Transport in Capitalism: Transport Policy as Social Policy

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TRANSPORT IN CAPITALISM

TRANSPORT POLICY AS SOCIAL POLICY

[transcript] Sociology

Oliver Schwedes
Transport in Capitalism

Sociology

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Transport Policy as Social Policy

[transcript]


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Contents

List of Figures and Tables

Figures

Tables

Introduction

Since the turn of the millennium, the debate in the field of transport policy has been increasingly shaped by the guiding principle of an integrated approach to transport policy. This new strategy in transport policy is now being pursued by social actors from business, academia and society in equal measure, so that it is possible to speak of a broad social consensus regarding the guiding principle of an integrated approach to transport policy.

Whereas previously debates concerning the 'turnaround in transport' (*Verkehrswende*) were dominated by the strategy of 'avoiding traffic' or avoiding growth in traffic volume, today the unanimously favoured integration strategy is focused on the goal of increasing the efficiency of the transportation system. While the strategy of traffic avoidance, with demands that stood in opposition to widespread mobility behaviour, inevitably triggered conflicts of interest, the guiding principle of an integrated approach to transport policy relies on the harmonious reconciliation of the interests of all participants, with the overall goal of sustainable transport development. There are five interlocking approaches to integration: first, social integration is meant to be ensured through the participation of the social actors affected by transport policy measures; second, technical integration is sought through the linking of the different modes of transport; third, political integration is to be achieved through inter-ministerial cooperation, for example between the portfolios of urban and transport planning; fourth, ecological integration aims to achieve the systematic consideration of environmental impacts; fifth, and lastly, the pursuit of economic integration, brokered

by the market. The bundling of all five integration strategies is intended to contribute to a holistic and thus more effective transport policy. The goal is a transportation system that ensures economically efficient, socially acceptable, environmentally friendly and thus sustainable transport development (cf. BMVBW 2000: 11).

The real transport development, however, stands in peculiar contrast to an integrated transport policy that has been pursued for more than ten years. The social actors, the individual modes of transportation, and not least of all the relevant ministries still seem to be far removed from a practice directed at integration and, for the most part, continue to follow their own individual, organisational or systemic logic. It is therefore hardly surprising that the goal of sustainable transport development pursued by integrated transport policy has not been achieved to date. Thus, the shift from so-called motorised individual transport (MIV) to public transport (ÖV), which has been demanded for decades, has not taken place. Instead, the number of registrations of private vehicles continues to increase, with cars also becoming larger, heavier and thus more energy-intensive (cf. DIW 2014). Accordingly, CO_2 emissions also continue to rise (cf. UBA 2017). In view of the discrepancy between the aspirations and the reality of transport policy, the question arises as to the reasons for this unsatisfactory situation. How is it that a guiding principle that is socially widely accepted remains so ineffective?

In order to approach these questions, the *first* chapter begins with a political-economic contextualisation of transport, examining the significance of transport within the framework of capitalist socialisation.

The *second* chapter begins by discussing the function of social discourses and models. It is shown that they possess an independent significance alongside traditional explanatory variables such as political interests and social institutions. Following that, the establishment of the hegemonic discourse of integrated transport policy is retraced. On the one hand, it becomes clear that the guiding principle of integrated transport policy is by no means as new as it is often portrayed. Rather, it is part of a long historical tradition in the course of which the model has experienced a repeated renaissance without ever being implemented. Against the background of this "genealogy of failure", and in view of the current

discourse, the even more pressing question arises concerning the underlying causes. Furthermore, the strategic reorientation in the transport sector since the 1980s, from avoiding traffic to an integrative approach reveals a general paradigm shift in the discourse of sustainability. Whereas in the past the natural "limits to growth" were taken as a given, today the aim is a productive "growth of limits". The original sustainability strategy with the goal of reduced economic growth for the purpose of conserving natural resources has been replaced by the conviction that sustainability can be achieved through economic growth. Lastly, we show that the hegemonic discourse is in itself by no means coherent. Rather, it reveals a struggle for control over the power of social interpretation.

Following the discourse analysis, the *third* chapter presents an actor-centred analysis of the field of transport policy. Using the practical implementation of the Federal Transport Infrastructure Plan as an example, the statements on the objectives of integrated transport policy are first contrasted with actual developments. This reveals structural blockades which today continue to hinder even innovative concepts. Following this insight, we turn our attention to the institutionalised interests in the transport sector. Within the framework of a policy analysis, the actors in the field of transport policy are divided into five types. Measured against the guiding principle of integrated transport policy, one can distinguish a social, a technical, a political, an ecological and an economic integration strategy. These five ideal-typical strategies for action constitute central lines of conflict in the field of transport policy, although the field is dominated by the economic strategy of market integration. The results of the analysis are then recapitulated and the social function of the model of integrated transport policy is defined in more detail. Two levels can be distinguished: on the one hand, there is the formal level of the fuzzy model, which can be used by everyone due to its fundamental openness and indeterminacy, which explains its particular attractiveness. On the other hand, there is a substantial level of the guiding principle, where actors articulate their specific interests without reference to those of other actors. By bundling divergent interests in this way and aligning them with a supposedly common strategy, the guiding princi-

ple of integrated transport policy conceals conflicting interests and thus shuts down the necessary political debate about the appropriate strategy in transport policy. The discrepancy between the claims and reality of the model of an integrated transport policy is thus explained by its ideological function.

In the *fourth* chapter, using selected examples, the social consequences of German transport policy outlined above are presented in the context of the multi-tiered political system. To this end, to begin with, the national development of freight transport is examined, using the example of Deutsche Post AG. On the level of the Federal states, the results of joint regional planning in Berlin-Brandenburg are examined. At the local level, the projects financed by the Federal government within the framework of the research initiative "Mobility in Urban Areas" are examined with regard to their effects on transport. In each of these cases, an integrated transport policy with the goal of sustainable transport development was invoked at the outset. The contrast between aspiration and reality provides clues as to what causes the programmatic concepts to repeatedly fail the test of reality. A general problem seems to be that the existing, sometimes serious conflicts of interest are no longer thematised in the context of an integrated, consensus-oriented transport policy, which prevents a public debate about the different objectives. Behind the publicly staged consensus, however, the more powerful representatives of the different interests assert themselves. In light of this, the reality-aptitude of consensus-oriented transport policy has to be scrutinised. Lastly, European transport policy is discussed at the supranational level, which is becoming increasingly important for national transport policy. After an overview of the period from 1990 to the present day, the development of European freight transport, which has become a particularly pressing problem in recent years, especially due to the enlargement of the EU, is retraced by way of example.

The concluding *fifth* chapter follows on from the first and explores the question of how sustainable transport development can be shaped politically under the conditions of capitalist socialisation.

1. On the Political Economy of Transport

Transport is the most important subsystem of modern, highly mobile societies, which makes it all the more astonishing that the *grand seigneur* of systems theory, Niklas Luhmann, does not mention this subsystem at all. Possibly he was simply not interested in the topic, or perhaps Luhmann had an inkling of the difficulties he would run into with the transportation system. After all, transport is particularly difficult to delineate from other subsystems, such as the health, education, legal or economic systems. Rather, the transportation system is situated transverse to all other social subsystems; it constitutes their basis and is at the same time influenced by them.

Transport ensures the cohesion of modern capitalist societies and is in every respect vital for what Luhmann calls compatibility or connectivity (*Anschlussfähigkeit*). In the field of transport studies, the term "forced mobility" has thus acquired wide currency (cf. Linder et al. 1975). However, using the terms "transport" and "mobility" as synonymous points to a conceptual ambiguity that is still prevalent today. For forced *mobility* is usually used to describe people being forced to use cars due to a lack of alternatives, but it actually refers to being forced to use a certain form of *transport* (cf. Wittwer 2014). Precision thus requires us to speak in terms of the forced use of cars as a means of transportation. Therefore, a conceptual distinction should be made between transport as physical movement, which is reflected in the use of space, and mobility as potential mobility, which is measured by the range of opportunities for social participation (cf. Schwedes et al. 2018). A person who is dependent on commuting a hundred kilometres to work every day in their own car is

then no more mobile than someone who walks to work in a town or city. The former could even be a low-income earner who sets out day after day for one or more mini-jobs and whose income permits only very limited participation in society. By contrast, the latter could possibly be a young, well-educated city dweller who has well-paid job nearby that in turn allows him to take full advantage of increasingly expensive urban life. In this juxtaposition, we see a significant divergence between transport and mobility: while the commuter generates a high volume of (car) traffic, but as a result achieves only a low level of social participation and is thus only marginally mobile, in the case of the *flâneur*, the volume of (foot)traffic remains extremely limited, while at the same time the person in question is very mobile because he or she has a wide range of potential opportunities for social participation. Between these two extremes, there is a multitude of very different configurations of the relationship between transport and mobility, culminating in the case where both are aligned and the degree of social participation correlates directly with the volume of traffic.

All of this can be adequately described in Luhmann's terms without, however, understanding why in modern, highly mobile societies social participation is increasingly bound to a growing volume of traffic. To do so, it is necessary to take into account the tight interconnections of the transportation system with the other social subsystems mentioned at the beginning, in which the coupling of the economy and transport plays an especially prominent role. Transport is the medium of capitalist socialisation – a mode of socialisation which, for the first time in human history, is characterised by constant change: "The bourgeoisie cannot exist without continually revolutionising the instruments of production, thereby the relations of production, and with them the whole relations of society. Conservation of the old modes of production in unaltered form was, on the contrary, the first condition of existence for all earlier industrial classes. Constant revolutionizing of production, the uninterrupted disruption of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones" (Marx & Engels 1955 12f.).

Starting with transport, which sets all other social subsystems in oscillation, the specific developmental dynamics of capitalist societies become apparent. If Luhmann had turned his attention to the transportation system, it would inevitably have led him to consider modern capitalist society. However, the idea of a society as capitalist seemed to him overloaded with presuppositions. However, it is precisely these presuppositions that have to be understood by those who wish to be capable of political action.

The transportation system cannot be conceived as a social subsystem; rather, it constitutes the basic framework of capitalist societies. Transport permeates capitalist societies and is the lubricant of an increasingly volatile modernity (Baumann 2003). However, this does not explain the insight into the central importance of transport for capitalist socialisation, i.e. physical movement in space and time. As self-evident as transport and traffic may seem to us in everyday life, they cannot be explained on their own. Rather, the question arises as to why there has been a constantly increasing volume of traffic for around two hundred years of capitalist development. Why is social participation, i.e. individual mobility, increasingly tied to spatial movement? Transport is a passive medium that makes it possible to get from A to B. But what are the reasons why the distances to be covered between A and B are becoming ever greater? What are the driving forces that have led to an ever-increasing and ongoing growth in traffic?

The political forces that shape the development of transport presuppose an understanding of the functional significance of transport within the framework of capitalist socialisation. Due to the obviously tight interconnection between the capitalist mode of production and the development of transport – which is expressed in particular in the fact that economic growth has always gone hand in hand with growth in transport up to the present day – we will begin by retracing this complex interplay. Once that is done, the possibilities and limits of influencing transportation policy can be adequately assessed and, if required, appropriate strategies for action can be put forward.

The capitalist mode of production is characterised by five features, which are presented individually in the following section, after which

they are brought together and subjected to an examination in the light of integration: Division of labour, growth, competition, acceleration and alienation.

1.1 Division of Labour

The precondition of the capitalist mode of production is the division of labour (cf. Marx 1989c: 341ff.). The social phenomenon of the division of labour was first described by the Scottish economist Adam Smith in his 1776 work "The Wealth of Nations". There he shows how a huge increase in productivity is achieved by breaking down production into small individual steps, each of which is carried out by different workers. Smith demonstrates the amazing effects with the much-cited and still impressive example of pin production:

> "A workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire; another straights it; a third cuts it; a fourth points it; a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business; to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them. I have seen a small manufactory of this kind, where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and there-

> fore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day… roughly forty-eight thousand pins… But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each of them have made twenty, perhaps not one pin in a day" (Smith 2000: 4f.).

What fascinated Smith and his contemporaries about the division of labour was the "immense accumulation of commodities" (Marx 2018: 27). that it enabled, which became possible to an unprecedented extent and by means of which societal wealth increased exponentially within a very short time. This material wealth before one's eyes still constitutes a key motivation for people to press ahead with differentiation in the division of labour, and its allure still grips ever larger parts of the world's population today, as it did on the first day.

Since then, following the accelerated differentiation in the division of labour, a spatial differentiation has also taken place. The division of labour under one roof, in a factory, expanded further and further, initially across the large industrial sites, which required extensive inner-company forms of transport, to the global division of labour with worldwide production sites, which are now connected to each other by international logistics networks extending over several thousand kilometres. Until a few years ago the prevailing view was that production in the service sector would largely detach itself from spatial structures, since exchange would take place predominantly via communication networks, with global financial transactions being repeatedly cited as an example. Newer location theory, however, is referring back to the insights of the classics (cf. Beyers & Fowler 2013). The hope that the new information technologies would make transportation superfluous and thus help to prevent the negative effects of transport development has not been fulfilled since the invention of the telegraph in the 19th century. On the con-

trary, since then there has been an ostensibly unstoppable growth in traffic in all regions of the world. [1]

In the mid-19th century Marx and Engels had already prophetically foreseen this economically-driven development, which we have been calling globalisation only since the 1990s:

> "Modern industry has established the world-market, for which the discovery of America paved the way. This market has given an immense development to commerce, to navigation, to communication by land. This development has, in its time, reacted on the extension of industry; and in proportion as industry, commerce, navigation, railways extended, in the same proportion the bourgeoisie developed, increased its capital, and pushed into the background every class handed down from the Middle Ages. We see, therefore, how the modern bourgeoisie is itself the product of a long course of development, of a series of revolutions in the modes of production and of exchange. […]
>
> The need of a constantly expanding market for its products chases the bourgeoisie over the whole surface of the globe. It must nestle everywhere, settle everywhere, establish connexions everywhere. […] The bourgeoisie, by the rapid improvement of all instruments of production, by the immensely facilitated means of communication, draws all, even the most barbarian, nations into civilisation. The cheap prices of its commodities are the heavy artillery with which it which it batters down all Chinese walls, with which it forces the barbarians' intensely obstinate hatred of foreigners to capitulate. It compels all nations, on pain of extinction, to adopt the bourgeois mode of production; it compels them to introduce what it calls civilisation into their midst, i.e., to become bourgeois themselves. In a word, it creates a world after its own image" (Marx and Engels 1955: 12ff.).

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1 In light of this experience, the CORONA pandemic does not appear to be a guarantee for a disruptive change for the better. Rather, in this instance it also depends on what political consequences are drawn from it; on its own, working from home will not contribute to sustainable transport development.

In the meantime, countries such as China, India and the former Soviet Union, which for a long period had refused to be pressured by the world markets, have given in and are now considered the major 'emerging markets'.

In the course of differentiation in the division of labour, not only spatial but also functional differentiation occurred, a process described above all by the English sociologist Herbert Spencer (cf. Spencer 1876). Analogous to natural organisms, which, the larger they become, the more functions they develop (swimming, walking, seeing, hearing, etc.), Spencer regarded social development as an evolutionary process in the course of which ever more partial functions develop. Just as single-celled organisms have evolved into ever more complex living beings with multiple functions, Spencer understood the development of society as a steady, ongoing process of functional differentiation, starting with simple family groups and ending with ever more complex social structures. For our purposes here, the major social sub-areas of relevance are work, housing, leisure and finally transportation, which according to Spencer is synonymous with the blood circulation of the social body, with all the associated consequences:

> "If organisation consists in such a construction of the whole that its parts can carry on mutually dependent actions, then in proportion as organisation is slight, the parts must be comparatively independent of one another; while, conversely, along with high organisation must go a dependence of each part upon the rest that separation is fatal. This truth is equally well shown us in the individual organism and in the social organism. […] We cannot cut a mammal in two without causing immediate death. […] If in high societies the effect of mutilation is less, still it is great. […] Cut off the cotton district from Liverpool and other ports and there would come arrest of its industry followed by mortality of its people" (Spencer 1876: 504f.).

On this view, the transportation system is a functional component of modern societies and absolutely necessary, without any alternative, on pain of death. This lack of any alternative, based on evolutionary biology, remains the central point of criticism of Spencer's approach today.

As is the case with Luhmann, Spencer initially provided an adequate description of processes of social differentiation, but then summarily interpreted them as natural laws of motion without actually being able to explain them.

This was already recognised and heavily criticised by his contemporary, the French sociologist Émile Durkheim. Unlike Spencer, Durkheim did not understand the organisation of higher societies as a natural process of functional differentiation, but as a distinctly social, man-made phenomenon (cf. Durkheim 1984: 314ff.). With social differentiation, Durkheim identifies, in addition to spatial and functional differentiation, a further consequence of socialisation based on the division of labour, which is revealing for the understanding of transport in capitalist societies. For he describes in detail how people's socio-moral relationships change and he identifies the beginnings of individual emancipation in the demarcation from the traditional family unit:

> "In these conditions the individual is fixed to his native heath by bonds that attach him to it, and also because he is rejected elsewhere. [...] On the other hand, as the demarcation lines separating the different segments disappear, the equilibrium is inevitably broken. Since individuals are no longer restricted to their place of origin and free space is opened up, attracting them, they cannot fail to spread out over it. Children no longer remain irrevocably attached to the locality of their parents but set off in all directions to seek their fortune. Populations mingle together and it is this that finally causes their original differences to disappear. [...] The greater mobility of social units that these phenomena of migration assume effects a weakening of all traditions" (Durkheim 2013: 229f.).

The dissolution of traditional family ties, which Durkheim identified early on, has now progressed so far that we no longer speak of *the* family, neither in the sense of the extended family comprising several generations in Durkheim's time nor the classic nuclear family of the post-war period, consisting of mother, father and child. Rather, today we experience a majority of very different forms of cohabitation, including single parents, people who live alone, and singles. These outcomes of social

differentiation have far-reaching consequences for the development of transport. While the extended family was still able to 'pool' transport by, for example, making one shopping trip for all family members, today every individual household makes the same trip alone. The growing importance of transport for modern capitalist societies becomes even clearer in the case of people living alone who, like singles, find it important to have their own household, but at the same time enter into a close relationship with another person ('living together apart'). In addition to maintaining their own household, single people in a relationship thus have to make additional trips in order to meet up. Depending on whether one lives in the same city, in another city or even in another country, this can mean covering very long distances, necessarily entailing a large amount of traffic. Finally, there are divorced families with children, where, unlike in the past, both parents want to assume care of the children. In this case, more and more often the children commute by train or by plane between the two parental households, accompanied by an escort. If we view it as a social achievement that divorced couples can now maintain social contact with their children even over great distances, this simultaneously makes clear the profound changes in the organisation of society that would be required in order to achieve sustainable transport development, the goal of which is to reduce traffic.

With his study of the social division of labour, Emile Durkheim explicitly opposed the economists of his time who, since Adam Smith, had identified increase in productivity as the essential driving force behind the division of labour (Durkheim: 2013). In contrast, Durkheim argues exactly the opposite and locates the cause of the division of labour not in the sphere of production, but in reproduction. He argues that the growing population density forces the division of labour in order to ensure survival and that the associated increase in productivity is only a consequence, but not a cause. At the outset, we find the desire of more and more people to live together: "We co-operate because we have wished to do so, but our voluntary co-operation creates for us duties that we have not desired (ibid.: 161)."

Durkheim is concerned with understanding human actions not as a reaction to economic demands, but as an expression of proactive social-

isation. He wants to show that people consciously decide in favour of the way they live together and organise themselves accordingly. Increased productivity helps them to accomplish this.

> "We see how different our view of the division of labour appears from that of the economists. For them it consists essentially in producing more. For us this greater productivity is merely a necessary consequence, an aftereffect of the phenomenon. If we specialize it is not so as to produce more, but to enable us to live in the new conditions of existence created for us (ibid.: 215)".

With his brusque rejection of economic insights, Durkheim wanted to show that people are free to shape their social coexistence. In the process, however, the dynamics of economic development of capitalist socialisation were largely lost from view. This perspective, which is sociological in the narrower sense, has been pursued by more recent social science research on mobility since the 1990s (cf. Scheiner 2009). As a result, systematic research has been conducted into the supposedly individual causes of transport behaviour. Following on from this, strategies were developed to reach people on a personal level, in order to influence individual behaviour in a direction conducive to sustainable transport development (cf. Schwedes et al. 2017). A system-theoretical variant of sociological observation of transport comes to the conclusion that transport is a self-referential system that creates the conditions of its own successful growth (cf. Rammler 2001: 179ff.).

The current sociology of transport largely ignores the political conditions of transport (cf. Urry 2007). In contrast to this one-sided narrowing of sociological description, restricted to supposedly free human behaviour, interpreted as self-regulated modes of action, what follows here is intended to reintroduce the political-economic dimension of capitalist socialisation. As Durkheim correctly sensed, this introduces an aspect of coercion – the coercion of growth.

1.2 Growth

The fascination with differentiation in the division of labour resulted from the increase in productivity and the resulting dynamics of economic growth, initiated on this scale for the first time. Never before in human history had growth rates of more than one percent been achieved; only the relentless pursuit of the division of labour in capitalist production opened up new potential for growth (cf. Maddison 2001, Piketty 2017).

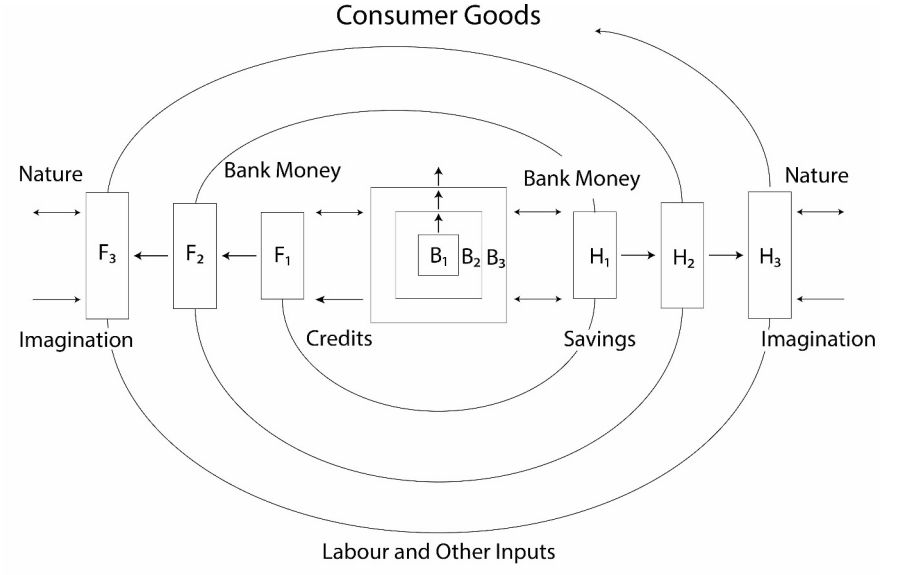
As a result, material wealth in capitalist societies increased enormously within a very short period, from which all social strata benefited, albeit to varying degrees. The qualitative change through the constant expansion of the social division of labour and the associated social reorganisation resulted in the quantitative phenomenon of ever-increasing economic growth. However, within the framework of the capitalist mode of production, the end-means relationship was reversed: economic production was increasingly transformed from a means for the satisfaction of needs to an end in itself. To the extent that private corporate decisions are oriented towards increasing profits, the growth paradigm becomes the overriding principle. In this process, individual capitalists feel compelled to expand production with the aim of increasing profit and, in this way, to increase the value of their own capital stock in order to win out against competitors in the market. The subjective compulsion to grow is an objective compulsion to grow – the capital embodied by the capitalist becomes an "automatic subject" (Marx 2004: 255).

The economist Hans Christoph Binswanger (2006) has vividly described this mechanism with regard to current production and consumption processes as a growth spiral (cf. Fig. 1). On this view, companies (U1) increase their capital input with the help of growing investments. To do so, they make use of loans from banks (B1), which in turn increase their credit and money supply. Households (H1) are paid for their work and in turn use their rising incomes for increased consumption expenditure or deposit them as savings in the bank.

On the one hand, there is an exchange with nature on the part of companies (production) as well as on the part of households (consump-

tion), in that natural resources are exchanged in production as well as in consumption. The capitalist mode of production is thus always part of the natural metabolism. In addition, production and consumption are fed by the human imagination, where companies come up with new products and households constantly develop new needs. Thus, the capitalist mode of production is also always an expression of the powers of the human imagination.

Figure 1. The Spiral of Growth in Capitalism



H = Households
F = Firms
B = Banks (Central & Commercial)

F_1 --> F_2 --> F_3 = Increase in Capital (investments)
H_1 --> H_2 --> H_3 = Increase in Purchasing Power (increase in income)
B_1 --> B_2 --> B_3 = Increase in the Credit and Money Supply

Source: Own presentation, based on Binswanger 2006: 306

This process continues steadily up an ever higher stepladder:

> "The process of investment and capitalisation, and with it the growth of production, must continue if the process of growth is not to turn into a process of contraction, because the goods that are produced today will come onto the market tomorrow. However, they can only be sold at a profit if investments are made again today, i.e. the capital input continues to increase. Growth requires further growth. There is no end to the growth spiral".

Growth in transport and traffic is tightly linked to economic growth: the more goods are produced, the more goods have to be transported. In addition, the ongoing differentiation in the division of labour leads companies to outsource ever more steps in the production process and transfer them to companies at other locations. The spatial expansion associated with this in turn requires an ever-increasing volume of transport and traffic in order to reintegrate the individual production locations. Ultimately, individual patterns of consumption combined with the new information and communication technologies mean that there is less and less pooling of forms of transport. Thus, contrary to expectations, shopping on the Internet does not reduce traffic, but rather each product is now delivered individually, so that it is not uncommon for the same residence to receive several deliveries from different postal service providers in the course of a day. Here the circle of production and consumption growth closes and the growth spiral begins, resulting in persistently increasing traffic caused by economic activity. The tight coupling of economic and transport growth means that the efficiency gains in the transport sector achieved through technical innovations, for example through fuel-efficient engines, have been repeatedly eroded by growth in traffic and to a degree even cancelled out. This is why transport is the only sector today in which CO_2 emissions continue to rise (cf. EEA 2017). To the extent that transport growth is necessarily coupled to economic growth, the structural interplay of economic and transport growth continually feeds on itself; it knows no immanent limits. Only external barriers can lead to a questioning of the capitalist production system, which is geared towards limitless growth. Karl Marx had already identified the two fun-

damental limits of the capitalist economy – nature and man (cf. Marx 2004: 648ff..

With a transport system that is more than 90 percent dependent on oil, the finite nature of fossil fuels constitutes a natural limit. In addition, changing human needs could contribute to questioning the 'growth mania' and to encouragement of sustainable transport development (cf. Altvater 2016). In both cases, in light of the natural as well as the social limits, a political decision has to be made – one way or the other.

1.3 Competition

The primary goal of the capitalist mode of production is capital accumulation. The exploitation of value as an end in itself, economic growth for growth's sake, which necessarily goes hand in hand with growth in transport. The modus operandi of capitalist market integration is competition, of which the essential function consists in permanent dynamisation of the market. In this process, individual, private capital owners are in constant competition with each other and seek to prevail in the market by driving out competitors. Due to the unrestricted nature of the capitalist mode of production, private actors in the market are relentlessly driven to make new profitable investments in order to expand their own position of power in the market. Faced with the threat of being squeezed out of the market, humbly taking a back seat is not an option!

Boundless competition is inherently contradictory. On the one hand, by forcing the players in the market to increase their competitive advantage over their rivals through new product ideas, potential for innovation is repeatedly unleashed. On the other hand, dynamic competition repeatedly provokes crises, for example through competitors driving each other into a ruinous competitive struggle. These two dimensions – innovation and crisis – seem to be constitutive of competition in capitalism and were canonised by the economist Josef Alois Schumpeter as a process of creative destruction (cf. Schumpeter 2003: 81ff.).

In addition to the positive force released by competition when weak competitors are forced out of the market, Friedrich Engels had already

recognised the tendency towards monopoly formation as a further development. For when companies, due to their economic success, force out or even take over competitors through economies of scale, "freedom of competition changes into its very opposite, into monopoly" (Marx 1889a: 317f.).

In the transport markets, this concentration process can be observed equally well in all modes of transport. In rail transport there are now only three suppliers worldwide: Alstom, Bombardier and Siemens.[2] In the automotive industry, too, only three companies are fighting for market leadership (Volkswagen, Toyota and Renault-Nissan[3]). In the premium brand segment, there are only three German companies (BMW, Daimler and Audi). As has recently become clear in the case of the German automotive industry, and in particular the Volkswagen group, this leads to the formation of power cartels, consisting of policy-makers, business and – what is often overlooked – trade unions. Due to the concentrated market power and the resulting economic importance for Germany as a business location, policy-makers and trade unions have for many years formed a phalanx with the automotive industry in order to defend it against its global competitors (cf. Schwedes et al. 2015).

Due to the special structural interplay between the economy and transport, transport policy is influenced to a considerable degree by the interests of the transport industry. In the process, the common good, which politicians are supposed to represent, competes with the interests of economic growth and regularly takes a back seat. This results in a radical discrepancy between political aspirations and real transport development, a discrepancy more pronounced in transport policy than in most other policy fields.

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2 Bombardier and Siemens sought to merge. At the same time, the two Chinese state-owned railway companies recently merged to form the *China Railway Rolling Stock Corporation* (CRRC), thus creating the world's largest rail provider, by far.

3 In order to keep up, the French parent company Peugeot (PSA) and Fiat Chrysler (FCA) merged in early 2021, forming the major group Stellantis.

1.4 Acceleration

The capitalist economy, organised on the basis of the division of labour, is oriented towards permanent growth, whereby production and consumption are bound together, circulating in a close, reciprocally-fuelled exchange relationship (cf. Figure 1). Karl Marx treats the sphere of circulation in the second volume of *Capital*, dealing mainly with the abstract exchange of commodities, paying scant attention to the concrete details of transport (cf. Marx 2010). Marx shows there that the value of a commodity is only realised at the moment of its consumption, when it guarantees profit. By accelerating circulation from production to consumption, the result is an accelerated accumulation of profit. Under the conditions of competition, where the private owners of capital encounter each other as competitors for shares of the market, everyone therefore strives to accelerate circulation in order to increase the rate of turnover of capital and thus their own rate of profit (cf. Rosdolsky 1977: 334ff.). The goal is the ever-faster turnover of production to maximise profit. Those who manage to speed up production and thus profit faster than their competitors have a market advantage – they can reinvest faster and increase the scale of production.

In order to achieve the desired goal of expanded production, the circulation of the entire process of production – starting with production and continuing through distribution and exchange to consumption – must be constantly optimised. The transportation system plays a central role in this:

> "Within each process of production, a great role is played by the change of location of the subject of labour and the required instruments of labour and labour power […] The transition of the finished product as finished goods from one independent place of production to another located at a distance shows the same phenomenon, only on a larger scale. The transport of the products from one productive establishment to another is furthermore followed by the passage of the finished products from the sphere of production to that of

> consumption. The product is not ready for consumption until it has completed these movements." (Marx 1889d: 154).

The subjective drive of individual actors in the market to constantly accelerate circulation through the further development of transportation systems with the aim of maximising profit in order to survive against competitors has its basis in the compulsion to growth immanent in the capitalist production system. Given that the mode of competition encourages competitors to accelerate the circulation of goods by developing innovative transportation systems (in Binswanger's case, this is achieved by the human imagination, see Fig. 1), the development leads to accelerated economic growth. Economic growth in turn leads to the need to develop more efficient transportation systems able to move more goods in the same amount of time. Ultimately, the social division of labour and the various processes of differentiation outlined above result in ever longer distances, which must be covered ever more rapidly if no time is to be lost and the growth dynamic thus not allowed to slacken. In this way, the growth spiral creates a gravitational field that draws in more and more objects.

1.5 Alienation

Under the conditions of capitalist socialisation, the relationship between the economy and transport turns out to be a self-referential, structural interplay (*Wirkgefüge*), the primary goal of which consists in endlessly increasing the material wealth of society. For this purpose, two external systems are incorporated into the capitalist process of valorisation: nature and man. This constellation is characterised by two fundamental lines of conflict. Firstly, a limitless growth process encounters the finiteness of natural resources. The inherent logic of natural conditions is thereby negated and natural resources are exploited far beyond their capacity to regenerate. Secondly, the capitalist logic of exploitation encounters human specificity – or in the words of Marx, the generic nature of man: "The human being is in the most

literal sense a *zôon politikon*: not merely a social animal, but an animal that can individuate itself only in the midst of society" (Marx 1989b: 18). Humans are the only living beings that have the ability, and now also the material basis, to organise their coexistence in a self-determined way. However, to the extent that the capitalist system of valorisation subjects people to the paradigm of growth, they become disempowered. Under the conditions of capitalist socialisation, people determine neither the degree nor the purpose of growth – growth is an end in itself. People no longer produce in order to live, they live in order to produce, without being able to influence the goals of the privately organised production process.

Through the incorporation of nature and people into the capitalist valorisation process, a double alienation thus takes place. The relationship of alienation is then directly transferred to the transport system due to the tight coupling of economic and transport growth. All forecasts assume that the volume of traffic will continue to grow in the coming years and that this will involve a corresponding increase in the consumption of natural resources. While the development of transport is oriented towards the requirements of a highly differentiated process of production that is increasingly dependent on global value chains, people's mobility needs are largely disregarded or even hampered. For example, people, especially those in the lower income brackets, are increasingly forced to commute ever greater distances to get to work (cf. Haas 2013).[4] Health insurance companies have been reporting on the negative health consequences of years of commuting and the associated social costs for many years. In addition, the lower income groups in particular have to spend

4 The commuter study by the Federal Institute for Research on Building, Urban Affairs and Spatial Development concludes that in 2015, for the first time, 60% of employed persons subject to social insurance contributions were forced to commute to work beyond the boundaries of their own municipality, compared to 53% in 2000. The average length of the one-way commute has also increased in recent years: from 14.6 kilometres in 2015 to 16.8 kilometres in 2020. Lastly, the number of long-distance commuters with a one-way commute of more than 150 kilometres has also increased since the turn of the millennium: from 1 million to 1.3 million (cf. BBSR 2017).

a relatively large proportion of their household income on mobility in order to ensure social participation. More and more often, they are dependent on a private car, the upkeep of which constitutes an additional financial burden (cf. Daubitz & Schwedes 2021). The individual decision to work fifty kilometres from home appears to be a free choice, just like the decision to use a private car, but is in fact imposed on them within the framework of capitalist socialisation. People's alienation manifests itself in the fact that they are caught up in a peculiar conflict of priorities between freedom and coercion in their choice of location and transportation behaviour (cf. Schwedes 2013a).

The descriptions of individual behavioural motives apply in equal measure to collective strategies for action in the field of transport policy. Here, too, the historical retrospective reveals a genealogy of failure that can be traced back to the beginnings of the claims to validity made by transport policy in the 1920s and continues to this day (cf. Schwedes 2019). This discrepancy between the aspirations of transport policy and actual transport development can be understood as an expression of the degree of alienation in this policy field, since it shows that self-determined socialisation in fact plays a minor role and thus fails to accord with our generic nature as political beings. Instead, the political goals of an integrated transport system in which all actors cooperate with each other in order to link the various means of transportation in a sensible fashion are regularly thwarted by competition-based negative market integration.

The social phenomenon of alienation in the Marxian sense constitutes the starting point of the present study of transportation policy. In what follows, alienation serves as a key concept of a critical theory of politics (cf. Sörensen 2016). Its concern is to clarify the relations of power and domination in the field of transport policy and thus to expand the possibilities for political action.

1.6 The Consequences of Alienation in Transport Policy

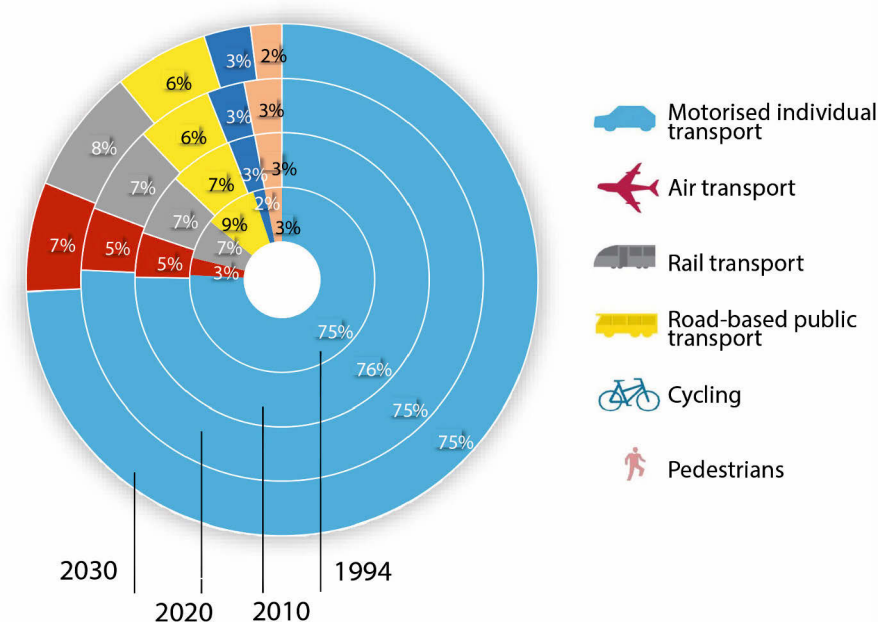
An alienated transport policy is characterised by the fact that it is not designed by people for people, but is instead implemented in accordance with systemic imperatives. This can be demonstrated concretely by the financing of public transport. Here, there has long been a consensus in transport policy that public transport should be placed on an equal financial footing with private automobile transport, albeit at different starting levels; if one gets something, the other should also get something – so-called parallel financing. All actors in transport policy have been able to agree on this to date, because they all benefit from it. Even the ADAC (German Automobile Club) has always spoken out in favour of financial support for public transport, because this would relieve congestion on the roads for its own clientele. Only recently, it again noted with satisfaction that the Federal government is investing both in the expansion of congested motorway routes and, in parallel, in the expansion or new construction of important axes of the rail network: both said to be in the interest of consumers (cf. Mortsiefer 2019).

With this in mind, in the mid-1990s there was another major political effort to save public transport, which was once again in crisis. While the Federal government carried out a reform of the railways, responsibility for local public transport was transferred to the individual Federal states. This involved enormous funding agreements to upgrade the aging regional public transport system. Between 1994 and 2018, around 172 billion euros were spent on this. In the same period, the performance of the system increased by 36 percent and passenger numbers rose by as much as 56 percent. A success story!

But this is only half the truth: as soon as one looks beyond the horizon of public transport and examines the entire transportation system, public transport appears in a different light (cf. Figure 2). According to these figures, the ratio of transport performance between private automobile transport and public transport has been stagnating for twenty-five years. And, according to the Federal government's forecasts, up to the year 2030 no change is expected. It follows that, measured against the government's own political claims to promote public transport with

billions in subsidies in order to support economically efficient, socially equitable and ecologically viable transport development, this cannot be described as a success story.

Figure 2. Proportionate Transport Performance of Modes of Transport According to Passenger Kilometres Travelled



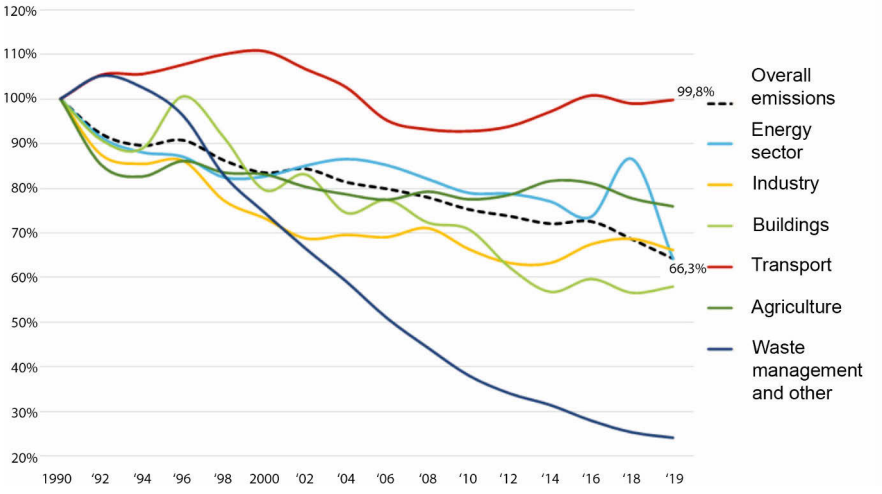
The unit of measurement passenger-kilometre (pkm) is calculated by multiplying the number of persons transported by the distance travelled in kilometres. *Source*: My own calculations, based on: Federal Ministry of Transport and Digital Infrastructure (BMVI), Verkehrsverflechtungsprognose 2030, Schlussbericht, 11.06.2014, www.bmvi.de/SharedDocs/DE/Anlage/G/ verkehrsverfechtungsprognose-2030-schlussbericht-los-3.pdf (16.11.2020); BMVI, Verkehr in Zahlen 2019/2020, September 2019, www.bmvi.de/ShareDocs/DE/Artikel/G/verkehr-in-zahlen_2020.html (15.05.2021).

The reason for this unsatisfactory situation is that the absolute volumes of traffic have grown continuously overall in recent decades, not only in public transport – and the trend is upwards. This, in turn, is due to the fact that not only public transport has received financial support, but also motorised private transport, again in the name of parallel financing. According to an analysis by the Network of European Railways (NEE) based on public data, around 150 times more road kilometres have been constructed than rail kilometres since the railway reform in 1994 (cf. NEE 2019). While the German State invested 69 euros per capita in rail infrastructure in 2017, the figure was 362 euros in Switzerland, 187 euros in Austria and 183 euros in Sweden. As a result, transport performance has increased in absolute terms but without the shift in favour of public transport that has been a political goal for decades.

The absolute growth in traffic is also the reason why CO_2 emissions in the transport sector continue to rise. The German government's "2019 Projection Report" on CO_2 emissions confirmed that Germany would not only fall well short of its climate targets in 2020, but was also expected to exceed the agreed targets by ten percent in 2030 (cf. BMU 2019). The transport sector stands out in particular, as it is the only sector that is not expected to make a contribution to reductions by then (cf. Figure 3). Public transport contributes to the described growth spiral of transporting more and more people, faster and faster, over longer and longer distances, thus producing more and more traffic.

Measured against the political goal of sustainable transport development, public transport is not part of the solution as long as it remains within the framework of the growth spiral. On the contrary, it is forced to compete with private motorised transport and must compete for billions doled out via transport policy so that it can keep pace with the general growth in traffic. Public transport is like the hamster in its wheel, in constant motion without realising that it is not making any progress. Like the hamster, public transport itself is part of the problem!

Figure 3. Greenhouse Gas Emissions in Germany by Sector overall emissions/energy sector/industry/buildings/transport/agriculture/waste management and other



Source: My own calculations, based on: UBA (2020a): Greenhouse gas emissions since 1990 by gas. https://www.umweltbundesamt.de/sites/default/files/media/384/images/files/2_abb_thg-emissions-since-1990-by-gas_2020.pdf (16.11.2020); UBA (2020b): National trend tables for greenhouse gas emissions by sector of the Climate Protection Act 1990 to 2018. https://www.umweltbundesamt.de/data/climate/greenhouse-gas-emissions-in-germany#emissions-development-1990-to-2018 (15.05.2021).

The basic insight of transport research is that it is not enough to invest more and more money in public transport in order to establish it as an attractive alternative to the car. Rather, transport policy must do its job and make a political decision in *favour* of public transport and at the same time *against* automobile traffic. For example, perverse tax incentives worth billions, such as the commuter allowance, the company car privilege and the tax on diesel fuel – to name only the most important ones – could be withheld from private car transport and transferred to public transport (cf. UBA 2016a). With these three measures alone, transport policy would have around fifteen billion euros available every year

to invest in public transport and, of course, in cycling. In other words, a rail line between Berlin and Munich could be built, every year, with five billion euros left over for bicycle traffic. After ten years, Germany would have a railway system like Switzerland's and cycling infrastructure similar to the Netherlands.

By abandoning parallel financing, transport policy would break with the growth spiral, which we can no longer afford if the goal is sustainable transport development. Readjusting the systems of financial incentives is likely to bring about a change in people's mobility behaviour. Only in this new regulatory environment of a transport policy that is no longer alienated and, instead, people-oriented, could public transport also change from being part of the problem to part of the solution and make a positive contribution to a strategy of sustainable transport development.

1.7 The Structural Interplay between the Economy and Transport

The genesis of transport is intimately linked to the capitalist mode of production. An investigation of the transport system must therefore begin with the structural interplay of the economy and transport. The unique selling point of the transport system compared to all other social subsystems is undoubtedly its central importance in linking production and consumption, which in the course of the differentiation in the division of labour move ever further apart, spatially, and are reconnected via the sphere of circulation. In this process, the capitalist mode of production aimed at unlimited growth is dependent on an ever more efficient transport system that ensures the circulation of ever more goods, over ever greater distances, in an ever shorter time span. In this way, on the one hand, transport provides support for expansive development on a global scale, which translates into fragmented structures of production and consumption worldwide. On the other hand, it is transport that reconnects the individual parts into a functioning, integral system. Or in the words of transport sociologist Stephan Rammler: "Transport is

what holds modern society together and at the same time drives it apart" (Rammler 2014: 29).

Political-economic analysis has shown, however, that only the first part of the statement is correct: as a medium of the sphere of circulation, transport keeps the finely woven network of the global production regime alive. However, transport seems to run after the dynamics of economic development; it is not the driver, but is itself driven by the logic of capitalist production. This insight has been lost in the course of the sociologisation of transport studies in the last twenty years, as a reaction to the – rightly criticised – one-sided economic orientation. Since then, people's behaviour in modern, highly mobile societies has been studied with particular attention devoted to the individual fascination with the automobile (cf. Canzler 2016). By largely ignoring social power relations, this narrow sociological focus has contributed to a de-politicisation of transport policy (cf. Schwedes 2013b). By contrast, Max Horkheimer's (1939) modified dictum applies in this field: if you don't want to discuss capitalism, you should keep quiet about transport! Conversely, this means: those who condemn the negative consequences of transport development must deal with capitalism!

The transportation system follows the Olympic ideals of 'higher, further, faster' and translates them into more traffic over ever greater distances in ever less time. Our everyday mobility behaviour is thus the product of a lifestyle that is imposed on us by a supposedly natural process of market integration based on the division of labour, oriented towards economic growth and mediated by competition. At this point I am deliberately talking in terms of *imposed* transport because the question arises as to who, for example, wants to travel ever greater distances as a commuter? Who still wants to *have* to afford a private car? Who still wants most public urban space to be occupied by stationary vehicles, which exclude other uses? After all, these and other questions concerning our everyday lifestyle are being raised more and more frequently.

The crisis affecting the Olympic Games, which has been latent for many years and has manifested itself in the recent doping incidents, can also be seen as symptomatic of the transport system. However, just as

in the case of the crisis of the Olympic ideals, it has not yet been understood that there is an underlying systemic cause and not a scandal, as is always claimed. Doping is only the expression of the fact that the Olympic ideals have lost all sense of human scale. For it is well known that we have reached physiological limits that prevent a further increase in physical performance through training alone. And the tragic thing, in the Greek sense, is human scale cannot be restored if we continue to instrumentalise people in the service of ideals that are increasingly alien to them (health, etc.). This strategy would require further technical refinement and would result in increasing alienation – self-optimisation as alienation. For with doping, one is no longer self-determined; rather, one transforms one's body into a powerful catapult whose range far exceeds its natural limits.

In this respect, I see a direct analogy with the transport system: here, too, we can continue to drive the current spiral of growth and acceleration through technical innovations. Integrated transport systems as the anabolic agents of a lifestyle of ever higher, further and faster! Is this the goal and if not, what is the alternative?

This question is taken up again in the final chapter. How can we put an end to alienation in the field of transport policy – which takes the form of a profound discrepancy between the aspirations of sustainable transport development in transport policy on the one hand and the real transport development on the other -, in order to (re)gain the power to shape transport policy? To be able to answer this question, however, it is necessary to have an adequate understanding of the field of transport policy and its specific constitution. Accordingly, the field of transport policy will first be explored from different perspectives.

2. Discourse Analysis of the Objectives of Transport Policy

While traditionally conservative German political science has thus far examined public institutions and activities from the perspective of the state, the 'linguistic turn' has now also arrived in the field and the influence of language in the framework of political decision-making processes is receiving increasing attention. Before demonstrating this within the field of transport policy, I will first discuss some fundamental insights and present my own analytical approach.

2.1 On the Importance of Discourses and Guiding Principles for Processes of Social Development

In the context of social science research, discourse analysis has received increasing attention in recent years (cf. Keller et al. 2011). For policy research, Vivien A. Schmidt had already drawn attention to the special importance of discourses in establishing strategies to reform the welfare state (cf. Schmidt 2000; also Schneider & Janning 2006). As she sees it, social reforms can be explained neither solely by the diverging constellations of interests of the social actors involved nor by the institutionally hardened strongholds of opinion. Rather, she shows that beyond this, 'discourse matters': "Countries managed more or less successfully their adjustment to the external economic pressures beginning in the 1970s not only because of their greater or lesser economic vulnerabilities, their greater or lesser institutional capacities, and their better or worse policy

responses, but also because of their more or less convincing legitimising discourses" (Schmidt 2000: 309).

Discursive practices are obviously characterised by their own logic, which is not restricted to the ensemble of political interests and institutionally consolidated, dominant opinions (cf. Beckert 2016). A superficial examination of the glaring discrepancy between the aspirations of the discursively conveyed model of an integrated transport policy and the actual development of transport policy makes this appear obvious, at least initially. At the same time, it would be wrong to assume a complete decoupling of discursive practices and concrete social development. Instead, following the model of "critical discourse analysis", [1] it is assumed here that, like material social structures, discourses involve social relations and they therefore have to be re-appropriated over and over again. The appropriation of material relations without symbolic practice is, of course, just as inconceivable as a symbolic practice that is independent of the respective historically specific context. Material practice and semiotic practice are mutually dependent and must therefore always be analysed in their relationship to each other. "Describing discourse as social practice implies a dialectical relationship between a particular discursive event and the situation(s), institution(s) and social structure(s) which frame it. A dialectical relationship is a two-way relationship: the discursive event is shaped by situations, institutions and social structures, but it also shapes them" (Fairclough & Wodak 1997: 258).

2.1.1 Hegemony

By analysing the discourse of an integrated transport policy, the aim is to establish the connection between the discourse analysis and the concrete social relations as they are expressed in the specific interests of the respective social actors. Following the concept of hegemony developed

1 This Anglo-Saxon strand of theory is to be distinguished from the German "critical discourse analysis" (cf. Jäger 2015: 26ff.).

by Antonio Gramsci, who used it to analyse social fields "in which 'leadership' is contested" (Bollinger & Koivisto 2001: 1258), it is assumed that a hegemonic discourse is always already socially contested (cf. Kebir 1991). This means that a hegemonic discourse is fragile in several respects. For a start, when viewed from the outside, it becomes apparent that other subaltern discourses exist parallel to the dominant discourse. These can be formerly dominant discourse strands that have been supplanted by the current hegemonic discourse.

In addition to the ongoing existence of old discourse formations, new subaltern discourses can also exist parallel to the hegemonic discourse. Whether these develop power of definition or are swallowed up by the existing hegemonic discourse, or whether the old discourse formations possibly experience a renaissance, depends on the respective social power relations.

> "Hegemony thus means the temporary domination of a discourse through power, with the simultaneous existence of competing discourses, which are subordinated, creating a relationship of domination between the hegemonic and the non-hegemonic discourses. [...] Social consensus is thus always only a hegemonic determination, where certain positions are privileged over others" (Dingler 2003: 178 f.).

In this respect, the "discourse of the transport turnaround" [*Verkehrswende*] of the 1990s was at no point hegemonic. However, for a short time it attracted increased public attention and became quite effective by influencing the debates regarding transport policy in politics, in research and the economy.

The fragility of a hegemonic discourse, however, is not only evident in the above-mentioned external perspective. Viewed from within, a dominant discourse formation also exhibits an enduring unstable relationship. After all, the achievement of a hegemonic discourse consists precisely in reconciling different interests. However, this also means that the respective actors go on pursuing their divergent interests. Even if this occurs within the framework of the hegemonic discourse, there is constant movement at work and thus a permanent potential

destabilisation of the prevailing discourse formation. A hegemonic discourse can thus be described in two respects as a partially wide-ranging model of persuasion. Viewed from the outside, the hegemonic discourse extends to its boundaries, which are 'abraded' by other subaltern discourses. Viewed from the inside, the hegemony of the discourse extends to the divergent interests. The differences are minimalised through compromise solutions within the framework of the prevailing discourse formation, but they cannot be completely erased.

2.1.2 Guiding Principles (*Leitbilder*)

In connection with the formation of a hegemonic discourse, guiding principles, such as that of integrated transport policy, fulfil a special discursive function. Disparate, abstract, in short, confusing discourse constellations are tangibly condensed in the guiding principles, which facilitate a conceptualisation of the discourse, as it were. In this way, they can fulfil a number of very different tasks. Research into guiding principles distinguishes between the guiding (*Leit*) function and the image (*Bild*) function (Dierkes et al. 1992: 41 ff.). On the one hand, the guiding function has the task of collective projection. Starting from the horizon of people's everyday experience, a conceivable line of development is drawn that reaches beyond the feasible and is directed towards the horizon of a common aspiration. In addition, the guiding function fulfils the task of a *synchronous* pre-*adaptation*. In this process, individuals who have divergent horizons of experience are directed towards a common horizon of perception. "The various personal mechanisms of evaluation that result from the diversity of individual dispositions, the diversity of social positions and the specificity of the respective cultures of knowledge to which they belong are pre-synchronised" (ibid.: 46). Following this mental adjustment, a further function consists in the effect of the guiding image as a *functional equivalent.* Guiding principles thus function for different traditions of thought as a rough orientation grid in the establishment of a new scientific paradigm. They serve as a hinge, as it were, between the old, persistent patterns of thought and the new thought structures that have yet to emerge. Through this

reorientation, the old orientation routines fade away and make way for new prospects. "Metaphorically speaking, the longer the actors in the process of interference move around in the space of interference, the more they open up – on the level of communication – to unfamiliar and hitherto alien modes of argumentation and evidence, and on the level of individuation to unfamiliar directions of thinking and decision-making" (ibid.: 50).

In addition, the guiding principles also fulfil an image function. To a certain extent, this supports the abstract guiding functions described above through vivid image metaphors. By reducing the complexity of different cultures of knowledge to a single perspective, the image supports a core meaning held in common and has the effect on the participants of a *cognitive activator*. However, the image function not only influences people's thinking, but also moves them emotionally and in this way brings about *personal mobilisation* along with cognitive activation. Lastly, by bringing different people together by means of a pictorial metaphor, the image function fulfils the task of an *interpersonal stabiliser*. "Guiding principles bind people together who are bound together by nothing else; people who perhaps belong not only to different social milieus, but above all to different cultures of knowledge, whose perception, thinking and behaviour may therefore under certain circumstances not simply deviate, but follow downright opposing orientations; people who are neither bound to each other by external social constraints, nor attracted to each other by mutual sympathy" (ibid.: 57).

2.1.3 Critique of Ideology

Recent research on guiding principles has contributed to an understanding of the formal functioning of social guiding principles. By describing their functions in a factual manner, the research undoubtedly lives up to its own claim not to contribute to the idealisation of social conditions (cf. Dierkes et al. 1992: 58). However, by not taking into account the ideological function of guiding principles, it fails to critically question the discourse formations that these principles generate (cf. Adorno 1967). If the latter is the aim, then it is necessary to go beyond the reconstruc-

tion of the effects of guiding principles and to inquire into the interests of the social actors. For if guiding principles succeed in establishing a hegemonic discourse above and beyond diverging interests, social power relations and relations of domination are articulated in a specific way. "The task of ideology critique is thus not to confront norms with 'real' reality or to denounce the general dominating character of discourses, but rather to show how discourses contribute to the formation and unity of a historical bloc and thus to a specific collective way of life. The object of the critique is the specific form of the antagonistic social relations of volition that constitute reality, the specific historical, capitalist unity of being and consciousness and the collective forms of life" (Demirovic 1988: 71).

To that effect, the following chapter will carry out an ideology-critical reconstruction of the hegemonic discourse of integrated transport policy, based on certain theoretical-methodological premises (cf. Hirseland & Schneider 2003: 395f.). On the one hand, the discourse oriented towards the principles of an integrated transport policy is contextualised historically and socio-politically. Both through the historical genesis of the model of integrated transport policy as well as through its embedding in the current socio-political context, it becomes clear that this is a discourse formation that has always been contested. Furthermore, the ideology-critical analysis reveals an unspoken, latent level of meaning of the discourse of an integrated transport policy. Facilitated by the paradigm shift in the discourse of sustainability, a notion of sustainable transport development in the sense of sustainable transport *growth* has become established. In this way, integrated transport policy is implicitly reduced to a perspective of economic integration. Lastly, I adopt a perspective taken from the sociology of domination, with reference to the different interpretive strategies of various actors in the field of transport policy. I demonstrate the respective definitional power of the actors in articulating their specific interests.

2.2 The Talk of an Integrated Transport Policy

In the following, the insights of discourse theory are applied to the field of transport policy. A historical retrospective reveals a persistent discrepancy between the political objectives and actual transport development. In order to understand the reasons for this discrepancy between aspiration and reality, the most recent discourse of transport policy is then examined more closely. This shows that the objectives of transport policy are oriented towards the paradigm of economic growth, according to which sustainable transport development is to be achieved through sustainable transport growth. The guiding principle of an integrated transport policy in turn stands for sustainable transport growth.

2.2.1 A Historical Genealogy of Failure

The formation of the current hegemonic discourse of integrated transport policy goes back historically to the 1920s. From the time of its first appearance, the guiding principle has experienced several renaissances. Historically, the guiding principle of an integrated transport policy has always come to the fore when a climate in society as a whole emerged in which a fundamental reorganisation of the transport sector was deemed necessary. In each instance, the motives for the demand for such a reorganisation were quite different. When it first emerged in the 1920s, at a time when lorries were becoming increasingly widespread and beginning to compete with the railways, it was primarily economic reasons that seemed to speak in favour of an integrated transport policy. At the time, there was a widespread consensus that an increasingly fragmented transport system and the competition this sparked between the different modes of transport would lead to frictional losses, which in turn would have a negative impact on the entire national economy. This was exemplified in 1930 by the German Industry and Trade Conference, which came to the conclusion in its memorandum on the reorganisation of the German transport system that a nationwide integration of the modes of transport was necessary in order to promote efficient

economic performance in the sector: "Just as an organic cooperation between the railways (*Reichsbahn*) and the postal system (*Reichspost*) is necessary, a similar cooperation should also be sought between the two national administrations, the motor transport companies and the remaining licensed motor vehicle enterprises" (DIH 1930: 71). In addition to technical and economic integration, the idea of an integrated transport policy at the time also included the social, political and, to some extent, even the ecological dimension of the idea of integration, which meant that it already encompassed all five strategies of integration familiar to us today. Moreover, even back then the debate was not unique to Germany. The question of integration in the transport sector arose simultaneously in virtually all European countries and beyond. [2] Nevertheless, the implementation of the model of an integrated transport policy did not advance beyond the early stages. Despite individual attempts at cooperation between different modes of transport, which for a short time were also reflected in joint agreements, the momentum of economic competition ultimately reasserted itself, as a result of which the implementation of a cross-modal strategy of integration failed, due to individual economic interests.

After the guiding principle of integrated transport policy had been forgotten for some time, it experienced its first renaissance in the 1960s. This time, however, it was not economics that triggered the demand for a new orientation in transport policy. It is true that economic arguments for an integrated transport policy were again proposed. In addition, rudiments of ecological criticism of the development of motorised individual transport made themselves heard, the response to which was a push for greater integration of public transport. The dominant argument at the time, however, was a social one. [3] The main grievance

2 For the international debate, cf. for England (Sherrington 1929), Switzerland (ibid. 1929), the USA (Rudolphi 1929).

3 It is true that several of these arguments were consistently invoked concomitantly. For example, the criticism of motorised individual transport cited here as a socially motivated argument goes back to the beginnings of motorisation and also appeared as early as the 1920s. Here, however, our concern is to em-

concerned the displacement of people by the automobile, especially in urban areas. The debate was initiated in the early 1960s by the so-called Buchanan Report, which had been commissioned by the British Ministry of Transport. This was the first time the term "integrated policy" had been explicitly coined. The report was taken as an opportunity by many European countries to commission their own studies, and once again a Europe-wide discussion developed. In Germany, the discourse of an integrated transport policy became established with the study 'Municipal Transport Problems in the Federal Republic of Germany' (*Die kommunalen Verkehrsprobleme in der Bundesrepublik Deutschland*) by Josef Hollatz and Friedrich Tamms, which was published in 1965 and made explicit reference to the Buchanan Report. The study thematised the problem of essentially unregulated traffic development since the end of the Second World War. In cities in particular, it seemed, traffic was developing in line with private investment decisions, while the interests of the residents were literally being pushed aside. An integrated transport policy was meant to more closely correlate economic and social concerns, but once again competing economic interests prevailed and prevented the implementation of the model of an integrated transport policy.

The model did not experience a second renaissance until the beginning of the 1970s, when the social-liberal government coalition initiated a paradigm shift in transport policy with its *Course Book for Transport Policy*. This questioned the undifferentiated application of free-market principles to all areas of transport and instead formulated the aspiration to "resolve the growing conflicts between the satisfaction of social needs on the one hand and private interests on the other" (Bundesministerium: 11). Since private-sector profits can involve macroeconomic losses, the *Course Book* saw a need for balance in the transport sector at the macroeconomic level.

The political objectives of the *Course Book* were flanked academically by the expert report of the German Advisory Council on the Environ-

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phasize which *motives* determined the discourse on integrated transport policy at the time.

ment, entitled 'Auto und Umwelt' ('Automobile and Environment'), which appeared in the same year (cf. Nebelung & Meyer 1974). The explicit thematisation of the environment expresses the new ecological perspective, which increasingly shaped the discourse of an integrated transport policy. Like the *Course Book*, the report of the Advisory Council on the Environment presented a comprehensive analysis of the transport problem, in which transport policy was understood as a central component of social policy. The authors were convinced that transport development could not be viewed in isolation from other areas of society on which it has an effect or by which it is influenced. "Rather, the Council has to analyse the entire range of interactions between the individual motor vehicle and the sphere of human life, up to and including the regulatory and socio-political implications, which are documented, for example, in the economic interlinkages of the automobile industry and in the means used to advertise it" (ibid.: 57). Accordingly, the Advisory Council also saw the solution to transport problems in "integrated transport planning" (ibid.: 58). However, while the debate on reforming transport policy was still given special attention in the context of the oil crisis in the early 1970s, a fundamental change of mood set in once the energy crisis was overcome in the mid-1970s. From then on, the global recession also dominated strategic considerations in transport policy. In coping with the economic crisis, public authorities turned their attention to the economic significance of the automotive industry and aligned their policies with its interests. On the other hand, the far-reaching plans in favour of an integrated transport policy were not even rudimentarily implemented. "This demonstrates two things: first, how quickly approaches to genuine structural reforms have to be thrown overboard when, in the rollercoaster of economic cycles and crises in private commodity production, state policy has no other option than to protect jobs by unconditionally stimulating new private investments; second, it becomes clear how high the costs of such policies of accommodation are. Against our better judgement, short-term reactions have to be bought at the price of later follow-up costs, social and environmental problems as well as the needs of society as a whole have to take a back seat to the constraints of the profit-driven market economy"

(Linder et al. 1975: 65). In this way, despite the criticism of the problematic development of transport and the intermittent incorporation of integrated transport policy into the discourse, the principle of free-market competition reasserted itself and transport developed along the same lines as before.

2.2.2 Sustainable Development through Sustainable Growth

Following the recurrent failure to realise the guiding principle of an integrated transport policy, an initially conflict-laden debate on the ecological question in transport policy was ignited in the 1970s/80s. Following on from the 1972 report *The Limits to Growth* (Meadows & Meadows 1972) to the Club of Rome, which foregrounded the clash between continued economic growth and limited natural resources, the effects of economic and transport growth on natural resources were also addressed in the transport sector. "Political ecology" examined the question of to what extent it was conceivable to resolve the contradiction between economic and transport growth on the one hand and the protection of nature on the other – in the given socio-political framework with an economy committed to the logic of growth – and touched on fundamental questions of the boundaries of social systems.

By way of contrast, a paradigm shift took place at the end of the 1980s with the publication of the so-called Brundtland Report, "Our Common Future". Whereas previously natural resources had been identified as constituting the absolute limits to growth of the capitalist economy, the Brundtland Report brought about a fundamental change in perspective by interpreting the limits to growth as obstructions to modernisation in human development. Absolute limits tied to natural resources were no longer problematised; instead, relative limits were identified, dependent on the respective state of technological and social development.

> "The concept of sustainable development does imply limits – not absolute limits but limitations imposed on environmental resources by the present state of technology and social organisation [...]. But tech-

> nology and social organisation can both be managed and improved to make way for a new era of economic growth" (WCED 1987: 8).

This new perspective ultimately resulted in an equally new understanding of sustainable development. For if the limits to growth can be pushed aside by technological and social innovations, then in principle limitless economic growth is possible. Moreover, economic growth creates the very resources on the basis of which social progress in the sense mentioned above is possible at all. The formerly system-critical argumentation, which was fed by the recognition of "limits to growth", is inverted in the Brundtland Report into the system-immanent perspective of the "growth of limits". The core statement of the new discourse of sustainability can be reduced to the formula that sustainable development is synonymous with sustainable growth.

> "Economic growth is thus not part of the problem of the anthropogenic overexploitation of nature, as is argued in the discourse of political ecology, but rather part of the solution. Growth can thus be seen as a strategy for overcoming the ecological crisis. The adherence to the imperative of growth within the framework of a strategy of sustainable development can be assessed as the essential paradigm shift and fundamental discursive break from the earlier debate on sustainability and the discourse of political ecology, which was specifically initiated by the Brundtland Report" (Dingler 2003: 243).

This new strategy is still being pursued today within the framework of the Agenda 21 process initiated at the Rio Conference in 1992 (cf. BMU 1997). Here, in contrast to the Brundtland Report, in which poverty in developing countries was held responsible for the unsustainable use of resources, the problematic economic practices of the developed industrial nations take centre stage. However, it is not the growth imperative of these countries that is called into question, but rather their lack of efficiency is bewailed. Accordingly, it is not about restricting growth, but

rather modernising the economy in a way that is conducive to more efficient use of resources (cf. Görg & Brandt 2002; Tremmel 2003).[4]

> "It is increasingly recognised that production processes, technologies and management practices that use resources inefficiently produce residues that are not reused, generate waste that has adverse effects on human health and the environment, and manufacture products that continue to have harmful effects after they are used and are difficult to recover [...]" (BMU 1997: 256).

In order to achieve the sustainable development striven for in the growth paradigm, five procedures are invoked within the hegemonic discourse of sustainability: The *first* and most important approach refers to a general systemic revolution in efficiency as developed by Ernst Ulrich von Weizsäcker, Amory and Hunter Lovins (1995) with their factor-four approach. According to the central thesis, technological progress would make it possible to use natural resources four times more efficiently, which would contribute to a corresponding eco-efficiency. The *second* approach is very similar, since it also focuses on technological innovations with the goal of being able to re-use raw materials as often as possible in the future in order to reduce the overall consumption of natural resources. The *third* approach consists in striving for global environmental management, which is intended to facilitate a rational use of resources. *Fourthly*, the dematerialisation of the economic system is expected to lead to sustainable effects. This refers to the change from an industrial to a service society, which is associated with a decrease in the consumption of energy and resources. *Fifthly* and lastly, cost transparency is expected from the internalisation of externalised costs, which is meant to contribute to more (responsibly) aware and thus more sustainable behaviour.

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4 In contrast, the follow-up report by Donella and Dennis Meadows "The New Limits to Growth", also published in 1992, represents the old growth-critical strategy of reduction (cf. Meadows et al. 1992). The relatively faint response to this report at the time already pointed to the emerging reorientation.

This represents a shift from the so-called sufficiency approach, which is oriented at renunciation – doing without – in the widest sense, to the so-called efficiency and effectiveness approach, which comprises elements such as the most effective possible use of natural resources and energy, reduction of emissions, a circular economy with recycling of waste products, economic clusters (industry interlinkages) and utilisation efficiency. Thus: a technical-industrial pattern of thought aimed at a radical increase in the efficiency and effectiveness of all metabolic processes involving nature (cf. Huber 2011: 304 ff.).

The consequences of this strategy for the transport sector are already hinted at in the Agenda 21 report. For example, it assumes further growth in transport – in particular an increase in automobile traffic – which is supposed to be channelled into sustainable pathways through the increased use of technologies (BMU 1997: 70). Karl-Werner Brand and Georg Jochum (2000) have described this discursive shift in the international context for Germany. They see the paradigm shift as having been completed with the report of the German parliamentary enquiry into "Protection of the Earth's Atmosphere" (1994). There it also becomes clear that this transformation in the discourse of sustainability affected the transport sector in particular. In the sub-report "Mobility and Climate: Paths to a Climate-Friendly Transport Policy", the report by Eckhard Kutter et al., which adhered to the 'old' idea of sustainability, is relegated to the status of a dissenting, minority opinion. At the same time, the debate with the representatives of the majority opinion impressively demonstrates the strategic reorientation. In their response to the dissenting minority, the representatives of the majority again recapitulate the different approaches. Since they still determine the orientation of transport policy today, they should be quoted here in detail: "We understand the mandate of the parliamentary enquiry for the transport sector primarily as a call to develop proposals for reducing the emissions of climate-relevant trace gases by motorised vehicles and thus to achieve the CO_2 reduction target set by the Federal government for the Federal Republic of Germany. In the parliamentary enquiry into "Protection of the Earth's Atmosphere" there was agreement from the outset that the report on transport should not only address proposals and demands for

the reduction of climate-relevant trace gases in the transport sector, but that the consequences of such proposals for the overall economic framework and jobs must also be included in the presentation, if the report is to have any prospect of having a serious effect on the decision-making process and on opinion in the political and public spheres. We do not think much of recommendations for action that merely reflect wishful thinking without any chance of implementation. Such recommendations are cheap. On this basic question, fundamentally different views soon emerged and it became clear that the representatives of the dissenting minority were aiming to bid farewell to the automobile-centred society while the representatives of the majority wanted to continue developing the mobile society and therefore demanded rigorous measures for the transport sector to reduce emissions of trace gases that have an impact on the climate" (Enquete-Commission 1994: 365 f.).

The reformulation of the discourse on sustainability is expressed in the commitment to a mobile society that has to learn to live with a large volume of traffic. The latter is therefore to be moderated in a climate-compatible fashion with the help of "rigorous measures". The "old" strategy of traffic avoidance seems antiquated in comparison. This strategic reorientation still dominates the discourse on sustainability today and has also brought about a readjustment of transport policy. (DGB 2004)

2.2.3 Sustainable Transport Development through Sustainable Transport Growth

Since the strategy pursued with the guiding principle of integrated transport policy was essentially aimed at sustainable transport development, the discourse of integration in transport policy was, from the outset, closely linked to the discourse of sustainability outlined above. In fact, a similar paradigm shift can be discerned in the transport sector, just as Johannes Dingler (2003) was able to show for the discourse of sustainability. Parallel to the paradigm shift in the discourse of sustainability, a change in strategy took place within the academic debate on transportation. At the end of the 1980s, researchers who advocated critical positions on transport policy, positions that until then had been

prominently represented, increasingly went on the defensive. While the latter were oriented towards the paradigm of the "limits to growth" and accordingly advocated a "turnaround" in the transport sector in the sense of a resource-saving strategy of "traffic avoidance" (cf. Hesse 1993), for the first time the Federal Ministry of Transport thematised an integrated transport policy (BMV 1992a; 1992b). But just like the discourse of sustainability, the talk of integrated transport policy only developed its full persuasive power in the course of the 1990s (cf. Beckmann 1992; 2002). A similar development took place in all member states of the European Union (cf. Janic 2001). By the end of the 1990s, the discourse had prevailed in most member states or had even made its way into political concepts of transport and had been elevated to an official government strategy (BMVBW 2000). A final expression of its hegemonic claim to validity was the proclamation of integrated transport policy as a guiding concept in the European Commission's 'White Paper' in 2001 (cf. COM 2001). Thus the – by then – fourth renaissance of the guiding principle had also become a European phenomenon.

The transport policy objectives of the White Paper were entirely oriented towards the central premises of the new discourse of sustainability (for details, cf. chapter 4.2). Economic and transport growth are not problematised as such, but rather accepted and desired as a prerequisite for, and necessary consequence of, the European integration process. "Strong economic growth that creates jobs and prosperity is difficult to imagine without an efficient transport system that enables optimal use of the internal market and the globalisation of trade" (ibid.: 13). A reciprocal relationship is established between European economic growth and transport growth. On the one hand, economic growth necessarily leads to transport growth, but on the other hand, it is also concluded that increasing transport growth contributes to more economic growth. In this mutually reinforcing dynamic, a strategy for avoiding traffic no longer has any purchase. Instead, growth forecasts in the transport sector become a necessary prerequisite for the economic growth that is desired on all sides. Sustainable transport development is no longer to be achieved by avoiding traffic, but by regulating the expected as well as the targeted processes of growth. Existing bottlenecks in the transport

system and the looming additional bottlenecks caused by economic and transport growth are to be widened in advance in order to cope with the expected and desired dynamics of development. For "[t]he congestion seriously endangers the competitiveness of the European economy" (ibid.: 12). The task of an integrated transport policy is thus to moderate transport growth, in the interest of sustainable transport development. In the context of the European integration process, it is meant to create the conditions for a smooth flow of traffic across national borders, in order to mobilise the common internal market. Unlike in the past, the economic, social and ecological goals of an integrated transport policy now stand as equals in the sustainability triad, side by side, at least conceptually.

In keeping with the new discourse of sustainability, five procedures can also be identified in integrated transport policy, by means of which the relative ecological limits of transport growth are to be shifted in order to contribute to sustainable transport development: *First*, the integration of European transport markets is expected to increase the efficiency of the way transport is managed. The European Commission hopes that the elimination of existing frictions in cross-border transport and better synergy brought about by organisational, technological and institutional coordination will lead to a more acceptable ecological balance. *Secondly*, it is pursuing reduced consumption of resources through technological innovations, whether through more economical motors or by enhancing the flow of traffic by means of telematics systems. *Thirdly*, it is striving for European traffic management, whereby traffic flows can be coordinated in a more targeted fashion. *Fourthly*, the European Commission hopes that the dematerialisation or virtualisation of transport will reduce the consumption of material resources. *Fifthly* and lastly, it is striving for the internalisation of externalised costs in the transport sector in order to achieve cost transparency. This is because, so goes the thesis, transport behaviour that is oriented towards the true costs is ecologically sustainable as a result.

2.2.4 Sustainable Transport Growth through Integrated Transport Policy

On the basis of the programmatic draft papers, I have shown that the new discourse in the field of transport research follows the paradigm shift in the hegemonic discourse of sustainability, now meaning sustainable growth. Just as in the hegemonic discourse of sustainability sustainable development in general is equated with sustainable growth, in transport research sustainable transport development in particular is now equated with sustainable transport growth.

Beyond the adaptation of the growth paradigm articulated in the hegemonic discourse of sustainability, however, the new discourse in research on transport fulfils another function. While the growth paradigm reconciles ecological sustainability and economic growth in the idea of sustainable growth, the new discourse in transport research also combines the formerly antagonistic principles of economic competition and political cooperation. As was shown in the historical perspective, the guiding principle of integrated transport policy has repeatedly failed in the past due to the factual competition between the modes of transport. A systematic linking of modes of transport was regularly thwarted by the individual pursuit of single economic market interests. With the adoption of the logic of economic growth in the transport sector as described above, the necessity arises again today to reconcile the principle of competition inherent in market logic with the procedure of political cooperation, in the interests of an integrated transport policy.

The study carried out by Klaus Beckmann and Herbert Baum, *Integrated Transport Policy* (2002), commissioned by the Federal Ministry of Transport, Building and Housing, attempted to conceptually link political cooperation and economic competition in a way that was conducive to an integrated transport policy. Based on a dual regulatory framework consisting of the market-based transport sector and the public interest represented by the State, the study sees the distinguishing task of an integrated transport policy as linking both of these social sub-logics through an integrated market strategy. "The focus of an integrated transport policy is on sustainably securing and strengthening the

functionality of the transport system as well as reducing the burdens, nuisances and encroachments that are attributable to transport" (ibid.: 314). However, as the study sees it, it is the requirements of the economic system that constitute the starting point of an integrated transport policy: "Ensuring a functioning transport system primarily involves tapping into market forces and competition, which are, however, incorporated into a framework that facilitates compatibility" (ibid.: 314). Within the framework of the economic dynamics driven by economic forces, social and ecological aspects are to be taken into account in the public interest. "Transport markets are to be stabilised, complemented and expanded to include the public interest" (ibid.: 314). The public interest, which was seemingly without central significance in the transport sector in the past, is now to be systematically taken into account for the first time in the context of an integrated transport policy. At the same time, it becomes clear that, for the foreseeable future, politics will continue to be assigned a marginal role in the articulation of public interest in the transport markets, marginal in the sense of a functionally equivalent 'add-on programme'. The different functional logics in the fields of economics and politics, as well as the resulting conflicts, remain unaddressed. Accordingly, the principles of economic competition and political cooperation suddenly find themselves reconciled in a future perspective: "The vision could be a policy of 'cooptition' (a combination of cooperation and competition) with competitive and cooperative elements, which could enjoy a high level of social acceptance" (ibid.:314).

Of course, this not only fails to clarify but actually tends to obfuscate the historically well-known political-economic problem in the transport sector, which in the past has repeatedly been reflected in the discrepancy between political aspirations and economic requirements and has been resolved in favour of the latter. Instead, the two functional logics are forced together in the artificial term "cooptition". The strategy of integrated transport policy is thereby tied to the new discourse of sustainability. Striving for sustainable transport development in conjunction with sustainable transport growth simply means that the economy is assigned central significance. In the wake of the global financial and economic crisis in 2008, this development has intensi-

fied even further. In order to protect the German automotive industry from the economic consequences of the crisis, the German government launched several economic stimulus programmes, which were intended to support the development of electric mobility in particular through comprehensive subsidies. The fixation on the electric car constitutes yet another one-sided orientation towards the economic interests of the established industries (cf. Schwedes 2021).

2.2.5 Avoidance versus Decoupling

In the debate on sustainability in transport policy, in addition to the shift in the discourse described above and the concomitant strategic reorientation, a conceptual vagueness has become established that repeatedly contributes to misunderstandings. This is especially true for the two conceptual approaches of traffic avoidance and decoupling. As I pointed out, the strategy of traffic avoidance was originally intended to reduce economic growth. The close linkage and interdependence of economic and transport growth seemed to make such an approach necessary. With the increasing de-thematisation of the growth paradigm, a strategic reorientation in traffic avoidance also took place in the 1980s. Inspired by the successes in the energy sector, in which it had proved possible to achieve a decoupling of energy consumption from economic growth, there was also a plea in the transport sector to strive for traffic avoidance by loosening or even breaking the connection between economic and traffic growth. However, two fundamentally different approaches emerged, both pursuing the same goal but favouring different ways of achieving it. Herbert Baum and Markus Heibach (1997: 3f.) summarised the differences as follows:

> "– Traffic avoidance follows a top-down approach: The avoidance strategy assigns priority to the goal of reducing traffic. By shaping the immediate determinants of demand (e.g. prices or the costs of transportation services, the supply of transport infrastructure, traffic management, slowdown of economic growth), transportation services are reduced. The strategy of traffic avoidance does not ask what

> repercussions the reduction in traffic has on production and sales in the upstream or downstream economic sectors. Decisive here is solely that a reduction in demand for transport is achieved. It remains open which adjustments and changes in the economy and population compensate for the decline in demand for transport. Therefore, the overall economic effects of an avoidance policy are difficult to calculate.
> – Decoupling follows the bottom-up principle. It starts at the origin of transport in the fields of action upstream of transport demand and endeavours to reduce the necessity of processes involving transportation for the creation of economic value. It does not directly change demand, but exerts an indirect influence by reducing the need for forms of transport. The aim is to reduce 'transport intensity', i.e. the ratio of transport services to total economic value creation. This is made possible by promoting transport-saving 'structures' in the population and the economy (e.g. production technologies, product development, forms of organisation, choice of location). In this respect, decoupling does not pursue the reduction of demand for transport by setting certain market parameters, but rather by changing the constellations that generate transport."

However, the clear-cut analytical separation of the two approaches postulated by Baum and Heibach does not stand up to scrutiny. They themselves cite the "Sustainable Germany" model presented by the Federal Environment Agency in 1997 as an example of a decoupling strategy, only to note that in the actual implementation a traffic avoidance strategy is pursued, with *dirigiste* measures such as making road transport more expensive and steering investment and supply in favour of public transport (cf. Baum & Heibach 1997: 5).

In fact, the decoupling strategy favoured by business representatives, which essentially aims at a systemic increase in efficiency, can readily be integrated into the traffic avoidance strategy. A combination of top-down and bottom-up methods was proposed here early on (cf. Weizsäcker 1989). Markus Hesse, for instance, distinguishes three dimensions of traffic management:

> "The necessary structural change to 'less traffic' is linked to various conditions: first, to turning away from the principle of catering unrestrictedly for demand in transport and infrastructure policy, combined with a stronger assessment of the transport consequences of spatial development (precautionary planning); second, to conceptualising space(s) instead of traversing spaces (structural traffic avoidance); thirdly, to contributions from the economic system to easing the burden on transport, especially from corporate and structural policy (low-traffic economy, closing regional resource cycles, increased commitment on the part of companies to remaining local, etc.)" (Hesse 1994: 3f.).

The situation is obviously different from the point of view of business representatives when they categorically exclude top-down procedures. While the pure decoupling approach pursues a limited strategy oriented towards criteria of economic efficiency, the avoidance approach is in principle characterised by greater openness.

In light of this conceptual clarification, the development of the discourse of transport policy can be described as follows: whereas in the 1970s traffic avoidance was discussed in close connection with curbing economic growth, deemed necessary at the time, this connection has hardly been thematised since the 1990s. Instead, the traffic avoidance strategy was increasingly oriented towards the goal of decoupling economic and transport growth, with the energy sector as a model. Initially, particular emphasis was placed on restrictive measures aimed at forcing a decline in transport growth. Since then, there has been an increasing focus on a decoupling strategy oriented towards increases in efficiency, brought about by technological innovations. [5] Instruments of political

5 This is currently demonstrated by the example of electric mobility, which is primarily aimed at replacing the relatively inefficient internal combustion engine (30% efficiency) with the highly efficient electric motor (90% efficiency). However, this does not take into account the energy and resource consumption required in the production of electric cars, nor the negative effects of the mass use of electric vehicles, such as land use and consumption, which are no different from the combustion-engine vehicle. Again, the electric car only contributes to

control are increasingly taking a back seat. Economists, in particular, justify this with the fundamental impossibility of influencing transport development politically (cf. Aberle 1993). This is the starting point for the discourse on an economically-inspired decoupling strategy, described above.

Finally, the concept of decoupling has recently been used for the purposes of an even more greatly reduced ambition. The research framework on *mobility* adopted by the German government in 1996, for example, speaks of "decoupling mobility growth and traffic congestion" (BMBF 1997a: 3). This variant still stands alongside the aspiration to decouple transport growth from economic growth. At the same time, it already points to a further step, which reduces the decoupling strategy to decoupling the negative social and ecological consequences from an ostensibly natural, unstoppable growth in traffic. In reality, this no longer has anything to do with traffic avoidance.[6]

2.3 First Interim Summary – from Healthy Shrinkage to Beautiful Growth

The model of integrated transport policy is the result of a "scientific paradigm shift" (Kuhn 1978), which is based on a peculiar logic of argumentation. It is precisely the 'scientification' of the model that contributes to its persuasiveness. However, the significance of the transport policy model only becomes apparent against the background and in the context of the new discourse of sustainability. What has now become the hegemonic discourse in transport research initially follows a line of reasoning that sees sustainable development being achieved through

sustainable transport development if it constitutes one component of mobility within the framework of a strategy of integrated transport development (cf. Schwedes/Keichel 2021).

6 After the decoupling of economic and transport growth had been formulated as a goal in the European Commission's first White Paper on Transport in 2001, it was abandoned in the current White Paper, which dates from 2011.

sustainable growth. By 'ecologising' economic growth by means of various processes – especially increases in efficiency – it can help to shatter the existing systemic limits to growth. The formerly external, natural systemic boundaries are shifted inwards through a kind of internal 'land grabbing' with system-internal innovations. When applied to the transport system, this perspective leads to a strategy that pursues sustainable transport development through transport growth. Sustainable transport growth is to be attained through system-immanent optimisations, to be coordinated by an integrated transport policy. Integrated transport policy aims to contribute to an increased functionality and social compatibility of the transport system, first, by eliminating frictions between the different social actors in the transport sector (social integration); secondly, by avoiding 'frictional' losses due to inefficiency between the different ministries (political integration); thirdly, by supporting a competitive dynamic mediated by the market (economic integration); fourthly, by avoiding negative external effects (ecological integration); fifthly and lastly, by promoting synergy effects between the individual modes of transport (technical integration). Integrated transport policy thus pursues an increase in efficiency in the transport system with the goal of sustainable transport growth: transport policy as growth policy!

Moreover, on this understanding, the model of integrated transport policy supposedly eliminates the factual contradiction between political cooperation, which follows from the aim of integration, and economic competition, which underlies the growth paradigm. By committing themselves to the common goal of economic growth in the conceptual framework of the model of integrated transport policy, the real conflict of interests between political policy and the economy simply vanishes behind a common discursive strategy: 'cooperation and competition' are forced together in the concept of 'cooptition'. It is thus perfectly consistent that questions of political regulation that go beyond the common economic goals, such as the social or ecological aspects of transport development – if these are addressed at all – then take on a subordinate status, at best. This is consistent to the extent that the sustainable transport growth that is the aim of an integrated transport policy encompasses the sustainability triad that takes into account

social and ecological aspects, in addition to economic ones. In other words, the strategy of sustainable transport growth, pursued with the model of an integrated transport policy within the framework of the new hegemonic, academic discourse on transport has as its goal a one-sided *economic integration of the transport sector.*

If this is an adequate outline of the new hegemonic discourse in transport research, it remains to be noted that in addition to the position outlined above, there are still dissenting contributions to the discussion, which are, however, subordinate to the hegemonic discourse. This confirms that hegemony is always the result of conflicts, disputes and struggles for dominance. In that these competing alternatives are at least acknowledged, the claim to absoluteness of the hegemonic discourse is relativised. This becomes clear when we look at the representatives of transport policy with their sometimes very different policy orientations. But before examining the actors in the field of transport policy, the practical consequences of the paradigm shift for transport policy should first be discussed.

3. Actor-Centred Analysis of the Field of Transport Policy

After having employed discourse analysis in the last chapter to trace out and contextualise the rationale of transport policy, its argumentative foundations, which direct the steps taken by the actors in the field, this chapter examines the resulting practical consequences for transport policy. The Federal Transport Infrastructure Plan is particularly suitable for this purpose, since the various activities in transport policy converge in it, as if placed under a magnifying glass. Following on from this, I offer the first systematic presentation and classification of the actors in the field of transport policy in Germany. This policy analysis complements the discourse analysis and shows who is pursuing which transport policy goals and in whose interest.

3.1 Practical Transport Policy – The Federal Transport Infrastructure Plan

> "This Federal government has invested more than ever before in transport infrastructure. We are investing significantly more, ten percent above the budget appropriation for 1998."

The Federal Ministry of Transport is responsible for implementing the Federal Government's transport policy programme. Its central instrument for shaping transport development is the Federal Transport Infrastructure Plan (*BVWP*), which is an investment framework plan.

While the Ministry of Transport is represented externally by the Federal Minister of Transport and appears to speak with one voice (cf. Heldmann 2002), internally the Ministry is traditionally marked by considerable fragmentation. For a long time, the Federal Ministry of Transport was composed of four departments, representing shipping, road construction, the railways and air transport. Each individual department was relatively autonomous within the Ministry and consistently pursued the interests of its own clientele. Accordingly, the departments had established close contacts with the respective stakeholders from industry and business, and there were internal conflicts between the individual departments over the allocation of funds (cf. Dienel 2007). At the beginning of the 1970s, the social-liberal coalition made an attempt to bring the individual departments more into step with each other and to integrate them into an overall transport plan. To this end, the transport policy department, which had existed for some time, was steadily expanded, until by the end of the 1970s it comprised almost half as many staff as the other departments combined. "It was the first systematic attempt in the Ministry to establish an integrated transport policy. This entailed combined adjustments in investment policy, research policy, regulatory policy and international transport policy in central units in the department" (ibid.: 217f.). However, this attempt failed – internally due to the resistance of the individual departments, which did not want to relinquish any powers of control, and due to a lack of external support. Not only were the respective stakeholders in the transport industry less than receptive to an integrated transport policy, but also the transport researchers at the universities mostly saw themselves as experts in a specific transport sector, to which they also felt personally attached.

The model of integrated transport policy only experienced a renaissance in the 1990s. This rediscovery resulted in the merger of the Federal Ministry of Transport with the Federal Ministry of Regional Planning, Housing and Urban Development, to form the Federal Ministry of Transport, Building and Housing (BMVBW), when the coalition of the Social Democrats and the Greens came to power in 1998. This expressed the Federal government's aspiration not only to pursue a policy spanning the different modes of transport, but also to establish a stronger link be-

tween transport and urban and spatial development. In this respect, the 2003 Federal Transport Infrastructure Plan was regarded as an essential instrument for implementing an integrated transport policy and as "a pivotal measure for the realisation of an integrated transport system" (BMVBW 2003: 6). Due to its programmatic significance and because it served as a kind of "master plan" for the transport policy framework until 2015, it will be used in what follows in order to evaluate current transport development. Following on from that, we will examine the new *BVWP*, dating from 2015, which extends to the year 2030, in order to be able to assess the future development strategy.

3.1.1 Aspiration

The FTIP 2003 was based on programmatic statements formulated by the Federal Ministry of Transport, Building and Housing (BMVBW) in its *Transport Report 2000*. In the introduction, the central perspective is established, which determines the entire subsequent programme and remains valid today. Due to its importance for the argumentation to follow, the relevant section is quoted here in its entirety: "An efficient and effective transport infrastructure is an essential component of Germany as a strong and dynamic location for business as well as a vital prerequisite for growth and employment. Investments in infrastructure ensure the competitiveness of the regions and strengthen structurally weak areas. They not only create the basis for the enduring and sustainable mobility of people and enterprises, but also increase the quality of life in cities and the surrounding areas. In the construction and expansion of infrastructure, particular importance is attached to the interconnectedness of modes of transport, the promotion of railways and waterways, the optimisation of interfaces between modes of transport and the improvement of intermodal transport. The specific strengths of the individual modes of transport must be utilised in order to be able to fully exploit the existing capacities of the transportation system" (BMVBW 2000: 5).

The BMVBW assumed a direct causal relationship between the construction of transport infrastructure, transport growth, economic growth and resulting employment. The logic at the core of the argumen-

tation was the tight interrelationship between transport and economic growth, with growth as the common target value. Reference was not only made to the historical finding that economic growth has always generated transport growth. In addition, the reverse conclusion was drawn from the retrospective observation and became the essential basic assumption of all further deliberations. According to the unswerving conviction of the Ministry, transport growth is not only the result of economic growth, but also its central prerequisite.[1] The Ministry expected both sustainable transport development and a generally improved quality of life to emerge from the growth dynamics generated by the mutually reinforcing interrelationship between transport and the economy. It is only against the background of these assumptions that integrated transport policy – in the sense of improved networking of the different modes of transport – acquires it importance. Accordingly, the function of cross-modal integration is to ensure smooth growth dynamics in the transport sector in order to generate the economic growth that is meant to benefit all members of society.

Based on the assumption of future growth in transport, which is seen as imperative because it is economically necessary but at the same time is also considered desirable because it promotes social prosperity, the concomitant social and ecological problems were also addressed. "Transport policy thus finds itself caught between conflicting social, economic and ecological priorities. In light of this, the task at hand to satisfy the mobility needs of people and businesses while at the same time keeping the undesirable consequences of transport within tight limits" (ibid.: 7). Given the basic assumptions formulated at the outset, however, the prioritisation was clear. By making transport and economic growth the basis of all further deliberations, attending to social and ecological consequences was relegated to damage containment. Accordingly, to this day, the Federal Ministry of Transport sees its task of steering transport and investment policy as consisting in shifting the

1 This was especially true for the "new federal states" in the former East Germany, for which considerable state input in transport infrastructure was considered a prerequisite for more economic dynamism (cf. Hettlich & Schröder 2004).

disquieting limits of the transport system's performance and capability in the direction of expanded transport capacity. On the one hand, the Ministry supposedly aspires to strengthen rail transport and waterways through investments "so that they can significantly increase their share" (ibid.: 10). On the other hand, however, this is directly followed by a much longer passage that emphasises the growing importance of road transport in the future: "The forecast growth in road freight and passenger transport can only be managed if road transport continues to make a significant contribution to transport management in the future and assumes a corresponding position in the Federal government's investment policy" (ibid.). Consequently, the importance of investment in infrastructure is again explicitly referred to in the same passage:

> "Infrastructure measures are therefore indispensable. *We cannot afford to neglect* investments in transport, since to do so would have a detrimental effect on national economic performance, on social standards and on the preservation of the natural foundations of life and production" (ibid., emphasis added).

That endeavouring to avoid traffic is also necessary is abruptly mentioned in one sentence, but is not taken up again in what comes after, let alone elevated to a systematic strategy (cf. ibid.: 11). Rather, priority is assigned to the status quo as orientation. This becomes particularly clear in the strategic decision regarding the direction to be taken by future transport development. In the Transport Report 2000, three transport scenarios were presented, each of which differed in terms of the future cost burden for passenger and freight transport. Revealingly, the scenario that pursues the strategy of a transport turnaround in keeping with the political-ecological approach, that is, seeking to reduce or avoid traffic, is described as an "excessive demand" on the economy and was thus rejected from the outset as an alternative that could not be taken seriously. Between the remaining laissez-faire and the integration scenario, the Federal government finally opted for the latter (cf. Table 1 and Table 2).

Table 1 Transport Performance and Modal Split in Passenger Transport (comparison between 1997 and 2015)

	1997		Laissez-faire		Integration		Excessive Demand	
	Bn. of Passenger km	Share	Bn. of Passenger km	Share	Bn. of Passenger km	Share	Bn. of Passenger km	Share
Road	750	79.6%	915	79.2%	873	77.3%	768	72.8%
Rail	74	7.8%	87	7.5%	98	8.7%	123	11.7%
Public Transport*	83	8.8%	76	6.6%	86	7.6%	93	8.8%
Aviation	36	3,8%	78	6.7%	73	6.5%	71	6.7%
Total	943	100%	1156	100%	1130	100%	1055	100%
*urban rapid transit rail, underground rail, tram, trolleybus and bus transport of municipal, mixed-economy and private companies								

Source: BMVBW 2000: 58

Table 2 Transport performance and modal split in freight transport (comparison between 1997 and 2015)

	1997		Laissez-faire		Integration		Excessive Demand	
	Bn. of km tonnes	Share	Bn. of km tonnes	Share	Bn. of km tonnes	Share	Bn. of km tonnes	Share
Road	236	63.6%	422	69.5%	374	61.5%	353	58.1%
Rail	73	19.6%	99	16.3%	148	24.3%	169	27.8%
Waterways	62	16.8%	87	14.3%	86	14.1%	86	14.1%
Total	943	100%	608	100%	608	100%	608	100%

Source: BMVBW: 58

Compared to the initial situation in 1997, the expected effects of the integration strategy were rather marginal. The increase in rail transport performance remained negligible at 0.9 percent. This gain in the rail sector was more than offset by a decline of 1.2 percent in public road passenger transport (ÖSPV). The expected modal shift from road to rail was correspondingly low at just under two percent. The expected shift in freight transport was also low. Although rail was supposed to increase its share by 4.7 percent by reducing the cost burden by eighteen percent, the cost burden of road freight transport was also supposed to be reduced by four percent, so that its share would scarcely have been reduced (cf. Table 3). Finally, according to the projection, rail gained mainly at the expense of waterways, whose transport performance was to decline by two percentage points. Road freight transport performance would also be reduced by roughly the same proportion (2.1 percent).

Table 3 Change in cost burdens for users depending on the scenarios

User Costs*	Changes between 1997 and 2015		
	Laissez-faire	Integration	Excessive Demand
Road Passenger Transport	-5%	+15%	+70%
Road Freight Transport	-19%	-4%	+14%
Rail Passenger Transport	real constant	-30% for private long-distance travel	-30% for private long-distance travel
Rail Freight Transport	-7%	-18%	-18%
Aviation	real constant	+9%	+18%
Internal Waterways	-25%	-25%	-25%

* User costs are changes in real terms (i.e. adjusted for inflation) in 1997 prices/costs
Source: BMVBW 2000: 58

In other words, the systematic suppression of a traffic avoidance strategy was also expressed in the choice of the transport scenario. The integration scenario did not pursue cross-modal cooperation aimed at modal shift, with the goal of traffic avoidance. Rather, integration here meant cross-modal participation in traffic growth. The transport and economic growth expected and hoped for by the Ministry within the framework of an integrated transport policy was supposed to contribute to an "efficient", "socially compatible" and "environmentally friendly" transport system (cf. ibid.: 11). On the one hand, this was to be achieved by conserving the existing infrastructure and increasing its efficiency rather than through expansion and new construction (cf. ibid.: 12). On the other hand, shortly afterwards in a separate chapter (3.4.1. "The Role of Roads in the Transport System"), the importance of the federal road network was emphasised at length and a significant – in fact record

level – increase was announced in investment in the expansion and maintenance of the road network (cf. ibid.: 21). Finally, in the summary, the framework is clearly defined within which the activities involved in an integrated transport policy – to the extent that the latter is aiming for a modal shift from road to rail – may move:

> "The shares of road transport in both freight and passenger transport can only be partially shifted; with all the undoubtedly necessary efforts to enable the non-road modes of transport to play a greater role in transport growth, it is also necessary to maintain and expand road infrastructure in accordance with the high traffic loads to be expected. In this context, the preservation of the available infrastructure, which represents a considerable economic value, has priority over expansion measures. On the one hand, the latter serve to enhance the synergy effect of the federal motorways by expanding the existing motorways and closing gaps in the network. On the other hand, they are intended to increase the efficiency of federal main roads by bypassing highly congested roads that pass through towns, villages and other built-up areas and to reduce environmental pollution" (BMVBW 2000: 22).

Only directly following these conventional transport policy ideas, intended to eliminate traffic bottlenecks, do we encounter the decades-old insight that this conventional strategy enjoyed only limited success in the past: "Despite all efforts to eliminate bottlenecks in the road network, such as the anti-congestion scheme, it has to be acknowledged that a congestion-free transport system, albeit designed to cope with heavy traffic loads at peak times, is not feasible" (ibid.). Moreover, already back then one would have expected a reference to efforts to eliminate congestion, which had shown that such efforts always end up inducing even more traffic (cf. Motzkus 2004). If the Ministry of Transport had made this insight the yardstick of its thinking on transport policy instead of following the growth paradigm, it would undoubtedly have settled on a different strategy. As it was, however, all the elements associated with the model of an integrated transport policy were assigned a subordinate status. This was reflected in the resulting concrete transport policy.

3.1.2 Reality

When the coalition government of the Social Democrats and the Greens took office in 1998 and the new Federal Ministry of Transport, Building and Housing (BMVBW) was created, a fundamental "turnaround" in transport policy was announced. However, the first appraisal after the famous 100 days in office turned out to be sobering: "Those who expected a turnaround in transport policy will be disappointed: The Federal Minister of Transport, Building and Housing, Franz Müntefering, by his own admission, is banking on continuity: 'Transport policy in Germany can do without disruptions'; at most Müntefering is prepared to accentuate certain aspects of policy" (Schnell 1999: 163). Neither the substantive orientation nor the financing policy controlled by the Federal Transport Infrastructure Plan (BVWP) underwent a directional readjustment. The main objections can be summarised in three points: First, there was no uniform financing concept coordinated with the individual modes of transport. The (previously-mentioned) fragmented institutional structure of the Ministry resulted in a financing practice that was fixated on the individual modes of transport, which stood in the way of a unified strategy. Second, there was a lack of secure financial planning for the FTIP (*Federal Transport Infrastructure Plan*) that was geared to concrete needs. Since every FTIP in the past had turned out to be underfinanced within a very short time, the proposals formulated were hardly taken seriously any more, but dismissed as "wishful and woolly thinking" (in the words of the then Federal Transport Minister Franz Müntefering in 1999, commenting on the 1992 Federal Transport Infrastructure Plan). Thirdly, and lastly, the internal competition in the Federal Ministry of Transport and the associated disputes over the allocation of funds were intensified due to the highly decentralised decision-making in the Federal states. As a result of the fact that the competing interests of the Federal states are not embedded in a uniform Federal transport strategy, the FTIP has repeatedly been a collection of disparate, barely-related, individual projects (cf. Heuser & Reh 2016). Against the backdrop of this widely-shared criticism and the almost unanimous conviction concerning a profound need for reform, correspondingly high expectations were

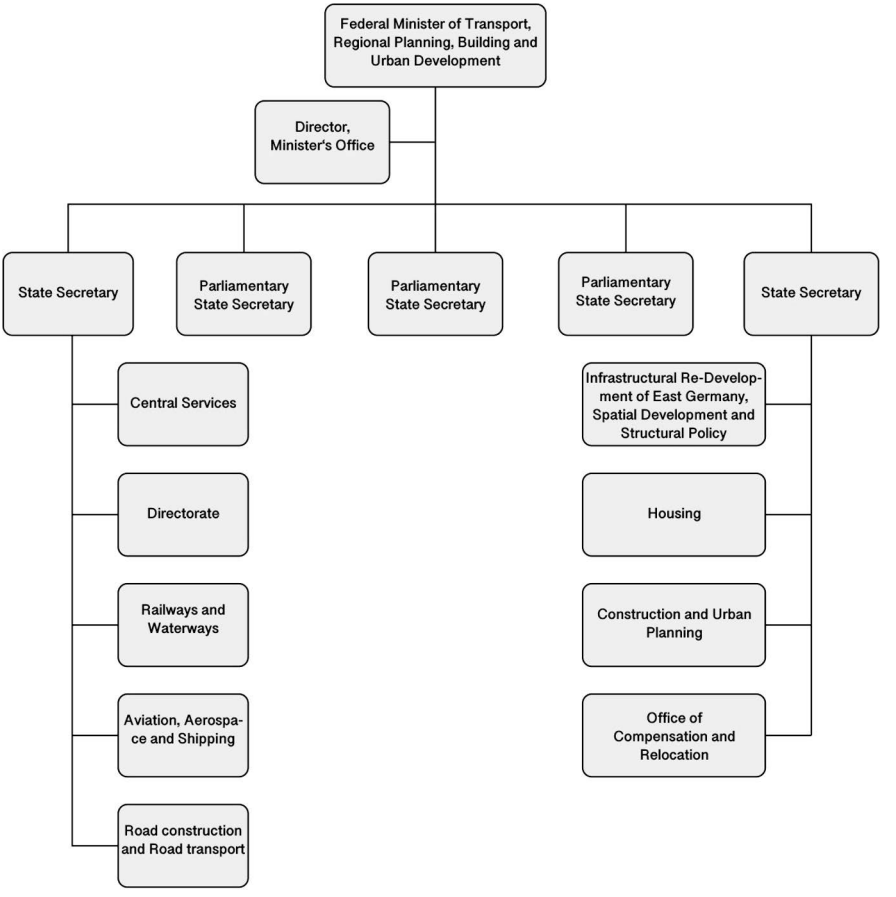
associated with the new FTIP announced for 2003. Now that it has run its course, however, it has become apparent that the implementation of the 2003 FTIP failed yet again, due to structural deficits that, against better judgement, were not eradicated at the time (cf. UBA 2012). The resulting problems persist today, in the form of three dilemmas.

3.1.3 The organisational dilemma

In contrast to the far-reaching expectations, the old structural deficits remained evident. It is true that the dissolution of the old independent Federal Ministry of Transport and its merger with the Ministry of Regional Planning, Building and Urban Development in 1998 was carried out with the declared aim of bringing the previously separate organisational structures more closely into line with each other. Nevertheless, the newly created Ministry of Transport, Building and Housing (BMVBW) was also fragmented in character (cf. Figure 4). On their own, the two separate tree structures of the BMVBW's organisational chart make it clear that the two formally merged ministries in fact exist side by side. Even at the departmental level, there has been no substantive merger.

In the area of transport, a departmental structure was retained that was oriented towards the importance of the individual modes of transport and not towards a substantive, cross-modal, overall concept. The two departments of waterways and shipping of the previously independent department of shipping were added to the departments of railways/waterways and aerospace/shipping respectively and merged into the departments railways/waterways and aviation/aerospace/shipping. In addition, there was a third department, "S", which was the only mono-modal department, grouping the portfolios of road construction and road transport. There was thus no perceptible cross-modal approach in the institutional restructuring. This organisational structure, which is still oriented towards individual modes of transport, was also reflected in the 2003 Federal Transport Plan in the form of parallel financial support for all modes of transport.

Figure 4. Organisational Structure of the Federal Ministry of Transport, Building and Housing



Source: BMVBW 2005

Even the new Federal Transport Plan 2030 has not changed this situation. On the contrary: in the course of the formation of the Federal grand coalition in 2013, the two ministries of construction and transport were again separated, thus putting an end to the idea of integration. While the Ministry of Construction was at least added to the Ministry of the Environment, making synergy effects at least conceivable, the Ministry of Transport again stands isolated, a fragmented, solitary entity. Accordingly, an integrated financing concept has been unsuccessful to date, as a result of the segmented administrative structure of the Federal Ministry of Transport, Building and Urban Affairs. On the other hand, the organisational structure is only one of several structural dimensions and should thus not be overestimated. It is quite conceivable that the individual ministries could be interlinked within the framework of a coherent transport policy strategy and that a common definition of policy goals could also serve to bridge their internal fragmentation. Such a perspective is aimed less at the institutional structures that stand in the way of political objectives, but rather addresses the specific relations of power and dominance in the field of transport policy, in order to influence them in the direction of an integrated transport policy strategy.

3.1.4 The Funding Dilemma

One problem that remains unresolved to this day is the uncertainty of funding for the FTIP. For example, just one year after the 2003 FTIP came into force, its investment base was substantially reduced (cf. Cabinet decision, 23.06.2004). Friends of the Earth Germany (BUND: Bund für Umwelt und Naturschutz) had calculated that for the period from 2004 to 2008 alone, measured against the objectives of the FTIP 2003, there was a shortfall of more than 8 billion euros (cf. BUND 2004). Extrapolated over the entire term up until 2015, the shortfall added up to around 20 billion euros.

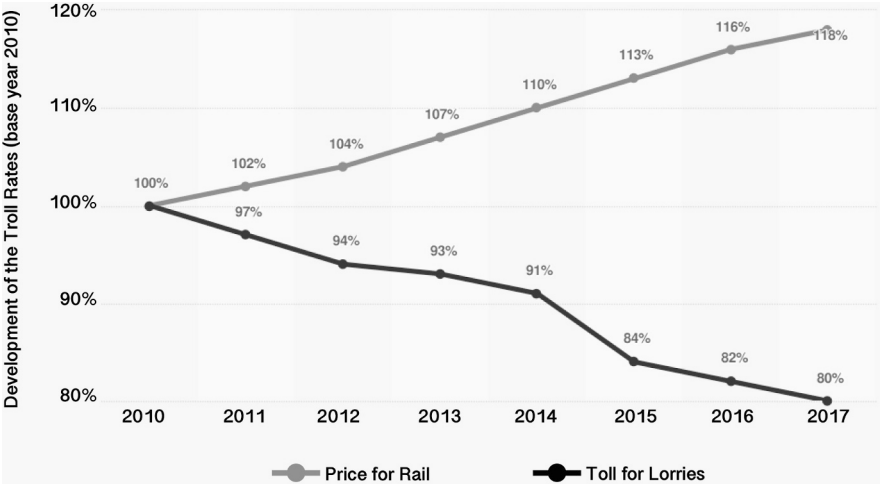
The funding cuts had different effects on the future development of the modes of transport. Although the cuts were supposed to be evenly distributed, the 2003 Federal Transport Plan was used as the basis for calculations, which assumed record investments of 5.2 billion euros an-

nually for road construction. In reality, the budget cuts for road construction therefore merely meant stagnation at the previous year's level and not a real reduction. The situation was different for the railways, for which no increase was envisaged in the 2003 Federal Transport Plan. Here the drop in funds from 4.4 billion euros to 3.7 billion euros resulted in an absolute cutback. The full extent of the cuts becomes clear when one considers the original estimations in the plans for financing the railway reform. The Government Commission on the Federal Railways, which laid the groundwork for the railway reform in the early 1990s, estimated annual investments of 4.5 to 5 billion euros for a successful modernisation and consolidation process of the German Railways (RKB 1993). This investment target was only met in the first two years after the railway reform in 1994. After that, federal funding for rail investments fell again to 2.7 billion euros in 1998. After the investment target put forward by the Government Commission was met again in 2002, there were signs of a trend reversal. This erratic financing practice was not least of all an expression of the structural organisational dilemma of the Ministry of Transport described earlier. The institutional structure, which was oriented towards individual modes of transport, supported parallel funding and at the same time thwarted a cross-modal funding strategy.

> "In light of this situation, the allocation of funds to road and rail in the current Federal Transport Infrastructure Plan is inconsistent. Although the investment offensive for the railways is based on the desire for modal shift, the infrastructure and route planning remains stuck at the point of enabling such shifts and fails to initiate the second step, namely implementing the shifts by putting in place the appropriate framework, out of fear of the declining competitiveness of the German economy" (Kutter 2004: 360). Even the introduction of the highway toll for lorries did not automatically solve this problem, since this new instrument was not employed in order to contribute to a possible modal shift. On the contrary, the highway toll for lorries has been falling continuously for ten years, while – in contrast – the prices demanded for rail routes have risen almost in the same proportion (cf. Figure 5). In addition, there have been a whole series of other political

decisions that contribute to cost increases in rail freight transport and thus systematically worsen its competitive position compared to road freight transport (cf. HWH 2015, Sonntag & Liedtke 2015).

Figure 5. Development of tolls for lorries and rail in Germany. Indexed representation based on average toll rate for lorries and the average price for rail routes



Source: Statistika 2021

Measured against the federal government's ambitions for an integrated transport policy, the strategic aim of which is to strengthen the railways in particular, the current situation thus appears problematic. In order to be able to better assess future development, this snapshot needs to be supplemented by a review of developments over the last few years. In the Transport Report 2000 (BMVBW 2000: 23ff.) the Federal government – more than six years after the railway reform – had already carried out an initial interim assessment. Serving as an orientation here

were the four main goals of the railway reform, in order to examine the extent to which these have been achieved. The goals were:

a) Shifting as much traffic as possible from road to rail
b) Increasing the turnover and productivity of German Rail (*Deutsche Bahn AG*)
c) Introduction of competition
d) Relieving the burden on taxpayers.

With regard to the development of the modal split of road and rail, the Transport Report 2000 comes to the conclusion that services in long-distance passenger rail transport have declined, while local passenger rail transport has increased. All in all, this had led to a stagnation of rail passenger transport services between 1991 and 1999. In rail freight transport, services had even plunged in the same period. The most important goal of the railway reform had thus not been achieved. The same was true for the second goal, entrepreneurial profitability. Although an increase in productivity had been achieved thanks to a major reduction in personnel, this was not linked to an increase in turnover. In view of German Railways' (DB AG) market share of over 90 per cent, competition in rail transport, the third objective of the railway reform, was also not achieved. Lastly, only the fourth objective, providing relief from public subsidy payments, was positively assessed in the Transport Report 2000. In light of these results, the Federal government assessed the overall outcome negatively at the time.[2]

In 2004, after 10 years of railway reform, various parties used the opportunity to take stock once again.[3] In addition, on March 29th, 2004, the public hearing of the Committee on Transport, Building and Housing of the German Federal Parliament on the subject of "railway reform" took place. The outcome: the majority held that transport policy had failed to achieve the four goals of the railway reform that it had set for itself

2 Cf. in contrast the positive interim assessment of the German Railways by Daubertshäuser (2002).

3 Cf. e.g. Ritzau et al. (2003); Pällmann (2004); Gietinger (2004); Ilgmann (2004).

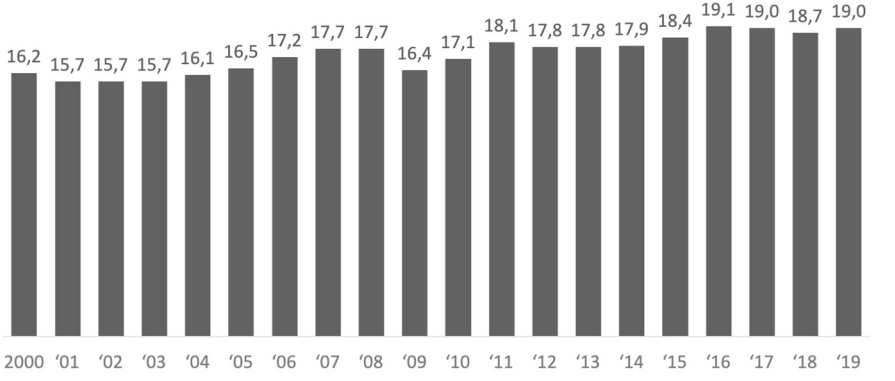
(Deutscher Bundestag 2004). For example, there had been no shift of traffic from road to rail. Particularly in freight transport, the results were clearly negative (cf. UBA & Federal Statistical Office 2004). [4] Turnover per employee has also been negative to date. With a rail transport share of 90 percent, there can also be no talk of a competitive situation. Even the fourth goal, to reduce the burden of subsidies, is now considered, depending on the basis of calculation, either to have been only partially achieved (cf. Mehdorn 2002; Federal Audit Office 2003), not achieved at all (cf. Ilgmann 2005), or as even more negative than before (cf. Wolf 2004; Knierim & Wolf 2014).

Today, after the fifteen-year term of the Federal Transport Infrastructure Plan 2003 has expired, we know that the results turned out to be even more modest than predicted in the integration scenario aimed for at the time (cf. DIW 2014). The volume of passenger transport has declined by around two percentage points, as forecast, and in rail transport it has increased by just under one percentage point. However, once again only local rail passenger transport benefited from the increases in rail transport, which was subsidised for over twenty years with regionalisation funds totalling more than 140 billion euros (cf. Karl 2014). In contrast, the services of German Railways' long-distance rail transport have

4 Railion, the freight transport subsidiary of German Railways, has been recording high losses ever since. As a result, the railway group has repeatedly discontinued unprofitable rail freight services, thus counteracting the political goal of the Federal government to get more traffic onto the rails. Moreover, the Competition and European Affairs Officer for German Railways had already pointed out at the time that in future the group would concentrate its international investment strategies primarily on the lorry business (cf. FR, 9.11.2004). This strategic reorientation – which can be described as a double strategy of withdrawing the railways from the field while at the same time pressing ahead with lorries – contradicts the original idea of integration. While the lorry was supposed to serve as an additional, merely local distributor, complementing the railway to enable door-to-door transport, today it is increasingly replacing rail transport in the field. German Railways took a further step in this direction in 2014 when it discontinued the car-carrying trains and since then has only transported its customers' cars by lorry. Cf. in contrast the Bahn 21 concept of the Transport Club Germany (2004).

been declining, which has been exacerbated by competition from long-distance buses in the wake of market liberalisation in 2013. The situation is even more disappointing in freight transport, where a reduction of two percentage points in road transport had been set as a target, but its volume has actually increased by three percentage points. Rail was only able to benefit from traffic growth by one percentage point and not by five as forecast (cf. Figure 6).

Figure 6. Rail share of freight transport, 2000–2019 in Germany, in percent based on transport performance in tonne-kilometres



Source: Pro-Rail Alliance | 11/2020 | with material from the Federal Ministry for Digitalisation and Transport & Destatis |

The European Court of Auditors attributes this development in particular to Germany setting the wrong priorities in transport policy (cf. ECA 2016). Contrary to the goals of the European Commission, namely to focus freight transport funding on more efficient and sustainable modes of transport, Germany invested more EU funds in roads than in rail between 2007 and 2013. Measured in terms of per capita expenditure, Ger-

many lies far behind Austria and Switzerland in the European comparison (cf. Figure 7).

The new Federal Transport Infrastructure Plan also earmarks more than fifty percent of the funds for investments in the new construction and expansion of road infrastructure by 2030. Accordingly, current forecasts assume a further decline in rail freight transport, to which German Railways repeatedly responds with job cuts (cf. Doll 2017).

Lastly, transport performance on the waterways declined not only by three percentage points, as forecast, but by four, which means that a potentially particularly sustainable mode of transport – along with rail – is losing more and more of its importance.

What were the political consequences of these disappointing results for the 2015 Transport Infrastructure Plan, which regulates financing until 2030, and what are the expected developments? Overall, hardly anything has changed in the conception of the FTIP and the structure of its financing (cf. Heuser & Reh 2016). This is already evident from the fact that the principle of the "backlog", which has been criticised for decades and where projects are carried over unexamined from previous requirement plans, is now being practised again. In concrete terms, this means that the funds for the first nine years of federal transport infrastructure planning have already been earmarked for old projects, i.e. projects that were announced and approved previously but which are not subsequently re-examined to determine whether they are still needed.

An example of this problematic procedure is the extension of Berlin's A100 urban motorway. The decision to finance it was taken in the early 1990s, when it was still assumed that Berlin would experience rapid population growth. When the population growth failed to materialise, the question arose as to whether such an urban motorway was still necessary or sensible. The decision of the Berlin Social Democrats (SPD) to go ahead and build the motorway was therefore not based on transport policy, but on economic policy. The party Bündnis 90/Die Grünen (the Greens), with which the SPD originally wanted to form a coalition, had previously asked the transport minister at the time whether the 400 million euros budgeted for the construction of the motorway could not also

be used for other, much more urgent transport measures, such as the construction of cycle paths. This proposal was rejected by the Minister of Transport, who gave the parties the choice between building the motorway as planned twenty years earlier or returning the funds. While the Greens wanted to forego the construction of the motorway on ethical grounds and return the funds, in accordance with sustainable transport development, the Social Democrats acted pragmatically and stuck to the construction of the motorway, as a way of stimulating the economy. In 2011, the coalition in Berlin between the SPD and the Greens failed as a result of this political controversy, which was decided in favour of economic development.[5]

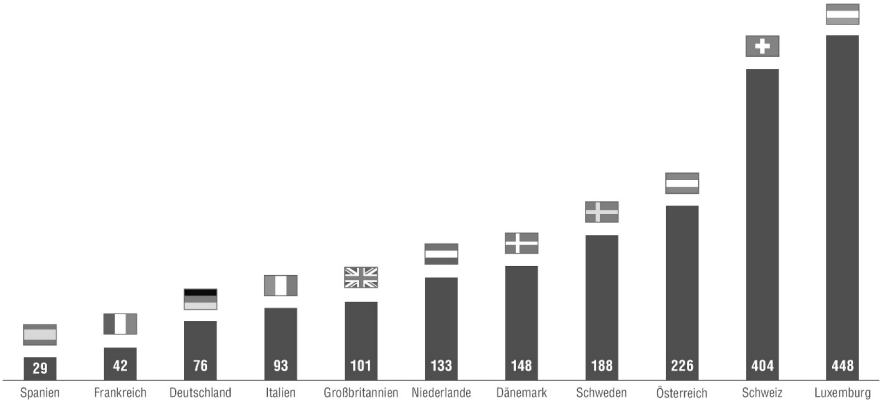
In light of the development of rail transport in recent years – which, when measured against the goals formulated at the outset of the railway reform twenty years ago, can only be described as having remained at a standstill – a negative development is to be expected, as a consequence of the planned absolute cuts in the sector. The fears of Tilman Heuser and Werner Reh seem to be confirmed, in that the present Federal government, in office since 2013, is looking for new sources of funding within the framework of the current underfunded financing structure instead of tackling the reform of the financing and planning system. "It is thus perpetuating the fundamental error of the last 50 years of highway planning far into the 21st century" (Heuser & Reh 2016: 262). Of course, this means that the core element of an integrated transport policy is up for re-negotiation.

The Federal Environment Agency (UBA 2016b, 2016c) recently explained how a change in transport policy in favour of rail transport could be supported politically and the significant role that rail freight transport in particular could play in this change. The existing, ill-advised fiscal incentives in favour of lorries would have to be rectified, whether by reducing the prices for rail routes in relation to the toll for lorries, reducing the tax on electricity or introducing a tax on kerosene

5 The coalition government of the SPD, the Greens and the leftist party, Die Linke, elected in 2016, announced a political turnaround in transport and spoke out against the extension of the A100.

in aviation, or expanding the rail network, which has been in decline for many years compared to the road network, which has been given preferential treatment for decades.

Figure 7. Per capita government investment in rail infrastructure in selected European countries, in euros, 2019



Source: Pro-Rail Alliance | 07/2020 | with material from Federal Ministry for Transport and Digitalisation, EFV (Switzerland: Federal Finance Administration, compilation by Public Transport Assoc.), BMK (Austria: Federal Ministry for Climate Action), MMT (Ministry of Mobility and Public Works, Luxembourg), SCI Verkehr GmbH

The Federal Environment Agency's evaluation of the environmental report (which is required by law as part of the current Federal Transport Infrastructure Plan) is uniformly negative, stating succinctly "that the draft of the FTIP 2030 has in fact 'failed' the environmental assessment" (UBA 2016d: 2). As a result, the current Federal Transport Infrastructure Plan, like its predecessors, once again fails to achieve the goals it set itself.

3.1.5 The Governance Dilemma

The organisational dilemma and the financing dilemma culminate to a certain extent in the governance dilemma. This becomes particularly clear in the relationship between the Federal government and the Federal states (*Bundesländer*), which is regulated by law through the Municipal Transport Financing Act (GVFG). The GVFG defines for which purposes the funds allocated by the Federal government for transport may be used. The financing measures in question are primarily intended for infrastructure; the funding of new, innovative transport services is not provided for (cf. Karl 2008, 2014). Furthermore, the Federal government provides full financing for both the construction and maintenance of federal highways, whereas this has only applied to a limited extent to regional transport infrastructure and environmentally friendly modes of transport such as local public transport and cycling. It follows from this that cities and municipalities are primarily responsible for infrastructure measures, consisting principally of road construction and specifically federal highways. It is not uncommon for the Federal states to choose bypass roads as the reason for building highways. "Due to these structural incentives, regional actors and members of parliament for the constituencies therefore appear to be acting rationally when they push road projects through. This is because the Federal government's road construction investments at least create employment during the construction period, serve the interests of the road construction lobby, pass on follow-up costs to the Federal budget and provide welcome occasions for political grandstanding. Moreover, from their perspective, a less than optimal solution to traffic problems is often still better than none at all" (Heuser & Reh 2004: 43).

While on the one hand the financing procedures lead to a one-sided privileging of road construction, which goes against a philosophy of integration, on the other hand the Federal government can only exert a limited corrective influence on the decisions of the states. Although the projects of the Federal states must in principle comply with the goals of the Federal government, a number of exceptions are formulated in the Highway Development Act, which in the past have repeatedly meant that

it has not been possible to bring the majority of transport projects into line with the specifications of the Federal Transport Plan (cf. UBA 2012).

The new strategy of an integrated transport policy aims in particular to rectify the governance dilemma. In future, the projects of the Federal states are supposed to be embedded more strongly in the overall concept of sustainable transport development formulated by the Federal government in the FTIP. To this end, the advisory board of the Federal Ministry of Transport developed a decision-making procedure that is intended to ensure the selection of transport projects in conformity with an integrated transport policy, with the goal of sustainable transport development (cf. ibid).

This assessment procedure should enable an assessment oriented towards ecological criteria, across all modes of transport. Admittedly, this would have required a fundamental organisational change in the Federal Ministry of Transport, as was originally intended with the creation of the new Ministry. However, as described above, this was not implemented and, moreover, the integration of the two Ministries for construction and transport, which was carried out in 1998, was even reversed. This brings us back to the beginning of the analysis, namely the organisational dilemma consisting in the structural problem of an administration oriented towards individual modes of transport.

3.1.6 Summary

Both the objectives and the transport policy practice of the Federal Ministry of Transport impressively demonstrate the paradigm shift in transport policy from a strategy of traffic avoidance to a strategy of sustainable transport growth, as described above. This means that the idea of a "transport turnaround" with the goal of traffic avoidance has been largely abandoned. Instead, a tight and inextricable causal relationship between economic and transport growth is taken as a given. Accordingly, not only does economic growth induce transport growth, but transport growth is understood as a necessary precondition for economic growth. One could also say that the conviction has prevailed that sustainability can be integrated into economic growth. More than that, the innovation-promot-

ing growth impulses in the transport and economic sector are seen as the basis of sustainable prosperity effects in general. This is undoubtedly a radical change in the manner of viewing the problem and raises the question of the underlying deeper judgement. After all, as late as the 1990s, economic activity without growth had been scientifically established (cf. the overview in Sarkar 2001). In this context, the decoupling of economic and transport growth was also called for, in line with the solution already implemented in the energy sector (cf. Baum & Heibach 1997). It is all the more astonishing when today some of the same authors consider such a decoupling within the framework of an integrated transport policy at best as a long-term strategy for the year 2050 (cf. Beckmann & Baum 2002: 317).[6]

If what was once scientifically demonstrated no longer seems conceivable, because today the conviction prevails that such measures would possibly cause a blockade of economic development in general, then as a result the mental horizons of the actors concerned shrink to the size of the status quo. The half-hearted restructuring of the Federal Ministry of Transport, Building and Housing made this particularly clear. By remaining trapped in the philosophy of growth, the Ministry and those politically responsible turned integrated transport policy into the lubricant of unobstructed growth in transport and the economy. Thus, the strategy of the Ministry was to "secure a self-perpetuating model of growth in road transport, into the future" (Reh n.d.: 8). The original idea of a cross-modal strategy with the goal of sustainable transport development was lost. Instead, the parallel structures remained in place, resulting in parallel financing and amounting to nothing more than parallel activities, running side by side.

In this context, the reform blockades in the Federal Ministry of Transport, Building and Housing are strikingly similar to those of its predecessor, the Ministry for Transport, in the 1970s (cf. Scharpf 1976). It has already been mentioned that in the early 1970s the last major

6 But the authors seem to find even a long-term strategy not entirely convincing: "In the long term, a decoupling of transport development from economic growth seems achievable, but only to a limited extent" (ibid.: 304).

attempt at structural reform of the Ministry of Transport was made, in order to remove administrative obstacles and enable an integrated transport policy across all modes of transport. This was not the least of the consequences of the experience gained from the attempt in the years 1968 to 1972 to establish a set of objectives in the Federal Ministry of Transport with the so-called Leber Plan, which was aimed at a balanced transport policy between rail and road. The analysis of these plans and why they failed concluded even back then that the main reason was to be found in a narrow view of the problem on the part of the ministry officials (cf. Kussau & Oertel 1974). In the foreground of their deliberations were always the restrictions caused by the normativity of the existing situation. At no time was the possibility of expanding the scope for action considered.

> "Thus it is explicable that the scope for dealing with problems cannot be politically expanded beyond what is enforceable, because this requires an understanding of 'political' that includes the discussion of what is desirable and the 'politicisation of restrictions'" (ibid.: 141).

In a comparable fashion, the current Federal Ministry of Transport and Digital Infrastructure (BMVI) is steered by supposed economic constraints to which the entire transport policy strategy is subordinated. The result is both a contradictory set of objectives and a problematic transport policy practice that barely corresponds to the original goals of an integrated transport policy. However, neither the contradictory objectives nor the resulting practice of the Federal Ministry of Transport and Digital Infrastructure can be attributed solely to its structural deficits. Rather, the question arises as to why and how it was possible to redefine the transport turnaround, using the model of integrated transport policy as an artifice to legitimise sustainable growth in transport and the economy. Is there any motivation at all to cast doubt on the status quo, or do positive incentives represented by strong societal interests still prevail today, so that we will continue down this development path? From this perspective, the Federal Ministry of Transport and Digital Infrastructure itself appears to be an expression of social power relations, which are articulated in the concrete interests of individual

social actors. Therefore, in the following, I will examine the constellation of actors in the field of transport policy, which is regarded as the central location for decisions on the direction to be taken by transport policy. The analysis of the field of transport policy field is consequently followed by a contribution to the politicisation of problem assessment in the transport sector.

3.2 The Stakeholders in Transport Policy and their Position in the Field

The following chapter will provide an overview of the most important stakeholders in German transport policy and their political orientation. At the same time, these stakeholders will be positioned in the field of transport policy on the basis of their objectives. This will provide a structured insight into the opaque (con)figuration[7] of the diverging interests of the various actors, which will also make it possible to position the actors in relation to each other and to describe the lines of conflict and convergence between them.

In order to present this complex interplay, I first examine which stakeholders have been actively involved in setting the agenda of transport policy in the past and thereby qualify as stakeholders in transport policy (chapter 3.2.1). The index of political activity presented in the first sub-chapter in turn serves to separate out for closer examination the most active and thus supposedly most influential representatives in the different categories. Following on from that, I present a categorisation of the stakeholders in terms of the role they play in the process of balancing the interests (chapter 3.2.2). Lastly, the representatives are situated in the field of transport policy, where the delineated interplay is illustrated by the integrative sustainability triangle (Chapter 3.2.3).

7 On the (con)figuration approach, cf. Elias (2006).

3.2.1 Identifying the Stakeholders in Transport Policy

In order to be able to examine the relevant stakeholders in transport policy, it is first necessary to identify all the actors that influence the discourse on transport policy, with the help of a structured approach. The screening process is based on several "major events" in transport policy in recent years. It is assumed that the overall state of affairs in German transport policy can be broken down into several individual thematic fields, in which decisions on transport policy are wrangled over. In the course of these temporally-limited negotiation processes, which can involve, for example, defining a strategy in transport policy, the allocation of funds for transport projects and research, or even the development of concrete legislation, the stakeholders try to influence the political decision-making process in their favour. Within this time frame, they show themselves and can thus be identified.

The aim here was to encompass as much as possible of the entire spectrum of actors in the field of transport policy. Accordingly, "major events" in transport policy were selected that lay at cross-purposes to the specific interests of individual modes of transport and in each of which a large number of different stakeholders in transport policy participated.[8] In order to maintain the focus on the German discourse on integrated transport policy, only national events are included in the analysis.

Four such "major events" were identified for the study carried out here; the recommendations of the *National Platform for Electromobility (NPE)*, the elaboration of the *Mobility and Fuel Strategy (MFS)*, the consultation procedure on the *Federal Transport Infrastructure Plan (FTIP)*

8 In contrast, in the debate on the toll for lorries, actors from the road transport sector in particular (e.g. haulage associations, car clubs, etc.) actively participated in the political decision-making process, while, for example, the EU's efforts to liberalise passenger rail transport were mainly influenced by rail operators and passenger associations. Due to the mono-sectoral orientation of the political events, the diverse configuration of actors in the discourse of integrated transport policy is more difficult to apprehend than in the case of events with a cross-modal focus.

and the work of the *Commission on the Future of Transport Infrastructure Financing (FTIF)*.

The NPE and the Commission on FTIF[9] are both advisory bodies to the Federal government. While there is no legally binding connection to transport policy in practice, it has nevertheless become apparent in the past that the work of both commissions has received a great deal of attention in debates on transport policy. For example, the German government's goal of having one million electric vehicles in use in Germany by 2020 was based on the recommendations of the NPE (BMWi 2011). Furthermore, essential parts of the Electromobility Act (EMoG) are derived from the resolutions of the NPE. Stakeholders who belong to the NPE can thus help shape practical transport policy in Germany (BMWi 2015). The Commission on the FTIF also influences agenda setting in transport policy with its work. For example, the 2012 report identified an infrastructure funding deficit of more than 7 billion euros (Daehre Commission 2012: 37). The result was increased pressure on transport policy makers to find alternative forms of financing in order to close the gap. This at least served to encourage the debates on motorway tolls and public-private partnerships (PPP) in road construction.

In contrast to the advisory character of the NPE and the Commission on the FTIF, the MFS and the FTIP are actual work plans of the Federal government that have been developed under the direct influence of stakeholders in transport policy. Both plans were adopted by the Federal Cabinet and thus have a binding character.[10] While the MFS primarily describes the technical options for solving the energy problems in the transport sector, the FTIP sets out concrete investment decisions by the Federal government. Due to the high investment volume of 264 billion euros over 15 years, one can assume that it will have an extraordinary influence on future transport infrastructure and transport development.

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9 The Commission on the *FTIF* last presented its report in 2012 under the chairmanship of Karl-Heinz Daehre (Daehre Commission 2012).

10 The MFS and the FTIP were last adopted by the Federal Cabinet in 2013 and 2016 respectively.

The consultation procedure for the FTIP exemplifies the twofold motivation of the stakeholders to participate in the political negotiations. On the one hand, they can influence the concrete development of transport in Germany, e.g. by prioritising investment in a specific mode of transport, and on the other hand, individual stakeholders hope to gain direct economic advantages from the allocation of funds. In the run-up to the new federal transport infrastructure planning, for example, municipalities and federal states compete for investments in the respective local authorities. The construction industry, which is responsible for infrastructure development, also benefits directly from the allocation of funds and thus has an interest in influencing investment decisions.

Participation of stakeholders in the events and involvement of "silent actors"

Within the parameters of the transport policy events in question, a total of 291 stakeholders were identified. To qualify as a stakeholder, a different set of conditions applied in each case. For example, 115 actors participated in the committees of the NPE (BMVI 2015), while the commission on the FTIP included the input of 22 actors in its report (Daehre Commission 2012). The elaboration of the FTIP and the MFS were each accompanied by a consultation procedure or a dialogue with experts, in which 44 and 171 stakeholders participated respectively (BMVI 2013, BMVI 2014).

In addition to the aforementioned platforms for participation in the 'major events', it is also possible for other stakeholders to influence the discourse on transport policy in a roundabout way. This can happen, for example, through direct exchange with political decision-makers (lobbying) or through the influence of the media. Since these stakeholders are not visible at first glance or act informally, they are referred to in what follows as "silent stakeholders".[11] The problem of their 'invisibility' can

11 Thus, the list of stakeholders in transport policy also includes actors who only make their standpoint known at the request of political decision-makers, i.e. they are passive participants in the discourse. These actors elude the analysis of Grandjot & Bernecker (2014: 63), who assume that actors qualify as stakeholders only by being active in transport policy.

be circumvented by referring to the list of lobbyists of the German Federal Parliament (register of associations) as well as the ID list for the Parliament (Deutscher Bundestag 2015; Der Abgeordnetenwatch 2015). The register of associations was used to identify a further 206 stakeholders with a connection to transport policy, while 77 stakeholders relevant to transport policy[12] have a 'house pass' for the German Federal Parliament. The complete list of stakeholders thus comprises 485 entries.[13]

Transport policy activities of individual stakeholders

The data examined provide an insight into the specific transport policy activities of the stakeholders (cf. Table 4). While a large proportion of the actors are either not listed at all or are listed in the register of associations or the ID list of the Federal Parliament (40 %), i.e. they are 'silent actors', 60% of the stakeholders participate actively in the formal procedures. Of these, in turn, 46 stakeholders (9 %) participated in two 'major events", 6 in three events (1 %) and only one in all four events.

12 In this context, stakeholders that are relevant to transport policy are understood as those who either work on issues related to transport policy or are part of the transport industry, e.g. through the production of means of transport or infrastructure.

13 Since some of the stakeholders participate in several events and are simultaneously listed in the register of associations as well as in the house pass list for the Federal Parliament, the complete list is shorter than the sum of the individual events. In addition, the list was expanded to include stakeholders mentioned in Grandjot & Bernecker (2014), Schöller (2006) as well as research institutions with a connection to transport policy and checked to ensure that it is up to date.

Table 4 Distribution of stakeholders based on Index of Political Activity (PAI)

INDEX OF POLITICAL ACTIVITY (PAI)	**NUMBER of stakeholders**	**Share (%)**
0	194	40.0
1	238	49.1
2	46	9.5
3	6	1.2
4	1	0.2
Total	**485**	**100**

Source: Own presentation

The particularly active stakeholders are the Association of German Cities and Towns (*Deutscher Städtetag*: DST), the German Automobile Club (ADAC), the German Association of the Automotive Industry (VDA), the Association of German Transport Companies (VDV), the German Transport Forum (DVF), the Association Pro Mobility and the Federal Association of Road Haulage, Logistics and Disposal (BGL). Particularly noteworthy are the activities of the ADAC, which was the only one of all the stakeholders examined to be involved in all the transport policy events in question. For the DST, VDA and BGL, in addition to the increased activity, it should be noted that each of these stakeholders has a parliamentary pass, providing them with additional opportunities to exert political influence.

The hierarchisation of the stakeholders according to how active they are in transport policy is a first step towards highlighting particularly relevant stakeholders and subjecting them to closer scrutiny. In the following, the number of events in which they participated is described as the Political Activity Index (PAI) of a stakeholder. Since it can be assumed they exert additional influence through the ID list of the Parliament as well as the Register of Associations, it seems to make sense to consider this data. The hierarchisation in terms of "major events", the parliamen-

tary ID list and the Register of Associations is therefore presented in what follows as the Political Influence Index (PEI). The conceptualisation in terms of PAI and PEI will be dealt with later.

In this context, it should be noted that in addition to the mere activity and listing of a stakeholder in the presented data, other characteristics also reflect a stakeholder's capacity to exert influence. For example, Schöller (2006: 52) used the annual budget, membership numbers and citation index to determine the most important representatives. In addition, the number of employees, press contacts, presence of branch offices and leverage, for example through economic clout, can also give a stakeholder special significance in terms of transport policy. However, since in the case examined here the focus was primarily on comprehensibility and simplicity of selection, the factors just mentioned were not taken into account and we only drew on PAI or PEI. While we thus aim at a holistic classification of the actors in the field of German transport policy, future analyses of individual cases should also take into account the other factors mentioned in order to be able to adequately describe the concrete mechanisms of political influence.

3.2.2 Categorising the Stakeholders

The following subchapter presents a systematisation of the stakeholders in transport policy and endeavours to provide answers to two fundamental questions: first, whether stakeholders can be grouped on the basis of certain characteristics, and second, whether it is possible to discern political interplay between the groups and/or what their specific tasks are in transport policy. Since determining the interplay between the stakeholders and assigning characteristics to a category or group are interrelated, the two questions will be answered in combination.

The Groups of Stakeholders

The study by Bjelicic (1990) provides an initial indication of the grouping of stakeholders in transport policy. In his categorisation, Bjelicic distinguishes between stakeholders in practical transport policy and transport researchers. Whereas the stakeholders in research are viewed as a group

without further differentiation, the author divides the actors in practical transport policy into a national and an international category. The organisations representing special interests in the economic sector are divided into further subcategories, whereas state-controlled bodies and special interest organisations in civil society are not further differentiated.

Bjelicic's approach is open to several points of criticism, which will be rectified in the categorisation below. First, it should be noted that the distinction between the national and the international level no longer corresponds to current practice in transport policy. Increasing integration in the E.U. has led to transport policy decisions at the supranational level affecting transport policy decisions at the Federal level in Germany.[14] Through the consultation procedure for legislative developments, which is generally conducted at EU level, supranational political decision-makers and international interest groups can, for example, significantly influence Federal transport policy. Special interest organisations and political decision-makers from Germany also have the opportunity to influence political decisions via the formally regulated EU legislative procedure. The distinction between national and international bodies, with each one only exerting influence at their own political level, thus becomes blurred and no longer seems consistent with a revised categorisation (cf. Chap. 4.2. European transport policy).

Furthermore, it should be noted that the strict focus on subcategories in the economic sector skews the model in favour of special interest organisations from the business sector. For example, while the main category "stakeholders in transport policy research" is not further differentiated, the "special interest organisations" from business are provided with four further subcategories. A subsequent selection of stakeholders to delimit the force field in transport policy on the basis of the categorisation would thus disproportionately represent the business sector in the balance of interests. The final criticism is that the model as presented has many ramifications and thus does not fulfil its claim

14 For example, the amendment of the Passenger Transport Act (PBefG) was initiated by the EU Regulation 1379/2007, which revised the public procurement law in public transport.

to be an easy-to-grasp schematic representation of the stakeholders in transport-policy.

Political Interplay

The results of the work of Grandjot & Bernecker (2014) will provide us with an initial conception of the political interplay between the groups. The authors understand transport policy as a triad consisting of decision makers, decision supporters and influencers. While decision-makers are responsible for making legally binding transport policy decisions, decision supporters prepare and implement them. Influencers, on the other hand, only have social power and have the task of developing ideas in transport policy. According to Grandjot & Bernecker, the relevant decision-makers are mainly governments and ministries, decision supporters are the ministerial bureaucracy and influencers are, for example, associations, trade unions or the business community.

For the purposes of our categorisation here, we will continue using the terms decision-makers, decision-supporters and influencers. In terms of content, however, the category of decision-makers now also includes all actors who are understood by Grandjot & Bernecker as decision-supporters, consisting of the ministerial bureaucracies mentioned above. Since the latter limit or expand the scope of political action by selecting political alternatives, they have a greater significance than mere support in transport policy decisions. Their direct involvement in the formulation of legislative texts or the legally binding interpretation of laws confirms the insight that ministerial bureaucracies are quasi-decision-makers.

In contrast, amongst the stakeholders there is a larger group of actual decision-supporters whom Grandjot & Bernecker categorise as influencers, namely the group "academics and researchers". Despite the obligation to scholarly neutrality, in the view of Grandjot & Bernecker (2014: 73) these stakeholders attempt to influence transport policy either through their own initiative or through a mandate from political decision-makers. Although there's no denying that it is possible for academics and researchers to represent particular interests in transport policy decisions, categorising them as influencers of transport policy

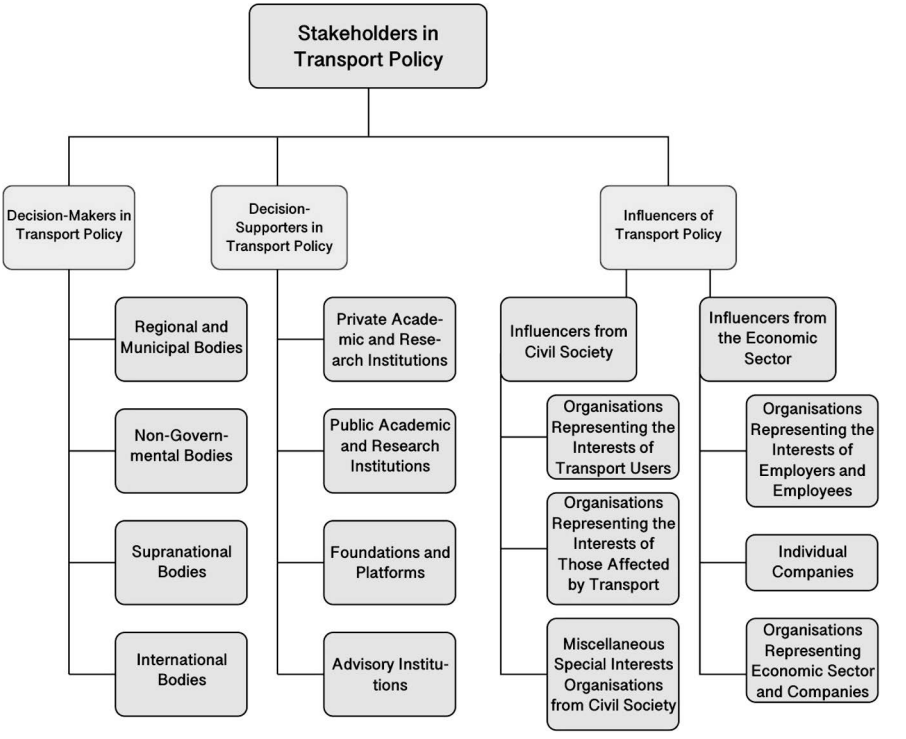
would not do justice either to the social self-image of the research institutions or to their concrete social function. This becomes particularly clear if one compares them with other influencers, such as business or environmental associations, whose motivation is always to represent particular social interests. This cannot be said to apply so definitively to researchers and academics, whose overriding ambition is usually to bring about objective decisions or decisions that are viable for society as a whole. While in the categorisation below influencers thus act *subjectively* or are guided by *particular interests*, decision-supporters in transport policy are oriented towards the common good or *render objective the decision-making process in transport policy.*

(Re-)categorisation of Stakeholders in Transport Policy

Figure 8 presents a synthesis of the findings presented above. Here, the first category of policy-makers represents all bodies and downstream institutions whose task it is to make legally binding policy decisions. As can be seen from the first column, this is the only category that is further subdivided by political level. Decision-makers at the regional and municipal level are, for example, the German Association of Cities and Towns as well as the German Association of Counties. Although these two bodies do not make any legally binding decisions themselves, they do represent their members in the respective regional authorities. Decision-makers at the national level include the *Ministry of Transport* (BMVI), the relevant federal agencies and, downstream, the ministerial bureaucracies. As a decision-maker at the supranational level, i.e. the EU level, the only apparent actor in events relating to transport policy was the Directorate-General for Mobility and Transport of the European Commission.[15]

15 On the international level, although there was no identifiable transport policy maker in the relevant events, the group was added to provide a consistent categorisation and to cater for future developments or other occurrences in transport policy.

Figure 8. Categorisation of Stakeholders in Transport Policy



Source: Own presentation

The second category of decision-supporters is divided into the four groups of private academic institutions, public academic institutions, foundations and platforms, and advisory institutions. The foremost task of the decision-supporters is to render decisions in transport policy objective.

Academic advocacy is divided into two groups (public and private) based on the criterion of funding. The special task of both groups is to conduct research into transport policy alternatives on the basis of crite-

ria of scholarly quality and to make the acquired knowledge available to decision-makers in transport policy.

In contrast, the foundations and platforms have the task, among other things, of providing decision-makers, decision-supporters and influencers with a platform for exchange. Irrespective of their convictions regarding transport policy, foundations and platforms play a major role in the decision-making process, since they can be seen as a link between civil society, business, research and political decision-makers. Foundations and platforms are represented, for example, by party-affiliated foundations, such as the *Friedrich Ebert Foundation* or the *Heinrich Böll Foundation*, or privately-funded foundations, such as the *Bertelsmann Foundation*.

Compared to the established foundations and academic institutions, the advisory institutions are the group of decision-supporters that has received the least attention so far. However, advisory firms, auditing companies or law firms are increasingly being commissioned by political decision-makers to provide expertise.[16] Thus, they have the task of providing policy advice, which, ideally, takes place independently of the respective particular interest. In addition, there are further identifiable sub-groups within this group, which, for reasons of clarity, are not shown in figure 8. The majority of the stakeholders are located in the private sector and are therefore profit-oriented in their actions. Examples include *Dornier Consulting GmbH*, *Ecofys GmbH* and *SCI Verkehr GmbH*. In addition, there are advisory institutions founded by the public sector but operating in the private sector, which almost exclusively take on contracts in the public sector. Amongst these self-proclaimed 'competence centres' are, for example, the *Deutsche Energieagentur GmbH*

16 In this context, it should be pointed out that the advisory institutions have now advanced to become powerful stakeholders in transport policy. In some cases, entire laws are pre-formulated by law firms. In this regard, a request for information from the Green Party reveals that in the 16th legislative period of the Federal Parliament at least three laws were drafted under the aegis of the Ministry of Transport with the help of advisory institutions (Deutscher Bundestag 2009: 15 ff.).

(dena) or *Agora Verkehrswende*. Finally, the last subgroup of advisory institutions is exemplified by institutions such as the *Council for Sustainable Development* or the *German Advisory Council on the Environment*. These stakeholders are not profit-oriented. Unlike the other advisory institutions mentioned, they exclusively provide advisory services for political decision-makers.

The category of influencers in German transport policy is again subdivided into representatives of civil society and the business community. Stakeholders from civil society are characterised above all by criteria of exclusion in comparison with other categories. Unlike political decision-makers, they have no formal right to make legally binding decisions. Furthermore, they are not mandated by the decision-makers to render political decisions objective or to develop solutions that are viable for society as a whole. Instead, they 'subjectify' the discourse, since the social concerns of the actors represented are guided by particular interests. At the same time, organisations from civil society often represent large parts of the population, so that they can be extremely important for the political decision-making process. These actors have specific knowledge in their respective fields of expertise, which is why they are often consulted by policy-makers and decision-supporters. If decision-makers and supporters seek the opinion of influencers on an equal footing, it leads to a more consistent transport policy. That policy-makers recognise this is demonstrated by the advisory processes for the events outlined above.

The influencers from civil society are divided into three sub-categories representing different social groups with transport policy concerns. The group "organisations representing the interests of transport users" includes all clubs, associations, citizens' initiatives or other organised interest groups that represent the ideas of transport users concerning transport policy. These can be, for example, passenger associations such as *PRO BAHN* or automobile and bicycle clubs such as the *Allgemeiner Deutscher Fahrrad-Club* (ADFC), *ADAC* and *Auto Club Europa* (ACE). Organisations representing road safety interests, such as the *German Road Safety Organisation* or the *German Road Safety Council* (DVR), were also included in the group. The interests of transport users are also

represented here, since road accidents occur exclusively among road users.

The second group of influencers from civil society are "organisations representing the interests of those affected by transport". The decisive criterion for classification as a stakeholder in this group is that it is a social sphere that is affected by transport and traffic, but *without* sharing the concerns of transport users. Since this point of intersection issues from the negative external effects of transport, the group almost exclusively consists of interest groups. It should be noted that in contrast to the organisations representing the interests of transport users, the organisations representing the interests of those affected by transport and traffic mostly deal with other political issues besides transport policy. Their participation in the discourse of transport policy can be viewed as reactive with regard to the economic, ecological and social impacts of transport. The relevant organisations include, for example, *Greenpeace*, *Friends of the Earth Germany* (BUND), *Environmental Action Germany* (DUH) or *Federal Association against Rail Noise* (BVS).

The group of "Miscellaneous Special Interest Organisations from Civil Society" includes all organisations that cannot be clearly assigned to the first two groups. These include those actors that represent both the interests of transport users and the interests of those affected by transport and traffic. This special role is played, for example, by the *Parity Welfare Association*, which supports the interests of socially disadvantaged people. One of the Association's concerns is to increase the mobility of people with low incomes, which at the same time represents the interests of transport users. On the other hand, it can also represent the interests of residents who live on noisy roads due to their low income. In this case, it represents the interests of those affected by transport and traffic. Other interest organisations with this special role are the *Federation of German Consumer Organisations* (vzbv), *Germanwatch* or *Mobile with Disabilities*.

Lastly, we have the sub-category "economic influencers" in transport policy, who have several features in common with influencers from civil society. For example, economic influencers also lack politically legitimised power, and influence the discourse on transport policy through

their respective particular interests. Through their know-how, they can substantiate political decisions, which gives them a special significance in the decision-making process in transport policy. In contrast to the influencers from civil society, however, they derive their justification from the private sector. Since the economy is directly dependent on transport, these organisations have a particularly strong motivation to influence transport policy to serve their own interests. Accordingly, the specific requirements of the private sector play a prominent role in guiding political decision-making in Germany.

The economic influencers can be divided into three groups. The first group is the "organisations representing the interests of employers and employees", meaning all organisations that represent a particular interest in different business sectors. These include, for example, professional organisations, trade unions or employers' associations. A decisive criterion for the grouping of this type of organisation is that only one particular interest is pursued within a sector or between several companies. Examples here are the *German Trade Union Confederation* (DGB), *the Association of German Engineers* (VDI) or the *Air Transport Employers' Association* (AGVL).

The second group are private businesses: they act in accordance with economic principles and are in most cases profit-oriented. Due to their respective legal structure (usually a company with limited liability, a corporation with stockholders, or a limited partnership company), most of the stakeholders can be clearly assigned to this group. For reasons of clarity and simplicity, in what follows no further distinction is made between them (for instance, on the basis of the specific transport sector or the industry). Companies that exemplify the group in question are *German Rail* (DB), *Volkswagen* (VW) or *Dekra SE*.

Finally, sector and business organisations aggregate the interests of businesses and represent their political goals. The decision-supporters, who are organised exclusively as associations, are thus given greater weight in the political decision-making process. The group thus includes classic business lobby associations such as the *Association of German Chambers of Industry and Commerce* (DIHK), the *Association of*

the German Automotive Industry (VDA) or the *Federal Association of Road Haulage, Logistics and Disposal* (BGL).

Brief presentation of the distribution of the stakeholders

The categorisation of the identified stakeholders provides an insight into the distribution of the relevant actors in the political decision-making process (cf. Table 5). While 29 of the total of 485 stakeholders (6%) are political decision-makers, 105 (22%) of the actors serve as decision-supporters in transport policy. With 351 actors (72%), the majority are influencers of transport policy. Of these, 55 actors (11%) come from civil society and 296 (61%) from the private sector.[17]

Table 5 Shares and number of stakeholders in transport policy by category and group

Category	Number	Percentage
Decision-Makers	29	6%
Regional and Municipal	4	1%
National	24	5%
Supranational	1	0%

17 The breakdown of the stakeholder groups and the excess of economic influencers makes it clear why Bjelicic's (1990) categorisation shows an imbalance in favour of interest groups in the private sector. It seems plausible that the greater the number of actors, the more distinguishing criteria for the actors can be discerned. The differentiation criteria give rise in turn to the formation of new categories. However, this means losing sight of the fact that the number of actors does not lead to an increase in the range of tasks in transport policy. If the decision-making process is to be adequately represented between the different groups of stakeholders and their respective tasks, the same number of stakeholders must be selected from each category or group. Otherwise, the policy analysis itself would fall victim to the design flaw of favouring the specific interests of certain stakeholders due to their sheer number.

International	0	0%
Decision-Supporters	105	22%
Private Sector	33	7%
Public-Private	45	9%
Advisory Bodies	19	4%
Foundations and Platforms	8	2%
Influencers	351	72%
Civil Society	55	11%
Transport Users	31	6%
Those Affected by Transport and Traffic	18	4%
Miscellaneous	6	1%
Private Sector	296	61%
Businesses	121	25%
Sector and Business Organisations	138	28%
Employers and Employees	37	8%

Source: Own presentation

3.2.3 Situating the Stakeholders in the Field of Transport Policy

On the basis of the foregoing identification and categorisation of stakeholders, they will now be situated in the field of transport policy. The purpose of situating them is to illustrate the relationship between the actors in relation to the overall goal of integrated transport policy. At the same time, by means of the topography, the position of the actors in relation to each other should become evident.

The section is divided into three subchapters. In the first sub-chapter, the methodology of the integrative sustainability triangle (IST) is described in more detail and adapted to the discourse of integrated transport policy. In this context, the advantages of the IST with regard to the diverging interests of stakeholders in German transport policy will also

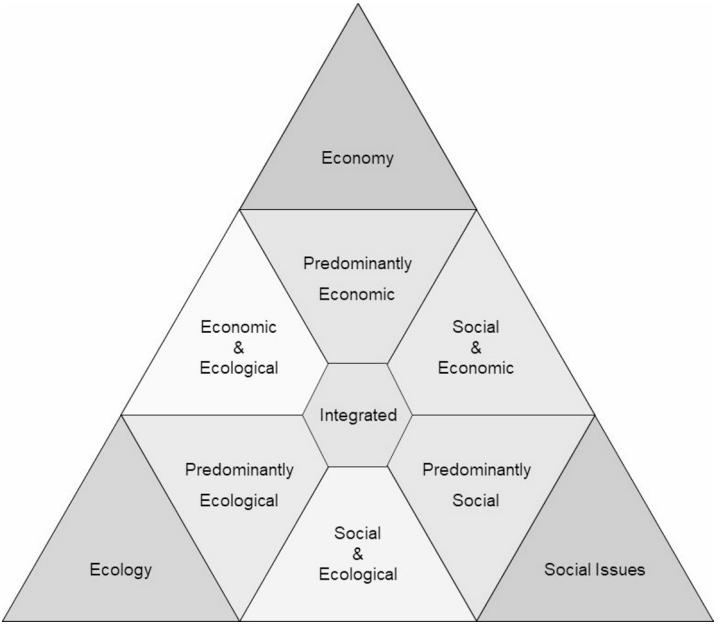
be highlighted. The second subchapter fills out the sustainability triangle with indicators that make it possible to situate the actors' fields of action. At the same time, the indicators can be understood as the most important political points of gravity in relation to the discourse of integrated transport policy. Finally, the sustainability triangle facilitates a classification of the actors on the basis of their objectives. The synthesis of indicators and fields of action thereby provides us with a visualisation of the *topography of the landscape of actors in German transport policy.*

The Differentiated Sustainability Triangle

To systematise the fields of action within the discourse of integrated transport policy, we will apply the integrative sustainability triangle (IST) proposed by Hauff & Kleine (2005). Proceeding from the generally valid guiding principle of sustainable development, which, as we know, is based on the three pillars of economy, ecology and social affairs, the authors voice the criticism that the pillars have so far been considered too much in isolation from each other. This not only neglects important connections between the three integration strategies, but also means that the three-pillar model does not adequately convey the complexity of the political objectives or fields of action. A differentiated sustainability triangle, which presents the three pillars as the outer points of gravity of a triangle and blurs the boundaries between them, could therefore provide a more fine-grained situating of indicators, political objectives and actors (cf. Figure 9). It would also be possible to better describe the relationship between the goals of the different sets of objectives and thus render apparent any possible lines of conflict or positive relationships.

In the following, the IST is first used to structure the objectives in the field of transport policy in terms of the model of integrated transport policy. The three pillars of economy, ecology and social affairs are to be understood as the corner points of the triangle that span the gravitational field of transport policy. The outer triangles of economy, ecology and social issues form the extremities of the 'field of gravity', spanned by the areas of interest of the various actors.

Figure 9. Variables of the integrative Sustainability Triangle (IST)



Source: Own presentation

The intersections between two of the three dimensions of sustainability mentioned at the beginning are represented by the hybrid triangles Economic-Ecological, Social-Economic and Social-Ecological. The boundaries between the "classic" three pillars are thus dissolved, while the degree of integration of the fields of action increases. However, only two of the three dimensions are integrated in each case, while the dimension opposite is largely disregarded in the fields of action.

Furthermore, there are three sub-triangles (predominantly ecological, predominantly economic, predominantly social), each of which still has a strong connection to one of the three points of gravity, but which also have a weak impact on the fields of action of the two dimensions

opposite each other. What is important here is that there is an equal relationship between the two dimensions positioned opposite each other, while the fields of action of the closer dimension are given priority.

Lastly, the central hexagon of integrated transport policy is to be understood as the political guiding principle where all dimensions are fully integrated. All fields of action that display a balanced relationship between the three dimensions of sustainability are gathered here. This can, for example, also be a balanced mixture of the three corner triangles, hybrid triangles and sub-triangles.

Programmatic Indicators of the Integrative Sustainability Triangle

The next step is to identify and classify indicators within the IST. In the following, an indicator is understood as a field of action in transport policy or as the objective of a stakeholder with which the latter positions itself in the process of mediating interests. A stakeholder's fields of action are not limited and result from the set of objectives or the stakeholder's guiding principle. Generally speaking, the guiding principles and self-descriptions of the actors, as documented on their websites, serve as the basis for determining the indicators. These have the advantage that the actors themselves present a concise and precise selection of their most important fields of interest. This limits the danger that the distinct political objectives of the actor in question become blurred in an unlimited list of demands, e.g. in recommendations for political action on the occasion of elections.

The selected actors whose political objectives were coded and used to determine or validate indicators belong exclusively to the categories of decision-supporters and influencers.[18] The decision-makers were excluded from the analysis because, in the ideal case, they are apt to advocate a fair balance of interests conducive to the common good, or an

18 The selection of the stakeholders is based on the Political Activity Index (PAI) introduced in chapter 1.1. For this purpose, an average of three actors were selected from each group. If they were equally ranked according to the PAI, the actors with the higher Political Influence Index (PEI) were then chosen.

integrated transport policy. In addition, in their case there is no political positioning comparable to that of decision-supporters or influencers. Only on the basis of all the decisions made in transport policy would it be possible to establish an indicator for, and to situate, the decision-makers within the IST. On the one hand, this would greatly reduce the comparability of the data, and on the other hand, the sustainable character of the envisaged practical solutions, such as multimodality or electro-mobility, would need to be clarified. However, there is no appraisal here of the instruments of transport policy on the basis of the IST.

Identified Indicators

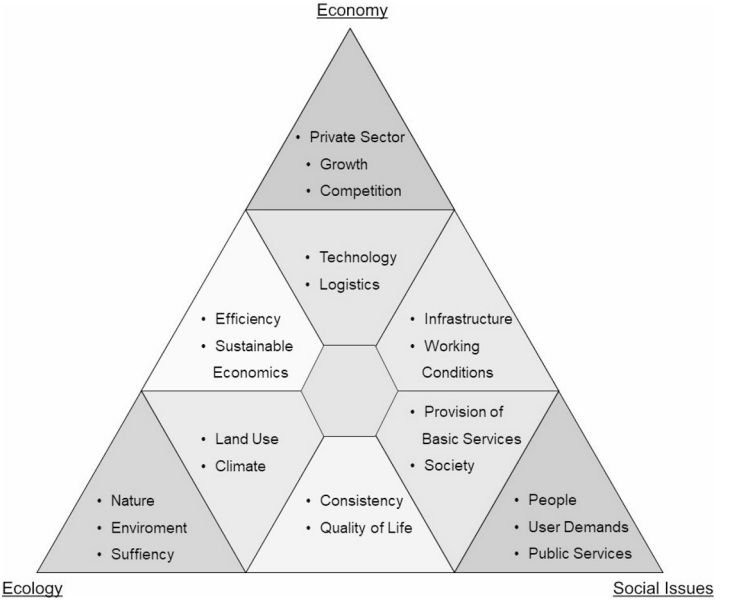
Figure 10 shows the most frequently occurring indicators in the field of transport policy and assigns them to the features in the IST. The indicators perform three tasks: firstly, as already mentioned, the political objectives of the stakeholders are presented; secondly, the indicators characterise the respective triangles within the IST; thirdly, they structure the discourse in terms of integrated transport policy.

Indicators of the outer triangles ecology, economy and social affairs can be characterised by the fact that they exclusively thematise the respective guiding principle without taking into account the interests of other dimensions. For example, the ecology triangle includes the indicators of nature conservation and environmental protection. In this context, the transport policy objectives are aimed at eliminating the negative impacts of transport on nature. In order to achieve this overarching goal, negative social and economic effects are considered acceptable. Overall, the outer triangle of ecology with its so-called sufficiency strategy represents a sustainability approach strongly oriented towards natural conditions, with the goal of traffic avoidance as the result of a change in transport behaviour.

The strictly economic triangle is characterised by objectives that reflect the aspirations of capitalist economic activity. Here transport policy is understood as a means to maintain and improve the economic cycle as much as possible. To this end, transport policy should, on the one hand, be designed to achieve the greatest possible economic growth and, on the other hand, its implementation should be based on the principle of

equal competition. Further indicators found in this context are the performance principle as well as the principle of full automation and globalised free markets.

Figure 10. Transport Policy Indicators of the Integrative Sustainability Triangle



Source: Own presentation

The strictly social triangle covers all direct human requirements in relation to transport. Here transport policy takes on the task of protecting people's physical integrity and ensuring their mobility needs in order to guarantee the necessary social participation. The relevant indicators are thus human rights, workers' rights and data protection rights, but also the improvement of road safety. The user-oriented perspective plays a prominent role in this context. Thus, transport policy should be ori-

ented towards the interests of users and consider these as decisive. The fields of action within user orientation can be heterogeneous, as demonstrated by the topics of accessibility and low mobility costs, which are not always congruent.

The indicators of the triangles Economic-Ecological, Social-Economic and Ecological-Economic, on the other hand, display a mixed ratio and are inherently closer to the guiding principle of integrated transport policy. For example, the economic-ecological aspiration of economic activity that is resource-conserving or sustainable serves a dual purpose. On the one hand, there is the insight that the destruction of nature is primarily the result of previous forms of economic activity, meaning that the latter must be made more ecologically compatible. On the other hand, there is the realisation within economically-oriented objectives that a transport policy exclusively committed to economic principles exhibits limits to growth, which in turn entail negative economic effects. Consequently, a resource-conserving and thus sustainable transport system should be established for the long-term preservation of the economy. This approach is represented by the so-called efficiency strategy, which aims to achieve gains in efficiency through technical innovations and thus reduce negative environmental impacts (e.g. the development of engines that are more fuel-efficient).

The most important indicators of the social-economic hybrid triangle are the fields of action *infrastructure* and *working conditions*. Both indicators exemplify how demands in transport policy integrate different dimensions of sustainability. On the one hand, a functioning economic system requires a functioning transport infrastructure – for example, for the delivery of goods and commercial transport. On the other hand, infrastructure also fulfils social requirements, for example through leisure traffic. Infrastructure thus also increases the degree of mobility (social objectives), since the potential for movement from one place to another is increased, thus guaranteeing diverse social participation. Working conditions, on the other hand, are a subject area which is not transport-specific and which exhibits interdependencies with the economy and social affairs. On the one hand, the transport

industry provides jobs; on the other hand, it is of social concern that this employment is designed to be as employee-friendly as possible.

The indicators of the social-ecological triangle also constitute a hybrid field of transport policy. The demand for a higher quality of life through an integrated transport policy touches on both social and ecological aspects. Thus, first of all, it is a social requirement to expose people to less traffic stress, which helps to ensure physical integrity. However, this goal can only be attained by managing transport in a more ecological fashion, since it requires reducing the latter's environmental impacts. Another descriptive indicator of quality of life here is reducing traffic noise, brought about by the two outer gravitational points. As the last of the three sustainability strategies in the IST there is the consistency strategy. Since this strategy aims to reduce resource consumption and thereby the environmental impact of transport on the one hand, and on the other hand, it also affects social issues such as the fair distribution of resources, it is positioned in the IST as a dual integration strategy.

The strongest indicators of the "predominantly ecological" subtriangle are land use and climate protection. In addition to the clear reference to ecological aspects, these indicators exhibit a weakened reference to social and economic issues. For example, the economic significance of climate-damaging gas emissions is to be highlighted relative to the pollutant emissions located in the social-ecological triangle. Long-term economic risks are posed by the abstract danger of climate change, which is why the economic dimension is affected. Climate change caused by vehicle emissions, among other things, also has social impacts, for instance through drinking water shortages and flooding. Likewise, the ecological aspect of land use not only raises an issue of social distribution, but the availability of land as a factor in production is also necessary for a functioning economic system.

The decisive indicator of the "predominantly economic" triangle is technology, which likewise includes – albeit to a lesser extent – social and ecological aspects. The field of action is predominantly economic because it has its origins within the economy. The latter brings new technologies onto the market and provides an impetus for their further de-

velopment. At the same time, technology has social impacts, for example through the social changes it brings about. Technology can also increase the negative environmental impacts of transport, for example through the invention of the internal combustion engine in the 19th century, or reduce them, for example through the subsequent development of energy-saving engine technology. This is where the connection to the ecological integration field comes into play. Two illustrative sub-indicators of technology are digitalisation in transport and road safety solutions.

Lastly, the predominantly social indicators "provision of basic supplies and services" and "social aspects" should be mentioned as a field of political action with a weak economic and ecological connection. Politically this triangle stresses the importance of a functioning social system, while at the same time recognising the importance of the economy and social responsibility for an environmentally sound use of resources. Further indicators in this segment of the IST are the provision of basic supplies and services or public transport, as well as the effects of demographic change on transport.

Interim summary

The integrative sustainability triangle as proposed by Hauff & Kleine (2005) has helped us to structure the discourse on integrated transport policy in terms of the three dimensions of ecology, economy and social issues. Three corner triangles, three hybrid triangles and three sub-triangles were formed, each with a different weighting of the dimensions of sustainability. We then identified fields of action in the objectives of the stakeholders in accordance with the different weightings within the integrative sustainability triangle. This made it possible to situate the fields of action that are part of the discourse on integrated transport policy within the integrative sustainability triangle. An important point in this context is the classification of the three sustainability strategies: the efficiency strategy conforms to the ecological-economic hybrid triangle, while the consistency strategy is situated in the social-ecological hybrid triangle. The sufficiency strategy, on the other hand, is placed in the outer triangle of ecology and thus has no aspects that integrate it with the social or economic field.

Visualising the Positions of the Actors

By situating the political fields of action, it is now possible to classify the stakeholders with their different objectives within the integrative sustainability triangle (IST). It is important here that the position of an actor is determined by the general tenor of the organisation's objectives. This means that the subsumption of the coding of all the subsections of the objectives determines where the stakeholder is located in the triangle. If, for example, an actor is active in the strictly economic and the strictly ecological sectors, he is placed in the ecological-economic field. At the same time, the integration of the ecological-economic field with the socio-ecological field means being located in the predominantly ecological sphere and thus closer to the integrating point, since one can ascertain an attraction to economic and social fields of action.

Figure 11 illustrates the programmatic orientation of the stakeholders within the IST. [19] In the following, selected actors will be discussed by way of example and arguments presented for their positioning within the triangle.[20] In this context, the configuration of actors, the position of the actors in relation to each other and their relationship to the respective fields of action will be explored.

The strictly economic camp is exemplified by the *Federation of German Industries* (BDI), *Volkswagen AG* (VW) and the *German Transport Forum* (DVF). These three actors generally advocate a policy oriented towards the key concepts of competition, growth and economic performance. This is particularly clear in the analysis of the BDI, which states:

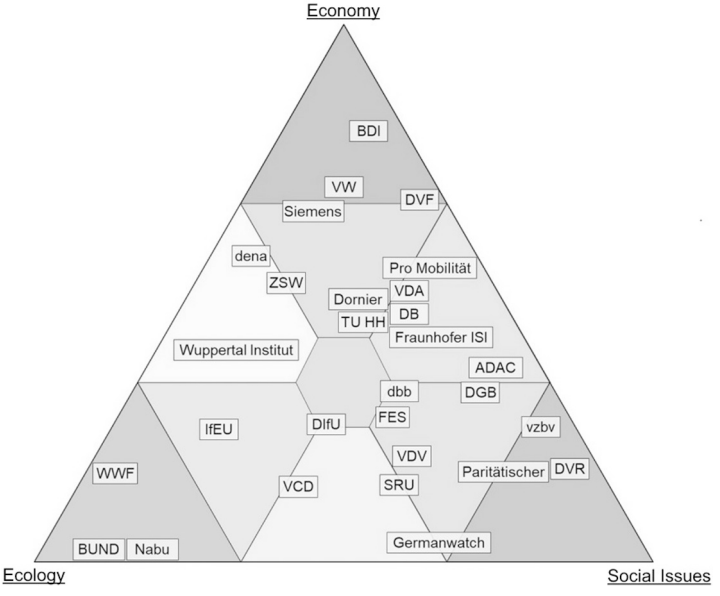
> "Industry constitutes the foundation of the German economy and is decisive for the competitiveness of our country. Prosperity in Germany

19 Although the quantitative data on the positioning of the actors is not visible here, each actor has a specific value that situates it in the sphere of transport policy. This value is divided into three dimensions: ecology, economy and social issues. For example, the stakeholder Volkswagen has an economic value of 70%, a social value of 15% and an ecological value of 15%. A "fully integrated" set of objectives would therefore have the value of 33.3% for each dimension.

20 The selection is made for the sake of clarity; a complete list of all the relevant stakeholders in the field of transport policy can be found in the appendix.

depends to a large extent on the development of the global economy. Internationally competitive companies guarantee that Germany as an industrialised country benefits from globalisation" (BDI 2016).

Figure 11. The Topography of Actors in the Integrative Sustainability Triangle



Source: Own presentation

The implications of this for transport policy can be seen in the guiding principle of the German Transport Forum. It views the "preservation and improvement of mobility as a basic prerequisite for growth and employment" (DVF 2016). Accordingly, a transport policy in concordance with the interests of the DVF is part of Germany's economic policy. Through its "*Group Strategy 2018*", Volkswagen is also gearing the development of the group towards growth in the sphere of international

competition (cf. VW 2014). Although the strategy itself does not formulate any demands concerning transport policy, it is obvious that the objective for decisions in transport policy is to maximise growth in sales and profit and to maintain international competitiveness. At the same time, approaches can be found in Volkswagen's corporate strategy that reveal links to social concerns. Thus, in addition to the focus on economic success, VW also has the ambition to be considered an attractive employer, in order to attract highly qualified and motivated personnel (cf. VW 2014).

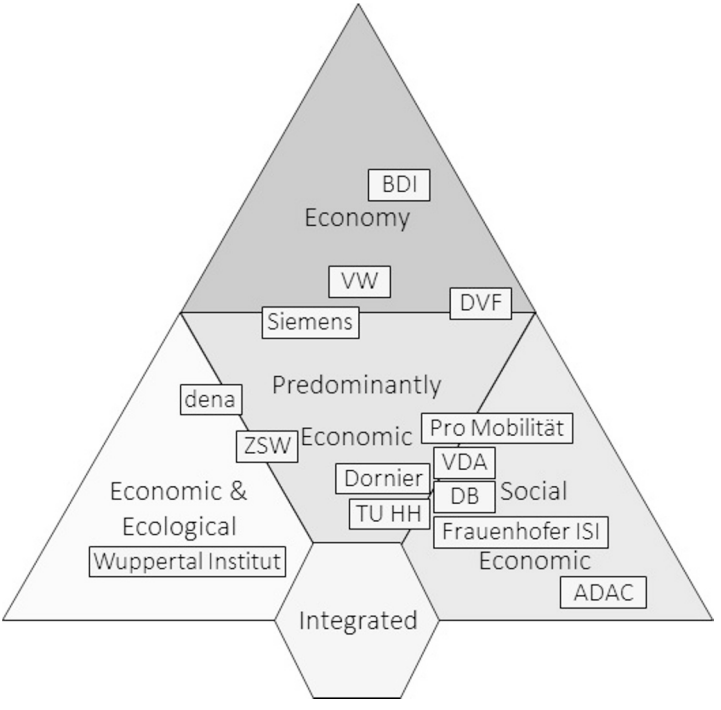
The rudimentarily formulated ambition in the direction of socially acceptable working conditions is an indicator of the transition to the socio-economic sub-triangle of the IST. Similar to the clarification of the social question in the 19th century, the stakeholder here becomes aware of people as a resource and integrates them as a building block of sustainable economic activity. In this way, the socio-economic sub-triangle also marks the historical change from a capitalist industrial society to a modern welfare state. Representative organisations that adopt this partially integrated position are the *German Association of the Automotive Industry* (VDA), *German Railways* (DB), ADAC and the *Fraunhofer Institute for Systems and Innovation Research* (Fraunhofer ISI) (cf. Figure 12).

Politically speaking, for the *German Association of the Automotive Industry*, this position is expressed not only in the technological ambition to "build the best cars in the world" (VDA 2015: 3), but also in the obligation to act responsibly towards its employees (cf. ibid.). The same applies to German Railways (DB), which in its guiding principle sets itself the task of "attracting and retaining qualified employees as a top employer" (DB 2012). In both cases, however, the overriding goal is still economic success. Nonetheless, the social needs of the employees must also be taken into account in order to achieve the goal, which is why a partially integrated positioning of the actors with a stronger connection to the economic gravitational point seems to make sense.

In contrast, the *German Automobile Club* (ADAC) provides a completely different approach to socio-economic integration. On the one hand, the automobile club places the socially-motivated demand on transport policy to provide access to (auto-)mobility as cheaply as pos-

sible (cf. ADAC 2013: 4). On the other hand, this demand is to be met through a high level of competition on the provider side and demand-oriented infrastructure development (cf. ibid.). This opens up the user perspective in transport policy, which focuses even more strongly on people's needs than on economically motivated workplace design.

Figure 12. Segment of the Economically-Inclined Topography of Actors



Source: Own presentation

In addition, the ADAC's demand to expand and maintain transport infrastructure delineates a broad field of action that has the effect of integrating a large proportion of the stakeholders – also those situated outside the socio-economic triangle. Thus, on the one hand – as in the case of the ADAC – the demand can be made with a socially-motivated aspiration for increased mobility and convenient access to it. On the other hand, there is a consensus among the majority of stakeholders that a functioning infrastructure is essential for economic growth and competitiveness (cf. dbb 2013, DVF 2016, VDV 2016, Pro Mobilität 2013, Dornier Consulting 2016). Accordingly, transport infrastructure serves not just users and people, but also the economy. The analysis of the Association of German Transport Companies makes this clear: "a well-developed and efficient transport infrastructure [is] a decisive locational factor for a modern economy" (VDV 2016). In the context of global competition, infrastructure thus goes from being the basis for freight and passenger transport to being an argument for investors to establish business locations and provide jobs. [21]

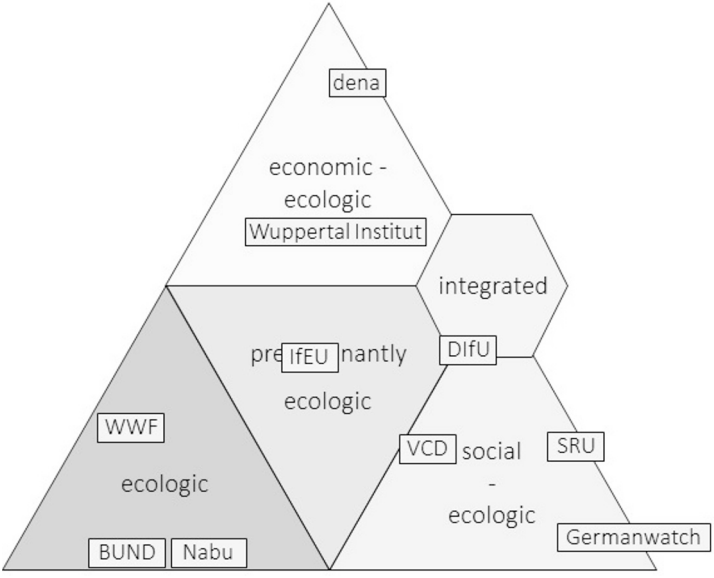
Whereas the argumentation of the stakeholders examined so far has tended to be oriented towards economic policy, the stakeholders situated in the predominantly social triangle see transport policy primarily as a socio-political task (cf. Figure 13).

There is also a connection here to the upkeep of transport infrastructure, as the demands of the German Confederation of Trade Unions (DGB) show:

21 Another demand in transport policy that goes beyond the boundaries of the IST sub-triangles is the improvement of road safety. Thus, there is widespread consensus on increasing road safety or reducing the number of accidents. On the one hand, this objective can be based on the socially-motivated ambition to protect physical integrity, as is shown by the guiding principles of the German Road Safety Council and the German Transport Club (DVR 2014, VCD 2016). On the other hand, this argumentation can also be made from an economic or technological standpoint, for instance, when it is a question of increasing the acceptance of established transport technologies. The VDA (2015: 3) and the DVF (2016) are examples of organisations that pursue economically or technologically-oriented improvements in road safety.

> "For the DGB, transport infrastructure is on the one hand part of the state's provision of public services and on the other hand an important locational advantage for the economy and employment" (DGB 2013: 3).

Figure 13. Segment of the Socially-Oriented Topography of Actors



Source: Own presentation

If the DGB thus also has a socio-economic perspective on transport policy, such demands originate in the social sphere. The stakeholder begins by opening up the socially-oriented field of working conditions, before shifting the focus to securing employment, which is dependent on the economy. The link between the DGB and social policy arises from the fact that, on the one hand, it needs to be clarified how the profits of the

transport industry are distributed within society (working conditions, job preservation). On the other hand, the state is called upon to ensure a satisfactory degree of mobility and social participation for all social groups and thus to increase the quality of life.

The connections between transport and socio-political issues become clear when looking at the programmatic demands of the German Civil Servants' Association (dbb) and the Friedrich Ebert Foundation (FES). The dbb, for example, sees transport policy and planning as being duty-bound to develop concepts that take into account demographic change, especially in rural areas (dbb 2013: 14). As in the case of the DGB, transport policy thus has the task of providing equal access to mobility for all social groups.

Furthermore, the FES identifies conflicting socio-political objectives in the transport sector. On the one hand, it is acknowledged that

> "mobility [...] in our modern society is a prerequisite for [...] participation in [...] social life" (FES 2009: 3), which leads to the demand for a "high degree of mobility for all" (ibid.). On the other hand, "the structures that are required to satisfy mobility needs lead to a reduction in the quality of life, especially in urban areas" (ibid.).

The positive social effects of mobility are thus at odds with the ecological effects of the resulting traffic management. The adverse ecological effects of emissions in turn lower people's quality of life, which leads to a programmatic connection to the level of social-ecological integration. By concurrently taking into account the requirements of the economy, the FES positions itself almost integratively in the IST.

The stakeholders in the strictly social camp deviate from this partially integrated position. These are the *Federation of German Consumer Organisations* (vzbv), the *German Road Safety Council* (DVR) and the *German Parity Welfare Association* (DPW: Paritätischer). It should be emphasised in this context that the strong common social orientation is based on different sets of objectives. The vzbv, for example, sees its task mainly in the protection of consumers vis-à-vis producers. "We fight for fair markets, safe products and clear information" (vzbv 2016). From a transport policy perspective, this implies the protection of users in their consump-

tion of transport offerings. Since, for example, transparent markets for transport offerings ensure increased competition and thus lower prices or profits, this stakeholder tends to be in conflict with the strongly economically-oriented supply side. -Along similar lines, the DPW also sees itself as "committed to the idea of social justice" and to the social and societal policies associated with it (DPW 2014). In contrast, the DVR also demands user protection, but in a physical sense: "The mission of the association is to promote measures to improve the safety of all road users. […] The DVR advocates positions that are apt to save lives and prevent serious injuries" (DVR 2014). Since in this instance appropriate solutions are often seen in technological or infrastructural terms, the relationship with the economic field is more harmonious than that of the vzbv.

Whereas the political demands of the stakeholders have so far mainly involved the conflict between – and the integration of – the economic and social spheres, the representatives of the strictly ecological camp have a special significance in the field of actors (cf. Figure 14).

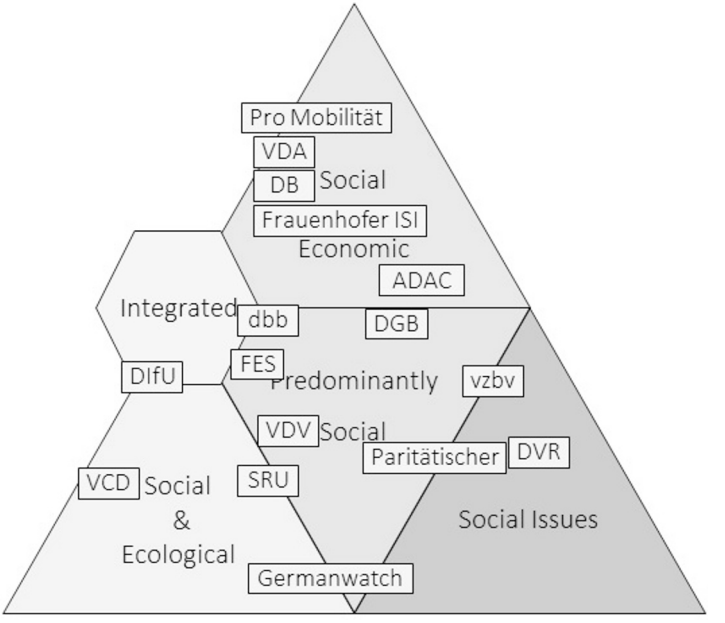
Although the demands of the stakeholders stand in a similarly conflictual relationship to the respective outer triangles, this extends the IST into a third dimension, which entails two further areas of integration. Exemplifying the strictly ecological triangle are the Friends of the Earth, Germany (BUND), the Nature and Biodiversity Conservation Union (Nabu) and the World Wildlife Fund, Germany (WWF). These organisations advocate consistent environmental protection and nature conservation. Nabu describes this in the definition of its goals:

> "We want future generations to enjoy a world worth living in – one that offers a great variety of habitats and species as well as good air, clean water, healthy soil and as large a reserve of natural resources as possible" (Nabu 2016a).

On the one hand, this demand presupposes that people change their current lifestyle; on the other hand, dependence on and the exploitation of finite resources should be reduced to a minimum. From a transport policy perspective, this means a change in transport behaviour with a simultaneous renunciation of fossil fuels. Furthermore, "mobility policy

[…] should aim to drastically reduce traffic where it is superfluous and harmful to the climate and health" (Nabu 2016b).

Figure 14. Section of the Ecologically-Oriented Topography of Actors



Source: Own presentation

These goals tend to conflict with the requirements of the economy: changing lifestyles and abandoning fossil fuels is incompatible with the current way of doing business. At the same time, placing restrictions on economic growth is held to be acceptable in order to achieve ecological goals. However, the relationship between the social sphere and pronounced ecological interests is ambivalent. On the one hand, the environmental burdens caused by traffic are harmful to people and reducing

them brings positive social effects. On the other hand, imposing a reduction of traffic or a change of lifestyles can restrict individual mobility, which entails negative social consequences.

The favoured approaches to transport policy of stakeholders in the ecological field versus those of actors from the social or economic fields in turn give rise to two integrative options, each of them occupied by actors with different sets of objectives. In line with the clarification of the social question in the 20th century as a result of integrative solutions from the social and economic fields, the two integrative options can thus be seen as the equivalent to the clarification of the ecological question in the 21st century.

The first integrative option encompasses organisations from the ecological-economic field. These are the *German Energy Agency* (dena), the *Wuppertal Institute* and the *Centre for Solar Energy and Hydrogen Research Baden-Württemberg* (ZSW). The focus here is on finding solutions to ecological issues with the help of technology. For example, a central criterion of the development of technology at the ZSW is the "conservation of natural resources" (ZSW 2013). For the Wuppertal Institute, a focal point of its research is "analysing and inducing innovations apt to decouple the consumption of natural resources and the development of prosperity" (Wuppertal Institute 2016). In terms of transport policy, this means privileging efficiency measures in order to reduce environmental pollution. The orientation towards technological efficiency in this context is exemplified by the German Energy Agency and clearly stated in the definition of its goals:

> "*dena* promotes forward-looking approaches with new, intelligent ideas in order to achieve verifiable success in increasing energy efficiency and the more efficient use of renewable energies, as swiftly as possible" (dena2021).

In order to reduce the consumption of resources and environmental pollution, dena thus favours on the one hand the optimisation of existing technologies, and on the other hand innovative approaches such as forms of renewable energy, which are supposed to eliminate the dependence on energy use and resource consumption. Likewise, for the

ZSW, "ecologically, economically and socially viable energy concepts […] are inseparably linked to the use of renewable energies and increased energy efficiency" (ZSW 2013).

Bearing in mind the goals of the stakeholders in question, the linkage between ecology and the economy also becomes evident. On the one hand, the institutions see themselves in a position to "successfully develop key technologies and implement them in conjunction with industry" (ZSW 2013); on the other hand, "challenges in the areas of resources, climate and energy" (ibid.) are central to their work. The solutions offered by technological efficiency have a dual impact, which has an integrative effect on the demands being made. First of all, lower resource consumption can increase growth and prosperity, thus serving to fulfil economic demands. Moreover, ecological goals can be achieved, since lower resource consumption leads to the conservation of natural resources and less environmental pollution. Also fundamental to this balancing of interests are the stakeholders in the purely ecological and purely economic fields. Whereas stakeholders in the sphere of ecological sustainability generally issue demands to reduce environmental pollution and verify compliance with the goals, the technologies to be optimised usually originate from the economic sphere or are transferred back to it after development by stakeholders in the economic-ecological field (opening up new markets and increasing sales).

In addition to these technology- and efficiency-oriented options, the demands of the socio-ecological stakeholders point to additional approaches to finding solutions to the ecological question in the transport sector. The representative organisations in this field are the German Advisory Council on the Environment (SRU), the German Transport Club (VCD), German Watch and the German Institute of Urban Affairs (DIfU).

First of all, it should be noted that, in these instances – unlike in the case of ecological-economic objectives – a connection is established between the environmental impacts of transport and its negative social effects. For example, in the view of the SRU, "automobile traffic […] continues to place an unacceptable burden on the quality of life in urban areas, particularly through air pollutants, noise and the risk of accidents" (SRU

2012: 198). In addition, "the burdens are unevenly distributed socially and spatially" (ibid.). At the same time, "mobility […] is an essential component of social life and is part of the quality of life" (ibid.). The solution to this conflict of goals is therefore seen in "environmentally sound transport" (ibid.). An essential criterion of transport policy is thus to move away from what these actors see as car-centredness. As a result, they call for "speed limits that are environmentally compatible and people-friendly" (VCD 2016), as well as a high share of trips made using diverse forms of eco-mobility (SRU 2012: 199).

In view of the ecological-economic set of objectives already described, technology-based approaches to problem-solving are thus pushed aside in favour of options and goals that are socially-oriented. The social orientation is evident in two respects: first of all, increasing the quality of life becomes the guiding motive for the stakeholders' actions, as opposed to an increase in prosperity. In addition, the demands also take into account the social framework of mobility behaviour. This is shown by the fact that the envisaged paradigm shift in transport policy explicitly includes and calls for a change in the lifestyles of transport users. As these stakeholders see it, an approach that is exclusively efficiency-oriented, with incremental improvements in technology, is not sufficient to achieve environmental goals and fulfil social demands at the same time. This does not mean, however, that the stakeholders fundamentally reject technology-based approaches to problem-solving. Rather, they are considered a valid approach in places where traffic cannot be reduced or relocated without restricting people's mobility. For example, the VCD (2016) states that "one cannot always do without the automobile", which is why the transport club also advocates for "cars that are as efficient and quiet as possible and, in the best case, have multiple users".

3.2.4 Summary

The aim of this study was to structure the diffuse configuration of divergent stakeholder interests in the field of transport policy. Derived from the common goal of an integrated or sustainable transport policy, the ac-

tors were placed in the integrative sustainability triangle on the basis of their objectives.

The presentation of the discourse on transport policy showed that, given an equitable selection of stakeholders representing the gamut of interests in transport policy and society, almost all possible positions in the integrative sustainability triangle are occupied. On the one hand, this means that, as one would expect, certain individual actors mainly represent the positions of one of the three dimensions of sustainability: ecology, the economy and social issues. What is new, however, is that a large number of the stakeholders, as a result of their specific goals, occupy a partially integrative position between the outer positions of the triangle. The existing image of the discourse on transport policy, consisting of static and conflicting interests relative to the three dimensions of sustainability is thereby partially rectified, revealing previously concealed transitions between the sets of objectives.

The field in which social and economic interests are integrated constitutes the most compromise-oriented field in transport policy to date, in line with the proportionately high number of actors in the category. Prominent topics in this context are the development and upkeep of infrastructure as well as road safety, which is traditionally tightly intertwined with German transport policy or has evolved to become so.

In contrast, newer fields with fewer actors are those endeavouring to integrate socio-ecological and economic-ecological interests. These two options delimit the current programmatic dualism in efforts to find answers to the ecological question in transport. If socially viable solutions are to be found – oriented towards an integrated transport policy – the interests of the two groups of actors have to be reconciled through compromises in transport policy. It will not be sufficient to favour one of the two integration options in the formulation of policy.

Even if none of the stakeholders under study here adopts a fully integrated position, this does not automatically contradict the goal or the possibility of an integrated transport policy. Thus, it can neither be assumed nor expected that the stakeholders will orient their objectives in a way that is conducive to an integrated transport policy. Rather, an integrated and thus socially viable compromise should be reached in trans-

port policy decision-making on the basis of the heterogeneous interests. To this end, this study provides two practical aids. On the one hand, the categorisation can be used to select actors for the transport policy decision-making process who each fulfil different social functions. In this way, one achieves a balanced consideration of stakeholders, which is in keeping with the goal of reaching socially acceptable compromises. On the other hand, the transport policy goals of the stakeholders can be illustrated using the integrative sustainability triangle. This makes it clear which compromises between the sets of objectives are necessary in order to achieve a sustainable transport policy.

3.3 Second Interim Summary – from Guiding Principle to Conundrum

> "The future has long since begun: by 2002, about one in three passengers on domestic flights will migrate to rail. […] The switch from air to rail will only be a first step on the way to a change in mobility behaviour." —*Opaschowski 1999*

The debates over transport policy in the 1990s were characterised by a spirit of optimism that gripped all social actors. In the tradition of political ecology, the one-sided dominance of individual motorised transport was critically examined in terms of its ecological and social consequences. For a while, a far-reaching social consensus was established that fundamentally questioned this development. The automobile, it seemed, had reached the limit of its acceptance and the end of the automotive age was proclaimed on all sides (cf. Canzler & Knie 1994). Even the German car industry was caught up in the wave of revolt and was prepared to question its role as a "car-only" manufacturer in order to transform itself into a mobility provider instead, not even shying

away from cooperating with its harshest critics (cf. Vester 1990; Berger & Servatius 1994).[22]

The unanimous goal was a reorientation in the direction of (at the time) marginalised public transport, which was to be upgraded, in particular by moving traffic from road to rail. In addition, ever more observers doubted the social benefits of further traffic growth and advocated a strategy of minimising traffic. The close connection between economic growth and transport growth was to be renegotiated, envisaging a decoupling of this supposedly natural connection. A distinction was made between social mobility and transport, where the former was to be maintained. Lastly, the social paradigm of growth itself was fundamentally called into question. After all, even a successful decoupling of economic and transport growth would contribute to a further increase in the consumption of resources if economic growth continued, as in the energy sector. This debate in transport policy came to a head in the first half of the 1990s with the call for a "transport turnaround" (Hesse 1993).

In the second half of the 1990s, the ambitious project of a transport turnaround was ensnared by the model of integrated transport policy. The discourse of sustainability played a central role in the strategic reorientation of the debates on transport policy, with the 1987 Brundtland Report already constituting an initial caesura. Its significance for a strategic change in the discourse of sustainability was recognised in particular by the opponents of political ecology, which had been strongly represented until then. It opened up new perspectives, especially for economists presenting explicitly neo-liberal arguments: "The expansion of the target field through the Brundtland Report and the consensus-based concepts that followed on from it, e.g. the three-pillar model of

22 The best-known example was the chairman of Ford Germany, Daniel Goeudevert, who had commissioned futurologist Frederic Vester to develop a scenario of future transport development: "The task of the study, carried out using our bio-cybernetic methodology, was to investigate the role of the automotive industry and what possibilities for evolution the future offers for such a widely-ramified economic sector, in a world that is increasingly altered by environmental pressures" (Vester 1995: 9).

the Commission of Enquiry (1994), finally made it possible to break out of the sterile, arrogant and unacceptable ecological dictate" (Willeke 2000: 22). In the German Federal Parliament's Commission of Enquiry into "Protection of the Earth's Atmosphere", the representatives of an integrated transport policy only had a minority vote. The breakthrough of the neo-liberal reformulation of sustainable development has been traced and precisely dated by Jörg Tremmel: "With the publication of the Commission of Enquiry's conclusions in 1998, the ecology faction began to lose its discursive sovereignty" (Tremmel 2003: 149).

Our study here has shown that a comparable power shift has taken place in the debate on transport policy. In the transport sector, the situation with regard to the model of integrated transport policy has since then been similar to the one Holger Rogall (2003) described for sustainable development as a guiding principle. All the actors are in favour of it, in principle. However, a closer look at their specific goals then reveals clear differences.

> "The majority of the groups of actors are not prepared to take the appropriate steps in light of the new guiding principle of sustainability and the threat to the natural foundations of life. It is obvious that not only the actors who are directly involved, but also the majority of those indirectly involved are pursuing symbolic instead of solution-oriented politics. In part (e.g. sections of the private sector), sustainability is defined in such a way that its core is turned on its head. According to this definition, economic development should not take place within environmentally-determined boundaries, but rather environmental protection should be restricted by the framework of what is economically acceptable" (ibid.: 295).

The contradiction between aspiration and reality is explained in the case of integrated transport policy, as well as the discourse of sustainability, by the necessity of cultivating an image by means of symbolic politics, a necessity recognised by all actors. What is practised serves to camouflage their real interests. In this context, it is interesting that certain actors, such as the automobile industry, apparently do not consider such symbolic politics necessary when it comes to integrated transport pol-

icy. This can most likely be explained by the fact that the industry has not yet been subject to any public pressure on this front.[23] This in turn highlights the socio-political functioning of integrated transport policy as a guiding principle. Following Eblinghaus and Stickler (1996), a distinction can be made between a formal and a substantial level: on the one hand, we have the fuzzy formal concept of the guiding principle, with which everyone is basically in agreement, and on the other hand, the substantive definition of the concept of integrated transport policy by the actors involved, which is essentially mediated by the distribution of social power. In essence, this reveals a struggle for the power of interpretation.

The guiding principle of integrated transport policy fulfils an ideological function by pursuing a strategy of harmonisation that sidesteps factual conflicts of interest and in this way denies existing unequal power relations. What Hartwig Berger states regarding the discourse of sustainability as a whole also applies to integrated transport policy, the goal of which is sustainable transport development: "Today's discourse of sustainability differs from the earlier ecology movement not in that it is more comprehensive, but in that it puts aside the movement's partly radical challenges and weakens its strong impulses for social change. Not criticism and conflict, but consensus and communication are the guiding concepts of the discourse of sustainability. The demand to achieve change through and by consensus of all participants – an 'axiom' of most Agenda 21 activities – rapidly leads to omitting or downplaying structures of power distribution and social prestige, and even more so clashes of interests and conflicts. In this respect, the discourse of sustainability is a convenient imposition on power elites" (Berger 2003: 19). In other words, the model of integrated transport policy functions as an instrument for subordinating competing discourses to a neoliberal transport strategy. This is particularly reflected in the dominant discourse, which assumes that more transport leads to more economic growth.

Apart from the unequal power relations in the field of transport policy, a dilemma of sustainable transport development is that it is

23 Even after the emissions scandal in 2015, little has changed.

barely appreciated as a 'public, indivisible good'. Such general interests, which concern everyone equally, lack organisational motivation. "In a thoroughly organised society, it is precisely those interests that don't lend themselves to being organised and don't give rise to conflicts that are politically most difficult to perceive" (Vieler 1986 cited in Alemann 1989: 191). If, however, the idea of an integrated transport policy with the goal of sustainable transport development committed to the common good is to be maintained, then transport policy, which has been underestimated up to now, would have to be fundamentally revalued. Transport policy should no longer remain the plaything of economic vicissitudes, but should be given a louder voice in the political concert by being understood as a significant part of social policy.

In order to come closer to realising this goal, three successive steps are proposed here:

First, a theory of sustainability based on political economy must be established for the transport sector. The often criticised, vague discourse of sustainability has to be made specific for transport. A primary goal could be to recall essential insights from transport research that seem to have been lost in the course of the neo-liberal 'backlash' of the last 25 years (cf. Schwedes 2016). These include basic insights that – if they were taken into account – would render implausible a justification of transport policy based on eradicating traffic jams and managing traffic flow. And here too, there is no need to reinvent the wheel. On the contrary, the politicisation of the transport sector, periodically pursued for decades with the model of integrated transport policy, is still on the agenda. Such a project is, of course, diametrically opposed to the current trend in society as a whole towards the economisation of politics, which is particularly evident in the transport sector.

Secondly, after this initial stocktaking by researchers and the resulting self-assurance, a political transport strategy must be developed that is distinct and decisive in form and content. The pivotal task is to aggressively thematise and publicise the social conflicts necessarily associated with such a strategy, preceded by a politically- and economically-informed elucidation of the configuration of social power in the field of transport policy (cf. Schwedes 2013b). For if the goal is to understand

sustainable transport development as a "public, indivisible good", then transport policy, unlike in the past, must be negotiated more publicly and in this way gain a new status in the public awareness. The handling of the emissions scandal in the German automotive industry, which was only possible due to an opaque power structure between politics and business, constitutes a recent acid test in this regard.

Thirdly, at this point at the latest, the question arises as to how to achieve a discursive shift in favour of the sustainable transport development we have in mind here, when the resources of social power, especially in the transport sector, are so unequally distributed in favour of the economic actors. In this context, it should be recalled that economic power was never able to be directly translated into political power. Rather, economic power is always – sometimes more, sometimes less – politically 'broken'. How strong political influence turns out to be ultimately depends on concrete social power relations. Accordingly, after researchers have gone through the process of self-appraisal and have developed a consistent set of objectives in transport policy, thought should be given to strategies for forming social alliances in order to achieve hegemony in transport policy. While the importance of integrated transport policy for sustainable transport development can be substantiated by researchers, it must above all be politically desired.

The analogy of the 'turnarounds" in transport and energy is both instructive and politically encouraging in this regard. After the Grand Coalition under Angela Merkel initially reversed the nuclear phase-out decided by the previous coalition of the Social Democrats and the Greens, the nuclear disaster in Fukushima, Japan, in 2011 brought about another political change of course with the decision to phase out nuclear energy and to consistently support the expansion of renewable energy (cf. Becker 2011). Since then, the four reputedly all-powerful energy companies in Germany have been fighting for their survival by increasingly turning to renewable energy. The parallel with the transport turnaround raises the question of whether the German automotive industry is more capable of reform than the energy industry. If this is answered in the negative because there are no identifiable efforts at reform, the question

arises as to whether a catastrophe of some kind is also required in the case of the transport turnaround in order to motivate politicians to act.

4. Case Studies in Transport Policy

Having presented the discourse on transport policy and having drawn up a topography of the relevant actors in the field of transport policy, this fourth chapter will use recent developments in the transport sector as examples to demonstrate the consequences of current transport policy. This requires an examination of Germany's federal political system at the different political levels – starting with the federal government, the state level and the municipalities. For our study, well-researched, exemplary cases have been selected that are situated at different political levels in the federal system of government.

4.1 German Transport Policy in the Multi-Tiered Political System

Starting with the national level, the most recent developments in the freight transport sector are first described on the basis of the restructuring of Deutsche Post AG. Then, using the example of the joint regional planning department of Berlin-Brandenburg, the consequences for transport policy of a failed regional policy are presented at the level of the federal state. Lastly, developments at the local level are presented through the evaluation of projects within the framework of the research initiative of the Federal Ministry of Education and Research, "Mobility in Urban Areas". A separate chapter is then devoted to the European level, in accordance with its importance for national transport policy.

4.1.1 Federal Transport Policy – the Example of Deutsche Post AG

While the concrete national transport policy has so far been examined primarily on the basis of passenger transport, these observations will now be supplemented by references to significant current developments in the freight transport sector (cf. Hesse 2008). This is exemplified by the restructuring of Deutsche Post AG, a case that makes it possible to grasp central trends in the freight transport sector, as if viewed through a magnifying glass, and which apply in a similar fashion to other areas of business in the sector.

With its restructuring, Deutsche Post AG, like other companies, is reacting above all to a profound change in the operating environment and the organisation of goods distribution. The process involves various intertwined and mutually-reinforcing developments. The progressive differentiation of production processes based on the division of labour and the "mass individualisation" inherent in the consumer goods industry means that it is becoming less and less possible to transport mass-produced consumer goods from A to B in bulk. Instead, a fine distribution is required that allows those mass-produced goods with individual attributes to be brought to the consumers. This is illustrated by examples such as the dispatch of books via the online shop "Amazon" or the Internet-based auction house "eBay". Users search for and find what they want based on personal preferences, nationwide and beyond. The selection is based on individual needs and appraisals of the costs. Fulfilling the specific demand thus occurs over ever greater distances. While "Amazon" guarantees personal book delivery to the home, "eBay" enables the individual selection of second-hand consumer goods in connection with favourable delivery rates. For example, via "eBay, the Berlin-based author of the present book found the used pram of his choice in the Düsseldorf suburb of Meerbusch, 500 km away. Personal taste and the price of a new pram diverged to the point that they could only be reconciled by the internet auction, with the successful bid amounting to one third of the new price. The scarcity, in tandem with the pronounced demand, forced a purchase beyond the limits of the city. Logistics plays a decisive role in this process, by making it conceivable in the first place (until a few

years ago, parents-to-be were still dependent on searching local second-hand shops for suitable prams and had considerably less choice). On the one hand, it is not a decisive cost factor, and on the other hand, it offers trouble-free and prompt delivery, with both aspects being mutually conditional. It is only new logistical procedures that bring the fulfilment of specific desires into the realm of possibility and thereby simultaneously open up new spaces of consumer demand. "In this respect, the development of distribution is driven by two imperatives of competition: first, to offer high quality; second, to reduce costs. Its main task is to bundle the spatio-temporally differentiated ("atomised") flows of goods into an economically and organisationally controllable transport structure. Both sides are in perpetual conflict with each other: the tendency of the flows of goods to diffuse, and the attempt to control these flows in terms of transport logistics or to rationalise them economically. This is attempted above all in two ways: on the one hand, there is the necessity to achieve the highest possible degree of control over the logistics chain; on the other hand, stocks of goods are "mobilised" as much as possible – above all by reducing warehousing in order to lower capital costs" (cf. Hesse 2005).

The strategies resulting from these new demands on freight transport companies are demonstrated particularly impressively by the restructuring of Deutsche Post AG. The company emerged in the early 1990s from the privatisation of the – at the time – state-owned company Deutsche Bundespost. Due to the deregulation of the market for courier, express and parcel services (CEP services), which took place at the same time, the new private company was thereby exposed to international competition. It reacted to the new requirements in the logistics sector described above (small consignment size, flexible demand, standardised and thus cost-effective service provision) by developing and establishing a new freight concept. Whereas the old concept was based on combined transport of rail and road and was characterised by personnel-intensive and thus cost-intensive intermediary steps between the modes of transport, the new concept relies solely on road freight transport by truck. The establishment of 33 new greenfield freight centres on the outskirts of cities with motorway access replaced the 150 parcel handling centres

that had operated in the cities until then. Whereas the urban locations still had railway sidings, the new freight centres can only be reached by truck.

This decentralised choice of location necessarily meant spatio-temporal fragmentation. It is true that concentrating on a few, largely automated freight centres and avoiding frictional losses at the interfaces of rail and road enabled a significant increase in efficiency and an associated reduction in costs. At the same time, however, considerably greater distances had to be covered. This meant that sophisticated, integrative logistics were required in order to countervail the disintegrating effects of location-conditioned, spatio-temporal fragmentation.

"Deutsche Post's new concept of transport and location illustrates the consequences that internal strategic decisions can have for the effects of location and traffic on the way logistics is organised. The reorientation and modernisation of the provision of logistical services (especially the rationalisation in handling), which is understandable from a competitive point of view, has a) led to the relocation of freight centres from the city centres to the periphery, b) parcel transport, which in long-distance transport used to be essentially railway-based, was replaced by an initially 100 percent truck-based logistics. With these two consequences, freight is sent down a path of spatial fragmentation and an accompanying fragmentation of transport, while the logistics organisation is characterised by a high degree of integration (and at the same time closed to the outside). Thus, this model, which also underlies the logistical organisation of CEP services as a whole, outwardly has a disintegrating effect. It is true that the company explicitly claims to be committed to assuming responsibility for the environment and society. However, the competitive dynamics have de facto prepared the ground for an individualisation and virtual independence of the individual company concepts, so that an integration of procedures is only possible within the individual company operations (i.e. in-house), not across companies" (Hesse 2005: 40f.).

The internal restructuring of Deutsche Post AG is thus an example of a one-sided economic integration strategy, with particularly obvious consequences. While internally the company contributed to extensive ef-

ficiency gains and associated cost savings through a high degree of integration, externally it closed itself off as a result of a systematic decoupling from former cooperation partners. However, the internal integration logic, which is oriented towards criteria of economic efficiency, has shown itself to be largely insensitive to social or even ecological dimensions that lie outside its own sphere of interest. Accordingly, there is no room for systematic consideration of the consequences of the company's actions for socially just and ecologically viable urban development.

In light of the developments in the freight transport sector outlined here, the programmatic demand for an integrated transport policy admittedly seems somewhat naïve. Instead of repeatedly opposing real developments with a model that completely contradicts them, one should first reflect on the conditions for making the model a reality. One would need to clarify the regulatory environment that would have to be created in order to lend more weight to the strategy of social and ecological integration. Perhaps the most important political measure that has been repeatedly put forward in the past is the demand for an internalisation of the external costs of road freight transport (cf. Becker et al. 2012; Brenck et al. 2016). But it was not possible to push through this undoubtedly necessary political measure even in the early 1990s, when the sensitivity to this problem was greatest, at both national and European level.[1]

1 On the economic cycle of the debate on internalisation in the context of European transport policy, cf. chapter 6.

4.1.2 Transport Policy at the Level of the Federal State – The Example of the Joint Planning Commission Berlin-Brandenburg[2]

Shortly after reunification the two federal states of Berlin and Brandenburg came together to reach an agreement on how to manage the expected dynamic of urban and transport development (Provisorischer Regionalausschuss, 1990; Senatsverwaltung, 1993). At that time the situation at the outset for urban and transport development was in many ways exceptional. Particularly remarkable was the low level of urban sprawl in the urban hinterland of Berlin. While in the past the containment of West Berlin by the Wall rendered an outwards orientation impossible, the centralised, state-dominated politics of the German Democratic Republic placed strong restrictions on individuals settling in the outlying areas. Accordingly, the amount of commuter traffic between the inner-city of Berlin and the urban hinterland was quite low.

In contrast, after the fall of the Berlin Wall, a dynamic of development was expected that would be comparable to the 1920s and 1930s (cf. IfS, 1993). In light of this expectation, planning was determined by two goals, which were not necessarily mutually compatible. On the one hand, the focus was on an extensive development of the metropolitan region; on the other hand, the planners wanted to avoid the often undesirable aspects of such development, characteristic of large West German cities. From the 1990s on, a rash of residential concepts were developed that attempted to meet the two requirements (Wesseling, 2000, 25ff.). At that time the debates still took place in anticipation of the fusion of the two Federal states Berlin and Brandenburg, which

2 As part of the study, interviews were conducted with two employees of the Joint State Planning Department and a representative of the Berlin Senate Department for Urban Development. In addition, reference should be made here to the master's thesis by Maximilian Friedrich (2020), which is well worth reading, in which Friedrich interviewed eight of the most important actors from the post-reunification period on transport development planning in the Berlin-Brandenburg region.

was planned for the year 1995 (Benz and König, 1995). As a result, in 1994 Berlin and Brandenburg presented the outline of a "Development Plan for Tighter Regional Integration in Brandenburg-Berlin" (*Landesentwicklungsplan engerer Verflechtungsraum Brandenburg-Berlin*). The *State Development Plan* (LEP) projected residential development along railway lines and, furthermore, pursued a strategy of decentralised concentration. This approach was complemented by the establishment of so-called regional parks, which were largely pristine areas (*Gemeinsame Landesplanungsabteilung* GL, 2001). On this basis, in April 1995 the state planning contract was approved. Ever since then, the Joint Planning Department (JPD) of the Länder Berlin-Brandenburg has been following the overall concept of decentralised concentration.[3]

The mission statement of the joint Berlin/Brandenburg state planning sets out an integrated approach on several levels to this day. On the one hand, the two federal states strive to combine their different interests into a common strategy. In addition, the two portfolios of urban and spatial planning and transport planning are required to coordinate their field-specific perspectives in the framework of a joint concept. Lastly, the substantive core of the joint state planning is an integrated transport concept, which in particular aims to establish stronger linkages at the interfaces of the various modes of transport. The overall aim is to achieve sustainable settlement and transport development.

The map illustrates the central ideas behind the guiding principle. (Fig. 15).

The areas in red along the radials of the railway lines mark the existing settlement locations along the rail-bound transport, where increased settlement was planned. This so-called 'axis model' (*Achsenmodell*) explicitly referred back to planning from the 1920s. It aimed to counteract urban sprawl, as well as private transport in favour of public transport. In particular, those commuting to and from Berlin were supposed to make greater use of public transport.

3 Shortly afterwards, in May 1995, the fusion of the two Federal states failed, but the joint development plan nevertheless came into force (LEP, 1998).

Figure 15. Development Plan for Tighter Regional Integration in Brandenburg-Berlin

Source: LEP, 1998

However, the concepts that initially consistently followed this approach and envisaged its implementation by fostering the appropriate measures, did not prevail (Wesseling, 2000: 31ff.). In 1995 the transport researcher Eckhard Kutter confronted those responsible with what he considered to be their completely inadequate concepts for political action. He argued that simply wishing for less automobile traffic is not enough; that – in light of the expected urban and transport development – what is actually required is a comprehensive concept, in order to be able to react appropriately to these development processes, in accordance with a strategy of sustainable transport development.

> "The outlined trends in transport behaviour and secondary effects in the locational structures of the Berlin-Brandenburg region have a high degree of probability. On the one hand, they are supported by empirical figures from regions in West Germany; on the other hand, they take into account the actual hinterland development of the Brandenburg region and other regions in the East in the recent past. Berlin's transport policy, however, ignores such alarming facts" (Kutter, 1995: 204).

Eventually, the *axis model* was supplemented – some would say replaced – by the model of *decentralised concentration*. Even though, officially, settlement along the railway lines remained the goal, new agglomeration centres for intensive settlement were designated, but at a distance from the axis of the railway lines, which favours the use of private cars. In conscious contrast to the 'axis model', this model was able to claim a certain sense of reality in that it abandoned the previous aspiration of comprehensive political control and instead attempted to manage urban sprawl in a way that was conducive to sustainable transport development (cf. Wesseling, 2000: 35). The uncontrollable processes of suburbanisation are meant to be channelled and, in the context of a polycentric settlement structure, focused on selected settlement centres.

Ultimately, this concept was also modified by identifying so-called 'potential settlement areas', which are outlined in black on the map. Some of these 'grease spots' encroach on undeveloped conservation areas, classified as areas of extensive resource conservation or even placed under special environmental protection, thus indicating a real development that the joint state planning had precisely sought to prevent. In addition, an exemption clause was included in the LEP which allows the so-called type 3 municipalities, where further settlement growth was originally to be avoided, unlimited population development as long as the settlement development remains within the area map (i.e. within the area of the "potential settlement areas") (cf. LEP 1998 chapter 1.1.2). Since these municipalities generally lack a rail connection, the exemption is extremely problematic from a transport planning point of

view (cf. IVU 2002: 37). Finally, the situation was exacerbated by further potential settlements, secured by the municipalities before the joint LEP came into force in 1998 (cf. also Priebs 2019: 233ff.).

In fact, a survey of regional transport development over the last twenty years reveals a significant deviation from the original goals of the JPD, a situation that presumably will only worsen in the future. For instance, the goal of a modal shift in passenger traffic from private cars to public transport was not achieved. On the contrary: whereas in the period from 1990 to 2005 within the common planning area car traffic (MPT) increased by about 26 percent, the share of public transport decreased by about 16 percent, even though the frequency as well as the quality had been significantly improved. The prediction for passenger transport in Berlin/Brandenburg is also not encouraging in this respect (cf. Table 6).

Table 6 Passenger Transport Services by Mode of Transport in Percent

	Berlin		Brandenburg	
	2006	2025	2006	2025
Motorised Private Transport	36.3%	36.3%	55.0%	54.6%
Public Transport	26.7%	26.8%	7.2%	7.6%
Bicycle	11.5%	12.4%	10.0%	10.5%
On Foot	25.5%	24.5%	27.8%	27.3%

Source: Land Berlin/Land Brandenburg, 2009: 48 ff.

In freight transport, the situation is even more dramatic when measured against the original goals. The shares of rail and inland waterways in the modal split have not increased. On the contrary, both modes of transport have even suffered losses in absolute terms. In particular, the plan to shift long-distance transport to rail and inland waterways has been completely unsuccessful. Here, too, there has been a contrary de-

velopment in favour of road transport. In light of this, it is not surprising that interfaces between road and rail, by means of freight centres (GVZ), have also been unsuccessful. In view of the lack of demand, the responsible parties are increasingly wondering whether it makes sense to continue promoting these GVZs.[4]

At the end of the 1990s researchers predicted that, if barriers of geographical distance continued to be removed, this development would continue (Holz-Rau, 1997; Kutter and Stein, 1998). Under the prevailing conditions, the concept of the 'central location' as well as the 'axis concept' were deemed to have failed, not only in the capital region Berlin-Brandenburg but also in Germany as a whole (cf. Saller, 2000). The predicted continued increase in traffic volume has been attributed to the trends towards individualisation and flexibilisation of the social structure and the form of the economy, which were described in detail in the previous section on German freight transport: "The suburbanisation and large-scale functional segregation in the entire conurbation, which has been evident since the beginning of the 1990s, will continue in the years to come, even though the total population is no longer growing. This is one of the most important factors causing traffic in the joint planning area. The associated increase in traffic, particularly as a result of longer journeys, will thus continue throughout the region"(IVU, 2002: 39).

If this growth in the volume of passenger traffic therefore mainly benefits private motor vehicles, in freight transport a similar development in favour of road transport was also expected: "According to the present revised forecasts of the Federal Transport Plan to the year 2015, the growth dynamics of regional road freight transport will continue in the coming years in the entire planning area. Rail is expected to play a greater role in the growth of freight transport than it has so far. Nevertheless, a further decline in the modal split share of rail and waterways as environmentally friendly modes of transport is expected" (ibid.: 42). Ten years later, these fears have been confirmed (cf. ROB 2013).

4 The disappointing experiences with the use of GVZs in the Berlin-Brandenburg region are exemplary for the entire federal territory (cf. in detail Hesse 2005).

The discrepancy between programmatic aspiration and real developments with respect to the overall model of an integrated transport policy, which is also apparent in this instance, is the result of obstructions in the multi-tiered Federal political system. In the case of the joint planning of the states Berlin and Brandenburg there are two overlapping lines of conflict. *First*, after the fusion of the two federal states failed, the collaboration was dominated by the pursuit of interests held in common but lacking an overarching commonality of interests. In fact, the two Federal states began to compete against each other by vying for businesses as well as seeking to attract residential populations in order to guarantee tax revenues. Conflicts of interest inevitably come to the fore, working against a common strategy for action, such as the proclaimed concept of integrated transport and settlement.

Second, transversely to the interests of the two state governments, there were conflicts with the interests of the municipalities. This has an especially problematic impact in the case of Brandenburg. Even when the two Federal states agreed on a joint course of action, this was thwarted by particular interests, especially those of the Brandenburg municipalities. As mentioned above, already at the beginning of the 1990s, long before the State Development Plan (*Landesentwicklungsplan*) came into force in 1998, the municipalities had sought to identify potential areas for settlement. Independently of the respective transport connections in terms of the concept of integrated transport, the Brandenburg municipalities had designated extensive areas for settlement, potentially encouraging urban sprawl. The already-mentioned exemption rule for Type 3 municipalities formulated in the SDP constituted a further encouragement of suburbanisation and the concomitant traffic growth.[5]

5 Apart from the fact that the connection assumed here between the expansion of transport infrastructure and economic development has not yet been proven and has not been confirmed in the case of eastern Germany, this strategy runs counter to sustainable transport development (cf. Blum 2004).

The transport researcher Eckhard Kutter, mentioned earlier, thus attributes the failure of the programmatic integration goals to a lack of administrative integration:

> "At the planning level, public authorities develop concepts of spatial order; however, since the individual municipalities within this framework offer areas of land 'in competition with each other', and this competition is 'encouraged' or 'financed' in an uncoordinated manner, the result is 'free choice' for the individual decision-makers, who are also insufficiently informed about the consequences of their actions, which ultimately leads to the disorganised development of the overall structure. In this 'disarray', on the one hand the public authorities debilitate themselves through inconsistent application of the various instruments at their disposal, but on the other hand they don't pay sufficient attention to the diverse individual (economic) motives" (Kutter 2001: 76)

The cause-effect relationships of regional development demonstrated by the metropolitan region Berlin-Brandenburg exemplify the spatial and transport development of capitalist societies generally. It has led to a situation in which about 80 percent of the traffic volume in Germany originates in the private residential sector and from the economic activity in regional areas (cf. Kutter, 2015).

From a present-day perspective, more than twenty years after the State Development Plan came into force in 1998, the situation has not changed. At the time, a study by the Wuppertal Institute came to the conclusion: "Inter-communal competition and the inadequate provision of regional planning with legal and financial instruments are the reasons why decisions concerning economic opportunities are often more likely to win the day than planning principles" (Wuppertal Institute 1998: 118).[6]

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6 Strictly speaking, this problem, like the idea of integration as a whole, has been known since the 1960s and has been lamented publicly time and again. As early as 1968, for example, the urban sociologist Heide Berndt concluded in her study of the German urban planning clique: "The present divisional structure of the administration is outdated in relation to the tendencies to expansion in today's

Whereas back then it was still possible to hope that the effects of the regional development plan would make themselves felt, today it is apparent that this window of opportunity has now also closed. This means that Berlin and Brandenburg find themselves at best at the beginning of the development of a joint planning perspective. Unlike in the 1990s, those in positions of responsibility can no longer wait for the formal compulsory fusion of the two states, which would have automatically led to a common planning culture. Rather, joint planning successes would now have to be communicated to the public as examples of best practice that would make a fusion of the states seem desirable in the first place. In the early 2000s, observers saw the temporary end of new commercial settlements as an opportunity to replace the egoistic goals pursued in competition with a new strategy of cooperation (cf. Herrschel/Newman 2003: 554). In the meantime, the situation has changed again and Berlin's population is growing again. It is unclear whether a joint settlement and transport development strategy that relies on cooperation can be established under this intensifying competitive situation (cf. Bodenschatz 2016). The prerequisite for this would be to identify and make public the reasons for the undesirable developments of the past, so that they are not repeated in the future. However, there are no signs of this so far; on the contrary, in 2016, the state of Brandenburg announced a *Mobility Strategy 2030* in anticipation of the emerging new development dynamics, and in 2021 the state of Berlin published its new *Urban Development Plan Mobility and Transport 2030*. Against the background of historical experience, the question arises why the two federal states have not developed a joint transport development strategy.

In this respect, the example of joint regional planning in Berlin/Brandenburg demonstrates once again the consequences for the transport sector when it is dominated by the principle of competition. As was already shown in the freight transport sector by the example of

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large cities and prevents effective control over urban growth, *especially integrated transport planning* (emphasis added). Planning communities between large cities and the small municipalities adjacent to them are only a stopgap in the face of an outdated administrative divisional structure" (Berndt 1968: 163).

Deutsche Post AG, an enterprise that strives to be globally competitive and whose logic of action – oriented exclusively to economic requirements – has a fragmenting effect on the logistics system as a whole, here too competition between the regional authorities has made clear the consequences for transport development of political competition to attract businesses, which is oriented one-sidedly towards criteria of economic efficiency. Other aspects that transcend particular interests, such as sustainable settlement and transport development, are lost in the process. The function of the guiding principle of an integrated transport policy, as pursued programmatically by Berlin and Brandenburg, is thus increasingly reduced to mere window dressing.

The State Secretary of the Berlin Senate Chancellery, Volker Kähne, had already warned of this danger in the mid-1990s when he emphasised in his conclusions on the debate on the reform of joint regional planning in Berlin/Brandenburg that joint state planning has to be accountable: "It must not be limited to symbolic political policies" (Kähne 1995: 189). That this has nevertheless come about is due to the fact that with the establishment of the joint state planning commission only the first phase of the reform concept presented at the time by Benz et al. (1995) was implemented. In this first, low-threshold phase, the second, much more far-reaching phase was to be prepared, which envisaged the establishment of an interregional planning association for the more immediate region, equipped with the corresponding powers and competence. This never happened, meaning that the current debate could pick up here, without having to start from the beginning.

In this case, too, the guiding principle of integrated transport policy – if it is not to serve solely as a legitimising fig leaf for transport development that runs counter to it – must be examined in terms of its realism (cf. Kunst 2004). As a result of such a review, two options are conceivable in principle. *Either* one comes to the conclusion that the guiding principle is fundamentally incompatible both with trends in social development and constellations of socio-political interests, so that its implementation is neither conceivable nor desirable, because it is opposed to all social megatrends as well as the interests of most people. In this case, one would have to bid farewell to the guiding principle. *Or* the re-

sult is that the guiding principle is in principle compatible with trends in societal development and is also in conformity with a collective interest. In this case, rather than elucidating the guiding principle, future discussions should instead address the political blockades that stand in the way of its realisation.

4.1.3 Local Transport Policy – The Example of the Research Initiative 'Mobility in Metropolitan Areas'[7]

One of the most important research initiatives in the field of transport studies were the flagship projects "Mobility in Metropolitan Areas", which were funded by the Federal Ministry of Education and Research with more than 80 million euros over a period of five years (cf. BMBF 1998). They formed the "cornerstones of a future-oriented policy in mobility research", which the Federal Cabinet adopted in December 1996 with the "Mobility Research Framework" (cf. BMBF 1997a). The strategy formulated in the cornerstones marks the conceptual transition from the "strategy of traffic avoidance" to the "decoupling strategy" (cf. the excursus in chapter 2.24 of the present book). While traffic avoidance always tended to affect economic growth, the decoupling strategy in the "Mobility Research Framework" aims to promote technical developments in the industrial sector, which are also meant to contribute to

7 The assessment of the results and effects of the research initiative "Mobility in Metropolitan Areas" is based on an explorative study. The empirical basis is formed by the final reports of the individual projects, the evaluation report of the research initiative and various publicly accessible publications. In addition, five expert interviews were conducted with people who were involved in the research initiative at the time. It is striking that in a publicly funded research initiative, both the final reports and the overall evaluation report have not been made publicly accessible to date. While the final reports are only accessible from a database for a fee, the evaluation report has been kept under lock and key to this day. In addition, requests for interviews have been repeatedly refused by the project sponsor, TÜV (Technical Inspection Authority) Rheinland. The evaluation report is available to the author, so it is quoted publicly here for the first time.

traffic reduction. The approach is primarily based on the conventional philosophy of traffic flow (cf. Schmucki 2001), which envisages using new information technologies in order to ensure smoother traffic flow: "For delimited and manageable problem areas, practical proof is to be provided that innovative concepts can contribute to a noticeable improvement in traffic flows with a significant reduction in traffic pollution (pollutants, noise, accidents, space requirements, etc.)" (BMBF 1997b: 2). The central concern is the "decoupling of growth in mobility and traffic congestion" (BMBF 1997a: 3) – i.e. reducing the negative effects of traffic that stem from a growing demand for mobility. In contrast to the strategy of the transport turnaround, which focused primarily on traffic avoidance, this approach in principle accommodates both economic growth and growth in traffic, provided that the negative side effects associated with these in the past can be prevented or at least limited in the future.

An integrated approach is explicitly pursued, although the diverse stakeholder interests in the field of transport policy, from politics and business as well as from civil society, would have to be brought together. The unclear social relations with their complex constellations of actors would require diverse cooperative relationships (cf. Kesselring et al. 2003). Lastly, the different modes of transport were also to be coordinated with each other and linked by a network of information technologies to form a unified transport system. Those behind this approach expected it to increase the attractiveness of public transport in particular.

Funding was provided for a total of five network projects at the municipal level, some of which were very comprehensive, in the urban regions of Cologne, Munich, Stuttgart, Dresden and in the Rhine-Main area, as well as the "special project" *cash car*, which was located in Berlin but formally assigned to the Munich Mobinet network. All of the "Mobility in Metropolitan Areas" projects aimed to solve specific traffic problems in the areas in question. The solutions, however, were intended to be generalisable. The lead projects and their principal sub-projects were:

- "Stadtinfo Köln": Here the focus was on the development and integration of various traffic information and parking reservation systems. Corresponding software and an information technology link between car parks and parking ticket machines were developed.
- "Mobinet Munich": The main objective of the project was to optimise inner city traffic with the help of adaptive control and information procedures, not least via variable signposting and electronic information boards. In addition, the management of parking space in the city centre was promoted and incentives for the use of public transport were created, for example through park-and-ride facilities for cyclists. Noteworthy were some smaller sub-projects with an experimental character, such as new shopping boxes and intermodal mobility courses for school children.
- "Mobilist Stuttgart": In addition to electronic booking options for public transport tickets and parking space reservation via the internet, new routing offers, ride-sharing services and additional intermodal offers were to be developed and tested. Teleworking and online services for citizens were also tested with mixed success in the Stuttgart region.
- "Inter-Mobil Dresden": The project centred on traffic management based on the use of video cameras and the development of an electronic ticket for public transport. In addition, a flexible S-Bahn (city and commuter surface rail) service was to be tried out and, in a subproject, mobility advisory services for private individuals and companies were to be tested and examined for their long-term effects.
- WayFlow RheinMain": In several sub-projects, the development of an information platform based on multi-agent systems, so-called floating-car-data (FCD), multimodal routing offers and the management of peak traffic loads were developed and tested, partly in extensive field trials.
- cash car: This project stood out both because of its relatively modest funding volume of 2.6 million euros (compared to 30–40 million euros in the other lead projects) and because of its conceptual approach. Here, the focus was not so much on traffic telematics applications, but rather on exploring the opportunities and limits of in-

novations in usage. The cash car project was devoted to the development and testing of an innovative leasing concept that aimed to link a car used 'in portions' with public transport and thus to professionalise car sharing in Germany (the goals and results of this ambitious social experiment have been presented in detail elsewhere, cf. Project Group Mobility 2004).

Measured against the ambitious goals, the results of all the "Mobility in Metropolitan Areas" projects are sobering. Apart from the fact that a number of planned pilot applications in the fields of e-learning and teleworking did not even materialise, only a few survived the funding period. And even in these cases, hardly any of the desired changes in the choice of means of transport in favour of public transport came about. The transport effects in terms of a modal shift were modest or even counterproductive (cf. BMBF 2005).

How it was possible for such unintended consequences to come about can be demonstrated using the example of a Cologne arterial road, which was equipped with traffic guidance systems as part of the lead project "Stadtinfo Köln" in order to achieve a smooth traffic flow on the road in question, which is congested at peak times. A public transport railway line runs parallel to this main artery, so that the obvious option was to shift traffic from road to rail. For this purpose, information panels were installed in connection with Park & Ride offers, which provided the necessary information for changing from one mode of transport to the other. In addition, road users were informed about how long their journey would take with the respective mode of transport. This was meant to persuade car drivers stuck in traffic jams of the attractiveness of public transport.

However, at the same time, a number of measures in traffic flow management were implemented for road traffic, which led to an accelerated traffic flow. As a result, public transport again lost its advantage and the originally intended modal shift largely failed to materialise. This course of action was based on the illusion of "equal opportunities for all modes of transport". Although public transport benefited from the measures implemented, its structural disadvantage again came

into effect, since at the same time the disadvantages of individual motorised transport were eliminated. Obviously, there was no clear political strategy that favoured public transport over private transport because of its social and environmental advantages. Instead, these very different means of transport with their respective specific stakeholders confronted each other as supposedly equal partners in a cooperation.

In addition, the large collaborative projects were faced with formidable tasks of coordination in order to hold the large number of partners together and to attain a common denominator vis-à-vis the local public and the professional public. This task was often taken on by experienced project managers from the participating car manufacturers, who also determined the public face of the research network, because they were able to present the lead projects professionally and effectively highlight the specific technical elements in the overall undertaking.

In summary, it can be said that the lead projects as a whole had a heavy technical character. The responsible parties hoped that the information provided by the new telematics systems would prompt a readjustment of traffic flows in favour of public transport. The relevant information transmitted in real time was supposed to open up a flexible choice of means of transport and make it possible to switch easily between modes. In the process, the willingness of road users, whose transport behaviour is characterised by "entrenched" routines, to repeatedly rethink their choice of transport mode was overestimated, as was their willingness to pay for traffic information.

Of course, the strong orientation towards the conventional traffic flow approach is particularly surprising. After all, it has long been proven by researchers that improving traffic flow leads to additional traffic, if the contextual conditions remain the same (cf. Gerike 2017). The abovementioned example of the simultaneous encouragement of private and public transport has made this point clear yet again: increasing traffic permeability on the roads counteracts the programmatic goal of shifting traffic in favour of public transport. In this connection, project structures based on constellations of supposedly cooperative actors seem problematic, since in reality actors with antagonistic interests are

confronting each other. If politicians retreat to the position of observers who restrict themselves to ensuring 'fair' competitive conditions, then, as in the case described here, one ends up with two sets of measures placed in a competitive situation, whose effects on transport at best cancel each other out.

By contrast, the genuinely political task would be to ensure the implementation of the goals of transport policy in accordance with the political objectives. This raises the central question of the political willingness to push through accompanying measures designed to secure the intended effects (cf. Rommerskirchen 2003). This in turn would provoke the articulation and disclosure of conflicting interests. Ultimately, a political decision in favour of or against certain measures is required. By contrast, the semantics of cooperation favoured in the context of an integrated transport policy all too often feigns a harmonious reconciliation of interests, concealing the lines of conflict that actually exist and thus distracting from the necessary political decisions. The results of the evaluation of the "Mobility in Metropolitan Areas" flagship projects thus prove to be the consequence of a tendency to depoliticise transport policy. This explains the lack of connection between sets of objectives in transport policy and real transport development.

4.2 European Transport Policy

After explaining the discrepancy between the aspirations and the reality of German transport policy on the basis of the national constellation of actors and illustrating this discrepancy with concrete case studies, the analysis will now be supplemented by a corresponding examination of European transport policy. This is necessary for a realistic assessment of the scope for action of national transport policy since the latter must increasingly be regarded as an integral part of the process of European integration. On the one hand, federal German transport policy has an impact on European transport policy and helps to determine it (cf. Schwedes et al. 2015). Conversely, federal German transport policy is also influenced to a not insignificant degree by decisions at the Euro-

pean level (cf. Bandelow et al. 2014). One does not have to deny national particularities in order to nevertheless come up against boundaries that are delimited by European transport policy. Therefore, to conclude, the relationship between German and European transport policy requires examination. After all, the European Commission has also made the guiding principle of an integrated transport policy the programmatic foundation of its transport policy and also expects that this strategy will lead to sustainable transport development. This raises the question of the extent to which European transport policy can possibly act as a corrective to the less than successful German transport policy.

4.2.1 Aspirations

European transport policy has taken on a new quality since the early 1990s. After the common transport policy had played a subordinate role for decades, it was explicitly given a special position in the Maastricht Treaty signed in 1992 (cf. Frerich/Müller 2004). The goal formulated in the Maastricht Treaty of bringing the common internal market to completion made it seem imperative to also push for the integration of national transport markets. With this goal in mind, the European Union saw its primary task in opening up the largely closed national transport markets in order to support economic integration. At the same time, however, the deregulation of the European transport market, which has been pressed ahead with since then, has led to a conflict of goals that is a peculiar characteristic of any transport policy. While on the one hand the environmental debate reached a highpoint in 1992 with the United Nations Conference on Environment and Development in Rio de Janeiro, where a worldwide reduction of pollutant emissions was decided, the opening of the European transport markets and the resulting growth in traffic, a development in the opposite direction loomed. Since then, European transport policy has been caught between programmatic statements with the goal of sustainable transport development on the one hand and the demands of market integration, expedited through the transport markets on the other (cf. Dyrhauge 2013).

If one examines the programmatic statements on European transport policy from the beginning of the 1990s until today, on the basis of the Green and White Papers, it can be shown that the policy objectives and real developments are moving ever closer together. At the same time, however, the social and ecological dimensions of sustainable transport development are increasingly taking a back seat to the economic perspective. Both the Green Paper published in 1992 and the White Paper published in the same year were initially characterised by a uniform strategy encompassing the entire European transport sector (cf. COM 1992a; 1992b). For the first time, the topic of traffic-induced environmental pollution was dealt with extensively. In particular, the Green Paper thematised the costs of transport growth, which are primarily generated by road traffic and are not included in transport costs. At the time, these externalised costs were recognised as a key factor in influencing transport growth, and a number of studies had already been devoted to calculating them. There was a broad consensus that by imposing on road transport the social costs it itself generates, there should be an increase in the costs of road transport in order to achieve a modal shift in favour of the more environmentally friendly rail transport.

But in the Green Paper published three years later "Toward Fair and Efficient Pricing in Transport. Policy Options for Internalising the External Cost of Transport in the European Union", which was explicitly dedicated to this topic, a different strategic orientation is already to be found (cf. COM 1995). Here, special attention is paid to external costs generated by traffic congestion. In addition, climate-damaging CO_2 emissions were factored out, without a word of justification. In this way, the old "dream of traffic flow" (Schmucki 2001) was able to be reactivated at the European level. This is particularly noteworthy, since studies carried out by transport researchers in recent decades, investigating the effects of eradicating traffic jams and the resulting increase in traffic flow, for instance using the example of local bypasses, have repeatedly come to the conclusion that this simply induces more traffic in the medium and long term (cf. Gerike 2017).

The new strategic orientation of the Green Paper from 1995 was essentially directed towards optimisation of the system. It was no longer

the transport system as such, dominated by road traffic, that was problematised, but rather the system-internal frictions were to be remedied by a system-immanent solution. The road transport system, which is obviously overloaded and/or inefficient in congestion situations, was to be adapted to requirements through infrastructure measures and/or increases in efficiency. This was the starting point for the White Paper published in 2001, which forms the programmatic basis of European transport policy (cf. COM 2001). Explicitly mentioned was the guiding principle of an integrated transport policy with the goal of sustainable transport development. However, in contrast to the 1992 Green Paper, the White Paper neither envisaged the possibility of politically imposed traffic restrictions, nor did it pursue a modal shift from road to rail. Instead, the White Paper was based on an integration scenario that assumed further growth in traffic. Initially the ambition was formulated to maintain the modal split at the 1998 level: "The third approach (Option C) […] comprises a series of measures combining tarification, revitalisation of modes of transport other than road transport and targeted investments in the trans-European network. This integrated approach makes it possible to stabilise modal shares at 1998 levels in order to achieve a more balanced distribution by 2010" (COM 2001: 14). Furthermore, a gradual decoupling of economic and transport growth was also supposed to be achieved by 2010. The 2011 White Paper essentially picks up where this left off, but with the decisive restriction that the goal of decoupling economic growth and transport growth is no longer mentioned (cf. COM 2011).[8]

Measured against their own ambitions, which date back to the beginning of the 1990s, it seems appropriate to draw up an interim balance after 15 years in order to gain a realistic impression of the effectiveness of transport policy strategy at the European level. We will now examine the development of transport from the beginning of the 1990s until the present day in the light of the ambitious objectives.

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8 The new White Paper on Transport, which is currently being prepared, is also based on this strategic orientation: https://www.bmvi.de/SharedDocs/DE/Artikel/G/europaeische-verkehrspolitik.html

4.2.2 Reality

At the beginning of the 1990s, the Transport Commissioner at the time, Neill Kinnock, pointed out in the above-mentioned White Paper that the "majority of EU households do not own a car" (COM 1992a: Foreword). At the time, this was explicitly seen as an opportunity to influence the further development of transport in favour of public transport. A dominance of road transport was to be prevented from the outset. Less than ten years later, the White Paper on Transport points out that in the meantime "two thirds of all households have a car" (COM 2001: 25).

After the enlargement of the EU from 15 to 27 Member States through the accession of the Eastern European countries, the situation is similar to that at the beginning of the 1990s: once again, the majority of households do not have a car. However, this has not led to a perspective on transport policy conducive to sustainable transport development. Rather, it is now generally assumed that the overall level of motorisation will largely converge with that in Western Europe. In light of traffic development over the last ten years, this forecast seems realistic.

At the same time, the European Commission initially placed explicit emphasis on the unusually high share of rail in the total modal split in the Eastern European accession countries (Commission 2001: 103). One of the goals had to be to maintain rail transport there at a high level. However, the development in the course of the gradual opening of the Eastern European transport markets since the beginning of the 1990s already showed an unmistakeably contrary trend. In most countries, rail passenger transport has fallen by 50 percent since then, while the degree of motorisation on the roads has increased accordingly (cf. Table 7).

Table 7 Development of rail transport in Central and Eastern Europe 1990–2000 – transport performance

		1990	1994	1995	1998
Czech Republic	passenger km (billions)	/	8,5	8	7.0
	tonne km (billions)	25*	23	22	19
Poland	passenger km (billions)	50	28	27	26
	tonne km (billions)	82	66	69	62
Hungary	passenger km (billions)	11.4	8.5	8.4	8.8
	tonne km (billions)	16.8	7.7	8.4	8.2
Bulgaria	passenger km (billions)	7.8	5.1	4.7	4.7
	tonne km (billions)	14.1	7.8	8.6	6.2
Baltic States ***	passenger km (billions)	10.5	3.9	2.9	2.0
	tonne km (billions)	45	21	21	27
Slovakia	passenger km (billions)	/	4.5	4.2	3.1
	tonne km (billions)	14.4	12.5	13.8	11.8
Slovenia	passenger km (billions)	1.4	0.6	0.6	0.6
	tonne km (billions)	4.2	2.5	3.1	2.9

* = 1993 ** = 1994 *** = Latvia, Estonia and Lithuania

Source: Own presentation, based on Commission 2002: Tables 3.5.21 and 3.4.23

The eastward expansion of the EU was expected to further accelerate these trends. This is especially true for freight transport. While rail freight transport only decreased by about one third on average and thus not as dramatically as passenger transport by rail, nevertheless, by 2012 road freight transport had increased by a third, while rail freight transport as a share of total freight transport has meanwhile fallen from 20 to 18 percent (cf. Eurostat 2015).

The forecasts are in turn cited by politicians as a reason and legitimisation for a major increase in infrastructure expansion of road transport routes. It is still disputed to what extent the expansion of the road infrastructure is a reaction to increased demand or, conversely, to what extent it creates the increased demand in the first place. In any case, it is striking that the European road infrastructure was continuously expanded in the 1990s, while the rail infrastructure was reduced by ten percent in the same period (cf. Table 8).

As a result of the specific burdens it imposes, road freight transport is of great importance in the context of an integrated transport policy aimed at sustainable transport development. Thus, in conclusion, we will examine the question of what the transport policy situation in the freight transport sector looks like at the European level, and what developments can be expected in the future.

Table 8 Traffic and Transport Infrastructure in the Territory of the EU-15 1970–2001

	1970	1980	1990	2001
Railway Routes (km)	172,809	167,437	161,465	153,398
Electrified Routes	/	/	/	78,230
High-Speed Routes	/	285	700	1,395
Long-Distance Roads (km)	/	/	/	325,038
Motorways	16,051	30,454	39,242	52,762
Tramway and Light-Rail Systems	108	91	92	102*
Metro-Systems	14	22	24	28
Internal Waterways (km)	32,338	30,620	29,637	29,500
Pipelines	12,060	17,825	19,085	22,000

* = 2000 ** = 1998

Source: Own presentation, based on EU Commission 2002. The statistics given for the period before 1990 include the route network of the Reichsbahn in the GDR. * = 2000 ** = 1998

4.2.3 New Constellations of Actors in European Freight Transport Policy

The development of freight transport in Europe has a lot in common with the development of freight transport in Germany, described above (cf. chapter 4.1.1). This applies to both CEP (Courier-Express-Parcel-Service) transport and intermodal transport. Both transport segments have also undergone an astonishing process of transformation at the European level. The changes in the process of industrial production here also led to a so-called "freight structure effect", which necessitated the complete reorganisation of the transport and logistics sector. As

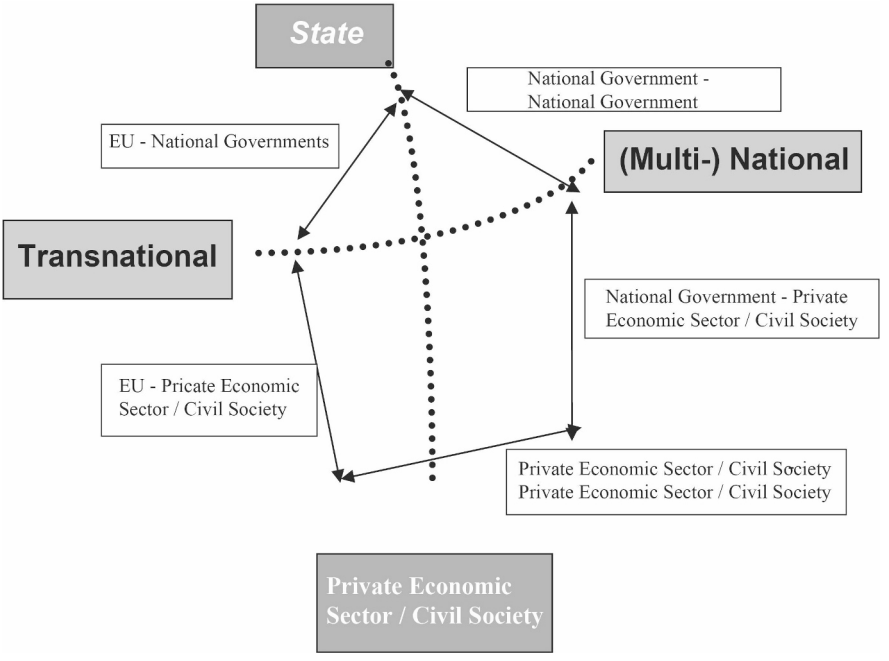
the production of higher-value, light goods in small batch sizes gained significantly in importance, the traditional modes of transport of bulk freight (rail, inland waterways) came under pressure. By contrast, flexible road freight transport was able to fully exploit its advantages on the well-developed road infrastructure. This development was given additional impetus by the gradual liberalisation of cabotage (domestic transport by foreign providers) in the course of the completion of the single European market, which was finalised in 1998.

Against the background of the new challenges in the transport and logistics sector, a dramatic concentration process then took place (cf. Wolf 2006). While the CEP markets within Germany are essentially dominated by the formerly state-owned postal company DHL, as discussed earlier, at the European level a total of four large corporations share the market, which, in addition to DHL, include Federal Express, TNT and UPS. These companies are mainly active in road and air transport and have at least partially acted as 'integrators' in these sectors by systematically integrating both of these transport segments as a fundamental part of their transport and logistics chains. However, this internal integration was accompanied by external disintegration: increasingly excluded from this strategy were precisely rail and ship, which are central components of an integrated transport policy with the goal of sustainable transport development. Accordingly, the development of intermodal transport – an essential mainstay of integrated transport policy – remained insignificant at both national and European level.

With the reorganisation of the CEP markets by the transnationally-oriented large corporations, the EU regulatory level in road freight transport was established as the decisive authority. This does not mean that the European institutions alone decide on the type and manner of market regulation policy in road freight transport. Just as an explanatory approach derived from nation-state policies hardly does justice to the complex processes of negotiation at the European level, the one-dimensional derivation of European transport policy via institutional procedures does not get to the heart of EU governance in the field of transport policy. Rather, the latter is characterised by a multi-dimensional net-

work of relationships, mediated by conflicts, which encompasses the EU and national governments as well as the private sector and actors from civil society. This conflict-laden domain can be illustrated by an institutionalised "five-corner relationship" between public and private actors (cf. Figure 16)

Figure 16. Institutionalised "five-corner relationship" at EU level



Source: Dieter Plehwe 2005, based on "triad relationships" between states and companies, designed by Stopford et al. (1991: 22).

The powerful consequences of this configuration of social power relations at the European level, which is constantly shifting as a result of conflictual relationships, can be demonstrated in the context of the restructuring of the CEP segment, using the example of the postal markets.

With the opening of the postal markets, which had previously been largely protected by state-owned postal companies, a dynamic of deregulation and privatisation was unleashed, which was reflected in particular in a reorientation of the transnationally-oriented postal companies that transcended national borders. At the level of the EU, this development was articulated in an institutional reorganisation of the postal sector. While the operational postal companies founded the European pressure group *Post Europe* in 1992, its predecessor (CEPT: *European Conference of Postal and Telecommunications Administrations*) was transformed into a European regulatory authority. "The constellation of actors shifted extensively in this context: as from 1992, the opposing interests of postal organisations and private integrators had been equally able to influence the arenas of European negotiation and decision-making processes, in the form of European business associations. Although important dynamics of postal policy continued to be located at the national level – for example, individual member countries such as the Netherlands and Germany commercialised and privatised the Post more rapidly, while other member countries pursued more structurally conservative adjustment strategies – for all member countries and postal organisations the arenas of negotiation and the decision-making processes were located at the EU level" (Plehwe 2005). In this context, very different connections of actors to different thematic fields reveal a relative openness of the processes of negotiation at the European level. It was not possible to hold back the dominant dynamic of the transnational corporations, the integration of air and road freight, and this had a disintegrating effect on the system as a whole. This was mainly due to the fact that the national associations of haulage companies and carriers, which – unlike the major transnational corporations – were interested in a more protectionist strategy, did not succeed in establishing powerful pressure groups at the European level.

Maintaining a limited postal monopoly to finance universal postal services was a different matter. Initially, a cross-institutional consensus emerged at the EU level regarding the gradual restriction of the postal monopoly. Both the Commission and the Council as well as the Parliament pursued a common goal in this regard in the course of the 1990s, with a series of Green and White Papers. At the same time, however, the first postal directive established the universal postal service as an integral part of services of general interest. Unlike in the field of road freight transport, the factions pushing for complete market integration were unable to prevail here. Instead, a universal service alliance was formed across all political levels, consisting of the majority of postal organisations, trade unions, national governments and regional interest groups from rural regions, which managed to win out against the radical market forces. The dynamics of social struggles in the EU's multi-level political system illustrate the commitment of consumer organisations in this context. For example, the liberalisation alliance, which is strongly represented in the EU Commission, was able to gain the support of the European consumer organisation, which is co-financed by the Commission. Conversely, the opponents successfully mobilised national consumer organisations at the European level.

The example of the dispute over the universal postal service provides an impression of the diverse political and strategic options that have opened up in the course of the European integration process, most of which have probably not even been recognised, let alone tried out. At the same time, however, this explains the dominance of economic power in the European transport sector to this day, despite all the partial, socio-political successes.[9] "Not only the presence, but also the relative strength and the ability to act of the private and public interests associated with certain discourses and positions prove to be decisive in order to successfully intervene in political decision-making processes that have increasingly shifted from national institutional contexts to supranational-European arenas of negotiation. Extremely effective

9 On the effects of the European deregulation strategy on the labour market and the welfare state, cf. Deppe et al. 2005.

political guiding principles, even the most successful guiding principle in the history of European integration, namely the completed European internal market, are being concretely defined and configured on the basis of interests and alliances. On the one hand, we have the comprehensive liberalisation of the European market while maintaining – in part – strongly heterogeneous, national market conditions in the area of road transport; on the other hand, we have the gradual – to be negotiated – liberalisation of the market in connection with the (economically secured) guarantee of universal services in the area of postal markets" (Plehwe 2005).

4.2.4 Summary

Thus, in answer to the question whether European transport policy can be expected to rectify the problematic trends in Germany with respect to the model of integrated transport policy and sustainable transport development, one remains sceptical.

As explained, the objectives of European integration also date back to the beginning of the 1990s. It is thus possible to look back on a horizon of experience of more than thirty years, which permits a realistic assessment of the effectiveness of the integration model so far (cf. Humphreys 2011). Accordingly, it can be stated that the dynamics of development in transport policy, contrary to the programmatic announcements, is still substantially characterised by a logic of economic integration (cf. Plehwe 2016). This has a problematic effect on a strategy of political integration, particularly in freight transport, since here the strategy is worked out through competitive relationships mediated by individual or business interests. While this kind of development has led to impressive achievements in integration and associated gains in economic efficiency at the company or corporate level, it has simultaneously forced the same companies to hermetically seal themselves off from the outside world, resulting in increasing fragmentation in the field of transport policy.

As in the German transport market, intermodal freight transport (CT) has not been able to develop further under these conditions. To this day, although politically desired, CT is not economically competitive,

with the transhipment of goods at the interfaces of the different modes of transport repeatedly proving to be the central weak point, since it is there that additional frictional losses occur. A major prerequisite for achieving a convergence of competitive conditions here would therefore be, in the first place, extensive state support to optimise the interfaces. In addition, the CT companies are dependent on close cooperation, which is difficult to achieve in the current milieu, dominated as it is by a dynamics of competition mediated by the market. Ultimately, through its framework directives, the EU not only promotes the conditions that disadvantage CT, it also opposes both state funding that distorts competition as well as efforts at cooperation on the part of companies active in rail and intermodal transport, which have been condemned and banned by the Commission as illegal practices of market closure.

European transport policy is thus also characterised by a discrepancy between aspiration and reality, which manifests itself in the structural contradiction between cooperation and competition (cf. Givoni & Banister 2010). The EU has tried to resolve the contradiction, as expressed in the formula "regulated competition", but it has not succeeded, at least not in the transport sector. While the integrated transport policy called for in the objectives is dependent on the most diverse forms of political cooperation, this approach is in fact thwarted by a policy of liberalisation that still prevails today. Given this situation, European transport policy can, at a national level, at best be expected to provide only a weak impetus for an integrated transport policy aimed at sustainable transport development. The repeated attempts by the European Parliament, such as the gradual tightening of the limits for CO_2 emissions, are an expression of an end-of-pipe strategy that relies one-sidedly on technical innovations, and they do nothing to alter the overall assessment (cf. Bahn-Walkowiak et al. 2012). In the past, these innovations have not led to a systematic correction of the direction taken by transport policy at EU level. On the contrary, to this day they are repeatedly counteracted in European transport policy by lobbying initiatives from the member states (cf. Schwedes et al. 2015).

Accordingly, the *European Commission* itself comes to the conclusion that transport development in Europe is still not on the path to

sustainable development (cf. COM 2011). The consequences of a lack of far-reaching political changes are described in drastic terms: "If everything continues as before, the dependency of transport on oil is likely to remain only slightly less than 90 percent, and renewable energy sources will only marginally exceed the target of 10 percent for 2020. CO_2 emissions from transport would be one third higher by 2050 than 1990 levels, and congestion-related costs will increase by around 50 percent by 2050. The gap between central and peripheral regions will widen, in terms of accessibility. The societal costs of accidents and noise pollution would continue to rise" (COM 2011: 5). This assessment was recently confirmed once again by the European Parliament and became the starting point for deliberations on how effective measures can be politically implemented, in order to finally come closer to the goal (cf. EP 2015).

Here, too, the prerequisite for a political-strategic readjustment in favour of approaches designed to achieve social and ecological integration would be a corresponding shift in the configuration of social power relations at the European level.

4.3 Third Interim Summary – Camouflage in Transport Policy

The starting point of this study was the widespread guiding principle of integrated transport policy and planning. The guiding principle, it seemed, constitutes a general consensus in transport policy that is not seriously contested by any side. At the same time, we observed that current transport policy at national and European level is increasingly characterised by a sharp contrast between programmatic strategy and concrete measures. Should this superficial impression be confirmed, then the important research question concerning the reasons for this disparity would need to be raised. In fact, the impression was confirmed in two respects. A survey of stakeholders in transport policy revealed that to date there are no material objections to the concept of integrated transport policy with the goal of sustainable transport development. The analysis of real transport development, on the other hand, has shown

that it is regularly at variance with the political aspirations. Thus, the realism and practicality of the widely recognised model of integrated transport policy is fundamentally up for negotiation (cf. Schwedes & Rammert 2020).

In light of this, we formulated the hypothesis that the various actors in the field of transport policy associate distinctly different ideas with the model of integrated transport policy. Although it was possible to gather the transport policy makers with their conflicting interests under a common guiding principle, this did not result in a (transport) policy 'solution'. Rather, the old conflicts of interest continue to lead to disparate strategies on the part of the individual actors, which do not fit into an overall political concept. The programmatic approaches move between the two conceptual poles of cooperation and competition. While the idea of integration aims to achieve different forms of cooperation, the market philosophy dominating the transport sector insists on the creative power of competition or even destruction.

Since this profound conflict of interests has not really been solved politically by the integration model, so the thesis goes, it depends on the stakeholders in transport policy and their respective position in the field as to which interests or policies are able to prevail. On the one hand, through a topography of the actors in the field of transport policy, we were able to identify three strategies of integration. Three groups of actors were each assigned to an economic, a social and an ecological integration strategy. In a further step, the three groups of actors were weighted according to their respective importance. It was shown that the resources of the representatives of an economic integration strategy clearly exceed the collective resources of the representatives of a social and ecological integration strategy. In addition to the material disadvantages, our study revealed a further weakening of the latter group through internal and bilateral lines of conflict. In contrast to the representatives of an economic approach to integration, who repeatedly manage to achieve an impressive unity beyond all the divergences that undoubtedly exist among them, the representatives of a social and ecological integration strategy compete both between and among themselves on individual issues.

As a result, transport policy is dominated by the representatives of the philosophy of economic integration, the principal aim of which is economic optimisation, meaning increased cost efficiency. This particularistic view is at variance with the strategic orientation of an integrated transport policy and has a corresponding effect on transport development. Contrary to what is planned within the framework of an integrated transport policy, the individual economic strategies do not fit into an overall political concept in which social and ecological dimensions can also be adequately articulated in a way that is conducive to sustainable transport development. Instead, the market-driven competitive dynamics of the economic integration strategy tend to have a disintegrating effect on the overall transport system.

By limiting itself primarily to optimising the conditions for economic integration, this policy hopes to activate potential innovations that also benefit sustainable transport development. Innovative products, for example in the area of new powertrain technologies, are supposed to help avoid the negative consequences of transport. Policymakers expect impetuses for integrated transport policy in particular from information and communication technologies, which in future are supposed to ensure tighter links between different modes of transport.[10] But it is precisely in the area of transport telematics that the consequences of a dominant economic integration strategy are particularly evident. This is because the new technologies have so far barely been used to optimise the transport system as a whole, but mostly to improve individual modes of transport or subsystems (cf. Klumpp 2002; Stopka 2003). Apparently, the centrifugal forces of a competitive dynamic generated by particular interests cannot be reined in through technical innovations alone.

This confirms a long-known dilemma that transport researcher Fritz Voigt described more than 50 years ago as a structural problem of the

10 This approach is the distinctive feature of the BMBF-funded project network "Mobility in Urban Areas", as well as the follow-up project "Traffic Management 2010" and the current "High-Tech Strategy" of the Federal Government.

transport sector. Concluding his observations on the economic significance of the transport system, Voigt emphasises the values of the market economy and especially competition: "But this does not change the fact that, in the course of generations, a purely market-based transport economy necessarily results in excessively stark differences in what were, originally, equal opportunities for development. In the long run, such a market economy can cost every nation and every state dearly" (Voigt 1960: 314). The current dominance of the philosophy of economic integration in the transport sector, which, as has been shown, systematically hinders sustainable transport development, appears to confirm this early insight.

The current debate in transport policy tends to deny the lines of conflict that we have outlined. The guiding principle of integrated transport policy fulfils a central ideological function. Since it is essentially based on the idea of a possible and desirable compromise, overarching the various interests and that can be more or less harmoniously achieved to the satisfaction of all participants, it in fact contributes to the de-thematisation of the prevailing conflicts of interests. Transport research colludes in this with advisory studies in which it semantically reconciles the structural conflict between cooperation and competition by means of the artificial term "co-optition" (cf. Beckmann & Baum 2002). The result is transport policy as camouflage!

In the course of the present study, this procedure has proved to be problematic, because behind the façade of the guiding principle of integrated transport policy, powerful special interests are able to impose themselves, repeatedly discrediting the idea behind the guiding principle. The results of the present study therefore indicate a different approach. Instead of preserving the impression that the divergent interests of stakeholders in transport policy can all be integrated equitably in a compromise formulation, these interests should – first of all – be worked out and identified as different but legitimate concerns. In a second step, the legitimate interests of the various actors should be opened up to public discussion.

Since it is scarcely possible to change the underlying power relations in the short and medium term, the aim in a democratically constituted

community must be to exert influence on the decision-making process in transport policy by means of relevant 'checks and balances'. To achieve this, it is first necessary to raise the socio-political status of transport policy. Instead of reducing transport policy to a special part of economics – as is still common in economics today – the manifold social influences at work in transport policy should be made clear. Transport policy must not be regarded as a derived variable, as an ancillary economic science, so to speak, but rather as a central aspect of coping with life in modern societies. The task is therefore to free decision-making processes in transport policy from their restricted arcanum and to publicly convey an understanding of transport policy as a central component of social policy, in order to raise its *political* status accordingly.

Only in the context of a successful politicisation of transport policy does it seem sensible to pursue further conceptual deliberations. There is certainly no lack of promising approaches. Especially if one continues to make the idea of integration the basis of practical strategies for action, it is possible to build on comprehensive concepts that were developed in the 1990s (cf. UBA 2014). However, Martin Wachs had already pointed out the dilemma of these conceptually undoubtedly convincing models, a dilemma that remains valid today. Instead of yet again making the guiding principle of an integrated transport policy the basis for conceptual deliberations, the political circumstances that stood in the way of implementation in the past should be reflected upon: "I firmly believe that transport policy-making is primarily a political exercise, and that analytical approaches by technical experts are invariably less influential than the pull and tug of influential interest groups" (cf. Wachs 1993: 337).

In other words, transport policy does not suffer from a poverty of ideas. Fed by transport research, it has sufficient knowledge and model-theoretical deliberations in order to shape transport policy. Instead of adding another concept to this, the present study has aimed from the outset to answer the question of why the existing knowledge has to date not been employed to a greater extent. Within the relatively limited framework of selected examples, we have been able to indicate the relevance of an analysis of the policy field (which has been neglected in the past) but without always ensuring sufficient depth. This opens

up a field of research that should be further explored in the future with concrete individual case studies.

5. The Great Transformation of the Transport Sector

After presenting the transport sector and the field of transport policy in all their facets, the following chapter will once again take up the fundamental observations on the political economy of transport within the framework of capitalist socialisation and discuss the question of the conditions required for sustainable transport development. This entails placing people at the centre of a major transformation of the transport sector.

5.1 Placing People at the Centre of Sustainable Transport Development

The discourse of sustainability is characterised by the idea of nature in its natural state. This concept, in turn, is based on the assumption that one can distinguish between nature in its natural state and something unnatural that deviates from it. This is where people usually come into play, encountering an unsullied nature and deforming it in a way that renders it unrecognisable. This motif – natural versus unnatural – results in a far-reaching social consensus that transcends all party boundaries and underpins the entire discourse of sustainability: nature in its natural state must be preserved or restored.

A point of view that assumes that all people are (or at least should be) equally motivated to restore nature to its natural state is as charming as it is demanding. This becomes clear the moment the specific social

conditions come into view in which different people with different interests are active. Then it becomes apparent that people are affected quite differently by the overexploitation of natural resources and its negative consequences. The rise in sea level as a result of climate change would primarily affect the 90 percent of the world's poor population, a large proportion of whom live close to the ocean, while the few rich cities have the necessary means to adapt to these changed conditions and continue to lead a good life (cf. Schellnhuber 2015).

This way, the perspective changes and it is no longer *people* as such who have to save *nature* as such. Rather, it is different people with very different interests who have to agree on how to deal with natural resources. In this context, nature in its supposedly natural state is a misleading point of reference, because contrary to what this idea suggests, there is no state of nature which people can use to orient their actions. The natural environment has never been static, but has been in a state of constant, sometimes profound change for 17 million years. Since the emergence of Homo sapiens almost two million years ago, humans have also been exerting an increasing influence on the natural environment. This development reached its provisional peak and a new quality with the beginning of the industrial revolution about 200 years ago. Since the middle of the 20th century, the influence of humans has finally become so great and the changes in the natural environment so visible that researchers have diagnosed the transition to a new geological age – from the Holocene to the Anthropocene (cf. Kersten 2014).

Nature its natural state thus loses its significance as a reference point, as a guide for taking action, and people become the focus of attention. While viewing pristine nature as the goal previously seemed indisputable, i.e. it did not require a political decision, the question now arises as to how people want to organise their "metabolic interaction [with] the earth" (Marx 2004: 637) in the future. Social relations as an expression of capitalist socialisation, which decide how the relationship of people to their natural environment will be shaped, are now placed on the political agenda. The discourse of sustainability, which had previously been largely politically inoperative, is thus politicised (cf. Swyngedouw 2007; Wilson & Swyngedouw 2015). The goal is now no

longer to align one's own actions with an original state of nature that can be taken as a given by all people equally. Since pristine nature as a justificatory fundament is now lost, the regulation of our relation to nature must now be negotiated politically (cf. Görg 2003). The formerly natural standard is replaced by a social criterion and a political decision has to be made regarding how we want to live together in the future. In the process, the existing power relations and relations of domination necessarily come into view. Can we imagine that 90 percent of the world's population will suffer under the consequences of climate change in the future, while ten percent will even benefit from it? These ethical questions are always also political questions and can only be answered by people who are politically informed (cf. Negt 2011).

By contrast, as was shown at the beginning of the present study, the capitalist mode of socialisation is based on compulsive economic growth, which is the dominant factor in political action. Accordingly, it is not qualitative questions that are determinant, about who produces what, for whom, with what aim, but rather how more can be produced, quantitatively. So one doesn't begin with the question of what do I need and how much of it; instead, it is simply assumed that ever more is needed because the capitalist mode of production depends on it. Only then is the question posed as to who should consume the additional goods that are produced, which explains the recurrent interplay of crises of over-production and under-consumption that manifest themselves in severe social dislocations, over which the people affected by them have no influence (cf. Zimmermann et al. 2013). Following Marx's characterisation of the human being as a *zôon politikon*, as a potentially self-aware and self-determined – that is, *political* – being, the human being appears alienated from his or her particular abilities within the framework of capitalist modes of socialisation (cf. Sörensen 2016).

In the transport sector, alienation is expressed in a reversal of the means and the purpose: within the framework of the capitalist mode of production, transport is transformed from, initially, a means to achieve a specific end, into an end in itself. Transport serves as a medium of the sphere of circulation and guarantees the linking of production and consumption on an ever-longer stepladder, and at an ever-increasing speed.

The resulting growth in transport cannot be justified qualitatively; transport is not designed to satisfy concrete human needs. Rather, transport growth legitimises itself through its contribution to economic growth. Thus, transport growth is functionally linked to economic growth, which in turn draws its purpose from itself – growth for its own sake. The primary purpose of transport is thus to serve the capitalist mode of production, not to serve people.

The alienation caused by the reversal of means and purpose in transport is articulated on an individual level through the conceptual confusion of transport and mobility. There is no one who, out of self-motivation, happily undertakes a daily commute over long distances. There are simply some who cope with the associated stress better than others. Nevertheless, those who are on the move a lot are considered highly mobile. The growth paradigm has thus also found expression in individual self-perception, with the qualitative dimension left unexamined. To the extent that transport growth is understood as a necessary contribution to the desired economic growth, it remains removed from political influence. In contrast, a politicisation of transport development would have to start with social conditions and support people in fulfilling their concrete demands and needs.

5.2 Breaking with the Growth Paradigm as a Prerequisite for People-Centred Transport Development

As a functional component of the growth spiral of capitalist production, transport policy moves within the framework of the growth paradigm (cf. Fig. 1) and is trapped in a production regime that constantly derives the goal of unlimited growth from within itself. Due to this lack of alternatives, transport policy is largely powerless; it can regulate transport in the interests of economic growth, but cannot politically shape it beyond that. Accordingly, a politicisation of transport policy must be directed towards emancipation from the prevailing growth compulsion.

Due to its fundamental social significance, a break with the growth paradigm requires profound social change. The German Advisory Coun-

cil on Global Change (WBGU 2011) compares the current situation with regard to the possible global consequences of climate change with the enormous social upheavals that resulted from the industrial revolution in the 19th century. At the time, the economic forces that were unleashed led to social upheavals on a scale that threatened social cohesion. The task was to regulate the largely free market politically in the interest of the common good. The WBGU sees the challenge today in organising societies worldwide in such a way that climate change can be stopped and its negative consequences avoided. To this end, the paradigm of 'higher, further, faster', which is increasingly directed against people, must be replaced by the ethical principle of responsibility formulated by the philosopher Hans Jonas (2003). This principle stipulates that in future people should no longer base their actions on quantitative criteria, but rather on three substantively justified qualitative goals. Firstly, they should be guided by an ecological mindfulness that takes into consideration negative environmental consequences for people's lives. Secondly, democratic participation should be guaranteed so that people can shape their lives in a self-determined, that is, political way. Thirdly, current actions should always be guided by a sense of responsibility for the future, reflecting on the consequences of one's own actions for future generations.

In terms of transport, this would mean that we would have to consider the environmental consequences of a global increase in transport from today's one billion vehicles to two billion in 2030 and three billion in 2050, and how this would affect the coexistence of the world's population (cf. Sperling & Gordon 2010). This objective is confronted with the directive goals of the automobile companies, which are continuously increasing their global production figures. This already addresses the second goal, democratic participation, which is not possible under the current social conditions, dominated as they are by particular market interests. Lastly, one would have to consider the consequences for future generations of excessive transport and traffic development in the emerging regions of the world, as they catch up with the developed industrialised countries. The necessity of political struggle is illustrated by the exist-

ing relations of power and dominance, which stand in the way of a social transformation conducive to sustainable transport development.

The debate within the Commission of Inquiry of the German Federal Parliament into "Growth, Prosperity, Quality of Life – Ways to Achieve Sustainable Economic Activity and Social Progress in the Social Market Economy" showed how great the potential for political conflict is when it comes to economic growth (cf. Deutscher Bundestag 2013). The starting point for the establishment of the Commission of Inquiry was the wide-ranging consensus that societal prosperity can no longer be adequately assessed using the gross domestic product, which relies solely on quantitative economic indicators (cf. Lepenies 2013). Viewed through the lens of these indicators, a traffic accident has a positive impact on the gross domestic product, since it provides a range of employment – police, paramedics, doctors, car repair workshops, etc. – to which income is tied, which in turn can be fed into the economic cycle as consumer expenditure. By contrast, the negative, cost-causing effects on welfare are not sufficiently accounted for. For this reason, the Commission of Inquiry agreed across party lines that, in addition to material indicators of prosperity, social and ecological dimensions of prosperity should also be included in the future.

Nevertheless, a profound controversy arose over the question of the right strategy for sustainable economic development, which remains exemplary of the political debate today. Accordingly, the majority vote advocated a change from quantitative to qualitative growth. By qualitative growth is meant that the entire economy is better organised and produces products of ever higher quality. This entails two strategies: First, technical innovations are supposed to contribute to gains in efficiency (efficiency strategy). For example, car engines that are more economical produce lower CO_2 emissions. Advocates of the efficiency strategy, such as Ernst Ulrich von Weizsäcker, Amory and Hunter Lovins (1995), assume that we can maintain and even ramp up our global lifestyle through efficiency gains alone. In their view, three billion motor vehicles worldwide will then no longer pose a sustainability problem. Secondly, the resources used should be used as effectively as possible, in the best case, used more often, which addresses the issue of recycling (effectiveness

strategy). Here, too, the automobile can serve as an example, in which up to 30 percent of the materials used now come from recycling. Representatives of the effectiveness strategy such as William McDonough and Michael Braungart (2002) assume that artificial substances will be invented in the future, which – analogous to the cycles of natural resources – will be fed over and again into cycles of artificial materials. Like the proponents of the efficiency strategy, they are also convinced that the effectiveness strategy alone will solve the sustainability problems, and from this perspective, too, three billion motor vehicles worldwide therefore no longer pose a sustainability problem.

In its majority vote, the Commission of Inquiry into "Growth, Prosperity, Quality of Life" thus advocates a dual strategy of sustainable economic activity, which primarily relies on technical innovations, whether to achieve efficiency gains, or to use resources more effectively in the future. This is, of course, a repeat of the debate from the 1990s presented at the outset of this study, which was conducted at the time in the Commission of Inquiry on the "Protection of the Earth's Atmosphere" (cf. chapter 2.2.2). Once again, economic growth is qualified, but not fundamentally questioned. This results in the frequently described problem that the gains in efficiency and effectiveness of qualitative economic growth are repeatedly negated or even outstripped by quantitative growth (cf. Paech 2011, Sachs 2015). This has been particularly evident in the transport sector in recent decades. Time and again, technical innovations were presented that served as beacons of hope for sustainable transport development – most recently electric transport (cf. Schwedes 2016a). Measured in terms of the efficiency and effectiveness strategy, the electric car is undoubtedly the product of qualitative economic growth. While the internal combustion engine emits over 70 percent of the energy it produces as heat and can only use just under thirty percent for propulsion, the electric motor is far superior, with an efficiency of over ninety percent. If we assume that the electric car also runs on renewable energy, it is also superior in this respect to the combustion engine, which consumes – just once and irretrievably – fossil fuel that was created over a period of millions of years. Nevertheless, studies in recent years have repeatedly shown that merely

replacing the combustion engine with the electric car, with otherwise unchanged circumstances, results in scarcely any benefit in the energy footprint over the course of the vehicle's life cycle (cf. UPI 2015). This can be explained, among other things, by the energy-intensive extraction of the rare earths needed for the batteries and the still largely unresolved issue of disposal, quite apart from the fact that the electric car is also dependent on finite resources.

The example of electric car production confirms once again that qualitative growth does not provide a solution to the sustainability problem – three billion electric cars worldwide *also* pose a sustainability problem. This does not mean that the efficiency and effectiveness strategies are meaningless, they are just inadequate and must be supplemented by the third strategy of sustainability, namely the so-called sufficiency strategy, which is aimed at changing the behaviour of both producers and consumers (cf. Stengel 2011). In relation to the electric car, this would mean that it is integrated into new concepts of usage, such as car sharing. This means that the electric car is no longer a private commodity that sits around idle for 90 percent of the day, but is ideally used by many people throughout the day, when they need it. The consequence would be that, overall, far fewer electric cars would have to be produced, which would thus contribute to breaking with the growth paradigm. This would require a rethinking on the part of the producers, who would no longer orient their activities towards increasing their production figures, but would instead develop into mobility service providers who gear their offers to the specific demands and needs of their customers. [1] But it would also require a change of mentality among consumers, to use means of mobility collectively instead of owning them individually. Only on the basis of this *social innovation*, which complements the gains in efficiency

1 Of course, the automobile manufacturers claim to be able to anticipate their customers' every wish. However, this remains unsatisfactory as long as democratic participation stops at the factory gates. It can be assumed, for example, that Germans would not have agreed to the health-damaging 'solution' to the exhaust gas problem in diesel vehicles if they had been given the opportunity to do so.

and effectiveness achieved through technical innovations, can the electric car be shown to make a positive contribution to sustainable transport development (cf. Augenstein 2015).

Following the insight into the necessity of breaking with the growth paradigm in order to enable sustainable transport development, the question arises as to the scope for action in transport policy within the framework of the capitalist mode of socialisation (cf. Higgs 2014). Is a transformation of the transport sector conducive to sustainable transport development even conceivable under the conditions of capitalist production? After all, research on the 'Varieties of Capitalism' has shown that, after the Second World War, different paths of capitalist development were taken worldwide, some of which manifested themselves in very different modes of regulation in conjunction with the welfare state (cf. Hancké 2009). However, none of these variants is characterised by changes as profound as the great transformation from laissez-faire capitalism to a capitalist production regime regulated by the welfare state (Gilbert & Perl 2008). At the time, this required far-reaching political interventions, which the German Advisory Council for Global Change (WBGU 2011) takes as a reference point for the overall societal change that it believes is necessary now and that has to be shaped politically. Following this approach, and in the light of historical experience in the transport sector, recommendations for political action in the design of sustainable transport development are developed in the next chapter.

5.3 The Common Good as the Starting Point for a New Transport Policy

In the course of the historical development of the welfare state, the principle of public administration oriented towards the common good, also known as public services, was established in the early 20th century and remains valid today (cf. Hofmann 2012). This was based on the insight that people in modern urban societies would no longer be able to afford certain necessary services that the rural population had previously organised themselves, such as the water supply. Instead, the state

would have to provide the infrastructure services that are necessary for large masses of people to live together, such as sewage systems, electricity grids or transport networks (cf. Meinel 2011). This situation resulted in the so-called "social question". Basic services necessary for daily life were to be made available to all citizens in their homes, be it a toilet connected to the sewage system, electricity or connection to the water supply. The idea of household access was born! Transport was also part of the provision of public services and was to be organised in the interest of the common good. At the time, however, due to a lack of alternatives, the requirement only referred to public transport, which was in principle supposed to be accessible to everyone in order to guarantee a minimum degree of mobility.

With the individual mass motorisation of the post-war period, the situation in the transport sector changed fundamentally. The availability of a private automobile meant that more and more people were able to provide for their own personal mobility needs. In the transport sector, they were less and less dependent on state-run public transport services. Admittedly, the state provided the necessary massive road infrastructure and an obligatory parking space. But beyond that, people organised their (auto-)mobility more and more independently. Until finally, it became almost impossible for a household to satisfy the basic need for mobility without resorting to the private automobile, while access to collective public transport was increasingly thinned out.

Today, the social environment has once again fundamentally changed. With challenges such as climate change and the finite nature of fossil fuels, private auto-mobility is increasingly contested. In light of this, the question arises regarding the extent to which the individual's right to a minimum degree of mobility can be guaranteed without having to rely on the private car. If it should be the case in the future that personal mobility with the help of a private car is no longer feasible on an individual basis due to rising costs, how is the necessary basic mobility, congruent with the common good, to be provided? In other words, the social question is being posed anew.

Ensuring sustainable transport development through access to mobility from home could be a future task for the state, within the frame-

work of a redefined concept of public services. This requires as great an effort, socially speaking, as in the 19th century, when public utility infrastructures were established in European towns and cities. In the following section, challenges are outlined and solutions suggested that aim to create access to mobility for low-income population groups, in conformity with minimum social standards. These solutions point to the necessity to rethink public services, with the aim of establishing a mobility law that guarantees access to mobility from home, without being limited to traditional collective public transport. Thus, low-income earners can prove to be pioneers of mobility in the context of sustainable transport development.

5.3.1 On the Relationship between the Common Good and Transport

The attractiveness of the private car is explained by its permanent availability. By having it right outside the front door in the best case, its owner has the certainty of being mobile at all times. Just as the household connection to the water supply, to sewage, the electricity grid and heating guarantee that basic needs are met, the private car functions, as it were, as a household connection to mobility. However, with one crucial difference: as a 'stationary vehicle'[2] it is highly inefficient. While public utilities guarantee a permanent and thus efficient service due to their collective use, the private car stands around unused most of the time. This situation results in a dilemma! The private automobile ideally fulfils a basic need for individual mobility, but at the expense of the common good (cf. Knoflacher 2013).

Given this situation, the question is how this obvious contradiction can be resolved. In other words, the challenge for transport policy is to organise household access to mobility such that it supports sustainable transport development. By contrast, the current situation is that those

2 Translator's note: *Stehzeug* ("stationary vehicle") as opposed to *Fahrzeug* ("moving vehicle/vehicle designed to move").

who do not have a private car are confronted with multiple barriers because a public transport stop is obviously not to be found outside every doorstep. Also, it is usually not possible to step out the front door, grab a rental bike and ride to the next stop to quickly change to the next mode of transport. And cars for car sharing are rarely available in the neighbourhood, let alone at the front door. On the contrary, they are lacking precisely where they are most needed: in areas of the cities where cycling is common, as well as in rural areas. Many households thus have no guaranteed connection to mobility because their needs are not covered by private business models. As a result, a growing part of the population experiences social injustice to the extent that their mobility or social participation is restricted, for a wide variety of reasons. This is where transport policy must start today, by revisiting the social question, taking the changed social situation into account and reflecting on new forms of public mobility (cf. Schwedes 2021).

The causes that limit individual mobility and thus social participation are manifold and usually tightly interwoven. The hindrances to individual freedom of movement can have to do with one's personal environment and be caused by a lack of skills and/or financial resources, and can be lasting, due to location and time considerations. The constant thinning out of comprehensive bus and train services, especially in rural areas, has ultimately shifted transport to the automobile. Socially disadvantaged urban districts or rural regions without appropriate transport infrastructure are dependent on motorised individual transport, i.e. primarily on the car. But there are also spatial developments that have fostered car dependency and barriers to accessibility in recent years. Thus, we observe a reduction in settlement density, a separation of residential and work areas, and spatial dispersion that favours motorised individual transport (Holz-Rau 2018). But traditional space-time ties have also changed. Needs have become more differentiated, the purposes of transport have become more diverse and journeys more complex. In addition, routines or habits are significant for transport behaviour. Thus, the choice of means of transport is for the most part habitual. This is especially true for daily journeys. People no longer think about the choice of transport or the routes they take. On the other hand, complicated tar-

iff systems or the purchase of individual tickets from ticket vending machines often enough serve as an obstacle to a routinised choice of transport mode. Transport policy and planning that aims to promote environmentally and socially equitable transport use requires services that go beyond the high network density and frequency of traditional public transport, by ensuring a connection to mobility for individual households (cf. Catapult 2016).

Physical disabilities, insecurity and fears can create acceptance thresholds that significantly limit mobility. Especially in old age, fears and insecurities increase. For example, some people find it difficult to use public transport if they associate it with negative experiences (e.g. uncertainty when changing trains, a confusing fare system, harassment). It is not only older people who often avoid using a bicycle because they feel unsafe on slippery or damaged bicycle paths, or on roads with a high proportion of cars. People tend to avoid places that give rise to fear, i.e., places where the threat of crime and violence is perceived to be particularly high. Those who are restricted in their movement are also often confronted with structural barriers. Ramps and footpaths with steep inclines, stairs, steps or missing handrails can mean that one has to ask for assistance or is unable to use a particular means of transport. Spaces and transport facilities should be designed in such a way that everyone feels safe and can get around without worry. Adequate lighting, pathways that are easy to follow or elevators with glass walls can increase the feeling of safety. Personal barriers can therefore be quite diverse and affect not only elderly people, but can basically affect everyone. Accordingly, an environmentally sound transport policy is designed to meet the needs of the weakest members of society, it is thus a 'design for all', and thereby contributes to the common good – everyone benefits from a barrier-free ticket machine (cf. Gaffron 2016).

Lastly, it is the lack of financial means that limits mobility. Although low-income households have lower transport expenditure in absolute terms, expenditure on mobility takes up a much higher share of the total budget compared to high-income households. In addition, transport costs have risen at an above-average rate in recent years. Due to their limited financial means, low-income households find it extremely diffi-

cult to offset rising transport costs from other areas, since large parts of the income are tied up in fixed expenses for food, clothing, hygiene articles etc. Finally, a reduction of transport costs is hardly possible for low-income earners, since they already make heavy use of non-motorised and public transport (Altenburg et al. 2009). It thus becomes clear that strategies in transport policy designed to maintain mobility are tightly linked to socio-political issues.

In the changed social environment, the target group of low-income households constitutes a social group that not only – as in the past – raises the social question. Due to their precarious economic situation, they also need to keep transport costs as low as possible and thus do without a private car. They are often forced to use public transport and are therefore also called 'captives'; i.e. those who are 'trapped' in public transport. As a result, low-income earners or the 'captives' are the population group that, in terms of transport, gets around in a particularly sustainable way. Seen in this light, the income-poor are actually the pioneers of sustainable transport development (cf. Daubitz 2014)!

What could be the first steps on the path to linking the social question with the ecological question?

5.3.2 The Mobility Act

In order to respond adequately to the changed social environment, the idea of the common good must be further developed in the direction of sustainability (cf. Ambrosius 2016). In doing so, it is certainly possible to build on the legal institutions that were developed in the past in the context of providing public services (cf. Ringwald 2008). Accordingly, the Local Public Transport Act can become the starting point for a much broader mobility law, on the basis of which rather than a local transport plan a mobility plan can then be drafted. While the Local Public Transport Act is directed one-sidedly towards collective public transport and is intended to offer a corresponding minimum degree of access for every citizen, the Mobility Act is based on a different understanding of transport and mobility. In contrast to the traditional notion of transport as physical movement in space, mobility is understood as potential mobil-

ity, which is measured by the range of opportunities for social participation (cf. Schwedes et al. 2018).

This conceptual distinction results in a fundamental change of perspective, because the Mobility Act no longer focuses on individual means of transport, as before, but rather considers the potential mobility of citizens, measured by the possibilities for social participation. In this way, the narrow focus on collective public transport is broadened to include all means of transport. This also expands the scope of responsibility of the public sector at the municipal level to include all mobility services that contribute to sustainable transport development. Unlike in the past, the municipality does not have to provide these services itself, but must ensure that private providers contribute to integrated transport development with innovative transport services. The task of transport policy is to create the necessary regulatory conditions for this. For example, the municipality could put the fine distribution in commercial transport out to tender in a one-stop process and award it to a private service provider who can then manage the last mile efficiently.

In addition, other fields of action open up that should be considered under the banner of integrated transport policy and planning. These include, in particular, urban development and housing policy, which can make a decisive contribution to ensuring that people on low incomes can participate adequately in society without having to deal with complex transport problems and the corresponding high costs. Ensuring affordable rents in the inner cities is just as much a part of this as functionally mixed urban neighbourhoods in which the facilities necessary for everyday basic needs are only a short distance away.

On the basis of the Mobility Act, a mobility plan is being drawn up which – unlike the local transport plan – is no longer oriented towards individual means of transport, but makes the mobility needs of the population the starting point for deliberations. In addition to the two traditional planning instruments of infrastructure planning and traffic flow management, the mobility plan relies above all on the newer planning approach of mobility management. In this approach, transport policy and planning aim to involve the population even before people have made transport-relevant decisions. This means that

policy and planning no longer follow – as they customarily have – the private decisions of households or companies concerning location, for example when the latter have decided on a greenfield site, by developing adequate services. Instead, politics and planning use the mobility plan to formulate clear transport policy goals that guide actions to be taken, are condensed into an integrated transport planning strategy and are directed towards sustainable transport development. Accordingly, a municipality could develop new residential concepts that involve low car-use, together with urban housing associations, public transport companies and in cooperation with private mobility service providers, whether taxi companies, operators of car-sharing or bicycle-sharing services, etc.

In view of the challenges of transport policy, the central goal should be to break with the model of 'higher, further, faster' – in other words, generating ever more traffic that has to cover ever greater distances in ever less time. The sustainable counter-design is a model that seeks less traffic by reducing the distances to be covered and, as a result, enables deceleration. A subsequent integrated transport planning strategy formulated in the mobility plan would have the task of organising new forms of social coexistence in consultation with the population in question, which would guarantee the degree of mobility necessary for social participation and largely avoid traffic development with its negative consequences, all for the common good.

5.3.3 Summary

Assuming that the mobility act will be taken seriously as a political challenge in the future, the historical review of the political implementation of public utilities infrastructures in urban Europe is helpful (cf. Schott et al. 2005). On the one hand, in order to get a feeling for the enormity of the forthcoming collective task and, on the other hand, to show that such forbiddingly large tasks involving the community as a whole have already been successfully carried out in the past.

Then, as now, it was external constraints that moved politicians and others in positions of responsibility to act. This can be demonstrated par-

ticularly impressively by the example of the introduction of the municipal sewage system. At the time, the recurring cholera epidemics created growing pressure to act. Nevertheless, the construction of sewage systems was delayed for many years due to massive resistance from the population (cf. Stippak 2010). Although hygiene and healthy living conditions were clearly in the public interest, they clashed with established particular interests. Since people had previously sold their faeces to the farmers in the surrounding area, who used them to fertilise their fields, the citizens saw themselves doubly dispossessed by the sewage system. In future, they would have to pay for their connection to the sewage system through additional taxes. The sewage system would not only remove their excrement and thus a source of income, but also impose additional costs on them.

In the end, the public interest prevailed with the compulsory connection to the sewage system, which remains valid today and holds for all citizens, without them perceiving it as coercion, let alone questioning its reasonableness. The example makes it particularly clear how much the implementation of technical innovations is linked to social learning processes. In this case, it took a decades-long process of "establishing new practices of bodily hygiene in the domestic sphere" (Gleichmann 1979) before people's scepticism about the sewage system, which they perceived as an intrusion into their private sphere, had given way to widespread acceptance.

Today, it is a matter of establishing a new understanding of mobility and reorganising transport with a view to sustainable transport development, in the interest of the common good (cf. Schmitt-Egner 2015). The central political challenge is to communicate the idea of sustainability to the population as being in the public interest. In the transport sector, this requires changing individual mass mobility reliant on the private automobile, which is still taken for granted today. Just as in the past, when the introduction of the sewage system was on the agenda, such a far-reaching change in transport behaviour cannot simply be abruptly imposed. Rather, the political task is to make the population aware of the meaning of a change in transport behaviour within the framework of a new mobility culture and to guarantee, through the Mobility Act, a con-

nection to mobility for individual households that, with the potential for social participation as a yardstick, constitutes an equivalent alternative. Thus, under changed social conditions, the social question becomes central to a transport policy that aims to guarantee every citizen a minimum of sustainable mobility. Conversely, this means that the public subsidies that still support non-social mobility today will be cancelled. Since this will inevitably lead to conflicts with those who still benefit from non-sustainable transport development today, this again points to the central importance of political conflicts in the course of the necessary social transformation.

5.4 Fourth Interim Summary – It's the Politics, Stupid!

Since the 1970s, in response to a massive critique of over-regulation in the welfare state, a neo-liberal hegemony has been established worldwide, with policy-making increasingly used to improve conditions for market participants (cf. Prasdad 2006). As a result, the state has withdrawn from more and more areas of activity and left them to actors in the private sector. The conviction at the time was that there was no alternative to this kind of privatisation of services formerly provided by the state. The British Prime Minister Margaret Thatcher had a formative influence on this *zeitgeist* with the TINA principle: There Is No Alternative! According to Thatcher, there was no such thing as society; only markets existed and the government was responsible for their functioning. The primacy of the economy was expressed by Bill Clinton's advisor James Carville in the presidential election campaign with the slogan "It's the economy, stupid", which subsequently became a catchphrase. The German Chancellor Gerhard Schröder was, with good reason, also ennobled as "Chancellor of the Bosses", especially for services rendered to the German automotive industry. Asked as SPD party leader about his party's specific economic programme, he, like Thatcher, said the party had no such programme. This restricted understanding of politics on the part of the SPD government finally culminated in the Agenda 2010 (cf. Nawrat 2012).

In the preceding chapters, the negative consequences of this political attitude in the transport sector over a period of more than 20 years were presented in detail. In 2008, the financial and economic crisis temporarily put the brakes on the neo-liberal market euphoria, but to this point adequate political corrections have not been put in place (cf. Streeck 2015). In light of this, we will conclude here by recalling the fundamental insight into the politically generic nature of human beings, which holds that human beings individuate themselves to the extent that they organise their coexistence with other human beings in a politically self-determined manner (cf. Marx 1989b: 18). As was shown in the first chapter, the prerequisites for a politically self-determined organisation of coexistence within the framework of capitalist socialisation are given only to a very limited extent, since there is little political influence exercised on the privately organised production in a free market economy. In the transport sector, this is expressed time and again today in the fact that political goals regularly remain unattained.

The degree to which markets are subject to political influence varies and is expressed in the 'Varieties of Capitalism' mentioned above, which are characterised by different welfare state regimes (cf. Schröder 2013). However, the idea that markets are 'free' from political influence is misleading, since every market is necessarily politically regulated. The experience with laissez-faire capitalism in the 19th century showed the destructive effects on social cohesion of markets that are politically largely unregulated. The economic historian Karl Polanyi described the unbridled operation of market forces, which resulted in enormous social upheavals at the time, as the "devil's mill" and impressively described it as the consequence of the economy being detached from its political and social ties (cf. Polanyi 1995). Polanyi describes the ensuing great transformation at the end of the 19th century as a political counter-movement with the aim of re-embedding the economy in newly-created political and social institutions, in order to restore the cohesion of society. At the time, the communalisation of services that had formerly been privately provided – such as water, gas, electricity and eventually transport – began (cf. Schwedes & Ringwald 2021).

Since then, municipalisation has moved back and forth between the poles of regulation and deregulation (cf. Wysoki 1995). Markets are certainly more or less 'free' from political regulation oriented towards the common good, which places limits on the particular interests of individual market actors. The degree of political regulation of the market, however, is decided by governments and not by the markets, in each case within the framework of the historically specific social and cultural conditions. It's the politics, stupid!

After a phase of privatisation, we have been experiencing increased efforts in the direction of re-municipalisation for several years (cf. Bauer et al. 2012, Matecki & Schulten 2013). The renaissance of state-administered public services is based on the growing realisation that state institutions are of central importance for guaranteeing social prosperity (cf. Acemoglu/Robinson 2013). In this context, the state not only guarantees the conditions that facilitate a successful market society, it also ensures a social balance conducive to the common good. What the common good encompasses is constantly contested and must always be defined anew, politically (cf. Münkler & Blum 2002).

However, the state is by no means only the moderator between the economy and society. It also has an active role in supporting social innovations that prove successful in the private economic sector. Economist Mariana Mazzucato uses developed industrialised countries such as Great Britain and the USA to show how the state has specifically promoted research in the most diverse areas for decades, for which private investors – who are oriented towards short-term, secure profits – could not be found. Only after innovations such as the internet, the smartphone or forms of renewable energy became marketable after years of systematic state funding did resourceful entrepreneurs take them up and develop them further (cf. Mazzucato 2014). The economist Josef Alois Schumpeter had already praised the economically efficient state organisation of the Prussian Reichsbahn as a reaction to the ruinous competition of private railways at the end of the 19th century (cf. Schumpeter 1961: 357f.). From then on, a long, historical tradition of the state as a successful entrepreneur developed, which was broken

off and forgotten in the 1980s, thanks to the neo-liberal hegemony (cf. Ambrosius 1984, 2016).

The concept of transport as a public utility (cf. Knauff 2004) could be further developed by building on the rediscovery of the "need for the state in society" (Vogel 2007). Taking into account the changed social environment, two things in particular must be taken into account. While the concept of public services, originally developed in 1938 by the constitutional lawyer Ernst Forsthoff, was based on the idea of an authoritarian state, a contemporary understanding must take into account the new forms of state rule. The state is no longer to be understood as an institution of centralised control, but as an "integrative state" which expresses the balance of power of a multitude of actors in civil society, all with their specific interests (cf. Röttger 2004). Contrary to the widespread idea of democratic, consensus-based societies, the specific form taken by the state is the result of social struggles for interpretive power between actors from civil society (cf. Hirsch 2005). In this regard, the alleged diesel *scandal* in the German car industry is distinctly revealing. What happened was that a decades-long practice was turned into a scandal. While, for instance, environmental associations or the Federal Environmental Agency had repeatedly drawn attention to the irregularities for many years, the power cartel of politicians, business, and trade unions had managed to keep the issue out of the public eye and thus off the political agenda. Even though the impetus for the break-up of the power cartel came from outside, the decades of activities on the part of actors from civil society should not be undervalued. Through their efforts over many years to inform the public, an awareness of the problem developed, the explosive power of which was ignited by the "scandal". This has unsettled the configuration of social power relations, which had remained sclerotic for decades, without it being possible to foresee at this stage whether there will be a power shift, for example at the expense of the car companies, or whether – as so often in the past – it will simply result in a reorganisation that allows the old distribution of power to be maintained under new circumstances.

On the transport policy front, the success of sustainable transport development will be decided by the outcome of the social power strug-

gle with the automobile industry. At the moment, it looks like the automobile companies, like the energy companies before them, are incapable of reform. If it is true that there can be no energy transition without a transition in transport, then the Federal government must push through measures against the resistance of the automobile companies that are just as vigorous as those it imposed on the energy companies. The impetus for the energy transition also came from outside – in this case through the disaster at the Fukushima nuclear power plant in Japan in 2011. While the nuclear disaster at Chernobyl in 1986 had no consequences for energy policy, after Fukushima it was immediately decided to phase out nuclear energy. But this political decision was also preceded by decades of political struggles by the anti-nuclear movement, which created a public expectation that the power cartel of politicians, the energy industry and trade unions could no longer ignore, forcing even the physicist and German Chancellor Angela Merkel to see reason (cf. Radkau & Hahn 2013).

The experiences in energy as well as in transport policy show in equal measure the influence of actors from civil society on state decision-making and, along with the rediscovery of state-administered public services, these experiences raise the second point that has to be considered in the further development of public services in the transport sector. To the extent that the new form of state rule is no longer organised unilaterally, from the top down, as in the authoritarian state, but is rather increasingly dependent on the involvement of civil society, the question of democratic participation comes up. It has now become so pressing that even the Federal Ministry of Transport (2012) felt compelled to publish a *Manual for Citizen Participation*. Even if it is still just a fig leaf, it is nevertheless an expression of a change in discursive sovereignty, meaning that the issue of democratic participation can no longer be disregarded, at least not in policy objectives.

In view of the often-described discrepancy between programmatic aspirations and real transport development in the field of transport policy, on its own a discursive shift in favour of democratic participation is insufficient to be reassuring. But at least the new discourse offers starting points for actors from civil society who are committed to filling the

political aspirations with substance. Even non-binding political objectives make it possible to take politicians at their word, a fact that should not to be underestimated.

A particularly impressive example of the political impact of civil society is the citizens' initiative in Berlin for a referendum on bicycles.[3] The initiative put a topic back on the political agenda that had been repeatedly heralded for 20 years, in non-binding plans, with plenty of media attention, but the announcements remained largely without consequences. Until the call for a referendum, no politician in Berlin had taken up the issue of transport and supported a transition in favour of cycling and walking. The isolated positive experiences of the past have shown time and again that successes in transport policy are notably dependent on specific individuals (cf. Schwedes 2011). Revealingly, as recently as 2016 Berlin adopted a climate strategy with concrete measures for a climate-neutral city by 2050, but excluded measures in transport policy for the first five years. The reason given by the Senator for Urban Development at the time, Andreas Geisel, is characteristic of the city's transport policy: "I don't believe in tormenting car drivers" (cf. Jacobs 2016).

With its first campaign, the bicycle referendum collected over 100,000 signatures, thus far exceeding the necessary quorum of 20,000. In addition, a representative poll conducted shortly afterwards showed that the majority of Berliners are in favour of a stronger political commitment to cycling – even half of the car drivers surveyed expressed their support (cf. Infratest dimap 2016). Through the resulting public pressure, the bicycle initiative contributed to a socio-politicisation of Berlin's transport policy. The coalition government that took office in 2017[4] now had a state secretary for transport for the first time, who embraced the issue (cf. Kirchner 2021). The coalition agreement announced a mobility law that could form the basis of a turnaround in transport policy. While the few positive examples of transport policy in Germany

3 cf. Changing Cities: https://changing-cities.org/

4 A coalition of the Social Democrats, the Greens and the leftist party, Die Linke (trans.)

have so far been limited to small and medium-sized towns and have received correspondingly little attention, a new transport policy for the capital Berlin could for the first time have nationwide appeal. Only if this succeeds and the Federal government (on which essential legislative decisions depend) is won over as an innovator for a turnaround in transport policy, is a major transformation in the transport sector conceivable.

Conclusion

In 2020, CO_2 emissions decreased significantly for the first time, due to Corona (cf. Friedlingstein et al. 2020). However, as was the case after the global financial and economic crisis in 2010, a rapid rebound in CO_2 emissions in the transport sector can be expected in the course of the economic recovery after the Corona pandemic. If the constraints imposed in the context of the pandemic are not followed by an equivalent determination to shape transport policy, the transport development detailed in the present book will simply continue. The transport sector will then go on accounting for the lion's share of the growth in greenhouse gas emissions, and the aspirations in transport policy and the actual transport development will continue to diverge, to the point of being diametrically opposed. Instead of the targeted reduction of CO_2 emissions, they are increasing; instead of shifting freight transport to the railways, road freight transport is increasing; and land consumption cannot be reduced to the extent originally planned. Urban sprawl in suburban areas continues, bringing with it corresponding car traffic. Integrated transport policy and planning that systematically encompasses spatial, settlement and transport development is still not discernible.

So far, the Federal government has reacted to this negative net result in transport policy with a watered-down sustainability strategy in which transport is either largely left out or target criteria, which one expects in a strategy, are not specified for transport (cf. Bundesregierung 2016). One gains the impression that German governments have abandoned the aspiration to ensure that transport development is in conformity with a strategy of sustainable development. Instead, both Germany and

the European Union are pursuing an end-of-pipe strategy that is limited to minimising the negative effects of the supposedly natural development of transport, relying on technical innovations. On the other hand, the social innovations necessary for a successful sustainability strategy in the transport sector, which are tied to behavioural changes and aim to avoid traffic, are largely disregarded. Here, by questioning the growth paradigm, transport policy comes up against systemic limits that result from the tight interplay of economic and transport growth.

Transport policy is afraid of the consequences of its own aspirations. It knows, without admitting it, that profound social changes are required to achieve the self-defined goals of sustainable transport development. But it also knows that this requires political struggles that fundamentally question the existing relations of power and domination. The centre of power in transport policy – the German car industry – would have to be disempowered. This seems just as unimaginable today as the disempowerment of the four big energy companies was just a few years ago. And just as the energy turnaround was not driven by the oligopoly of the energy companies, the transport turnaround will not be driven by the established transport industry. The dilemma is that politicians still make up part of the power cartel with the automotive industry and the trade unions. As was the case with energy policy, the question in transport policy is how it can go from being part of the problem to being part of the solution.

While transport policy seems to be in disarray currently, even deadlocked, the example of the energy transition is encouraging, even if it remains politically contested (cf. Kemfert 2017). It shows that tenacious political engagement on the part of actors from civil society, outside established politics, can break up encrusted power structures. The central challenge for transport policy is social innovation aimed at breaking with the growth paradigm in the transport sector. Without a social transformation that enables a decoupling of transport development from economic growth, there will be no sustainable transport development. Whether such a social reorganisation is possible on the basis of the capitalist mode of production remains to be seen (cf. Mason 2016). If the efforts being made in transport policy to achieve a people-centred

transport system happen to encourage anti-capitalist development, then so much the better.

Bibliography

Aberle, Gerd (1993): Das Phänomen Mobilität – beherrschbarer Fortschritt oder zwangsläufige Entwicklung? In: Internationales Verkehrswesen, no. 7/8, pp. 405–410.

Abgeordnetenwatch (2015): Liste veröffentlicht: Diese Lobbyisten haben Zugang zum Bundestag. https://www.abgeordnetenwatch.de/blog/lobbyismus/liste-veroeffentlicht-diese-lobbyisten-haben-zugang-zum-bundestag (19.05.2021)

Acemoglu, Daron & James A. Robinson (2013): Warum Nationen scheitern. Die Ursprünge von Macht, Wohlstand und Armut. Frankfurt M.

ADAC – Allgemeiner Deutscher Automobilclub e.V. (2013). Politische Forderungen des ADAC zur Bundestagswahl 2013. Mobilität nachhaltig gestalten!

Adorno, Theodor W. (1967): Ohne Leitbild. In: Schriften 10/I, Kulturkritik und Gesellschaft. Frankfurt/M., pp. 291–301.

Alemann, Ulrich von (1989): Organisierte Interessen in der Bundesrepublik. Opladen.

Allianz pro Schiene (2020a): Deutschland investiert zu wenig in die Schieneninfrastruktur. https://www.allianz-pro-schiene.de/themen/infrastruktur/investitionen/ (18.05.2021)

Allianz pro Schiene (2020b): Marktanteile: Der Erfolgskurs der Güterbahnen. https://www.allianz-pro-schiene.de/themen/gueterverkehr/marktanteile/ (18.05.2021)

Altenburg, Sven, Philine Gaffron, Carsten Gertz (2009): Teilhabe zu ermöglichen bedeutet Mobilität zu ermöglichen. Diskussionspapier

des Arbeitskreises Innovative Verkehrspolitik der Friedrich-Ebert-Stiftung. Bonn.

Altvater, Elmar (2016): Verkehrtes Wachstum: Zur Verkehrsentwicklung im Rahmen der kapitalistischen Verwertungslogik. In: Oliver Schwedes et al. (eds.): Handbuch Verkehrspolitik, 2nd ed. Wiesbaden, pp. 807–825.

Ambrosius, Gerold (1984): Der Staat als Unternehmer. Göttingen.

Ambrosius, Gerold (2016): Öffentlicher Verkehr und Gemeinwirtschaftlichkeit: Im Spannungsfeld von Eigenwirtschaftlichkeit, Wettbewerb und Regulierung. In: Oliver Schwedes et al. (eds.): Handbuch Verkehrspolitik, 2nd ed. Wiesbaden, pp. 449–471.

Augenstein, Karoline (2015): Analysing the potential for sustainable e-mobility – The case of Germany. In: Environmental Innovation and Societal Transitions, no. 15, pp. 101–115.

Bahn-Walkowiak, Bettina, Arkaitz Usubiaga, Philipp Schepelmann (2012): EU structural and cohesion policy and sustainable development. In: Larry Kreiser et al. (eds.): Carbon Pricing, Growth and the Environment. Cheltenham, pp. 17–32.

Bandelow, Nils C., Stefan Kundolf, Kirstin Lindloff (2014): Agenda Setting für eine nachhaltige EU-Verkehrspolitik. Akteurskonstellationen, Machtverhältnisse und Erfolgsstrategien. Berlin.

Bauer, Hartmut, Christiane Büchner, Lydia Hajasch (eds.) (2012): Rekommunalisierung öffentlicher Daseinsvorsorge. Potsdam.

Baum, Herbert & Markus Heibach (1997): Entkopplung von Wirtschaftswachstum und Verkehrsentwicklung, Studie für das Deutsche Verkehrsforum e.V. Bonn.

Bauman, Zygmunt (2003): Flüchtige Moderne. Frankfurt M.

BBSR – Bundesinstituts für Bau-, Stadt- und Raumforschung (2017): Verkehrsbild Deutschland. Pendlerströme. Quo navigant? BBSR-Analyse Kompakt.

BDI – Bundesverband der Deutschen Industrie e.V. (2016): Unser Mandat. Unser Leitbild. Unsere Aufgaben. https://bdi.eu/artikel/news/unser-mandat-unser-leitbild-unsere-aufgaben/ (18.05.2021)

Becker, Peter (2011): Aufstieg und Krise der deutschen Stromkonzerne. Bochum.

Becker, Udo J., Thilo Becker, Julia Gerlach (2012): The True Costs of Automobility: External Costs of Cars. Overview on existing estimates in EU-27. Dresden.

Beckert, Jens (2016): Imagined Futures. Fictional Expectations and Capitalist Dynamics. Cambridge & London.

Beckmann, Klaus J. (1992): Integrierte Verkehrsplanung auf kommunaler Ebene – Erfordernisse, Probleme und Chancen. In: Institut für Städtebau und Landesplanung, Universität Karlsruhe (ed.), Seminarbericht 25. Sommerseminar 1992 „Integration der Verkehrsplanung in die Raumplanung". Karlsruhe, pp. 93–123.

Beckmann, Klaus J. (2002): Integrierte Raum- und Verkehrsplanung für die Zukunft – Erfordernisse, (trügerische?) Hoffnungen und Chancen. In: Ursula Gevatter et al. (eds.): Visionen für Stadt und Verkehr, Festschrift für Hartmut Topp, Fachgebiet Verkehrswesen der Universität Kaiserslautern. Kaiserslautern.

Beckmann, Klaus J. & Herbert Baum (2001): Integrierte Verkehrspolitik, im Auftrag des BMVBW. Aachen & Köln.

Benz, Angelika, Arthur Benz, Klaus König (1995): Planung und Verwaltung der Region Berlin-Brandenburg – Problemanalyse und Lösungsvorschläge. In: Arthur Benz & Klaus König (eds.): Der Aufbau der Region. Planung und Verwaltung im Verdichtungsraum Berlin-Brandenburg. Baden-Baden, pp. 37–94.

Benz, Arthur & Klaus König (1995): Der Aufbau der Region. Planung und Verwaltung im Verdichtungsraum Berlin-Brandenburg. Baden-Baden.

Berger, Hartwig (2003): Entgrenzte Städte. Zur politischen Ökologie des Urbanen. Münster.

Berger, Roland & Hans-Gerd Servatius (1994): Die Zukunft des Autos hat erst begonnen. Ökologisches Umsteuern als Chance. München & Zürich.

Berndt, Heide (1968): Das Gesellschaftsbild bei Stadtplanern. Stuttgart & Bern.

Beyers, William B. & Christopher S. Fowler (2013): Economic structure, technological change and location theory. The evolution of models explaining the link between cities and flows. In: Peter V. Hall &

Markus Hesse (eds.): Cities, Regions and Flows. Abingdon & New York, pp. 23–41.

Binswanger, Hans Christoph (2006): Die Wachstumsspirale. Geld, Energie und Imagination in der Dynamik des Marktprozesses. Marburg.

Bjelicic, Borislav (1990): Die Träger nationaler und internationaler Verkehrspolitik und ihr Zusammenspiel in verkehrspolitischen Entscheidungsprozessen. In: Zeitschrift für Verkehrswissenschaft, vol. 1, no. 2, pp. 85–121, vol. 2, no. 3, pp. 177–196.

Blum, Ulrich (2004): Raumwirtschaftliche Effizienz von Verkehrsinfrastrukturinvestitionen. In: Informationen zur Raumentwicklung, no. 6, pp. 379–388.

BMBF – Bundesministerium für Bildung Wissenschaft, Forschung und Technologie (ed.) (1997a): Forschungsrahmen der Bundesregierung. Mobilität – Eckwerte einer zukunftsorientierten Mobilitätsforschung. Bonn.

BMBF – Bundesministerium für Bildung Wissenschaft, Forschung und Technologie (ed.) (1997b): Bekanntmachung eines Ideenwettbewerbes für Leitprojekte zum Themenfeld „Mobilität in Ballungsräumen" vom 17. Februar 1997. Bonn.

BMBF – Bundesministerium für Bildung Wissenschaft, Forschung und Technologie (ed.) (1998): Leitprojekte „Mobilität in Ballungsräumen". Der Wettbewerb. Bonn.

BMBF – Bundesministerium für Bildung und Forschung (2005): Externe, projektübergreifende Evaluation der Leitprojekte „Mobilität in Ballungsräumen", Schlussbericht Prognosen- und Strategieberatung für Transport und Verkehr (ProgTrans AG) und der Industrieanlagen-Betriebsgesellschaft (IABG). Basel & Ottobrunn.

BMU – Bundesministeriums für Umwelt, Naturschutz und nukleare Sicherheit (2019): Projektionsbericht 2019 für Deutschland gemäß Verordnung (EU) Nr.525/2013. https://cdr.eionet.europa.eu/de/eu/mmr/art04-13-14_lcds_pams_projections/projections/envxnw7wq/Projektionsbericht-der-Bundesregierung-2019.pdf (18.05.2021)

BMU – Bundesministerium für Umwelt (ed.) (1997): Agenda 21. Konferenz der Vereinten Nationen für Umwelt und Entwicklung im Juni 1992 in Rio de Janeiro. Bonn.

BMV – Bundesministerium für Verkehr (n.d., probably 1973): Kursbuch für die Verkehrspolitik. Bonn.

BMV – Bundesministerium für Verkehr (1992a): Bundesverkehrswegeplan 1992. Bonn.

BMV – Bundesministerium für Verkehr (1992b): Verkehrspolitik der 90er Jahre. Bonn.

BMVBW – Bundesministerium für Verkehr, Bauen und Wohnen (2000): Verkehrsbericht 2000. Integrierte Verkehrspolitik: Unser Konzept für eine mobile Zukunft. Bonn.

BMVBW – Bundesministerium für Verkehr, Bauen und Wohnen (2003): Bundesverkehrswegeplan 2003. Grundlagen für die Zukunft der Mobilität in Deutschland. Bonn.

BMVBW – Bundesministerium für Verkehr, Bauen und Wohnen (2005): Organigramm. https://de.wikipedia.org/wiki/Bundesministerium_f%C3%BCr_Verkehr_und_digitale_Infrastruktur (18.05.2021)

BMVI – Bundesministerium für Verkehr und digitale Infrastruktur (2013a): Die Mobilitäts- und Kraftstoffstrategie der Bundesregierung (MKS). Energie auf neuen Wegen. https://www.bmvi.de/SharedDocs/DE/Anlage/G/MKS/mks-strategie-final.pdf?__blob=publicationFile (18.05.2021)

BMVI – Bundesministerium für Verkehr und digitale Infrastruktur (2013b): Handbuch für eine gute Bürgerbeteiligung bei der Planung von Großvorhaben im Verkehrssektor. https://www.bmvi.de/SharedDocs/DE/Artikel/G/handbuch-buergerbeteiligung.html (15.05.2021)

BMVI – Bundesministerium für Verkehr und digitale Infrastruktur (2014): Bericht zum Konsultationsverfahren zur Grundkonzeption des Bundesverkehrswegeplans 2015. Zusammenfassende Dokumentation der Stellungnahmen und deren Berücksichtigung. https://www.bmvi.de/SharedDocs/DE/Anlage/G/BVWP/bvwp-2015-bericht-konsultationsverfahren-grundkonzeption.pdf?__blob=publicationFile (18.05.2021)

BMWi – Bundesministerium für Wirtschaft und Energie (2011): Bundeskabinett verabschiedet Regierungsprogramm Elektromobilität. https://www.energate-messenger.de/news/ 114097/eine-million-e-autos-bis-2020-sind-machbar (18.05.2021)

BMWi – Bundesministerium für Wirtschaft und Energie (2015): Mitgliederliste der Nationalen Plattform Elektromobilität. https://de .wikipedia.org/wiki/Nationale_Plattform_ Elektromobilit%C3%A4t (18.05.2021)

Bodenschatz, Harald (2016): Visionen gesucht – Die Großstadtregion Berlin. In: Merkur, no. 803, pp. 55–62.

Bollinger, Stefan & Juha Koivisto (2001): Hegemonialapparat. Wolfgang Fritz Haug (ed.) In: Historisch-Kritisches-Wörterbuch des Marxismus, vol. 5. Hamburg, pp. 1258–1269.

Brand, Karl-Werner & Georg Jochum (2000): Der deutsche Diskurs zu nachhaltiger Entwicklung. Abschlussbericht eines DFG-Projekts zum Thema „Sustainable Development/Nachhaltige Entwicklung – Zur sozialen Konstruktion globaler Handlungskonzepte im Umweltdiskurs, MPS-Text 1. München.

Brenck, Andreas, Kay Mitusch, Martin Winter (2016): Die externen Kosten des Verkehrs. In: Oliver Schwedes et al. (eds.): Handbuch Verkehrspolitik, 2nd ed.. Wiesbaden, pp. 401–429.

BUND – Bund für Umwelt und Naturschutz Deutschland (2004): BUND-Hintergrund: Finanzknappheit erzwingt Wende in der Verkehrsinvestitionspolitik, 29.06.2004. http://vorort.bund.net/verkehr/presse/presse_18/files/1648_bund_verkehrsinvestitionen.pdf (18.05.2021)

Bundesrechnungshof (2003): Bemerkungen 2003 zur Haushalts- und Wirtschaftsführung des Bundes. Berlin.

Bundesregierung (2004): Perspektiven für Deutschland – unsere Strategie für eine nachhaltige Entwicklung. Berlin.

Bundesregierung (2016): Deutsche Nachhaltigkeitsstrategie. new ed. 2016. Berlin.

Canzler, Weert (2016): Automobil und moderne Gesellschaft: Beiträge zur sozialwissenschaftlichen Mobilitätsforschung. Münster.

Canzler, Weert & Andreas Knie (1994): Das Ende des Automobils. Heidelberg.

Catapult (2016): Mobility as a Service. Exploring the Opportunity for Mobility as a Service in the UK. Birmingham. https://ts.catapult.org.uk/2016/08/17/future-maas-transportation/ (18.05.2021)

Daehre-Kommission (2012): "Zukunft der Verkehrsinfrastrukturfinanzierung". Bericht der Kommission. http://www.vifg.de/_downloads/service/Bericht-Daehre-Zukunft-VIF-Dez-2012.pdf (18.05.2021)

Daubertshäuser, Klaus (2002): Bahnreform: Positive Zwischenbilanz motiviert für kraftvollen Endspurt. In: Internationales Verkehrswesen, no. 6, pp. 284–288.

Daubitz, Stephan (2014): Die ‚Captives' sind die eigentlichen Mobilitätspioniere. Zum Innovationspotential einer marginalisierten Bevölkerungsgruppe. In: Oliver Schwedes (ed.): Öffentliche Mobilität. Perspektiven für eine nachhaltige Verkehrsentwicklung. Wiesbaden, pp. 189–200.

Daubitz, Stephan & Oliver Schwedes (2021): Mobilität und soziale Gerechtigkeit. In: Manfred Flore, Uwe Kröcher, Claudia Czycholl (eds.): Unterwegs zur neuen Mobilität. Perspektiven für Verkehr, Umwelt und Arbeit. München, pp. 75–96.

dbb – deutscher beamtenbund tarifunion (2013): dbb Positionen zum Wahljahr 2013. https://www.dbb.de/fileadmin/user_upload/globale_elemente/pdfs/2013/130326_dbb_positionen_wahljahr.pdf (18.05.2021)

Demirovic, Alex (1988): Ideologie, Diskurs und Hegemonie. In: Semiotik, no. 1–2, pp. 63–74.

dena – Deutsche Energieagentur (2021): Ziele und Aufgaben https://www.heizung-becker.de/energieberatung/deutsche-energie-agentur/ (19.05.2021)

Deppe, Frank, Hans-Jürgen Bieling, Joachim Bischoff, Richard Detje, Simon Mayer, Conny Weissbach (2005): Sozialstaatsumbau in der Europäischen Union und die Rolle der Gewerkschaften in den gesellschaftspolitischen Auseinandersetzungen um die Zukunft des

Sozialstaats. Abschlussbericht des von der Hans-Böckler-Stiftung geförderten Forschungsprojekts. Marburg.

Deutsche Bahn AG (2004): 10 Jahre Deutsche Bahn AG – Positive Bilanz nach hartem Reformkurs.

Deutsche Bahn AG. (2012). Zukunft bewegen. Das Leitbild des DB-Konzerns. https://marketingportal.extranet.deutschebahn.com/files/_data/document/000/341/41/00034141.pdf (19.05.2021)

Deutscher Bundestag (1994): Enquete-Kommission „Schutz der Erdatmosphäre". Bonn.

Deutscher Bundestag (2004): Ausschuss für Verkehr, Bau- und Wohnungswesen, Wortprotokoll zur 39. Sitzung, am 29.03.2004. Berlin.

Deutscher Bundestag (2009): Drucksache 16/13332 http://dipbt.bundestag.de/extrakt/ba/WP16/205/20576.html (19.05.2021)

Deutscher Bundestag (2013): Schlussbericht der Enquete-Kommission „Wachstum, Wohlstand, Lebensqualität – Wege zu nachhaltigem Wirtschaften und gesellschaftlichem Fortschritt in der sozialen Marktwirtschaft". Bonn. http://www.bpb.de/shop/buecher/schriftenreihe/175745/schlussbericht-der-enquete-kommission (19.05.2021).

Deutscher Bundestag. (2015): Ständig aktualisierte Fassung der öffentlichen Liste über die Registrierung von Verbänden und deren Vertretern. Stand: 12.05.2020. https://www.bundestag.de/blob/189456/00aab1db13ea7fda086a19ad3641d4fa/lobbylisteamtlich-data.pdf (11.05.2021).

DGB – Deutscher Gewerkschaftsbund (2004): Stellungnahme des Deutschen Gewerkschaftsbundes Bundesvorstand zum Entwurf des ersten Fortschrittsberichts der Bundesregierung zur nationalen Nachhaltigkeitsstrategie „Perspektiven für Deutschland, 10.09.2004. Berlin.

DGB – Deutscher Gewerkschaftsbund (2013): Moderne Verkehrswege – eine Grundlage für wirtschaftliche Leistungsfähigkeit, Lebensqualität, adäquate Mobilität sowie Umwelt- und Klimaschutz verabschiedet vom DGB-Bundesvorstand am 02. Juli 2013. https://www.dgb.de/themen/++co++47e0a5a4-bca6-11e2-993e-00188b4dc422 (19.05.2021).

Dienel, Hans-Liudger (2007): Das Bundesverkehrsministerium. In: Oliver Schöller et al. (eds.): Handbuch Verkehrspolitik. Wiesbaden, pp. 200–224.

Dierkes, Meinolf, Ute Hoffmann, Lutz Marz (1992): Leitbild und Technik. Zur Entstehung und Steuerung technischer Innovationen. Berlin.

DIH – Deutscher Industrie und Handelstag (1930): Eisenbahn und Kraftwagen. Tatsachen und Gedanken zur Neugestaltung des deutschen Verkehrswesens. Denkschrift des Studienausschusses „Eisenbahn und Kraftwagen" beim Deutschen Industrie- und Handelstag. Berlin.

DIHK – Deutscher Industrie und Handelskammertag (2003): Zum Entwurf des Bundesverkehrswegeplans 2003, DIHK-Stellungnahme vom 28. April 2003.

Dingler, Johannes (2003): Postmoderne und Nachhaltigkeit. Eine diskurstheoretische Analyse der sozialen Konstruktion von nachhaltiger Entwicklung. München.

DIW – Deutsches Institut für Wirtschaftsforschung (2014): Verkehr in Zahlen 2014/2015, ed. by BMVI. Berlin.

Doll, Nikolaus (2017). Der neue Bahnchef hat schon ein Problem weniger, Welt-Online, 14.02.2027. https://www.welt.de/wirtschaft/article162054001/Der-neue-Bahnchef-hat-schon-ein-Problem-weniger.html (27.05.2021)

Dornier Consulting (2016): Transport & Verkehr.

DPW – Der PARITÄTISCHE Gesamtverband (2014): Grundsätze der Verbandspolitik. Berlin. https://www.der-paritaetische.de/verband/ueber-uns/grundsaetze/ (19.05.2021)

Durkheim, Émil (2013): The Division of Labour in Society. London.

DVF – Deutsches Verkehrsforum (2016): Unsere Ziele. https://www.verkehrsforum.de/de/ueber-uns/unsere-ziele (19.05.2021)

DVR – Deutscher Verkehrssicherheitsrat (2014). Kurzdarstellung. https://www.kommmitmensch.de/die-kampagne/partner/deutscher-verkehrssicherheitsrat-dvr/#:~:text=Der%20DVR%20vertritt%20die%20Positionen,sonstigen%20nationalen%20und%20internationalen%20Institutionen (19.05.2021)

Dyrhauge, Helene (2013): EU sustainable mobility – between economic and environmental discourses. In: Pamela M. Barnes & Thomas C. Hoerber (eds.): Sustainable Development and Governance in Europe. The evolution of the discourse on sustainability. London/New York, pp. 135–148.

Eblinghaus, Helga & Armin Stickler (1996): Nachhaltigkeit und Macht. Zur Kritik von Sustainable Development. Frankfurt M.

EEA – European Environment Agency (2017): EU greenhouse gas emissions from transport increase for the second year in a row. Copenhagen.

Elias, Norbert (2006): Figuration, sozialer Prozess und Zivilisation: Grundbegriffe der Soziologie. In: Norbert Elias (ed.): Aufsätze und andere Schriften III, Frankfurt M., pp. 100–117.

Engels, Friedrich 1880 [1987]: Die Entwicklung des Sozialismus von der Utopie zur Wissenschaft. In: MEW, vol. 19, pp. 177–228.

EP – Europäisches Parlament (2015): über die Umsetzung des Weißbuchs Verkehr von 2011: Bestandsaufnahme und künftiges Vorgehen im Hinblick auf nachhaltige Mobilität (2015/2005(INI)), Ausschuss für Verkehr und Fremdenverkehr. Brüssel.

EURH – Europäischer Rechnungshof (2016): Der Schienengüterverkehr der EU: noch nicht auf dem richtigen Kurs. Sonderbericht. Luxemburg.

Eurostat (2015): Modal split of inland freight transport, 2002 and 2012 ([1]) (% of total inland tkm) YB15-de. http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Modal_split_of_ inland_freight_transport,_2002_and_2012_(%C2%B9)_(%25_of_total_inland_tkm)_YB15-de.png#filelinks (19.05.2021)

Fairclough, Norman & Ruth Wodak (1997): Critical Discourse Analysis. In : Teun A. Van Dijk (ed.) : Discourse as social interaction. Discourse studies, vol. 2. London et al., pp. 258–284.

FES – Friedrich-Ebert-Stiftung (2009): Diskurs. Eckpfeiler einer zukünftigen nachhaltigen Verkehrspolitik. http://library.fes.de/pdf-files/wiso/06665.pdf (19.05.2021)

Forsthoff, Ernst (1938): Die Verwaltung als Leistungsträger. Stuttgart.

FR – Frankfurter Rundschau, 09.11.2004

FR – Frankfurter Rundschau, 22.03.2005.

Frerich, Johannes & Gernot Müller (2004): Europäische Verkehrspolitik. Vol. 1: Von den Anfängen bis zur Osterweiterung der EU. Oldenbourg.

Friedlingstein, Pierre et al. (2020) : Global Carbon Budget 2020. Earth System Science Data 2020. https://essd.copernicus.org/articles/12/3269/2020/ (19.05.2021).

Friedrich, Maximilian (2020): Hauptstadtregion Berlin-Brandenburg: Von der Dringlichkeit einer gemeinsamen Verkehrsplanung. Master thesis to obtain the academic degree of M.Sc. at the Universität Kassel.

Gaffron, Philine (2016): Umweltgerechtigkeit und Stadtverkehr. Leitbild Diagnosen und Handlungsempfehlungen. In: Jürgen Gies et al. (eds.): Handbuch der kommunalen Verkehrsplanung. Loseblattsammlung, Beitragsnummer 3.2.6.6. Offenbach & Berlin.

Gemeinsame Landesplanungsabteilung (2001): Regionalparks in Brandenburg und Berlin. Strategien für eine nachhaltige Entwicklung des Metropolenraumes. Berlin & Potsdam.

Gerike, Regine (2017): Das Phänomen Stau. In: Oliver Schwedes (ed.): Verkehrspolitik. Eine interdisziplinäre Einführung. Wiesbaden, pp. 243–269.

Gietinger, Klaus (2004): Der Markterfolg der Deutschen Bahn AG nach der Bahnreform- Dichtung und Wahrheit. In: Heiner Monheim und Klaus Nagorni (eds.): Die Zukunft der Bahn: Zwischen Bürgernähe und Börsengang. Karlsruhe, pp. 85–97.

Gilbert, Richard & Anthony Perl (2008): Transport Revolutions. Moving People and Freight Without Oil. London.

Givoni, Moshe & David Banister (2010): Integrated Transport. From Policy to Practice. London/New York.

Gleichmann, Peter (1979): Die Verhäußlichung körperlicher Verrichtungen. In: Peter Gleichmann, Johan Goudsblom, Hermann Korte (eds.): Materialien zu Norbert Elias´ Zivilisationstheorie. Frankfurt M., pp. 254–277.

Görg, Christoph (2003): Regulation der Naturverhältnisse. Zu einer kritischen Theorie der ökologischen Krise. Münster.

Görg, Christoph & Ulrich Brand (eds.) (2002): Mythen globalen Umweltmanagements. Rio + 10 und die Sackgassen „nachhaltiger Entwicklung". Münster.

Grandjot, Hans-Helmut & Tobias Bernecker (2014). Verkehrspolitik: Grundlagen, Herausforderungen, Perspektiven. Hamburg.

Haas, Anette (2013): Zur wachsenden Bedeutung berufsbedingten Pendelns – neu gewonnen Freiheit oder Sachzwang. In: Oliver Schwedes (ed.): Räumliche Mobilität in der Zweiten Moderne. Freiheit und Zwang bei Standortwahl und Verkehrsverhalten. Münster, pp. 257–272.

Hancké, Bob (2009): Debating Varieties of Capitalism: A Reader. Oxford.

Hauff, Michael von & Alexandro Kleine (2005): Das Integrierende Nachhaltigkeits-Dreieck. Methodischer Ansatz zur Systematisierung von Handlungsfeldern und Indikatoren einer Nachhaltigkeitsstrategie. https://kluedo.ub.uni-kl.de/frontdoor/deliver/index/docId/1597/file/ Das_Integrierende_Nachhaltigkeits-Dreieck.pdf (19.05.2021).

Heldmann, Horst (2002): 50 Jahre Verkehrspolitik in Bonn. Ein Mann und zehn Minister. Bonn.

Herrschel, Tassilo & Peter Newman (2003): Die Governance europäischer Stadtregionen. In: Informationen zur Raumentwicklung, no. 8/9, pp. 543–555.

Hesse, Markus (1993): Verkehrswende. Ökologisch-ökonomische Perspektiven für Stadt und Region. Marburg.

Hesse, Markus (1994): Verkehrswende. Von der Raumüberwindung zum ökologischen Strukturwandel. In: Bracher et al. (eds.): Handbuch der kommunalen Verkehrsplanung, Loseblattsammlung, article no. 3.1. Berlin & Offenbach, pp. 1–26.

Hesse, Markus (2005): Auf dem Weg zur Integration? Ziele und Strategien der Güterverkehrspolitik in Deutschland, unpublished manuscript as part of the research project "Mobilität im Wettbewerb" at the Wissenschaftszentrum Berlin für Sozialforschung, funded by the Hans-Böckler-Stiftung. Berlin.

Hesse, Markus (2008): The City as a Terminal. The Urban Context of Logistics and Freight. Aldershot & Burlington.

Hettlich, Peter & Winfried Schröder (2004): Jobmaschine Straßenbau? Standortwirkungen von Verkehrsinfrastrukturinvestitionen in Ostdeutschland am Beispiel des Autobahnbaus. Berlin.

Heuser, Tilmann & Werner Reh (2004): BUND-Schwarzbuch zum Fernstraßenbau in Deutschland. Integrierte Verkehrsplanung für eine zukunftsfähige Mobilität. Köln.

Heuser, Tilmann & Werner Reh (2016): Die Bundesverkehrswegeplanung: Anforderungen an die zukünftige Verkehrsinfrastrukturpolitik des Bundes. In: Oliver Schwedes et al. (eds.): Handbuch Verkehrspolitik, 2nd ed. Wiesbaden, pp. 237–264.

Higgs, Kerryn (2014): Collision Course. Endless Growth on a Finite Planet. Cambridge & London.

Hirsch, Joachim (2005): Materialistische Staatstheorie. Transformationsprozesse des kapitalistischen Staatensystems. Hamburg.

Hirseland, Andreas & Werner Schneider (2011): Wahrheit, Ideologie und Diskurs. Zum Verhältnis von Diskursanalyse und Ideologiekritik. In: Keller, Reiner, Andreas Hirseland, Werner Schneider, Willy Viehöver (eds.) (2011): Handbuch Sozialwissenschaftliche Diskursanalyse, vol. 1: Theorien und Methoden. Wiesbaden, pp. 401–432.

Hofmann, Wolfgang (2012): Bürgerschaftliche Repräsentanz und kommunale Daseinsvorsorge. Stuttgart.

Hollatz, Josef W. & Friedrich Tamms (1965): Die kommunalen Verkehrsprobleme in der Bundesrepublik Deutschland. Ein Sachstandsbericht und die Stellungnahme der Bundesregierung. Essen.

Holz-Rau, Christian (1997): Siedlungsstruktur und Verkehr. In: Bundesforschungsanstalt für Landeskunde und Raumordnung, Materialien zur Raumentwicklung, no. 84. Bonn.

Holz-Rau, Christian (2018): Verkehr und Verkehrswissenschaft – Verkehrspolitische Herausforderungen aus Sicht der Verkehrswissenschaft. In: Oliver Schwedes (ed.): Verkehrspolitik. Eine interdisziplinäre Einführung. Wiesbaden, pp. 115–139.

Horkheimer, Max (1939): Die Juden und Europa. In: Studies in Philosophy and Social Science, vol. 8. The Institute of social research, New York 1939, p. 115.

Huber, Joseph (2011): Allgemeine Umweltsoziologie. Wiesbaden.

Humphreys, Matthew (2011): Sustainability in European Transport Policy. London & New York.

HWH – Gesellschaft für Transport- und Unternehmensberatung (2015): Analyse staatlich induzierter Kostensteigerungen im Schienengüterverkehr am Beispiel von ausgewählten Relationen. Im Auftrag der Interessensgemeinschaft der Bahnspediteure (IBS) e.V., Berlin und UIRR International Union for Road-Rail Combined Transport, Brüssel. Karlsruhe.

IfS – Institut für Stadtforschung und Strukturpolitik (1993): Berlin-Szenario 2010. Berlin.

Ilgmann, Gottfried (2004): Bahnreform: Ein durchschlagender haushaltspolitischer Erfolg? In: Supplement zu Bahn-Report, no. 2, pp. 1–5.

Ilgmann, Gottfried (2005): Trügerischer Erfolg. In: die tageszeitung, 23.05.2005, p. 11.

Infratest dimap (2016): LänderTREND, Berlin Juni 2016.

IVU Traffic Technologies AG (2002): Verkehrsentwicklungsplanung Berlin-Brandenburg – 3. Zwischenbericht, Untersuchung im Auftrag des Ministeriums für Stadtentwicklung, Wohnen und Verkehr des Landes Brandenburg Referat 41 und der Senatsverwaltung für Stadtentwicklung Berlin Referat VII A. Potsdam & Berlin.

Jacobs, Stefan (2016): „Warm anziehen für den Klimaschutz", Der Tagesspiegel, 07.06.2016. http://www.tagesspiegel.de/berlin/senat-beschliesst-programm-zur-energiewende-warm-anziehen-fuer-den-klimaschutz/13702104.html (10.05.2021).

Jäger, Siegfried (2015): Kritische Diskursanalyse: Eine Einführung. Münster.

Janic, Milan (2001): Integrated transport systems in the European Union: an overview of some recent developments, Transport Reviews, no. 4, pp. 469–497.

Jonas, Hans (2003): Das Prinzip Verantwortung: Versuch einer Ethik für die technologische Zivilisation. Frankfurt M.

Kabinettsbeschluss vom 23.06.2004: Bundeshaushaltsplan 2005. Berlin.

Kähne, Volker (1995): Schlussfolgerungen aus der Sicht des Stadtstaates Berlin. In: Arthur Benz & Klaus König (eds.): Der Aufbau der Region. Planung und Verwaltung im Verdichtungsraum Berlin-Brandenburg. Baden-Baden, pp. 189–194.

Karl, Astrid (2008): Öffentlicher Verkehr im Gewährleistungsstaat. Berlin.

Karl, Astrid (2014): Strukturelle Reformblockaden im Öffentlichen Verkehr. Zu den Herausforderungen von Organisation und Rechtsrahmen. In: Oliver Schwedes (ed.): Öffentliche Mobilität. Perspektiven für eine nachhaltige Verkehrsentwicklung. Wiesbaden, pp. 71–96.

Kebir, Sabine (1991): Gramscis Zivilgesellschaft. Hamburg.

Keller, Reiner, Andreas Hirseland, Werner Schneider, Willy Viehöver (eds.) (2011): Handbuch Sozialwissenschaftliche Diskursanalyse: vol. 1: Theorien und Methoden. Wiesbaden.

Kemfert, Claudia (2017): Das fossile Imperium schlägt zurück. Warum wir die Energiewende jetzt verteidigen müssen. Hamburg.

Kersten, Jens (2014): Das Anthropozän-Konzept. Kontrakt – Komposition – Konflikt. Baden-Baden.

Kesselring, Sven, Eckhard F. Moritz, Wolfram Petzel, Gerlinde Vogl (2003): Kooperative Mobilitätspolitik: Theoretische, empirische und praktische Perspektiven am Beispiel München und Frankfurt, Rhein-Main, series by IMU – Institut für Medienforschung und Urbanistik München, no. 3. München.

Kirchner, Jens Holger (2021): Öffentliche Mobilität legitimieren: Das Berliner Mobilitätsgesetz. In: Oliver Schwedes (ed.): Öffentliche Mobilität. Voraussetzungen für eine menschengerechte Verkehrsplanung. Wiesbaden, pp. 197–209. Open Access: https://link.springer.com/book/10.1007/978-3-658-32106-2

Klumpp, Dieter (2002): Visionen und Realität in der Mobilitätsdiskussion. In: Der Bürger im Staat, no. 3, pp. 161–167.

Knauff, Matthias (2004): Der Gewährleistungsstaat. Reform der Daseinsvorsorge – eine rechtswissenschaftliche Untersuchung mit besonderer Berücksichtigung des ÖPNV. Berlin.

Knie, Andreas (1999): Plan zur Abschaffung des Privat-Automobils. Ein verkehrspolitischer und wissenschaftssoziologischer Feldversuch. In: Gerd Schmidt (ed.): Technik und Gesellschaft, vol. 10. Frankfurt M., pp. 129–147.

Knierim, Bernhard & Winfried Wolf (2014): Bitte umsteigen! 20 Jahre Bahnreform. Stuttgart.

Knoflacher, Hermann (2013): Virus Auto: Die Geschichte einer Zerstörung. Wien.

KOM – Kommission der Europäischen Union (1992a): Grünbuch zu den Auswirkungen des Verkehrs auf die Umwelt. Luxemburg.

KOM – Kommission der Europäischen Union (1992b): Zur zukünftigen Entwicklung der gemeinsamen Verkehrspolitik – Globalpolitik einer Gemeinschaftsstrategie für eine auf Dauer tragbare Mobilität. Luxemburg.

KOM – Kommission der Europäischen Union (1995): Towards Fair and Efficiant Pricing in Transport. Policy Options for Internalising the External Costs of Transport in the European Union. Green Paper. Luxemburg.

KOM – Kommission der Europäischen Union (2001): Weißbuch. Die europäische Verkehrspolitik bis 2010: Weichenstellungen für die Zukunft. Luxemburg.

KOM – Kommission der Europäischen Gemeinschaften (2011): Weißbuch. Fahrplan zu einem einheitlichen europäischen Verkehrsraum – Hin zu einem wettbewerbsorientierten und ressourcenschonenden Verkehrssystem. Brüssel.

Kuhn, Thomas S. (1978): Die Struktur wissenschaftlicher Revolution. Frankfurt M.

Kunst, Friedemann (2004): Der Stadtentwicklungsplan Verkehr Berlin. Konfliktfelder bei der Umsetzung eines integrativen Ansatzes. In: Carsten Gertz & Axel Stein (eds.): Raum und Verkehr gestalten. Berlin, pp. 285–296.

Kussau, Jürgen & Lutz Oertel (1974): Der Prozeß der Problembearbeitung in der Ministerialverwaltung: Das Verkehrspolitische Programm für die Jahre 1968–1972. In: Peter Grottian & Axel Murswieck

(eds.): Handlungsspielräume der Staatsadministration. Hamburg, pp. 113–142.

Kutter, Eckhard (1995): Berlin braucht umfassendes Konzept für die Siedlungs- und Verkehrsentwicklung. In: DIW-Wochenbericht, no. 9, pp. 199–208.

Kutter, Eckhard (2001): Koordinierte Stadt- und Verkehrsentwicklung – ein neues „altes" Mobilitätskonzept für regionale Lebensräume. In: Berliner Akademie für weiterbildende Studien, pp. 55–84.

Kutter, Eckhard (2004): Wegeplanung verfehlt strategische Ziele – Ein Bundesverkehrskonzept tut Not! Zur Bedeutung von globalen und regionalen Ursachenstrukturen für die strategische Planung. In: Informationen zur Raumentwicklung, no. 6, pp. 353–363.

Kutter, Eckhard (2016): Siedlungsstruktur und Verkehr: Zum Verständnis von Sachzwängen und individueller Verkehrserreichbarkeit in Stadtregionen. In: Oliver Schwedes et al. (eds.): Handbuch Verkehrspolitik, 2nd ed. Wiesbaden, pp. 211–236.

Kutter, Eckhard & Axel Stein (1998): Minderung des Regionalverkehrs. Chancen von Städtebau und Raumordnung in Ostdeutschland. In: Bundesamt für Bauwesen und Raumordnung, no. 87. Bonn.

Land Berlin & Land Brandenburg (2009): Gesamtverkehrsprognose für die Länder Berlin und Brandenburg 2025, Abschlussbericht. Berlin. https://www.brandenburg.de/media_fast/4055/GVP2025_Ergebnisbericht_2009-11-23.pdf (19.05.2021)

LEP – Landesentwicklungsplan (1998): Gemeinsamer Landesentwicklungsplan für den engeren Verflechtungsraum. Berlin & Potsdam.

Lepenies, Philipp (2013): Die Macht der einen Zahl. Eine politische Geschichte des Bruttoinlandsprodukts. Frankfurt M.

Linder, Wolf, Ulrich Mauer, Hubert Resch (1975): Erzwungene Mobilität. Alternativen zur Raumordnung, Stadtentwicklung und Verkehrspolitik. Köln & Frankfurt M.

Marx, Karl (1989a): Collected Works, vol. 24. London.

Marx, Karl (1989b): Collected Works, vol. 28. London.

Marx, Karl (1989c): Collected Works, vol. 35. London.

Marx, Karl; (1989d): Collected Works, vol. 36. London.

Marx, Karl (2004): Capital, A Critique of Political Economy, vol. 1. Champaign Illinois.

Marx, Karl (2010): Capital, Volume 2. Part 1. Chapter 6: The Costs of Circulation. Champaign Illinois.

Marx, Karl (2018) : Capital, Volume 1. Part 1. Chapter 1. Champaign Illinois.

Marx, Karl & Friedrich Engels (1955): The Communist Manifesto. New York.

Maddison, Angus (2001): The World economy: A Millenium Perspective. Paris.

Mason, Paul (2016): Postkapitalismus. Grundrisse einer kommenden Ökonomie. Frankfurt M.

Matecki, Claus & Thorsten Schulten (eds.) (2013): Zurück zur öffentlichen Hand? Chancen und Erfahrungen der Rekommunalisierung. Hamburg.

Mazzucato, Mariana (2014): Mariana Mazzucato: Das Kapital des Staates. Eine andere Geschichte von Innovation und Wachstum. München.

McDonough, William & Michael Braungart (2002): Cradle to Cradle. Remaking the Way We Make Things. New York.

Meadows, Donella H. & Dennis L. Meadows (1972): The Limits to Growth. New York. Meadows, Donella H., Dennis L. Meadows, Jorgen Randers (1992): Die neuen Grenzen des Wachstums. Stuttgart.

Mehdorn, Hartmut (2002): Diskussionsbeitrag in: Deutschland mobil, Probleme – Debatten – Lösungen, Friedrich-Ebert-Stiftung, Wirtschafts- und Sozialpolitisches Forschungs- und Beratungszentrum, Abt. Wirtschaftspolitik (ed.). Bonn, p. 87.

Meinel, Florian (2011): Der Jurist in der industriellen Gesellschaft. Ernst Forsthoff und seine Zeit. Berlin.

Mortsiefer, Henrik (2019): 150 Mal mehr Straßenkilometer als Schienenstrecke gebaut. In: Tagesspiegel, 29.04.2019. https://www.tagesspiegel.de/politik/investitionen-in-die-infrastruktur-150-mal-mehr-strassenkilometer-als-schienenstrecke-gebaut/24268820.html (19.05.2021).

Motzkus, Arnd (2004): Raum und Verkehr. Eine schwierige Beziehung? Zu den Möglichkeiten und Grenzen einer integrativen Verkehrs- und Siedlungsplanung. In: Holger Dalkmann, Martin Lanzendorf, Joachim Scheiner (eds.): Verkehrsgenese. Entstehung von Verkehr sowie Potentiale und Grenzen der Gestaltung einer nachhaltigen Mobilität. Mannheim, pp. 223–239.

Münkler, Herfried & Harald Blum (eds.) (2002): Gemeinwohl und Gemeinsinn, vol. 1–4. Berlin.

Nabu – Naturschutzbund Deutschland (2016a): Menschen für die Natur begeistern. https://www.nabu.de/wir-ueber-uns/was-wir-tun/leitbild.html (19.05.2021)

Nabu – Naturschutzbund Deutschland (2016b): NABU-Position zum Verkehr. https://www.nabu.de/umwelt-und-ressourcen/verkehr/03879.html (19.05.2021)

Nawrat, Sebastian (2012): Agenda 2010 – ein Überraschungscoup? Kontinuität und Wandel in den wirtschafts- und sozialpolitischen Programdebatten der SPD seit 1982. Bonn.

Nebelung, Herrmann & Wolfgang Meyer (1974): Wege zur umweltfreundlichen Gestaltung des Individualverkehrs. Bericht über das Gutachten „Auto und Umwelt" des Rates von Sachverständigen für Umweltfragen. In: Internationales Verkehrswesen, no. 2, pp. 56-61.

NEE – Netzwerk Europäischer Eisenbahnen (2019): Auf jeden Kilometer Eisenbahnneubau kommen 150 Kilometer neue Straßen. https://www.netzwerk-bahnen.de/news/auf-jeden-kilometer-eisenbahnneubau-kommen-150-kilometer-neue-strassen.html (19.05.2021).

Negt, Oskar (2011): Der Politische Mensch. Demokratie als Lebensform. Göttingen.

O. A. (1929): Verkehrsmittel untereinander. Zusammenarbeit zwischen Automobil und Eisenbahn in der Schweiz. In: Verkehrstechnische Woche. Zeitschrift für das gesamte Verkehrswesen, no. 14, pp. 209-211.

Opaschowski, Horst W. (1999): Umwelt. Freizeit. Mobilität. Konflikte und Konzepte. Opladen.

Paech, Niko (2011): Nachhaltiges Wirtschaften jenseits von Innovationsorientierung und Wachstum. Eine unternehmensbezogene Transformationstheorie. Marburg.

Pällmann, Wilhelm (2004): Zehn Jahre Bahnreform: Bilanz und Ausblick. In: Internationales Verkehrswesen, no. 4, pp. 127–133.

Piketty, Thomas (2017): Capital in the Twenty-First Century. Cambridge, London. Plehwe, Dieter (2005): Nachhaltigkeit und Integration: Leit- oder Ergänzungsbilder? Über Ziel-konflikte, gesellschaftliche Kräfteverhältnisse und Prozessdynamiken als Hintergrund der begrenzten Wirksamkeit von Nachhaltigkeits- und Integrationsdiskursen in der Europäischen Verkehrspolitik, unpublished manuscript as part of the research project "Mobilität im Wettbewerb" at the Wissenschaftszentrum Berlin für Sozialforschung, funded by the Hans-Böckler-Stiftung. Berlin.

Plehwe, Dieter (2016): Güterverkehr und Logistik: Zielkonflikte nachhaltigen Wachstums im Straßen- und Schienenverkehr. In: Oliver Schwedes et al. (eds.): Handbuch Verkehrspolitik, 2nd ed. Wiesbaden, pp. 323–349.

Polanyi, Karl (1995): The Great Transformation. Politische und ökonomische Ursprünge von Gesellschaften und Wirtschaftssystemen. Frankfurt M.

Prasdad, Monica (2006): The Politics of Free Markets. The Rise of Neoliberal Economic Policies in Britain, France, Germany and the United States. Chicago & London.

Priebs, Axel (2019): Die Stadtregion. Stuttgart.

Projektgruppe Mobilität (2004): Die Mobilitätsmaschine. Versuche zur Umdeutung des Autos. Berlin.

Pro Mobilität (2013): Moderne Straßen für Mobilität, Lebensqualität und eine starke Wirtschaft in Deutschland. https://www.promobilitaet.de/fileadmin/user_upload/PDF_Allgemein/ Wegweiser_fuer_die_Verkehrspolitik_bis_2017_-_Pro_Mobilitaet.pdf (19.05.2021).

Provisorischer Regionalausschuss (1990): Arbeitsgruppe 12 (Verkehr), Verkehrsplanung für die Region Berlin, 1. Zwischenbericht. Berlin.

Radkau, Joachim & Lothar Hahn (2013): Aufstieg und Fall der deutschen Atomwirtschaft. München.

Rammler, Stephan (2001): Mobilität in der Moderne: Geschichte und Theorie der Verkehrssoziologie. Berlin.

Rammler, Stephan (2014): Im Omnibus in die Moderne. Öffentliche Verkehrssysteme im Spiegel gesellschaftlicher Modernisierung. In: Oliver Schwedes (ed.): Öffentliche Mobilität. Perspektiven für eine nachhaltige Verkehrsentwicklung. Wiesbaden, pp. 25–45.

Reh, Werner (o. J.): Der Bundesverkehrswegeplan 2003. Ziele, Methodik, Verfahren. Kritik und alternativen aus Sicht des BUND. Haan.

Ringwald, Roman (2008): Daseinsvorsorge als Rechtsbegriff. Forsthoff, Grundgesetz und Grundversorgung. Frankfurt M.

Ritzau, Hans-Joachim, Karl Oettle, Jörn Pachl, Wolfgang Stoffels (2003): Die Bahnreform – eine kritische Sichtung. Pürgen.

RKB – Regierungskommission Bundesbahn (1993): Abschlussbericht. Bonn.

ROB – Raumordnungsbericht (2004): Zweiter gemeinsamer Raumordnungsbericht der Länder Berlin und Brandenburg. Berlin & Potsdam.

ROB – Raumordnungsbericht (2008): Dritter gemeinsamer Raumordnungsbericht der Länder Berlin und Brandenburg. Berlin & Potsdam.

ROB – Raumordnungsbericht (2013): Vierter gemeinsamer Raumordnungsbericht der Länder Berlin und Brandenburg. Berlin & Potsdam.

ROB – Raumordnungsbericht (2018): Fünfter gemeinsamer Raumordnungsbericht der Länder Berlin und Brandenburg. Berlin & Potsdam.

Rogall, Holger (2003): Akteure der nachhaltigen Entwicklung. Der ökologische Reformstau und seine Gründe. München.

Rommerskirchen, Stephan (2003): Was bringen neue Verkehrsdienstleistungen für Umwelt und Klima? Talk on the occasion of the 2nd Berliner Mobilitätssalon by WZB and ACE, 13.11.2003 in Berlin.

Rosdolsky, Roman (1977): The Making of Marx's 'Capital'. Bristol.

Röttger, Bernd (2004): Integraler Staat. In: Wolfgang Fritz Haug (ed.): Historisch-Kritisches Wörterbuch des Marxismus, vol. 6/II. Hamburg, pp. 1254–1266.

Rudolphi, o. A. (1929): Verkehrsmittel untereinander. Eisenbahnen und Kraftwagen in den Vereinigten Staaten von Amerika. In: Verkehrstechnische Woche. Zeitschrift für das gesamte Verkehrswesen, no. 28, pp. 377–381; no. 29, pp. 394–397; no. 30, pp. 408–411.

Sabatier, Paul A. 1993: „Advocacy-Koalitionen, Policy-Wandel und Policy-Lernen". In: Adrien Héritier (ed.): Policy-Analyse. Kritik und Neuorientierung. Opladen, pp. 116–148.

Sachs, Wolfgang (2015): Planet Dialectics. Explorations in Environment and Development. London.

Saller, Raymond (2000): Kommunale Kooperation innerhalb westdeutscher Stadtregionen zwischen Anspruch und politischer Realität. In: Raumforschung und Raumordnung, no. 2/3, pp. 211–221.

Sarkar, Saral (2001): Die nachhaltige Gesellschaft. Eine kritische Analyse der Systemalternativen. Zürich.

Scharpf, Fritz W. (1976): Does Organization Matter? Task Structure and Interaction in the Ministerial Bureaucracy. Preprint Series of the International Institute of Management, Wissenschaftszentrum Berlin, I/76-12. Berlin.

Scheiner, Joachim (2009): Sozialer Wandel, Raum und Mobilität: Empirische Untersuchungen zur Subjektivierung der Verkehrsnachfrage. Wiesbaden.

Schellnhuber, Hans Joachim (2015): Selbstverbrennung. Die fatale Dreiecksbeziehung zwischen Klima, Mensch und Kohlenstoff. München.

Schmidt, Vivien A. (2000): Values and Discourse in the Politics of Adjustment. In: Fritz W. Scharpf, Vivien A. Schmidt (Eds.): Welfare and Work in the Open Economy, Volume I. From Vulnerability to Competitiveness. Oxford, pp. 229–309.

Schmitt-Egner, Peter (2015): Gemeinwohl. Konzeptionelle Grundlinien zur Legitimität und Zielsetzung von Politik im 21. Jahrhundert. Baden-Baden.

Schmucki, Barbara (2001): Der Traum vom Verkehrsfluss. Städtische Verkehrsplanung seit 1945 im deutsch-deutschen Vergleich. Frankfurt & New York.

Schneider, Volker, Frank Janning (2006): Politikfeldanalyse: Akteure, Diskurse und Netzwerke in der öffentlichen Politik. Wiesbaden.

Schnell, Frank (1999): Neue Bundesregierung aber keine Wende in der Verkehrspolitik. In: Internationales Verkehrswesen, no. 1+2.

Schott, Dieter, Bill Luckin, Geneviève Massard-Guilbaud (eds.) (2005): Resources of the City. Contributions to an Environmental History of Modern Europe. Aldershot & Burlington.

Schröder, Martin (2013): Integrating Varieties of Capitalism and Welfare State Research: A Unified Typology of Capitalisms. London.

Schumpeter, Joseph A. (1950 [1961]): Konjunkturzyklen, vol. 1. Göttingen.

Schumpeter, Joseph A. (2003): Capitalism, Socialism and Democracy. London, New York.

Schwedes, Oliver (2011): Möglichkeiten und Grenzen kommunaler Verkehrspolitik. In: Bracher et al. (eds.): Handbuch der kommunalen Verkehrsplanung, article no. 3.1.2.1. Berlin & Offenbach.

Schwedes, Oliver (ed.) (2013a): Räumliche Mobilität in der Zweiten Moderne. Freiheit und Zwang bei Standortwahl und Verkehrsverhalten. Berlin.

Schwedes, Oliver (2013b): Politik in der Zweiten Moderne. In: Ders. (ed.): Räumliche Mobilität in der Zweiten Moderne. Freiheit und Zwang bei Standortwahl und Verkehrsverhalten. Berlin, pp. 21–35.

Schwedes, Oliver (2016a): Verkehrspolitik: Ein problemorientierter Überblick. In: Oliver Schwedes et al. (eds.): Handbuch Verkehrspolitik, 2nd ed. Wiesbaden, pp. 3–31.

Schwedes, Oliver (2016b): Hoffnungsträger Elektroverkehr. In: Nadine Appelhans, Jürgen Gies, Anne Klein-Hitpaß (eds.): Elektromobilität: Im Spannungsfeld technologischer Innovation, kommunaler Planung und gesellschaftlicher Akzeptanz. Difu-Impulse, vol. 1. Berlin, pp. 109–117.

Schwedes, Oliver (2019): The Failure of Integrated Transport Policy in Germany: A historical perspective. First publication in: Journal of Transport Geography, vol. 18 (2010), no. 1, pp. 85–96. Open Access: https://publish.fid-move.de/landing-page/?tx_dlf[id]=https%3A%2F%2Fpublish.fid-move.de%2Fapi%2Fqucosa%253A36359%2Fmets

Schwedes, Oliver (2021a): Object of Desire. The Electric Car in the Field of Political Power. In: Oliver Schwedes & Markus Keichel (ed.) (2021): The Electric Car: Mobility in Upheaval. Wiesbaden, pp. 41-66.

Schwedes, Oliver (Hrsg.) (2021b): Öffentliche Mobilität. Voraussetzungen für eine Menschengerechte Verkehrsplanung. Wiesbaden. Open Access: https://link.springer.com/book/10.1007/978-3-658-32106-2

Schwedes, Oliver & Alexander Rammert (2020): Was ist Integrierte Verkehrsplanung? Hintergründe und Perspektiven einer am Menschen orientierten Planung. IVP-Discussion Paper, no. 2. Berlin.

Schwedes, Oliver, Benjamin Sternkopf, Alexander Rammert (2018b): Mobilitätsmanagement – Zum Verhältnis von Soft & Hard Policies. In: Oliver Schwedes (ed.): Verkehrspolitik. Eine Interdisziplinäre Einführung. Wiesbaden, pp. 181–207.

Schwedes, Oliver, Benjamin Sternkopf, Felix Novack (2015): Lobbying im Verkehr – Ein vernachlässigtes Praxisfeld. In: Umweltpsychologie, Schwerpunktthema: Mobilitätspsychologie: Wissenschaft trifft Praxis, pp. 146–168.

Schwedes, Oliver & Markus Keichel (ed.) (2021): The Electric Car: Mobility in Upheaval. Wiesbaden.

Schwedes, Oliver & Roman Ringwald (2021): Daseinsvorsorge und Öffentliche Mobilität: Die Rolle des Gewährleistungsstaats. In: Oliver Schwedes (ed.): Öffentliche Mobilität. Voraussetzungen für eine menschengerechte Verkehrsplanung. Wiesbaden, pp. 23–51. Open Access: https://link.springer.com/book/10.1007/978-3-658-32106-2

Schwedes, Oliver, Stefanie Kettner, Benjamin Tiedtke (2013): E-mobility in Germany. White Hope for a Sustainable Development or Fig leaf for Particular Interests? In: Journal of Environmental Science & Policy, vol. 30, pp. 72–80.

Schwedes, Oliver, Stephan Daubitz, Benjamin Sternkopf, Alexander Rammert, Maximilian Hoor (2018a): Kleiner Begriffskanon der Mobilitätsforschung. 2nd rev. ed. IVP-Discussion Paper, no. 1. Berlin.

Senatsverwaltung für Verkehr und Betriebe des Landes Berlin, Ministerium für Stadtentwicklung, Wohnen und Verkehr des Landes Brandenburg (1993): Verkehrsentwicklungsplanung für die Region Berlin, 2. Zwischenbericht. Berlin.

Sherrington, C. E. R. (1929): Verkehrsmittel untereinander. Kraftwagenwettbewerb und Zusammenarbeit von Eisenbahn und Kraftwagen in England. In: Verkehrstechnische Woche. Zeitschrift für das gesamte Verkehrswesen, no. 5, pp. 49–54.

Smith, Adam (2000): The Wealth of Nations. New York, pp. 4–5.

Sonntag, Herbert & Gernot Liedtke (2015): Studie zu Wirkungen ausgewählter Maßnahmen der Verkehrspolitik auf den Schienengüterverkehr in Deutschland – Modal Split der Transportleistungen und Beschäftigung. Im Auftrag der Allianz pro Schiene. Berlin.

Sörensen, Paul (2016): Entfremdung als Schlüsselbegriff einer kritischen Theorie der Politik. Eine Systematisierung im Ausgang von Karl Marx, Hannah Arendt und Cornelius Castoriadis. Baden-Baden.

Spencer, Herbert (1876): The Principles of Sociology, vol. 1. London.

Sperling, Daniel & Deborah Gordon (2010): Two Billion Cars: Driving Toward Sustainability. Oxford.

SRU – Sachverständigenrat für Umweltfragen (2012): Umweltgutachten 2012. Verantwortung in einer begrenzten Welt. https://www.umweltrat.de/SharedDocs/Downloads/DE/01_Umweltgutachten/2012_2016/2012_06_04_Umweltgutachten_HD.pdf?__blob=publicationFile (19.05.2021)

Stengel, Oliver (2011): Suffizienz. Die Konsumgesellschaft in der ökologischen Krise. München.

Stippak, Marcus (2010): Beharrliche Provisorien. Städtische Wasserversorgung und Abwasserentsorgung in Darmstadt und Dessau 1869–1989. Münster.

Stopford, John M., Susan Strange, John S. Henley (1991): Rival States, Rival Firms: Competition for World Market Shares. Cambridge.

Stopka, Ulrike (2003): Verkehrstelematik – Im Spannungsfeld von Beschleunigung und Stillstand. In: Dieter Klumpp, Herbert Kubicek, Alexander Roßnagel (eds.): next generation information society? Notwendigkeit einer Neuorientierung. Mössingen-Talheim, pp. 307–318.

Streeck, Wolfgang (2015): Gekaufte Zeit: Die vertagte Krise des demokratischen Kapitalismus. Frankfurt M.

Swyngedouw, Erik (2007): Impossible 'Sustainability' and the Postpolitical Condition. In: Rob Krueger & David Gibbs (eds.): The Sustainable Development Paradox. Urban Political Economy in the United States and Europe. New York, pp. 13–40.

Tremmel, Jörg (2003): Nachhaltigkeit als politische und analytische Kategorie. Der deutsche Diskurs um nachhaltige Entwicklung im Spiegel der Interessen der Akteure. München.

UBA – Umweltbundesamt (ed.) (2012): Grundkonzeption einer nachhaltigen Bundesverkehrswegeplanung, no. 47. Berlin.

UBA – Umweltbundesamt (ed.) (2014): Umweltverträglicher Verkehr 2050: Argumente für eine Mobilitätsstrategie für Deutschland. Dessau-Roßlau.

UBA – Umweltbundesamt (2016a): Umweltschädliche Subventionen in Deutschland 2016. Dessau-Roßlau.

UBA – Umweltbundesamt (ed.) (2016b): Klimaschutzbeitrag des Verkehrs bis 2050. Dessau-Roßlau.

UBA – Umweltbundesamt (ed.) (2016c): Finanzierung einer nachhaltigen Güterverkehrsinfrastruktur. Anforderungen und Rahmenbedingungen für eine zukunftsorientierte Entwicklung des Güterverkehrs – eine systematische Analyse auf der Grundlage eines Ländervergleichs. Dessau-Roßlau.

UBA – Umweltbundesamt (ed.) (2016d): Stellungnahme des Umweltbundesamtes zum Entwurf des BVWP 2030 mit Umweltbericht. Dessau-Roßlau.

UBA – Umweltbundesamt (ed.) (2017): Treibhausgas-Emissionen in Deutschland. Dessau-Roßlau. https://www.umweltbundesamt.de/daten/klimawandel/treibhausgas-emissionen-in-deutschland#textpart-1 (19.05.2021).

UBA – Umweltbundesamt & Statistisches Bundesamt (ed.) (2004): Verkehr und Umwelt – Umweltökonomische Gesamtrechnung 2004. Berlin.

UPI – Umwelt und Prognose Institut (2015): Ökologische Folgen von Elektroautos. UPI-Bericht Nr. 79. Heidelberg.

Urry, John (2007): Mobilities. Cambridge.

VCD – Verkehrsclub Deutschland (2004): Bahn 21, erstellt durch die Nahverkehrsberatung Südwest in Heidelberg und die Gesellschaft für fahrgastorientierte Verkehrsplanung in Nürnberg. Bonn.

VCD – Verkehrsclub Deutschland e. V. (2016): Ziele. Für eine umwelt- und sozialverträgliche, sichere und gesunde Mobilität. https://www.vcd.org/der-vcd/ziele/ (19.05.2021).

VDA – Verband der Automobilindustrie (2015): Zukunft serienmäßig. https://www.vda.de/de/verband/ueber-den-verband/zukunft-serienmaessig.html (19.05.2021).

VDV – Verband Deutscher Verkehrsunternehmen (2016): Infrastruktur: Deutschlands Lebensadern. https://www.mobi-wissen.de/Verkehr/Infrastruktur (19.05.2021).

Vester, Frederic (1990): Ausfahrt Zukunft. Strategien für den Verkehr von morgen. Eine Systemuntersuchung. München.

Vester, Frederic (1995): Crashtest Mobilität. Die Zukunft des Verkehrs – Fakten, Strategien, Lösungen. München.

Vieler, Alexander (1986): Interessen, Gruppen und Demokratie. Eine sozialökonomische Untersuchung über den Einfluss von Interessenverbänden auf wirtschaftspolitische Entscheidungen. Tübingen.

Vogel, Berthold (2007): Die Staatsbedürftigkeit der Gesellschaft. Hamburg.

Voigt, Fritz (1960): Die volkswirtschaftliche Bedeutung des Verkehrssystems. Berlin.

VW – Volkswagen (2014). Konzernstrategie 2018. https://geschaeftsbericht2014.volkswagenag.com/ strategie/bericht-des-aufsichtsrats/arbeit-der-ausschuesse.html (19.05.2021)

vzbv – Verbraucherzentrale Bundesverband (2016): Forderungen. https://www.vzbv.de/experten/forderungen (19.05.2021)

Wachs, Martin (1993): Book Review of Fast Wheels, Slow Traffic: Urban Transport Choices by Charles L. Wright. In: Transportation Research A, vol. 27A, no. 4, pp. 337–338.

WBGU – Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderung (2011): Welt im Wandel. Gesellschaftsvertrag für eine Große Transformation. Berlin.

WCED – World Commission on Environment and Development (1987): Our Common Future. Oxford/New York.

Weizsäcker, Ernst Ulrich von (1989): Erdpolitik. Darmstadt.

Weizsäcker, Ernst Ulrich, Amory B. Lovins, Hunter L. Lovins (1995): Faktor vier. Doppelter Wohlstand halbierter Naturverbrauch. Der neue Bericht an den Club of Rome. München.

Wesseling, Christoph (2000): Verflechtungsstrukturen im Metropolenraum Berlin-Brandenburg. Planung und Perspektiven für den Verflechtungsraum, ed. by the Technischen Universität Cottbus. Cottbus.

Wieland, Bernhard (2016): Infrastruktur. In: Oliver Schwedes et al. (eds.): Handbuch Verkehrspolitik, 2nd ed. Wiesbaden, pp. 351–380.

Willeke, Rainer (2000): Nachhaltigkeit durch Wachstum, Kölner Texte und Thesen des Instituts der deutschen Wirtschaft Köln. Köln.

Wilson, Japhy & Erik Swyngedouw (ed.) (2015): The Post-Political and Its Discontents. Spaces of Depoliticisation, Spectes of Radical Politics. Edinburgh.

Wissenschaftlicher Beitrat beim Bundesministerium der Finanzen (2010): Klimapolitik zwischen Emissionsvermeidung und Anpassung. Gutachten des Wissenschaftlichen Beirats beim Bundesministerium der Finanzen. Berlin. https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Ministerium/Geschaeftsbereich/Wissenschaftlicher_Beirat/Gutachten_und_Stellungnahmen/Ausgewaehlte_Texte/0903111a3002.pdf?__blob=publicationFile&v=3 (19.05.2021).

Wittwer, Rico (2014): Zwangsmobilität und Verkehrsmittelorientierung junger Erwachsener: Eine Typologisierung. Dresden.

Wolf, Winfried (2004): Die Bahn im Spannungsfeld zwischen Privatisierung und öffentlichem Eigentum. Erfahrungen aus den USA, Großbritannien und Deutschland. In: Heiner Monheim & Klaus Nagorni (eds.): Die Zukunft der Bahn. Zwischen Bürgernähe und Börsengang. Baden, pp. 16–50.

Wolf, Winfried (2006): Freie Fahrt für die Konzerne – Die Verkehrspolitik der Europäischen Union. Münster.

Wuppertal Institut für Klima, Umwelt, Energie (1998): Maßnahmen zur Reduzierung der Umweltbelastungen durch Ruß, Benzol, Ozon und CO_2. Analyse und Konfliktbewertung von Landes- und Stadtplanungsmaßnahmen im Verflechtungsraum Berlin-Brandenburg, Zusammenfassender Endbericht. Wuppertal.

Wuppertal Institut für Klima, Umwelt, Energie (2016): Profil. https://www.oekom.de/person/ wuppertal-institut-266 (19.05.2021)

Wysocki, Josef (ed.) (1995): Kommunalisierung im Spannungsfeld von Regulierung und Deregulierung im 19. Und 20. Jh. Berlin.

Zimmermann, Ingo, Jens Rüter, Burkhard Wiebel, Alisha Pilenko, Frank Bettinger (2013): Anatomie des Ausschlusses: Theorie und Praxis einer Kritischen Sozialen Arbeit. Wiesbaden.

ZSW – Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (2013): Leitbild des ZSW. https://www.zsw-bw.de/uploads/media/Leitbild_ZSW_2013.pdf (19.05.2021)

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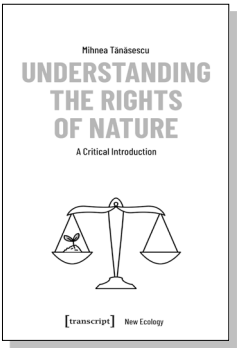

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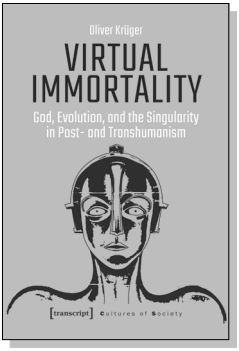

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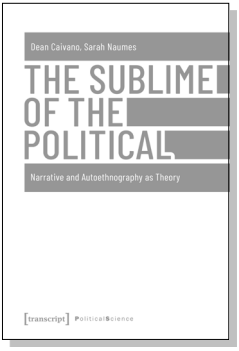

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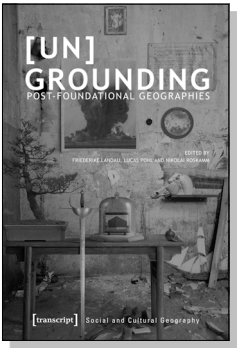

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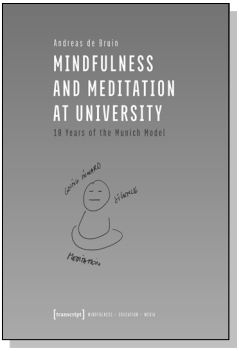

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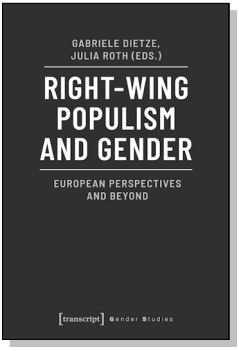

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