Integrated Transport Policy
Our Concept for a Sustainable Mobile Future

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1. The transport challenge

Trends

At the beginning of the 21st century, Germany faces profound social and economic changes. If the country is to remain competitive on the international scene, it has to continue developing its strengths and secure them for the future. These strengths are, above all, the skills of its people, the quality of their work and the efficiency of its infrastructure. This includes a modern and well-developed transport system.

Efficient transport infrastructure is a major component of a strong and dynamic Germany as a competitive site for economic activity and a crucial prerequisite for growth and employment. Investment in infrastructure secures the competitiveness of the regions and helps to strengthen structurally backward regions. Companies are dependent not just on a flexible workforce but also on punctual and reliable transport operations. Logistics only functions when the transport infrastructure exhibits a high standard of development.

These dynamic economic and social trends can be demonstrated by our forecasts. These predict that between now and 2015, the population will rise to over 83 million. Economic growth per annum will be over 2% on average. These trends will be a major contributory factor to the growth in traffic. In addition, the interaction between transport trends and settlement patterns, which are characterized by increasing suburbanization, a growing dependence on the car and the spatial separation of functions, are contributing to the growth in traffic. Private lifestyles that change as a result of this (through individualization, among other things), plus forms of leisure and tourism that involve long distances, are leading to growing traffic flows.

As a result:

- Passenger transport will increase by around 20%, while freight transport will grow by around 64% (baseline year 1997).
- Freight mileage is forecast to rise to around 600 billion tonne kilometres by 2015.
- The volume of funding for investment (new construction, upgrading, replacement and maintenance) in federal transport infrastructure is forecast to be around 140 billion €.

These forecasts illustrate that the transport system in Germany would reach the limits of its capacity if there were no control from the spheres of transport and investment policy, particularly in urban areas.

Current Situation

In Germany more than 86% of all inhabitants live in cities and urban agglomerations.

Land used for settlement and transport purposes currently covers around 12% of the total area of Germany. At least one half of this land is developed or sealed. As a result of the greater requirements that have to be met by infrastructure (construction of new transport facilities and upgrading of existing facilities, leisure facilities, home ownership) and the demand for commercial building land, there has in the past been a constant rise in the amount of land used for settlement and transport purposes. The annual increase is currently around 430 km².

The steady increase in the amount of land used for settlement and transport purposes has a multiplicity of negative impacts. Important habitats for flora and fauna are lost, soils are degraded, the fragmentation and reduction in size of habitats leads to a reduction in the diversity of species and biotopes, groundwater is
protected less and less against discharges of substances and, because less precipitation percolates into the ground, it is more difficult for groundwater supplies to be replenished.

Mobility in Germany is characterized by the following trends

- the number of journeys has remained relatively constant;
- there has been a sharp rise in passenger car density;
- there has been a sharp increase in the time spent on travel and the average length of journeys

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>1976</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of journeys per inhabitant</td>
<td>3.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Passenger car density</td>
<td>approx. 0.3</td>
<td>0.47</td>
</tr>
<tr>
<td>Journey time per day</td>
<td>68 min</td>
<td>83 min</td>
</tr>
<tr>
<td>Journey length</td>
<td>8.7 km</td>
<td>11 km</td>
</tr>
</tbody>
</table>

Source: KONTIV

One of the main factors behind this trend is the significant increase in the spatial separation of places of work and residential areas. This separation is the result of a continuing migration of the population from city centres to the urban hinterland and of a suburbanization of workplaces. Consequently, there has been a constant rise in the size of commuter flows and, above all, in the distances travelled by commuters.

Private motor car traffic dominates in large cities with a population of over 500,000. Passenger cars are used for journeys to work and leisure trips, in particular. Local public transport accounts for just over one fifth of all journeys, and is used mainly for journeys to school, college, etc. and for commuting.

Modal split in large cities (shares in %)

<table>
<thead>
<tr>
<th>Cities with over 500,000 population</th>
<th>Local public transport</th>
<th>Car</th>
<th>Walking</th>
<th>Cycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>All journeys</td>
<td>21</td>
<td>44</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>Journeys to work</td>
<td>26</td>
<td>56</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Journeys to school, college, etc.</td>
<td>40</td>
<td>20</td>
<td>28</td>
<td>12</td>
</tr>
<tr>
<td>Journeys to shops</td>
<td>18</td>
<td>35</td>
<td>40</td>
<td>7</td>
</tr>
<tr>
<td>Leisure trips</td>
<td>19</td>
<td>44</td>
<td>29</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: Prognos AG, Die Bedeutung des öffentlichen Personenverkehrs in Deutschland, Basle, 2001
The significance of local public transport depends strongly on the size of the city.

**Average and range of the percentage of residents using public transport**

![Graph showing the percentage of residents using public transport by city size](image)

**Source:** Prognos AG, op. cit.

In general, the larger the city, the greater the percentage of local public transport users. However, there are also medium-sized towns and cities that can certainly achieve the level of large cities.

This indicates that the transport behaviour of residents can be influenced by using urban and transport planning tools.

2. **A strategy for environmentally acceptable urban transport**

Every day, 26 million passengers use local public transport in Germany. This is equivalent to around 18.5 million car journeys that are saved. However, local public transport can, and has to, improve compared with passenger cars. For this reason, the Federal Government is calling for the authorities responsible for planning and organizing local public transport in the federal states and municipalities and transport operators to provide products and services that are more customer-focused within the framework of a quality competition.

Because traffic growth was for a long time considered to be an unalterable fact, the public and private sectors concentrated on technological and organizational measures designed to reduce the detrimental consequences of this growth. Since the 1990s, however, more and more people have become convinced that the causes of transport demand and traffic growth also have to be tackled. The strategy to solve transport problems, which is also relevant at the local level, comprises a lot of components, which complement one another and are to be implemented in parallel:
• reducing the need to travel;
• shifting traffic to more environmentally friendly modes of transport;
• improving transport operations;
• fiscal incentives and user charges;
• improving environmental protection;
• promoting new technologies and alternative fuels;
• enhancing road safety;
• mobility research.

In the context of our workshop, I just would like to explain the first two points

**Reducing the need to travel**

**Integration of regional and transport planning**

Regional development and transport impact on each other. Towns and cities are the nodal points of transport networks. Transport links and accessibility are the most important locational factors. Modern industrial and service societies based on a high degree of division of labour are inconceivable without efficient transport links. Traffic growth is the result of a growing division of labour between sites, where the best use has to be made of each site’s suitability for homes, places of work, shopping, education/training and leisure facilities. This is a precondition of increasing prosperity, but at the same time it means growing land take and energy use. Faster speeds and greater distances to be travelled will promote the spatial separation of residential areas and places of work, of shopping centres and recreational areas. Land price differentials, urban pollution, and the trend towards individual lifestyles and smaller households are also driving forces behind this process and in turn result in new transport requirements and traffic flows.

**Polycentric settlement pattern, compact city**

In Germany, there is a broad-based consensus between the Federal Government and the federal states as to the objectives to be pursued in regional development. The aim is to achieve a balanced, diverse and polycentric settlement pattern. The model at local authority level is the compact city with mixed use, well developed city centres and settlement/development forms that can easily be served by public transport.

The 1993 “Guidelines for Regional Planning”, drawn up jointly by the Federal Government and the federal states, call for the pressures placed on urban regions and corridors by increasing levels of road traffic to be relieved by shifting this traffic to the railways. They state that in urban regions with high levels of traffic, priority should be given to those modes of transport with great mass transit capabilities (buses, trams and light rail).

The amended Regional Planning Act of 1998 states that by allocating and mixing the various land uses, such as residential areas, places of work, shopping and recreational facilities, settlement development should be shaped in such a way that the volume of traffic is reduced and no additional traffic is generated. At the same time, however, it insists that all smaller areas have to be accessible.
New forms of cooperation, public participation and Local Agenda 21

New forms of cooperation are coming into existence under the heading of “public-private partnership”, because local authority plans are ineffective without feedback from private-sector investors.

In Germany, interest groups and individual members of the public have extensive opportunities, backed up by law, for participation in the local planning process. To ensure that their interests are given more attention, citizens frequently form action groups. This leads to wider public discussion, forces town and city councils and authorities to become more citizen-oriented and breaks well-worn routines followed by councils and authorities in implementing projects.

New and longer-term forms of cooperation between councils/authorities and their citizens have come into being since the 1992 UN Earth Summit in Rio de Janeiro, in particular. Towns and cities were called upon to formulate, at the local level, programmes of action for sustainable development. The councils of around 1,650 German towns and cities have since adopted decisions on the formulation of a so-called Local Agenda 21. The aim is to jointly develop a strategy and concrete action to achieve sustainable development in towns and cities. Institutions, local organizations and “non-organized” citizens discuss, for instance, approaches to land take, climate change and energy, mobility, sustainable consumption, local development cooperation and regional and sustainable trade and industry.

Cooperation between towns/cities and their urban hinterland

Urban regions can help to contain or control migration from towns and cities to the urban hinterland. Cooperation across local authority boundaries makes it possible to pursue common land reserve policies and to jointly develop centres of settlement. Closer cooperation between city centres and urban hinterland communities is required in designating trading estates and residential areas and their more favourable spatial allocation, in providing local public transport services and in planning and operating public utilities. Regional planning at federal state level and sub-regional planning can help to strengthen medium-sized urban centres in the hinterland of large cities which have good public transport links.

In many towns and cities, urban redevelopment is now being given priority over the construction of new buildings on greenfield sites. Numerous practical examples of the revitalization of city centres, infill development, the conversion of derelict industrial sites, the re-use of former military sites for civil purposes and the construction of compact areas of new housing illustrate the potential inherent in a systematic development of city centres. The aim is to prevent open spaces being converted into developed areas more than is absolutely necessary.

Mixed use development

German towns and cities aim to re-establish the mixed use development which was customary in the past. In this way, journeys can be shortened and traffic problems reduced. The opportunities for social integration will be enhanced. This involves three tasks: first, mixed use developments that still exist are to be preserved; second, single-use areas, for instance large housing estates, should be provided with other functions (jobs, services, leisure facilities); third, new construction areas can be planned and realized in accordance with the concept of mixed use development.

Shifting traffic to more environmentally friendly modes of transport

As far as urban traffic is concerned, the objective of the modal shift is to transfer private motor car traffic to more environmentally friendly means of transport: local public transport, cycling and walking.
Local public transport

Operators have to provide innovative products and services in order to better exploit market potential and attract new groups of customers. This includes the speedy modernization of the vehicle fleet (low-floor vehicles, air-conditioned buses, trams and light rail vehicles, lightweight and low-cost rolling stock for local and regional passenger rail services). In addition, measures that give priority to and speed up traffic (e.g. traffic signals that give priority to public transport) should be implemented systematically. There is further scope for improvement, inter alia by improving the linkages between means of transport (e.g. integrated regular-interval timetable), providing comprehensive customer information (e.g. real-time intermodal passenger information), creating a compatible, customer-focused fare system and permanently guaranteeing safety, security and cleanliness.

The introduction of more competition in the local public transport sector, too, is designed to act as a tool to mobilize services that meet the needs of customers. The opportunities presented by competition, such as improvements in efficiency and quality, can also be used to enhance environmental protection.

Local and regional passenger rail services

Since regionalization on 1 January 1996, the provision and funding of local and regional passenger rail services has been a responsibility of the federal states. The public transport authorities designated by the local public transport acts of the federal states reach agreement with the railway undertakings on the services to be provided, the quality of these services and the charges to be paid for them. It is up to the transport operators to decide the concrete shape of the services they provide. Since regionalization, the transport services provided in Germany have become increasingly better coordinated and their quality has improved significantly. This applies to both the rolling stock and the frequency of services running at regular intervals.

One of the major objectives of the reform of the railways was to create competition in the rail sector, too. Competition for tender between rail service providers is a prerequisite for the provision of more efficient services. It increases the pressure on the costs of the providers and, in doing so, increases the economic efficiency of local public transport. The right to non-discriminatory access to the rail network for all railway undertakings has created the legal basis for competition on the railways.

In 2001, as a result of index-linking, the federal states received regionalization funds totalling around 6.5 billion € from the Federal Government’s fuel duty revenue. The funds were to be used for ordering transport services – especially local and regional passenger rail services – and for investment to further improve the quality of local public transport services.

Local Authority Transport Infrastructure Financing Act

One of the major tasks of the state is to provide modern, functioning and efficient transport infrastructure. In this context, local public transport is one of the most important tools for integrating urban development and mobility. Within the framework of the Local Authority Transport Infrastructure Financing Act, the Federal Government thus grants the federal states financial aid for investment to improve transport in municipalities. This means that investment assistance is provided on a uniform basis throughout the Federal Republic of Germany, especially in the local public transport sector. This investment is used, inter alia, for vehicles such as buses and trams, but also for construction purposes (e.g. construction and upgrading of transport infrastructure, stops, park & ride facilities).

Of the funds made available by the Federal Government, which total 1.6 billion €, 80 % are allocated to the federal states using a fixed formula. The individual states decide themselves how the funds are to be
committed, on the basis of local priorities. The assistance amounts to up to 75% of the eligible costs. 20% of the funds are reserved for a special federal programme that the Federal Ministry of Transport, Building and Housing draws up on the basis of proposals made by the federal states and in consultation with them and updates annually. Funds from this programme can be used to provide financial assistance to railway infrastructure used for local public transport in conurbations and their peripheries with eligible costs of over 100 million DM. The rate of assistance is up to 60% of the eligible costs. Complementary funding has to be provided by the federal states and local authorities.

Promoting non-motorized transport

Measures to encourage cycling and walking are a key factor in improving the quality of life in towns and cities. Cycling and walking are the most efficient and environmentally friendly ways of covering short distances. It is up to those responsible “on the ground” to adopt appropriate strategies in the field of urban and regional development in order to create favourable conditions for non-motorized transport. “Examples of good practice” include self-contained and safe cycle track networks, traffic calming schemes and pedestrian precincts.

In Germany, cycling currently accounts for around 12% of all trips. This is an annual average of around 300 km per inhabitant. However, this does not mean that the potential inherent in cycling, whose advantages as a means of travel are to be found primarily in short local trips up to around 5 km, has been anywhere near exhausted. This is illustrated by examples from our European neighbours, who have established benchmarks. In the Netherlands, for instance, cycling accounts for around 27% of all trips nationwide, with this figure rising to as much as 40% in some towns and cities. In Germany, the aim is to significantly increase the number of cycling trips over the next ten years, following these examples. This will relieve congestion in city centres, improve the quality of life and promote cycling as an enjoyable and, what is more, healthy means of travel. In addition, the bicycle industry and trade, which consists predominantly of small and medium-sized enterprises, also makes significant contributions to growth and employment. Last but not least, good cycling facilities will help to make Germany more attractive as a tourist destination and will provide an commercial opportunity for regions that are economically less favoured but have beautiful scenery. Encouraging cycling thus also has positive economic aspects.

To encourage cycling, a national cycling plan is currently being developed in Germany. This is the first plan of its kind, and is designed to pool and better coordinate the measures taken at the federal, state and local levels.

Linking up the different modes of transport

One of the major elements of an integrated transport policy is the linking-up of the different modes of transport. In the passenger transport sector, it can help to improve the division of labour and enhance efficiency. If sustainable mobility is to be created, rivals have to become allies who make the most of the advantages inherent in their systems. The aspect of interlinking, on which this requirement is based, is focused primarily on two elements:

- intermodality, i.e. optimizing the interfaces between the different modes of transport;
- interoperability, i.e. harmonizing the operating conditions of the networks of the individual modes (e.g. between the different rail systems in Europe or between different integrated transport associations that provide local public transport services).

Integrated journey chains in the passenger transport sector are designed to ensure that the means of transport used are those which, in terms of cost and performance, are best suited to the task in hand.
way, the percentage of total mileage accounted for by rail transport, local public transport, cycling and walking is to be increased. In addition, efficiency losses within the transport system are to be reduced.

In the local public transport sector, linking up the different modes of transport means, among other things, that people living on the periphery of conurbations can switch to public transport. The principal way of achieving this is by providing park & ride facilities at local public transport stops. What is also important is the interlinking of local public transport and mainline rail services and between cycling facilities and local public transport/mainline rail services (carriage of cycles on trains, rapid transit systems and buses; cycle parking facilities at stations and local public transport hubs). In innovative pilot schemes, park & ride facilities are combined with modern information systems that provide motorists with information about the arrival and departure times of the next public transport services while the motorists are still on the road, thereby boosting the incentive to switch to public transport.

3. Conclusion

The objective of transport policy in Germany is to ensure mobility. This objective can only be achieved by creating a framework in which a maximum degree of economic activity is combined with a minimum volume of traffic. This approach will result in a transport system that deserves the adjectives “efficient”, “environmentally friendly” and “socially acceptable”. This definition of sustainable mobility is the basis of transport policy decisions.

The Federal Government has decided to pursue an integrated regional planning, urban development and transport policy. The integrative character is reflected primarily in the fact that policymakers focus more on the causes and consequences of the continuing growth in traffic. This is based on the realization that the current transport problems cannot be solved simply by constructing transport infrastructure. It is not just the tight constraints on public funding that militate against an unlimited expansion of transport infrastructure, but also the limited availability of land in a densely populated country such as Germany. Nevertheless, investment in infrastructure – and thus federal transport infrastructure planning, in particular – is of paramount importance. However, what is required is, increasingly, measures upstream of transport policy, which facilitate mobility but also reduce the volume of traffic.

The task of transport policy is thus to strengthen the transport system as a whole. A key factor in achieving this goal is improving the interplay between all components of the transport system. Each mode must be able to make the most of its specific strengths. This constitutes the core of an integrated transport policy. What is needed, therefore, is a package of regulatory and investment policies plus fiscal and technological measures.

Another aspect is decentralized decision-making. German federalism, much as in the United States and Switzerland, follows subsidiarity principles which intend to ensure that decisions are taken as closely as possible to the citizen. So, problems can be solved in the subsystem where they arise.

Local public transport is one of the most important tools for integrating urban development and mobility. Local self government gives all citizens an opportunity to play depart and have a controlling influence. Regional and local responsibilities can thus contribute to more quality and efficiency in urban transport

Furthermore, the Federal Ministry of Transport, Building and Housing will conduct a broadly based dialogue at all levels on the future of mobility. Associations and organizations representing shippers, the transport industry and transport operators, associations and companies from the automotive industry and the transport and environmental technology sectors, transport users’ organizations, environmental
associations and organizations, the churches, trade unions and professional associations are invited to participate.

The aim of our dialogue on the future of mobility is twofold. First, it is to create receptiveness, acceptance and, as far as possible, consensus for an integrated transport policy. Second, the Federal Government wishes to find out, at an early stage, the interests of the social groups, to identify potential conflicts and discuss possible solutions with the parties involved. The numerous and diverse enquires and suggestions concerning transport policy are proof of the great interest shown by our society in questions of mobility.