Chapter 6
General discussion

Introduction

Many believe that it is important to reduce car use and car ownership to mitigate the negative impacts of car traffic. Transport pricing policies are believed to be effective to manage travel demand, and therefore, their implementation is frequently considered. However, lack of public support for transport pricing policies often hinders their implementation. The aim of this thesis is to understand which factors affect the acceptability of transport pricing policies. We defined acceptability as an attitude towards transport pricing policies, that is, acceptability reflects a psychological tendency that is expressed by evaluating a transport pricing policy with some degree of favour or disfavour (cf., Eagly & Chaiken, 1993; 2007). We found that acceptability is strongly related to personal outcome expectations, that is, the extent to which people expect to be better or worse off after the implementation of transport pricing policies (Chapter 3). This suggests that acceptability can indeed be regarded as an attitude towards transport pricing policies.

The acceptability of transport pricing policies typically reflects a social dilemma: on the one hand, individuals are better off when they safeguard the individual benefits and evaluate transport pricing policies as unacceptable, but all individuals are better off in the long term when they try to safeguard collective outcomes and evaluate transport pricing policies as acceptable. According to the Greed-Efficiency-Fairness (GEF) hypothesis (Wilke, 1991), people are *a-priori* 'greedy' in a social dilemma, that is, they focus on maximising their individual outcomes. This suggests that the acceptability of transport pricing policies is low, because people do not want to give up the advantages of travelling by car or pay higher prices for travelling by car. Compensating the negative individual outcomes of car use may increase the acceptability of pricing policies. In Chapter 2, we studied whether compensating car users for negative consequences by allocating the revenues of transport pricing to individual car users indeed affects acceptability levels.

The GEF-Hypothesis states that people do not always act greedy, because they also have the desire to preserve collective resources ('efficiency'), and the desire to distribute the outcomes of policies fairly ('fairness'). Hence, we expected that when people are convinced of the efficiency and fairness of policies, the acceptability of these policies might increase. In Chapter 3, we studied the relative importance of expected individual and collective outcomes of transport pricing policies for their acceptability, the latter reflecting efficiency concerns. In Chapter 4, we examined whether and why acceptability of transport pricing policies increases after they have been implemented. More specifically, we investigated to what extent the expected individual and collective outcomes change after the implementation of a transport pricing policies, and whether this results in changes in the acceptability of these policies. Chapter 5 focuses on the relationship between fairness and acceptability by examining which distribution of the outcomes of pricing policies is most strongly related to overall fairness and acceptability of transport pricing policies.

In this final chapter, we give an overview of the main findings that were presented in this thesis. Furthermore, theoretical, methodological, and practical implications of the studies reported are discussed.

Compensating for negative consequences by revenue allocation

The GEF-Hypothesis states that people primarily focus on maximising their own outcomes. Therefore, we hypothesised that the acceptability of transport pricing policies will be higher when car users are compensated for the negative individual consequences of these policies via revenue allocation. In line with our hypothesis, we found that transport pricing policies are most acceptable when revenue allocations benefit individual car users. More specifically, we found that transport pricing policies are most acceptable when revenues are used to benefit car users directly (viz. decrease or abolish fuel and vehicle taxes) rather than when revenues are allocated to public transport or general public funds. This is comparable with results of other studies on the effects of revenue use on the acceptability of transport pricing policies (e.g., Schade & Schlag, 2003), and on the acceptability of pricing policies that promote energy conservation (Steg et al., 2006).

Based on our results, one can conclude that revenues of transport pricing policies should be used to reduce car-related taxes in order to increase the acceptability of these policies. However, pricing policies may be less effective when the revenues are used to reduce car-taxes. For example, commuters indicated to reduce their car use more when revenues of a flat kilometre charge would be allocated to decrease labour taxes than when they were allocated to decrease car-related taxes (Schuitema, Steg, & Vlek, 2007). Thus, transport pricing policies may be more acceptable when revenues are allocated to benefit car users, but they may be less effective as compared to when revenues are not allocated to benefit individual car users. It is important to consider the expected effects of transport pricing policies on car-related problems as well, as the results of Chapter 3 and 4 indicated that the acceptability of transport pricing policies is higher when these policies are perceived to be effective in reducing these problems.

From an economical point of view, using revenues to decrease car-related taxes is not the most efficient hypothecation of revenues, because the total welfare benefits may not be optimal or even decrease (see also, Ubbels, 2006). From a psychological point of view, using revenues to decrease car-related taxes is not optimal either, because this signals two contradicting messages to car users. On the one hand, people are directly charged for using their car, which is potentially very effective in changing their car use, because undesired behaviour (car use) is directly linked to an incentive (charge) (cf., Geller, 1989). On the other hand, by allocating revenues to reduce car-related taxes, the government promotes the possession and use of a car by means of tax reductions, which may signal that the government approves of car driving. In conclusion, earmarking the revenues to benefit car users can increase the acceptability of policy measures. However, the effectiveness and efficiency of these revenue allocations should be taken into account as well, and these are probably not optimal in this case.

An interesting finding of the studies in Chapter 2 is that the effect of revenue allocation on the acceptability of transport pricing policies depended on the research design used. In the first two studies, we examined how revenues use affected the acceptability of two transport pricing policies when a reference was made to a specific policy measure, whereas in the third study, single revenue allocations were evaluated without a reference to a specific policy measure. When revenue allocation was explicitly linked to a detailed description of a pricing policy, investing in infrastructure was not very acceptable. In contrast, when revenue allocation was not connected to a specific policy measure, investing revenues in infrastructure was considered to be acceptable. Apparently, people found investments in infrastructure not acceptable when they

realised they had to pay themselves for these investments. This implies that research designs can significantly affect the outcomes of a study. This should be carefully considered when studying revenue use. One should choose research designs that best fit the aim of the particular study. If the aim is to examine differences in the evaluation of a specific topic such as revenue allocation, a reference to the context may not be very important. In that case, revenue allocations can be presented without a link to a pricing policy. However, when the aim is to examine the evaluation of a pricing policy as a whole, including revenue allocation, a reference to the context of a transport pricing policy is necessary.

Increasing efficiency

Acceptability and expected effects of transport pricing policies

The GEF-Hypothesis states that people do not always try to maximise their own outcomes, because they also have the desire to preserve collective resources ('efficiency'), and thus consider the interests of the collective. Indeed, our results indicate that concerns with efficiency are highly relevant for acceptability (Chapter 3). We found that acceptability of transport pricing was mainly determined by the expected effects on car-related problems (viz., congestion and environmental problems), and hardly to the expected effects on one's own car use, which typically reflects an individual outcome. In Chapter 3, we found that the acceptability of transport pricing policies increases because people expect reductions in collective problems. These collective benefits may also benefit individual car users, for example when travel times or noise levels decrease. This suggests that acceptability can be strengthened by stressing that transport pricing decreases car-related problems, because people care about their own and the collective interest. This conclusion is in line with a study by De Groot and Steg (2006) that revealed that individual quality of life would hardly change when transport pricing policies would be implemented, because the negative effects (e.g., deteriorations in comfort, money and freedom) were compensated by positive effects (e.g., improvement of environmental quality).

The outcomes of a policy depend on the specific objective of a policy. For example, a congestion charge will particularly reduce traffic jams, while environmental taxes will typically reduce environmental problems and not congestion. We suggested that acceptability of a particular policy depends on the extent to which that policy will have the specific expected effects. Indeed, we found that when the aim of a policy is to decrease the impact of car traffic on the environment, acceptability is most strongly related to the expected environmental effects of these policies, but when a policy is mainly aimed at reducing congestion, acceptability is most strongly related to the expected effects on congestion levels.

Chapter 3 and Chapter 4 revealed that transport pricing policies were more acceptable when people expected to reduce their own car use. In addition, results in Chapter 4 show that also after the implementation of a transport pricing policy, acceptability was higher when people had reduced their car use. These results are in contrast with a study of Jakobsson, Fujii, & Gärling (2000), which showed that acceptability decreased when people expected reductions in their own car use. An explanation may be that Jakobsson and colleagues did not included expected effects of policies on collective problems in their model to predict acceptability. Our results suggest that transport pricing policies are acceptable when the problems caused by car use are expected to reduce, even though this may have some negative consequences for individuals.

Differences in acceptability before and after the implementation of transport pricing policies

We hypothesised that the acceptability of transport pricing policies may increase after their implementation because people experience the positive effects of the policy, that is, they perceive that problems actually decrease. We tested this hypothesis in Chapter 4. We first examined the differences between the expected and perceived effects of a congestion charge in Stockholm (see also Box 1.2). We found that inhabitants of Stockholm indicated that congestion, parking problems, and pollution had decreased more after the implementation of the charge than they had expected beforehand, and that financial costs were lower after the charge than was expected before the implementation. Thus, overall, inhabitants of Stockholm were more positive about the effects of the congestion charge after its implementation as opposed to beforehand. We found that acceptability increased after the implementation of the congestion charge as well.

Second, we examined the relationship between the acceptability of the charge and the expected effects before its implementation and the relationship between the acceptance and the perceived effects after its implementation. Before the implementation of the congestion charge, acceptability judgements were determined by the expected effects on one's own car use and travel costs, whereas the expected effects on one's own car use and parking problems predicted acceptance judgements after the charge was implemented. So, after the charge was implemented, people more strongly focused on the positive consequences of the charge (i.e., less parking problems), while before the trial, they particularly focused on the negative (financial) consequences of the charge for themselves. Thus, our results indicate that the inhabitants of Stockholm focus less strongly on the negative effects and more strongly on the positive effects of the congestion charge after the charge was implemented than beforehand.

In conclusion, we found that, as opposed to before the implementation of the charge, inhabitants of Stockholm considered the charge to result in more positive consequences, and they focused more strongly on the positive consequences after the implementation of the charge. These results suggest that the acceptability of the charge was higher after its implementation because inhabitants of Stockholm experienced positive consequences of the charge, confirming the hypothesis that is often posed in the literature (Jaensirisak et al., 2005; Odeck & Bråthen, 1997; 2002; Rienstra et al., 1999; Schade & Schlag, 2000; Schlag & Teubel, 1997; Stockholmförsöket, 2006; Tretvik, 2003; Winslott-Hiseliu et al., 2008). Other studies also suggest that public support for structural changes increases after positive experiences with these changes. For example, it was shown that the acceptability for building wind energy turbines was higher for those who perceived benefits from these turbines after the turbines were built (Wolsink, 2007). Also, driver support systems aimed at increasing safety, efficiency and comfort during driving were more acceptable after people experienced the advantages of such systems (Brookhuis, Cornelie, Hof, van Arem, & Hoedemaeker, 2009). In conclusion, the acceptability of structural changes is likely to increase when people have positive experiences with them.

One may argue that the acceptance transport pricing policies after its implementation is always higher than their acceptability before the implementation, even when acceptability is initially low. However, our results suggest that this is only true when people experience the positive effects of the policy. When effects are less positive than expected, acceptability levels will probably not increase after the implementation of a policy. For example, Schlag en Teubel

(1997) argued that a toll ring in Stuttgart was less acceptable after its implementation due to a lack of positive experiences with this policy measures. Consequently, an important precondition for increased acceptability over time is that people actually experience the positive effects of policies.

Fair and acceptable distribution of policy outcomes

The GEF-Hypothesis states that people do not always have the tendency to maximise their own outcomes, because they have a desire to distribute outcomes of a policy fairly as well. We assumed that the overall fairness and acceptability of transport pricing policies depend on different fairness principles, that is, different evaluations of the distribution of policy outcomes. The GEF-Hypothesis states that a fair distribution of policy outcomes implies an equal distribution of the costs and benefits (Wilke, 1991). However, distributions based on other fairness principles may be relevant for the overall fairness and acceptability of transport pricing policies as well. In Chapter 5, we identified six fairness principles, reflecting different distributions of policy outcomes, that are potentially relevant for the overall fairness and acceptability of transport pricing policies: (1) being financially worse off than before policy implementation, (2) being worse off than others after policy implementation, (3) equality, (4) policy outcomes proportional to income, (5) policy outcomes proportional to one's contribution to problems and (6) environmental justice. We studied the relative importance of these six fairness principles for the overall fairness and acceptability of transport pricing policies. To test the robustness of our results, six policies measures that differed in overall fairness and acceptability were evaluated.

In general, two fairness principles were found to be systematically related to the overall fairness and acceptability of transport pricing policies. That is, overall fairness and acceptability was higher when these policies protected nature, the environment and future generations (reflecting environmental justice) and, to a lesser extent, when these policies were believed to guarantee an equal distribution of the outcomes (equality). Environmental justice reflects a concern with collective considerations, because collective resources are preserved (Clayton, 2000; Wade-Benzoni & Tost, 2009a). Equality is usually also associated with a concern with collective outcomes, because individuals or groups will be equally affected (Lerner, 2003; Schwartz, 1977). Interestingly, the fairness principles that typically reflected egoistic concerns (i.e., being financially worse off and being worse off than others) were not systematically related to the overall fairness and acceptability of the six transport pricing policies. This suggests that the overall fairness and acceptability of some transport pricing policies is not systematically related to fairness principles merely reflecting egoistic concerns, but that environmental justice and equality are more important for the overall fairness and acceptability of transport pricing policies in general. So, the results of Chapter 5 suggest that the overall fairness and acceptability of transport pricing policies is most consistently related fairness principles reflecting collective considerations, which is in line with previous studies (e.g., De Groot & Steg, 2009a; Eriksson et al., 2006).

Of course, environmental justice and equality may also reflect self-interest to some extent, that is, individuals may also benefit when policy outcomes are distributed on the basis of environmental justice or equality. For example, when nature, the environment and future generation are protected, individuals may benefit from improved air quality. Equal distributions

of policy outcomes allows people to justify allocating a certain amount of the outcomes to themselves, without feeling guilty of treating others unfairly (Messick & Sentis, 1979b; Messick & Schell, 1992).

A distribution of policy outcomes based on environmental justice is typically aimed at reducing collective problems related to car use. Overall, the fairness principle environmental justice was shown to be the most important determinant of acceptability and overall fairness of six policy measures. The results in Chapter 5 imply that acceptability (and fairness) of policies is most determined by the extent to which people expect collective car-related problems to reduce, which aligns with the results in Chapters 3 and 4.

Our finding that the fairness principle environmental justice was most strongly related to fairness and acceptability of all six policy measures may be explained by the specific policy measures that were evaluated in this study: all six policy measures were particularly aimed at improving environmental quality. One policy measure focused on reducing car use by either increasing costs when people's annual mileage was above average or by decreasing costs when people's annual mileage was below average. The other policy measure focused on changing car ownership by decreasing costs for those who would purchase an energy-efficient car or increasing costs for those who would purchase an energy-inefficient car. Environmental justice may be particularly important for the acceptability of policies that aim to improve the environmental quality. This reasoning is supported by the results reported in Chapter 3, which indicate that the environmental effects of transport pricing policies were particularly considered to be important when the policies aimed to reduce environmental problems. It is plausible that our results can be generalised to other environmental policies, that is, protecting nature, environment and future generations will probably be important for the overall fairness and acceptably of policies that aim to improve the environmental quality in general (see also, Clayton, 2000), while environmental justice is probably less predictive of overall fairness and acceptability of policies outside the environmental domain. Future studies are needed to test these hypotheses.

Theoretical implications

We proposed a theoretical framework to explain the acceptability of transport pricing policies: the Greed-Efficiency-Fairness Hypothesis (Wilke, 1991). The GEF-Hypothesis states that people do not always try to maximise their own outcomes ('greed'), but they also have the desire to preserve collective resources ('efficiency') and to distribute outcomes of policies fairly ('fairness'). The results of this thesis indicate that 'greed', 'efficiency', and 'fairness' are all related to the acceptability of transport pricing policies. This indicates that the GEF-Hypothesis is a useful theoretical framework to explain the acceptability of transport pricing policies.

In Chapter 3, we examined the relative importance of 'greed' and 'efficiency' for the acceptability of transport pricing policies. We found that that reducing car-related problems was more strongly related to the acceptability of transport pricing policies than the expected effects on one's own car use. This result supports the GEF-Hypothesis that people do not always focus on their own outcomes, but they also have the desire to preserve collective resources.

The GEF-Hypothesis assumes that a fair distribution of outcomes implies an equal distribution of policy outcomes (Wilke, 1991). An equal outcome distribution is assumed to reflect collective as well as individual considerations, that is, equal distribution will guarantee

that groups or individual will not be affected disproportionally and that individuals will get a certain amount of outcomes without feeling guilty of treating other unfairly (e.g., Messick & Schell, 1992; Schwartz, 1977). In Chapter 5, we studied the relative importance of fairness principles that reflect collective considerations (including equality) and fairness principles that reflect egoistic concerns. In line with the GEF-Hypothesis, equality was indeed important for the overall fairness and acceptability of transport pricing policies. However, the fairness principle environmental justice was found to be most strongly related to overall fairness and acceptability judgements. Therefore, our results suggest that equality is not always the most important fairness principle that predicts acceptability judgements.

In this thesis, 'greed', 'efficiency' and 'fairness' were studied separately in relation to the acceptability of transport pricing policies. Also, the relative importance of own outcomes ('greed') and collective outcomes ('efficiency' and 'fairness') for acceptability was studied. Future research should study the relative importance of 'greed', 'efficiency' and 'fairness' for the acceptability of transport pricing policies in one study.

Methodological implications: scenario versus real-life studies

In Chapter 2, 3 and 5, we used scenario studies to examine the acceptability of transport pricing policies, whereas in Chapter 4, we studied the acceptability of a policy that was actually implemented, that is, the congestion charge in Stockholm. All studies revealed that acceptability of transport pricing policies was low before the policies were implemented. Also, people were sceptical about the effects of transport pricing policies on car-related problems as well as on their own situation (e.g., own car use, travel costs) (Chapter 3 and 4). Interestingly, with respect to people's expectations about the consequences of transport pricing policies, the results in Chapter 3 and 4 are comparable: before transport pricing policies are implemented people hardly expect changes in, for example, congestion and pollution levels. Furthermore, the results of Chapter 3 and 4 both suggest that the acceptability of transport pricing policies is higher when people expected to change their own car use. Apparently, respondents are well able to understand and visualise the consequences of scenarios of transport pricing policies that reflect hypothetical policies. Hence, both scenario studies and real-life studies are a valid and useful approach to examine which factors are related to the acceptability of transport pricing policies before they are implemented.

The results in Chapter 3 and 4 differed with respect to the relative importance of the expected consequences of transport pricing policies for their acceptability. In Chapter 3, the acceptability of transport pricing policies was most strongly related to the expected reductions in car-related problems, whereas the effects on car-related problems did not predict the acceptability of the congestion charge in Stockholm before its implementation (Chapter 4). Apparently, when transport pricing policies are actually implemented, people focus more strongly on their own outcomes (e.g., car use, travel costs) than when they evaluate hypothetical transport pricing policies. Consequently, people may consider collective interests somewhat more strongly when evaluating hypothetical transport pricing policies than when they evaluate policies before they are actually going to be implemented.

Scenario studies are generally very useful to understand which factors affect the acceptability of policies before they are implemented. The added value of studying policies that are actually implemented is that changes in acceptability can be measured and understood as

well. In Chapter 4, we have made a first attempt to study differences in acceptability before and acceptance levels after a policy implementation *and* factors that explain these differences. Our results suggest that it is very important to monitor how and why acceptability levels change when pricing policies are implemented.

Some limitations of our studies should be taken into account when comparing the scenario studies in Chapter 2, 3 and 5 with the real-life study in Chapter 4. First, a congestion charge was studied in Chapter 4, whereas in Chapters 2, 3 and 5 other types of transport pricing policies were examined. Moreover, our studies took place in different counties, that is, Chapter 4 is based on Swedish data and the Chapters 2, 3, and 5 on Dutch data. Therefore, our conclusions remain tentative until they are validated by future studies.

Practical implications: guidelines for policy makers

We argued that the acceptability of transport pricing policies can be increased by (i) compensating individuals for the negative consequences of these policies, (ii) highlighting positive effects of transport pricing policies on collective problems, or (iii) increasing the fairness of policies, in particular by stressing the extent to which policies protect nature, the environment and future generations, and guaranteeing that every individual is equally affected.

When the acceptability of transport pricing policies increases because car users are compensated for the negative consequences, for example, by reducing car-related taxes, an appeal is made on their tendency to maximise their own outcomes ('greed'). However, transport pricing policies are probably less effective and efficient when individual car users are financially compensated. Moreover, results indicate that the acceptability of transport pricing policies depends less strongly on the expected and perceived negative consequences of transport pricing policies than on the expected and perceived reductions in collective car-related problems. Therefore, particularly stressing that transport pricing policies have positive effects on collective car-related problems seems to be a good strategy to increase acceptability levels. Our results indicate that people are very sceptical about the effectiveness and fairness of transport pricing policies, which explains why acceptability levels are low. What can policy makers do to increase the odds that transport pricing policies are more acceptable to the public (see also Box 6.1)? One conclusion that can be drawn from the results reported in this thesis is that people consider both their own interests as well as the interests of the collective when evaluating the acceptability of transport pricing policies. Stressing that reducing car-related problems benefits both the collective and individuals reduces the conflict between collective and self-interests (see also, De Groot & Steg, 2009a). For example, it can be explained that reductions in congestion will benefit the collective, but will probably decrease travel times for car users as well. Or, it can be stressed that increasing the environmental quality will benefit the collective including future generations, but is also likely to improve the local air quality and reduce the negative impact of car traffic on health problems. Thus, acceptability will be higher if authorities stress how and why transport pricing policies will result in positive effects on collective car-related problems, and how individual car users will benefit from this too.

Our results indicate that people are very sceptical about the effectiveness and fairness of transport pricing policies, which explains why acceptability levels are low. What can policy makers do to increase the odds that transport pricing policies are more acceptable to the public (see also Box 6.1)? One conclusion that can be drawn from the results reported in this thesis is

Box 6.1 Advise to the Dutch Minister of Transport[1]

On November 30 2007, the Dutch Minister of Transport presented his plans to implement a national kilometre charge (see also Box 1.1). One of the main premises of this presentation was to get public support for the plans. What can we conclude about the public support for the national kilometre charge on the basis of this thesis?

First of all, the Minister focuses on three factors, that is, revenue allocation, the perceived effects and fairness of the kilometre charge. This is an excellent starting point, because these three factors are important factors for the acceptability of pricing policies.

The Minister stressed that the revenues of the kilometre charge will be used to abolish current car taxes. The results of this thesis indicate that public support for the kilometre charge will indeed increase when revenues are returned to the car users. Therefore, this is likely to increase public support for the kilometre charge. However, it is questionable whether reducing car-related taxes will result in stable and long term public support for the policy, because, as a result, the kilometre charge is probably less effective and efficient. Our results suggest that the acceptability of the kilometre charge depends on the extent to which people believe that the charge is effective and efficient. Hence, allocating revenues to abolish existing car taxes may be less acceptable in the long term.

The Minister explains how the kilometre charge will decrease congestion, which is a good starting point. However, he hardly explains how kilometre charge will improve environmental quality, while this seems to be one of the aims of the charge as well (see, Dutch Ministry of Transport, 2007). The results of this thesis indicate that the (expected) environmental effects of the charge should be clearly explained as well, because effects on environmental quality were found to be one of the main factors explaining the acceptability of transport pricing policies. In this respect, the Minister could have made better use of the examples from abroad. Although the Minister indicates that case evidence from abroad shows that people do change their car use after the implementation of pricing policies, he does not explain which positive effects (e.g., on environmental quality, congestion, and accessibility) were achieved. The congestion charges in London and Stockholm would have been good examples to explain the positive consequences of pricing policies for individuals and the collective. Moreover, trials with the kilometre charge, particularly in densely populated areas with serious car-related problems, may increase the acceptability of the kilometre charge as far as people actually experience the positive effects of such trials.

The Minister claimed that the design of the kilometre charge is a fair one, because car use is charged instead of car ownership. This refers to the principle 'the polluter pays', indicating that the more people contribute to problems (e.g. congestion, pollution), the more they pay. The results in this thesis suggest that the polluter pays principle is not considered to be the most fair and acceptable distribution of the costs and benefits of the kilometre charge. We found that distributing the costs and benefit equally among people and, especially, protecting nature, the environment, and future generation were more important fairness principles. Consequently, the Minister should stress how the kilometre charge affects future generations and environmental quality, and how costs and benefits are equally distributed.

[1] Recently, Camiel Eurlings, Dutch Minister of Transport, announced that he is not electable after the national elections in June 2010. We hope this advice is useful for his successor.

that people consider both their own interests as well as the interests of the collective when evaluating the acceptability of transport pricing policies. Stressing that reducing car-related problems benefits both the collective and individuals reduces the conflict between collective and self-interests (see also, De Groot & Steg, 2009a). For example, it can be explained that reductions in congestion will benefit the collective, but will probably decrease travel times for car users as well. Or, it can be stressed that increasing the environmental quality will benefit the collective including future generations, but is also likely to result improve the local air quality and

reduce the negative impact of car traffic on health problems. Thus, acceptability will be higher if authorities stress how and why transport pricing policies will result in positive effects on collective car-related problems, and how individual car users will benefit form this too.

Reducing car-related problems will most likely result in higher acceptability levels when people are aware of the negative consequences of car use (Schade & Schlag, 2003; Steg & Vlek, 1997). Awareness about car-related problems tends to be particularly high in densely populated areas (Jones, 1991b), probably because problems are most visible in these areas. Consequently, the acceptability of transport pricing policies may particularly increase in areas that face serious problems from car traffic, provided that people expect that these policies will indeed decrease car-related problems. So, to increase acceptability levels, transport pricing policies should particularly be implemented in densely populated areas that face serious traffic problems. Moreover, it should be clear to the public that the odds that objectives of transport pricing policies are achieved are high. In this respect, referring to successful examples of the positive effects of transport pricing policies in cities such as Stockholm and London can increase acceptability.

Which objectives transport pricing policies need to achieve in order to be acceptable and effective depends on the particular location in which transport pricing policies will be implemented. We found that acceptability was higher if people expected policies to improve environmental quality or reduce congestion levels (Chapter 3 and 4). Often, policy documents and reports focus primarily on reducing congestion, while improving environmental quality is not the main goal (e.g., Eddington, 2006; see also Box 1.1). Our results suggest that people think transport pricing policies should aim to reduce environmental problems as well. In fact, our results showed that a policy measure mainly aimed at reducing environmental problems was more acceptable than a policy mainly aimed at reducing congestion levels (Chapter 3). Consequently, improving environmental quality is an important goal to legitimise the implementation of transport pricing policies.

Finally, the result in Chapter 4 suggest that the acceptability of transport pricing policies is likely to increase when people perceive and experience positive effects of transport pricing policies. The case study in Stockholm is a good example of how the public opinion can change in favour of a policy after it is implemented. A trial was held during 7 months, which enabled inhabitants of Stockholm to experience the positive and negative effects of a congestion charge. In this respect, it was important that problems indeed decreased during the trial in Stockholm, so that people could actually perceive and experience the positive effects of the congestion charge. Moreover, a compulsory referendum was held after the trial, giving inhabitants of Stockholm a feeling of control over the final decision. The acceptability of transport pricing policies can increase during a trial period, provided that the positive effects of the policy can be perceived and experienced by the public during the trial.

Final remarks

Hopefully, this thesis contributes to the ongoing debate on the implementation of transport pricing policies by providing a better understanding of the factors that are related to the acceptability of transport pricing policies. Our studies show that transport pricing policies are more acceptable when they are effective in reducing car-related problems. However, people should be convinced that the objectives of policy measures will be achieved, and that car-

related problems will actually decrease. Acceptability will increase when people expect to personally benefit from the implementation of transport pricing policies, but also when they expect beneficial effects for the collective, such as improvements in environmental quality or reductions in congestion. The latter may also benefit individuals, for example because the air quality improves or travel time decreases. In order to increase the acceptability of transport pricing policies, politicians should stress the positive effects of the policies on car-related problems, rather than stressing that the negative effects on individual car users are small. Also, acceptability of policy measures will increase when people have the opportunity to experience the positive effects of a policy measure, for example via trials.