

ACCEPTABILITY OF PRICING REFORM

Jens Schade, Dresden University of Technology*
Bernhard Schlag, Dresden University of Technology

Paper prepared for the IMPRINT-EUROPE seminar 13-14 May, 2003

CONTENTS

INTRODUCTION.....	2
PUBLIC ACCEPTABILITY FOR URBAN TRANSPORT PRICING.....	2
PROBLEM PERCEPTION.....	3
SOCIAL NORMS AND PRESSURE.....	4
KNOWLEDGE / INFORMATION ABOUT POLICY ALTERNATIVES.....	4
PERCEIVED EFFECTIVENESS OF PROPOSED MEASURES.....	4
EQUITY / FAIRNESS.....	5
SYSTEM CHARACTERISTICS.....	6
BUSINESS ACCEPTABILITY.....	6
POLITICAL ACCEPTABILITY.....	7
MISSING ATTRIBUTION.....	7
POWER.....	7
ACCEPTABILITY FOR PRICING INTERURBAN ROADS.....	9
BEST PRACTICE TO OVERCOME ACCEPTABILITY RELATED BARRIERS.....	9
STEPS FOR ACCEPTABLE IMPLEMENTATION.....	12
SUMMARY: ACCEPTABILITY RELATED BARRIERS.....	13
REFERENCES.....	15

* The authors wish to thank Esko Niskanen, Nick Marler, Stef Proost and other members of the MC-ICAM consortium for comments on an earlier version of this paper.

INTRODUCTION

Economists have favoured the use of pricing in regulating transportation for decades. Several documents at the EU and the national level have agreed to this view, but the introduction of pricing principles is confronted with strong barriers /counterforces especially in transport. With a few exceptions, urban road pricing is rare. Practical experience shows numerous kinds of barriers to the suggested pricing policy measures. While important institutional barriers remain in many countries (e.g. Glazer, Link, May, Milne and Niskanen, 2001) most commentators acknowledge that the main barrier to implementing transport pricing strategies is now a lack of public and political acceptability (Jones, 2003; Schade and Schlag, 2003). This paper focuses on the analysis of acceptability related barriers.

Several good reasons exist for considering acceptability. Firstly, we live in a democratic society, i.e. societal, political and technological innovations must be introduced via the democratic process and must prevail against competing innovations (cf. Frey & Eichenberger, 1999). Usually they cannot be imposed against public will. Secondly, the acceptability concept stresses the user perspective (Bartley, 1995). Even if most technological and political innovations might result in societal benefits, opinions and intentions of the people concerned are often not canvassed when new measures are being considered for implementation. This may lead to “irrational” resistance not only from the people concerned, and ultimately to the failure of an originally useful innovation.

Insufficient acceptability of a certain policy may have several consequences: for instance, strong public resistance may inhibit implementation, as political parties fear consequences for their next election. Secondly, with a sensitive topic such as mobility, the introduction of road pricing may lead to active resistance by different groups, which might be exhibited in the form of demonstrations, boycotts or even sabotage. Several examples demonstrating the power of resistance are known e.g. from nuclear energy, information technology, biotechnology and even from transport (Bauer, 1995; Crest, Klaerr-Blanchard & Ellenberg, 1999; Davis, 1993; Renn, 1998). Thus, acceptability of systems is assumed to have major influence on the effectiveness of the implementation and maintenance of a system (Van der Laan, 1998). Lacking acceptance might even undermine efficiency of a per se useful innovation.

This paper is based mainly on MC-ICAM Deliverable 4 and organized as follows: Firstly, results about public acceptability for urban transport pricing are reported. Secondly, the few results available about business acceptability are presented. Thirdly, political acceptability issues are analysed followed by a short presentation about acceptability barriers which are typical for interurban pricing. Then, best practice to overcome acceptability related barriers is discussed including suggestions for an acceptable implementation procedure. Finally, key findings are summarized.

PUBLIC ACCEPTABILITY FOR URBAN TRANSPORT PRICING

Many studies show that public acceptability of transport pricing measures is low (e.g. Bartley, 1995; Jones, 1991a, b; Luk & Chung, 1997), although results can vary on the people asked. So far, the focus

has been on the most important groups of motorists and drivers. For instance, results of the European research project TransPrice show clearly that additional non-coercive measures (e.g. improvements in public transport) receive high public support whereas restrictive measures receive considerably less support (Figure 1). However, some coercive measures like inner city access restrictions are far more accepted than expected (Schlag & Schade, 2000). Least accepted are generally all kinds of road user fees.

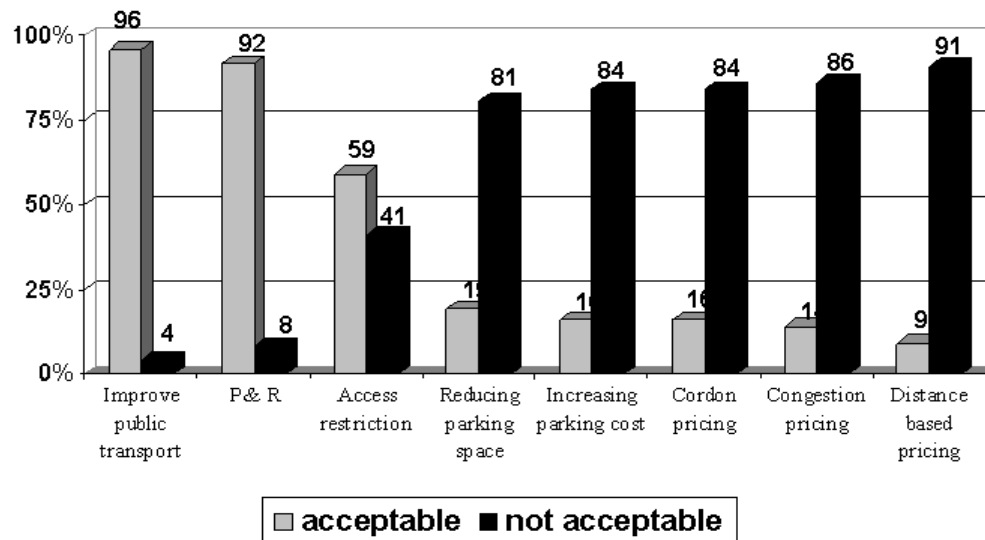


Figure 1. Acceptability of various travel demand management measures (Schade, 2003).

A whole bundle of factors contributing to the low acceptability of pricing measures has been identified (see for an overview Schade & Schlag, 2003; Jones, 1998). Such information is very important for the design of useful interventions trying to enhance people's acceptability of pricing or restrictive policies. The presentation follows a model developed by Schlag and others (Schlag and Teubel, 1997; Schade and Schlag, 2000) which defines, among others, the following essential issues determining acceptability:

- (i) problem perception
- (ii) mobility related social norms
- (iii) knowledge/information about options
- (iv) perceived effectiveness of the proposed measures
- (v) equity/fairness
- (vi) system characteristics like charge level, method of charging and revenue allocation etc.

Problem perception

The perception of traffic-related problems is a necessary precondition for regarding problem-solving measures as important. Steg and Vlek (1997) argue that high problem awareness will lead to increased willingness to accept solutions for the perceived problems. A multitude of studies have shown that

perception of mobility-related problems is particularly high in densely populated regions (e.g. Jones, 1991a). Yet empirical findings on the influence of problem perception on acceptability are inconsistent. Although several studies have found a relationship between problem perception and acceptability of various pricing measures (Rienstra *et al.*, 1999, Bamberg and Rölle, 2003), some other results show that the groups perceiving traffic congestion as one of the biggest problems tend to reject road pricing more strongly than groups perceiving mainly environmental problems (e.g. Harsman *et al.*, 2000; Schade and Schlag, 2000).

Social norms and pressure

Studies have found that the more social pressure to accept a pricing strategy is perceived, the higher an individual's acceptability of the respective strategy (e.g. Jakobsson *et al.*, 2000). Schade and Schlag (2000) suggest that social pressure and social norms are the most influential determinant of acceptability. This is confirmed by results from Bamberg and Rölle (2003). However, the overall importance of social norms on acceptability of travel demand management measures has not been sufficiently investigated and needs more research efforts

Knowledge / information about policy alternatives

The influence of knowledge – awareness of the policy alternatives and their purpose – on acceptability is rather ambiguous. Some authors argue that there is a direct influence (e.g. Franzen, 1997), whilst others argue that the influence is instead mediated through third-order variables (e.g. Peters, 2000). Generally, the empirical literature shows that the public is much less aware of the possibilities of pricing policies as a solution to traffic related problems than of other policies (Viegas *et al.*, 2000b). Current research does not allow for final conclusions to be made regarding the influence of knowledge on acceptability. Although the significance of knowledge is apparent, its exact functions are still uncertain. But the important role of knowledge regarding the ways in which to increase acceptability of road pricing should not be underestimated. No innovation could be accepted without appropriate and early information.

Perceived effectiveness of proposed measures

Many studies have shown that the perceived effectiveness of measures – belief in the ability (or otherwise) of a measure to achieve its objectives – is an influential predictor variable for acceptability of the particular measure (Bartley, 1995). If a measure is regarded as effective in reducing transport problems, its acceptability is greater and vice versa. However, findings are contradictory (e.g. Thorpe *et al.*, 2000) and this can be put down to the criterion for effectiveness: effectiveness may be viewed either from a personal perspective (e.g. ‘is it effective for me?’) or from a system perspective (e.g. ‘does it reduce congestion?’): with opposing results depending on which definition is used. But both explanatory approaches assume that the perception of effectiveness, whether in general or personal, does have an influence on acceptability. According to findings of the reviewed studies, in general citizens do not believe that pricing and taxation measures would solve transport-related problems such as air pollution and congestion. Similar doubts were expressed in the surveys carried out within AFFORD and PATS. This has led to an alternative hypothesis, which proposes that the acceptability of a measure influences the perception of its effectiveness. This approach is labelled as the “strategic response hypothesis”, as the response behaviour of respondents can be described as tactical. Although

Schade and Schlag (2000) did not find any strategic response behaviour in a tentative test they performed, this explanation needs to be taken seriously.

Equity / fairness

A key factor affecting the behaviour of almost any individual stakeholder group, in one way or another, is the (social) fairness of the measure. However, there remains some uncertainty over this concept. This uncertainty expresses itself in the prevailing confusion over related definitions (equity, justice, fairness), which require clarification. First of all, it has to be distinguished between a normative and an individual or descriptive perspective. The normative perspective (usually the economic approach) asks from a societal viewpoint which distribution of e.g. outcomes should be considered fair. *Equity* as an economic concept primarily refers to the real distribution of costs and benefits within society (Giuliano, 1994). The impacts of benefits and costs may differ by social or economic standing, by geographic location, etc. Economists typically distinguish between horizontal and vertical equity (Litman, 1996; Viegas and Macario, 2003):

- *horizontal equity* means that individuals in similar situations (e.g. income levels) are treated similarly. This is often interpreted to mean that individuals should "get what they pay for, and pay for what they get"
- *vertical equity* states that individuals in dissimilar or unequal situations should be treated dissimilarly in an effort to make them more equal. The distribution of costs and benefits should reflect people's needs and abilities.

For economists, any major pricing or taxation reform will be accepted by the public only if it shows clear welfare gains for a sufficiently large majority of the voters (Mayeres & Proost, 2003). However, for acceptability the individual (subjective) perspective is much more important, i.e. how a given distribution of outcomes is individually perceived. The concepts of justice and fairness are often used in this context. Distributive equity (justice) has to be distinguished from procedural equity (fairness). Whereas the term fairness attempts to define principles of a just procedure, the term justice is related to the outcome of these procedures (Schade and Schlag, 2000). Several studies indicate that in general fairness considerations are relevant when evaluating alternative allocation mechanisms. In the case of (procedural) fairness research has shown that people often accept solutions even against their own interests when the decision procedure is perceived as fair (this may be one of the most important psychological aspects of democratic choice) (e.g. Lind, 1994; Tyler, 1990).

The lay evaluation of distributions is often based on two comparisons: First, the intrapersonal level of comparison refers to the personal input-output-ratio before and after the introduction of the measure (am I better off or worse afterwards?). Second, the interpersonal comparison: Compared to relevant others what about my relative personal input-output-ratio before and after then? I.e., effects of measures are not only evaluated in respect to personal cost/benefit calculations but also (and likely more important) in comparison to others. While policies like access restrictions treat all people in the same manner, the effects of pricing policies are perceived as very different depending upon income. People have the impression that pricing policies are mainly for the better-off (they will be exempted while others with socially more accepted needs are not able to go by car anymore e.g. single mother)

which is seen as extremely unfair. It is not understood why solely the less wealthy should contribute by reducing car-trips.

A particularly important issue affecting equity/fairness, perceived or ex post, is the allocation of revenues. Research shows that allocation of revenues plays a crucial role in enhancing acceptability, mainly via fairness considerations, which may influence the distributional impacts in the desired direction. Typically, attention has been paid to the use of generated revenues.

System characteristics

Apart from individual characteristics (such as perceptions, evaluations, etc.), the final decision about support or rejection of a road-pricing scheme is influenced by the matter itself. However, additional characteristics have a further impact on acceptability (e.g. the method of charging, the charged areas and the times of charging). It has been found that complex systems, such as time-based and delay-based charging may not be accepted, and that systems with a known charge are preferable to systems with an unknown charge. Jaensirisak et al (2003) and Harrington *et al.* (2001) show that expected time savings do not significantly improve acceptability of congestion pricing. But 'a substantial environmental improvement' had a positive influence on acceptability. Furthermore, results confirm the negative response of distance-based, time-based and delay-based charges compared to a fixed charge (see Glazer *et al.*, 2001, concerning uniform versus differentiated pricing).

BUSINESS ACCEPTABILITY

As for the acceptability for the business community of road pricing, only a small sample of qualitative studies exist. Results are rather tentative. Road pricing strategies may affect the business community, which consist of e.g. road hauliers, industrial and commercial companies with a strong dependency on road transport (e.g. retail), shopkeepers and lobby like chambers of commerce, business associations etc. differently and therefore no homogeneous reactions are expected. In general it is assumed that all actors within the business community try to maximise their profits. In contrast to political actors business actors may not pursue conflicting objectives (e.g. fairness vs. efficiency). Therefore it can be concluded that business acceptability is mainly motivated by expected benefits and costs.

Project PATS (Viegas et al., 2000), when undertaking a group discussion on interurban freight transport in the Netherlands, found mainly the (well-known) argument that a negative impact of higher transport prices on competition, employment and overall prosperity is expected. The introduction of interurban distance-based road pricing for HGV in Germany revealed, despite minor resistance, the general support of the industry.

More acceptability problems can be expected for urban road pricing on the local level. Where the charged area excludes most customers, retailers expect to suffer a loss of trade. Thus, in the business community mainly (territorial) equity arguments may dominate the discussion about road pricing, i.e. the possible unfair distribution of costs and benefits between cities or regions. If the policy creates competitive disadvantages for the affected location in comparison to neighbouring cities or regions, business (as well as political) acceptability may be hard to attain. This was confirmed by the AFFORD

business acceptability survey which was based on the opinions of organisations representing the collective behaviour of the business establishments like chambers of commerce (Schade et al., 1999). The results showed that only the surveyed business community in Oslo (which is used to road pricing) supported advanced pricing strategies to some extent. All other cities investigated had not experienced road pricing and in all these cases the pricing strategies were rejected. As experience from Norway suggests that in reality there is only a limited impact on the retail sector (Larsen, 2001), rejection may diminish after first positive experience. PRIMA reports that in Zurich, shopkeepers supported a traffic restraint initiative in an attractive part of Zurich centre after they had become aware that in other parts of the city, where pedestrian zones were already established, business was flourishing. It seems to prove that shopkeepers can be convinced.

POLITICAL ACCEPTABILITY

Vital to the introduction of any road-pricing scheme of course is the support of politicians as key decision-makers. Therefore the politicians' opinions and acceptability are of utmost importance for the implementation. Although this obvious fact was recognised already some time ago (e.g. Giuliano, 1992), no commonly accepted and used theoretical basis or framework for analysing political issues in transportation is available. Due to the qualitative nature of the issues, approaches to their research are necessarily rather disparate and descriptive.

Political decisions have to consider the interests and opinions of different societal groups as well as politicians' own interests, and it is likely that interactions and relationships between these groups are very complex and dynamic. As yet, there has only been limited study in this area. E.g., the positive theory of regulation sees politicians as vote-maximising actors whose main interest is not in political programs per se but rather in their re-election or nomination into lucrative positions after their term of service.

Frey (2003, 67) identifies two main reasons for the low socio-political acceptability of transport pricing, missing attribution and power:

Missing Attribution

Politicians' actions in a democracy are strongly influenced by how they are likely to affect their popularity and re-election chances. A major disadvantage of pricing policies is that they are not directly attributed to the politicians' actions. Direct interventions, in contrast, directly benefit the politicians. In particular, they indicate to the voters that the government is taking decisive action (even if such action in many cases proves to be ineffective or even counterproductive in the long run). The politicians therefore have an almost instinctive preference for direct interventions over anonymous pricing instruments.

Power

When politicians use road pricing to solve congestion problems, they relinquish some of their power. Excess demand for road capacity in that case is solved by the workings of the price system. In contrast, direct intervention enables the politicians to exert power to their own benefit. They may, for

instance, issue permits for use on otherwise congested roads. They can give the permits to whichever individuals and groups they favour. This sets in motion rent seeking activities on the part of the people concerned. They then lobby the government to receive such permits and in exchange offer the governmental politicians support, especially in the form of monetary donations at election time.

Furthermore, Frey states that transport related as well as environmental policies for politicians are less promising than alternative policy issues (such as employment policies). Weck-Hannemann & Frey (1995) conclude that pricing instruments may have a better chance to be implemented by politicians striving for political support when the benefits (revenues) are earmarked to the use of politically influential groups and/or the costs are spread to groups of voters who are not well organised and have little impact on the political decision-making process.

The AFFORD political acceptability survey (Schade and Schlag, 2000) showed two major points. Firstly, politicians' attitudes towards road pricing in the surveyed cities were clearly more positive than expected and secondly, a misperception of public opinion (and a rather precise perception of published opinion) which meant that politicians considerably underestimated public acceptability of road pricing.

The perception of impartial distribution of costs and benefits is important for political acceptability, too. Politicians are well aware that the price system tends to be evaluated as less fair than alternative procedures (Frey, 1999). The popular argument that road pricing reduces mobility for particular citizen groups so that only the wealthy can continue to use their cars has not lost its potency. Thus social fairness is also an important topic in the political debate. Johanson *et al.* (2003) show that lack of perceived fairness in particular may prevent the implementation of road pricing for political agents at the local level.

Besides other issues, AFFORD identified the need for (local) governments to justify their policies in terms of practical – and often detailed and local specific – arguments, rather than in terms of arguments referring to efficiency and equity (fairness) benefits at a general (aggregate, abstract) level, as one of the main reasons for the low socio-political acceptability (Milne, Niskanen and Verhoef, 2001). On the other hand Johansson *et al.* (2003) showed that municipalities are likely to have other goals besides reducing car use, such as upholding fairness among citizens and financial goals, and creating revenues. They concluded that fairness in particular may prevent politicians from considering road pricing as a feasible policy.

Public transport fares are often a highly political issue. Firstly, there is a political desire to promote public transport use and to promote this as an alternative to car use. Secondly, there is often a political desire to use public transport fares as an instrument of social policy. These factors lead to pressures for fares that are simple and transparent and relatively low, and militate against the introduction of differentiated fares regimes, for example with high peak fares. These considerations inevitably lead to acceptability problems for fares policies that encourage marginal cost pricing.

ACCEPTABILITY FOR PRICING INTERURBAN ROADS

The discussion above draws mainly on the experience with urban transport: problems of non-acceptability with regards to charging interurban traffic have been rather moderate (Jiménez-Roig and Sort, 2000). Thus, charges for the use of interurban roads are far more common than urban tolls. One important reason for this is probably that interurban transport often takes place on well-defined links for which it is rather easy to assess the expected consequences and to communicate the results to the public. The urban transport network is considerably more complex with several partly competing partly complementary modes of transport. As a result it is much more difficult for both the public and the politicians to get clear and reasonably reliable answers to questions about the expected effects of implementing a road pricing scheme (Harsman, 2003).

No large-scale acceptability studies specifically dedicated to the interurban dimension exist. PATS undertook a group discussion on interurban freight transport in the Netherlands with six participants and PRIMA assessed the relevance of the urban-interurban interface with respect to acceptability by comparing Barcelona, Rotterdam and Lyon. DESIRE (2001), which currently aims to provide a practical assessment of the effectiveness of interurban road pricing in Europe, applies the same approach to interurban acceptability as was used for urban public acceptability in AFFORD. PRIMA reported that in France and Spain, especially in Catalonia, where interurban toll roads were introduced decades ago, two principles are important: only new facilities should be tolled; and there must be a parallel free-of-charge road.

More or less, these two principles have remained the basis for interurban road pricing in many countries and have succeeded in limiting public resistance (cp. value pricing). In Germany the introduction of the distance-based charge for HGVs was justified mainly by distributional justice arguments. It was argued that now foreign users have to pay for the use of interurban roads too (all should be treated equal). Distortions in the competition to the detriment of German HGVs would be reduced. The main acceptability problems were related to the purpose of the revenue use, which could be overcome. However, as experience (e.g. in Lyon) shows, acceptability of interurban road pricing cannot be expected from the start (Crest *et al.*, 1999). As one of the main reasons for the failure in Lyon they see the non-communication before and during the opening of the northern ring. It was obviously a weak point that partly explains the failure of the introduction.

BEST PRACTICE TO OVERCOME ACCEPTABILITY RELATED BARRIERS

There is an obvious need to determine best practice for overcoming the various acceptability related barriers. In this respect, key lessons of course can possibly be provided by those cities / regions / countries which have successfully implemented (or tested) such policies already. Of course, besides individual experiences from here and there, we need an overall framework for analysing them and for drawing appropriate conclusions.

Norway has a long tradition of using urban road tolls as a way of financing urban road investments and all parties have accepted the policy (Tretvik, 2003). In the mid-eighties, the city of Oslo was

confronted with unsatisfactory traffic flow with significant delays for all. Besides, there were local environmental problems with traffic hold ups and pressure on local streets and residential roads. The public funds for road construction were insufficient. To allow the financing of a road investment programme, authorities decided to seek the required additional resources from users. The toll ring was to contribute to the implementation of different projects within 15 years, as opposed to 35 years if financed by public grants. In Oslo, regarding public acceptability, two main factors conducive to the implementation of road pricing tolls can be identified (besides a public acceptance of the underlying problem and a long tolling tradition). Firstly, tolls were implemented simultaneously with a tunnel opening, which significantly improved the traffic situation, and also helped to justify the new tolls. Therefore direct benefits were noted through the tolls. Secondly, pricing measures were only introduced for a particular time period (until 2007). This means, proposed decisions were not definite, but were presented as a 'trial', which could potentially be reversed. Thus significantly less resistance and rejection were expected (Pelzmann, 2000). The numbers supporting the toll system steadily increased during the period, from 30 per cent before the toll system opened to 46 per cent in 1998.

Edinburgh is currently carrying out a major scheme development and public consultation exercise, with political support for the introduction of congestion charging from 2005 (PROGRESS, 2002). Edinburgh has been very open to the type of scheme that might be introduced. It has embarked on an extensive programme of surveys to establish stakeholder preferences for the design of the charging scheme and the complementary investment package, in order to maximise stakeholder support for the selected proposals. In particular, the following work has been carried out to establish current opinions of public and to increase support of stakeholders: questionnaires have been sent to every business and household in Edinburgh, more detailed and extensive questionnaires have been sent to a 2000 member strong "Citizen's Panel", focus group meetings have been held, on-street interviews have been conducted, and an extensive library of press cuttings has been established and is continuously updated (cf. Jones, 2003 for an overview)

A further option is demonstrated by Rome, another PROGRESS city, which has already introduced a restrictive access control system for the historical city centre. Here the aim is first to supplement and then to replace step by step the access system by tolls. In general the acceptability of access restriction schemes in southern European cities is higher and hence, more likely to be implemented (Keranen et al., 1999). Thus, it seems mainly for these cities promising to start the introduction with access restrictions followed by a successive addition of price elements.

The experiences of the cities involved in PROGRESS, PRIMA and in other similar projects show clearly that depending on locality, disparate goals are capable of winning a majority. To compound matters further, different aims are judged highly by different groups. Tolls for financing expanded road capacity as well as environmental and safety improvements are claimed to be more acceptable for the general public than tolls for managing demand (Jones, 1995; Langmyhr, 1999). Strong rejection (with exceptions) of road pricing exists especially when related to travel demand management (Gomez-Ibanez, 1992). It is unlikely that economic efficiency (cp. Glazer et al., 2001) as a reason for implementation is a convincing basis for attracting support. It is either not understood correctly (public), or it is not communicated beneficially (political). Thus, the objectives of the pricing strategy have to meet main public concerns. Politicians and the public regard traffic problems in cities as a very

important and urgent issue. There is a search for solutions. Marginal cost pricing should give rise to environmental benefits and safety contributions (and not solely to efficiency effects) and other advantages should be perceived and it should meet positive social norms.

Pricing strategies have to be perceived as very effective solutions, if not as the only effective solution for the perceived traffic problems. In order to get people to accept charging for road use or parking there must be very good and convincing reasons. Perhaps the best reason is, that this is the best way of solving perceived urgent problems and they will gain additional benefits. The effectiveness of transport pricing may be high but this is not guaranteed and depends on the definition of objectives. The efficiency will be comparatively very high – from cities', but not from the motorists' point of view. Thus, not only must the objectives of the intended measures be valued highly by the public, but people must also believe that their behaviour contributes to the achievement of these objectives.

The reported research findings visibly indicate that the general perception of environmental problems caused by traffic positively influences acceptability. Consequently, the focus should be placed more strongly on environmental and traffic safety problems rather than on problems related to traffic congestion. There are even signs that a concentration on congestion problems might actually decrease acceptability. Jones (1998, p 265) notes that "people expect to be charged for things they wish to acquire, not the things they wish to avoid".

Charging only new facilities may be a first-step way to introduce road pricing. Value pricing – not only as a “catchphrase” but as a strategy: people want to get something for their money. Proactive information has to start with problem perception and to identify valid solutions. Then it comes to the costs of such desired solutions and who (the user) should pay. The user pays principle has to be discussed from the start as what it truly is: a fair solution accepted in many societal domains leading to a prudent use of scarce goods.

A key point for almost all groups is (social) fairness of the measure. The system must be perceived as just in particular relating to the personal cost-benefit-relation. The benefits people see for themselves must balance the costs at least in an immaterial way (e.g. by reaching environmental objectives). In addition, people should not feel that they are treated unjustly in comparison to others. An important role in this context concerns the use of the revenues. With the help of the charges raised it is possible to influence distributional impacts in the desired direction. Hypothecation of revenues must result in guaranteeing a desired level of mobility for all, even supporting mobility changes for some groups, thus meeting equity issues on a population level. The same holds true for politicians; for them only a holistic view of improvements for their city's traffic situation (and thus a locally convincing package solution) is appropriate. The considerable force of the fairness argument is heightened by the increasing loss of trust in political actions. There is an element of mistrust regarding the fair use of road pricing revenues. Thus, acceptability can only be expected if people have confidence among others in the effectiveness of the measure, the use of the revenues, the fairness and anonymity of the system and the possibility to participate in the decision process in some form. One precondition to support confidence is transparency of the intended measures at an early stage. Connected to transparency, for the acceptability of any change, there must be some commitment of people to the new ideas. This commitment depends on early and credible communication, on positive experiences,

and on perceived chances of participation. People want to see themselves as having at least some degree of control over the things they are affected by. Thus there is a connection between participation, commitment, acceptability and later effectiveness. Last but not least the Oslo experience showed that the tactic of introducing road pricing only for a limited period and then examining it anew enhances its acceptability.

Recent work by Jaensirisak *et al* (2003), whilst emphasising the importance of acceptability in implementation of road user charging schemes, presents some conclusions regarding the relationship between the acceptability and the effectiveness of schemes. They conclude that acceptability varies greatly across individuals and system characteristics but effectiveness (in reducing car use) varies little. They thus conclude that acceptability is the key issue, rather than the specific design of the scheme, and that it should be possible to design schemes that are both acceptable and effective. This is because, while the most effective schemes (with high levels of charge) are less acceptable, more acceptable schemes (with lower levels of charge) are not much less effective.

Steps for acceptable implementation

The political decision-making process and the interactions between stakeholders form a very complex and dynamic system which can vary greatly from case to case. From the acceptability viewpoint, the implementation should be understood as an iterative and adaptive learning process, including both top-down and bottom-up elements (e.g. Harsman 2003; Langmyhr, 1999). Obvious steps in this process include (cf. Cartwright, 2001):

- i. *Problem discussion:* In different cities/regions different problems may be perceived important. It is important to raise local problems that people experience, and to avoid the impression of already decided solutions.
- ii. *Consultation:* It is critical that visible consultation is conducted, to convince and make sure that the pricing scheme is being designed whilst taking into account the views of all stakeholders and that there is broad support in principle.
- iii. *Stakeholder and media involvement:* Implementation programmes are far more than simple media and public relations – important though these are. But it is necessary to consider the complex interplay of other stakeholder groups and individuals who can exercise influence over the way that a scheme is received. Thus, the identification and analysis of all stakeholder audiences likely to have an impact on the ultimate success or failure of the project is very important. No implementation programme for a road user charging scheme can be complete without strategies for ‘winning hearts and minds’ by communicating directly to the different groups.
- iv. *Solution Forming / Presentation:* Make comprehensive assessment studies that generate alternative solutions, assess the different alternatives and identify potential winners and losers. Communicate conclusive results as comprehensible as possible and try to reach consensus. Start with positive results (benefits), then consider the costs of such desired solutions and who (the user) should pay.
- v. *Implementation / Supplementary measures:* People will only accept road pricing if they get something for their money. Thus agreed investments and improvements (carrots) ideally should be provided simultaneously or even first followed by pricing (sticks) and other restraints.

- vi. *Follow-up assessment*: The acceptability of a policy can quickly change. Trust in institutions and revenue use can be destroyed by one incident (e.g. misuse of revenues). Thus continuous monitoring of the conditions for stakeholder support has to be established covering both sides: scheme management and operation and its public perception. Willingness to change the scheme if problems occur is also important.

An additional option could be to conduct a *referendum* about the introduction of transport pricing. E.g., Frey (2003) sees few, if any, opportunities of introducing road pricing in the current political process. He argues that the rejection of road pricing is systematic and part of a politico-economic equilibrium. It could not be overcome by either proposing that it is efficient and increases people's welfare or by a "hidden" step by step introduction. It could only be introduced by modifying the underlying decision-making rules and procedures. This means that changes should be introduced at the *constitutional* level (Frey, 2003; see e.g. Marcucci & Marini, 2003 for opposing results). He proposes a basic change in political decision-making which has proved favourable for road pricing¹: *Direct voter participation*. There are several instances (e.g. nuclear power, and even in transport) of when direct participation of the citizens in political decision-making via initiatives and referenda has been proven to overcome deadlocks. For instance, in 1993 a considerable increase in the Swiss gasoline tax was approved by a referendum (Kirchgässner, 1993; Franzen, 1997) and the Swiss Alpine village of Saas Fee introduced road pricing with a 57% majority voting for the referendum (Frey, 2003).

SUMMARY: ACCEPTABILITY RELATED BARRIERS

This paper has identified and analysed the factors affecting the acceptability to different societal groups of urban and interurban pricing measures, and has identified key acceptability related barriers.

Public acceptability research has produced a lot of valuable information about how to overcome the identified barriers to road pricing. One major result is that pricing strategies are likely to be introduced only if people get value for their money. Another result is that, obviously the distribution and earmarking of use of the revenue (compensation of losers) could be a key policy measure to alleviate many of the acceptability barriers identified. Empirical results particularly on political acceptability are rare – despite their broadly acknowledged relevance. They have to be studied more intensively in future research like e.g. in TIPP (Niskanen et al., 2003).

The acceptability related barriers are summarised in the list below. They are mostly (but not entirely) related to road pricing but a few such barriers exist for urban public transport (at least in the literature) too.

¹ which has to be elaborated in much more detail.

In summary, key acceptability related barriers are:

- road user acceptability problem of having to pay directly for road use (which has traditionally been free at the point of use) or for higher charges for parking
- public dislike of complex charging structures for both public transport and for roads
- marginal cost pricing principles are not universally acknowledged as the best pricing approach in practice (a particular acceptability problem for decision-makers, who are not convinced of the effectiveness of pricing in addressing key transport problems and so may prefer either direct regulatory policies or spending in other sectors altogether)
- Politicians may believe that any benefits which might arise will not be attributed to them, so pricing receives low political priority in some areas
- spatial acceptability issues related to distributional impact of charges ('horizontal equity'): both public and business need to be sure that they are not disadvantaged in comparison to others
- 'vertical equity' issues requiring that pricing schemes do not make certain groups in society worse off (public prefers an approach where all are treated similar)
- road user acceptability issue that revenue raised from car travel needs to be spent to benefit of road users (for improving road travel conditions and / or providing appropriate alternatives)
- general public acceptability issue that new taxes may be perceived badly unless hypothecated for a popular cause
- public need to feel that they are involved in the process rather than having a pricing system imposed on them
- there should be a commitment to reviewing the scheme if problems occur after implementation. (Note Oslo, where pricing was introduced for a limited period and then re-appraised based on experience)
- the overarching marginal cost pricing goals of fairness and efficiency are hard to quantify at the local level where the policy would be implemented, so there is a local acceptability issue that revenue raised locally needs to be used for local benefit.

REFERENCES

- Bamberg, S., Rölle, D. (2003). Replication and extension of a causal model explaining people's acceptability of pricing measures. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies* (pp. 235-248). Oxford: Elsevier.
- Bartley, B. (1995). Mobility Impacts, Reactions and Opinions. Traffic demand management options in Europe: The MIRO Project. *Traffic Engineering and Control*, 36, 596-603.
- Bauer, M. (1995). *Resistance to new technology: nuclear power, information technology and biotechnology*. Cambridge: Cambridge Univ. Press.
- Cartwright, R. (2001). Communicating Road User Charging Schemes. *Paper presented at the 3rd CUPID-PROGRESS Internal Workshop* (Overcoming Barriers to Urban Transport Pricing – Legal Issues & PR Issues), Helsinki, 25 September 2001.
- Crest, T., Klaerr-Blanchard, G., Ellenberg, M. (1999). Comparison of Transport System in Case Cities and State of the Art Regarding Acceptability and Barriers. *Deliverable D1. EU-project PRIMA*, funded by the European Commission, 4th framework Transport RTD.
- Davis, F. D. (1993). User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *Man-Machine Studies*, 38, 475-487.
- DESIRE (2001). *Inception Report*. EU project DESIRE (Designs for Interurban Road Pricing Schemes in Europe). Contract No: 2000 - CM.10501.
- Franzen, A. (1997). *Umweltbewußtsein und Verkehrsverhalten - Empirische Analysen zur Verkehrsmittelwahl und der Akzeptanz umweltpolitischer Maßnahmen*. Chur / Zürich: Rüegger.
- Frey, B. S. (1999). *Economics as a Science of Human Behavior. Towards a New Social Science Paradigm*. Boston: Kluwer Academic Publishers.
- Frey, B. S. (2003). Why are efficient transport policy instruments so seldom used? In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies* (pp. 63-76). Oxford: Elsevier.
- Frey, B. S. and R. Eichenberger (1999). *The New Democratic Federalism for Europe: Functional Overlapping and Competing Jurisdictions*. Cheltenham: Edward Elgar.
- Giuliano, G. (1992). An assessment of the political acceptability of congestion pricing. *Transportation*, 19, 335-358.
- Giuliano, G. (1994). Equity and Fairness Considerations of Congestion Pricing. *Curbing Gridlock: Peak-Period Fees To Relieve Congestion*, 2, 250-279.
- Glazer, A., Link, H., May, T., Milne, D., Niskanen, E. (2001). Barriers to transport pricing - review of research. *Paper presented at the IMPRINT-EUROPE Seminar, Brussels, 21-22 November 2001*.
- Gomez-Ibanez, J. A. (1992). The political economy of highway tolls and congestion pricing. *Transportation Quarterly*, 46, 343-360.
- Harrington, W., Krupnick, A. & Alberini, A. (2001). Overcoming public aversion to congestion

pricing. *Transportation Research Part A*, 35, 93-111.

Harsman, B. (2003). Success and failure: Experiences from cities. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies* (pp. 137-152). Oxford: Elsevier.

Harsman, B., Pädam, S., Wijkmark, B. (2000). Ways and Means to Increase the Acceptance of Urban Road Pricing. *Deliverable D4*. EU-project PRIMA, funded by the European Commission, 4th framework Transport RTD.

Jaensirisak, S., May, A. D., Wardman, M. R. (2003). Acceptability of road user charging: the influence of selfish and social perspectives. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies* (pp. 203-218). Oxford: Elsevier.

Jakobsson, C., Fujii, S. & Gärling, T. (2000). Determinants of private car users' acceptance of road pricing. *Transport Policy*, 7, 153-158.

Jiménez-Roig, C., Sort, J. I (2000). Urban-Interurban Interface. Subreport to Deliverable 3. EU-project PRIMA, funded by the European Commission, 4th framework Transport RTD.

Johansson, L. O., Falkemark, G., Gärling, T., Gustafsson, M., Johansson-Stenman, O. (2003). Political Acceptance of Road Pricing: Goal Conflicts in Municipality Decision Making. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies* (pp. 269-278). Oxford: Elsevier.

Jones, P. M. (1991a). Gaining Public Support for Road Pricing through a package Approach. *Traffic Engineering + Control*, 4, 194-196.

Jones, P. M. (1991b). UK Public Attitudes to Urban Traffic Problems and Possible Countermeasures: a Poll of Polls. *Environment and Planning C: Government and Policy*, 9, 245-256.

Jones, P. M. (1995). Road Pricing: The Public Viewpoint. In B. Johansson & L. G. Mattson (Eds.), *Road Pricing: Theory, Empirical Assessment and Policy* (pp. 159-180). Boston: Kluwer.

Jones, P. M. (1998). Urban Road Pricing: Public Acceptability and Barriers to Implementation. In K. J. Button & E. T. Verhoef (Eds.), *Road Pricing, Traffic Congestion And The Environment. Issues of Efficiency and Social Feasibility* (pp. 263-284). Cheltenham:: Edward Elgar Publishing.

Jones, P. M. (2003). Acceptability of road user charging: Meeting the challenge. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies* (pp. 27-62). Oxford: Elsevier.

Keranen, M., Schade, J., Schlag, B., & Vougioukas, M. (1999). *Public Acceptability*. TransPrice - Transmodal integrated transport pricing for optimum modal split. Deliverable 6: Report to Commission of the European Communities, DG VII, Helsinki, Dresden, London.

Kirchgässner, G. (1993). Akzeptieren die Bürger Steuererhöhungen? Einige Bemerkungen im Zusammenhang mit der Erhöhung des Treibstoffzolls. *Aussenwirtschaft*, 48, 153-174.

Langmyhr, T. (1999). Understanding. innovation: the case of road pricing. *Transport Reviews*, 19, 255-271.

Larsen, O. (2001). Implementing congestion pricing. *Paper presented at the 2nd CUPID-PROGRESS Workshop on Social Equity in Transport Pricing*, Trondheim, 3 April 2001.

Lind, A. E. (1994). Procedural justice and culture: Evidence for ubiquitous process concerns. *Zeitschrift für Rechtssoziologie*, 15 (1), 24-36.

- Litman, T. (1996). Using Road Pricing Revenue: Economic Efficiency and Equity Considerations. *Transportation Research Record*, 1558, 24-28.
- Luk, J., Chung, E. (1997). *Public Acceptance and Technologies for Road Pricing*. Research Report No. 307. Vermont South: ARRB Transport Research Ltd..
- Marcucci, E., Marini, M. (2003). Individual uncertainty and the political feasibility of road pricing policies. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies*. Oxford: Elsevier.
- Mayeres, I., Proost, S. (2003). Reforming transport pricing: An economic perspective on equity, efficiency and acceptability. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies* (pp. 93-106). Oxford: Elsevier.
- Milne, D., Niskanen, E., Verhoef, E. (2001). *Legal and Institutional Framework for Marginal Cost Pricing in Urban Transport in Europe*. Helsinki: VATT Research Report 76.
- Niskanen, E., de Palma, A., Kallioinen, J., Lindsey, R., Matthews, B., May, T., Moilanen, P., Tegner, H., Wieland, B., Zografos, K. (2003). TIPP approach to analysing institutional issues in transport policy implementation. *Deliverable 1*. EU-project TIPP, funded by the European Commission, 5th Framework Programme.
- Pelzmann, L. (2000). *Wirtschaftspsychologie. Behavioral Economics. Behavioral Finance*. Wien: Springer.
- Peters, H. P. (2000). From Information to Attitudes? Thoughts on the Relationship Between Knowledge about Science and Technology and Attitudes Toward Technology. In M. Dierkes & C. von Grote (Eds.), *Between understanding and trust: the public, science and technology* (pp. 265-286). Amsterdam: harwood academic publishers.
- PROGRESS (2002). Demonstration scheme specification. *Deliverable 3*. EU-project PROGRESS, funded by the European Commission, 5th Framework Programme.
- Renn, O. (1998). Three decades of risk research: accomplishments and new challenges. *Journal of Risk Research*, 1, 49-71.
- Rienstra, S. A., Rietveld, P., Verhoef, E. T. (1999). The social support for policy measures in passenger transport. A statistical analysis for the Netherlands. *Transportation Research Part D*, 4, 181-200.
- Schade, J. (2003). European research results on transport pricing acceptability. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies* (pp. 109-124). Oxford: Elsevier.
- Schade, J. & Schlag, B. (2000). *Acceptability of urban transport pricing*. Helsinki: VATT Research Reports No 72.
- Schade, J., Schlag, B. (Eds.) (2003). *Acceptability of transport pricing strategies*. Oxford: Elsevier.
- Schade, J., Schlag, B., Beier, A. and Giannouli, I. (1999). Acceptability of marginal cost road pricing. *Deliverable 2c* of the AFFORD project funded under the 4th Transport RTD Programme of the EU. Dresden, Helsinki.
- Schlag, B. & Schade, J. (2000). Public acceptability of traffic demand management in Europe. *Traffic*

Engineering & Control, 41, 314-318.

Schlag, B., Teubel, U. (1997). Public Acceptability of Transport Pricing. *IATSS Research*, 21, 134-142.

Steg, L., Vlek, C. (1997). The Role of Problem Awareness in Willingness-to-Change Car-Use and in Evaluating Relevant Policy Measures. In T. Rothengatter & E. C. Vaya (Eds.), *Traffic and Transport Psychology* (pp. 465-475). Amsterdam: Pergamon.

Thorpe, N., Hills, P. & Jaensirisak, S. (2000). Public attitudes to TDM measures: a comparative study. *Transport Policy*, 7, 243-257.

Tretvik, T. (2003). Urban road pricing in Norway: Public acceptability and travel behaviour. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies* (pp. 77-92). Oxford: Elsevier.

Tyler, T. R. (1990). *Why people obey the law*. New Haven: Yale University Press.

Van der Laan, J. D. (1998). *Acceptance of Automatic Violation-Registration Systems*. Groningen: H. van Burg.

Viegas, J. M., Macario, R. (2003). Acceptability of price changes in urban mobility. In J. Schade & B. Schlag (Eds.), *Acceptability of transport pricing strategies*. Oxford: Elsevier.

Viegas, J., Macario, R., Goller, L., Raux, C., Link, H. et al. (2000). Empirical Studies on Price Acceptability. *Deliverable D3*. EU-project PATS, funded by the European Commission, 4th framework Transport RTD.

Weck-Hannemann, H., Frey, B. S. (1995). Are Incentive Instruments as Good as Economists Believe? Some New Considerations. In L. Bovenberg & S. Cnossen (Eds.), *Public Economics and the Environment in an Imperfect World* (pp. 173-186). Boston: Kluwer.