

# 1 CASE STUDY: POLITICAL HISTORY AND ACCEPTABILITY OF ROAD PRICING IN THE NETHERLANDS

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## 1.1 Road Pricing in the Netherlands

Transport economics textbooks generally leave little ambiguity on the economic desirability of using the price mechanism more accurately in road transport (e.g. BUTTON, 1993). Road transport is known to generate considerable external costs, in particular in the form of congestion, accident risks, noise and emissions of pollutants (e.g. MADDISON ET AL., 1996). Insofar as these external costs are not properly reflected in prices, over-consumption of road transport will generally result. More precisely, only when confronted with full marginal social costs (marginal private *plus* marginal external costs) will individuals exhibit behaviour in accordance with economic efficiency (see for instance VERHOEF, 2000, for a basic exposition). This explains the economic rationale behind corrective taxation of road transport in general. The economists' preference for *road pricing* (as opposed to, for instance, vehicle or fuel taxation, or parking policies) can next be explained by the fact that marginal external costs of road transport vary strongly over time and place. This means that more traditional forms of pricing policies in road transport, such as the said vehicle-, fuel- or parking charges, will often be too crude to achieve anything near the welfare gains that a more refined system of road pricing would yield, due to the impossibility to differentiate taxes sufficiently according to the same dimensions that affect the marginal external costs of road trips, such as the time and area of driving, the route chosen, the vehicle used, etc. (e.g. VERHOEF, 2000).

The transport economists' preference for road pricing is in sharp contrast with current practice. Indeed, significant barriers can be identified that may prevent a smooth and easy implementation of pricing policies. As a result, all sorts of constraints can be identified that prevent a regulator from charging the prices that it ideally would like to set. For instance, it is still technologically difficult (and hence expensive) to charge drivers according to the marginal social costs caused. Nevertheless, electronic road pricing has been successfully applied in various places, demonstrating that it becomes increasingly possible, at least technically, to differentiate road prices over time and place. Other barriers are still relevant, of which social acceptability is one of the most important nowadays. This has given rise to a large and growing body of literature considering the social acceptability of (pricing) policies in transport (E.G. JONES, 1998; SCHADE & SCHLAG, 2003; VERHOEF ET AL., 1997; RIENSTRA ET AL., 1999). Often, the motivation of such studies is the expected revealed public and political opposition against road pricing proposals.

Probably more so than in most other EU-countries (with the exception of Scandinavian countries), the implementation of road pricing type of instruments has been considered seriously by successive Dutch Ministers of Transport over the last 15 years or so. A few possible explanations for the relatively strong Dutch interest in implementing road pricing can be given. First, as a necessary condition, the central area in The Netherlands (the 'Randstad area' including Amsterdam, Rotterdam, The Hague and Utrecht, plus parts of the province of Noord-Brabant) is among the most densely populated areas in the Western World, which is

reflected in relatively severe levels of traffic congestion (especially, of course, during traditional peak hours). Secondly, the Dutch economy has traditionally been relatively dependent on trade, transport and logistic services, which was encouraged by the country's strategic geographic location. Therefore, perhaps even more so than in other countries, accessibility is considered as an important condition for further economic growth and development, much of which can be expected to take place in these same industries. Severe traffic congestion would thus create a direct threat to some of the country's relatively important economic sectors. Thirdly, probably also due to the high population density, environmental quality is by many considered as an important good. Insofar as pricing policies in transport would be directed to environmental aspects of road traffic, agreement with at least the *goals* of the policy will be quite broad. Fourthly, The Netherlands seem to have a policy culture which is often relatively open to novel, innovative and sometimes experimental policy concepts. Clear examples, without implying any value judgements on these policies as such, would be Dutch policies on drugs, euthanasia and abortion. But also more specifically in the field of transport and planning policies, others have often characterised Dutch policies as innovative (e.g. HAQ, 1997; PHAROAH & APEL, 1995).

No matter which of these possible explanations dominates, fact is that four types of road pricing have recently been considered in The Netherlands: peak hour permits ('spitsvignet'), toll plaza's ('tolpleinen'), electronic peak hour cordon charging ('rekeningrijden'), and, most recently, kilometre charges. In none of these cases, consideration has (so far) led to implementation. The rekeningrijden proposal probably came closest to actual implementation, but has been abandoned in the end. A more in-depth discussion of these prior road pricing proposals will follow below, with an in-depth analysis of the rekeningrijden proposal.

### **1.1.1 A brief History of prior Road Pricing Proposals**

A number of proposals for road pricing came and went in the Netherlands (BOOT ET AL., 1999). In 1991, tolls were proposed in the more conventional form of toll plazas (*tollpleinen*). The main objective was fund raising: tolls would apply 24 hours during working days. However, this idea of toll plaza's was unsuccessful. A main objection was that road users would have to stop and to pay, which would lead to congestion and potentially dangerous traffic situations<sup>1</sup>. Moreover, toll locations would take up too much space, which is a scarce item, especially in the "Randstad" area (the dense area in the West and Central part of The Netherlands), and much detour traffic was expected on the underlying road system. Therefore, severe opposition came from local authorities.

In 1993, a system of permits for rush hour traffic (*spitsvignet*) was discussed. The peak hour permit would have cost rush hour drivers a fixed amount per year, enabling them to travel during peak hours, whenever and wherever they wanted. A major disadvantage would be that after payment, there would be no restriction at all to keep people out of rush hour traffic. As is the case with 'abonnements' with Scandinavian toll rings, once a permit would be obtained, the marginal charge would be zero (SMALL & GOMEZ-IBÁÑEZ, 1998). However, the most

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<sup>1</sup> This type of argument has now lost its relevance, because of the development of advanced electronic technology, enabling automatic vehicle identification.

important reason why both systems of road pricing were not carried out was a lack of political support.

Nevertheless, the Dutch government kept on developing further and more ambitious plans for the introduction of road pricing, especially targeted at the growing congestion problem. Experiences with road pricing abroad were encouraging (Singapore, Scandinavia). In October 1994, the Dutch parliament agreed in principle to the introduction of *Rekeningrijden*: a system of electronic toll cordons around the four biggest cities in the Randstad area; Amsterdam, Rotterdam, Utrecht and Den Haag (The Hague). The idea was to make vehicle costs dependent on scarcity of the road. In the summer of 1998, the *Rekeningrijden* measure was included in the Coalition Agreement of the cabinet coming close to actual implementation. However, the measure failed for reasons explained in the next subsection.

Most recently the discussion about new road pricing systems has focused on a *charge per kilometre driven*. It is argued that every car driver should pay according to the use that is made of infrastructure. At present in some countries (e.g. Switzerland) it is already the case that heavy trucks have to pay a kilometre charge. The technological development allows policy makers to think about more advanced pricing systems based on the marginal cost principle. It becomes increasingly realistic that charges can be differentiated according to time, location and environmental characteristics of the vehicle. This offers improved possibilities to internalise the external costs of transport, which may be an important objective of policy makers.

This kilometre charging system is in the Netherlands proposed in the context of variabilisation: making transport taxes more dependent on actual use of the car. The current fiscal system for passenger transport in the Netherlands relies to a large extent on measures that are independent of the use of the car (purchase and ownership taxes). These two taxes are rather inefficient taxes, because individuals are not confronted with the marginal social costs of their behaviour. Policy makers are nowadays interested in ways to transform these 'fixed' taxes into a charge per kilometre. However, the present government coalition appears less interested in implementing such kilometre charging in practice. The viewpoint is that variabilisation will be unavoidable in future, but can be postponed for the time being.

### **1.1.2 Rekeningrijden**

*Rekeningrijden* was first introduced (in 1998) as a separate measure to tackle congestion. Revenues were not hypothecated to the transport sector, one of the possibilities that was considered was the lowering of income taxes. In 2000 the measure became part of a large package of measures introduced to deal with congestion and keep the central economic region of the Netherlands accessible. Besides the introduction of a toll charge, it was foreseen to invest large sums of money in public transport and pay-lanes partly financed with the toll revenues. Revenue use became an important tool for the national government to obtain support from local governments for the *Rekeningrijden* project.

The basic idea of *Rekeningrijden* was straightforward. Anyone requiring access to the Amsterdam, Rotterdam, Utrecht or The Hague regions during the morning rush hour, 7 to 9 a.m. on weekdays, would have had to pay for this access. Two ways of doing so were foreseen: immediately (electronically), or later via a bill sent home after the vehicle license number had been registered. The basic rate was 3.2 Euro. Road users paying electronically received a discount of around 1 Euro per passage.

The Rekeningrijden system allowed the road user to choose the method of payment: either automatically by means of an in-vehicle payment unit and a chip card, or manually via bank orders. To pay electronically, a so called OBU (On Board Unit) had to be bought and installed. This is a smart card machine which is simply fitted inside the windscreen. It was also possible to pay later, on the basis of the license number.

## **1.2 A Discussion on Barriers to ‘Rekeningrijden’ in the Netherlands**

Despite this transport economists’ preference for more refined road pricing, it is only rarely implemented in practice. Apparently, the implementation of congestion pricing (let alone marginal cost based pricing) is not as straightforward as it may seem after calculating the welfare gains. Indeed, significant barriers can be identified that may prevent a smooth and easy implementation of pricing policies. UBBELS and VERHOEF (2004), among others, distinguish three main categories of barriers to transport pricing:

- Technological and practical barriers;
- Acceptability barriers;
- Institutional barriers.

Barriers may be practical in nature, but also public acceptability and institutions may prevent a smooth implementation. However, road pricing nowadays faces not so much technical or administrative problems. It is generally acknowledged that pricing measures meet public resistance and that acceptability is nowadays one of the major barriers to successful implementation of new and more efficient pricing measures (SCHADE & SCHLAG, 2003). Moreover, also institutional issues are seen as an important hurdle to be overcome. This section will shortly discuss the relevance of some barriers to the introduction of Rekeningrijden in the Netherlands’ Randstad area.

Technical tests of the system showed that automatic payment by means of an in-vehicle payment unit worked reliably and in accordance with the requirements set for the test, with a reliability of 99.99%. The test did, however, reveal certain shortcomings, which were expected beforehand and required further elaboration. These pertain mainly to the performance of the systems in bad weather in combination with high speeds on non-porous asphalt (DAB). This has a direct effect on payment on the basis of the license number, because splashing water clouds the license plates to be photographed. It was expected that the use of porous asphalt (ZOAB) on the motorways would solve this problem. The technical feasibility, therefore, was not regarded as a main problem.

Public acceptability is linked to the perceived effectiveness of the system. Studies revealed that the calculated effectiveness of the scheme was positive (NEI, 1997) and largely in line with international experience (SMALL & GOMEZ-IBANEZ, 1998). It was assumed that it would lead to 30% less traffic in the peak hours. Economic feasibility was not very much a problem either. However, these predictions were often not believed by opponents, who in particular often made seemingly convincing statements based on the consideration of the flexibility of the typical, average, rather than the marginal morning peak road user(s).

Probably the most important barrier to implementation of Rekeningrijden has been the institutional feasibility (BOOT ET AL., 1999). A number of well-established and respectable organisations voiced strong opposition to the plan, and – as a result – the already limited

public acceptability of Rekeningrijden declined even more. These organisations include employers' organisations, one of the major daily newspapers who launched a rather aggressive campaign, and last but not least, the Dutch Automobile Association ANWB. It is clear that the arguments voiced by these institutions did not improve public acceptance levels.

### 1.2.1 The ANWB 'barrier'

In this section, we consider the role of probably the most important institutional player in the field, the Dutch Automobile Association ANWB. With some 3.8 million members, the association is the biggest organisation (in terms of membership) in The Netherlands. The ANWB has rather far-reaching tasks, including construction and maintenance of street-signs, road patrol scouts, and help for Dutch (car driving) tourists abroad. This has given the ANWB, for good reasons, a very positive and reliable image.

For that reason, the 'Stop Rekeningrijden' campaign that the ANWB started in March 1999 was 'headlines' in most national newspapers and news programs on television, and it was immediately recognised by supporters and opponents of Rekeningrijden that this probably would be a serious threat to the introduction of the scheme. The campaign included handing out of free *Stop Rekeningrijden* bumper stickers, the opening of a WWW-site, and a strong presence in the national media. Strong support for their campaign was subsequently given by employers' organisations, and one of the major daily newspapers in particular (*De Telegraaf*, a conservative paper), who launched a rather aggressive supplementary campaign (liberal and progressive newspapers were either neutral or in favour).

It is instructive to have a brief look at the main arguments against Rekeningrijden put forward by the ANWB to support their view, in particular because similar arguments may be put forward against future proposals, in The Netherlands or elsewhere. The most important arguments include (with some comments added):

1. *Rekeningrijden will not reduce traffic jams, politicians cannot guarantee that Rekeningrijden will work.* This argument is related to the perceived ineffectiveness of road pricing, and does not seem to be supported by experiences with applications elsewhere or modelling studies.
2. *Road users will have to pay to be stuck in traffic.* This argument is closely related to the observation (e.g. JONES, 1998) that road users typically regard congestion as something that is imposed on them, and tend to ignore or deny the marginal external congestion costs they cause themselves.
3. *Over 1 million tax bills will be sent wrongly or will not be sent at all.* This estimate was based on the probably pessimistic assumptions that only 20% of the users would opt for electronic pricing (the pay-back number of passages for the necessary equipment would be below 50), and that 2% of the photographs would fail.
4. *The system encourages fraud.* The idea was that Rekeningrijden would encourage possession of false number plates. Evidently, regular users with false plates would be easy to identify and catch. Replacing a false number plate every day would probably cost more time and money than paying the toll.
5. *Three quarters of the Dutch is opposed to Rekeningrijden.* Indeed, road pricing in general is often considered to be among the least popular instruments thinkable. One might

hypothesise that when presented as a package, including for instance a lowering of fixed vehicle taxes or increased investments in road capacity where warranted, the support would be enhanced.

It is clear from the above list that a set of counter-arguments was put forward, many of which, however, are debatable. Nevertheless, in particular after this campaign and the positive feedback it received from the public at large, the Minister withdrew the original plan of a simultaneous introduction on cordon charges in each of the four cities, and looked for a possibility to start with one or two cities only. Not much later the plan was completely withdrawn.

An important lesson to be drawn is that in presenting innovative pricing measures, great care should be taken in communication. In particular, the motivation for pricing, the projected effectiveness and the economic rationale have apparently not reached or convinced the opponents. Also, justifications of fairness, which are in fact relatively easy to make – the ‘user pays principle’ – should be spelled out clearly, in particular because fairness seems so much more important than economic efficiency in public debates. Another lesson is that institutional barriers are important: by finding the right way to the media, a relatively small group of institutions could easily affect (or mobilise) the public opinion.

Next, it seems to be the case that opponents will look for any possible weakness in a proposal in order to fight it. For that reason, if not for other reasons, it is extremely important that the proposal has no loose ends or other clear weaknesses. In the case of Rekeningrijden, one such weakness – interestingly, not even mentioned by the ANWB – was that charges would not (or hardly) depend on actual kilometrage, which is both from the viewpoint of efficiency and fairness an unattractive property. A second weakness is the proposed one-step toll. Clearly, with the emergence of new technologies, such problems will become more easy to solve (compare the kilometre charges discussed earlier), although it may require a few years more before such technologies are fully matured. It is important that these increasing technological possibilities be taken aboard in policy planning procedures as soon as possible. The idea of road pricing, despite its economic appeal, is and remains extremely vulnerable in terms of public and institutional feasibility.

Finally, it can be concluded that the institution feasibility, in a close interplay with the broad social feasibility, was the major obstacle causing the withdrawal of the original Rekeningrijden plan. Future efforts, therefore, should probably take even more serious account of relevant institutions in the field and perhaps get them involved in preparations at an even earlier stage.

### **1.3 Key Actors**

A whole range of relevant actors can be distinguished when new transport pricing strategies are implemented. An actor may refer to firms, agencies, institutions and any organised groups of individuals affected or being affected by the introduction of pricing measures. In principle, an actor can also mean one individual only. At the other extreme, the voting public in a democracy could be considered as a sort of collective actor. The relevant actors include organisations that are directly involved in decision making (different levels of government, political parties), responsible for putting the system into practice, facilitating the

implementation (e.g. financing, technology), and having an influence on opinion making such as automobile associations (MILNE ET AL., 2001). Naturally, some organisations may belong into more than one group. There are also interconnections: opinions influence decision-making etc. Individual persons may belong to more than one organisation.

TIPP has categorised the previous mentioned organisations and distinguishes four different groups of key actors:

- Transport providers and their interest groups;
- Politicians and regulators;
- The public and its interest groups;
- The media.

We will now discuss and identify relevant actors affected or being affected by Rekeningrijden.

### **1.3.1 Transport Providers and their Interest Groups**

The Dutch plan to implement cordon charging was primarily targeted at road traffic congestion in the Randstad area. It is obvious that companies providing transport services in this dense urbanised centre would be affected by Rekeningrijden, they would have to pay for using the road network. But it does not only negatively affect firms that make use of the road network. On the other hand they would enjoy travel time improvements which may often outweigh the tolls paid, due to the often high value of time applying in professional transport services. A cordon charge will change accessibility levels of firms. Hence, most firms located in the Randstad area have an interest. It is therefore not surprising that various employers' organisations were involved in the discussions on Rekeningrijden. These organisations include:

- Transport and Logistics Netherlands (TLN), an employers' organisation that represents the (collective and individual) interests of transport firms;
- Royal Dutch Transport (KNV), an employers' organisation representing the interest of firms that provide transport services (public transport companies, private goods- and passenger transport (e.g. taxi));
- MKB Nederland, organisation for small and medium sized firms;
- VNO-NCW, general employers' organisation in the Netherlands;
- BOVAG-RAI, employers' organisation representing the individual and collective interests of the 'mobility' sector;
- EVO; this is the lobbyist and adviser for business in the Netherlands concerning internal and external logistical activities including supply of raw materials or products, their storage, transport or distribution to the customer. It has 30,000 member companies including international concerns, medium-sized and small companies.

All these organisations admit the problem of severe congestion levels in the densely populated region of the Randstad. Especially the transport related interest groups (TLN, KNV and BOVAG-RAI) agree that something has to be done because the current slowdown of traffic

causes considerable losses to the industry. But these groups claimed that Rekeningrijden would not be effective, so that trucks would have to pay for 'waiting in congestion'. Pay-lanes were considered as a better alternative.

Nowadays, the kilometre charge can count on more support among these interest groups, depending on design and revenue use. It is generally acknowledged that it is fair to pay in proportion with road use. Most of these organisations, however, do find that revenues should remain in the mobility sector (e.g. by lowering existing transport taxes or financing new infrastructure).

One may wonder what the true motives were for the transport providers to oppose to Rekeningrijden. A first possibility is the genuine conviction that congestion levels would not be affected, in which case the opposition is understandable from the viewpoint of these companies' profits. A second possibility would involve strategic behaviour. By opposing to the measure, these actors may in the first place have believed to maximise their share in the allocation of revenues, should the measure be implemented. And alternatively, even if these companies would be net gainers from the policy (as most modelling work suggests) due to the high value of time, they may nevertheless prefer an alternative policy of congestion reduction through publicly financed capacity expansion.

### **1.3.2 Politicians/Regulators**

Various governmental organisations are involved when it comes to political decision-making in the Netherlands. We will here discuss the various governmental institutions involved in the implementation of Rekeningrijden.

The initial plans were proposed by the Ministry of Transport, the executive body of the national government responsible for the major highways in the Netherlands, on which peak hour congestion is most visible. This led to intensive discussions among politicians in the Second Chamber given the differences in the opinions on Rekeningrijden. Moreover, Rekeningrijden would have had implications for certain provinces, and cities (in particular the four main cities in the Randstad). The national and city governments were most actively involved in the discussions surrounding Rekeningrijden. An important topic was the use of revenues. Some cities were willing to implement the scheme but only when revenues were hypothecated to the city and not to the national treasury.

Another important issue was the participation of cities. Cities were afraid that participation would decrease their relative attractiveness to firms and citizens, and hence local competitiveness. This required the participation of all four major cities. The decision of Rotterdam and The Hague not to participate was in fact the end of Rekeningrijden. The minister of Transport tried to shift implementation to the remaining cities of Amsterdam and Utrecht (and promised a large share of the revenues to these cities), but implementation failed.

### **1.3.3 The Public and its different Interest Groups**

A variety of public and political concerns regarding more advanced road pricing systems have already been identified, for instance, misunderstanding (complexity), equity/fairness, privacy issues or tax resistance (see e.g. JONES, 1998). These concerns were emphasised by various institutions involved in the decision-making process and the public debate. Automobile associations, local chambers of commerce, unions and environmental groups are a few

examples of groups that have an interest when it comes to the implementation of road pricing. In an effort to influence decision-makers (and the public), these interest groups may use the media to explain their viewpoint. Acceptability levels for a particular policy may considerably change due to information published in the media.

The implementation of road pricing measures has caused considerable debate between politicians and various stakeholders all over the world, often leading to revision of plans or non-implementation (see Stockholm, Hong Kong and the Netherlands). The role of interest groups of the public in the low level of acceptability and thus the creation of a large barrier to implementation should not be neglected by policy makers searching for ways to deal with the negative consequences of car transport. Political economics has produced a wealth of theoretical as well as empirical literature showing the important role of interest groups in economic policy making (see e.g. SLOOF, 1998 and GROSSMAN & HELPMAN, 2001 for overviews). Interest groups play an important role in influencing the opinions of the public and politicians and hence have a great impact on the feasibility of (new) policy measures. Political economic literature has shown that interest groups may have a considerable impact on government policies by influencing the electoral nexus between policy makers and voters (e.g. campaign contributions), but also simply by lobbying (using money or information) and pressure. Contributions and lobbying, the size of organised membership, and interest's group stake are positive determinants of influence, whereas the presence of a well-informed electorate and an oppositional force are negative aspects.

We can confirm the importance of interest groups in our case of Rekeningrijden. Several interest groups of the public, playing an important role in the discussion on implementation, may be identified, of which the most important in the context of road pricing are:

- The ANWB, as mentioned earlier, the Dutch automobile association with around 3.8 million members;
- Environmental pressure groups, such as Milieudefensie and SNM (Society for Nature and the Environment).

#### **1.3.4 The Media**

Information transmission is very important when influencing the policy implementation process or the public opinion. Hence, the media may be used by politicians to send messages to the public, but it may also very useful to politicians to know public acceptance levels for a certain policy. The media is therefor an important and often underestimated actor.

The written media played an important role in the discussion on Rekeningrijden. Most information on the new road pricing plans was published by the media, and not always in an objective way. Especially a major daily newspaper (*De Telegraaf*, a conservative paper), launched a rather aggressive campaign against the proposals (together with the ANWB). Other more liberal and progressive newspapers were either neutral or in favour.

The role of other media, such as television and radio, was not eminent and will not be included in the following discussion.

## **1.4 Analysis of the Implementation Process**

### **1.4.1 Problem Perception**

Research has shown that problem perception is a necessary precondition for regarding problem-solving measures as important (STEG & VLEK, 1997). It is assumed that high problem awareness will lead to increased willingness to accept solutions to the perceived problems. Transport causes various problems such as safety, congestion and environmental problems. Road pricing measures, depending on its design, may have an effect on all these problems. Since Rekeningrijden was targeted at congestion, we will here focus on the actors' perception of the congestion problem. The problem of congestion was, and still is, perceived by most actors identified in the previous section. However, there is a difference in the extent of this perception over the actors. Some people argue that the problem was still not serious enough to justify a measure such as Rekeningrijden. Moreover, pricing is not viewed as the most suitable and effective solution. Other possible policy measures include new and improved road infrastructure.

#### **Transport providers and their interest groups (Matrix cell 1.1)**

Transport companies do suffer from congestion, and unreliability in transport times is becoming an increasing problem for firms. The interest groups of these firms (such as KNV, EVO, TLN) do acknowledge the problem. Although this will affect the firms' profits, the policy problem is not mainly perceived from this viewpoint. There is currently little evidence of a systematic bias against pricing proposals to solve the problem. The recently proposed kilometre charge, although very different in nature, can count on considerable support also among these organisations. We have to say that the problem perception has most probably increased over time. During the Rekeningrijden negotiations congestion was not as severe as it is nowadays.

#### **Politicians and regulators (Matrix cell 1.2)**

Decision makers may not perceive congestion as an urgent problem in the sense that they incur delays of congestion on their commuting trip. They see congestion more as a problem in terms of competitiveness with other countries and the consequences for the Dutch economy. The Dutch economy is very much dependent on trade, transport and logistic services ("Gateway to Europe"). Policy makers consider accessibility as an important condition for further economic growth and development. Severe traffic congestion is a major threat to accessibility, and hence a problem to politicians. Local policy makers may have a different view on this since they may be more directly confronted with congestion when it is a structural issue in their region or city. Rekeningrijden has shown that local policy makers may have an active role in the discussions, mainly because of its focus on a specific geographical area.

We have no evidence that career and re-election concerns have affected the politicians' perception of the problem. But it may well be possible that these factors have played a role in the decision whether or not to implement a transport pricing measure in the Netherlands. Dutch politicians have often postponed the decision to implement an unpopular pricing measure. In many cases, other, less drastic, policy measures were chosen (such as improvement of public transport or new road infrastructure).

#### **The public and its interest groups (Matrix cell 1.3)**

The problem perception of the public has received more attention. Two research studies, carried out in the Netherlands before the launch of the Rekeningrijden proposal, have paid attention to this issue. RIENSTRA and others (1999) distinguish between social and individual perception of problems. About half of the research population (Dutch persons of 18 years and older) indicated that congestion on highways is an important individual problem. Safety is regarded as a more important problem. Interestingly, congestion is more often seen as a social rather than as an individual problem. About 70% of the research population perceive congestion as a social problem, while safety is considered less important. VERHOEF (1996) focuses on the opinions of morning peak road users. The respondents clearly consider congestion as a problem, both for private reasons, in particular time losses, uncertainty, and driving conditions; and general reasons. Only 1,5% of the road users did not find congestion a social problem, whereas 63,3% find it an unacceptable problem. Hence, people that are directly affected by the congestion problem seem to have a somewhat higher degree of problem perception as expected.

As far as we know, the problem perception of members of the ANWB has never been investigated. Fact is that this group is directly affected and may have had a greater problem perception. However, the arguments of the ANWB against Rekeningrijden were targeted at the measure itself and not so much directly at the problem of congestion. Environmentalists focused not so much on congestion, but more on the restraining effect of the policy measure on mobility. Rekeningrijden was regarded as a measure that may decrease the harmful effects of car mobility on the environment, which is of course perceived as a large problem by these organisations.

#### **The Media (Matrix cell 1.4)**

The focus of the *media* was on the discussion among politicians, the ANWB and the acceptance levels of Rekeningrijden. The Telegraaf was the main subjective newspaper emphasising the drawbacks of the proposal.

#### **1.4.2 Goals**

##### **Transport providers and their interest groups (Matrix cell 2.1)**

All transport providers and companies will benefit from less congestion because it will decrease waiting times and reduce uncertainty. This may lead to improved profit levels. Implementation of Rekeningrijden, however, leads to the certainty of paying a charge while it is uncertain whether congestion levels will decrease. Apparently most interest groups of firms were not convinced that the benefits from reduced congestion would outweigh the costs of the toll. Moreover, toll revenues were not directly hypothecated to the payers of the charge. The strategy was not so much one of campaign spending or information provision, the employers' organisations confined themselves more to communicating and explaining their viewpoint.

##### **Politicians and regulators (Matrix cell 2.2)**

Congestion causes considerable losses to the society. The previous has learned that politicians do perceive this as a social problem. Dutch politicians will most likely try to maximise social welfare but feel that this can be realised in more ways than only with road pricing. Their strategy may have been to opt for a particular measure that reduces congestion without

loosing votes (a weighted average of congestion reduction measures and a maximum number of votes).

This has led to intensive discussions among political parties, even within the coalition, because politicians could not come to an agreement on the best measure to deal with congestion. The coalition (political parties of PvdA, VVD and D'66) agreed in 1998 on the implementation of Rekeningrijden within the next 4 years (standard period for a new government to make policies). The opposition within the Second Chamber was against the decision to implement Rekeningrijden (except for Groen Links). In 1999 the VVD felt uncomfortable with the toll charge and emphasised that it was only a test. After strong opposition from the ANWB and the Telegraaf, the VVD opposed against Rekeningrijden.

### **The public and its interest groups (Matrix cell 2.3)**

The ANWB was the most active interest group of the public. Interest groups will most likely maximise the satisfaction level of their 'population'. When focusing on the objective of the ANWB, the aim was to stop Rekeningrijden rather than to decrease the levels of congestion. The strategy included the formulation of various arguments explaining why Rekeningrijden was not an effective measure. Various means were used to communicate these arguments. In addition outcomes of opinion polls among members were published, showing that a vast majority was against Rekeningrijden. One may argue that the ANWB indeed satisfied their members by creating considerable opposition that in the end led to the failure of Rekeningrijden.

### **Media (Matrix cell 2.4)**

The focus of the media was on the opposition campaign led by the ANWB, the discussions among politicians (including their viewpoints) and not so much on the objectives and effects of Rekeningrijden itself. The topic was of main importance since most news on Rekeningrijden appeared on the front page. The Telegraaf also published the outcome of a short survey among the public showing that about 98% of the public was against Rekeningrijden. The newspaper presumably tried to affect the outcome in the interest of their readership.

## **1.4.3 Information Provision**

### **Transport providers and their interest groups (Matrix cell 3.1)**

Transport providers and their interest groups may obtain their information from different sources. It is unclear whether the interest groups or employers' organisations have done any research on the effects of Rekeningrijden. These obtained most of their information from public sources like newspapers, magazines and public studies. It is unclear whether these sources were treated differently. Given their viewpoint on Rekeningrijden, it might be expected that 'opposing' sources attracted more attention from these actors.

### **Politicians and regulators (Matrix cell 3.2)**

The government obtained information on the effects of the cordon charge from various studies, including those carried out by the CPB (1998) and the NEI (1997) (see also next section). Moreover, the authorities may have consulted research results from similar plans, implemented abroad (e.g. Norway, Singapore). So it is not necessarily true that politicians obtain their information from other key actors. Governmental advisors and research

institutions have played an important role in this case. The media may have been used to monitor the opinion of firms and the public.

### **The public and its interest groups (Matrix cell 3.3)**

The ANWB has published their viewpoints also in their own magazine that is distributed free of charge among all members (The Kampioen). This organisation also published results on an opinion poll among members. The previous mentioned research studies (see next section for detailed results) were neglected.

### **Media (Matrix cell 3.4)**

The sources used by the media are hard to trace but will undoubtedly include publicly available studies and ‘informants’ in different relevant organisations. An opinion poll was carried out to assess acceptability levels of the measure.

#### **1.4.4 Effectiveness**

Given the heavy opposition it may be assumed that most organisations and interest groups (transport providers, media and the ANWB) did not expect Rekeningrijden to be a very effective measure. Other measures were perceived as more effective (e.g. pay-lanes). Hence, as described earlier, one of the bigger problems was *perception* of effectiveness.

Research had in contrast shown that the concept of Rekeningrijden can be effective, and that it may lead to welfare benefits. A detailed study towards the distribution of the gains and losses in consumers’ surplus for different socio-economic and/or spatially segregated groups, due to the possible introduction of Rekeningrijden, has not been performed. Given the scheme’s lay-out, it is to be expected that consumers’ surplus will disproportionately strongly be affected for commuters with a relatively low value of time (on average with a lower income), living outside and working inside one of the cordons, with little opportunity for behavioural adaptations (such as rescheduling, car-sharing, public transport, etc.). These expectations are generally confirmed by a stated preference study in the Randstad area performed by VERHOEF ET AL. (1997), which considered road pricing in general without specifying the details of, e.g., a cordon system.

Modelling results from the Dutch National Model System, a large national transport network model, are for instance summarised in a ‘second-opinion’ study CPB (1998). For this exercise, road users have been divided into three categories: business (with a relatively low sensitivity with respect to financial costs, and high sensitivity to travel time and the moment of driving), commuters (relatively low sensitivity to financial costs and travel time, and high to moment of driving) and others like students or pensioners (high sensitivity to financial costs, and low to time and moment of driving). Computations with this model gave the results summarised in Table 1.

**Table 1: Long-term effects of peak hours cordon charging, number of passages during peak hours (%)**

Cargo	Commuting	Business	Other	Total
-6	-44	+27	-61	-30

Source: CPB (1998)

The effects on mobility during the peak suggest that business passenger travel would be a net winner; otherwise their road use would not increase. Commuters and ‘other’ travel loose. The main explanation is the variation, between these groups, in values of time used in this model. From that perspective, the net reduction in freight traffic, with the highest value of time among the three categories, during the peak seems inconsistent with economic logic. A satisfactory explanation for this result has not been given.

Whether these groups will ultimately win or loose strongly depends on the refunding of the charges. The intention was to refund all revenues, reflecting that rekeningrijden is an instrument to price scarcity, not to finance public investment. The overall welfare balance, is clearly positive, as indicated in Table 2 – which is consistent with the starting point that (more) efficient prices should result in an increase in social surplus. Looking at the various welfare components distinguished in Table 2, first note that because travellers have to change their behaviours, or pay, the net effect of charging exclusive of refunding is negative for the average traveller. The impact on environment and safety is slightly positive. The effect on government finance is zero, as costs including refunding balance revenues. In case of a higher refunding (gross income might equal refunding), the government balance is negative, but income for the population higher.

**Table 2: Welfare balance of peak hour cordon charging (Billion Euro, constant value 2000-2025, 1996 prices)**

Net effect travellers		
-0,73		
External effects		+0.23
Government		0
of which: costs		-0.82
	tax income	
	+2.41	
	refunding	-
1,60		
Refunding		<u>+1.60</u>
Total non-government	<b>+1.10</b>	

Source: NEI (1997)

Table 2 implies that, depending on the flexibility in designing tax recycling schemes, in theory everybody *could* be made better off after the introduction of Rekeningrijden. In reality, this will most likely prove impossible. Moreover, a too much targeted recycling scheme may of course undermine the effectiveness of the charges, when people anticipate that the refund they get in fact can be affected by changing their behaviour. For instance, if recycling would be targeted to those living outside and working inside a cordon, the incentive to move closer to work (or, the incentive *not* to move farther from work) may vanish. It is evident that a

difficult trade-off between fairness of recycling on the one hand, and the efficiency impacts of such recycling on the other, will have to be made.

The calculated *effectiveness*, as reported in Table 1, is largely in line with international experience (Table 3). The predicted effect on peak hour traffic is larger than for the Norwegian cordons, which generally employ ‘flat’ daily taxes and in addition offer the possibility to buy ‘abonnements’, which further reduce the impact on mobility because the marginal toll is effectively reduced to zero. The predicted effects are closer to those realised with the new electronic system in Singapore. As will be argued below, however, the favourable predicted effectiveness has had little (if any) impact on the broad social feasibility. An important reason is that the predictions are often not believed by opponents, who in particular often make seemingly convincing statements based on the consideration of the flexibility of the typical, *average*, rather than the *marginal* morning peak road user(s).

**Table 3: Effectiveness of road pricing, international experience**

<b>Instrument</b>	<b>Reduction in road usage</b>
<u>Implemented</u>	
Bergen (Norway) cordon	-6 à 7 % per day
Oslo (Norway) cordon	-5 à 11 % per day
Trondheim (Norway) cordon	-5 à 10 % per day
Singapore (1992) Evening peak	-53 % in peak hours
<u>Experiment or estimated</u>	
Hong Kong cordon	-24 % in peak hours
Tiel bridge (Neth.) Abolition of toll	+68 % per day
Stockholm cordon	-14 % per day
Randstad (Neth.) cordon	-30 % in peak hours

Sources: SMALL & GOMEZ-IBAÑEZ (1998); VAN DER VLIST ET AL., (1998)

The opponents of Rekeningrijden pointed at the results from a study conducted by GOUDAPPEL COFFENG (1997). This study (done for the Dutch Ministry of Transport) suggested that drivers would not be so sensitive to tolling as has been concluded by the previous results. Many drivers have no alternative and do not have the possibility to avoid rush hours. Drivers with alternatives are people with a relative high income, this group will choose to pay the toll indicating that Rekeningrijden will only have a very small effect.

### **1.4.5 Equity/Fairness**

Equity is important in the context of acceptability of pricing measures. Many stakeholders raise objections about pricing measures that they perceive to be unfair. If a pricing measure is unfair either to themselves in relation to other people or to people perceived to be less well off in society then there could be significant acceptability problems. Transport pricing can often

be perceived to be a form of regressive taxation, allowing only those with enough money to access a resource (e.g. infrastructure) that was once considered free. Implementation strategies are therefore discussed that allow certain sections of the community to be exempted from pricing or compensate some groups with a lump-sum transfer. The problem of who should receive extra benefits (e.g. tax exemption) and the wider problem of making sure price measures are both equitable and perceived to be so, are important to be included in any successful implementation strategy. Here the concept of price discrimination shows up. In public transport, for instance, it is common that different prices are charged for the same service. Fare policy of governments may benefit particular groups of society, e.g. the elderly.

Public finance and tax literature makes the distinction between horizontal equity and vertical equity. Horizontal equity refers to the principle that says those who are in identical or similar circumstances should pay identical or similar amounts in taxes (STIGLITZ & DRIFFILL, 2000). It requires that those with equal status—whether measured by ability or some other appropriate scale—should be treated the same. If income were the only measure of a person, for instance, then two persons with equal incomes would be treated as equals. Vertical equity says that people who are better off should pay more taxes (STIGLITZ & DRIFFILL, 2000). This generally requires that those with less ability be treated favourably relative to those with greater ability.

The role of these concepts in transport can be illustrated by describing the implementation of road pricing and the use of the revenues. *Horizontal equity* implicates that similar users should pay identical tolls. But the question who ‘deserves’ the benefit (or revenues) according to this criterion is matter of debate. It can be defined as those who actually pay the toll, or it could also include those who change their behaviour (travel pattern), thereby incurring costs in terms of inconvenience, and providing congestion reduction benefit to the toll payers. So the difficulty is that the initial users of the road have become ‘unlike’ after the implementation of the charge and should be compensated. The use of road charges to fund public transport is an example. Horizontal equity is further complicated by the existence of externalities from motor vehicle use, including accident risk and environmental degradation. That vehicle use imposes costs on other people itself represents horizontal inequity. If the criterion is horizontal equity and external impacts are recognised, then revenues may be used to compensate for external costs (LITMAN, 1996). Funding candidates may include environmental and social programs that mitigate the harms of motor vehicle use. Compensation of external costs, however, may in turn, induce inefficient behaviour by victims (OATES, 1983; VERHOEF, 1994). This implies that (also) from this perspective, there may be trade-offs between efficiency and equity in the regulation of externalities.

*Vertical equity* is concerned with the treatment of individuals and classes that are unlike. By this principle, the distribution of costs and benefits should reflect people’s needs and abilities. Progressive tax rates, and need based services such as programs to help the poor, seniors and disabled people, are examples of policies reflecting vertical equity. Vertical equity is often measured with respect to income. This is an imperfect metric, since people with the same income often have very different needs and abilities. Road pricing is usually considered vertically inequitable because charges impose a relatively larger burden on the poor. For example, a € per day toll might be horizontally equitable (everybody pays the same amount), but vertically inequitable because it represents a larger portion of income for a low income driver than for a high income driver. This fact is tempered by the fact that lower income people drive less on average than those with higher incomes.

Another equity issue refers to spatial or *geographical equity*. This term is concerned with the treatment of individuals located in various regions or cities. Congestion pricing could be considered as unfair from this point of view as charges (depending on time and place) will differ among regions. Rekeningrijden is a clear example, toll booths were only foreseen for the Randstad area.

Despite the importance of equity, these issues have not dominated the discussions in the Netherlands on Rekeningrijden.

#### **Transport providers and their interest groups (Matrix cell 5.1)**

As far as we know, equity was not an issue to transport providers and their interest groups.

#### **Politicians and regulators (Matrix cell 5.2)**

It remains a political issue to decide on the design of the tolling measure and on the allocation of road pricing revenues and whether this is equitable. Whereas economic efficiency and equity can be evaluated with a certain degree of objectivity, political acceptability will reflect popular perceptions and the distribution of political power. When policy makers are not satisfied with the situation, implementation individual specific transfers can satisfy the distributional goals. If this redistribution may be realised without distorting the market mechanism, equity and efficiency can both be reached.

Politicians have considered fairness issues of Rekeningrijden, although revenue use played not such an important role when Rekeningrijden was firstly introduced by the coalition (1998). The importance of revenue use increased over time, it became an important tool to persuade local governments (buying acceptance).

It was argued that the effect on the overall *income distribution* was in fact negligible (BOOT ET AL., 1999). Depending on refunding, average net income increases with some 0.1 %. The charge itself will decrease income differences slightly, as higher income earners live further away from their working place than lower income earners. Also this presumably favourable feature of Rekeningrijden has had little impact on the broad social feasibility. Public debates often focus on the impacts for relatively small groups of disproportionately strongly affected road users. A classic example would be a low income working mother, who has to bring her children to school and cross a cordon on her way to work. Despite the small size of such groups, they often dominate in discussions on the fairness of road pricing proposals such as Rekeningrijden.

#### **The public and its interest groups (Matrix cell 5.3)**

Fairness was not amongst the arguments against Rekeningrijden put forward by the ANWB and did not play a decisive role.

#### **Media (Matrix cell 5.4)**

Fairness issues did not play an important role in the media coverage.

### **1.4.6 Social Environment**

#### **Transport providers and their interest groups (Matrix cell 6.1)**

It is unclear to which extent the social environment had an impact on opinion formation of the interests groups involved. Fact is that most employers' organisations were negative about

Rekeningrijden. It may be expected that most of these groups have discussed the issue with each other and tried to form a coalition (and serious opposition).

### **Politicians and regulators (Matrix cell 6.2)**

Politicians were most likely influenced by their own political party and the media. A clear example within our case study has been the VVD party (liberals). This party signed the coalition agreed in 1998, including Rekeningrijden. However, as time went by more and more members of the VVD party did not agree with what has been signed. The strong opposition from other interest groups and the media coverage made that Rekeningrijden was not acceptable anymore: commitment was decreased to very low levels.

Social pressure did not so much affect local politicians. These were afraid of the negative consequences in terms of re-locating firms outside the region as a consequence of the tolls, and opposing the system from the beginning. However, Amsterdam and Utrecht were tempted to participate in Rekeningrijden when the Minister of Transport promised that revenues were hypothecated to the regions.

### **The public and its interest groups (Matrix cell 6.3)**

There were different norms between members of the ANWB (car lobbyists) and environmental pressure groups. The social norm among car owners is that current car tax levels are excessive: they pay more than enough. This way of thinking goes together with the idea that currently available infrastructure is already financed by these taxes. Only new infrastructure may be financed by Rekeningrijden revenues. Environmentalists argue that the external costs (noise, emissions) are not included in car prices leading to excessive levels of mobility.

### **Media (Matrix cell 6.4)**

The media focused on the arguments put forward by the car lobbyists (ANWB). The Telegraaf probably assumed that most of their readers were car owners.

## **1.4.7 Implementation Process**

### **(Matrix cells 7.1 – 7.4)**

Implementation of Rekeningrijden was not foreseen to give any technical problems. Technical tests of the system showed that automatic payment by means of an in-vehicle payment unit worked reliably and in accordance with the requirements set for the test. Some minor problems were expected with very bad weather situations. Fraud was one of the arguments raised by the ANWB, but this had nothing to do with the toll collection system. Hence, the design of the system was not so much of a problem.

However, Rekeningrijden was regarded as a first experiment that, when successful (read: effective), would have been continued and enlarged. This offered also the possibility to adjust for some minor shortcomings during the first phase. At first the proposal was to focus on morning peak hours in the Randstad area, and the experiment would last for about one year. Increasing resistance led the Minister to focus on the cities of Amsterdam and Utrecht. In case of success Rekeningrijden would have been implemented in other congested areas of the Netherlands. The fact that it was an experiment has been very important in the discussion on implementation in the political arena. The VVD party stressed this fact when explaining their

viewpoint to the members and the media: it was only an experiment that could easily be stopped.

This implementation process could be seen as some form of gradualism and not as a 'big bang'.

#### **1.4.8 Political and Institutional Setting**

##### **(Matrix cells 8.1 – 8.4)**

The Netherlands has become well-known for their 'Poldermodel'. Difficult policy issues have been discussed with a wide variety of stakeholders and policy levels involved often leading to a considerable level of consensus. However, this model does have some drawbacks such as the sometimes very lengthy periods before an actual decision is made. This may be caused by the wide range of politicians and stakeholders that all may want to have impact on the final decision.

Initiatives such as Rekeningrijden can easily be developed and implemented on a local level. Various examples of successfully implemented road charging schemes have a local character. The problem is that local governments in these cases do have responsibilities and powers to implement these type of schemes. Legislation allows them to take action and solve local problems. This is not the case in the Netherlands where the national government needs to be involved in this. It may be doubtful whether this high policy level clearly understands what the exact problem is and capable of solving the problems. In addition, revenues could remain within the region making the communication to the citizen easy (the problem is perceived, and tolls paid are given back to the local population). The political setting (with the various responsibilities) in the Netherlands may have prevented an efficient implementation of Rekeningrijden.

#### **1.4.9 Other Issues: Coalition Formation**

Although already many has been said about Rekeningrijden, one important aspect has not yet been discussed: interaction and co-operation between different actors. A main reason for the successful lobby against Rekeningrijden was the fact that the Telegraaf, the ANWB and some interest groups from the transport providers (such as Bovag/RAI) supported each others campaigns and formed one strong coalition. This resulted in a strong and powerful lobby that influenced public opinion.

Two short examples may underline the issue of interaction between actors. The ANWB started in 1999 with an aggressive campaign against Rekeningrijden including for instance the use of bumper stickers. It immediately resulted in very many media attention. The Telegraaf continuously placed news on the ANWB campaign on the front cover; this emphasises the importance that was given to the subject. But this daily newspaper went one step further and launched an aggressive supplementary campaign. Public opinion polls were carried out showing the strong public opposition.

### **1.5 Summary**

The internal working paper formulates various hypotheses. In the previous we have mainly focused on the questions raised and provided some general information that we thought would

be relevant for the various analysis criteria concerned. Here we will try to comment on each hypothesis separately providing some sort of an overview.

### **Problem Perception**

In general transport companies and their interest groups will indeed perceive a policy problem from the viewpoint of profit maximisation. Congestion is a very serious problem to firms (high values of time) that may seriously affect the profits. Transport companies perceive congestion as a serious problem.

Congestion is a social problem. Politicians will perceive this as a problem, and not only when they are directly affected. It does depend on seriousness of the issues, apparently congestion is still not worse enough in the Netherlands to warrant pricing.

People do perceive congestion as a problem. Paying for congestion is expected to lead to high individual losses and not solve the problem.

The media perceive congestion as a problem because it affects many of their customers.

### **Goals**

Rekeningrijden might have been in favour of the interest of transport providers and their interest groups (congestion reduction). However, all these actors decided to oppose the introduction of the measure. Rekeningrijden was not perceived as an effective measure. The interest groups mainly used information provision to emphasise their opinion.

Politicians try to achieve social objectives, but without losing too many votes. Their strategy may have been to opt for a particular measure that reduces congestion without losing votes (a weighted average of congestion reduction measures and a maximum number of votes).

People feel that their personal welfare will decrease when a measure such as Rekeningrijden is implemented. The focus is on the monetary values (the charge) and many believe that there are no benefits in terms of less congestion.

Rekeningrijden became an issue that was of interest to a very wide audience of the media. Reporting on this issue would obviously raise profits. The Telegraaf presumably tried to affect the outcome in the interest of readership.

### **Information provision**

Transport providers and their interest groups may obtain their information from observations, research and expert opinions. But in this case it is most likely that information is obtained from public sources like newspapers, magazines and public studies.

The government and politicians have obtained most information on the effects of Rekeningrijden from research. Information published by the media may have been used to assess the public opinion.

The general public obtained information from the media.

The Telegraaf has done some own enquiries, and relied on information provided by the ANWB.

### **Effectiveness**

Transport providers will assess a transport policy as effective if it is guaranteed that congestion will be reduced. Indirectly this often means that profits will increase.

Rekeningrijden shows that a positive assessment of the effectiveness of a transport policy will not necessarily increase the regulators support of a policy. Research demonstrated that the policy measure would have been beneficial to society. This has not resulted in (sufficiently) increased policy support.

It may indeed be true that a more positive perception of the effectiveness of a transport policy by the public leads to more support. In this case Rekeningrijden was not perceived as effective by a majority of the public, and support levels were rather low.

The media paid some attention to the effectiveness of the measure, but the political debate and public opinion were more important issues.

### **Equity**

Equity was not so much of an issue to transport providers. This is in some way rather remarkable, as fairness nowadays is one of the important issues in the discussion on a kilometre charge. Transport providers support the idea of paying according to the distance driven (together with an abolishment of fixed taxes).

Equity is important to politicians, although it played a minor role in the first discussions on Rekeningrijden.

The media did not report about fairness, which may be caused by the fact that the audience did not regard this as the most important issue.

### **Social Environment**

Transport providers and their interest groups have orientated themselves along the opinion of their members and other interest groups, and most probably by the media and the ANWB in the case of Rekeningrijden.

The commitment to the policy by the various political parties was likely to be affected by their social norms. Only the VVD seemed to be influenced by the media and changed their viewpoint.

The perceived social norm towards Rekeningrijden was not really favourable, obviously resulting in low acceptability levels. Environmentalists tried to increase support for the measure but the environment was not an important objective of the measure.

The media has had an indirect impact on the social norm of the public and the transport providers.

### **Implementation Process**

Implementation would have been a big bang in the sense that tolls on Dutch highways have never existed before. However, Rekeningrijden was positioned as an experiment, continuation was dependent on first results and experiences.

Communication (via the media) about for instance objectives and revenue use of the policy measure is very important to create public understanding and acceptance, and not only for the affected public.

### **Concluding Remarks:**

The Dutch case of Rekeningrijden is an interesting case study for analysing the policy implementation process. A wide variety of institutions and organisations have played an important role in the implementation process of electronic toll cordons around the four biggest

cities in the Randstad area with the objective to reduce congestion. Various government levels were involved in the discussions and negotiations: the national government as a main decision maker, and the provinces and local governments (and in particular the four main cities) being affected by the tolls. But there were more actors with a stake in urban transport pricing. The plans received considerable opposition from several interest groups. Employers' organisations of transport firms, the ANWB and the media were heavily involved in the decision-making process and caused strategic opposition. In the end the Dutch government failed to implement Rekeningrijden.

The analysis of this case study (according to the proposed framework of identified criteria and actors) has revealed the following issues determining the overall level of success (or failure in this case):

- Congestion was the problem to be solved, it was perceived as a problem by most actors;
- Rekeningrijden was not perceived as an effective solution by most actors, other measures (e.g. pay-lanes) were considered better;
- Equity was not so much of an issue, but toll payments (a redistribution to government) of course were;
- The ANWB and the Telegraaf, together with some interest groups formed a strong coalition and had an enormous impact on the public opinion, acceptability levels were very low.

Finally, it can be concluded that the institution feasibility, in a close interplay with the broad social feasibility, was the major obstacle causing the withdrawal of the original Rekeningrijden plan. Future efforts, therefore, should probably take even more serious account of relevant institutions in the field and perhaps get them involved in preparations at an even earlier stage. Another lesson is that institutional barriers are important: by finding the right way to the media, a relatively small group of institutions could easily affect (or mobilise) the public opinion. Governments should also pay more attention to communication. In particular, the motivation for pricing, the projected effectiveness and the economic rationale have apparently not reached or convinced the opponents.