

## **Controversial policies**

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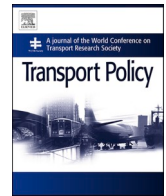
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# Controversial policies: growing support after implementation. A discussion paper

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## ABSTRACT

The support for controversial policies in the area of transport often increases after real-world implementation. In this paper, we provide a comprehensive overview of the literature surrounding the implementation of controversial policies in transport, particularly in the context of road pricing. We then discuss various theories and mechanisms that contribute to an increase in support for such policies after real-world implementation. One significant factor is a change in attitude towards a policy. However, there are also other important factors, for example the utility experienced by people is not necessarily the same as the expected utility. In addition, people may be loss-averse relative to their reference point (often: their current situation). The disadvantages of a policy considered for implementation may be clearer than the advantages. Other factors discussed are the effect of the expected distribution of gains and losses, their magnitude, and perceptions of the processes being fair and competent. We then examine the implications of increased support after implementation, important lessons being that policymakers can anticipate growing support after implementation and that communication is key in the process of deciding on a controversial policy. In this regard, we propose that having a champion, or visionary, can be particularly effective in getting controversial policies accepted. Finally, we suggest avenues for future research.

## 1. Introduction

Different theories aim to understand public policy stability and change over time. Within this field of policy theories, the multiple streams framework (developed in 1984 and updated by Kingdon, 2010), the Advocacy Coalition Framework, the Institutional Analysis and Development framework), and the punctuated equilibrium theory are the most well-known (see Sabatier and Weible, 2007; Schlager, 2007; Sabatier and Weible, 2014). The key assumption in all these theories is that policy-making is not a rational choice approach at all. Actors involved in a specific policy process almost always differ in their ideas about ‘best’ solutions and often disagree on the problem a (proposed) policy aims to solve. They also have often divergent and sometimes limited resources for processing the policy information available (e.g., impact estimates). On top of this, the final decision-makers always have to choose between various policy options and take uncertainties into account (e.g. the future impacts or cost-benefit outcomes of candidate policies are dependent on assumptions about future developments which are inherently unclear). So, public policymaking in many areas is

broadly speaking unpredictable and very challenging.

One field to which this applies is transport. For example, many (categories of) transport policies could be introduced to improve accessibility and health, or to reduce the negative impacts on the environment and safety. One can think of pricing policies (e.g., road pricing, levies on fuels and vehicles, subsidies, fiscal measures for commuting), regulations (e.g., for emissions and safety standards of vehicles) and fuel infrastructure policies (building or extending roads, rail, ports, airports, cycle lanes, and so forth), land-use policies (for example, zoning, actively promoting forms of urban development), specific public transport policies (e.g., subsidies), marketing, information, and communication (Van Wee, 2009). Policymakers can choose from all these available options. In the choice that they make, estimations of the expected effects (accessibility, travel times, congestion levels, emissions, safety, health) play a role, as well as comprehensive evaluations of the combinations of such effects (Cost-Benefit Analysis, Multi-Criteria Analysis, and others; see Mouter, 2020).

However, in accordance with public policy theories, the expected effects and comprehensive evaluations are not the only factors taken

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into account by decision-makers. The expected support for candidate policy options by the wider public and other actors also count. For example, Vonk Noordegraaf et al. (2014) show that for road pricing policies all over the world political and public support are the most prominent generic implementation factors, explaining the failure or success of adopting such policies. One reason for this is that politicians (national, regional, local) aim to be (re) elected, as explained by political economics (e.g., Feitelson and Salomon, 2004) and more specifically by Public Choice Theory (Buchanan and Tullock, 1962). It is obvious therefore, that their preference for policies also depends on the expected support for those policies by their voters.

This raises important questions such as: *‘Which public support is relevant for politicians? Is this only the support before the choice to (not) implement a policy is made? Or is how support for this policy option might change over time after the implementation also relevant in the decision to adopt a policy (or not)?’*

It seems plausible that support for controversial policy options in particular might change over time. Think of pricing policies, parking policies, and built environment policies that downplay the role of the car, benefiting public transport, walking and cycling, and making the environment more pleasant for non-car users (e.g., greenery and playgrounds). We argue that because support for policy options can change over time, it is relevant to understand (a) why support changes or not, and if so (b) how large such changes are. To answer question (b) a literature review would be a suitable approach. But systematic searches in SCOPUS using combinations of keywords like “support” “policy support” “controversial” “pricing” “road pricing” “parking” “car free” revealed too few publications for a systematic literature review. This is striking because of the relevance of understanding changes in support for policies. On the other hand, this finding fits the often-made general remark in debates on transport policies that ex-post analyses should be made more frequently to learn from policies and to examine how (in) accurate ex-ante estimates of the effects of candidate policies were. The Netherlands Institute for Transport Policy drafted a report in 2009 on the importance (and lack of) ex-post practices in transport policy evaluation in the Netherlands and abroad (Berveling et al., 2009). Since then, there has been no emergence of a lively ex-post evaluation of transport policy practice either in the Netherlands nor, as far as we know, abroad, despite the fact that ex-ante estimates of the costs and benefits of transport projects still often turn out to be inaccurate ex-post (Flyvbjerg and Bester, 2021). Studying changes in the support for policies before and after implementation could be another important goal of ex-post studies.

So, instead of reviewing the literature, we decided to write a discussion paper that aims to contribute to the debate on changes in support for controversial policies by (a) discussing why such support might change over time, based on theoretical reflections (section 3), (b) discussing possible implications of changing policy support (section 4), and (c) providing a research agenda (section 5). Initially, Section 2 gives an overview of possible controversial policies and the literature on changing support. Section 6 finishes the paper with some concluding remarks.

Note that this paper is explicitly about the change in support before and after the implementation of controversial transport policies, not about general factors that influence support. There are many papers discussing such support (e.g., Gu et al., 2018; Busse and Siebert, 2018; Huber and Wicki, 2022 to mention just a few).

## 2. Literature: an overview

Before discussing the (scarce) literature on support before and after the implementation of transport policies, we explain the terminology with respect to support for policies. This terminology is complex, using terms like ‘acceptance’ and ‘acceptability’ that appear to be synonyms but are actually quite different. Other scholars use terms like attitudes, beliefs, and perceptions, which also require a clear definition. For a

broad discussion, we refer to Busse and Siebert (2018). From the perspective of this paper, we adopt the descriptions of Schuitema et al. (2010) referring to acceptability as attitudes before implementation of a policy (in their case: road pricing), and acceptance as the attitude after the implementation.

Note that acceptance and acceptability focus on attitudes, and from that perspective acceptance and attitudes can be measured directly via questions about attitudes. Schuitema et al., (2010):102 define beliefs as *‘the subjective probability that an object has a certain outcome’*. For example, people might have certain ideas about the impact of a road pricing scheme on congestion levels, or of the impact of paid parking on the probability that parking places are available at a certain location and time. Beliefs determine attitudes (Schuitema et al., 2010). Perceptions play an important role in beliefs because beliefs are not about the real effects of a policy, but about the subjective estimates of the effects of a policy. What the literature on support before and after implementation of policies (see next section) has in common, is first that it either assesses the support via one or more of the terms discussed above, often in quantitative terms. Secondly it studies the factors influencing such support. Research by Hensher (2013) supports the idea that it makes sense to study acceptability (or acceptance) as an indicator of support because his research shows that acceptability of road pricing is very strongly correlated to voting intentions, and voting behaviour is important for politicians. Apart from what one wants to know, in this case, the level of support, it is also important how it is measured. Operationalisations as found in the literature range from scores on Likert scales to stated positions in a referendum.

Many candidate transport policies that led to changes in the status quo lead to a lot of debate, even in the case of smaller projects, such as installing a crosswalk with a stop sign, or converting a few parking places into a small park. So, the labelling of policies as controversial or not is not ‘black or white’, the level of controversy is a gradual concept. Consequently, we do not aim to give a crystal-clear definition of what a controversial policy is. In general terms, we define controversial policies as policies on larger scale projects that have a relatively large impact on travel behaviour (travel times, speeds, mode choice) and that fuel much debate between proponents and opponents. Below we give four cases of controversial transport and the built environment policies that many people will recognize: 1) road pricing, 2) parking policies, 3) reducing the speed limit on highways, and 4) taxing flying. We can think of many more examples, such as the construction (or not) of high-speed rail lines, motorways, airports, the obligation to wear helmets on two-wheelers, zero-emission policies for motorized vehicles, zero or low emission zones, and free public transport. We have chosen the four types of policies presented because we think that support for these types of policies is especially likely to increase after the real-world implementation. Empirical evidence supporting this assumption is only available for road pricing, see Table 1 for an overview. We limit our overview to academic literature as found via SCOPUS, and exclude grey literature, social media, newspapers, etc.

First of all, road pricing policies are definitely a kind of policy that can be considered controversial. About a century ago Pigou (1920) and Knight (1924) explained why, in the case of congestion on roads, road pricing would lead to welfare gains: in the case of scarce capacity pricing results in efficient allocation and, therefore, welfare gains. Nevertheless, the number of real-world implementations has been limited so far (Vonk Noordegraaf et al., 2014), with examples being Singapore, Stockholm, Norwegian cities, London, Malta, and the National scheme for lorries in Germany (MAUT). In the study of Vonk Noordegraaf et al. (2014) six real-world road pricing schemes were analysed in-depth (Singapore, Hong Kong, London, Edinburgh, Norway, Stockholm) showing that for all six cases political and public support issues were among the most mentioned factors explaining the success or failure of adoption.

Secondly, parking policies aiming to reduce the capacity of parking (generally: in central urban areas) or which introduce paid parking are often difficult to implement. Local municipalities hesitate to implement

**Table 1**  
An overview of the literature on support for road pricing before and after implementation.

Reference	Study area	Empirical findings	Explanation for changing support
Nilsson et al. (2016)	Gothenburg	Support increased after implementation	<ul style="list-style-type: none"> <li>• Attitude changes</li> <li>• Experiences: easier than expected to use</li> <li>• Effects: less negative than expected</li> </ul>
Börjesson et al. (2016)	Gothenburg	Support increased from 33 to 50%	<ul style="list-style-type: none"> <li>• Larger benefits than expected,</li> <li>• Smaller disadvantages than expected</li> <li>• Benefits of accompanying measures,</li> <li>• Changes in attitudes</li> <li>• Reframing, loss aversion, status quo bias</li> </ul>
Odeck and Bråthen (1997)	Oslo	1 year after opening respondents were less negative: from 65% negative and 28% positive to 55 and 40% respectively	<ul style="list-style-type: none"> <li>• More positive attitude after implementation because the tolls raised funds for road construction</li> </ul>
Odeck and Bråthen (2002)	Bergen, Oslo, Trondheim	1 year after opening: percentage of negative users decrease from 50 to 34% (Bergen, from 70 to 64% (Oslo), and 72 to 48% (Trondheim)	<ul style="list-style-type: none"> <li>• After the opening people became more aware of the positive impacts of toll financing. Before the implementation people reacted based only on the expected economic burden.</li> </ul>
Eliasson (2008)	Stockholm	Support increased from less than 30% before to nearly 70% after reintroduction	<ul style="list-style-type: none"> <li>• Underestimation of congestion-related benefits before introduction</li> <li>• Positive effects on the urban environment</li> <li>• Self-selection effects</li> </ul>
Schuitema et al. (2010)	Stockholm	support increased	<ul style="list-style-type: none"> <li>• 'Wrong' perceptions before implementation: People developed more positive beliefs about the impact of pricing on congestion, pollution and parking</li> <li>• Increase in travel costs was lower than expected</li> </ul>
Winslott-Hiselius et al. (2009)	Stockholm	Support increased from 43% some months before the start of the trial to 54% some months after the introduction	<ul style="list-style-type: none"> <li>• Experienced personal effects became more important after the introduction</li> </ul>
Transport for London (2004)	London	Support increased from 39% before implementation (average of three months) to 53.5% after (average of four months)	<ul style="list-style-type: none"> <li>• Fewer people experienced effects compared to expectations</li> <li>• Effects on congestion were</li> </ul>

**Table 1 (continued)**

Reference	Study area	Empirical findings	Explanation for changing support
			<ul style="list-style-type: none"> <li>• higher than expected</li> <li>• Increased awareness of paying methods</li> </ul>

restrictive parking policies because of the opposition of residents (Kirschner and Lanzendorf, 2020); users often have conflicting opinions about parking policies (Rye et al., 2008). However, a systematic search in SCOPUS did not reveal any studies on changing support before and after implementation. In grey literature, on social media and in newspaper articles, one can easily find references to the controversiality of parking policies, such as in a news article on the need for car parking reform in American cities which states that U.S. parking policies seem to be the most emotional topic in transportation (e.g. Shoup 2019, a blog substantiated by a book, Shoup, 2011).

Third, policies aiming to reduce the speed of driving are difficult to implement. This is in contrast to policies to increase maximum speed limits such as the increase of the maximum to 130 km/h on highways in the Netherlands in the early 2010s. Although reports showed at that time the policy had adverse environmental and safety impacts, public support was quite high (60% of respondents in a survey supported the increase with as one of their main arguments 'I can drive faster which I like' ('Ik kan lekker doorrijden') (Rijkswaterstaat 2011). This may indicate that speed reduction policies are especially controversial because it adversely influences people's feeling of freedom on how to drive as they 'like'. We do not know of any city or country that has introduced the obligatory use of Intelligent Speed Assistance (ISA), which makes it impossible to drive faster than allowed in certain places (and optionally: at a certain time, or also including specific factors like snowfall, (heavy) rain, darkness, or events like walking or cycling events). In the European Union, new cars have to be fitted with a range of technologies to improve road safety of which ISA is the most prominent (ETCS, 2021). However, support for this policy is low and the final legislation from 2022 gives car manufacturers room to choose less effective ISA options such as cascaded acoustic warning systems, due to the lack of public and political support for the more effective and stricter forms (e.g., speed control functions). Some cities have introduced speed limits of 30 km/h or 20 mph on many more roads than in the past, an example being Edinburgh. Williams et al. (2022) carried out a before-and-after (6 and 12 months after the implementation) study concluding that support for this policy increased after its real-world implementation. They speculate that in the before situation resistance to the speed policy was relatively large as it affected people's 'freedom to drive', whilst after implementation people's resistance altered 'when they experience the extent of the changes they need to make, and perceptions like longer journey times or reduced fuel efficiency are proven unfounded' (p. 111).

Fourth, a category of policies that is difficult to implement is pricing policies for flying. Flying is not very environmentally friendly and the climate change impact has resulted in 'shame of flying'. Nevertheless, jet fuel for international flights is not taxed, nor are international airline tickets subject to value-added taxes. Although this inconsistency has been addressed many times, this fiscal advantage still applies. We hypothesize that a lack of (expected) public support is a factor contributing to the status quo.

Finally, there are policies that are controversial that do not fit in any of these four categories. We give one example: legislation for mandatory seatbelt usage in cars. In the past, when such legislation was proposed, the proposed introduction caused much controversy. This is interesting, as from a societal cost-benefit perspective and on an individual level, the effectiveness of seatbelt usage is evident (Arnould et al., 1981).

Moreover, the controversy surrounding mandatory seatbelt usage did not revolve around the effectiveness of seatbelts. Instead, the controversy concerned another aspect, namely the limitations of civil liberties by governments. Recurring arguments included fears of a paternalist and/or Orwellian “Big Brother” government (Waters et al., 1998: 1342). Still, when mandatory seatbelt legislation finally was implemented the desired habitual change took place. As examples, Australia, the UK, and The Netherlands all showed a stark rise in seatbelt usage after relevant legislation was introduced (Milne, 1985; Mackay, 1985; SWOV, 2021). Of course, it is important to realize that legislation alone is not enough but goes hand in hand with proper enforcement and education, as an international study among university students in thirteen European countries and the USA shows (Steptoe et al., 2002). Also helpful is the presence of strong advocates in favour of the controversial legislation, such as Ralph Nader in the United States (Waters et al., 1998). Hence, the introduction of mandatory seatbelt legislation is nowadays used as an example for other possible controversial policy measures, such as mandatory vaccination programmes in the context of the Covid-19 pandemic (de Miguel Beriain, 2022).

We now give an overview of the literature on changing support before and after the implementation of road pricing policies. In our search for scientific literature on changing support for controversial transport policies, we only found scientific literature on changing public support for road pricing, apart from the paper by Williams et al. (2022) on the changing support for the Edinburgh 20 mph speed policy. Table 1 gives an overview of this literature.

Nilsson et al. (2016) studied the support before and after the implementation of a congestion tax in Gothenburg, Sweden, and concluded that the support did increase after implementation. An important factor contributing to this increase was a change in attitudes, related to environmental outcomes, and a rather vague concept they call ‘value expressive beliefs’ which relates to emotional and values-related motives. In addition, respondents perceived the system to be easier to use, and the outcomes to be less negative than had been expected beforehand. Börjesson et al. (2016) also report an increase in support, from 33 to 50%, and estimated the relative importance of possible reasons for this increase: larger benefits than expected, smaller disadvantages than expected, benefits of accompanying measures, changes in attitudes, reframing, loss aversion, and status quo bias.

Several Norwegian cities (Bergen, Oslo, Trondheim) introduced a toll system more than three decades ago, despite strong opposition. But one year after introduction the resistance had already decreased (Odeck and Bråthen, 1997, 2002), because of a change in attitudes (Nilsson et al., 2016). The support for the scheme in Stockholm also increased, from less than 30 percent before the implementation to almost 70 percent after the reintroduction in 2007 (Eliasson, 2008). Also, Schuitema et al. (2010) and Winslott-Hiselius et al. (2009) reported increasing support for the Stockholm scheme after implementation. Comparable findings were reported for London (Transport for London, 2004).

To conclude, an increase in public support after implementation was identified in all the papers we found that studied the support before and after the real-world implementation of road pricing, and in one paper on speed policy. Changing attitudes, often based on experiences, dominate the explanations. We did not find any paper which reported a decrease in public support after implementation, but such a decrease, either for road pricing or other policies, cannot be excluded. To come back to the terminology: attitudes are often found to be an important factor in explaining increasing support, but if one defines support in terms of positive attitudes (as some authors do) this is a tautology: attitudes explain attitudes. The reasons why attitudes change are generally due to the fact that experiences were ‘better’ than expectations or not ‘as bad’ as expected – see next section.

### 3. Theories and mechanisms explaining growing political support

Why could support change over time? A first possible explanation is that changes in support can be expected because the experienced utility of an option is not necessarily the same as the expected utility (De Vos et al., 2016). If people expect certain pros and cons of a policy, and these turn out to be different in reality, this is likely to influence their level of support. If, for example, the congestion reduction of road pricing is larger than people expected beforehand, and the additional monetary costs for their trips are lower than expected, people’s support is likely to be higher after implementation of the policy than before.

A second reason for changing support which is also frequently mentioned in the literature on support for road pricing (see section 2) is changes in attitudes: if people develop more positive or negative attitudes towards a policy it is very likely that their level of support will change. This leads to the question: why do attitudes change? The most comprehensive model we are aware of is the model of Van Wee et al. (2019), which is a further development of the model of Eagly and Chaiken (1993) – see Fig. 1.

Fig. 1 explains that attitudes can change via many complex mechanisms. It is beyond the aim of this paper to explain the full model, for an explanation see Van Wee et al. (2019). We will here discuss the most obvious routes, using road pricing as an example. First of all, attitudes can change because of cognitive processes (people know things they did not know before), because of behavioural processes (new experiences), and because of affective processes (they can be emotionally affected). Triggers can lead to changes in these categories of processes. Exposure to road pricing can be seen as a trigger. After the introduction of road pricing many people experience the impact of road pricing on travel behaviour (of themselves and others), congestion levels and travel times, and in some cases also changes in externalities such as noise levels (in terms of Fig. 1: road pricing will influence ‘behavioural processes’). Hårsman and Quigley (2010) explain the changes in peoples’ opinions after the introduction of road pricing because of this mechanism. And even if they do not experience the changes, many people will read or hear about the changes (‘cognitive processes’). Changes in behavioural and cognitive processes could lead to changes in the affective processes. For example, their negative emotional affect towards road pricing could be reduced once they see that it does influence congestion levels and travel times, or after they read about the positive impact on the environment.

More specific routes for attitude changes could be that a person might be negative about road pricing before implementation because s/he thinks many people do not have an alternative for travelling by car during peak times. However, after implementation, s/he might realize that employers and managers are more tolerant of flexible working hours than expected, which means that s/he can adapt her/his travel by car. Or people might experience that it is not as bad as expected to wake up half an hour or a full hour earlier than expected or work from home one day per week. It could also be that people do not trust the government and see road pricing as an additional tax, but after implementation, it could be that they indeed see that the revenues are used to finance new roads or other transport infrastructure, or reduce fixed taxes, as promised. This route of attitude changes reflects the first reason for changing support over time: experienced utility can differ from expected utility.

A more tolerant attitude of employers or managers can be seen as a changing social norm, and the changing social norm could influence people’s perceptions of being able to change working hours. These mechanisms can be understood by the Theory of Planned Behaviour (TPB) (Ajzen, 1991) which assumes that attitudes, social norms (in this case: more tolerance towards changes in working hour), and perceived behavioural control (more able to change working hours) can mutually interact. In other words, the TPB can also help to understand why attitudes can change.

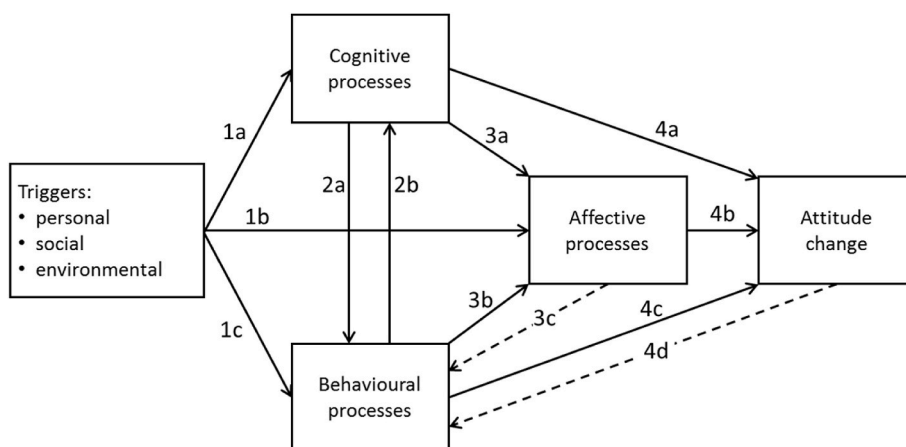


Fig. 1. A conceptual model for attitude changes (source: Van Wee et al., 2019).

Comparable mechanisms for attitude changes could apply to other controversial policies, such as parking policies. After the implementation of controversial parking policies, people could experience or read about the nice conversion of a historical square, from a parking place to a nice place to stay, with terraces, fountains, etc. Or they could experience shopping or walking in the inner city to be more attractive after a strong decrease in parking capacity (and therefore the use of cars for trips to and from the inner city). Or they could experience more difficulty finding a parking place after parking tariffs are raised. The positive experiences could lead to affective mechanisms making people feel better about the policies. Note that experiences can differ between user groups, such as residents versus visitors.

A specific case for parking is that people often think that restrictive parking policies have a negative economic impact on businesses (shops, services, restaurants, cafes, ...), but research shows that this is hardly the case as far as shops are concerned (Mingardo and van Meerkerk, 2012). So it could be that after the introduction people read about this in newspapers or on social media, or even experience this in their role as a shopkeeper. In other words: the real-world implementation of controversial policies could reduce misconceptions about the expected impacts of such policies, and consequently make people more positive about the policies. The Edinburgh 20 mph policy case presented in section 2 might be an example of this.

A third explanation for possible increases in support after real world implementation of policies is provided by Prospect Theory (Kahneman and Tversky, 1979), and more specifically the notion of loss aversion, relative to reference points. People might consider the current situation as a given, such as the current costs of driving (without road pricing), the current tariffs of parking (free parking), or the current prices of airline tickets (no levies on fuel, no VAT). Any loss relative to the reference situation could be valued quite negatively. After the real-world implementation of controversial policies, people could get used to the new situation reducing the importance of loss aversion, and leading to new reference points. And people, after experiencing positive effects of the policies, such as lower congestion levels due to road pricing, or more attractive cities due to reduced parking, might become loss averse towards the new situation, and thus develop more positive attitudes towards that new situation.

A fourth mechanism explaining why people might become more positive after the implementation of controversial policies could be that before implementation the disadvantages are clearer than the advantages. Disadvantages are easy to understand: higher travel costs (road pricing, VAT on airline tickets, higher parking costs) but the gains are less concrete (improved liveability, lower CO<sub>2</sub> emissions, less congestion). In such cases, people might have more negative attitudes towards controversial policies compared to a situation in which the gains and losses would be equally concrete and clear. People might only fully

realize the gains after implementation and experiencing some of the gains. This mechanism is speculative, and research is needed to examine whether this is indeed the case, and whether it explains increasing support for controversial policies after implementation.

In addition, the expected distribution and magnitude of both gains and losses can be a reason for not supporting a policy (Feitelson and Salomon, 2004) whereas it might become clear after implementation that there are fewer ‘losers’ than expected, or that the losses are relatively limited or mitigated by other policy measures.

A different but somewhat related scientific field is controversial technologies and the role of public involvement in the decision-making on these technologies (see, for example, PytlikZillig et al., 2018). In one of their chapters, these authors theorize about two competing models that may affect changes in policy acceptance/support for those technologies. The first is through ‘perceptions of the processes being fair and competent’. Their studies and theories do not relate to changes in attitudes after implementing a controversial policy but to changes in attitudes towards controversial technologies (such as nanotechnology) after carrying out public involvement and structured deliberations. However, we still think that two factors in their first model might play a role in the change for support after implementing controversial transport policies. These two factors are: process perception (fair, competent) and trust in the policy-makers. If people do not trust the government (also related to policies completely outside the transport domain) or they have found the process of implementing the controversial policy unfair and/or messy, they might not be open to being (more) positive after the implementation of a controversial policy. This may apply even if they observe and experience positive changes (like the previous example of a nice conversion of a historical square). Their second model does not add new theoretical insights.

To conclude: there are several theories and mechanisms which explain why support for controversial policies could increase after real-world implementation. In our opinion, the theories and mechanisms complement rather than compete against each other. Attitude changes are a very important reason why support can increase after implementation.

#### 4. Implications

Before we discuss implications, it is important to note that our debate is limited to increasing support for policies that in hindsight are generally evaluated as positive. We do not argue that it is per definition a good thing that controversial policies are implemented, we do not value these policies in themselves, but only aim to help understand why support increases after real world implementation.

The first very important and obvious lesson is that public support for controversial policies can increase after real-world implementation.

Social acceptance is a key factor in political acceptance (Feitelson and Salomon, 2004). This means that politicians might benefit from being aware of such changes in support. They could, for example, propose policies even if the majority of the public does not (yet) support these policies.

A related implication is that communication is very important (see, for example, Hsieh, 2022). Proponents of controversial policies could communicate the positive experiences clearly as well as the increasing support for comparable policies implemented elsewhere. Part of such a communication strategy could be how to deal with the media because the media can have a strong impact on what people think of candidate policies, but media outlets can easily be biased (Ardiç et al., 2013; 2018). In some cases, controversial policies are part of a wider package of policy measures. In such cases, it is important to inform the public about the whole package and the position of specific controversial policies in that package (Odeck and Bråthen, 1997). For example, revenue allocation could be communicated clearly.

Odeck and Bråthen (1997) also advise communicating the advantages of controversial policies, in their case toll schemes, relative to other options. Controversial policies could still be better than alternatives in the eyes of the public. They also advise communicating the intentions of road pricing before implementation, as well as making use of marketing to inform the public better beforehand of possible pros. In their case (Norway) tolls were proposed to finance new roads. They advise making this explicit, so that people realize the intentions, and can check if the government does what it promised. In that light, it is of course important to realize that policies, controversial or not, often go through a policy cycle. Depending on the stage of a policy it is important to pick the right moment for a certain mode of communication (e.g., marketing) in order to inform affected and involved parties (Andrews et al., 2022).

In some cases, we think that visualisations could help to make people realize the changes brought about by controversial policies, especially in the case of changes to the built environment (see, for example, Bialkova et al., 2022). Let us take the conversion of a nice historic square in an inner city, from a parking place to a nice public space, as an example. Showing images or videos of what the new situation could look like could make people realize the advantages better. Moreover, this idea can be extended to the concept (urban) futuring, which revolves around imagining and analysing the future. There are studies, for example, that explain how visions of the ‘future’ shape and coordinate social action in the present (Oomen et al., 2022:255). Imagining can (but does not have to) be in the form of visualisation.

As is generally recognized in the area public policy and managerial sciences, the role of dominant actors in policy development and implementation is crucial. Hence, the likelihood that any policy, including a controversial policy, will be implemented, as well as the level of support for this policy, depends on what the actors involved do. Examples of actors are local, regional and national governments, lobbyists, and interest groups. It is beyond the scope of this paper to discuss the role of such actors in any detail. Rather we focus on the role of one important person, often called a champion, visionary, or ambassador. Cervero (1998) concludes on a global study of successfully implemented local and regional public transport systems that such a person can be key in the implementation of a controversial policy. An example of such a person might be Ken Livingstone, the former elected mayor of London, who managed to get the congestion charge implemented. Another example of a champion might be mayor Jamie Lerner, of Curitiba, Brazil, as a leading global example of urban sustainability policies, which includes a ‘master plan that integrated land use and transport, and introduced the BRT (Bus Rapid Transit) (<https://www.smartcitiesdive.com/ex/sustainablecitiescollective/vision-jaime-lerner-curitiba-brazil/253266/assessed-31-1-2023>). Hence, to advance future controversial policies a possible strategy might be to find a charismatic person who fulfils the role of champion, visionary, or ambassador.

Based on our personal experiences we think it might also help to

discuss with proponents of controversial policies the counterfactual: suppose the to-be-implemented policy had been implemented years ago. Would proponents then support the removal of that policy? As an anecdote: one of us lives in a 1930s neighbourhood. The local municipality proposed converting a road connecting the neighbourhood to other neighbourhoods from a two-direction road to a one-way road. This would apply to motorized traffic only, not to bicycles. Many people protested because of the detour they would have to take by car. We asked the counterfactual question: suppose the city would have introduced the one-way road decades ago, would they then heavily support a policy to make it a two-direction road? Several people we asked did not know, the main reason for not supporting that change being that it would result in more traffic, noise and pollution, and a reduction in safety.

Another strategy could be to implement a controversial policy in phases. A first phase could be a test phase, as in the case of the road pricing scheme in Stockholm, or a trial in Melbourne in which the speed limit in residential areas was reduced to 30 km/h (Lawrence et al., 2020). After monitoring and evaluating the test phase the decision for a (more or less) permanent implementation can be made. Or a first phase can be a small area in which a policy is implemented, such as the reallocation of road space from motorized transport to active modes. After a certain period of time monitoring and evaluating the effects of the policy the area might be expanded.

Finally, it seems important that the policy-making process for controversial policies is carried out fairly and competently. This might seem to be stating the obvious and to be applicable to all policy processes. However, we hypothesize that for controversial policies it is paramount, not only in order to ease the process of implementation itself but also to gain a higher chance that support increases after implementation.

## 5. Future research

A first avenue for future research could be to find out which policies, in this case in the area of transport and the built environment, are controversial, and why. Which policies generate a lot of debate, with strong opposition and strong support, why, and under which conditions? We have the impression, given the examples, that controversy is greatly related to people’s feelings of unfairness, because, for example, something which has been free or cheap for them for decades ‘suddenly’ has a price.

Secondly, as explained in the introduction, there is not a lot of literature on changes in support for controversial policies after implementation, and most of the research is on road pricing. A next avenue for future research, therefore, is to carry out more before-and-after studies on support for controversial policies. These could be ex-post studies on road pricing, but also on other controversial policies, such as in the area or parking, flying, and the built environment. Such studies could measure support at several points in time (longitudinal studies), including multiple points before and multiple points after the real-world implementation, to better understand the dynamics of support and the factors influencing support over time. We think that it is important that such research explicitly studies the reasons for the change in support, and the conditions under which support changes. This is particularly important, because as the UK Department for Transport (undated, page 15) makes clear in a report on the public acceptability of road pricing: ‘Acceptance varies over time, both in the build-up period as perceptions of the problem and familiarity with the solutions evolve, and also in a major break-point between ex ante and ex post judgements (...). The least successful element of most survey instruments was predicting changes in acceptance.’ Because, as explained above, social acceptance (and broader: feasibility) of policies is an important determinant for political feasibility (Feitelson and Salomon, 2004), a better understanding of the dynamics of support can help increase the likelihood that controversial policies will be implemented.

Carrying out in-depth case studies in different cultures all over the world with both quantitative and qualitative methods might shed much light on the topic of controversial policies. Conditions can include the role of the media, direct and indirect changes due to the implementation of the policies, the roles of trust in governments and fair and competent policy processes, and distribution effects (who gains, who loses?).

Thirdly, as we made clear above, we have only discussed how come support for controversial policies often increases after implementation. But the opposite can also happen: support can decrease after implementation because a policy is perceived as ‘bad’. It can, for example be that the positive effects turn out to be less than expected, or that there are negative impacts that people become more aware of after implementation. Some of the other explanations for increasing support can probably also explain why support can also decrease after implementation. This applies to attitude changes, the fact that the experienced utility of an option is not necessarily the same as the expected utility, the fact that people may be loss averse relative to reference points (often: the current situation) where after implementation they experience greater losses than before implementation. Also, they may feel that with hindsight the processes were not fair and competent, for example because the disadvantages were not communicated clearly. Future research could also try to understand how come that support sometimes decreases over time.

A fourth topic for future research could be the validation of the complex mechanisms of the conceptual model for attitude changes as visualized in Fig. 1: which of the complex mechanisms are (not) confirmed by empirical research? And, finally a fourth avenue for future research could be the effects of interventions that aim to increase support before implementation: which interventions did (not) work out as intended, and why?

A fifth topic could be to take a historical perspective exploring trends in support and opposition of difference categories of transport policies, and factors explaining these trends. Such research could be context specific, dealing with national or regional flavours in society and politics, and distinguishing different policy types like building infrastructure, land-use planning, pricing/subsidies, and specific public transport policies influencing service levels of bus, tram, metro and train.

A final topic for future research is the role of specific actors in both the implementation or not of controversial policies, as well as their contributions to changes in support after real world implementations. One can think of politicians, the media (including social media), interest groups, experts etc.

A final suggestion is to extend the scope of the search for explanations for an increase in support after implementation to other areas than transport. This could lead to new insights in explanations for changes in support after implementation. As a first step we searched for literature using terms like “Policy”, “public policy”, “implementation” “support”, “public support”, “implementation”, “acceptance”, “acceptability”, “before and after”, “ex post” and “theor\*”. We did find a few before-and-after studies, such as in the area of smoke-free policies (e.g., Hilton et al., 2007), but found very few additional explanations. We are therefore unsure whether extending the scope of a literature study would reveal new insights.

We finish this section by discussing the use or not of grey literature. As we made explicit in section 2 we limited ourselves to SCOPUS. In addition there is grey literature on changes in support of controversial transport policies after real world implementation. It is an option to extend the search and selection making use of grey literature. It is important to realize that studies on (quantitative) support before and after implementation are quite complex. Think of the question of what the population exactly should be, how to sample, maybe correct for (or discuss) selection bias, formulating correct questions, considering of how much time before and after the implementation the questionnaires should be sent out, the choice for a panel (with as a consequence the loss of respondents) versus repeated cross section data, how do deal (or not) with people who moved to and from the area at stake, etc. Nevertheless

it is an option to assess the quality of grey literature and do a literature review study making use of that literature. We do not expect many additional (to the overview in section 3) explanations supporting increasing support after implementation of controversial policies, but more quantitative information in increases in support will likely become available, and it is likely that the inclusion of grey literature will extend the scope to other policies than road pricing.

## 6. Concluding remarks

The core of our paper is that support for controversial policies can increase after real-world implementations for several reasons and that attitude changes strongly influence changes in support. Several (complementary) theories and mechanisms explain how come. The insight that support increases over time could be used to inform policymakers and the public better, so that the likelihood that such policies might be implemented will increase. This is not only relevant for transport policy making, but much wider. Such policies could contribute to reducing societal problems, such as climate change, and the related energy transitions, and facing societal challenges such as making cities more attractive, healthy, safe, and liveable. In the case of energy transition policies for example one can think of issues-related (in)justices, such as distributional justice, which concerns the socially just allocation of resources within a society (Jenkins et al., 2021).

A second remark concerns the question: the support of whom? It is not necessarily the same people that are relevant before and after the implementation of controversial policies. For example, people change residential locations, and the opinion of new residents living in controversially designed neighbourhoods also matters. It could even be that specific groups of people self-select in such neighbourhoods because of its design. For example, households that do not own a car might self-select car-free neighbourhoods, to benefit from the (in their opinion) attractive designs.

## Author statement

Bert van Wee: idea, lead author, Jan Anne Annema: writing, Sander van Barneveld: writing.

## Data availability

No data was used for the research described in the article.

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