

Wieland, Bernhard; Seidel, Tina; Matthes, Andreas; Schlag, Bernhard

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Bernhard Wieland, Tina Seidel,  
Andreas Matthes, Bernhard Schlag

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## **TRANSPORT POLICY, ACCEPTANCE AND THE MEDIA**

Bernhard Wieland, Tina Seidel, Andreas Matthes, Bernhard Schlag

Dresden Technical University

Faculty of Transportation Sciences “Friedrich List”

01062 Dresden

Germany

*Abstract* : The last two decades have seen a substantial change in the basic philosophy underlying European transportation policy. Due to the Commission’s efforts and due to supporting jurisdiction by the European Court of Justice the dominant approach to transportation policy has become far more market oriented. This change of approach in transportation policy will only be successful and sustainable if the problem of acceptability will be solved. For researchers this entails that their perspective must change from the normative to the positive aspects of transportation policy-making. This paper reports work undertaken within research project TIPP (Transportation Institutions in the Policy Process) funded by the European Commission. In this work it has been attempted to develop a theoretical structure that merges the positive economic theory of regulation with cognitive psychology and traffic psychology. This theoretical structure offers a matrix of actors and factors that are seen to be essential for success or failure in the implementation of a certain measure of transport policy. Four case studies were carried out in order to check the plausibility of this approach. The case studies are the failure of the German Railway (Deutsche Bahn AG) to introduce a new tariff system in passenger transport in the period 2002-2003, the attempt to introduce a toll for HGVs in Germany, the failure to operate a private tolled motorway in Hungary (M1/M15), the failure to introduce a road-pricing system in the densely populated Randstad area in the Netherlands.

*Keywords*: Transportation Policy, Europe, Common Transport Policy, Transport Regulation, Acceptability

*JEL classification*: L51, L9, L91, L98

## 1. Introduction

Over the last two decades there has been a substantial change in the dominant paradigm in European transportation policy-making. Due to efforts at the national and European level and due to supporting jurisdiction by the European Court of Justice state authorities have loosened their grip on the transport system and markets have become substantially liberalized. Of course, many open questions and many controversial issues remain (as in every area of economic policy) but basically it is clear to all actors that the transport sector in all member-countries will be far more market driven in the future than in the past. This also holds true for the accession countries, notwithstanding the fact that in certain sub-markets (e.g. railways) they still may have a long way to go to reach the degree of liberalization of the former EU-15 area.

If this change of political paradigm in transportation policy is to be successful and sustainable the responsible authorities in the various member-countries and on the European level must follow the right strategies in implementing the new approach. The aim of the authorities must be to guarantee that transport markets function properly. Where due to inherent problems of market failure this is not possible they must find a feasible and politically acceptable way to correct the market failure.

It is hardly to be expected that this aim can be achieved without major political conflicts of interest. Furthermore, the institutional framework in certain countries may impose tight boundaries on what is feasible. For a successful implementation of the European Common Transportation Policy it is therefore of supreme importance to specify *in advance* where possible conflicts of interest may arise and where institutional barriers to implementation exist. Experience shows that in transportation policy there is rarely the possibility of “a second chance”. This seems especially true with respect to the liberalization of markets. If an attempt at liberalization fails there is usually a return to state intervention, not another attempt to liberalize.

These remarks have implications for the research agenda in transportation economics and policy. In terms of economic theory one might say that research concerning transport policy has to move from the perspective of normative theory to the perspective of positive theory. Normative theory deals with the question what *should* be done, positive theory deals with the

question what *can* be done or what *will* be done. Normative theory takes on the attitude of the university professor in front of his blackboard who is able to set all parameters in an optimal fashion to maximize welfare regardless of political conflicts of interest and institutional constraints. Positive theory, in contrast, realizes that there are a lot of imperfections in the real world which real policy-making has to take into account. First, politicians in general are not benevolent welfare-maximizers. Usually they follow their own interests although they are restrained somewhat in doing this by competition from other politicians. Second, not all policy measures are equally acceptable to the affected citizens or the public in general. There may be cognitive limitations to understand the economic meaning or the effectiveness of policy measures. Or there may be resistance to a certain policy measure because its distributional consequences are judged to be “unfair”. Third, institutional factors may prevent a policy measure to be implemented from one day to the other. For instance, the reform of railway policy in Germany in the 80s required a change in the German constitution. Changes like this take time and usually meet with substantial opposition.

The EU funded research-project TIPP in which the authors of this paper took part, was explicitly devoted to studying implementation problems of the European Common Transport Policy. The approach was to be theoretical as well as empirical. On the one hand theories were to be identified that could help to guide the implementation process in the various member countries of the EU. On the other hand a large set of case-studies were to be performed in order to get a feeling for the applicability of the various theories. Among the theories that were considered to be suitable for this purpose were the New Institutional Economics, the Positive Theory of Regulation, Game Theory, Public Choice, the Economic Theory of Federalism and the modern Theory of Cognitive Psychology and Traffic Psychology.

The present paper focuses on the results of one part of the project in which an attempt was made to bring two types of very different theories together: the Positive Theory of Economic Regulation and Cognitive Psychology and Traffic Psychology. Based on previous modelling work (see e.g. Schlag/Teubel (1997), Schade/Schlag (2000) and Wieland (2003)) a team of psychologists and economists at Dresden Technical University attempted in this part of the project (WP4) to merge these two perspectives into a coherent whole to get a new view of the political acceptability of transportation policy measures. The reason why this was thought necessary will be explained in the next section of this paper. The result of this effort was a

“psycho-economical model” or rather a matrix that tries to identify key factors which are crucial for success or failure of transportation policy measures. It goes without saying that this output of the joint research effort is still of a preliminary and in some aspects very unsatisfactory character. Based on this matrix four case studies were performed in the hope that these case studies would throw some light on the question whether the criteria that we had identified were indeed of relevance for the failure or success in the implementation process of transportation policy measures.

The case studies which were selected were very few in number and highly selective. Their purpose is rather to show the “psycho-economic” approach at work than to draw general conclusions. Still we believe that several interesting hypotheses about the factors leading to failure or success in implementing transportation policies emerge.

The case studies are the following:

- The failure of the German Railway (Deutsche Bahn AG) to introduce a new tariff system in passenger transport in the period 2002-2003. (This case study was performed by TU Dresden.)
- The attempt to introduce a toll for HGVs in Germany. (This case study, again, was carried out by TU Dresden)
- The failure to operate a private tolled motorway in Hungary (M1/M15). (This case study was conducted by Budapest University of Technology.)
- The failure to introduce a road-pricing system in the densely populated Randstad area in the Netherlands. (This case study was performed by Free University of Amsterdam.)

The remainder of this paper is organized as follows: In the next section we briefly describe the psycho-economical model that formed the basis for the case-study work in this part of the project. The following section will sketch the results of the four case studies just mentioned and try to draw some lessons which are common to the case-studies. The last section offers conclusions.

## 2. The analytical framework

It was pointed out above that positive economic theory is not so much concerned with the question which types of policies are desirable from a normative point of view. Rather than asking which policy would be most desirable from the standpoint of normative economics positive theory is interested in predicting the likely course of action that will be taken in a given society with respect to a certain problem of economic policy. In order to be successful at this endeavour positive theory has to admit “real-world frictions” into its modelling, like self-interested politicians and the influence of a society’s traditions and institutions. In principle there is nothing new in this idea. It has long been recognized in economic theory that self-interested politicians and the institutional framework of a society have to be taken into account in realistic economic theorizing. The Economic Theory of Interest Groups and the Positive Theory of Economic Regulation gives ample evidence that economic theory has responded to this challenge.

The spirit of this type of work is well captured in the well known Stigler/Peltzman model (Stigler 1971, Peltzman 1976, 1993; see also the reformulation by Mesher/Zajac, undated) of the Positive Theory of Economic Regulation which the work in this part of TIPP has used as a starting point on which our own modelling efforts were built. The essence of the Stigler/Peltzman approach is to model a politician as an individual who is mainly interested in staying in office. Two factors influence his chances of becoming re-elected: the effect of his actions on economic welfare and the support of interest groups. Giving favours to a certain interest group may induce political and monetary support from this interest group. It comes at the cost, however, of diminishing welfare which may reduce the number of votes the politician will get from the general population. To give an example: Imposing restrictions on market access for the provision of a certain transportation service normally results in benefits for the producers of this service. On the other hand, the ensuing reduction in competition will harm the consumers of this service. The producers are quite likely to “buy” the reduction in competition from the politician by promising to support his next election campaign. The consumers, and the public at large, however, may frown upon the politician’s decision and withdraw votes from him at this very election.

We may turn this example around in order to explain a politician’s motivation to *deregulate*. In the case of US airlines it seems to have been the case that politicians and the public alike



had become aware that the consumers of airline services (a very large part of the population in the US) would benefit from deregulation. The success of the low-cost carrier Southwest in Texas where federal aviation regulation did not apply made this plainly visible to everyone. It was clear, on the other hand, that the incumbent airlines would be harmed by deregulation. Apparently for US politicians the voting power of airline consumers counted more than the withdrawal of political support of the airline industry.

The Stigler/Peltzman model shows, however, that in most cases the politician will avoid extreme positions like total deregulation or total regulation but rather will “strike a balance” between catering to interest groups and harming the population. Other models of the economic Theory of Interest Groups have carried the modelling of the effects of interest groups much further (especially with respect to the strategic use of information) but in essence the approach is the same.

This view of the world is certainly interesting and possesses much explanatory power. At the same time, however, it is clear that it is too simple. First, it is obvious in the Stigler/Peltzman model that consumers or citizens must be able to *understand* that they are being harmed or benefited by a certain act of transportation policy. Railway tariffs may serve as a good example. It is not clear to most travellers why peak-load pricing is a good policy to allocate scarce railway capacity in rolling-stock and to provide the right economic incentives for investment. Instead, most customers tend to believe that the best policy to solve the crowding of trains would be to add additional passenger cars to the existing trains or to increase frequency. Psychologically speaking, there are cognitive limitations to understanding the effects of transportation policies. For some types of policies these limitations may be stricter than for others but that they exist can hardly be denied. In addition psychology tells us that there may be systematic biases in citizens’ perceptions of policies.

It is often argued in the literature that competition among politicians will mitigate these cognitive problems. It is in the interest of the politicians, so the argument goes, to educate the public and also to expose flaws in the opposite candidates’ arguments. Likewise the press has an interest to supply information that corrects misperceptions on the part of the citizen.

There is some merit in this argument but it is well known from the literature on public choice that in many cases the average voter prefers to stay “rationally ignorant”. The opportunity cost

of time may simply be too high to become an expert in every question of economic policy or to listen to debates between political candidates. As far as the media are concerned it is clear that in a privately financed system only those topics will be picked up which “sell”. In most cases these are not topics of transportation policy although there are some notable exceptions which we shall describe in the case studies.

Therefore we believe that it safe to state that in many cases neither competition among political candidates nor the media will have much effect in correcting the citizens’ knowledge about the welfare losses a certain transport policy will impose in them (or is already currently imposing on them).

Considerations like this have lead our research in this part of TIPP to depart from the mainstream literature in economic policy and to adopt an approach that tries to merge psychology and economic theory. There are more arguments, however, than the one just mentioned that speak for such a merger:

In models of the Stigler/Peltzman type it is possible in principle that consumers may be exploited by the producers if they are able to persuade politicians or regulators to impose a corresponding regulation. All that counts is how much pressure the producers as an interest group can exert on the politician and how much counter-pressure the citizens can exert by the (implicit) threat to withdraw votes from the politician. In reality things are not as simple as that. It can be observed that in most cases the interest groups will attempt to base their position on normative arguments. In matters of economic policy they will seek to show by arguments taken from normative economic theory that their position has a legitimisation in economic theory. In other cases interest groups may appeal to theories of justice, to the concept of fairness, to ethics, or to social norms or traditions. It is important here to notice that normative theory so to speak enters positive theory again through the backdoor. No interest group would probably have any chance to achieve its goals that would consciously refrain from any normative argumentation for its position. We adopt the view therefore that it is of high importance to take the concept of legitimacy into account. Not every demand of an interest group is considered to be “legitimate” by the voting population. The population must be convinced that the demand is somehow “justified” by normative arguments. In particular, it is important that an intended political act is not considered to be “unfair”. The notion of “acceptability” which is well established in research on transportation policy is closely related

to the concept of legitimacy. Only policies that are considered to be legitimate are politically acceptable.

Considerations like this have led the research in WP4 to borrow from the rapidly growing field of Fairness Theory (see Konow 2003, Zajac 1985), where economists (empirical game theorists), psychologists and social scientists work closely together. Again we found confirmation for our view that psychological theories have to be incorporated into the existing models of positive economics.

Apart from the scientific aspects of this question it is obvious that incorporating psychological aspects into the traditional economic modelling has tremendous practical consequences for policy advice particularly with respect to the implementation of policy measures. The main conclusion that can be drawn from the foregoing remarks is, that in order to implement a certain policy measure successfully it is not enough that its normative content is convincing. It is equally important that the policy measure is acceptable to politicians and the public at large. Whether a certain policy measure fulfils this precondition or not must be analysed *ex ante*, that is before the attempt of implementation is made. As was pointed out above liberalization measures usually can only be tried out once. If they misfire there is usually a return to interventionist policy. This is particularly relevant for the European Commission's Common Transport Policy which contains many measures to liberalize transport markets. In so far it is of high importance to understand the likely reaction of the public before the actual attempt at implementation is being made. In some cases it may suffice that the policy-measure is simply reframed. In other cases, however, it may be unavoidable to change the substance of the measure in the direction of a compromise that is more palatable to the public. It is at this point where normative economic theory comes in again to judge whether the compromise is then still efficient enough (with respect to the goals that are to be achieved) to be worth the effort.

In order to become more concrete we developed the following analysis matrix which has also served as the basic organizing scheme for the case studies:

Table 1: Analysis Matrix

Key actors	<b>Transport providers, interest groups</b>	<b>Politicians/Regulators</b>	<b>Public, interest groups</b>	<b>Media</b>
Criteria				
<b>Problem perception</b>	1.1	1.2	1.3	1.4
<b>Goals</b>	2.1	2.2	2.3	2.4
<b>Information provision</b>	3.1	3.2	3.3	3.4
<b>Effectiveness</b>	4.1	4.2	4.3	4.4
<b>Equity/Fairness</b>	5.1	5.2	5.3	5.4
<b>Social Environment</b>	6.1	6.2	6.3	6.4
<b>Implementation process</b>	7.1	7.2	7.3	7.4
<b>Political &amp; institutional setting</b>	8.1	8.2	8.3	8.4

In line with the above discussion and the economic Theory of Interest Groups we have first turned our attention to identifying the relevant actors and interest groups. In the first row of the matrix we have listed the actors and interest groups which we consider to be of particular relevance.

These are:

- **The transport providers and their interest groups**
  - In this category we subsumize transport firms, like railways, airlines, private infrastructure providers, but also lobbying groups like automobile clubs, user groups and the like.

- **Politicians/regulators**

- Here we understand both terms in a very wide sense incorporating all individuals wielding political influence in the transport sector. We do not distinguish according to federal level etc. (This deficiency should be remedied in future work.)

- **The public and its different interest groups**

- This category comprises more than only the users of a certain transport service. It contains also seemingly unconcerned citizens who nevertheless may have their opinion on a certain element of transportation policy. For instance, opinion polls show that many people never travel by rail. Nevertheless they may have strong opinions on the governments railway policy.

- **The media**

- We have already pointed out above that we consider the media to have a very important role in the implementation process of transport policy. The case study on road-pricing in the Netherlands and on the tariff-reform of the German Railway bear this out. However, as was already mentioned, it is only certain issues that are picked up in the media.

A word on the influence of the media may be in order here. The primary objective of private mass media is to earn money. In the case of pay-TV-systems they can do this mainly via subscription fees. The dominant form of financing TV-programmes today, however, is financing by selling audiences to advertisers. In the case of newspapers financing is a mixture of price per copy and advertising revenues. Advertising financed TV-channels can only maximize their profits by maximising their audience. This raises the question which topics it is most profitable for the media to address. Here, of course, a distinction has to be made between the “serious” newspapers and tv-channels and their “low-brow” counterparts. At the risk of some simplification it may be said, however, that the popular media will mostly address issues that appeal to basic instincts or to emotions (like catastrophes or violations of justice or fairness), issues that affect a large part of the population and issues that are not too complex. Monetary policy, for example, is a political issue that affects everyone but which is rarely covered in the popular press due to its complexity and its lack of emotional appeal. Likewise transportation policy is seldom a topic of great interest to the media. In some cases,

however, transportation issues are able to raise emotions and in these very cases the media can become very influential as our case studies confirm. It is therefore important to incorporate the influence of the media in models of positive economic theory. For decision-makers it is of important to take the possible reaction of the media into account already in the planning phase of a policy's implementation process.

In its first column the analysis matrix lists several criteria that we believe to be important for the success or failure of a certain transport policy measure. These are the following:

- **Problem perception**
- **Goals**
- **Information provision**
- **Effectiveness**
- **Equity/Fairness**
- **Social environment**
- **Implementation process**
- **Political and institutional setting**

The choice of these criteria is not arbitrary. Their choice was guided by prior empirical and theoretical work of the authors and others. (see e.g. Schlag/Teubel (1997), Schade/Schlag (2000) and Wieland (2003)). A few words of explanation must suffice here.

To begin with the first criterion, empirical studies have shown that the acceptability of a certain measure of transportation policy (e.g. the introduction of road-pricing) is *among others* dependent on how urgent the public perceives a certain transport policy problem to be. This remark is not intended to mean that fulfilment of this criterion alone is already sufficient to guarantee successful implementation of a policy measure. Together with the other criteria, however, it is an important precondition for success. The public will rarely reward a politician for a policy action that is considered totally superfluous (although such actions, notably investments, do happen).

Likewise the individual goals that the various actors pursue are of primary importance for success or failure of a certain policy measure. In particular, goal conflicts and their resolution

play an important role. There may be goal conflicts for example among key actors or even on the individual level, for instance when a politician must weigh his own interests against the public interest or against the interests of an important lobbying group. The less goal conflicts there are the more likely the proposed policy measure will be a success.

The same holds true for the way in which the various actors in the transportation policy process obtain and process relevant information. The crucial role information processing in the policy process was already emphasized above. Nowadays it is acknowledged that asymmetric information distribution exists in markets and that this can be one reason for market failure. Strategic action on the timing of the disclosure of information is also one possibility of actors to influence the policy implementation process.

In psychological terms, a distinction must be made between whether a person *feels* well or badly informed or whether he *actually is* well or badly informed. Hence, a differentiation is necessary between so-called objective information and the subjective assessment of the own knowledge. Crucial for the individual decision is the subjective knowledge. Furthermore, the more positive the assessment of the subjective knowledge is, the more convinced of its own position a person will be.

It must be said, however, that information provision is a complex criterion that it could only be analysed in a very rudimentary way.

Other important criteria for the acceptance of transportation policy measures are the perceived effectiveness of such measures and their effects on equity. As far as effectiveness is concerned it has been already found in other studies that the perceived effectiveness of a policy is a major determinant for its success or failure. There may be a substantial gap between the objective effectiveness of a certain policy and the way the effectiveness of this policy is judged by the voters or even the politicians themselves. We mentioned above the example of railroad-pricing where users rarely perceive yield management as an effective way to deal with the overcrowding of trains during the peak-periods but rather tend to believe that adding more trains or cars would be more efficient.

The criterion of equity/fairness is certainly one of the most important factors for failure or success. Equity is certainly not the same thing as fairness but in many cases fairness issues are

closely intertwined with distributional questions. Yield management, to cite this example once more, may hurt the daily commuters. Is it “fair” to demand high ticket-prices from people who “must” go to work by train? We have used work in the Theory of Fairness to make the issue of fairness clearer for the empirical work in the case-studies. With respect to the particular case of transport policy findings show that the principle of equality has more influence in the public’s opinion than the principle of equity. For example, access restrictions are better accepted than road pricing. Pricing is regarded as a particularly unjust allocation mechanism of resources, especially when individuals’ have no equivalent alternatives of transportation. In the debate about road pricing it is a particular concern of the public that it would lead to the exclusion of lower income classes. It has been found that package solutions increase acceptability considerably if the revenues are allocated to e.g. public transport in order to achieve equal access to mobility for all parts of the public.

Fairness issues are always favourite topics by the media, the very reason being that they make the emotionalising of political issues possible. Reports about violation of fairness and equity addresses people’s emotion and therefore generate interest and thereby readership.

As a further criterion in the analysis matrix we have added the criterion of social environment to reflect the fact that all actors in the policy process do not act in isolation but rather respond to opinions and norms held in their social environment. Voters respond to attitudes and opinions held by their families or friends, politicians act in a way that improves their position in their respective parties and journalists try to gain the esteem of their colleagues. It seemed important to us to test in how far this criterion has in fact a discernible influence on the policy process.

The current process of EU enlargement shows that the way in which a policy is implemented is another crucial factor for its acceptance. We basically distinguish between two approaches in implementing a policy: the “big bang” and gradualism. Both approaches have their advantages and disadvantages and must be judged in their respective context.

The last criterion “political and institutional setting” has been introduced to capture the influence of a nation’s institutional framework on a certain policy. We employ a scheme developed in a study for the World Bank to analyse this influence (Levy/Spiller 1996). This



scheme is based on transaction cost theory and has already proven very successful in analysing telecommunications policy.

This completes our description and explanation of the analysis matrix. For guidance of the case studies the various cells of the matrix were filled with a large number of hypotheses. It is not possible to describe these hypotheses in this summary. Several of the hypotheses will be mentioned in the synthesis of the case study below.

### **3. The Case Studies**

Four case studies have been conducted:

1. The German Railway's attempt to introduce a new fare system in passenger transport in the period 2002-2003
2. The attempt to introduce a toll for HGVs in Germany (which is not completed yet).
3. The attempt to operate a private tolled motorway in Hungary (M1/M15).
4. The attempt to introduce a road pricing system in the densely populated Randstad area in the Netherlands

With the (possible) exception of the second case all of these attempts have resulted in failure. This is precisely what makes them interesting in our context, because these failures allow to identify mistakes which policy makers should try to avoid.

#### **Case Study 1: New Fare System of the DB**

The main aim of this case study was to analyse the acceptability of a pricing system based on elasticities in the railway sector. Special attention was given to the influence of the media. To this end an extensive media analysis was conducted.

In September 2002 the German Railway (DB) presented a new fare system to the public which was based on the principles of yield management well known from airline price setting. In fact, most of the responsible managers came from the airline industry. It is well known from economic theory that yield management is a form of price differentiation according to demand elasticities. In the case of a monopoly that is unregulated or uncontested by inter-modal competition yield management amounts to a form of monopolistic price setting. However, in the case where regulation or inter-modal competition exists or where the level of

profits is implicitly controlled by regulatory threat yield management approaches are welfare improving. It has to be stated that overall the DB is not making profits at present (although it is making profits in commuter traffic). Moreover, the DB is only formally privatised at the moment (with 100% of the shares remaining in the hands of the federal government), so that the government would most likely intervene if DB made supernormal profits. In fact governmental intervention was precisely what happened in the case of the new fare system. Therefore one may contend that the DB operates under a regime of regulatory threat.

The reason why the new fare system was introduced were the desire to reduce the mounting deficit of the DB via a form of price discrimination and to come to grips with the overcrowding of trains during the peak hours (e.g. on Friday afternoon).

The key elements of the new fare system (so called PEP) were the following:

1. The principle of a fixed price per kilometre was abandoned. The standard price was now based on a declining price curve, i.e. the price per kilometre declines with the distance travelled. This however came only into effect in the case of distances over 200km. Furthermore, the DB intended to adjust the price with regard to intra-modal competition from other railway companies (in the future) and inter-modal competition from low cost airlines.
2. The former BahnCard 50, a bonus card which offered a 50% discount on the standard price, was abolished and substituted by the BahnCard 25, which only offers a 25% discount.
3. Passengers could obtain further discounts if they booked in advance and specified a particular train. The discount depended on the time remaining until the journey began:
  - up to 7 days in advance: 40%
  - up to 3 days in advance: 25%
  - up to 1 day in advance: 10%

For each segment (40%, 25% or 10% discount) only a certain amount of tickets was available for each train, i.e. it was possible that even when there were more than 7 days before the planned trip the segment with the 40% discount was already sold out. Tickets for the standard price without any discount were always available.

4. A cancellation fee of € 45,- was payable if someone wanted to use a different train than the one specified in the advance booking. This cancellation fee was also applicable when

someone missed his train and wanted to take the next one. In addition to this, he or she was also obliged to pay the difference between the price of the discounted ticket and the full standard price.

The main element of the case study consists of a detailed analysis of over 400 newspaper articles from 5 major newspapers (four of them “serious” newspapers, one of them a tabloid, comparable to the “Sun” in the UK). The intention behind carrying out this media analysis was to show whether it is really true that the media have an influence on the success or failure in the implementation of a certain element of transportation policy. In the case of the new fare system of the DB the new system met with substantial opposition from the public and the media. Revenues in long-distance travel dropped by 7%. All of this happened in an environment where the DB was plagued by other problems as well, in particular rising delays and cancellations due to the largest change in the general time table for 10 years, bad weather conditions, the abolishment of the regional trains “Interregio”, the abolishment of dining-cars, etc. In the end the government felt obliged to intervene (even though it had been declared at the time of privatisation that the purpose of the formal privatisation was to give the DB more entrepreneurial freedom). After several dismissals of responsible managers main elements of the new fare system were revoked, in particular the cancellation fee and the reduction of the discount in the BahnCard from 50% to 25%.

The case study shows a clear correlation between negative press reporting on the new fare system and political action. Nevertheless, by itself, the analysis allows no clear cut conclusions concerning the influence of the media. It is not clear, in particular, whether the media have been leading events or following them. A discussion of the authors with top management of the DB revealed, however, that it was indeed the case that the negative press reporting was causal for the revision of the fare system.

With respect to the criteria listed in the analysis matrix the case study showed that the following issues were crucial for the fate of the new fare system:

1. The new fare system PEP was so complex that most people did not take the effort to understand it. The opportunity costs of time to comprehend the different discount levels in combination with their many conditions were considered not worth the benefit.
2. The problems of the old fare system (before PEP) were not evident enough for most passengers of the DB (no problem perception as basis of acceptability). Most passengers

thought that overcrowding could simply be solved by increasing capacity instead of rationing it via prices. In addition, most passengers perceived other unsolved problems, like delays, as more urgent. The DB did not communicate sufficiently their motivations and aims of launching such a complete different fare system, compared to the old one.

3. The launch of the system coincided with many other negative events from a customer's point of view. This caused additional negative press coverage during the system's introduction.
4. People felt treated unfairly due to certain features of the system (e.g. pricing according to demand elasticities and cancellation fees). The infringement of the public's perception of fairness played probably an important role that the system was not accepted by the public.
5. Underestimation of the role of the media by the DB AG. The new fare system met all requirements for a good media topic and offered the possibility of an emotional presentation by the media. Furthermore, the DB AG pursued a controversial communication policy.
6. Underestimation of the power of the lobby organisations of railway passengers, like "Pro Bahn" and "VCD" and their very good links to the media. The passenger organisations realised their chance to get public attention and to increase their publicity.
7. The DB was not able to act like an independent ordinary private transport company. Despite all privatisation plans the DB AG is still perceived by the public as a complete public enterprise and exposed to strong political influence by the government and the political opposition.

### **Case study 2: The new HGV toll in Germany**

The aim of this case-study was to show that pricing policies can overcome even serious problems within the implementation process by a strong political commitment and acceptability of all key actors.

In Germany there has been considerable discussion about a HGV toll during the last two decades. This discussion is embedded in the discussion about road infrastructure funding in general. Infrastructure as a location factor in Germany has become especially important. This is due to the geographic situation of Germany in the middle of Europe combined with the dramatic political changes of the German reunification and the recent enlargement of the European Union. Based on traffic forecasts which predict a substantial increase in the amount

of East-West traffic it is recognised that there is an increasing gap between the actual investment needs in the road infrastructure and the funds available. Moreover, the “degree of modernity” (the ratio between gross and net infrastructure capital stock) of the German road network has seriously deteriorated. Thus there are two goals of the intended toll system: (1) to raise funds for investment, (2) to ration road capacity, especially with respect to the rapidly growing transportation of goods in and through Germany.

Already in 1999 the European Commission had released EC Directive 1999/62/EG which contained a statutory framework for charging heavy good vehicles for the use of road infrastructure. In this directive certain rules are laid down defining the conditions under which such fees may be applied. Specifically, this directive allows for charging heavy good vehicles over 12 tons on motorways. The charge has to reflect the average infrastructure costs and can be differentiated according to the environmental performance (“EURO Standard”) of the vehicles.

In 1999 the German federal ministry of transport set up a commission to investigate the future funding of transport infrastructure. The so called Pällmann-Commission presented its results and recommendations in September 2000. Based on the commission’s recommendations a cabinet bill was adopted in August 2001 to charge heavy good vehicles on motorways. The subsequent Act concerning HGV charges on motorways (ABMG) passed parliament in December 2001 and came into effect in April 2002. This act transformed the EC Directive 1999/62/EG into national law. According to this law a kilometre based charge will be paid by all vehicles and buses with a gross permissible loading weight above 12 tons. The charge is limited to German motorways and will be differentiated according to emission standards and number of axles. There will be two categories with respect to axles and three emission categories. The average level of the charge is based on average total costs. The final version of the law determined an average level of the charge of 0,12 € per kilometre and went into effect in June 2003.

The new system will replace the existing time based “Eurovignette” which had been introduced in 1991. (In fact, at the time of writing the “Eurovignette” has been abolished already even though the new HGV toll is not in place yet.) The revenues will be partly used for operating the toll system. The remaining revenues will be earmarked for the transport infrastructure, mainly the federal roads. The government had already launched an “anti-

congestion programme” in March 2002 which contains many of the infrastructure projects which will be funded in this way.

In parallel to the legislative process the technical implementation process started in December 1999 with the call for tenders for the new tolling system. After lengthy proceedings the German consortium Toll Collect headed by Deutsche Telekom and DaimlerCrysler AG (ETC) was selected to build and operate the technical system. In November 2002 the ministry of transport announced to abolish the current time based charging system (“Eurovignette”) by the 31<sup>st</sup> of August 2003, the starting date of the new toll system. However, due to serious technical problems the system did not start to operate at this date and has not started yet. According to current planning a two-step implementation approach is pursued where a preliminary system will work from 2005 onward and the full scheme in 2006.

The HGV case study is of interest for the analytical approach taken in this part of the TIPP project because it shows that with a high level of acceptability among the key actors a policy implementation process can survive even the most serious technical problems and extremely negative reporting (on the technical problems and the apparent lack of resolution on the part of the responsible minister) by the press.

In terms of our analysis matrix the following issues determined the success of the policy:

- The gap between the increasing road traffic and the lack of infrastructure funding was (and still is) perceived as one of the most serious problems in Germany today by all actors.
- There was a strong political consensus (that is, few goal conflicts) that a HGV toll was warranted.
- The hauliers support its introduction because they feel that it will increase the fairness of competition with foreign truckers. They see clearly that basing the financing of the road infrastructure on user fees will lead to a levelling of the playing field because German and foreign trucks will pay the same charge. Under the former system foreign truckers could profit from the lower level of gasoline taxes in their home countries by avoiding refuelling in Germany. (The capacity of modern HGV tanks makes this possible.) The “Eurovignette” system (taken together with the corresponding agreements on minimum levels

of gasoline taxes and motor vehicle taxes) was intended to mitigate these competitive disadvantages to a certain degree but still the German truckers felt themselves treated in an unfair manner. Thus fairness considerations played a role here too. (It must be said, however, that in economics fairness of competition is rather a matter of guaranteeing economic efficiency than a matter of ethical judgement.)

- Politicians support the system for the following reasons:
  - The revenues will raise money for infrastructure investment
  - The toll will help to price some HGV traffic off the motorways and onto the railway. The first effect is popular with car drivers (who do not pay any toll but benefit from less congestion). The second effect is popular with environmentally concerned voters and the railway industry.

In this way almost all actors profit from the system. In terms of economic theory the introduction of the HGV toll is a Pareto improvement. In addition, this policy measure is considered to be effective and it violates nobody's perception of fairness. Therefore even the embarrassing technical problems and at times sarcastic reporting in the media could not stop the plans to introduce the toll.

### **Case Study 3: Private Motorways in Hungary**

The case study "Political history/acceptability of private financing in Hungary as an accession country" performed by Budapest Technical University (see also their presentation in this conference) analysed the implementation process of privatisation in the case of the motorway M1/M15 which was the first privately financed infrastructure project in Hungary.

In the 1990s Hungary conducted an experiment with privately financed and operated motorways. This experiment pertained to two short stretches on the M1/M15 and the M5. The M1/M15 motorways are part of the TEN Helsinki Corridor IV and therefore part of the connection between Budapest, Vienna and Bratislava. On the M1/M15 the amount of kilometres covered by the experiment were less than 60 km (M1: 43 km, M15: 14km) and on the M5 around 160 km. The total length of the Hungarian motorway system is about 330 km.

The case study “Political history / acceptability of private financing in Hungary as an accession country” analysed the implementation process of privatisation in the case of the motorway M1/M15 which was the first privately financed infrastructure project in Hungary. The concession to build and operate the motorway was given to a private company ELMKA Rt., the financing was arranged by a consortium of international banks under the leadership of the European Bank for Reconstruction and Development in London. The role of the Hungarian state was limited to providing the necessary land, to build new feeder roads and to adopt measures for traffic calming on the secondary parallel roads. In total the share of Hungarian state in the project amounted to one third, which still constitutes a substantial involvement.

It was planned that interest, amortisation and operating cost of the project were to be totally financed out of user charges. Charges were to be regulated according to a price-capping scheme where charges could be adjusted according to the increase in the consumer price index without prior permission of the authorities.

The tolled sections on the respective motorways were open from 1996 to 1998. Cars were charged 0,15 €/km. For vans, buses and HGVs this rate was multiplied according to their weight. However, it turned out that it was mainly foreign cars travelling long-distances which used the tolled section. Most traffic, especially goods traffic, switched to secondary roads. Given the short distances mentioned before this is, perhaps, no surprise.

Shortly after the M1 was opened to the public several legal cases were brought forward against ELMKA. The first one was a municipal procedure, the second one a civil suit started by the lawyer of the Hungarian Automobile Club.

In the first case ELMKA was charged before the Hungarian Competition Council (HCC) with the accusation that it was exploiting a dominant market position and that its toll rates were too high. However the HCC ruled that according to the Hungarian Competition Law the concession company was not guilty of abusing economic power because their maximum levels were still lower than the ones fixed in the concession contract. This decision, however, went into appeal before the court of first instance. The court came to the conclusion that according to the Civil Code the toll rates were extremely high compared to other public services (the decision was based on the parallel, civil procedure at the civil court, see below). Another appeal before the court of second instance followed. This time the court ruled that the



case had to be judged after the Capital Market Act (according to which the calculation method of toll rates was acceptable), not the Civil Code. Therefore the concession company was acquitted.

In the second case at the civil court it was ruled that according to the Civil Code the toll rates were unfair and extremely high, and that therefore the concession company had to pay back the excessive parts of the revenues to the lawyer of the Hungarian Automobile Club.

These legal proceedings (among other reasons) resulted in a substantial revenue shortfall for the operating company. ELMKA finally went bankrupt and the government took over the responsibilities and liabilities. In 2000 the government replaced the toll system by a vignette system for the whole state owned motorway network. The failure of this project led to political resistance to further privately financed infrastructure projects in Hungary.

In terms of our analysis matrix the following factors determined the failure of the policy:

- The economic foundations were based on far too optimistic traffic forecasts. (This emphasises the role of information provision in the implementation process.)
- The public felt unfairly treated because of the high toll rates, which led to two court cases against the operating company.
- The institutional framework in Hungary was very susceptible to what economists call “regulatory risk”. Regulatory risk refers to a situation where the private investor has already made his investments (in the form of “sunk costs”) and where accordingly he becomes exploitable by the government or the regulatory authorities. Infrastructure by its very nature is used by a large part of the (voting) population. As a consequence politicians have an incentive to exploit the investor’s weak bargaining situation by lowering user charges. But they can do this only in an environment without strong institutional safeguards against such an opportunistic behaviour (e.g. a strong tradition of protecting property rights, or strong and independent courts, etc.). Apparently Hungary’s institutions at present do not offer enough of a safeguard against such behaviour.

#### **Case Study 4: Road Pricing in the Netherlands**

This case study written by the Free University of Amsterdam (see also their own presentation in this conference) was again intended to show the importance of interest groups and the media for transport policy implementation.

The Netherlands have discussed road pricing for a number of years. There are several explanations for this strong interest. First, the central area in The Netherlands (the 'Randstad area' including above all Amsterdam, Rotterdam, The Hague and Utrecht) is among the most densely populated areas in the Western World. Accordingly it exhibits severe levels of traffic congestion. Secondly, the Dutch economy has traditionally been relatively dependent on trade, transport and logistic services. Therefore accessibility is considered as an important condition for further economic growth and development. Thirdly, environmental quality is considered by many as an important good which road pricing may help to preserve. Fourthly, The Netherlands seem to have a policy culture which is relatively open to novel, innovative and sometimes experimental policy concepts.

During the last 15 years several proposals for introducing road pricing have been made in the Netherlands. Most recently kilometre charges are being considered. Before this latest proposal 'Rekeningrijden' came closest to actual implementation, but was abandoned in the end. Rekeningrijden refers to the proposal of a system of electronic toll cordons around the cities of Amsterdam, Rotterdam, Utrecht and Den Haag. Anyone driving into these cities during 7 to 9 a.m. would have to pay a basic rate of around 3 Euro. Apart from the introduction of this toll charge system large sums were to be invested in public transport financed out of the revenues generated by Rekeningrijden. In 2000 the system became part of a larger policy package to deal with congestion and to keep the central economic region of the Netherlands accessible. Nevertheless due to substantial opposition from lobbying groups and the media the scheme finally was rejected.

The most important cause of this failure was the "Stop Rekeningrijden" campaign that was started by the Dutch Automobile Association (ANWB) in early 1999 and supported strongly by the media, notably the popular tabloid "De Telegraaf", which started a whole supportive campaign by itself. The basic arguments given by the opponents of Rekeningrijden were that road pricing would be ineffective (notwithstanding expert testimonies to the contrary, which predicted a 30% reduction in traffic) and simply result in travellers just having to pay for

being stuck in traffic, that billing would not function properly, that the system would encourage fraud and that opinion polls were showing that the majority of Dutch citizens were opposed to such a system. As a result of this massive counterattack the government tried at first to reduce the scope of the programme by restricting it to just two cities. In the end, however, Rekeningrijden had to be given up.

In terms of our analysis matrix the most important criteria to explain the failure of Rekeningrijden are information provision (an insufficient communication policy of the government), a lack of the perceptions that the policy measure would be effective and the feeling that Rekeningrijden would amount mainly to a redistribution of income to the state.

With respect to communication, the government in the Netherlands failed to explain the working of prices in a convincing manner. Even though the population seems to be very aware of the congestion problems in the Randstad area the government apparently was not able to explain to the public that road pricing would be an effective means of dealing with this problem. Many people apparently believed (and continue to believe) that road building is still the most effective way to cope with congestion. This is quite similar to the DB's problem in Case Study 1 above to explain the workings of yield management as an instrument to ration capacity and to guide investment.

The same holds true for the role of the media. Like in the case of the DB's new fare system a small group of institutions and interest groups was able to fight Rekeningrijden successfully by finding the right access to the media. This once more points out the importance of thinking out a well defined media policy *before* the phase of implementation of a certain policy measure in transportation takes place.

Like in all road pricing schemes concerns of equity have played an important role in the failure of Rekeningrijden, though not a dominant one according to the Dutch case study researchers. Interestingly, in this case it may have been that notions of geographical equity were violated rather than notions of horizontal or vertical equity as is normally the case with respect to road pricing proposals. Horizontal equity implies that similar users should pay the same toll. Vertical equity demands that the distribution of costs and benefits should reflect people's needs and abilities. A uniform toll of x Euro may be horizontally equitable because everybody pays the same amount. Nevertheless the toll may be considered to be vertically inequitable because it imposes a higher relative burden on the poor than the rich. With respect to Rekeningrijden it was clearly the case that there was discrimination between Dutch citizens

according to their place of residence. Tolling was only intended for inhabitants of the Randstad area not for the rest of the population. This violation of geographical equity may have contributed to the failure of Rekeningrijden but, apparently has not dominated the discussion. It was not so much the redistribution among income groups that played a role but rather the redistribution of income to the state that would be effected by the road pricing scheme.

Thus, the most important cause for the failure of Rekeningrijden was the feeling of the Randstad population that their personal welfare would be reduced with the introduction of tolling. Many believed that the only effect of Rekeningrijden would be to lower their disposable income without generating any substantial effect on congestion. Thus, in terms of our analysis matrix it was mainly lacking perceived effectiveness and deficiencies in the way the scheme was communicated to the public that caused the failure of Rekeningrijden.

#### **4. Conclusion**

This paper has focused on acceptability, but it became obvious during our work that acceptability is only one part of the implementation process, besides e.g. the decision-making structure, technological and financial issues. Within the acceptability theme, however, it emerged from the theoretical analysis and the case studies that the factors and actors identified in our analysis matrix do indeed play a decisive role in the implementation process, largely in the way we expected from the theoretical analysis.

Taking into account that our results are in line with earlier work on the acceptability issue it seems that there is now at least some reliable scientific consensus about the structure of acceptability. There is agreement about the factors that determine success or failure of a certain policy. Likewise there is agreement about the *groups* of actors that play a key role in the transport policy process. However, the same does not hold true for the *relationships* between these key actors and how these relationships change over time, for instance by coalition forming. The analysis presented in this deliverable revealed how important interdependencies between the key actors are, but the analysis also showed that at the moment there is an insufficient understanding of them. This is probably not so much a deficiency with respect to the knowledge of facts, but rather a lack of synthesis between disciplines dealing with the relations between different actors. A first attempt to overcome this gap has been

made here by incorporating economic and psychological concepts. Further research should also take approaches from political sciences into account in order to examine policy processes (e.g. network analysis).

One weakness of the categorisation of actors used here is, that it is overly coarse. It does not account for heterogeneity of interests *within* groups. For example, in the case of toll schemes within the group of transport providers there may be enterprises that benefit from the scheme, such as the operating company and thus try to influence the policy implementation positively. On the other hand there may be enterprises that are negatively affected by the scheme because of an increase in costs, such as road hauliers. They certainly will be more interested to prevent such a scheme. Similarly the politicians/regulators in the case of the HGV toll acted as decision-makers whereas in the case of the DB AG they only observed and reacted to it. The current categories (and this applies to other forms of categorisations as well) are not flexible enough to account for these differences. Furthermore, the case of “Rekeningrijden” shows that actors may also work together and form coalitions to achieve their goals. Thus, the categorisation of actors needs to be further developed to incorporate and reflect the different roles of groups of actors and the dynamic aspect of the interaction of key actors.

It should also be noted that in achieving our results we have taken only a first step with respect to policy advice. We have identified the actors and factors which policy-making has to take into account. Insofar we are able to give some very basic recommendations (see below) which largely amount to a list of mistakes that should be avoided. From the viewpoint of a decision-maker this is certainly not very satisfactory. A decision-maker would most likely prefer to have a set of guidelines that tells him how to frame a certain policy-measure in order to make it acceptable to the public. To our knowledge the attempt to develop such a list has not been undertaken yet. It is clear that in order to develop such a list one would have to go far beyond the analysis-matrix approach in this paper. It would be necessary to develop a causal theory of the transport-policy process which would have to incorporate all the factors that we have identified in this research and probably more. This is certainly a formidable task and one of the big research agendas for the future.

A further conclusion concerning further research about policy implementation is, that it should regard the four areas

- acceptability
- a country's or region's political and legal institutions
- technological factors and
- financial issues

as modules of the overall analysis of transport policies. The characteristics of these modules is that they can be differentiated for research purposes but in practice they interact and influence each other in a complex way. Within each module further research should aim to find appropriate means for description and analysis. It should be considered which different research disciplines such as economics, psychology, sociology or political science could contribute to the analysis and how the different approaches could be synthesised.

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