

Final Report

PATS

Recommendations on Transport Pricing Strategies

Status (P)

Contract No ST-98-SC.3010

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Revision

Date: 27 August 2001

PROJECT FUNDED BY THE
EUROPEAN COMMISSION UNDER THE
TRANSPORT RTD PROGRAMME OF THE
4TH FRAMEWORK PROGRAMME

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EXECUTIVE SUMMARY

The main objectives of the PATS research were:

- To identify the reasons behind the attitude of acceptance/non-acceptance of transport pricing, and the arguments that support those stand-points;
- To find the means and measures to increase acceptability;
- To analyse the distributional effects of pricing;
- To identify the legal and political barriers to the implementations of pricing schemes;
- To design acceptable pricing schemes and policy packages, taking account of efficiency and fairness issues.

This final report constitutes the main output of the PATS research where recommendations to enhance acceptability of transport pricing are made. The report is organised into four distinct parts. The first part comprises chapter 1 and is dedicated to explain the objectives of the research, the degree of complexity of acceptability issues within transport systems, the scientific approach followed to develop the research and the means used to achieve the proposed objectives. The second part comprises chapters 2 to 6 and provides the synthesis of the integrated results obtained with the theoretical and empirical work developed. The third part contains the last chapter of the report with the conclusions and recommendations of the PATS research. Furthermore, given the fact that to our knowledge the PATS empirical works are as yet the most comprehensive survey ever done on acceptability of transport pricing, the complete reports¹ on the analysis done for each of the four undertaken surveys is presented in four annexes to the main report.

The methodological approach adopted in the PATS research entailed the following main steps:

- In-depth analysis of state of the art aimed at identifying the relevant acceptability issues, research findings and open questions. For this analysis the following sources were used:
 - a) A review of ongoing and completed research projects and existing studies on acceptability;
 - b) A detailed analysis of formal stakeholders' reactions on the Green Paper on Fair and Efficient Pricing and the White Paper on Fair Payment for Infrastructure Use;
 - c) A review of pricing measures and pricing debates per country.
- Critical review of the theoretical principles underlying the interrelation between acceptability issues and the economic, social, legal, regulatory, political and technical components of transport pricing.
- Design of potentially acceptable pricing packages to be tested in the empirical surveys.
- A comprehensive empirical work comprising key informant surveys, citizen surveys, focus group discussions and a Quick Delphi survey.
- Analysis of communication and negotiation strategies as an instrument to raise awareness on the effectiveness of transport pricing policies.
- Analysis of the political decision-making process underlying transport pricing decisions and respective implementation in the different regulatory contexts.
- Conclusions and recommendations on transport pricing strategies to enhance acceptability.

¹ Which correspond to specific chapters of the intermediate Deliverable D3 of the PATS research.

The main conclusions of the PATS surveys were:

- The objectives behind transport pricing in general and the purpose of each single measure must be clear, understandable and reasonable for those affected by the measures.
- In order to enhance acceptability it is important to choose the suitable/sensible pricing principle for each pricing purpose.
- In order to make increases of existing or new taxes and charges acceptable the price has to reflect the real costs of transport. Intermodal fairness of pricing is important although lower charges for ‘green’ modes are accepted. However, caution should be paid with generalised decisions on lower taxes and charges for more environmentally friendly modes². Since this touches upon cross-subsidisation it has to be explored on a case-to-case basis whether and to what extent so-called ‘green’ modes should be supported.
- For making pricing measures acceptable it is important that those affected perceive them as effective and suitable to solve transport-related problems. It is clear that new measures are under this aspect more difficult to accept than well-known ones since the effectiveness of new measures is – at least for citizens – not proven. This is also one reason why attitudes ‘before’ acceptance and ‘after’ acceptance usually differ. Information on the successful implementation of new measures elsewhere may help to convince those affected by the measures that they are suitable to solve transport related problems, improving in this way the information of the effectiveness of the proposed measure.
- Since obviously citizens fear negative impacts on their daily mobility and are not convinced on the positive impacts such as traffic reduction, less congestion, better living conditions and environmental improvement, governments have clearly to explain the consequences of pricing measures aimed to be implemented.
- The appropriate and transparent use of revenues raised by pricing measures is essential in terms of acceptability. The revenues have to be used in the transport sector for the paying users. As already stated, cross-subsidisation for example of public transport can enhance acceptability but has to be explored on a case to case basis.
- In terms of perceived fairness it has to be made clear that pricing measures do not lead to tax duplications. Compensation measures for disadvantaged groups have to be considered in policy packaging.
- Privacy protection is a necessary precondition for an acceptable pricing scheme. Provided that the conditions are given to properly guarantee privacy this argument does not seem to be a major obstacle for introducing pricing measures.
- The charging scheme has to be transparent and its use should be easy to handle and understandable.
- Pricing measures should be introduced in a stepwise way, avoiding price shocks. EU-wide harmonisation is important in the design and implementation of pricing schemes at regional, national and European level.
- Finally, the PATS surveys have revealed a widespread suspicion on governments’ motives for pricing.

The final recommendations of the PATS research are:

- 1) Introducing prices on what previously was for free raises a problem of longitudinal equity, and as such acceptability can be enhanced if the price is accompanied by higher quality or capacity. If no

² We recall here one of the main conclusions of PETS – Pricing European Transport Systems’ research final report, 2000, 4th RTD framework – DGTREN, according to which the belief that a move to more efficient pricing would uniformly benefit the more environmentally friendly modes at the expense of other modes was found not to be universally true.

additional explanation is given, prices are seen as financing instruments, and might be difficult to maintain after the amortisation period.

- 2) The introduction of prices must be preceded or done in parallel with the actual measures (not just the announcement of the principles) that will provide the better service. A new or higher price is better accepted if it is accompanied by some guarantee of service level to which the charge is applied.
- 3) Another instrument to address the issue of longitudinal equity is rationing. The allocation of a free ration of mobility consumption constitutes only a limitation of the current ‘right’ to free mobility and not its total extinction. However, such rationing schemes imply a more complicated transaction system, which is capable of tracking cumulative consumption by each person (or by each vehicle).
- 4) If the price increases are very high in one component of the system, even with strong increases in its quality, it may be convenient to increase also the capacity of alternative systems, not only because significant numbers of users may prefer to transfer to the cheaper option (albeit temporarily) but also because the gap between the paid and the free alternatives may become too wide to be accepted.
- 5) If there is no added value, acceptability is more difficult to reach but may be supported with a transfer from fixed to variable price components, i.e. implying a reduction of the fixed price components and some care with transition (some people have already paid the former higher fixed price for entry into the system). This may be seen as a compensation measure.
- 6) The introduction of technological innovation may help in achieving higher quality even if it is only through reduction of transaction costs (waiting times, for instance).
- 7) Measures for price introduction or changes in inter-urban transport must pass tests on horizontal (discrimination between classes of vehicles based on well founded economic principles, namely on the costs they impose) as well as territorial equity (same principles should apply to all regions, with positive discrimination acceptable only on limited conditions and with a proper justification for regions of very low traffic density, and possibly but more difficult for regions of lower per capita income).
- 8) The reaction to price changes is much stronger by those who use the system very regularly. So the most vocal opposition will be residents and commuters in general for urban road pricing, and the road haulage industry for inter-urban road pricing (motorways).
- 9) The following table highlights the main points of this reflection:

Geographical level	Regular Users	Main dimensions of equity	Pricing principles	Compensation Measures
Local / Urban	Local residents	Vertical (non-exclusion)	Progressive charges possible (but risky) Rate variable according to: <ul style="list-style-type: none"> ▪ External costs imposed ▪ Demand pressure (to ensure level of service) 	Free rations for local tax-payers
Inter-urban	Truck Hauliers	Horizontal (discrimination among vehicles) Territorial (price levels in different regions)	Charge from first use Charge independent of level of consumption Rate variable according to: <ul style="list-style-type: none"> ▪ External costs imposed ▪ Costs, other than external ones, caused by each vehicle (class of vehicles) ▪ Demand pressure (to ensure level of service) 	Reduce fixed charges (approximate fiscal neutrality)

- 10) A discursive approach involving stakeholders is needed along the policy decision-making process to overcome mistrust fears and raise awareness of the problems leading to the implementation of pricing measures. Different forms of involvement can be thought along the decision-making process and their selection from a wide range of alternatives, going from simple information to shared decision, depends on the local political and cultural context.
- 11) For a comprehensive understanding of stakeholders' degree of acceptability in each local context, the following concerns should be considered:
 - a) The identification of the various actors involved or affected in all stages of the decision making process;
 - b) The perception of the specific interests of those actors analysed as personalities;
 - c) The power of influence of the different groups of actors and their potential for public reactance.
- 12) Acceptability of transport pricing is also related with consistency of policy deployment across the European Union, involving the different levels of governance through the following allocation of roles and functions:
 - a) European level
 - Defining general principles on cost calculation and price setting;
 - Imposing transparency of accounts;
 - Principles for the specification of some social cost elements (e.g. global pollutants, value of life).
 - b) National Governments
 - Defining the organisation of responsibilities & management of money flows;
 - Specifying some social cost elements (e.g. regional pollutants, infrastructure and safety standards);
 - Specifying quality of service levels for national infrastructure and managing its prices.
 - c) Local Governments
 - Specifying some social cost elements (e.g. noise);
 - Specifying quality of service for local infrastructure & services, and managing their prices;
 - Defining and applying equity protection schemes.
- 13) In what concerns infrastructure and services in this acceptability setting, consideration should be given to the following issues:
 - a) Service operators should always be subject to identical pricing conditions as other vehicle owners to avoid concerns of discrimination;
 - b) In Public Transport:
 - b.1) Guarantee of basic services at fares determined by the authority, for single and multiple operator services. Subsidy may be needed;
 - b.2) Packaging of additional services (internal to each company or in combination with others in the same sector or in other sectors) by free initiative of the operator.

- c) For infrastructure managers under running concessions:
 - c.1) The revision of contracts should be thought in order to include charging for site or time specific congestion or social costs;
 - c.2) Service quality clauses should exist with price discounts in case of non-compliance but limited freedom of price setting to reach this service quality and maximise revenue.
- 14) Finally, transparency in handling the money flow is a strong case for acceptability. This implies the implementation of cost assessment audits wherever public money is used.

1. INTRODUCTION

1.1 CONTRIBUTIONS TO THE PROJECT AND ACKNOWLEDGEMENTS

This report constitutes the final report of the PATS research project. TISPT (Prof. José Viegas and Ms Rosário Macário) - as project co-ordinator - was responsible for its consolidation and DESU for the quality control. The PATS project counted with the contributions of the following partners and subcontractors:

- Prof. José Viegas, Rosário Macário, Lies Goller, Jorge Antunes (TISPT)
- Jeff Turner (Manchester University)
- Charles Raux, Odile Andan, Stéphanie Souche, Laurent Guihery (LET)
- Kjell Jansson (Stockholm University - DESU)
- Heike Link, Thomas Fabian (DIW)
- Dr. Max Herry, Markus Schuster (Büro Max Herry)
- Peran van Reeve (Erasmus University)
- Prof. John Polak (Imperial College)
- Markus Maibach, Daniel Peter (INFRAS)
- Tjaco van den Berg, Arthur Gleijm (NEA Transport Research and Training)
- Chiara Borgnolo (TRT)
- Prof. Jan Owen Jansson (EKI, Linköping University)
- Prof. Dr. Hannelore Weck-Hannemann (Universität Innsbruck)
- Chris Halldin, (TrafikKompetens: ex SL Konsult)

The fieldwork for the focus group discussions was outsourced to Steer Davis Glave (focus groups on passenger transport in the UK and in Austria) and to NEA (focus groups on passenger transport and group discussion on freight transport in the Netherlands). Furthermore, the fieldwork for the citizen surveys was outsourced to GfK in all countries except Sweden, where SL Konsult was chosen as fieldwork consultant.

The PATS research was co-financed by the European Commission, DG TREN under the 4th Framework RTD Programme. Special thanks are due to Ms Catharina Sikow-Magny, the responsible project officer, who provided guidance and advice throughout the whole project, as well as access to important documents on stakeholders' formal reactions to the European Commission Green and White Papers on transport pricing. Further thanks go to the Swedish National Road Association and the Stockholm County Regional Planning and Traffic Authority who co-financed the empirical PATS work. We extend our thanks to the large number of people in national authorities, from infrastructure providers, transport operators and interest associations, and also to European citizens who participated in the surveys.

1.2 OBJECTIVES OF THE PATS RESEARCH

The aim of this research was to bring new and deeper knowledge on the conditions to enhance acceptability of transport pricing schemes by integrating acceptability requirements in the underlying structural context. Other research projects funded by the European Commission have been dedicated to

acceptability issues related to transport pricing³, however, the PATS research has the broadest scope. PATS deals with acceptability of the whole range of charging and taxation measures, as well as with all transport modes. The economic relevance of the PATS research also lies in its added value in enabling a more market orientated approach to decision-making in transport pricing, through the knowledge of the reasons behind opposition and acceptability of pricing measures, which in turn is expected to contribute to the improvement of the organisation and management of the transport systems.

The main objectives of PATS research were:

- To identify the reasons behind the attitude of acceptance/non-acceptance of transport pricing, and the arguments that support those stand-points;
- To find the means and measures to increase acceptability;
- To analyse the distributional effects of pricing;
- To identify the legal and political barriers to the implementations of pricing schemes;
- To design acceptable pricing schemes and policy packages, taking account of efficiency and fairness issues.

In practical terms these objectives are translated and further broken down into the following key questions:

- What are the main factors influencing acceptability of transport pricing?
- How do these factors differ between individuals (users), agents of the transport system (institutions and operators) and politicians?
- Who supports transport pricing and who opposes, and what are their main arguments?
- Which pricing purposes, pricing principles and revenue spending schemes are more acceptable and how do these elements interrelate to influence acceptability?
- How should these schemes be operated and managed to enhance acceptability?
- What is the role and responsibility of political decision-makers and institutions in acceptability enhancement?

This final report constitutes the main output of the PATS research where recommendations to enhance transport pricing acceptability are made. The report is organised into four distinct parts. The first part comprises chapter 1 to 2 and is dedicated to explain the objectives of the research, the methodological approach followed to develop the research and the means used to achieve the proposed objectives, and the degree of complexity of acceptability issues within transport systems. The second part comprises chapters 3 to 5 and provides the synthesis of the integrated results obtained with the theoretical and empirical work developed. The third part contains the last chapter of the report with the conclusions and recommendations of the PATS research. Furthermore, given the fact that the PATS empirical works are to our knowledge as yet the most comprehensive survey done on transport pricing acceptability, the complete reports⁴ on the analysis done for each of the four surveys undertaken are presented in four annexes to the main report.

1.3 SCOPE AND DIMENSIONS OF TRANSPORT PRICING DECISIONS

Mobility is an essential asset for the normal functioning and development of modern societies, and this is most likely the reason why decisions on the transport sector are so politically sensitive. Historically state intervention was justified by equity considerations, namely to ensure that transport networks were

³ E.g. AFFORD and PRIMA research projects.

⁴ Which correspond to specific chapters of the intermediate PATS Deliverable D3.

available to all citizens, and that no one should be deprived of its services by price considerations. The interpretation of this goal, which is in itself still valid nowadays in the implicit concept of public service led state authorities to increase the financing of transport systems through several distinct ways, such as: the use of administratively set prices; concessionary fares; subsidies to cover companies' deficits, funding for infrastructure development, etc.

Along the years evidence revealed that this political attitude led to double inefficiencies. On the one hand, it was neither an efficient way of intervention nor of allocation of public money, once all users benefited from the same direct or indirect subsidies independent from their economic and social needs, as translated through their income levels. While on the other hand, state intervention has been always known by a low demand-responsive capacity and high priority given to low transactions cost solutions, whilst maximisation of social surplus or cost coverage issues were left to a second order priority.

Transport pricing has been a highly debated topic for several years now, and there is a growing awareness that to achieve a sustainable balance between private and public means of mobility, pricing policies have to be able to send the correct signals in order to induce an adaptive behaviour from the users, which in turn will, through demand levels, provide the system with a reliable feedback on the needs for further investment and expansion of transport facilities. At EU level the theoretical discussion was triggered by two pricing-related policy documents of the European Commission, the Green Paper on Fair and Efficient Pricing and the White Paper on Fair Payment for Infrastructure Use. These documents propose to introduce more pricing instruments into the current regulation of the transport system as well as an efficiency approach to pricing policies, in particularly through the application of social marginal cost pricing principles.

Based on this theoretical background the European Commission has financed 17 pricing related research projects in order to provide a sound economic basis to answer the following broad questions placed at high priority in the political agenda:

- What is the meaning of the marginal social cost pricing principles in practical terms?
- How to assess real transport costs in their full dimension (i.e. considering externalities)?
- What are the impacts of efficient pricing in economic and social terms?
- Is transport pricing effective towards long term sustainability?
- How can transport pricing being made acceptable for the society (i.e. fairness and equity concerns)?

Several conclusions were taken from these earlier research works, among which we highlight the most striking ones for policy decision-making:

- Efficient pricing based on marginal social costs can be implemented with currently available technologies!
- Congestion, accidents and environmental nuisances can be priced on marginal cost basis if efficiency objective is dominant, but other pricing principles may have to be considered to accommodate other objectives!
- From a welfare economics perspective efficient pricing will benefit the society!
- Pricing will induce users to change their travel patterns and modal choices!
- Pricing is the first and foremost source of financing transport systems!
- Public acceptability of transport pricing policies is strongly related to policy implementation details!

At national level, in addition to theoretical discussions, new pricing strategies already start to emerge. Distance-based charging of heavy goods vehicles is under implementation in Switzerland. The

introduction of an ecological element into the taxation system is highly debated and already a reality in Germany and some Northern countries. Rail infrastructure charging is another issue which shows a heterogeneous practice in Europe and faces problems of missing acceptability in general or at least related to the charging regimes currently used. Intermodal differences with respect to the level of charges and cost recovery as well as the current type of pricing (taxation versus user-charges) have come into the debate on fairness of charging between modes and on the best ways to achieve a fair level playing field to support intermodal solutions. Finally, the recent drastic increases of oil prices led to heavy protests all over Europe and to a political debate on which price levels should be considered as acceptable.

As previously mentioned, the theoretical foundations of transport pricing such as pricing principles and the economic benefits of pricing measures have been well explored by sound scientific studies over the recent years. However, various transport pricing projects have never been implemented despite the fact that extensive scientific studies have demonstrated both their local economic benefits and technical feasibility⁵. The debates mentioned above have revealed the lack of public and political acceptability as the key barrier to implementation.

To these conclusions and evolving process the PATS research adds elements and methods to make transport pricing acceptable to policy makers, businesses and users as long as special care is taken on policy formulation and packaging in order to maximise linkages and synergies between the different available instruments and elements that enhance acceptability. It is also worthwhile to emphasise at the outset of this report that pricing and financing policies imply the simultaneous use of different mechanisms, that is single measures are never fully effective if applied in an isolated way. The risks involved in the implementation of each measure, their synergetic potential as well as the assurance that the different measures involved in one policy package do not produce contradictory effects are important issues that have to be included in the concerns of decision-makers when choosing the most appropriated policies for their local packaging. In addition, packaging policy measures implies other concerns that should be taken into account in parallel to the mechanisms that will assure their acceptability. These include the time scale required for the introduction of different measures; the time gap to enable the production of effects; responsibilities of key actors and organisations with respective actions as well as the co-ordination between different levels of decision-making and in the broader context of other related policies⁶.

1.4 PATS APPROACH

1.4.1 GENERAL METHODOLOGICAL APPROACH

PATS research was organised along the following main building blocks:

- In depth analysis of the state of the art aimed at identifying the relevant acceptability issues, research findings and open questions. For this analysis the following sources were used:
 - a) A review of ongoing and completed research projects and existing studies on acceptability;
 - b) A detailed analysis of formal stakeholders reactions on the Green Paper on Fair and Efficient Pricing and the White Paper on Fair Payment for Infrastructure Use;
 - c) A review of pricing measures and pricing debates per country.
- Critical review of the theoretical principles underlying the interrelation between acceptability issues and the economic, social, legal, regulatory, political and technical components of transport pricing.

⁵ Examples are London (May 1975), the Netherlands (Emmerink et al. 1995), Stockholm (Ahlstrand 1997) and Hong Kong (Harrison 1986).
⁶ SAMI, Deliverable 1 (D1) 1998.

- Design of potentially acceptable pricing packages to be tested in the empirical surveys.
- A comprehensive empirical work comprising key informant surveys, citizen surveys, focus group discussions and a Quick Delphi survey.
- Analysis of communication and negotiation strategies as an instrument to raise awareness on the effectiveness of transport pricing policies.
- Analysis of the political decision-making process underlying transport pricing decisions and respective implementation in the different regulatory contexts.
- Conclusions and recommendations on transport pricing strategies to enhance acceptability.

1.4.2 FRAMEWORK FOR ACCEPTABILITY ANALYSIS

The PATS research assumed from the outset that the implementation of transport pricing strategies is foremost a political decision. The reason is that the transport sector is characterised by a number of market failures, mainly external effects and public goods, facts that call for intervention. In addition, there are certain types of transport reasons for European harmonisation in order to achieve competition-neutral playing fields. This decision is normally seen as one of high risk, in particular due to the impact of the transition period during which perception of effectiveness is often penalised by the time gap between the implementation moment and the moment benefits gain visibility.

Acceptability has thus to be explored in the light of a complex interplay between efficiency, fairness and feasibility of implementation. The PATS approach to this multidimensional context expressed this interplay along four main broad aspects: economic requirements, legal and regulatory issues, social and political factors and the technological and functional features of implementation, as highlighted in figure 1.

Economic requirements are related to economic efficiency, social and political aspects are important since measures found to be efficient from an economic point of view may be perceived to conflict with fairness and equity concerns. In addition, the implementation of price efficient measures requires the use of technological solutions, thus raising the need to address also technological and functional issues. Finally, the legal and regulatory framework raises particular concern, as there are already evidences of conflict between economic efficient pricing principles and the regulatory framework. Such is the case of rail transport in UK and Germany where the current regulatory frameworks require a full cost recovery approach.

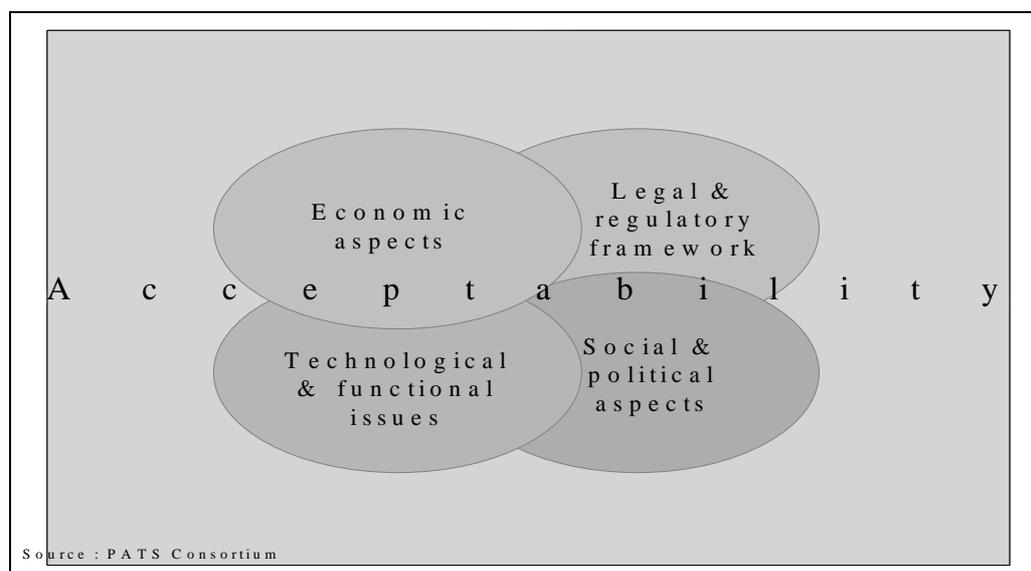


Figure 1 – Dimensions of acceptability

1.4.3 SCOPE AND METHODOLOGICAL APPROACH OF EMPIRICAL STUDIES

The PATS survey work was conducted in a four-step-approach, integrating a mixture between qualitative (exploratory) and more quantitative-oriented research. The variety of techniques used was justified by the different purposes for which information had to be collected, i.e. to prepare subsequent surveys, to understand the views on pricing acceptability, to obtain agreement on pricing packages. It was also necessary due to the fact that the opinion and views of different and very heterogeneous stakeholders (decision makers, transport operators, citizens etc.) could not be tapped via one unique study technique.

The three qualitative research techniques used, i.e. key informant surveys, focus groups/group discussion and the quick Delphi survey aimed at gaining insights and ideas on the problem of transport pricing acceptability and to validate pricing packages. The fourth research technique, on the contrary, aimed at describing in a more quantitative way the relationship that exist between variables such as age, car ownership, country of residence and the acceptability issues.

In order to also enable taking advantage of the benefits of their specific features both individual and collective qualitative research (i.e. key informant surveys and focus groups) were used. The difference between individual and collective exploratory techniques stays in the fact that groups are more creative, allow for more ideas to be developed and normally encourage even quiet people to speak. On the other hand, individual research provides more details that are often lost in the group discussions due to time constraints. In summary, this kind of research is suitable to sample ideas and to find out a range of attitudes but cannot say anything about the distribution of these attitudes. Thus, while exploratory (qualitative) research is focused on the discovery of ideas and insights, descriptive (quantitative) research is typically concerned with the frequency with which something occurs or the relationship between two variables⁷. It allows, for instance, finding out which type of citizens oppose to which type of pricing scheme or who prefers which way of revenue spending. This constituted an essential information for the purposes of the PATS project and therefore a sample survey to citizens was also conducted.

In the following the features of each survey type used in PATS are briefly summarised. A detailed description of the respective survey designs and results are given in the annexes of this report.

Key informant surveys

The key informant surveys⁸ were the first study type employed in the PATS research. It attempted to tap the knowledge and experience of those people familiar with the acceptance/non-acceptance problem in transport pricing. This kind of survey is not based on a probability sample and respondents were carefully selected in order to include those with the relevant experience to offer the contributions sought. Care was also taken to include people with differing points of views and personal in-depths interviews were carried out with the main agents of the transport system (politicians, authorities, operators, interest groups, etc.) in all countries represented in the PATS project.

Since the emphasis in exploratory research is on developing tentative explanations and not on demonstrating the viability of a given statement, the individual interviews were relatively informal, consisting in a mixture between closed and open questions and providing space for a free expression of points of views. The interviews were designed as face-to-face interviews. Focus was placed on the fact that the views expressed at that stage were the official standpoint of the organisations represented by the interviewees.

However, the interviews were based on a detailed questionnaire and thus at least an analysis of frequencies of acceptability dimensions stated, of preferred pricing measures, their elements etc. was possible. This moves the key informant survey from a purely explorative study towards a descriptive,

⁷ See Churchill 1995.

⁸ In total 104 interviews in 9 European countries.

quantitative type of research, however, always bearing in mind that the sample selection was not done randomly and the sample size per country is not a representative one.

Focus groups

The focus groups (group interviews) were conducted in parallel with the key informant surveys. The reason to hold them prior to the quantitative interviews was to allow exploring ideas for the design of the citizen survey questionnaire. This was considered necessary because transport pricing has a very strong emotional dimension. The main limitations of focus groups consist in providing no quantitative and numeric output; they show opinions and behaviour but there is no guarantee for the future behaviour of people.

Participants in these focus groups were common people with no specific expertise in the field of transport pricing. This was the reason why the 5 focus groups carried out in the UK, Austria and the Netherlands basically only focused on passenger transport. In order to also shed some light on freight transport, a freight transport event in the Netherlands that brought together a large number of professionals in this field at all levels was used to hold a group discussion or brainstorming session among a group of experts willing to participate.

Citizen surveys

The citizens' views on the acceptability of transport pricing and packages were tapped in a more quantitative way via citizen surveys⁹ that relied on a sample of elements from the population of interest, measured at a single point in time. Due to the complexity of the issues the citizen surveys were designed as face-to-face surveys carried out by professional interviewers. The interviews were supported by a questionnaire that focused on the development of acceptable policy packages.

Since there is evidence that pricing acceptability differs between socio-economic groups, the aim was to see which groups behave in a certain way and to enable the identification of these differences. These differences are the key for an analysis of the strength of the efficiency arguments, as well as for an analysis of whether and how acceptability can be enhanced. The citizen surveys were for all countries designed as surveys exploring attitudes towards/against pricing measures in general and certain pre-selected measures of relevance per country. In addition, stated-preference surveys were carried out in 2 countries (France, Sweden) in order to yield a quantitative measurement of the degree of acceptability.

Quick Delphi survey

In a final step, pricing packages designed on the basis of the findings of the previous surveys were tested in a Quick Delphi survey by respondents from Austria, France, Germany, the Netherlands and Sweden.¹⁰ This survey type was aimed at obtaining the agreement of decision makers from different countries. It is an instrument for eliciting and refining the opinions of a group, usually a panel of experts. It is a way whereby a consensus and position of a group of experts is reached after eliciting their opinions on a defined issue and it relies on the 'informed intuitive opinions of specialists. This collective judgement of experts, although made up of subjective opinions is considered to be more reliable than individual statements and is thus more objective in its outcomes.

The Delphi survey was designed to optimise the use of group opinions whilst minimising the adverse qualities of interacting groups. Normally it has four basic features that consist in structured questioning, iteration, controlled feedback and anonymity of responses. Delphi surveys were carried out in the same countries where citizen surveys took place, with the exception of the UK. The participants were provided with a synthetic description of the proposed packages and were asked to evaluate the acceptability of each package. Table 1 summarises the acceptability dimensions and factors covered within the different types of surveys.

⁹ A total of 1300 interviews had been carried out in Austria (159), France (180), Germany (157), the Netherlands (101), UK (166) and Sweden (606).

¹⁰ See, e.g. Strauss and Ziegler 1975 for an overview on the Delphi technique.

Pricing measures assessed in the empirical work of PATS

The variety of pricing and taxation measures as well as their impacts at different stages of transport (e.g. affecting transport operators or final users or both) called for selecting a range of measures to be dealt with in the empirical work of the PATS research. Therefore, a country-review of pricing and taxation¹¹ measures was conducted in order to identify those measures, which are interesting in terms of acceptability. It was obvious that these could concern:

- Measures which have been applied for a long time and which are well accepted;
- Measures which have been applied for a long time and for which changes (increase or decrease, changes of price structure, target groups etc.) are envisaged;
- Completely new measures.

The country review of pricing and taxation measures has shown that most of the reviewed instruments have already been applied for a long time and have been well accepted. The available wealth of information did not allow identifying any particular measure that seemed to be outstanding in terms of acceptability. Basically, this overview showed that for each mode there is a wide range of measures differing in detail from one Member State to the other. There is, however, a certain uniformity regarding the basic types of measures and for certain specific instruments there are also some rather important common characteristics. It was found that both were often due to some degree of approximation or harmonisation at European level.

The empirical studies in the PATS project have adopted the following approach for selecting pricing measures as table 2 shows. The key informant surveys started with a set of well-known measures in all EU-countries such as fuel and vehicle taxation and parking charges. Additionally, measures such as motorway tolling which are already applied in some EU-countries and are either under discussion in other EU-countries (e.g. interurban road pricing for HGV in Germany, Austria and Switzerland) or enter into a new stage (e.g. from motorway tolling to road pricing) were selected. Furthermore, new measures were considered such as environmental charges, ecological tax reform and a more differentiated public transport pricing. The subsequent surveys, in particular the citizen surveys and the Quick Delphi survey used this initial set of measures and the responses of the key informants for either further exploring the acceptability of these measures by citizens, or designing pricing packages. This package design was mainly tested in the Quick Delphi survey but partly also within the citizen surveys where, for example, introducing a certain measure was combined with reducing other taxes and charges.

¹¹ PATS, Deliverable 1 (D1).

Table 1: Dimensions and factors of acceptability in the empirical work of PATS

Dimension	Factors	Role for the empirical work	Coverage in survey type	
(1) Characteristics of the charged individual/institution	<p>Passenger transport</p> <ul style="list-style-type: none"> sex age income educational level professional status <p>Freight transport</p> <ul style="list-style-type: none"> company size geographical situation 	<ul style="list-style-type: none"> regional dimension and geographical location (important for urban cordon pricing) availability of travel alternatives (car ownership, public transport accessibility) availability of travel alternatives (access to rail) and other public transport 	<ul style="list-style-type: none"> fixed factors for the surveys important for segmentation 	individual →citizen survey institution →key informant survey
(2) Characteristics of the trip and its alternatives	<p>Passenger transport</p> <ul style="list-style-type: none"> travel purpose (business/ mission, work, education, leisure, holiday, shopping ...) trip length <p>Freight transport</p> <ul style="list-style-type: none"> types of transported goods (time sensitivity, mass goods, ...) distance 	<ul style="list-style-type: none"> travel time price level public transport: service frequency, number of changes, occupation, ... transport time price level alternatives (if not road haulage): service frequency, reliability, ... 	<ul style="list-style-type: none"> fixed factors for the surveys important for segmentation 	→ citizen survey
(3) Cultural/historical characteristics of transport pricing and social norms	<ul style="list-style-type: none"> charges also in the past or first introduction of certain charges (history of motorway tolls?) tradition/heritage in valuing car ownership/use ('You are what You drive', car as a status symbol) environmental consciousness 	<ul style="list-style-type: none"> fixed factors for the surveys important for segmentation 	→ key informant survey → focus groups and group discussion	
(4) Characteristics of the charging package	<ul style="list-style-type: none"> pricing purpose type of charged infrastructure (new or already existing?) price level and structure, complexity of price systems intermodal comparison of pricing revenue spending and earmarking of revenues compensation measures technological implementation, protection of privacy exemptions from taxation and pricing enforcement strategies introduction of packages (stepwise, harmonised, ...) leverage points (energy tax vs. road pricing, ...) 	<ul style="list-style-type: none"> variable factors in the surveys 	General principles →key informant survey All factors →citizen survey →focus groups and group discussion	
(5) Level of information	<ul style="list-style-type: none"> degree and type of information on the charging package (see the respective factors) importance of information for each factor 	<ul style="list-style-type: none"> fixed factors for the surveys important for segmentation 	→ focus groups also partly covered in (1)	
(6) Individual perception	<ul style="list-style-type: none"> awareness of transport problems (congestion, environment, accidents) individual attitudes and preferences perception dimensions: fairness, appropriateness of the pricing package for achieving the pricing aim, pricing just seen as another form of taxation awareness on losers/winners 	<ul style="list-style-type: none"> fixed factors for the surveys important for segmentation 	→ citizen survey (partly) → focus groups	
(7) Regulatory and institutional framework	<ul style="list-style-type: none"> general transport policy institutional organisation (for example: legal and revenue competence of taxes and charges) degree of state intervention 	<ul style="list-style-type: none"> background for acceptability fixed factors for the surveys important for segmentation 	→ key informant survey → focus groups and group discussion	

Source: PATS Consortium.

Table 2: Pricing measures in the PATS-surveys

Measure	Current practice	Measure was assessed in:		
		Key informant survey	Citizen survey	Quick Delphi survey
Urban road pricing	Applied in Norwegian cities (Oslo, Trondheim) planned but failed for Stockholm	3	Package 5: Urban Road Pricing (Attitude survey: NL, UK; Stated preference survey: F, S)	Package 6: Reduction of congestion and environmental impacts in urban areas
Interurban road pricing	Motorway tolling, applied in F, I, ES, PT Road pricing for HGV applied CH Road pricing for HGV planned in A, D	3	Package 4: Interurban Road Pricing (NL, A)	Package 1: Total infrastructure cost coverage based on 'user pays principle' (A, NL) Package 2: Total highway infrastructure cost coverage based on 'user pays principle' (A, D) Package 3: Efficient use of inter-urban infrastructure (S)
Rail track access charges	Applied in UK, D, A, CH, F, NL	3	not directly relevant for citizen's acceptability	Package 1: Total infrastructure cost coverage based on 'user pays principle' (A, NL) Package 3: Efficient use of inter-urban infrastructure (S)
Fuel taxation -road	Traditional instrument, applied in all European countries	3	covered in package 2: Ecological tax reform	Package 2: Total highway infrastructure cost coverage based on 'user pays principle' - reduction of fuel taxation in case of road pricing (A, D) also part of packages 4 and 5
Fuel taxation -air	New instrument, not applied due to international regulatory framework	3	not directly relevant for citizen's acceptability	Package 4: Reduction of environmental impacts (A, F, S) Package 5: Reduction of CO2 emissions (climate) (D, S)
Fuel taxation -waterborne	New instrument, not applied due to international regulatory framework	3	not directly relevant for citizen's acceptability	Package 4: Reduction of environmental impacts (A, F, S) Package 5: Reduction of CO2 emissions (climate) (D, S)
Parking pricing	Traditional instrument, applied in all European countries Workplace parking charges under discussion in some countries	3	Package 3: Workplace parking charges (UK)	
Road vehicle taxes	Traditional instrument, applied in all European countries	3	in several packages contained as 'reduction of other road-related taxes' as compensation for road pricing, environmental charges etc.	
Environmental charges	New instrument, applied in S (CO2-tax), in CH included in Road pricing for HGV	3	Package 6: Environmental charges on air pollution (Stated preference survey F, S)	Package 4: Reduction of environmental impacts (A, F, S) Package 5: Reduction of CO2 emissions (climate) (D, S)
Ecological tax reform	New instrument, applied in D	3	Package 2: Ecological tax reform (D)	Package 4: Reduction of environmental impacts (A, F, S)
Public transport pricing, zone- and time-differentiated	Zone-differentiation applied in F, D, UK (London), the Netherlands (Stripcards) Time-differentiation not applied in EU so far	3	Package 1: Public transport pricing - fare related to the time of the day (D, A)	
Others: for example road vehicle insurance, charges for air and waterborne transport	Partly traditional instruments (road vehicle insurance, start and landing fees at airports)	3		Package 1: Total infrastructure cost coverage based on the 'user pays principle'

Source: PATS Consortium.

2. COMPLEXITY OF ACCEPTABILITY ISSUES

Today transport pricing can be considered a promising approach to solve congestion, environmental, financing and other problems but the actual use of pricing instruments in transport policy is still limited¹². The practical implementation of changes in transport pricing encounters heavy reluctance, revealed in empirical findings of this and other research work, building upon the following most common arguments:

- We have to pay for what was previously free;
- It leads to an excessive privilege to the wealthier elements of society;
- No firm guarantees are given for a fair and efficient use of revenues;
- It poses a threat to citizens' privacy.

The analysis of the opposing arguments to the transport pricing proposals included in the Commission's Papers¹³ reveals a number of additional prerequisites that seem to be of high relevance in terms of public acceptability. These include:

- The equal and fair treatment of all transport modes and all sectors of the economy;
- The implications of transport pricing on European competitiveness and the social and economic environment;
- The qualification and quantification of transport costs;
- The adequacy of the pricing mechanisms to create a significant modal shift from the road to more environmentally friendly modes;
- The availability of the technology for accurate transport charging;
- Fair and equal treatment of users;
- Integration of transport pricing with other policies (e.g. urban planning/land use, regional policy, etc.).

These arguments show that the acceptability of transport pricing is as dependent on practical/functional issues, convictions and beliefs of the stakeholders as on its economic principles and foundations. These attitudes may differ between people and between different groups of stakeholders since the way a measure is perceived to impact on the daily lives of an individual might heighten or lower its acceptability. Whenever a measure is perceived to force behaviours not in compliance with usual habits there is a strong potential to develop resisting patterns, unless advantages of those changes are made very obvious¹⁴. If resistance is the option then the pricing measure can have unintended, and sometimes uncontrollable, collateral consequences and even totally fail to meet its objective.

It is also worth noting that not only the fairness of the price determination but even more the magnitude of the price has a major influence on its acceptability. Consequently, transport cost calculation, which is at the basis of a fair and efficient price is also one of the aspects to consider as of utmost importance. However, the fields of transport costing and pricing (especially for externalities and infrastructure) seems to be a very sensitive one as several methods and procedures followed throughout Europe are likely to produce significantly different results¹⁵. These methodological uncertainties and disputes have to be mitigated and the evaluation process should be made coherent and transparent. Other EC funded research

¹² OECD, 1989 and 1994, Frey and Schneider 1997.

¹³ Analysis of reaction letters from stakeholders (individuals and organisations) done in the framework of this research project.

¹⁴ Lippman, 1997.

¹⁵ PETS, 2000.

projects¹⁶ are expected to bring new insights into this discussion by proposing a cost calculation methodology and the implementation of harmonised national transport accounts that will enable future comparison between countries and consequently between citizens (stakeholders) of different countries.

Knowledge about the purpose of pricing measures and about details of a pricing scheme is also a precondition for successful implementation. Several studies have shown that known measures are more accepted than less known ones¹⁷. However, also pricing measures that are accompanied by high-quality information campaigns may not be accepted. Thus, information is necessary, but does not constitute by itself a guarantee for successful implementation of pricing measures.

Sophisticated technical systems also play an important role in the enhancement of fairer and more efficient pricing. However, they may also impose constraints in terms of acceptability due to complexity, lack of transparency, potential for violation of privacy and mistakes, efforts imposed on the users, etc. This means that among all the factors that contribute to 'build' the acceptability of a new pricing policy, the technical features of the system are extremely important as they are normally one of the elements of the system in the front line of users contact and as such having itself the potential to tarnish the acceptability of any pricing scheme.

Finally, the careful choice of which authority regulates, implements and administers any pricing measure and the legitimacy that an agency has in the eyes of the stakeholders may also improve acceptability. Revenues from pricing schemes attributed to the local authority may enhance the willingness of people to pay because they expect a direct advantage from their application. Also, the trustworthiness of the local administration may be superior to that of the central government as decision makers are closer to the field and also can be felt as more familiar to stakeholders interests. Different authorities have also different potentials to integrate a pricing measure with other policies to reduce congestion, accidents and pollution as well as to co-ordinate between different agents, or even different levels of decision-making, which again constitute important elements in terms of acceptability.

However, and beyond the empirical analysis of stakeholders' reactions, to fully tackle the dimension of acceptability problems there is still the need to dig deeper into the psycho-sociological background of this concept in order to prevent inconsistencies of interpretation. The difference between 'what is acceptable' and 'what is accepted', which are very often mixed up concepts, are good examples of this potential risk of biasing the analysis.

The question whether a measure is accepted or not can be answered through two different approaches. On the one hand, a measure could be considered as being accepted if the target person or target group states it would accept the measure (*attitudinal acceptance*). This definition has a rather hypothetical character and is, as the name indicates, based on declared positive attitudes towards a measure. On the other hand, according to a more rigid approach, it could be argued that a measure is accepted if the behavioural response of the target person or target group proves it (*behavioural acceptance*). In contrast to the attitudinal acceptance, this is an ex-post point of view, which implies that the desired and envisaged behavioural response pattern has to be defined beforehand. Both concepts have advantages and disadvantages: While the attitudinal acceptance is a rather hypothetical concept and has to rely on declared attitudes, choices and preferences, the behavioural acceptance can easily lead to a misunderstanding of behavioural responses as acceptance although the responses might rather reflect necessities or non-choice (i.e. capture) situations.

In the PATS research the term 'acceptability' instead of 'acceptance' is used in order to avoid confusion about the two concepts mentioned above. The term 'acceptability' used hereafter is thus based on the *attitudinal acceptance* definition, although drawing the line even somewhat broader and extending the questions from whether a measure would be 'accepted' to whether a measure is perceived to be 'acceptable'.

¹⁶ E.g. FISCUS 2001, and UNITE (on-going research project).

¹⁷ Franzen, 1997.

The complexity of the acceptability concept *per se* is well demonstrated through the theory of planned behaviour that identifies the following main determinants for policy acceptance (see Figure 2) and respective conceptual definitions:

Attitudes¹⁸

Does the stakeholder want to accept the new measure? Attitudes in relation to transport pricing are being formed by what are the effects on transport behaviour of the actor and transport in general (cognitive or rational response) and what does the actor feel regarding transport pricing.

Social norms

Does the environment of the stakeholder (friends, colleagues, family, other stakeholders etc.) want him or her to accept? What would be the balance of his/her attitude towards the values of the group of belonging?

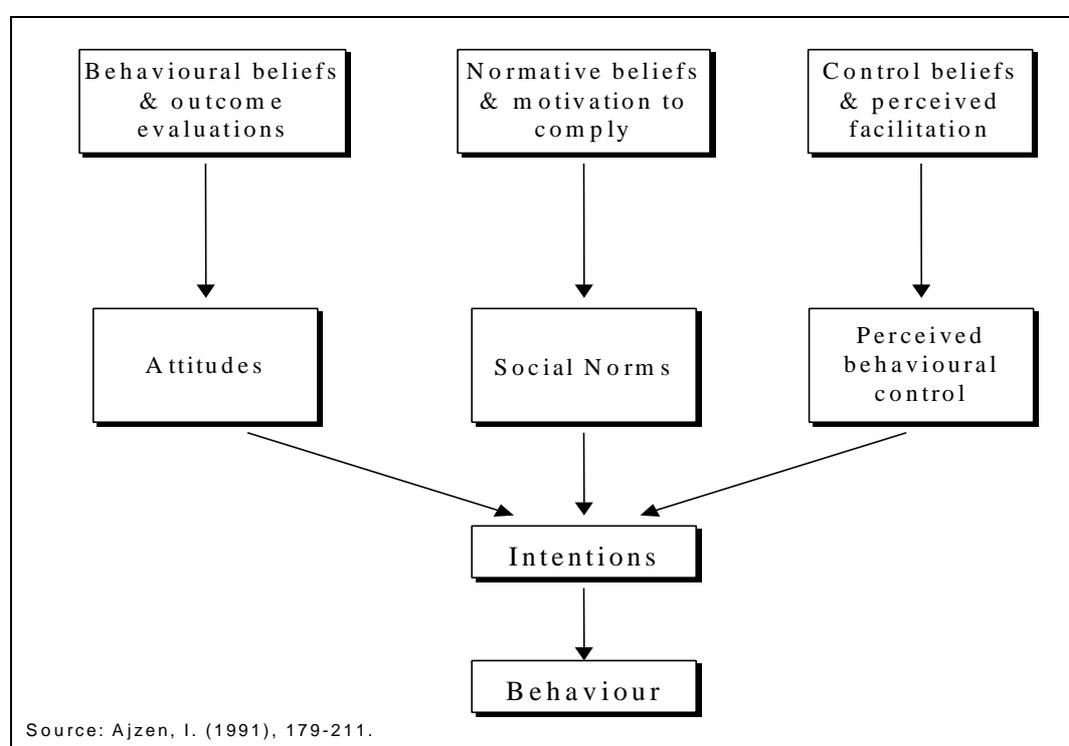


Figure 2: Main determinants for policy acceptance

Self perception of effectiveness of own behaviour

Does the stakeholder dare to accept, does the stakeholder think he can accept? Self perceived effectiveness is dependent on the knowledge and experience of the actor in previous more or less comparable situations and the means needed for the actor to implement the change of behaviour¹⁹.

These three factors influence the intention towards certain behaviour. Two extra factors that are equally important in a complex process like the implementation and acceptability of transport pricing are: the **complexity of the change** and the **way in which the process of change is managed**.

Transposing this theory to the field of transport pricing, which integrates an extreme complex process characterised by many different stakeholders, provides enlightenment on the fact that there is no

¹⁸ Eagly & Chaiken, (1993).

¹⁹ Ajzen & Madden, (1986), Fishbein, (1967).

assurance of an automatic and irreversible relation between attitude and behaviour. Attitude towards pricing is controlled by salient beliefs about certain aspects and/or elements of the pricing system, while ignoring others and basing attitudes solely as a function of these targets.

Public acceptability is thus a complex problem, as it requires the joint consideration of a number of scientific areas, in particular economic, social, technological, legal and even managerial aspects. At the top of all these aspects one can still add the fact that the analysis of acceptability implies the observation and control of a dynamic process of change. Within this process we have, on the one hand, the individual interests of each citizen and her/his perception of advantage and disadvantage, resulting from the implementation of any pricing policy and; on the other hand, the organised interest groups, who besides the weight of their public reactions have their lobbying power to be considered.

Indeed, this multidimensional characteristic of acceptability has to be addressed in the static and dynamic perspective. That is, while introducing a pricing policy it is necessary to consider not only the absolute effect over each stakeholder personality at that moment but also the marginal effects on the social and economic statute of those personalities after implementation and along time. This means that the impact of change must be assessed in the short and long run and monitored along the lifetime of any pricing measure.

This leads to the conclusion that acceptability deals, on the one hand, with individual selfish interests and, on the other hand, with a game between different levels of power, resulting that the groups with a significant power are unlikely to suffer strong prejudice.

Transferring the above to the political decision making scenario leads to the conclusion that acceptability problems have to be treated considering an interaction between political effectiveness, here understood as the capacity of accomplishing the proposed objectives, such as: economic efficiency in production and consumption, equity and social fairness and, last but not least, feasibility of implementation.

3. SOCIO-ECONOMIC COMPONENTS AND INFLUENCING FACTORS OF ACCEPTABILITY

3.1 MAIN COMPONENTS AND INFLUENCING FACTORS

3.1.1 ECONOMIC ASPECTS

From previous research results that economic efficiency is at the heart of the transport pricing policy at European level. Over the last decade or more the European transport related policy papers were particularly focused on inducing the use of the concept of social marginal cost pricing in transport policy and the few national transport related policy documents encountered and analysed within the PATS research confirmed this trend. In academic circles economic efficiency in transport pricing is considered an essential requirement and social marginal cost pricing is strongly defended, even if the latter is not devoid of critical positions.

From the analysis of the reactions to the Commission Green and White Papers on transport pricing²⁰, stemming from all types of entities such as hauliers, the industrial organisations, vehicle constructors, shippers, governments, regional and bodies, private entities, academics, environmental organisations and other NGO, it also became evident that the economic foundations of pricing have a certain relevance for the acceptability of transport pricing. Among the critics and opposing arguments doubts are raised on the appropriateness of the underlying pricing principles (e.g. marginal cost pricing versus total cost coverage) and the effectiveness of pricing instruments are frequent. Marginal cost pricing is normally not criticised *per se* but in relation to its basis and the methods used for cost identification, evaluation and quantification. It has to be added that this analysis also showed that the economic background of pricing is often a major source of misunderstanding, confusion and resulting opposition, frequently due to a lack of information and understanding.

In the PATS project a deeper analysis of efficient infrastructure and public transport service pricing was carried out since it was assumed – and later confirmed in the empirical work – that the linkage between optimal pricing and optimal investment influences acceptability in the sense that the price is less questioned if it reflects the existence of a related service.

Due to the fact that the economic background of transport pricing is normally more difficult to understand for the broad public, the empirical work did not open an academic discussion but tackled economic issues in a very indirect way, with the exception of one question in the key informant surveys where participants were directly asked to match the pricing principle with the purpose of a pricing scheme. From these answers it became clear that there is a requirement for the choice of the correct and sensible pricing principle for certain pricing purposes. While in the key informant surveys and the group discussions the user-pays principle appeared as easily acceptable, in the citizen surveys it received little support. Again, this rejection may hide a large degree of misunderstanding and confusion about the exact scope and consequences of this principle.

An implicit acceptance of the marginal cost pricing principle could be seen in the general preference for variable charges and a widespread favour for differentiation with respect to time, noise, air pollution, quality of service, etc. wherever possible and sensible.

A further pre-condition for acceptable pricing policies is the effectiveness of measures. Interviewees in the different surveys were generally aware of transport problems but did not believe that pricing and taxation could solve them. An objective control whether the promised effects have been achieved was also considered as necessary.

²⁰ Green Paper Towards fair and efficient pricing (1995) and White Paper on Fair Payment for Infrastructure use (1998).

These theoretical and practical findings throughout the PATS research confirm that economic efficiency is an important requirement in transport pricing but that it is not heavily and broadly questioned at least in relation to its theoretical basis. It also confirms a conclusion advanced in a previous report of the project²¹ that considers acceptability of transport pricing more dependent on practical issues, convictions and beliefs than on its economic principles and foundations, which are considered as quite solid. The absence of a large and widespread debate on economic efficiency may be partly due to the complexity of this issue for the common citizen.

Nevertheless, empirical surveys reveal that acceptability of price changes is likely to be increased if:

- The principles underlying transport pricing are sensible, i.e. match the purpose of the pricing scheme, and are appropriately communicated to the different stakeholders;
- The basis and methods for cost identification, evaluation and quantification in relation to marginal cost pricing are sound, transparent and well understood;
- The price reflects the existence of a related service;
- The scope and consequences of the user-pays principle are appropriately communicated to the different stakeholders;
- Prices are variable, appropriately and sensibly differentiated.

The effectiveness of pricing measures is much more controversial and may lead to the conclusion that an important requirement for the acceptability of transport pricing seems currently not yet given. Some caution with this interpretation is necessary since people often state that they do not consider a measure suitable for solving a problem because they generally do not like the measure, just like they will not express themselves if they do not consider that problem as regarding them. Moreover, appropriate information and awareness raising can certainly contribute to mitigate resistance based on perceived effectiveness and make stakeholders perceive the measures as effective and suitable to solve transport related problems.

3.1.2 SOCIAL AND POLITICAL ASPECTS

Efficiency and fairness are central concepts for the implementation of pricing in transport systems. The first justifies the entrepreneurial attitude of decision-makers when defining and implementing pricing measures, the second covers an important part of what can be considered as the constraints to implementation.

The central assumption of this research is thus that acceptability relies at least on efficiency and fairness conditions, meaning that a policy measure that is perceived to be insufficiently efficient and insufficiently fair is doomed to be rejected. The corollary of this assumption is that in order to be acceptable a transport policy must at least reach a minimal degree of efficiency and fairness. But, there is no identity between these concepts, and the first does not automatically involve the second.

While efficiency in its economic meaning relies on a rather sound theoretical basis, fairness and equity are often understood as fuzzy concepts since they heavily depend on individual perceptions and values. A number of opposite reactions regarding the way these concepts are handled in the policy measures proposed in the Commission Green and White Papers were identified during this research, and provide evidence of that fuzziness. These include:

- Critics about and excessive focus on road transport and the request for and equal treatment of all modes (e.g. through the introduction of the same pricing principle) and sectors in order to avoid unfair competition (i.e. intermodal fairness);

²¹ Deliverable 1 PATS research.

- Fear about the exclusion of less well-off parts of the society from a good that was previously free (i.e. end-state social fairness);
- Worries about people in remote regions (i.e. geographical fairness);
- Claims that regulatory instruments had the advantage of eliminating all forms of pollution above a certain level, without discriminating on the basis of income (i.e. business and economic fairness).

Equity is a concept that has gained dominance in the industrialised societies, often being preferred as a distributional principle to rule economic relations or relations where an exchange of goods or contributions is the main concern, such as the case of all public services. Some authors argue that educating people as equity minded is a determinant contributor to the growth of performance-oriented societies. The concept is born in social psychology and is seen as a motivational theory as perceived inequity may lead to feelings of guilt (when favoured) or anger (if others are perceived as favoured) often leading to reactance, the degree of which mostly depends on personal goals and style. In practical terms, equity is often understood as distributive justice (or fairness) entailing three possible main (alternative and frequently conflicting) rules for a just distribution: equality, meaning that everyone gets the same share of what is at stake; equity (*strictu sensu*), meaning similar personal input-output ratios between costs or contributions and accrued benefits; distribution based on needs or requirements, meaning everyone gets according to his needs or requirements²².

Two different interpretations can be found in the economic literature for the fairness concept: the procedural notion of fairness based in the equity of opportunities offered and the type of access provided to an economic process; and the end-state fairness based on the assessment of the state in which individuals or institutions emerge from an economic process.

According to Baumol²³ the fairness concept is based in the value of the utility function that each individual attributes to a specific good (or service). This definition highlights the fact that the fairness concept assumes the existence of asymmetry of information and that the individual judgement is done disregarding the utility valuation of the other parties involved. Following this reasoning this author states that fairness in a pricing arrangement depends heavily on consistency with the practices of the past to which people have become habituated.

One problem of the fairness analysis is to select one 'most equitable' solution among the available existing possibilities given the individual utility functions of the parties involved and the misinformation that each part has on the preferences of the other. The determination of the optimal 'most equitable' solution is a very difficult task given all uncertainties involved in the process. Despite this an alternative that has been defended by some authors is to look for fairness regions instead of looking for an optimum of the fairness function. That fairness region can be thus bounded by acceptability constraints to be defined on basis of socio-economic theories.

From the political viewpoint the discussion on fairness aims at finding tools able to determine the level of equity of a specific proposal or institutional arrangement. The main question for decision makers is whether a specific option is fair or 'fairer' than other alternatives, and to which extent this affects public acceptability of the measure aimed to be implemented. In this perspective the work by Giuliano²⁴ provides a consistent solution to articulate equity and fairness concepts, by defining equity as the distribution of costs and benefits of a measure, that is equity can be thus understood as a distributional dimension of fairness. Several studies have been devoted to analyse these distributional effects, in particular for road pricing²⁵.

²² Schade et al., in AFFORD Deliverable 2C to the EC.

²³ Baumol, 1986.

²⁴ Giuliano, 1994.

²⁵ Such as Else 1986, Cohen 1987, Small 1983.

The literature review confirmed the importance of the fairness perception in terms of acceptability and available studies have identified similar equity concerns as a major barrier to acceptability²⁶. Under the rather fuzzy term of fairness several attitudes expressed in different studies can be summarised. Examples of such statements are ‘Road pricing is unfair’²⁷ in a sense that social disadvantaged groups and regional areas might be losers when pricing implementation is considered, that is equity concerns. Other statements like ‘Road pricing is just another form of taxation’, refer to fairness through the question of revenue collection and spending. And finally, the feeling of being penalised for an already worse situation (being charged for congestion) also has its roots in fairness considerations. Also the results of the PATS empirical surveys provide arguments for validation of the importance of fairness and equity perception to enhance acceptability.

Evidence was found of a widespread belief that transport is already too heavily taxed, which is reinforced by the conviction that governments are not always sufficiently transparent or straightforward in their motivations to increase transport prices. This can be interpreted as a lack of focus on the explanation of the concrete goals of the measures to be implemented, hindering the ability to perceive accruing benefits.

In support of the same interpretation evidence was also found that, in so far as respondents had a positive attitude towards pricing measures, their strong preference in all countries and with respect to all policies included in the surveys was for the re-investment of revenues in the transport sector in general, and in particular on improving public transport, which resulted as strongly valued by the respondents, while strong opposition was shown to use those revenues outside transport. From this one can conclude that, whilst pricing measures were generally unpopular, this can be enhanced by a suitably configured package, where revenues are spent on measures directly related to improving conditions within the transport sector, enabling users to perceive a direct benefit. The importance of an adequate use of revenues is also emphasised in several studies summarised in previous PATS reports²⁸. In support of this conclusion a study²⁹ carried out in Germany provides evidence that without considering the use of revenues, road pricing shows significant regressive effects and that final conclusions of the distributional impacts strongly depend on the use of revenues.

The idea of using the revenues raised from pricing measures for predetermined purposes (including cross-subsidisation) calls also into discussion the concept of earmarking, which according to previous research results has little relation with efficiency and can only be justified from a specific distributional³⁰ or acceptability point of view. However, the importance of earmarking for acceptability reasons was explicitly confirmed in the key informant surveys and in the citizen surveys, what can be interpreted as a strong willingness to keep some control over the application of revenues, and thus over potential benefits, if pricing measures are to be implemented. In parallel, policy-makers prefer collecting revenues for the general budget, which might justify the widespread suspicious revealed in the PATS surveys on government motives for transport pricing.

Both the citizen surveys and the focus group discussions have clearly shown that mobility is seen as a basic right. The key informants mentioned this as one main argument against transport pricing, too. In particular, roads are considered as a basic public service to which people are entitled. Consequently, there are strong attitudes against being charged for something for which people feel that it has to be provided for free.

It also resulted from the surveys that perceived fairness has to do with the question of whether pricing measures are introduced on top of already existing taxes and charges or not, which shows that there is a strong feeling of an additional burden. In the focus groups, for example, both car drivers and public transport users stated that car drivers already pay enough or even too much. The citizen surveys yielded a

²⁶ Teubel (1997).

²⁷ Jones (1998).

²⁸ Schlag, Bernhard (1998), Jones (1991).

²⁹ Teubel (1997).

³⁰ E.g. FISCUS, D1.

similar result, and also the key informants stated that one important acceptability factor is that pricing measures should not be introduced as additional burden for the users.

On the other hand, fairness considerations do not only refer to the issue of additional burden but also to the question of who should pay. The results of the different surveys on this issue are to some extent contradictory. A general agreement through all types of responses is that the price should reflect the real costs of transport. However, there are diverging opinions on the treatment of more environmentally friendly modes. For example, the key informants partly suggested that these modes should pay less while others suggested an equal treatment of all modes. The respondents in the focus groups on passenger transport and in the freight group discussions argued that pricing was aimed at reducing emissions and insisted that therefore all polluters should pay. The citizens expressed a strong agreement for charging lorries higher than cars and for introducing lower charges for 'green modes', however coupled with little support for 'user pays' principle.

This calls into the discussion the exemption issues, forms of shielding from the full extension of the price level and other compensation or accompanying measures. In the reactions to the Green and White Papers the 'need for exemptions, price reductions and discrimination in order to promote the 'equity' and 'fairness' perception in particular situations' was frequently underlined. The literature review showed similar findings, and the PATS surveys (in particular the key informant survey and the group discussions) have stressed their importance, too. Participants with higher income levels in the focus group discussions stated that they would accept compensation measures for people with lower incomes but only as long as the taxation level remains stable. While it seems in principle to be clear that disadvantaged citizens in the sense of low-income people should be compensated it was less clear whether disadvantaged regions should be compensated, too. Furthermore, while the Delphi panel rejected compensations for the freight business in form of reducing regulatory restrictions, the representatives of the urban freight sector in the discussion group stated that the only way of gaining any kind of acceptance would be to compensate this sector, for example, with a reduction in restrictions.

An important dimension of this issue, which mainly resulted from the reaction to the Green and White Paper and the empirical work, is also the existence of reasonable alternatives to the mode/route charged. As already referred, both the focus group discussions and the citizen surveys have shown that people value public transport strongly. However, they state at the same time that it was too expensive and/or not frequent enough to replace private transport.

The concerns on fairness and equity identified in the results of the PATS surveys can be conceptually synthesised into the following dimensions of equity:

- **Territorial equity (or aggregate equity)** – corresponds to the 'principle of liberty', in which the society must guarantee everywhere the access to goods and services, thus avoidance of social exclusion, implying the consideration of the right to free mobility;
- **Horizontal equity (or procedural fairness)** – corresponds to the 'principle of equal opportunity', which concerns the equal treatment between users/modes and the user pays principle, implying a better coverage of the costs by users (cost recovery);
- **Vertical equity (or end state fairness)** – corresponds to the 'principle of difference of distribution', which explicitly takes into account the inequalities between affected user groups and the respective consequences in relation to transport.
- **Longitudinal equity (or dynamic equity)** - which represents everybody's goal of no decrease in previously available benefits (entitlements) and corresponds to one of the major trade-off difficulties in modern developed societies.

3.1.3 TECHNOLOGICAL, FUNCTIONAL AND PRACTICAL ISSUES

The analysis of the reactions to the Commission Green and White Papers carried out in deliverable 2 revealed that the concrete material configuration of the pricing systems is very important to ‘build’ the acceptability of a pricing policy. The following types of concern were common:

- Road pricing schemes imply very high transaction costs;
- Doubts about the reliability of technology to implement road pricing;
- Legal problems related to the non-payment of charges;
- Current unavailability of technology for accurately measuring and charging the road use to the single user.

In literature³¹ this is confirmed, for example, by the statements ‘The technology involved in electronic road pricing will not work,’ referring to lack of confidence of users in the reliability of the systems and ‘Electronic road pricing can result in unacceptable pricing issues’ referring to lack of assurance of privacy.

The review done³², although not being the core focus of the PATS research, highlighted that sophisticated technical systems may be necessary to correctly implement social marginal cost pricing and thus to contribute to enhance fairer and more efficient pricing. However, these systems may impose constraints in terms of acceptability due to complexity, lack of transparency, potential for violation of privacy and mistakes, efforts imposed on the users, etc.

Under the functional profile, transport pricing is mainly characterised by the price determination, the payment itself and some form of control. Price determination depends largely on the object of the transaction and the price structure. The payment function is strongly influenced by the moment of time in which it is carried out and the instrument. The characteristics of the control function are often determined by the point at which the control is carried out. A pricing system may also lead to the identification of the client and the registration of the transaction. Based on this the following functional elements of pricing systems were identified: object of the transaction; price structure; moment of payment; payment instrument; point of control; identification; registration of transaction.

With the previously identified ‘acceptability requirements’, on the one hand, and the functional dimensions, on the other hand, a matrix was developed to highlight the different relationships that exist between the functional elements of pricing systems and the ‘acceptability requirements’.

This matrix is used to identify the potential of each functional element to influence the different ‘acceptability requirements’ and to determine the elements of each pricing function that are most suitable to be influenced in order to enhance acceptability. The matrix was filled in on the basis of expert judgement. The experts determined the impact that each functional element of the pricing process is likely to have on each of the above-mentioned ‘acceptability requirements’, by rating the first in relation to the latter on a scale from 1 to 5 (1= very low potential to influence and 5 = very high potential to influence ‘acceptability requirements’).

The matrix constitutes a valuable tool to systemise the reasoning process of the decision-maker that is faced with the analysis of available options for a pricing instrument in a concrete environment, by providing indications on the intensity (not the direction, which can only be assessed for a concrete instrument and context) of the impact of each technical-functional option to choose.

³¹ Schlag, B., Teubel, U. (1997) view the ‘intrusion on privacy as another obstacle to the acceptability of travel demand management measures’. According to the authors, electronic charging of road use, parking tolls and the employment of integrated payment systems induce people to fear for their private sphere and the abuse of their personal data. In Hong Kong (Hau, T.D. (1990)) doubts about data protection and data abuse were one of the main reasons why a successful electronic road pricing demonstration project carried out in the 80s was not followed by large scale implementation. It also resulted that part of the people feared a technological driven future and believed that technology can and will fail.

³² PATS – Deliverable 2.

Acceptability requirements	Fairness	Reliability		User friendliness	Transparency		Privacy	Operating costs	Compliance
		Price setting	Collection		Ex-ante information on price	Ex post Information on price paid			
Object of transaction	4	2	1	4	3	2	1	4	2
Price structure	5	5	2	4	5	2	1	5	2
Moment of payment	1	4	5	5	4	1	4	5	4
Payment Instrument	4	1	4	5	3	3	4	5	3
Point of control	4	4	1	3	1	3	1	5	5
Identification of client	2	1	1	4	1	1	5	3	5
Registration of transaction	2	3	3	3	1	5	4	3	4

Figure 3: Matrix of functional elements

In this context it must be recognised that the different functional dimensions are strongly interrelated. For instance, the possibility of registration of the transaction (i.e. the provision of a receipt or access to a database) may depend on the point of control, the identification of the client and the payment instrument. Thus, if the aim is to increase transparency through the registration dimension, all these elements are at stake.

Therefore, the following acceptability requirements for technological equipment supporting pricing systems should be considered in the light of the different moments of interaction with users, that is the functional elements:

- Fairness or equity, to be understood as the capacity of the pricing system to treat people in the same situation equally and people in different situations differently. This requirement depends strongly on the capacity of the system to differentiate according to use, time, type of user, local situation, etc. and to deal with exceptions;
- Reliability in setting the price means low or no possibility for error or unintended fraud, e.g. calculating errors as well as deceiving practices (e.g. influencing the price determination process with wrong input data) in the price determination process;
- Reliability of the system in fee / fare collection requires a low probability for errors in manual cash handling or automated debiting of the payable amount (e.g. collection of the wrong amount) or a low possibility of cheating (e.g. using plastic instead of real coins);
- User-friendliness in relation to the user is here understood in the sense of a transaction easy to be understood and quick and easy to be carried out (easy handling);
- Flexibility regarding methods of payment;
- Transparency and clearness are mainly related to the pricing structure, the amount to be paid and the amount paid, and thus with information provided to the user before effective payment;
- Protection of privacy, in the sense of non abuse of personal data during collection, storage and processing and non intrusion into the private sphere of individuals;
- Reasonable operating costs to be understood as the implementation costs for the service provider, such as expensive equipment for payment and control functions and the transaction costs for running

the system. These costs will necessarily have to be reflected in the final price, thus have also an impact on the acceptability by the users (public);

- High degree of compliance (e.g. no incentive for deceiving, no space for non-discovery of fraud, severe sanctions, easiness of enforcement).

Interoperability constitutes also a key element for the effective operation of pricing systems throughout Europe. It is clear that the perception of fairness is enhanced if everybody can use a system everywhere without additional burden, paying with the usual means of payment and acting according to similar procedures and rules. It increases the credibility and easiness to use the system and so its acceptability. The problems at stake besides interoperability in the technical sense, are the relationships between operators and harmonisation of operational procedures and practices, such as the harmonisation of possible payment means, the definition of vehicle classes, the uniformity of the enforcement rules and many other aspects³³.

Privacy issues are often believed to be a major obstacle for introducing road pricing. Apart from the fact that also electronic ticketing systems in public transport might give rise for privacy concerns, people are in various fields of daily life faced with effectively accepted privacy issues (e.g. credit cards, internet etc.). Therefore, in the empirical work it was particularly interesting to see how far the privacy argument was used as an argument to hide the 'true' reasons of not accepting charges. On the one hand about 40% to 50% of the interviewed citizens expressed fears that with road pricing schemes privacy would not be respected appropriately. On the other hand, the responses on the single pricing measures which contained in their description the pre-condition that data protection and privacy would be guaranteed did not contain privacy concerns as reason for non-acceptance of a package or measure. It seems therefore that although privacy protection is important for making pricing schemes acceptable it can be solved and does not appear to be a truly major reason to hinder acceptability, instead the argument is more used as a recourse one.

Literature indicates that in terms of practical implementation of a pricing scheme a necessary but not sufficient acceptability pre-condition is the perception and awareness of transport related problems such as environmental burdens, accidents, congestion and financing difficulties. This also requires that individuals are aware of their (share of) responsibility for these transport related problems.

The PATS citizen surveys have shown that there is an awareness of transport-related problems, in particular of environmental problems and congestion. This is confirmed by the key informant survey, too: only a minority of the respondents mentioned that external effects would be neglected by opponents of transport pricing. Thus, one necessary, however not sufficient, pre-condition to accept pricing measures seems to be met. However, it has to be borne in mind that there are different degrees of problem perception and awareness. Not all these probably different degrees will be sufficient to have a positive impact on acceptability. Exploring these different degrees across types of respondents (citizens, politicians, operators, interest associations) was not possible within the frame of the PATS project.

The literature review also highlighted that it is vital for the design of any transport pricing measure that in addition to devising a technically robust system an understanding of the role of the implementation process of that measure is developed.

Studies revised and summarised previously in the PATS research³⁴ suggested that public acceptability towards the introduction of transport pricing can be increased, among others, by appropriate information and education policies, marketing and media strategies that accompany the whole implementation process. It is mentioned that these strategies should be targeted at the different stakeholder groups.

All surveys done in the PATS project confirmed the importance of this dimension and showed that in combination with the need to understand the aims and principles of pricing policies, and in order to

³³ E.g. CARDME and MOVE-it Projects.

³⁴ PATS – Deliverable 1 (D1).

overcome citizens' suspicion in relation to government's intentions, comprehensive and professional information campaigns are necessary. In terms of implementation, all respondents from the key informant surveys and the Delphi panel emphasised that European harmonisation of transport pricing is necessary to ensure fair competition and thus important for acceptability. Furthermore, pricing measures should be introduced stepwise.

3.1.4 LEGAL AND REGULATORY FRAMEWORK

The research also looked into the ways in which responsibilities in setting transport prices, charges and taxes, administering pricing schemes as well as revenue allocating are distributed between different levels of authority (e.g. local, national, EU) and between authorities and other entities and how this can contribute to generate acceptability. The base assumption was that the definition and awareness on who decides on the introduction of a pricing scheme, its principles, its structure and rates, who administers it and in what organisational and regulatory framework it is embedded may be important elements in the success or failure of the same.

If people know that revenues from pricing schemes are attributed to the local authority in their place of residence and then reinvested locally, they may be more prepared to pay because they expect a direct advantage. In addition, people may often trust more a local authority than the central government, which generally is far away and towards whom a general feeling of less confidence was clearly reported.

The potential of an authority implementing the pricing scheme to integrate it with other policies to reduce congestion, accidents and pollution may also influence the success of a pricing measure to achieve its objectives. This potential is not necessarily given at all levels. The authority's ability to co-ordinate between different agents (authorities and operators) within the transport system is another element that may have a decisive impact on the ability of transport pricing to meet its objectives. This is not only an ability to co-ordinate external agencies, but also the ability to control a range of pricing and financing regimes that might often be implemented at the same time within a transport pricing policy. This may decide whether synergistic benefits are achieved from using various regimes and whether contradictory effects from a range of measures can be reduced. Again, such ability is not necessarily present or perceived to be present with all agents.

For this analysis a boundary between transport taxes (i.e. fiscal instruments such as fuel taxes, vehicle taxes), transport charges (e.g. parking charges, infrastructure charges) and pricing of transport operations (e.g. public transport fares, air fares) was drawn.

For taxation instruments it was concluded that it may be well accepted if the basic decision on its introduction – possibly together with the definition of some principles - is taken at international or European level, at least for global issues, such as a CO₂ tax, and this is justified in the light of the completion of the internal market and the assurance of fair competition between countries. Indeed, it will contribute to silence opponents that see in the negative implications of transport pricing / taxation on the competitive environment in Europe one of its major drawbacks. This, however, could contrast with the current constitutional and legal frameworks that normally attributes the fiscal competence to Member States at national level, with the exception of some minor local taxes. For local issues, the decision should be taken at that level, whenever possible.

The concrete implementation of a taxation scheme, on the contrary, seems to be best done at the lowest possible level of government. This respects not only the principle of subsidiarity – as already referred - but also gives the possibility of taking into account regional and local circumstances, which may otherwise be a major reason for opposition.

In terms of regulatory framework, the more decentralised the administrative structure of a country and the more important the autonomy of a certain area of the national territory, the more likely we can find fiscal powers at local or regional level.

In relation to transport charges the country reports in workpackage 1 showed that their introduction is normally decided by the public sector, while the concrete implementation, in particular the decisions on the pricing structures and rate levels, as well as the administration were with separate publicly or private owned bodies.

Again, if charges concern the whole Community, pricing principles should be set at that level, considering the possibility of some co-ordination with neighbouring countries. If a limited number of Member States are involved some form of co-ordination will be satisfactory. Decisions on the concrete price level and the details of implementation will be set at a lower level, while again some co-ordination or guidelines at a higher level may be necessary.

Pricing of transport operations may be within the responsibility of the public or the private sector. There may also be a suggestion by the private operator subject to approval by the public sector. Basically, it depends on the degree of liberalisation of the market.

It resulted that public intervention in this field was in most cases justified by the need to guarantee the provision of a 'basic' service at an accessible price for everybody. It was suggested that if these 'basic' services were provided in the free market, higher prices would be likely and higher prices normally mean more problems in terms of acceptability.

The reactions to the Green and White Papers did not pay much attention to the legal and regulatory pricing framework. It only resulted that the integration of transport pricing with other policies such as urban planning / land use and regional development is a major concern to stakeholders.

Both the focus group discussions and the citizen surveys revealed a strong suspicion with respect to governments' motives in increasing transport-related taxes and charges. This is often coupled with a feeling of resignation and fatalism that governments will anyway charge transport users without caring for the 'victims'. In general, people do not feel that they have a voice in the decision process on transport pricing which should clearly be an alerting signal for policy. At the same time this indicates ways to enhance acceptability.

From the key informant surveys it also resulted that well-known and traditional pricing and taxation measures are more acceptable than new ones. Of course there are differences between countries in relation to which measures are well-known. Most acceptable seem to be fuel taxes, road vehicle taxes, interurban road pricing (based on the tradition of motorway tolling in particular in France and in the South-European countries) and parking charges. Also the preferences for the types of entities being responsible for operating the schemes and retaining the revenues is strongly influenced by tradition and familiarity with the regulatory and institutional framework of existing pricing schemes. These framework conditions (for example from motorway tolling) are transferred to new pricing schemes (as for example to urban road pricing).

3.2 INTER-LINKAGES BETWEEN THE ACCEPTABILITY DIMENSIONS

From the research findings reported in the previous chapters it can easily be deduced that there are three main steps to consider in the analysis of stakeholders' degree of acceptability of transport pricing policies, being:

- The identification of the various actors involved or affected in all stages of the decision making process;
- The perception of the specific interests of those actors analysed as personalities;
- The power of influence of the different groups of actors and their potential for public reactance.

It also results very clearly that the perception of unfairness calls upon complex mechanisms of comparison, functions of the objective measure being analysed but also upon many other variables,

providing the evidence of an unavoidable conflict between economic efficiency objectives and the above-defined equity dimensions, as highlighted in figure 4 below.

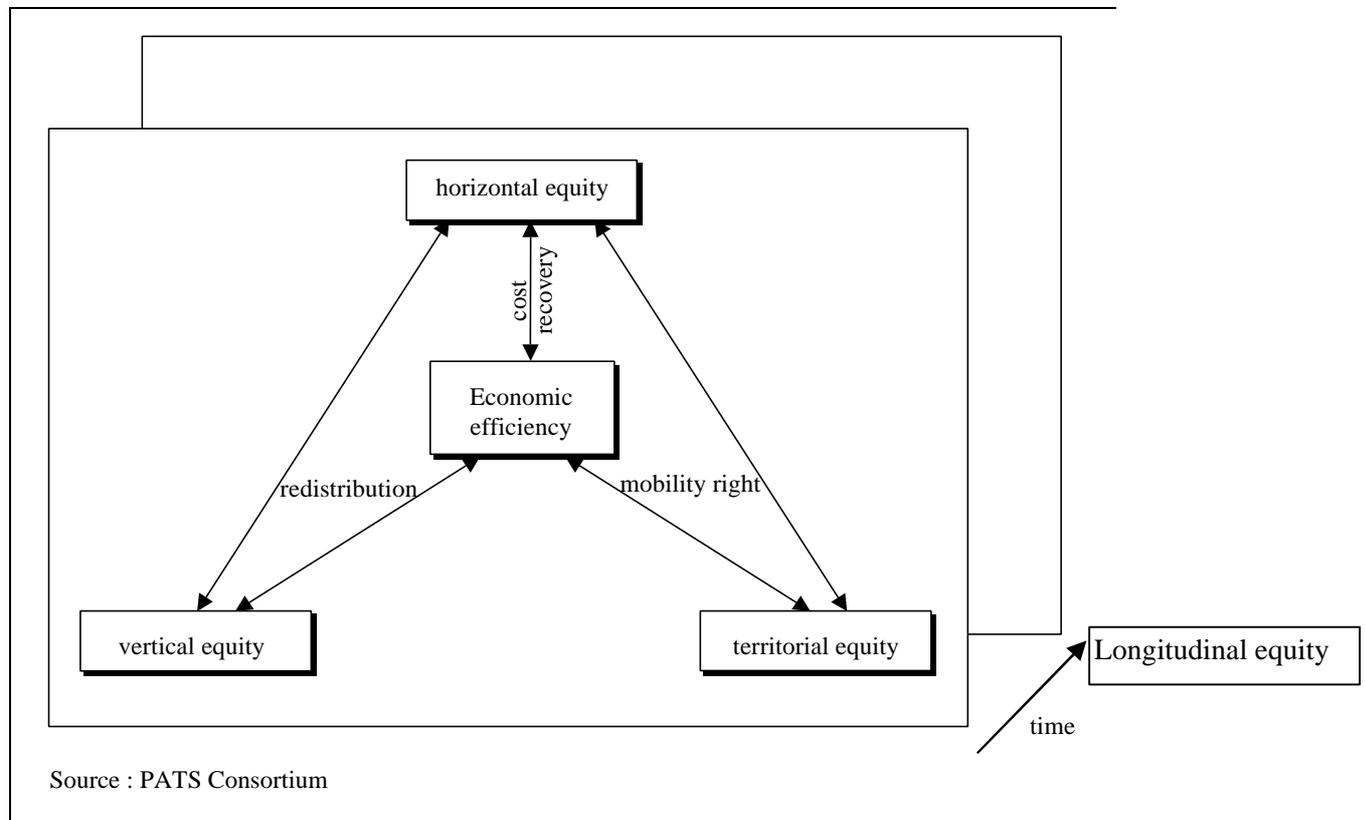


Figure 4: Relationships between equity dimensions and efficiency

Indeed, economic efficiency and horizontal equity can each one involve price increases going against vertical equity (attention paid to most penalised people). Conversely, vertical equity can require mechanisms of redistribution or compensations, which affect the economic efficiency of pricing and the principle of horizontal equity.

Economic efficiency and horizontal equity can also each one involve price increases going against territorial equity, with the consequence of affecting the right to mobility. Conversely, the preservation of this right can, for example, require investments and can also impose limits on prices, being likely to violate economic efficiency of pricing and the principle of horizontal equity.

Territorial equity or the principle of liberty implies the free exercise of the right to mobility of people and goods. On the one hand, the maintenance of this freedom imposes obvious limits on the increase in transport pricing and, on the other hand, this freedom remains contained within the limits of the general interest of the society.

Horizontal equity or the full cost principle implies a better coverage of the costs by the users. However, with pricing changes implied by this equity principle some actors concerned may consider themselves as losers comparatively to others (e.g. 'I pay more than the others with regard to the costs that I inflict and to the advantages that I bring to the society').

Vertical equity or the principle of care for the most penalised groups or areas implies that any policy, which is likely to worsen the situation of the most advantaged groups or the worst served areas, or even which openly does not aim an improvement of these situations is very likely to be rejected. It results from

this that the principles of allocation of revenues from pricing plays by their more or less distributive character a central role in the acceptability of pricing.

Longitudinal equity or everybody's goal of no decrease in previously available benefits, which can have no relation with efficiency or even be contradictory, however, is no less important when acceptability is analysed.

These dimensions of equity are indivisible from the perception of the fairness of a transport policy. The majority of these dimensions are related to the criterion of economic efficiency, which cannot be durably ignored. This set of contradictory constraints thus forms the framework of defining and managing transport policies, which aim at being both equitable and efficient. It results from these incompatibilities that the second best solution will be then an imperfect compromise resulting from the trade-off between economic efficiency and the dimensions of equity.

It is thus in the light of this complex context that the main findings of the PATS surveys have to be taken into consideration. Due to the great diversity of survey approaches adapted a quantitative cross-comparison of the findings from all surveys was not possible. Nevertheless, at least parts of the surveys were compared qualitatively as an empirical basis for the conclusions. This was possible with respect to attitudes towards/against pricing measures in general. Furthermore, some general findings also on acceptability of features and design elements of pricing packages could be concluded. These findings are summarised below, putting them into the context of existing literature on the acceptability issues.

Problem perception and awareness

The PATS citizen surveys have shown that there is an awareness of transport-related problems, in particular of environmental problems and congestion. This is confirmed by the key informant surveys. Only a minority of respondents mentioned that external effects would be neglected by opponents of transport pricing. Thus, one necessary, however not sufficient, pre-condition to accept pricing measures seems to be met. However, it has to be borne in mind that there are different degrees of problem perception and awareness. Not all these probably different degrees will be sufficient to have a positive impact on acceptability. Exploring these different degrees across types of respondents (citizens, politicians, operators, interest associations) was not possible within the frame of the PATS project.

Perception of efficiency and effectiveness of a measure

Although according to the survey results citizens are aware of transport problems they do not believe that pricing and taxation measures would solve them. These doubts were expressed both in the focus groups (doubts that higher pricing would deter drivers from using their cars) and in the citizen surveys (doubts that pricing measures will ease congestion). With this finding, one important factor for acceptability, which was also emphasised by the key informants as being important for making pricing schemes acceptable, does not seem to be given. However, caution with this finding has to be applied. Often people state that they do not consider a measure as suitable for solving a problem since they generally do not like it.

Mobility as a basic right – the problem of territorial equity

Both the citizen surveys and the focus group discussions have clearly shown that mobility is seen as a basic right. The key informants mentioned this as one main argument against transport pricing, too. In particular, roads are considered as basic public service to which people are entitled. Consequently, there are strong attitudes against being charged for something for which people feel that it has to be provided for free. An important dimension of this issue is also the existence of reasonable alternatives to the mode/route charged. Both the focus group discussions and the citizen surveys have shown that people value public transport strongly. However, they state at the same time that it was too expensive and/or not frequent enough to replace private transport.

Perceived fairness

As already mentioned fairness is a rather fuzzy term but obviously one of the most important dimensions of acceptability. According to the findings of the empirical surveys perceived fairness, on the one hand, has to do with the question whether pricing measures are introduced on top of already existing taxes and charges, e. g. whether there is a strong feeling of an additional burden. In the focus groups, for example, both car drivers and public transport users stated that car drivers already pay enough or even too much. The citizen surveys yielded a similar result, and also the key informants stated that one important acceptability factor is that pricing measures should not be introduced as additional burden for users.

On the other hand, fairness considerations do not only refer to the issue of additional burden but also to the question of who should pay. This leads to the question whether the user pays principle is supported. The results of the different surveys on this issue are to some extent contradictory. A general agreement through all types of responses is that the price should reflect the real costs of transport. However, there are diverging opinions on the treatment of environmentally friendly modes. For example, the key informants partly suggested that these modes should pay less while others suggested an equal treatment of all modes. The respondents in the focus groups on passenger transport and in the freight group discussions argued that pricing was aimed at reducing emissions and insisted that therefore all polluters should pay. The citizens expressed a strong agreement for charging lorries higher than cars and for introducing lower charges for 'green' modes, however, coupled with less support for charging those higher who use roads more than others.

General understanding of pricing, its objectives and principles

Understanding of the 'whys' and 'hows' of pricing can obviously be assumed to be a precondition (although not a sufficient one) for accepting such measures. The surveys have produced a differentiated picture on the general understanding of pricing measures by the respondents, although one has also to bear in mind that people are often not willing to understand measures, which they reject. Generally, the key informants were found to have a sound understanding of the complex interrelation between pricing purposes and the respective pricing principles appropriate to meet the objectives. In contrast to that, the focus group discussions have shown that transport pricing is not really understood by citizens, and that any increase of taxes and charges is seen as a form of money raising and considered as wrong. However, one should also be cautious to interpret this result as lack of understanding since obviously experience from the past and missing or poor information campaigns on the objectives of pricing might have led to this attitude.

Credibility of governments

Both the focus group discussions and the citizen surveys revealed a strong suspicion of citizens with respect to governments' motives in increasing transport-related taxes and charges. This is often coupled with a feeling of resignation and fatalism that governments will anyway charge transport users without caring for the 'victims'. In general, people do not feel that they have a voice in the decision process on transport pricing which should clearly be an alerting signal for policy. At the same time this indicates ways to enhance acceptability.

Information

All surveys showed that in combination with the need to understand the aims and principles of pricing and in order to overcome citizen's suspicion in relation to governments comprehensive and professional information campaigns are necessary.

Use of revenues

As other existing studies, the findings from the PATS surveys emphasise the importance of revenue use for making transport pricing more acceptable. Generally, all respondents, independent on the type of survey, expressed a strong preference for spending the revenues raised from transport user charges in the transport sector. This is also important to avoid the feeling of being a gigantic milk cow for money raising. In the key informant survey, the focus group discussions and in the Delphi survey diverging opinions on cross-subsidisation of other modes of transport were expressed. In the citizen surveys a slight preference for using the revenues to improve public transport was stated. This can be interpreted as the desire of citizens to have alternative transport modes with a good travel comfort if road transport is charged. Generally, it seems that the issue of revenue use in other modes than the charged one is highly dependent on the concrete pricing package to be analysed. In terms of acceptability it seems thus not sensible to have an automatism of cross-subsidisation when implementing pricing measures. Whether and to what degree revenues raised with pricing measures will be spent for other modes should rather be decided on a case-to-case basis.

Equity issues and compensation measures

Similar to the findings from literature, the PATS survey work and in particular the key informant surveys and group discussions have stressed the importance of accompanying/compensation measures. Participants with higher income levels in the focus group discussions stated that they would accept compensation measures for people with lower incomes but only as long as the taxation level remains stable. While it seems in principle to be clear that disadvantaged citizens in the sense of low-income people should be compensated it was less clear whether disadvantaged regions should be compensated. Furthermore, while the Delphi panel rejected compensations for the freight business in form of reducing regulatory restrictions, the representatives of the urban freight sector in the discussion group stated that the only way of gaining any kind of acceptance would be to compensate this sector, for example, with a reduction in restrictions.

Privacy issues

It is often believed that privacy issues are a major obstacle for introducing road pricing. Apart from the fact, that also electronic ticketing systems in public transport might give rise for privacy concerns people are in various fields of daily life faced with privacy issues (e.g. credit cards, internet). It was thus interesting to see how far the privacy argument is only used as an argument to hide the 'true' reasons of not accepting charges. On the one hand, about 40% to 50% of the interviewed citizens expressed fears that with road pricing schemes privacy is not respected appropriately. On the other hand, the responses on the single pricing measures which contained in their description the pre-condition that data protection and privacy would be guaranteed did not contain privacy concerns as reason for non-acceptance of a package or measure. It seems therefore that of course privacy protection is important for making pricing schemes acceptable but it can be solved and does not appear to be a major obstacle.

Most acceptable types of pricing and taxation measures in the transport sector

All surveys have shown that well known, traditional pricing instruments were easier to accept than new ones. Most acceptable pricing measures are for policy-makers and transport operators fuel taxes, road vehicle taxes, and interurban road pricing and parking charges. Citizens show in general a lower support for pricing measures than the policy-makers and transport operators. At this generally lower level of acceptance, citizens prefer rather parking charges and interurban road pricing. Urban road pricing and in particular congestion charges are least accepted.

Generally, the respondents in all surveys prefer variable charges, which should be differentiated with respect to time, noise and air pollution, quality of service etc. Important for making pricing schemes acceptable is furthermore to include all users of a mode, which means for road transport that private cars should not be excluded (although citizens have stated that lorries should pay more than private cars).

Implementation

In particular the respondents from the key informant survey and from the Delphi panel emphasised that European harmonisation of transport pricing is necessary to ensure fair competition and thus important for acceptability. Furthermore, pricing measures should be introduced stepwise. These findings led to the following main conclusions of the PATS surveys:

- The objectives behind transport pricing in general and the purpose of each single measure must be clear, understandable and reasonable for those affected by the measures.
- In order to enhance acceptability it is important to choose the suitable/sensible pricing principle for each pricing purpose.
- In order to make increases of existing or new taxes and charges acceptable the price has to reflect the real costs of transport. Intermodal fairness of pricing is important although lower charges for ‘green’ modes are accepted. However, caution should be paid with generalised decisions on lower taxes and charges for more environmentally friendly modes³⁵. Since this touches upon cross-subsidisation it has to be explored on a case-to-case basis whether and to what extent so-called ‘green’ modes should be supported.
- For making pricing measures acceptable it is important that those affected perceive them as effective and suitable to solve transport-related problems. It is clear that new measures are under this aspect more difficult to accept than well-known ones since the effectiveness of new measures is – at least for citizens – not proven. This is also one reason why attitudes ‘before’ acceptance and ‘after’ acceptance usually differ. Information on the successful implementation of new measures elsewhere may help to convince those affected by the measures that they are suitable to solve transport related problems, improving in this way the information of the effectiveness of the proposed measure.
- Since obviously citizens fear negative impacts on their daily mobility and are not convinced about the positive impacts such as traffic reduction, less congestion, better living conditions and environmental improvement, governments have clearly to explain the consequences of pricing measures aimed to be implemented.
- The appropriate and transparent use of revenues raised by pricing measures is essential in terms of acceptability. The revenues have to be used in the transport sector for the paying users. As already stated, cross-subsidisation for example of public transport can enhance acceptability but has to be explored on a case to case basis.
- In terms of perceived fairness it has to be made clear that pricing measures do not lead to tax duplications. Compensation measures for disadvantaged groups have to be considered in policy packaging.
- Privacy protection is a necessary precondition for an acceptable pricing scheme. Provided that the conditions are given to properly guarantee privacy this argument does not seem to be a major obstacle for introducing pricing measures.
- The charging scheme has to be transparent and its use should be easy to handle and understandable.
- Pricing measures should be introduced in a stepwise way, avoiding price shocks. EU-wide harmonisation is important in the design and implementation of pricing schemes at regional, national and European level.
- Finally, the PATS surveys have revealed a widespread suspicion on governments’ motives for pricing.

³⁵ We recall here one of the main conclusions of PETS – Pricing European Transport Systems’ research final report, 2000, 4th RTD framework – DGTREN, according to which the belief that a move to more efficient pricing would uniformly benefit the more environmentally friendly modes at the expense of other modes was found not to be universally true

4. PACKAGING PRICING MEASURES

4.1 THE PACKAGE BUILDING PROCESS

One of the basic assumptions of the PATS research was that acceptability is a necessary condition to make efficient pricing measures workable in practice. This means that acceptability cannot be overemphasised to the extent that the pricing measures no longer contribute to efficiency, consequently a trade-off between acceptability and efficiency is at stake.

As referred in the beginning of this report single pricing measures are never fully effective if applied in an isolated way and there is the need to assure that the different measures involved in one policy package do not produce contradictory effects. For this purpose the PATS research tested different packages in the Delphi survey as referred in the previous chapter. The following methodology for design and conception of these packages was used.

- Six pricing packages were design based on the findings of key informant surveys, citizen surveys, focus group and quantitative simulations. Two packages related to cost coverage and the other four to efficiency. These packages were deliberately overlapping in order to enable the respondents of the Delphi survey to focus on specific purposes of each pricing scheme. The six packages are described in deliverable 4 (D4) of the PATS research.
- Redesign and condensation into two packages following economic efficiency principles and the reaction of the Delphi respondents to the six preliminary packages (see tables 3 and 4).

In the following pages these two final packages are presented together with the problems, motives and underlying principles entailed in each of them, as well as an assessment of their acceptability where the packaging effect is highlighted. However, it should be clearly referred at this stage that the mentioned packages are in the framework of the PATS research an instrument to test acceptability of synergetic effects and by no means as an universal acceptability receipt to be seen as recommended pricing packages for policy decision-makers.

Summary of package 1	
Pricing/taxation instruments	All modes: Fuel tax
	Road: Distance dependent charge differentiated by vehicle categories, with respect to engine type and weight as well as depending on the quality of roads – In the long term, use of time-differentiated km charges (during the transition period: fuel charges)
	Rail: Distance dependent charge differentiated by train type, weight and number of carriages, and dependent on the quality of tracks – Use of rail track charges
	Air: Distance dependent charge differentiated in relation to engine type and weight - Use of existing price structures, e.g. (1) air navigation charges dependent on aircraft's maximum take-off weight and on distance, and (2) airport charges differentiated according to aircraft's maximum take-off weight
	Waterborne: Distance dependent charge differentiated in relation to ship categories and weight – Use of existing charges as channel, lockage, port charges depending on distance, weight and a ship's categorisation (type and size). Payment (negative charge) for clearing of waste oil in the port
Additional components of the package	Substitution for other (fixed) charges and taxes (e.g. vehicle registration tax, circulation tax, 'Eurovignette')
Complementary instruments	Subsidies on 2 nd class rail services and freight combi services
Revenue spending	Partly earmarking for infrastructure financing in mode specific terms Partly subsidies on 2 nd class rail services and freight combi services
Harmonisation	European harmonisation with respect to principles and in certain cases also levels
Implementation	Process over several years

Table 3: Package 1 - Social marginal cost pricing - general

Summary of package 2	
Pricing/taxation instruments	Urban road pricing: Time differentiated In the outset the same unit price for all road vehicles
	Public transport pricing: Time and geographically differentiated
Additional components of the package	Abolition of access restriction for delivery services Reduction of negative impacts of road traffic
Complementary instruments	
Revenue spending	Some reduction in annual vehicle taxation for cars registered within the region where road user charges are applied
	Part of the revenues are earmarked for efficient infrastructure projects
	Increased level of maintenance of roads, signalling systems and other road related facilities
	A free ration ³⁶ of 5 trips per month within the area
	Increased supply of public transport at least proportionate to the demand increase
	Introduction of new express bus services from some areas to the city centre as an alternative to the ordinary public transport
	Reduction of income taxes for low-income groups
	Public transport discount rates for school trips
	Urban amenities (plazas, pedestrian zones, bicycle lanes)
Harmonisation	No need for harmonisation
Implementation	Public transport supply to increase in the first place Road user charges introduced in an iterative manner, starting with a low charge

Table 4: Package 2 - Social marginal cost pricing – urban

4.2 ASSESSING PACKAGING EFFECTS

This section includes an estimation of reasonable consequences for the described packages, all of which may play a role regarding acceptability concerns. The consequences are estimated partly from the different surveys. Consequences in quantitative terms have only been estimated for internalisation simulations with respect to passenger transport. The assessment is made against the following aspects: welfare; finances; practicability; privacy; external effects and distribution.

Assessment of consequences and acceptability of package 1

Welfare – social benefits and costs

Public transport is characterised by economies of scale both in production and consumption. Economies of scale in production are larger for rail transport than for air and coach transport due to the relatively high fixed costs.

Both empirical evidence and the simulations carried out show that more low-income than affluent passengers choose coach as their transport mode. Since internalisation of external effects would increase the price of coach transport relatively more low-income passengers would be harmed. The relatively large economies of scale in rail transport are then an argument for compensating low-income passengers through the use of rail transport subsidies. The practical way to introduce compensation is to subsidise 2nd class tickets. In fact also high-income persons and business passengers partly buy 2nd class tickets. One way to reduce the risk of compensating all passengers is to employ special rules for cheap tickets,

³⁶ The free ration is granted to local tax payers, i.e. the people resident in the area where the free ration system is applied. They are treated in the same way as residents that benefit from free parking (or reduced parking charges). In this case the territorial principle applies and no problem of equal treatment irrespective of residence arises.

such as booking one week in advance and no refund if the passenger does not want to use the ticket. Such types of rules are already applied, for example, by the Swedish railways SJ.

The welfare gain of internalisation with respect to passenger services seems substantial. In combination with 2nd class rail subsidies the welfare gain seems even larger. The reason is that social marginal cost pricing assumed as basis is partial since it deals with external costs only for each mode in isolation. When rail subsidies are introduced, also the interactive effects between modes and the specific economies of scale for each mode are taken into account.

Finances

The financial outcome is strongly dependent on the mix of compensations in terms of tax cuts. If no other taxes are reduced revenues will be left for infrastructure and for subsidies of rail services. The most appropriate mix is not discussed here, since this is basically an issue for each Member State since the local circumstances may vary to a large extent.

Practicability of the pricing/taxation package from the payers' point of view

For road transport a high tech device is suggested. The Swiss experience with the GPS monitor in heavy good vehicles for the load and distance dependent charge shows that such a system is ready for the market and easy to handle by the user.

Practicability of the pricing/taxation package from the chargers' point of view

From the chargers' point of view, such high tech device requires a considerable technical level of implementation and maintenance. Also the automation level is very high.

Privacy

The protection of privacy was a major concern in the key informant surveys and the focus groups, while the Delphi respondents did not seem to worry too much about privacy. Data security is therefore a very important feature of high technology solutions. It is currently already feasible to guarantee data security with modern road pricing systems.

External effects

According to the simulations internalisation reduces external costs. Combined with 2nd class rail subsidies the effect would be even larger. It is self-evident that a further shift from air and coach to rail would reduce external effects. It should be noted, however, that this is a side effect from subsidies that are socially beneficial due to the reason mentioned above: the interactive effects of mode shifts and the different economies of scale characteristics. The fact that railway subsidies further reduce external costs do not imply that these costs are reduced below the optimal level since the subsidies are welfare improving irrespective of the reduction of external costs.

Distribution

The fact that passengers would lose from internalisation may lead to some concern in terms of acceptability. Internalisation of external effects would mean that low-income passengers who travel long distances normally by coach might be harmed most (see also above Welfare – social benefits and costs). The complementary measure consisting in subsidisation of second-class rail fares would not only compensate most passengers but also further reduce the external effects. Those who still use buses or coaches for the entire journey after internalisation are clearly losers. However, with rail subsidies many people can use rail for part of the journey and use bus or coach for the other part. With such combinations virtually each corner of a country can be reached.

Overall evaluation

The package is expected to create welfare gains and to be practicable from the users' and operators' points of view. The package allows for guaranteeing privacy and has positive impacts on external effects. It would compensate all but business passengers since they normally do not use 2nd class tickets.

Appropriate communication to stakeholders, therefore, becomes essential in order to inform them about these benefits and reduce major acceptability obstacles. However, low-income passengers who travel long distances normally by coach are likely to be directly harmed most and can be expected to oppose. A suitable supplementary measure in order to enhance acceptability is supposed to be the subsidisation of second-class rail fares. It should be observed that each person cannot and should not be compensated. For example peak-hour road users should pay more than off-peak users if costs are higher. (see also above Welfare – social benefits and costs).

Assessment of consequences and acceptability of package 2

Welfare – benefits and costs

The quantified welfare consequences indicate that the combination of road pricing and public transport pricing assumed in this package is superior to the previous combination from the efficiency point of view. The study illustrates very well the important interactions between public transport and car pricing.

Finances

Optimal public transport and car pricing but with no concern for a budget constraint would imply a substantial public financial surplus. Cost coverage of certain infrastructure costs, such as rail and road investments could thus be considered given that such earmarking is harmless, i.e. does not affect the efficiency.

Practicability of the pricing/taxation scheme from the payers' point of view

In terms of user friendliness an electronic system may be much easier to handle than a manual one. Electronic systems may also be easily understood if a display makes the price paid clearly visible. In order to offer a free ration an electronic system would substantially reduce the complexity of the system.

Practicability of the pricing/taxation scheme from the chargers' point of view

Electronic systems are simpler and less costly to operate. They may even generate useful travel data such as loads on links and information on origin and destinations if both boarding and alighting are registered.

Privacy

The most efficient payment systems both for public transport and road pricing are electronic devices, for road pricing linked to a GPS-system. There should be no concern for privacy as long as no personal identification is used, unless the user is willing to have such identification in order to be able to check the correctness of the charged amounts. As for normal cash ticketing or monthly ticketing the privacy issue is not relevant at all.

External effects

Optimal car and public transport pricing without concern for a public transport budget constraint would reduce external costs substantially.

Distribution

The main issue here is probably the concern for fairness.

Car users

The package would mainly mean that a loss accrues to car users, mainly for work journeys. However, in general those who travel by car to or within the city centre tend to be wealthier than average people. So from a general equity point of view road pricing would be re-distributive.

It can be concluded with confidence that road user charges would undoubtedly be beneficial for urban freight transport and taxi and probably also for most business travellers. Not least important is thus good communication of this fact. If so, this would also help politicians to seriously consider the implementation of road pricing since these groups are influential lobbyists.

Public transport users

Off-peak passengers would win and off-peak passengers would lose. For fairness reasons discount prices for school trips could be considered.

General

In general both optimal public transport pricing and road pricing would however inevitably harm low-income travellers more than high-income travellers. In practise, however, relatively few low-income travellers would get harmed since most car users to city centres are relatively wealthy. Anyway, earmarking of part of the revenues in order to grant income tax reductions for low-income people may be wise and thus encourage acceptability. It may be that earlier mentioned uses of revenues could be sufficient as compensations in order to reach a sufficient degree of acceptability.

Overall evaluation

To summarise it is believed that the efficiency improving combination of time differentiation, geographical differentiation and quality differentiation has a fair chance of being both politically and publicly accepted. One reason why the road charges have a fair chance to be accepted is that freight transport, taxi and probably also business travellers would gain, but they have to get this information clearly communicated. In order to guarantee this gain the charge should not be higher for lorries or vans than for ordinary passenger cars, at least in the beginning.

5. DECISION STRUCTURE UNDERLYING DECISION MAKING PROCESSES IN TRANSPORT PRICING

5.1 DECISIONIST APPROACH: POLITICAL ECONOMY APPROACH TO TRANSPORT POLICY DECISION-MAKING³⁷

Previous research on acceptability tends to rely on an outcome-oriented approach, meaning that it tends to refer to specific results and not to the process of decision-making itself. In such outcome-oriented approach, policy making is often seen as a rational planning act, based on a logical structure of allocative decisions, which only has to be undertaken in the right way to be successful. This decisionist approach structures policy making in four main steps where only the first step contains a political discussion, while the following three steps are already part of an implementation process on a pure rational basis.

- Political decision on objectives, specification of objectives;
- Development of alternative solutions to reach the objectives, laying out alternatives through which the objectives may be accomplished;
- Evaluating of the consequences of each alternative for each actor, often using neo-classic evaluation frameworks based on the exclusive valuation and distribution of costs and benefits and welfare maximisation ;
- Choice of the action that maximises net benefits.

An illustrative example of a decisionist framework is the political economy approach. The economic approach to explain transport policy focuses on the process of political decision making and the incentives of the various political actors to ask for and to actually implement alternative policy measures³⁸. In such analysis of the chances for acceptance of implementation of incentive-based instruments in the transport system, it is thus important to identify:

- The various actors involved or affected by the decision-making process;
- The interests of the various participants;
- The influence of the various (groups of) actors, given the specific institutional setting; and finally
- The relevant aspects determining the acceptance of various transport policy measures, in particularly the pricing instruments.

Identifying the relevant actors in the political decision making process

An analysis of the relevant actors in the transport decision-making process is modelled by the political economy literature in terms of (political) markets where the actors interact. In the (transport sector) political market for pricing instruments the relevant actors are thus identified in terms of the demand side and the supply side of the political market. Respectively operators, users, citizens, producers of related goods and services, members of interest groups for the demand side and politicians and bureaucrats for the supply side.

Identifying the interests and the impact of the various actors: institutional interactions

Success in the implementation of policy instruments in the transport sector is thus seen as the outcome of a (rational) political market. And, the specific interests of the various actors in such a political economic process determine this outcome. According to the political economy explanations, questions such as the following ones help explain the success of particular policy options:

³⁷ This section draws on the work done by Prof. Weck-Hannemann. The work was fully included in PATS Deliverable 2.

³⁸ Cf. Chapter 2 of PATS Deliverable 2.

- What are the incentives of various groups of actors to organise themselves according to their specific interests, and
- What are the possibilities of both the actors on the demand side and the actors on the supply side of the political market, respectively, to influence the outcome of the political decision-taking³⁹ process.

According to this economic approach to explain human behaviour, the outcome of this process is determined not only by the preferences and interests of the various actors but, even more importantly, by the restrictions, i.e. the institutional interactions and the institutional constraints⁴⁰.

However, if on the one hand, the decisionist model provides information on identification of relevant actors in the decision-making process, their interests and their institutional interaction, on the other hand, it is not helpful in providing information on why and how some policy proposals are accepted while others are rejected.

Acceptance of pricing instruments

It follows from the political economy theory that the actors on the supply side (i.e. the providers of the service and policy decision makers and planners) will have a self-interest in increasing their own income, discretionary power and to weaken their budget constraint. Consequently, it is to be expected that they will favour instruments serving this purpose. To support this, the PATS surveys indicated that politicians will support pricing instruments to the extent that it is ensured that these measures are linked with additional public revenues. That is, improving supply-side actors flexibility in the use of these additional resources instead of earmarking it for a specific purpose, such as transport. Given competition among alternative political parties, politicians have to trade off-benefits and costs (in terms of gains and losses in votes) when evaluating alternative policy measures. Thus, when balancing the alternative interests of voters, those interests that are well organised and politically influential will have a comparative advantage to be taken into consideration in the political contest. Politicians confronted with such a trade-off are thus expected to favour those policy measures the benefits of which are highly visible and directly attributed to the responsibility of government.

Conversely, as made evident in other studies⁴¹, costs are favoured to be spread widely or to arise in the future (e.g., public debt) and, therefore, are diffuse and less visible for the individual voter. Given that benefits are preferred to be noticeable and costs should be as invisible as possible, it can be generally stated that pricing instruments may have a better chance to be implemented by politicians when the benefits (revenues) are earmarked for the use of politically influential groups, or strong stakeholders (e.g., operators and users in the transport sector), and/or when the costs are spread to groups of voters who are not well organised and have little impact on the political decision-making process.

In what refers to the demand-side, acceptability of pricing instruments can be expected to be higher, according to the political economy literature:

- The more the stakeholders have a say in the matter of revenues (i.e. implementation of taxing or pricing instruments and fixing the type and the rate of these measures);
- The more the stakeholders have a say in the matter of expenditures (decisions about the spending of revenues); and
- The more the principle of fiscal equivalence and institutional congruence is realised.

The categories suggested by this political economy (decisionist) approach focus the attention on a somewhat narrow use of analysis in choice making situations and fail to tell about conflict/power

³⁹ Decision-makers and decision-takers are understood in the PATS research as different personalities. Decision-takers are the ones who actually take the decision.

⁴⁰ Some economists might disagree, arguing instead that consumer behaviour is at the root of acceptance problems, and that institutional interaction is a second level constraint.

⁴¹ See, e.g., Frey, 1983; Weck-Hannemann, 1994 or Blankart, 1998.

struggles. Another limitation of such a decisionist approach is also its lack of concern for the process whereby the outcomes are produced, and this represents a serious limitation. As Majone⁴² states, social processes seldom have only instrumental value for the people who engage in them, particularly when dealing with issues of acceptability. As it will be shown in the following sections, knowledge of process is often essential for purposes of evaluation and learning and ultimately acceptability.

Moreover, the decisionist⁴³ framework methodology assumes a unitary decision making or considers a group acting as a unit (that is, a single stakeholder personality), and ignores situations of conflict, which arise whenever social activities are at stake and the different interests of societal groups are confronted. However, policy definition is a much more demanding process as it requires the ability to define a problem according to different possible perspectives, to draw arguments from a diversity of sources, to adapt the argument to the audience and finally to educate public opinion in order to achieve consensus around policy objectives and design⁴⁴. That is to say that policy definition requires understanding the diversity of personalities represented by the stakeholders, the interests they represent and the interdependence those interests impose in the different stages of policy definition. Thus, for instance, in cases where a joint decision is required, those actors will have to resolve their differences through interactive processes like negotiation and persuasion, for which the decisionist model does not provide any help.

Finally, if the term acceptability is to mean whether a policy measure is *perceived* to be acceptable (base assumption of the PATS research), then the decisionist approach does not provide sufficient insight information on factors to enhance acceptability neither the appropriate tools for an analysis of policy processes marked by:

- Increased importance of informal organisations in almost all sectors of society;
- Fragmentation of power based on these organisation's 'right of disruption';
- Trend of sectoralisation and functional differentiation, leading to an increased number of policy-relevant actors and a likely overcrowded policy making process.

The nature of public acceptability issues is marked by a great degree of 'wickedness'⁴⁵. Which is to say that the degree of complexity of such problems is high and marked by value conflicts and contested meanings⁴⁶. Therefore there is the need to adopt a (discursive) model that enables to integrate a better knowledge and understanding on acceptability of particular policy proposals, and particularly on its implementation.

The traditional model of rational choice (decisionist) assumes that people attempt to optimise their decisions within given rules and that the underlying principle of maximising expected utility only guarantees that the choice is consistent with the decision-makers' valuation of the probabilities and utility of the various alternatives at stake. A discursive approach, on the contrary, suggests that the policy process is better understood if one assumes that policy actors view the rules of the policy game as possible targets of political action, and that they strive to change those rules in their favour⁴⁷.

Therefore, it is important to open opportunities for participatory approaches, which will contribute to a more democratic and hence acceptable implementation. This is particularly important during the field implementation phase, to guarantee that the majority of the stakeholders become if not convicted supporters, at least neutral regarding the pricing policy.

⁴² Majone, G., 1992.

⁴³ Calculated choices among clearly conceived alternatives.

⁴⁴ Majone G., 1992.

⁴⁵ Rittel and Webber, 1973.

⁴⁶ Parsons, 2000.

⁴⁷ Viegas and Macário, 2000

5.2 DISCURSIVE APPROACH: SOCIO-ECONOMIC APPROACH TO TRANSPORT POLICY DECISION-MAKING

The discursive approach to policy analysis assumes that the capacity of policy makers to respond to incessant change in economic conditions, political climate, and societal values, despite the growing autonomy of the policy space, depends crucially on the availability of a rich pool of ideas and proposals, which fairly corresponds to the current context where transport pricing decisions are taken, with world-wide information more and more accessible to any citizen. The existing stock of ideas will thus shape policy makers' response to events by defining the conceptual alternatives appropriated for the solution of the problem from among which they can chose. Table 5 gives a more comprehensive, albeit non-exhaustive, overview of some alternatives for the decision makers in each step of the decision making process.

Table 5: Alternatives for each element of the pricing structure

Policy Measures	Pricing instruments	Revenue collection (features of the pricing / taxation package)						Revenue spending
		Target groups	Differentiation / geographical scope	Technological and practical application	Harmonisation level	Implementation process	Compensation and/or supplementary measures	
Urban congestion Rural congestion Airspace congestion Airport congestion Maritime congestion Urban air pollution Rural air pollution Air pollution due to air traffic Scarce parking space External accident costs Operating cost coverage Infrastructure coverage Combination of the previous reasons as: Urban pollution and congestion Airspace and airport congestion and air pollution Interurban congestion and accidents	Km tax* Fuel tax* CO2 tax* Link-based charge* Parking charge / taxation Terminal charge Infrastructure charges* Environmental charge* Insurance* Charging of speeding or other traffic violations Annual vehicle taxes Vehicle purchase tax VAT Income tax Service pricing Scrappage schemes	Cars (residents/non-residents) Vans Lorries Bus / coach Rail Air Water-borne	Time Quality Area Single road or infra-structure Specific categories of the network (e.g. highways) Total national network	Manual pricing Electronic tolling	Local National European	Information Involvement of interested parties in the decision and implementation process	Reduction of restrictive regulations (e.g. abolition of goods delivery prohibition at night) Regulation reducing parking hours	Earmarking for PT, road construction, road maintenance, air infrastructure, for other public service, etc. General budget Income tax reductions Cost coverage

Indeed, the whole political process is thought of as a large selection mechanism that picks out for acceptance those of the competing policy ideas, which in some sense best meet, on the one hand, the problem to be solved and, on the other hand, the demands of the political environment, and the individual and corporate objective of the decision taker. Furthermore, by favouring a hermeneutic and argumentative approach to policy debates, the discursive approach clarifies the different value frames and assumptions underpinning arguments, which are central to debates and strives to make the intractable issues surrounding transport choices more ‘tractable’ and thereby improve policy deliberation and learning⁴⁸.

The discursive approach, which is proposed in this project, also uses different stages to describe the policy process that do not look completely different to the decisionist approach, and as such do not represent a too violent rupture with the previous, and more traditionally used, model. The five stages are described in table 6 below:

<p>Stage 1. Problem perception and definition of objectives</p> <ul style="list-style-type: none"> • Perception of problems • Definition of objectives (GSA) 	<p>Stage 2. Policy design</p> <ul style="list-style-type: none"> • Identification of alternatives • Planning concepts/future scenarios • Selection of Policy Instruments (GSA) • Assessment of impacts and reactions (with feed-back and development of mitigation or compensatory strategies)
<p>Stage 3. Planning implementation</p> <ul style="list-style-type: none"> • Deployment of policy instruments • Identifying and bringing together ‘implementers’ (GSA) • Definition of implementation plan 	<p>Stage 4. Field implementation</p> <ul style="list-style-type: none"> • Monitor implementation plan • Assess effectiveness • Make evidence of effectiveness results (GSA)
<p>Stage 5. Policy evaluation</p> <ul style="list-style-type: none"> • Checking stakeholders reactions • Monitoring and evaluation of implementation • Evaluation of policy impacts 	<p><i>GSA = Gaining stakeholders acceptance</i></p>

The most important difference compared to the decisionist approach is that the discursive approach understands policy and its implementation as the result of a bargaining process. Policy-making is seen as an iterative process with a large number of actors:

- Each actor enters the bargaining process with a specific argument;
- During the bargaining process strategic and tactic (discursive) interactions take place to reach a compromise.

Important factors for the success of the bargaining process are:

- The group of actual and potential policy actors and the resources available to them under different institutional arrangements;
- The environment setting and constraints (e. g. existing policies, value structure, public opinion, cognitive paradigms, etc).

⁴⁸ Parsons, 2000

⁴⁹ Viegas and Macário, 2000

Stage 1 is a pure political process where stakeholder groups *argue* for their definition of the problem and the objectives. In this stage the different stakeholders frame the issues, that is determine what counts as fact and what is relevant. In the policy design (stage 2) the main outlines of a solution are determined, as a policy response to the defined problem. And from those arguments, structured in stage 1, it follows preferred policy regimes. One important factor of the discursive approach is that stakeholders' reactions are an important element of the decision making process by influencing in the above-mentioned bargaining process the solution chosen by decision takers. Governments have to co-operate with stakeholders in order to gain support and consequently create a bilateral commitment with their 'partners'. The positions of the stakeholders are not fixed. During the policy design and implementation the stakeholders can change their positions and build up different alliances. It is in this phase that the different arguments compete for acceptance, and to that end have to persuade.

An important element of this stage is the need to feed the acceptability debate with evidence, that is, as Majone puts it, information selected from the available stock and introduced at a specific point in an argument 'to persuade the mind that a given factual proposition is true or false'. An appropriate choice of data, their placement at a wrong point in the argument, a style of presentation that is unsuitable for the audience to which the argument is directed – any one of these factors can destroy the effectiveness of information as evidence, regardless of its intrinsic cognitive content. Ultimately, such 'inadequacy' can compromise the acceptance of particular policy options.

Policy design and implementation are not closed stages in a process. The process itself is iterative, where the results of an earlier stage can be questioned every time and force to change the all decision-making cycle. The solutions chosen and finally implemented should then be the most *persuasive* results of a bargaining process.

Since all policy instruments are effectively constrained within certain ranges by political and administrative considerations, it becomes important, in stage 3 and 4, to know which variables are in fact within policy makers' control and to what extent.

Finally, in stage 5, the final evaluation is to be made framing the proposed discursive approach as a learning process. Therefore, assessment of stakeholders' reactions is not only considered at the stage of policy implementation but during all stages, since winners and losers status change along the process. Thus it should be considered not only the absolute effect over each stakeholder personality at a given moment but also the marginal effects on the social and economic statute of those personalities along time. Meaning that the impact of change in the status of the receptor of the policy effects must be continuously assessed in the short and long term assuming a dynamic evolution of that status⁵⁰. Figure 5 highlights this continuous assessment process.

In what concerns evaluation, Parsons' concept⁵¹ is followed. According to him evaluation is fundamentally a process of valuing and different frameworks of valuing inevitably generate different ways of thinking about the problem. Therefore, evaluation should be focused on the task of integrating knowledge (i.e. designing methods, processes and institutions which can best serve to clarify competing arguments) aiming to answer the questions - Who gets what knowledge when and how, and, ultimately, whose values get to dominate?

A number of evaluation frames can be selected to accompany the above-defined staged process, although it must be stressed that the effectiveness of evaluation is dependent on a good fit between the selected frame and the objectives of the different stages. For this reason we conclude that no best evaluation framework seems to exist for the overall transport pricing policy cycle, and no unified method is to be recommended. Instead, a more appropriated frame should be selected for each stage of the process leading to a multi-frame method used as a self-learning instrument for policy definition and fine-tuning.

⁵⁰ Viegas and Macario, 2000

⁵¹ Parsons, 2000

Evaluation as calculating and distributing costs and maximising benefits and social welfare is recommended for stage 2, while evaluation as the measurement and monitoring of performance is to be preferred for stage 4.

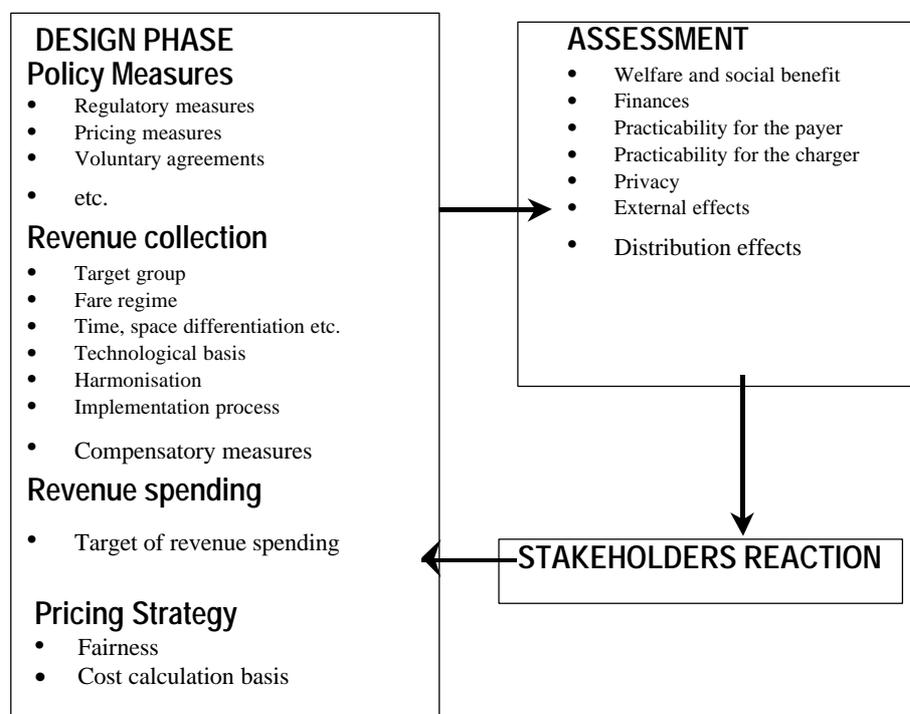


Figure 5: Continuous assessment process

Whenever stakeholders’ reactions are to be assessed in the different stages of the model, a pragmatic interpretivism stream frame should be more effective since it adopts evaluation as education and empowerment of all stakeholders through dialogue and deliberative democracy. This multi-frame path applied to transport pricing policy definition should facilitate the final and aggregate policy measure of evaluating through price systems, that is evaluation as allowing markets to facilitate experimentalism, learning and self organising in conditions of uncertainty and complexity.

It is worthwhile to mention that this staged approach oversimplifies the possible involvement of multiple levels of government in the process, which can result in the existence of interacting cycles to consider the negotiation and bargaining process between those organisations. In addition, it is unable to reflect political motivation to move from one stage to the other and to assess potential negative political balance leading to policy disruption in the middle of the process. However, even if a more complex framework could better represent these details, it would substantially reduce the capacity to understand the process and thus to isolate the intermediate decision steps within it, leading to an unmanageable level of complexity.

6. STAKEHOLDERS' INVOLVEMENT: INFORMATION AND COMMUNICATION STRATEGIES

6.1 THE NEED TO INVOLVE STAKEHOLDERS THROUGH INFORMATION AND COMMUNICATION

Transport pricing has an impact on a wide range of very heterogeneous stakeholder groups and is therefore characterised by a great diversity of interests, which inevitably lead to some conflict. However, the diversity of interests underlying transport pricing may not always be real or may be reduced as it often depends – at least partly - on insufficient information and/or a lack of awareness.

Indeed, car drivers will oppose to urban road pricing due to the own-pocket argument but may possibly show some acceptance if appropriately convinced about the positive effects on congestion of such measure, i.e. awareness of effectiveness. In a similar way, a CO₂ tax may be seen with less opposition by road hauliers if informed about the uniform application in all competing countries and compensation measures that mitigate their position as losers, i.e.: softening the impact on competition.

These two examples confirm once more that transport pricing is a highly complex process, not always very transparent and of easy comprehension. The results of the empirical work in the PATS project also confirmed that information and communication/negotiation become crucial accompanying measures of any transport pricing initiative in order to mitigate conflict and feelings of dissatisfaction, thus to secure sufficient agreement (or at least neutrality) for a successful development of the transport pricing policy process. They will help to smoothen out struggles between different political and/or personal interests throughout the whole policy decision-making process and even after the implementation and lead to constructive compromises by involving people through the awareness of problems. The preceding empirical work in the PATS project and other studies outlined in previous PATS reports⁵² confirmed that information and an appropriate communication strategy play an important role in raising awareness on the topics around transport pricing, and also in overcoming some of the non-acceptability issues of such policies, as well as in smoothening out conflicts and balance power between different groups of interest.

In modern democratic societies, with high educational background and, consequently, better informed and more intervening people, simple one way information provision is deemed to be insufficient. There is a clear demand for a more active involvement in decision making of all kind. Not only organised stakeholders but also the general public often insist on a role in decision making and the public sector has to be willing to open policy decision processes since, according to McDougall, the key to successful social action is to ensure that the process appears in some way community-driven⁵³.

Information and its appropriate transmission normally lead to awareness, which in turn can be expected to lead to greater understanding and finally to a larger degree of acceptability or at least to less fierce opposition or even neutrality. Direct involvement and comprehensive participation in decision making are means to ensure accountability of the process and therefore are expected to even more smooth out conflict and create a fair basis for acceptability. However, it has immediately to be spelt out that direct involvement and active participation is not possible in all phases of the policy process and in relation to all stakeholders.

According to Schlag⁵⁴, in order to improve public acceptability towards the introduction of transport pricing, there are five problematic areas that include information policies. Work by another author⁵⁵ draws up 7 recommendations for developing political acceptability for 'congestion relief tolls' on intra-regional roads. Among them, the need to take time to build public support and a careful design of a marketing & media strategy. Direct and active community participation in form of partnerships, co-

⁵² PATS Deliverables 1 and 2 (D1 and D2).

⁵³ McDougall Harold M., 1993, chapter 7.

⁵⁴ Schlag (1998)

⁵⁵ Munnich et al (1997)

decisions and similar agreements is less debated in relation to transport pricing policy making but it has a fundamental role in general policy making literature.

This chapter on stakeholders' involvement aims at providing decision-makers with some guidance on when and how to involve which stakeholder groups in the transport pricing decision process. It also outlines some elements for successful information and communication strategies that constitute the basis for all forms of stakeholder involvement in the policy decision making process.

6.2 STAKEHOLDERS' INVOLVEMENT IN TRANSPORT PRICING POLICY DECISION MAKING

Admitting the vital role of stakeholders' involvement in the whole transport pricing policy process, it is necessary to have a closer look at the various degrees of intensity that such involvement can take, going from non-participation to forms of partnerships that could theoretically lead to real co-decision.

Arnstein⁵⁶ distinguishes in his typology of degree of public involvement three basic forms of involvement that range from non-participation to citizen power:

- Non-participation entailing: Manipulation; Therapy;
- Tokenism entailing: Information; Consultation – characterised by heavy debate, Placation;
- Citizen power entailing: Partnership, Delegated power (citizen power), Citizen control (citizen power).

A simplification of this classification is necessary and also sufficient in order to provide general recommendations for the type of stakeholders' involvement in the different stages of the transport pricing policy process. The following 4 categories ranging from non involvement to shared decision are chosen:

- Non-participation
- Communication
- Consultation
- 'Codetermination'

At the one extreme, non-participation means no information flow at all between different stakeholder groups. Communication involves providing meaningful information in a timely and accessible manner, for example, a newsletter sent to households or an advertisement in a magazine. It means keeping stakeholders informed of the progress or the status of ongoing activities and/or issues and is characterised by a unilateral information flow from one or more stakeholder groups to the other(s). Consultation literally means seeking permission or approval for a proposed action⁵⁷ and therefore implies a bilateral information flow. It is a two-way process, providing the opportunity to clarify information, raise issues and discuss ideas, options and views. However, there is no guarantee that the complete outcome of the consultation process will be incorporated into the final decision. The term 'codetermination' comes from the German 'Mitbestimmung' and means a co-operation between management and workers in decision-taking⁵⁸. In this context it is used to indicate a bilateral information and decision flow with an active participation of all parties in the decision making process and in the final output. This includes forms of agreements, partnerships and decisions based on mutual negotiations between stakeholders.

As already mentioned earlier, not all forms of stakeholders' involvement are possible in all phases of the transport pricing policy decision making process and for all stakeholder groups and some forms can not even be accepted in some societies. In a very first stage of this process, for instance, the general public

⁵⁶ Arnstein, S., 1969, pages 216 – 224.

⁵⁷ Microsoft Encarta 98, Encyclopaedia

⁵⁸ Microsoft Encarta 98, Encyclopaedia

may not be involved at all, while already at that level there may be an agreement or partnership between technicians at different levels. Regarding the general public, it will always be difficult to have a real form of ‘codetermination’ (except for systems with direct democracy, such as in Switzerland, in which transport pricing is likely to be subject to referendum) and no more than consultation can be reasonably expected.

6.3 SUPPORT BUILDING THROUGH STAKEHOLDERS’ INVOLVEMENT: AN OVERVIEW

As already seen, the multiple and conflicting interests and diverging goals in transport pricing has not only to be taken into account when deciding on the concrete configuration of a pricing scheme, but also when deciding the type of stakeholders’ involvement and the different information and communication strategies throughout the complete policy process that will influence their form and contents.

The following matrix (table 7) gives an overview on possible forms of stakeholders’ involvement in the transport pricing policy process by relating these forms of involvement to the stakeholder groups and the different policy process phases identified in the previous chapter. Since the PATS research is concerned with all forms of transport pricing for all modes ranging, for instance, from fuel taxes to road pricing or public transport pricing to airport charges, a high degree of generalisation is necessary. Therefore, the suggestions proposed are expected to help decisions making on how and when to involve the different stakeholder groups. However, it should be pointed out, that each decision maker that envisages to implement transport pricing has to find the best adjustment between the general recommendation presented in this report and the local context, defined by the social culture, the political system, the traffic and environmental conditions and other variables.

Transport pricing policy process Stakeholder Groups	Problem perception and objective definition	Policy design	Planning implementation	Field implementation	Policy evaluation
Politicians at different territorial level					
Politicians of different political orientations					
Technicians/ Bureaucrats					
Car users, transport operators and users of transport services as direct target of the pricing/taxation measure					
Transport operators and infrastructure providers as providers of transport services					
Business sector on which positive or negative effects of transport pricing occur					
Citizens (voters and taxpayers)					
Institutional leaders (e.g. ecologists, transport professionals)					

Legend:

Non- participation	Communication	Consultation	Co-determination
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Table 7: Forms of stakeholders involvement

Each of the stakeholders clusters presented above is defined according to its direct relation with the pricing measure to be implemented, that is grouping stakeholders should be done according to its economic or non-economic potential for being affected by any measure as well as according to its

capacity to hinder or foster acceptability. The following considerations regarding the moment of involvement should be taken into account.

Politicians at different territorial level:

Except for strictly locally focused traffic/transport problems, e.g. congestion and lack of parking space in the inner city, their involvement has to start right from the moment of the identification and characterisation of the problem and has to continue all over the policy cycle. In the first phase, in addition to gain legitimacy from the political system as a whole, compatibility of views at local, regional and national levels has to be striven for. Therefore formal consultation is necessary.

In the policy design and planning implementation phase codetermination between the territorial levels that are directly concerned by the planned measure is suggested. The decision should be the result of a decision process involving all these territorial levels. Depending on the type of the measure, e.g. a tax applicable in the whole country with implications at different territorial levels, interurban road pricing that stretches over various regions, the field implementation has to be carried out at one or more territorial levels. If implementation activities are only required at one territorial level, communication to the other levels concerned seems sufficient to allow for a balanced and smooth implementation. If the measure requires direct implementation at different territorial levels, codetermination also in the implementation process should be practised.

The evaluation phase can be carried out at the territorial level that has the main role in the process. Consultation with other levels on which the measure has direct impacts is recommended in order to obtain agreement on the evaluation methods. Politicians at levels only indirectly concerned should nevertheless be informed (communication).

Politicians of different political orientations:

Several sources in the literature⁵⁹ have underlined that gaining the support of stakeholders needs stressing tangible financial benefits (e.g. cost-benefit analysis) and connecting the proposed taxation measure to existing legislative concerns (political agenda). They are characterised by the fact of paying close attention to the preferences of the voting public and are therefore an important stakeholder group to be closely involved. Therefore their legitimacy has to be gained right from the beginning of the policy cycle.

Depending on the importance of the issue and the strength of opposition, communication or consultation may be chosen and depending on the local parliamentary rules co-determination might be needed⁶⁰. During the policy design, their active involvement will be essential in any case, while during planning and field implementation as well as evaluation, communication will normally be sufficient.

Technicians / bureaucrats:

Technicians and bureaucrats are behind all political decisions, where they often play the role of decision-making (as opposite to decision-taking). Since it is important to involve all those that may have a determinant and active role in the decision making process as soon as possible, at least simple communication must take place right from the beginning of the policy process. This should be converted into consultation as soon as possible not only to gain the support of these people but mainly because they may give a valuable (and professional) input to the decision making process. Consultation in all other phases is essential.

Car users, transport operators and users of transport services as direct target of the pricing / taxation measure (payers):

Since they are directly affected by the measure, heavy opposition can be expected. Also, these groups are very likely to create coalitions and thus are able to increase their power considerably. Therefore it is

⁵⁹ Munnich, Lee W., Jr., Van Hattum David, Zimmerman Maria V., *Buying Time*, 1997, p. 105 –113.

⁶⁰ E.g. minority governments.

recommended to involve them as soon as possible, by providing them with clear and transparent information on problems, objectives and potential measures. In the phase of policy design and planning implementation, at least informal consultation should be reached. Organised interest groups that come out from opposition movements, or are closely influenced by, may constitute an opportunity for effective and formal consultation. However, efforts should also be taken to initiate consultation processes at a larger scale. The field implementation phase will also constitute a suitable forum to further enhance acceptability. Again, consultation should be favoured but at least communication is essential. In the policy evaluation step information provision is likely to be sufficient to confirm effectiveness and gain trust relationship for future measures.

Transport operators and infrastructure providers:

Transport operators and infrastructure provider, even if these are not the direct target of a pricing measure will normally be subject to positive or negative effects of the same. For instance, the increase of fuel prices and the introduction of road pricing can be expected to impact in a positive way on rail and public transport operators. In such a situation it may be important to create alliances with these sectors in order to emphasize the advantages also for other stakeholder groups. Therefore, communication should take place throughout the whole policy process. Since these stakeholders normally constitute smaller groups or are well organised (e.g. road hauliers, professional associations), consultation benefits may well outweigh their costs and may provide valuable professional inputs. However, if this stakeholder group has a direct stake in the implementation of a pricing measure, e.g. a motorway concessionaire in road pricing or a pricing measure as part of a larger mobility package, their involvement through consultation is essential and they must assume an active role in the acceptability campaign and some times also in the role of ‘implementers’. Active participation in the evaluation phase may be omitted but keeping them informed may always lead to some form of support.

Business sector on which positive or negative effects of transport pricing occur:

For this sector similar considerations to transport operators and infrastructure providers with no direct stake in the pricing measure apply.

Citizens:

As already seen in literature⁶¹, it is recommendable for their input to be gathered throughout the process of analysing and implementing a market-based strategy. It is argued that their support depends on a greater understanding of the issue, i.e. to a large extent on messages to be conveyed in an understandable language.

Therefore, in the beginning of the decision making process it is suggested to start with an as accurate as possible assessment of public opinion about the issue. It is important to capture the public perception of the most critical issues (e.g. through citizen surveys). This is a first step of awareness raising which in a later stage of the first phase has to be accompanied with clear information on the issue. In the second phase it will be necessary to create a broad public dialogue. Such a broad dialogue can for instance be opened through the dissemination of the results of a feasibility study and discussions in various forms. Formal consultation on all issues will not always be possible⁶², however, it is essential to give focus to critical issues to create support. Also in the planning and field implementation phase, consultation would be ideal to continue to maintain or increase support but at least information is essential.

Institutional leaders:

Coalition building among key stakeholders in order to gain public support is very important⁶³. Transport professionals, environmental groups or other similar groups, typically with no economic relation with the measure being implemented but with a strong opinion making potential, may form leadership coalitions

⁶¹ Munnich, Lee W., Jr., Van Hattum David, Zimmerman Maria V., 1997, p. 105 –113.

⁶² With the exception of countries where public referendum is practised.

⁶³ Munnich, Lee W., Jr., Van Hattum David, Zimmerman Maria V., 1997, p. 105 –113.

and thus substantially influence the decision and acceptance process. Involving them right from the beginning, at the end of the first phase, may help to gain their support for the transport pricing cause. Their involvement must continue at least throughout policy design and implementation. Due to the fact that these stakeholders act in an organised way, consultation is facilitated and thus preferred over simple communication.

6.4 SUCCESSFUL INFORMATION AND COMMUNICATION STRATEGIES

Having recommended the elements and methods for the most appropriate type of stakeholders' involvement for each group in the different phases of the decision making process, it is now necessary to elaborate on how an information and communication strategy has to be conceived in order to be successful.

Communication means transmitting or passing on ideas, information, etc. by speaking, writing or using any sort of visual support. It implies the provision of meaningful information in a timely and accessible manner. It is not only a purpose on its own in the sense of passing information in a unilateral manner to one or more stakeholder groups but constitutes the basis for the other, more intense forms of stakeholder involvement discussed above. Indeed, communication is the core instrument for raising awareness, which is fundamental to put stakeholders in a position to participate, and lower barriers, in the pricing decision-making process. An information and communication strategy - in order to be successful - must clearly set out the objectives, the audiences, the messages and the methods⁶⁴. Below each of these aspects is treated in more detail.

6.4.1 OBJECTIVES

An information and communication strategy must firstly be clear about what it is trying to achieve, what its objectives are. In the case of a transport pricing strategy, at least the following threefold objectives should be considered:

Raising awareness and knowledge

Increasing understanding of the issues causing the need to implement transport pricing scheme through the provision of robust independent information, such as results of experiences in other places where effectiveness can be made evident. That information should contemplate in particular: the impact of transport pricing on congestion; how balance between 'winners' and 'losers' of transport pricing was achieved; the likely impact of electronic transport pricing on technology, how costs and prices are derived, how revenues are used, etc.

Change in public attitudes and perceptions

Alter perceptions of some of the issues that transport pricing is trying to overcome, particularly perceptions around the right to use the road, etc. This may take the development of an interactive dialogue in the design of transport scheme, especially small-scale schemes around cities and towns.

Changes in Individual behaviour

Ultimately, the information and communication strategy can assist not only in the acceptance of transport pricing but also in the inducement of a change in behaviour.

6.4.2 AUDIENCES

Any strategy has to be based on understanding and identifying the different groups within society to which different messages should be targeted. A base assumption of PATS research was that the

⁶⁴ EU-funded project INPHORMM (INPHORMM, 1998).

population is by no means homogenous when it comes to the acceptance or otherwise of transport pricing schemes. For example, the citizen survey reported significant differences between the attitudes of those who were regular car drivers and those who were not. Those who were not regular car drivers tended to have a more favourable attitude to transport pricing that shifted the balance away from car travel. It is thus sensible to target different groups in different ways and with different messages focusing in particular the losses each group fears to have. Given this evidence, it may be more productive to concentrate the resources of a EU-wide information and communication strategy on tackling the negative perceptions amongst car drivers, or freight companies than using resources in a widespread way across all travellers. The citizen surveys reported also further differences amongst regular car drivers across different EU partner countries what leads to the perception that EU-wide communication strategies require a tailoring process to the different member states cultures in order to enhance effectiveness of the message and of the strategy itself.

6.4.3 MESSAGES

It is necessary to understand which acceptability issues and messages need to be addressed and which messages need to be addressed. The theoretical review and the empirical work undertaken in PATS provide clear indication on core acceptability issues, such as:

- Privacy
- Mobility rights
- Fairness and equity
- Trust on governmental bodies
- Effectiveness of proposed measures

Privacy

Protection of privacy is commonly considered to be a fundamental right implemented in numerous legal texts. It is also found to be a significant issue in people's attitude to transport pricing schemes – especially electronic solutions. The results of the research highlight that any electronic transport pricing scheme should consider the following principles:

- personal identification of movements only for enforcement purposes taking over all responsibility for malfunction and manipulations of the system by the operator;
- use of technological solutions such as cryptographic encoding, electronic signature, etc.;
- data processed for internal functioning of the system must be immediately processed and erased.

Therefore, an information and communication strategy should seek to develop an openness and highlight transparently the design of a transport pricing scheme following such principles in order to reduce the public's concern over issues of privacy.

Mobility

As has been outlined, the right to mobility or freedom to circulate is a basic right recognised by the United Nations Declaration of Human Rights of 1948 in its article 13. The concept of free mobility marked very early the European collective conscience and is found in considerable constitutional texts. However the exercise of this basic right implies that the public authorities implement legislative and regulatory means to guarantee this exercise. As a result the public's perception of their right for road-space and of congestion and its impact on their right to mobility have a significant impact on the acceptability of transport pricing schemes. The results from the citizen surveys reported a strong belief that roads are a basic public service to be used by all. There was also a firmly held opinion that congestion had a negative impact on people's right for mobility and yet they didn't believe that transport

pricing would bring about a significant reduction in congestion. Any information and communication strategy would need to highlight some of the internal contradictions in the right for road travel – perhaps highlighting the difference between use and abuse and respective hindrance to the exercise of mobility rights. In addition, it also has to be used as an instrument to reassure concerns that transport pricing is not set to damage such a long-held belief as the right of freedom to move.

Fairness and equity

Other elements enshrined in many constitutions and firmly held on by populations are the principles of fairness, non-discrimination and equity. Likewise, any transport pricing scheme must consider such principles if it is seeking to be acceptable. The results from the citizen surveys show, however, that existing transport pricing regimes are failing to meet the ‘fairness’ criteria in the eyes of the public. Not only inequality in transport prices between modes is perceived, but there appears no translation of a belief that fairness will be assured by the application of ‘user or polluter pays’ principle. Results from other studies also raise concerns about people’s perceptions of the fairness of transport pricing particularly for car owners in rural areas and poor households owning cars on marginal incomes. It is thus quite obvious that information and communication strategies have a role to play in the difficult task of influencing/changing these perceptions, especially as these may be based on fairness and equity, not only the strict non-discrimination approach contained within EU principles.

Trust on governmental bodies

One way fairness and equity can be demonstrated within the design of a transport pricing scheme is through the use of revenues raised to support reduced prices for certain user groups or support of non-private modes in order to provide viable alternatives for journeys subject to transport pricing schemes. The citizen surveys highlight strong support for using revenues raised on other transport modes. However, results from the citizen surveys and other studies revised highlight significant mistrust on governmental institutions when it comes to transport pricing. The perception that this is ‘just another tax’ that will disappear into the depths of government revenue is firmly established. Any information and communication strategy may have a difficult task overcoming this perception, as this is an issue not confined solely to the transport sector. Some of this perception could be a result of a feeling of powerlessness in the decision-making around transport pricing. Ways to make people feel more empowered when it comes to the implementation of transport pricing may be a necessary part of a information and communication strategy.

6.4.4 METHODS

There is a wide range of methods to implement an information and communication strategy and these include amongst others newspaper, radio and television media, leaflets, as well as new technologies as the Internet.

In the process of communication, education and awareness raising an appropriate media strategy may be very important. Literature suggests that in order to obtain the support of the media they should be engaged early and often, and that in the very early stages of consensus building, it is essential to brief the media to avoid distorted or inaccurate coverage.

Other methods may also be used to develop a transparent and open dialogue between policy-takers and the public. These could include public meetings, local consultative groups, citizens’ juries, citizens’ panels and other participation methods.

Other tools to pass information on to stakeholders are marketing strategies. Again, they may not only be intended to provide simple information but can be used to initiate a true consultation process. According to the EuroPrice⁶⁵ project marketing comes at a later stage once key decisions of principle have been

⁶⁵ See EuroPrice, Technical paper 2 Priority policy issues report, S.T.A. and City of Rome’s Mobility Agency, page 36 ff.

made. It is pointed out that marketing of a proposed scheme is prior to implementation but is likely to be essential for operational success. It is necessary to make sure people accept both the concept and the system.

Passing from simple communication to more intense forms of stakeholder involvement has to be emphasised as a form of enhancing the perception of empowerment, which is generally recognised as a key element in overcoming the mistrust on governments. Active involvement in the debate is a guarantee that awareness was created and stakeholders who understand the issues are more likely to accept / support or at least less strongly oppose to transport pricing. The views of major stakeholders may influence the attitude of others. According to EuroPrice⁶⁶ there is a relationship between the amount and type of consultation undertaken and the level of awareness and support for road pricing.

Various forms of consultation have been identified in relation to road pricing⁶⁷:

- Formal consultation between local authorities and stakeholders. Usually it is initiated through leaflets, sometimes questionnaires, public meetings and discussions, seminars, meetings with key stakeholders, inviting written comments to consultation documents.
- Informal consultation seen as a more pro-active discussion ‘behind the scenes’, out of the public eye, which is believed to be more productive. Informal consultation provides a non-corporate view and allows stakeholders to be more open and frank in their opinions. Examples include interviews not within a formal process, discussion groups, etc.
- Media opinions are seen as a good way of gathering views of those stakeholders that are not in dialogue with the local authorities. It is, however, to be stressed that the views are often reactive and can be negative because full details are not known (biased in order to make best headlines).

⁶⁶ EuroPrice, Technical paper 3 Priority policy issues report, The City of Edinburgh Council, page 1.

⁶⁷ EuroPrice, Technical paper 3 Priority policy issues report, The City of Edinburgh Council, page 5 ff.

7. CONCLUSIONS AND RECOMMENDATIONS

The recommendations in the PATS research are addressed to decision makers at technical (decision-making) and political level (decision-taking) that are faced with the introduction or change of transport pricing at all government levels (local, regional, national, EU). The following recommendations consider both the conceptual and the extensive empirical work undertaken along the research:

- 15) Introducing prices on what previously was for free raises a problem of longitudinal equity, and as such acceptability can be enhanced if the price is accompanied by higher quality or capacity. If no additional explanation is given, prices are seen as financing instruments, and might be difficult to maintain after the amortisation period.
- 16) The introduction of prices must be preceded or done in parallel with the actual measures (not just the announcement of the principles) that will provide the better service. A new or higher price is better accepted if it is accompanied by some guarantee of service level to which the charge is applied.
- 17) Another instrument to address the issue of longitudinal equity is rationing. The allocation of a free ration of mobility consumption constitutes only a limitation of the current ‘right’ to free mobility and not its total extinction. However, such rationing schemes imply a more complicated transaction system, which is capable of tracking cumulative consumption by each person (or by each vehicle).
- 18) If the price increases are very high in one component of the system, even with strong increases in its quality, it may be convenient to increase also the capacity of alternative systems, not only because significant numbers of users may prefer to transfer to the cheaper option (albeit temporarily) but also because the gap between the paid and the free alternatives may become too wide to be accepted.
- 19) If there is no added value, acceptability is more difficult to reach but may be supported with a transfer from fixed to variable price components, i.e. implying a reduction of the fixed price components and some care with transition (some people have already paid the former higher fixed price for entry into the system). This may be seen as a compensation measure.
- 20) The introduction of technological innovation may help in achieving higher quality even if it is only through reduction of transaction costs (waiting times, for instance).
- 21) Measures for price introduction or changes in inter-urban transport must pass tests on horizontal (discrimination between classes of vehicles based on well founded economic principles, namely on the costs they impose) as well as territorial equity (same principles should apply to all regions, with positive discrimination acceptable only on limited conditions and with a proper justification for regions of very low traffic density, and possibly but more difficult for regions of lower per capita income).
- 22) The reaction to price changes is much stronger by those who use the system very regularly. So the most vocal opposition will be residents and commuters in general for urban road pricing, and the road haulage industry for inter-urban road pricing (motorways).

23) The following table highlights the main points of this reflection:

Geographical level	Regular Users	Main dimensions of equity	Pricing principles	Compensation Measures
Local / Urban	Local residents	Vertical (non-exclusion)	Progressive charges possible (but risky) Rate variable according to: <ul style="list-style-type: none"> ▪ External costs imposed ▪ Demand pressure (to ensure level of service) 	Free rations for local tax-payers
Inter-urban	Truck Hauliers	Horizontal (discrimination among vehicles) Territorial (price levels in different regions)	Charge from first use Charge independent of level of consumption Rate variable according to: <ul style="list-style-type: none"> ▪ External costs imposed ▪ Costs, other than external ones, caused by each vehicle (class of vehicles) ▪ Demand pressure (to ensure level of service) 	Reduce fixed charges (approximate fiscal neutrality)

- 24) A discursive approach involving stakeholders is needed along the policy decision-making process to overcome mistrust fears and raise awareness of the problems leading to the implementation of pricing measures. Different forms of involvement can be thought along the decision-making process and their selection from a wide range of alternatives, going from simple information to shared decision, depends on the local political and cultural context.
- 25) For a comprehensive understanding of stakeholders' degree of acceptability in each local context, the following concerns should be considered:
- d) The identification of the various actors involved or affected in all stages of the decision making process;
 - e) The perception of the specific interests of those actors analysed as personalities;
 - f) The power of influence of the different groups of actors and their potential for public reactance.
- 26) Acceptability of transport pricing is also related with consistency of policy deployment across the European Union, involving the different levels of governance through the following allocation of roles and functions:
- d) European level
 - Defining general principles on cost calculation and price setting;
 - Imposing transparency of accounts;
 - Principles for the specification of some social cost elements (e.g. global pollutants, value of life).
 - e) National Governments
 - Defining the organisation of responsibilities & management of money flows;
 - Specifying some social cost elements (e.g. regional pollutants, infrastructure and safety standards);
 - Specifying quality of service levels for national infrastructure and managing its prices.

- f) Local Governments
 - Specifying some social cost elements (e.g. noise);
 - Specifying quality of service for local infrastructure & services, and managing their prices;
 - Defining and applying equity protection schemes.
- 27) In what concerns infrastructure and services in this acceptability setting, consideration should be given to the following issues:
- d) Service operators should always be subject to identical pricing conditions as other vehicle owners to avoid concerns of discrimination;
 - e) In Public Transport:
 - b.1) Guarantee of basic services at fares determined by the authority, for single and multiple operator services. Subsidy may be needed;
 - b.2) Packaging of additional services (internal to each company or in combination with others in the same sector or in other sectors) by free initiative of the operator.
 - f) For infrastructure managers under running concessions:
 - c.1) The revision of contracts should be thought in order to include charging for site or time specific congestion or social costs;
 - c.2) Service quality clauses should exist with price discounts in case of non-compliance but limited freedom of price setting to reach this service quality and maximise revenue.
- 28) Finally, transparency in handling the money flow is a strong case for acceptability. This implies the implementation of cost assessment audits wherever public money is used.

The PATS research covered a wide range of charging and taxation issues as well as all transport modes. Beyond its stated objectives the findings of this research constitute also an added value for the organisation and management of transport pricing, not only by the comprehensiveness of surveys undertaken, covering citizens and institutions, but also because it places acceptability concerns within the decision-making process and not only as an output.

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9. ANNEXES

Annex 1 – Key informant surveys (Chapter 3 of Deliverable D3)

Annex 2 – Focus groups and freight group discussions (Chapter 4 of Deliverable D3)

Annex 3 – Citizen surveys (Chapter 5 of Deliverable D3)

Annex 4 – Quick Delphi survey (Chapter 6 of Deliverable D3)