort - Betriebsgeheimnis

13. Gibt es neue Pläne um so etwas wie ein Metrocard einzuführen um ÖPNV und Carsharing weiter miteinander zu verknüpfen?

Wir haben seit dem 1. Juni 2005 eine intensive Kooperation mit dem Verkehrsverbund Berlin-Brandenburg VBB (> www.vbbonline.de). Greenwheels-Kunden, die im Besitz einer gültigen Abbonnentenkarte des VBB sind (inkl. BVG- und S-Bahn-Abokarten), können ohne Monatsbeitrag und Kautions unsere Fahrzeuge nutzen.

14. Gibt es andere Ideen Carsharing weiter mit dem ÖPNV zu verknüpfen?

Weitere Fahrzeugstationen in unmittelbarer Nähe von ÖPNV-Haltestellen

15. Wie ist die Zusammenarbeit mit der BVG?

Derzeit nur mittelbare Zusammenarbeit mit BVG über den VBB. In Details gute Zusammenarbeit, z.B. Stellung eines BVG-Stadtbusses zu Fotozwecken.

16. Wie ist die Zusammenarbeit mit der S-Bahn GmbH?

Derzeit nur mittelbare Zusammenarbeit mit BVG über den VBB.

17. Wie beurteilen Sie die Zusammenarbeit mit der Stadtverwaltung?

Zusammenarbeit mit der Senatsverwaltung und verschiedenen Bezirken ist hervorragend, großes Verständnis für CarSharing vorhanden.

Intermodalität in Berlin

18. Was verstehen Sie unter Intermodalität?

Eine dem konkreten Mobilitätsbedürfnis jeweils neu angepasste Verkehrsmittelwahl; Wechsel der Verkehrsmittel innerhalb eines Weges, wenn dieses zur Erhöhung der Reisegeschwindigkeit, der Bequemlichkeit (Convenience) oder des Vergnügens beiträgt

19. Wie wichtig finden Sie die Implementierung von dem Begriff Intermodalität?

Implementierung wo?

21. Wie geht in Ihren Augen die BVG mit der Idee der Intermodalität um?

Darüber kann ich mir kein Urteil erlauben.

22. Wie geht in Ihren Augen die S-Bahn GmbH mit der Idee der Intermodalität um?

Darüber kann ich mir kein Urteil erlauben.

23. Wie geht in Ihren Augen die Stadtverwaltung mit der Idee der Intermodalität um?

Aufgeschlossen und positiv.

24. Hat nach Ihrer Meinung die Implementierung der Intermodalität in Berlin Zukunft?

Außer sanktionierenden Maßnahmen (City-Maut, Parkraumbewirtschaftung, autoarme/-freie Innenstadtzonen etc.) gibt es keine Alternative zur Intermodalität bei dem Versuch, der mit dem ausufernden motorisierten Individualverkehr verbundenen Stadtverkehrsprobleme Herr

zu werden oder dessen negative Folgen auch nur ansatzweise zu neutralisieren oder abzumildern.

13.5 Inquiry DB Rent Bike Sharing

1. Die Kundenzahl hat sich seit dem Anfang von DB Bikesharing immer erhöht. Im Moment gibt es 31.000 Kunden. Wie viele Kunden erwartet die DB im Jahre 2006?

Aktuell gibt es etwa 93.000 Kunden, die bei Call a Bike registriert sind. Diese Zahl wird sich pro Saison um ca. 20 Tsd. Neukunden erhöhen. Werden weitere Städte in das Call a Bike Netz eingebunden, wird sich die Anzahl Der Neukunden selbstverständlich erhöhen.

2. Gibt es im Moment genügend Fahrräder von DB Bikesharing in Berlin?

In Berlin sind ca. 1500 so genannte CallBikes im Einsatz. Das ist die höchste Bikezahl von allen Call a Bike - Städten.

3. Wie ist die Verfügbarkeit von Fahrrädern in Berlin?

Durch den Einsatz von ca. 1500 CallBikes wird im Kerngebiet Berlin (100qkm) eine sehr hohe Verfügbarkeit gewährleistet. Aufgrund der Erfahrungen sowie der Nutzungsanalysen werden die Bike-Bedarfe in der Innenstadt optimiert. So werden beispielsweise an hoch frequentierten Orten im Innenstadtbereich (Friedrichstraße, Potsdamer Platz, Bhf. Zoologischer Garten etc.) permanent erhöhte Bikekontingente zur Verfügung gestellt. Sollte doch einmal kein Rad direkt zugänglich sein, erhalten Sie von den Mitarbeitern im Service Center Auskunft über die Standorte der nächststehenden CallBikes.

4. Es ist jetzt Winterpause für Call a Bike. Wie reagieren die Kunden auf diese Pause?

Im Spätherbst bzw. Anfang Dezember nehmen die Nutzungen aufgrund der äußeren Witterungseinflüsse (Kälte, Niederschlag) erfahrungsgemäß deutlich ab und steigen erst im März wieder. Daher nutzen wir die Wintermonate zur Wartung aller Bikes, damit den Kunden in der nächsten Saison wieder eine hoch qualitative Flotte zur Verfügung steht. Für Kunden, die weiterhin mit einem CallBike fahren möchten, besteht das Angebot einer 3-monatigen Winterleihe zu sehr günstigen Konditionen inkl. Full-Service. Die Kunden haben Verständnis für die Winterpause, nutzen Call a Bike aber nach neuem Saisonstart (März) wieder wie gewohnt. Die Kunden der Winterleihe sind mit diesem speziellen Angebot sehr zufrieden.

5. Die Kunden bekommen eine Ermäßigung, wenn sie in Besitz von einer Bahnkarte sind. Werden die Call a bike Fahrräder vom Bahnhof aus viel genutzt?

Die CallBikes werden nicht vom Bahnhofweg genutzt, sondern auch zum Bahnhof hin, das heißt also im Vor- und Nachlauf zum Schienenverkehr. Damit werden Reiseketten von Haustür zu Haustür mit den Angeboten der DB AG möglich.

6. Gibt es Pläne, für Kunden des Berliner Stadtverkehrs eine Ermäßigung für Bikesharing zu organisieren?

Neben Vergünstigungen für BahnCard-Kunden, gibt es Kooperationen mit anderen Partnern. Kunden mit einer Get2Card können beispielsweise zwei Bikes zum Preis von einem nutzen. Kunden mit VBB-Abo bzw. S-Bahn-Abo können ebenfalls zum ermäßigten Tarif fahren. Für weitere Kooperationen ist die DB Rent jederzeit offen.

7. Gibt es andere Ideen Bikesharing weiter mit dem ÖPNV zu verknüpfen?

8. Gibt es Zusammenarbeit zwischen DB Rent Bikesharing und der BVG? Und wenn ja, wie beurteilen Sie die Zusammenarbeit?

9. Gibt es Zusammenarbeit zwischen DB Rent Bikesharing und der S-Bahn GmbH? Und wenn ja, wie beurteilen Sie die Zusammenarbeit?

10. Wie beurteilen Sie die Zusammenarbeit mit der Stadtverwaltung?

11. Was verstehen Sie unter Intermodalität im Verkehr?

Die DB Rent hat es sich zum Ziel gemacht seinen Kunden verschiedene Module (DB Carsharing, Call a Bike) anzubieten um seine individuellen Mobilitätsbedürfnisse abzudecken. Wir wollen die Voraussetzung für eine einfache Kombination dieser Module schaffen um jedem Kunden die Leistung erbringen zu können, die er benötigt.

12. Wie wichtig finden Sie die Einführung von Intermodalität?

Intermodalität ist die Zukunft des ÖPNV. Dort wo Bus und Bahn nicht vorhanden sind, oder Umwege und Wartezeiten die Fahrt lang machen, müssen alternative Mobilitätsmodule dem Kunden den Zugang zum ÖPNV erleichtern.

13. Wie geht Ihrer Meinung nach die BVG mit der Idee der Intermodalität um?

14. Wie geht Ihrer Meinung nach die S-Bahn GmbH mit der Idee der Intermodalität um?

15. Wie geht Ihrer Meinung nach die Stadtverwaltung Berlin mit der Idee der Intermodalität um?

16. Hat Ihrer Meinung nach die Einführung der Intermodalität in Berlin Zukunft?

Große Städte wie Berlin haben durch hohe Einwohnerzahlen und eine hohe KFZ-Dichte immer Probleme mit infrastrukturellen Einrichtungen. Es kann also in Zukunft ein richtiger Weg sein verkehrliches Denken in neue Bahnen zu lenken und mit einem neuen Verständnis von öffentlichem Verkehr durch individualisierbare Baukastensystem die Belastung verkehrlicher Infrastruktur zu reduzieren.

Das Angebot alternativer, umweltfreundlicher und innovativer Verkehrsdienstleistungen in Großstädten hat eine Zukunft nicht zuletzt unter dem Aspekt der gesellschaftlichen Prozesse des Wachsens (in Ballungsgebieten) und Schrumpfen (in der Fläche). Mittlerweile versuchen einige Kommunen die hohe Verkehrs- und Umweltbelastung durch eine City-Maut bzw. (Teil-)Fahrverbote zu regulieren, beispielsweise gibt es aktuell eine City-Maut in London und Stockholm. Die Entwicklung und der Aufbau der bestehenden Fahrradverleihsysteme in den letzten Jahren setzen Stadtverwaltungen zunehmend unter Druck, auch in ihrer Kommune ein modernes Verleihsystem zu installieren. Funktionierende Fahrradverleihsysteme gehören mittlerweile zu einer modernen Stadt. Es ist insgesamt ein zunehmendes Interesse großer Kommunen an Fahrradverleihsystemen zu verzeichnen.

Vielen Dank für die Beantwortung des Fragebogens.

Bitte zurück schicken an:
c.j.r.de.jong@student.rug.nl

13.6 Interview VMZ

Interview VMZ

Mit: Ralf Kohlen, consultant

30.01.2005

10:00 Uhr

(summary of conversation)

- 1 Die VMZ bietet mehrere Dienstleistungen auf dem Gebiet von Verkehrs-
informationen. Was sind die wichtigsten Dienstleistungen der VMZ?

VMZ ist ein Geschäft für Informations- Infrastrukturen und sammelt Daten von PKW
Verkehr
und ÖPNV Verkehr. Wir haben 15 bis 20 Mitarbeiter

2. Wie ist die Nutzung der intermodalen Routenplaner, welche die VMZ im Internet
anbietet?

Gut, diese Routeplaner ist übrigens eher Multimodal in so weit dass die Kunde selber die
Verkehrsmittel auswählt. Die Routeplaner ist entwickelt worden durch PDV in Karlsruhe.

3. Wie ist die Zukunftserwartung für die Nutzung des intermodalen Routenplaners?

Wird wahrscheinlich so bleiben. Diese Routeplaner ist Teil unserem BTC (Business to
Costumers) und bringt die VMZ kein Einnahmen, aber ist wichtig für wie wir uns in die
Öffentlichkeit zeigen. Die wichtige Teil unser Geschäft liegt aber bei BTB (Business to
Business) und Forschung

4. Die VMZ Berlin ist seit 2003 ein selbständiges Unternehmen. Woher kommen die
Einnahmen?

Von unserem BTB Geschäft und das Forschungsteil. Die BTB behält unter anderen die
Verkauf von Daten. Auch liefern wir die Verkehrsdaten die die Berliner Rundfunk von hier
aus sendet. Uns Forschungs- and Planungsteil ist wirtschaftlich gesehen auch wichtig So
machen wir ein Verkehrsplanung für die kommenden WM

5. Hat die VMZ im Moment die am Anfang definierten Geschäftziele erreicht?

Wir sind auf dem Weg dahin, existieren aber nur drei Jahre und brauchen noch mehr Zeit

6. Wie sind die Zukunftserwartungen für die VMZ?

Sehr gut, wir möchten eine schwarzen Null erreichen.

7. Was sind die Zukunftsziele der VMZ?

Wir haben viel vertrauen in der Zukunft der PPP und möchten dieses Model weiter ausbauen
(also ohne Geld des Steuerzahlers).

Sonst haben wir in Essen (Ruhrpilot mit 14 Städten) und Beier auch noch Verkehrs

Informations Zentren geöffnet.

8. Die VMZ ist entstanden aus einer Zusammenarbeit zwischen Daimler Crysler, Siemens AG und der Stadtverwaltung. Wie hat diese Zusammenarbeit konkret ausgesehen?

Die Stadtverwaltung hat die Investitionskosten zahlt und die Siemens AG und Daimler Crysler via ein kombinierte Konsortium auftrag gegeben für die Entwicklung der VMZ. Siemens war mit 51% Teil in der VMZ und Daimler Crysler mit 49%.

Siemens war verantwortlich für die IV und Content Management. Daimler Crysler war verantwortlich für die ÖPNV Verkehr und Services

9. Wie bewerten Sie die Zusammenarbeit mit der Stadtverwaltung?

Sehr gut und intensiv. Die Stadt ist Eigentümer und Auftraggeber, wir Arbeiten auch viel mit der VLB von der Stadtverwaltung

10. Wie sieht die Zusammenarbeit mit Daimler Crysler im Moment aus?

Daimler Crysler ist nicht mehr dabei, weil sie sich auf das Kerngeschäft, nämlich Autos bauen konzentrieren wollte. Siemens hat das Teil der Daimler Crysler übernommen

11. Wie beurteilen Sie die Zusammenarbeit mit Daimler Crysler?

War gut

12. Wie sieht die Zusammenarbeit mit der Siemens AG im Moment aus?

Siemens ist jetzt das Muttergeschäft.

13. Wie beurteilen Sie die Zusammenarbeit mit der Siemens AG?

Gut. Siemens macht unseren technischen Teil

14. Gibt es Zusammenarbeit zwischen die VMZ und der BVG? Und wenn ja, wie beurteilen Sie die Zusammenarbeit?

Sehr gut. Die BVG ist ein Größe Auftraggeber. Das RBL System von der BVG ist eine sehr wichtige Daten Lieferant.

Wir haben auch eine große Forschung für die BVG gemacht über das Nachtbusliniennetz.

Wir haben in der Stadt 220 infrarot Sensoren und haben damit die IV und das Busverkehr nachts gemessen. Mit dem IV haben wir geguckt wo und wann es viel Verkehr gibt und wo die Buslinien vielleicht fahren sollten.

15. Gibt es Zusammenarbeit zwischen die VMZ und der S-Bahn GmbH? Und wenn ja, wie beurteilen Sie die Zusammenarbeit?

Neutral. Die S-Bahn GmbH schickt die S-Bahn Daten per Mail und hat leider kein RBL

16. Können Sie bei der folgenden Verkehrsorganisation bitte angeben, ob die VMZ mit ihnen zusammenarbeitet oder Kontakte hat und wie die VMZ diese bewertet?

Verkehrsorganisation	Zusammenarbeit	Bewertung Zusammenarbeit
VBB	ja	Seht gut
DB Rent Carsharing	Nein	
DB Rent Bikesharing	Nein	
StattAuto	Sehr wenig	
Choice	Sehr wenig	
Tellus	nein	
WZB	nein	
FAV	Sehr wenig	

11. Was verstehen Sie unter Intermodalität im Verkehr?

Das freie aussuchen von Verkehrsträger.

12. Wie wichtig finden Sie die Einführung von Intermodalität?

Sehr wichtig, weil das ÖPNV Netz in Berlin sehr gut ist und das IV weniger notwendig macht. Intermodalität macht die Frei Wahl der Verkehrsmittel möglich

13. Wie geht Ihrer Meinung nach die BVG mit der Idee der Intermodalität um?

Die sind auf dem richtigen Weg, aber noch nicht angekommen. Als gutes Beispiel kann ich mal nennen dass die BVG die Fahrrad Mitnahme im U-Bahn letzte Jahre geändert hat. Früher könnte man das Fahrrad nur mitnehmen außer Arbeitszeiten, jetzt kann das immer. Die BVG bewerte ich als ein sehr Kundenfreundliches Geschäft.

14. Wie geht Ihrer Meinung nach die S-Bahn GmbH mit der Idee der Intermodalität um?
Die S-Bahn hat das Glück dass die viele Dienstleistungen von die anderen Bahngeschäfte nutzen kann

15. Wie geht Ihrer Meinung nach die Stadtverwaltung Berlin mit der Idee der Intermodalität um?

Sehr sensibel. So versuchen die bei der WM das Stadion mit dem Auto, dem Fahrrad und dem ÖPNV erreichbar zu machen.

16. Hat Ihrer Meinung nach die Einführung der Intermodalität in Berlin Zukunft?

Ja, auf jeden Fall. Intermodalität bietet die Möglichkeit nicht nur PKW oder ÖPNV zu fahren. Es bietet einen intelligenten Kombination.

13.7 Inquiry TELLUS

Mit: Christian Scheiter

1. Welche Organisation/Person hat das Tellus Projekt von der EU initiiert in Berlin? Und warum?

FAV und die Stadt

2. Was sind die wichtigsten Projekte von Tellus in Berlin?

Handyparken

Carmodal

Erdgas Autos

User participation

3. Was sind die wichtigsten Projekte von Tellus auf dem Gebiet von Öffentlichen Verkehrsmittel in Berlin?

Implementierung von Daisy in Tram und Bus

4. Was sind die wichtigsten Projekte von Tellus auf dem Gebiet von geteilten Verkehrsmitteln in Berlin?

Car modal

Metropolitan Fleetcar

5. Was sind die wichtigsten Projekte von Tellus auf dem Gebiet von intermodalen Informationen für Reisenden?

Daisy Anzeigen

6. Wie Erfolgreich sind die Projekte von Tellus bis jetzt gewesen?

200 Erdgas Fahrzeuge, 7 Bussen im Erdgasbetrieb

100 Daisy Anzeigen in Busstellen

Handyparken 7500 Kunden

Beteiligung von jugendlichen im Projekt

200 MFC

7. Wie ist die Zusammenarbeit mit anderen Tellus Städten? Und wie sieht die genau aus?

Gut mit den 5 Städten via Konferenzen, E-Letter

8. Was sind die Zukunftsziele der Tellus?

Weiter ausbauen Daisy, MFC, Erdgasbetrieb,

9. Gibt es im Moment Zusammenarbeit zwischen Tellus und der Stadtverwaltung Berlin? Und wenn ja, wie beurteilen Sie die Zusammenarbeit?

Ja Stadtverwaltung ist Partner in Tellus. Zusammenarbeit ist sehr gut.

10. Gibt es im Moment Zusammenarbeit zwischen Tellus und der BVG? Und wenn ja, wie beurteilen Sie die Zusammenarbeit?

Mit dem Daisy Projekt. Zusammenarbeit ist gut

11. Gibt es im Moment Zusammenarbeit zwischen Tellus und der S-Bahn GmbH? Und wenn ja, wie beurteilen Sie die Zusammenarbeit?

nein

12. Können Sie bei den folgenden Verkehrsorganisationen bitte angeben, ob die Tellus mit ihnen zusammenarbeitet oder Kontakte hat und wie die Tellus diese bewertet?

Verkehrsorganisation	Zusammenarbeit	Bewertung Zusammenarbeit
VBB		
DB Rent Carsharing	Ja	Sehr gut
DB Rent Bikesharing		
StattAuto		
VMZ		
CHOICE		
WZB	Ja	Sehr gut
FAV	Ja	Sehr gut

13. Was verstehen Sie unter Intermodalität im Verkehr?

Nutzung verschiedene Verkehrsträger (eko und eco)

14. Wie wichtig finden Sie die Einführung von Intermodalität im Verkehr in Berlin?

Sehr wichtig. IV Netz kann es sonst nicht bearbeiten

15. Wie geht Ihrer Meinung nach die Stadtverwaltung Berlin mit der Idee der Intermodalität um?

ist Teilstrategie in StEP

16. Wie geht Ihrer Meinung nach die BVG mit der Idee der Intermodalität um?

Da hat sich sehr verbessert die letzten Jahre

17. Wie geht Ihrer Meinung nach die S-Bahn GmbH mit der Idee der Intermodalität um?

-

18. Hat Ihrer Meinung nach die Einführung der Intermodalität in Berlin Zukunft?

Ist bereit im Einsatz, weitere Ausbaung OV Nutzung steuern

Vielen Dank für die Beantwortung des Fragebogens.
Der Fragebogen wird selbstverständlich vertraulich behandelt.

Bitte zurück schicken an:
c.j.r.de.jong@student.rug.nl

13.8 Interview Choice

Mit: Hildegard Matthies

31.01.2006

15:00 Uhr

(summary of conversation)

- 1 Choice ist seit 2003 ein selbständige Forschungs-, Beratungs-, und Entwicklungsgesellschaft. Was sind im Moment die wichtigsten Projekte von Choice?

Wir sind ein Beratungs- und Forschung Gesellschaft und arbeiten in enger Kooperation mit DB Rent. Wir versuchen z.B. carsharing besser zu gestalten seitdem der Fuhrpark tagsüber meistens leer ist, weil die Kunden freizeitnutzer sind. Wir versuchen Carsharing mit Business zu verknüpfen.

Im Moment untersuchen wir auch die Möglichkeit ÖPNV wirtschaftlich attraktiv zu halten in schrumpfende Regios.

2. Hat Choice im Moment die am Anfang definierten Geschäftziele erreicht?
Der Anfang war mit Cash Car. Am ende des Projekts sollte es 1000 Kunde geben, aber es waren nur 49. Dann sind wir weiter gegangen mit anderen Ideen.

3. Wie sind die Zukunftserwartungen für Choice?

Es gibt wieder Perspektiven, es war mal trauriger so zu sagen. Wir mochten gerne die schwarze Null erreichen.

4. Was sind die Zukunftsziele der Choice?

Die schwarze Null erreichen und Nachhaltigkeit weiter in Verkehr bringen

5. Der Metrocard war ein Projekt das 2001 eingeführt worden ist, aber wieder aufgehört hat. Können Sie vielleicht ein bisschen mehr über dieses Projekt sagen?

BVG hat aufgehört. Das war ein sehr komplizierter Kooperationspartner. Es ein sehr unbewegliches Geschäft.

6. Gibt es neue Pläne um so etwas wie einer Metrocard einzuführen um ÖPNV und Carsharing weiter miteinander zu verknüpfen?

Nicht wirklich aber wir unterstützen am Moment das Ring and Ride Projekt. Die andere Partner sind DB Rent, Telecom, TU Braunschweig. Es ist ein elektronisches Ticket für alle ÖV und mit Carsharing ist geplant.

7. Die Choice ist entstanden aus einer Zusammenarbeit zwischen BVG, WZB und StattAuto, die Audi AG und der Stadtverwaltung. Wie hat diese Zusammenarbeit konkret ausgesehen?

Audi ist aber sehr schnell ausgestiegen.

Es gab Geschäftführungsmeetings

8. Wie bewerten Sie die Zusammenarbeit mit der Stadtverwaltung?

Schwer und sehr Personbezogen. Die haben kaum ein Zukunftskonzept

9. Wie sieht die Zusammenarbeit mit StattAuto/Greenwheels im Moment aus?

Seit die teil von Greenwheels sind gibt es kein Zusammenarbeit mehr. Greenwheels hat die Partnerschaft mit DB Rent gekündigt

10. Gibt es im Moment Zusammenarbeit zwischen Choice und der BVG? Und wenn ja, wie beurteilen Sie die Zusammenarbeit?

Schwer. Im Moment nur in Ring und Ride Projekt

11. Gibt es im Moment Zusammenarbeit zwischen Choice und der S-Bahn GmbH? Und wenn ja, wie beurteilen Sie die Zusammenarbeit?

Auch nur in Ring und Ride. Zusammenarbeit ist einfacher als mit der BVG aber doch manchmal schwierig

12. Können Sie bei den folgenden Verkehrsorganisationen bitte angeben, ob die Choice mit ihnen zusammenarbeitet oder Kontakte hat und wie Choice diese bewertet?

Verkehrsorganisation	Zusammenarbeit	Bewertung Zusammenarbeit
VBB		
DB Rent Carsharing	Ja	Gut
DB Rent Bikesharing	Ja	Gut
StattAuto		
VMZ		
Tellus	Ja	Gut
WZB	Ja	Gut
FAV	Ja	Gut

13. Was verstehen Sie unter Intermodalität im Verkehr?

Die Intelligente Kombination von verschiedenen Verkehrsmitteln die nahtlos in einander übergreifen.

14. Wie wichtig finden Sie die Einführung von Intermodalität im Verkehr in Berlin?

Die Frage soll man anders stellen, weil es darum geht welche Art von Intermodalität man hat. Es gibt kein Wertfrei Intermodalität. Intermodalität um ein nachhaltiges Verkehrssystem zu bekommen finden wir sehr wichtig. Die Nachhaltigkeit ist sehr schlecht im Moment

15. Wie geht Ihrer Meinung nach die Stadtverwaltung Berlin mit der Idee der Intermodalität um?

Schlecht, weil die haben keine wirkliche Zukunftsorientierung qua Nachhaltigkeit. Die sind auch sehr träge.

16. Wie geht Ihrer Meinung nach die BVG mit der Idee der Intermodalität um?

Wie die Stadt, die verpassen eine Zukunftsorientierung

17. Wie geht Ihrer Meinung nach die S-Bahn GmbH mit der Idee der Intermodalität um?

Die S-Bahn macht keine eigenständige Verkehrspolitik

18. Hat Ihrer Meinung nach die Einführung der Intermodalität in Berlin Zukunft?

Ja, die vernünftige Abstimmung von Verkehrsmitteln. Es soll mehr öffentlicher Raum für Car sharing geben. Und Bereitschaft im Handeln bei der Stadt und anderen.

14. LITERATURE

Agenda21bremen. (2005). Mobility gap. www.agenda21.bremen. 12.12.2005.

Arndt W.H., Becker H.J. (2003). Kompetenz in Mobilität in Berlin. Thesenentwurf. Technische Universität Berlin.

Berlin.de. www.berlin.de. 1.11.2005.

BerlinerVerkehr. (2005). www.berliner-verkehr.de. 4.11.2005.

Berliner Zeitung. (2005). Berlin in Zahlen. Nr.41. 18.02.2005

Berndt, F. and Blümel, H. (2003). *Aufforderung zu verkehrspolitische ÖPNV*. In: Wissenschaftszentrum für Sozialforschung. Discussion Paper. WZB, Berlin.

Beutler, F. (2004). *Intermodalität, Multimodalität and Urbanibility – Visionen für einen nachhaltigen Stadtverkehr*. In: Wissenschaftszentrum für Sozialforschung. Discussion Paper. WZB, Berlin.

Beutler, F. And Brackmann, J. (1999). *Neue Mobilitätskonzepte in Deutschland. Ökologisch, soziale und wirtschaftliche Perspektiven*. In: Wissenschaftszentrum für Sozialforschung Discussion Paper. WZB, Berlin.

Bley, P. (2003). Der Berliner S-Bahn. Alba

Berliner Zeitung. (2005). Berlin in Zahlen. Nr.41. 18.02.2005

Bundesverband CarSharing. (2005). www.carsharing.de.

BVG. (2004). Initiative and Innovation. New technologies and future concepts at the BVG. Frehner Consulting Deutschland GmbH.

BVG. (2005). www.bvg.de. 22.09.2005.

Cashcar. Choice. www.cashcar.de 10.01.2006.

Civitas. (2005). www.civitas-initiative.org. 27.10.2005.

Civitas. (2004). Tellus. Berlin in the context of Urban transport Strategy. www.tellus-cities.net. 23.09.2005.

Chlond, B. and Lipps, M, (2000). *Multimodalität im Personenverkehr im inrtapersonellen Längsschnitt*. In: Arbeitsberichte Institut für Verkehrswesen. Report 00.07. Universität Karlsruhe.

CPRE (1998). Park and Ride - its role in local transport policy. A campaign briefing.London.

BD Fuhrpark.(2005). DB Dienstleistungen Fuhrpark. www.dbfuhrpark.de. 10.01.2006.

Dittfurth, U. (2003). S-Bahn und Mauerbau. Verlag GVE. Berlin.

DG TREN (2004). Towards passenger Intermodality in the EU. Dortmund

Donovan, A. (2000). Intermodal transportation in historical perspective.

EKUinteractive. (2005). Berlin in the underground, a interactive journey through time under the Potsdamer Platz. www.eku.de/biu_pp/01st.html. 21.12.2005.

Engel, U. and Pötschke, M. (2003). Auto und sonst nichts? Zum Verhältnis von Umweltschutz und Verkehrsmittelwahl. LIT Verlag, Münster.

EUROPEAN COMMUNITIES. (2001). White Paper. European transport policy for 2010: time to decide. Office for official publications of the European Communities: Luxembourg.

FHWA (1992). Linking bicycle pedestrian facilities with transit. National biking and walking study. (9). Washington.

ILS NRW. (2004). Towards passenger intermodality in the EU. Analysis of the key issues for passenger intermodality. Report 1. Dortmund.

ILS NRW. (2004). Towards passenger intermodality in the EU. Analysis on the national inventories on passenger intermodality. Report 2. Dortmund.

Greenwheels. (2005). www.greenwheels.de. 05.11.05.

Jurziczek.(1999).Der S-Bahn Boykott. www.berliner-verkehrsseiten.de/s-bahn/Geschichte/Potsdamer_Abkommen/Mauerbau/Boykott/boykott.html. 22.09.2005.

Klingberg, W. (2005). DB Carsharing flotte in Berlin wird um 20% ausgebaut. Pressemitteilung. Deutsche Bahn AG. Berlin.

Klingberg, W. (2005). Call a bike, das innovativ Fahrrad mietssystem der Bahn wurde 2005 noch beliebter. Pressemitteilung. Deutsche Bahn AG. Berlin.

Kreuzberger, M. (2005). Transport and Urban structure in Berlin. Senate department for urban development Berlin. Presentation Metropolis 2005.

Kühne, T. Nutzung von Park and Ride Plätzen in Berlin. Diplomarbeit.

Mezghani, M. (2003). *From public transport to integrated mobility*. In: public transport international. (2) 2003.

Müller, A. (2005). Teile und Streite. In: TAZ. 25.08.2005.

Petersen, M. Public transport in cooperation with car sharing. WZB. Berlin.

Petersen, M. (2003). *Multimodale mobilutions und privat pkw*. In: Wissenschaftszentrum für Sozialforschung. Discussion Paper. WZB, Berlin

Project Group on Mobility. *Changing course in public transport: the car as a component in competitive service*. In: Wissenschaftszentrum für Sozialforschung discussion paper. WZB, Berlin.

Rodrique, J.P. Transport Geography on the Web. Urban Transportation. (6). Hofstra university. www.people.hofstra.edu/geotrans/. 16.01.2005.

S-Bahn Berlin GmbH, (2005). www.s-bahn-berlin.de/index.html. 22.09.2005.

Senatsverwaltung für Stadtentwicklung. (1998). Aufgliederung des Personenverkehrs nach Verkehrsmittel. www.stadtentwicklung.berlin.de/planen/stadtentwicklungsplanung/de/verkehr/fakten.shtml. 27.09.2005

Senatsverwaltung für Stadtentwicklung. (2005). www.stadtentwicklung.berlin.de/verkehr. 27.01.2006.

StEP. (2003). Mobil 2010. Mobilitätsprogramm für 2006 des Stadtentwicklungsplanes Verkehr. Berlin.

Stiftung Warentest. (2004). Carsharing, die Bahn fährt vorn. www.stiftung-warentest.de. www.stiftung-warentest.de. 20.11.2005

Vancluysen, K. Promoting a new mobility culture. Acces Eurocities: Brussel.

Wikipedia. (2005). Wikipedia, die freie Enzyklädie. www.de.wikipedia.org/wiki/Hauptseite. 13.01.2006.