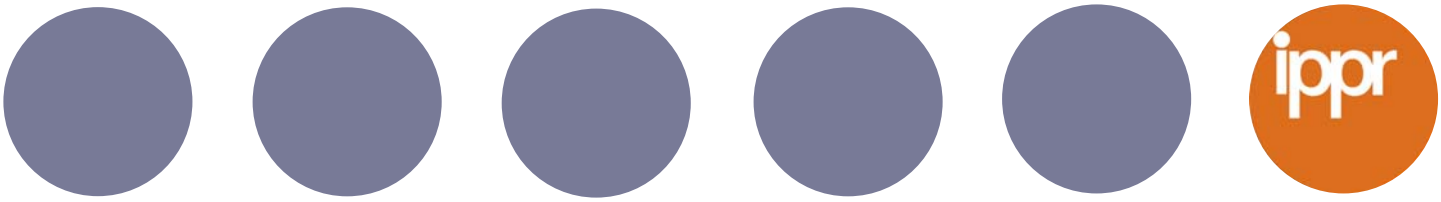

Charging Forward

A review of public attitudes towards road pricing in the UK

Jenny Bird and Anthony Vigor

APRIL 2006

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Jenny Bird and Anthony Vigor, March 2006

Note

This paper is part of ippr's project 'Building a national consensus on road pricing'. It aims solely to review the existing literature on attitudes towards road pricing. The findings from our public engagement work, together with our recommendations for maximising support for a national road pricing scheme, will be published in a separate report later this year.

Executive summary

The Secretary of State for Transport has identified building a national consensus for road pricing as his department's key challenge for this parliament. This paper investigates what is known about public attitudes towards road pricing within the broader context of attitudes towards transport and motoring and the problems associated with these activities.

As demonstrated by the relentless growth in car travel and car ownership, more and more people are choosing to travel by car and managing this growth will be difficult. While people clearly have emotional attachments to their cars, there also appears to be a rational basis for the car's popularity, most significantly its convenience. Using a car is seen by the public as too convenient to give up for the sake of tackling congestion or pollution, even though it is recognised that driving contributes to these problems. In addition to the car's convenience, there is also often a perception that there is no viable alternative available.

Congestion is identified by the public as one of the major transport-related problems in Britain. It is generally felt by the public that the best way to tackle this problem would be to improve public transport services. Road pricing is not often volunteered as a solution and there seem to be two major reasons for its unpopularity. First, that it is perceived as being unfair – as penalising those on low incomes and those living in rural areas, who are more reliant upon their cars. Second, that it is felt to be ineffective, based on the assumption that people will carry on driving regardless. There appears to be scope to increase acceptance though, by presenting road pricing as part of a package and/or by providing information on its effectiveness.

The final architecture of a national road pricing scheme for the UK has yet to be decided, and little research is available on people's attitudes towards a complete scheme. However, more information is available on attitudes towards individual components of charging schemes. Not all of the preferences are compatible with each other and more research is needed to understand the most acceptable way of reconciling trade-offs.

This paper outlines key attitudes in the following areas:

Scheme objectives

- It is difficult to determine attitudes to overall objectives since most attitudinal work to date has been framed in the context of a road pricing scheme to tackle congestion.

Fairness

- Two particular areas of concern are the impacts road pricing might have on those with low incomes and those who do not have a viable alternative to using their cars, particularly those living in rural areas.
- There are mixed views towards whether distance- and congestion-based charging schemes would be fair. In both cases, groups who would be disadvantaged by such a scheme have been identified by members of the public.

Use of revenue

- In general, schemes in which revenue is returned – for example through tax cuts or investment in public transport – are found to be more acceptable.
- The use of revenue that receives most support is hypothecation to public transport.
- Although the idea of a revenue-neutral scheme is more popular than a revenue-raising scheme, it is not known how people reconcile the contradiction of wanting a revenue-neutral scheme at the same time as wanting to hypothecate revenue for public transport.
- It is not known if people would still support an overall revenue-neutral scheme if its design meant that they personally would be worse off.
- Visible improvements in public transport could increase trust and help persuade people that road pricing is not 'just another tax'.
- With so many options for how revenue could be used, there is a need to manage public expectations.

Technologies

- The most frequently cited concerns regarding a satellite-based system are privacy and reliability.
- Technology and legislation can be used to ensure privacy, but communicating this to the public is likely to be a challenge.
- There is some evidence that additional services such as satellite navigation and emergency service location could increase acceptance.
- The question of who would pay for any on-board units necessary for the operation of a scheme is important when considering equity, particularly if incentives are used for 'early adopters'.

Enforcement

- Effective enforcement is important to reassure people that cheaters will be caught and that other drivers are paying the charges or changing their travel behaviour too.
- The fact that payment is unavoidable when levied at the point of use is seen as a positive attribute. There is currently discontent that drivers are able to 'get away' with not paying Vehicle Excise Duty.

Operators

- Transparency in the use of revenue is important. There is a lack of trust in the Government's use of existing motoring taxes.
- The public also seem suspicious of private companies running the scheme; they are perceived to be 'profit-motivated'.
- There is more support for an independent body to set the level of charges and make use of the revenue.
- More research is needed to determine whether the revenue and its use should be managed at a local or national level.

Introduction

'Public support is important. If you can't persuade the public that there is "something in it for you", then we are unlikely to get off the starting blocks. So building a consensus is therefore important.'

Alistair Darling, Secretary of State for Transport, speech to the Social Market Foundation, June 2005

The Secretary of State for Transport has identified building a national consensus for road pricing as his department's key challenge for this parliament. This paper investigates what is known about public attitudes towards road pricing within the broader context of attitudes towards transport and motoring and the problems associated with these activities.[1]

The first section of this paper looks at the scale of the challenge. As demonstrated by the relentless growth in car travel and car ownership, more and more people are choosing to travel by car and managing this growth will be difficult. While people clearly have emotional attachments to their cars, there also appears to be a rational basis for the car's popularity – most significantly, its convenience. Using a car is seen as too convenient to give up for the sake of tackling congestion or pollution, even though it is recognised that driving contributes to these problems. In addition to the car's convenience, there is also often a perception that there are no viable alternative modes of transport available.

Although fuel duty has been shown to have an impact on the level of fuel consumption, its impact on traffic is much less. There is some acknowledgement that payment at the point of use could encourage people to think about their car use on a per-trip basis and hence prove a more effective tool in achieving behaviour change.

Section two investigates the problems associated with car use. Congestion is identified as one of the major transport-related problems in Britain and it is a problem most people have some experience of. People principally do not like the uncertainty in journey times caused by congestion on the roads. There is some concern about the environmental impacts of driving, especially air pollution caused by congestion and, to a lesser extent, climate change.

The third section identifies attitudes on how these problems should be tackled. It is generally felt by the public that the best way to tackle congestion would be to improve public transport. Road pricing is not often volunteered as a solution and there seem to be two major reasons for its unpopularity. First, that it is perceived as being 'unfair' – penalising those on low incomes and those living in rural areas, who are more reliant upon their cars. Second, that it is felt to be ineffective, based on the assumption that people will carry on driving regardless. There is scope to increase acceptance, though, either by presenting road pricing as part of a package or by providing information on its effectiveness as a policy tool.

The final section looks in depth at attitudes towards specific aspects of road pricing schemes. Not all of the preferences are compatible with each other and more research is needed to understand the most acceptable way of reconciling trade-offs.

This paper outlines the key attitudes in the following areas and finds that:

- ***Scheme objectives***. The design must reflect the objectives without being over complex.
- ***Equity***. Since fairness is key to acceptability, the scheme must be seen to be equitable. A particular area of concern is that those on low incomes and those living in rural areas are not disadvantaged.
- ***Use of revenue***. Returning the revenue increases acceptability and the most popular option for return is through hypothecation to public transport. There is also a preference for road pricing to be revenue neutral, clearly presenting a trade-off in terms of revenue use.
- ***Technologies***. Satellite-based schemes raise concerns over privacy and reliability. There is potential for addressing these fears through legislation, technological solutions and the provision of additional services.

1. This paper does not address business attitudes towards road pricing. Work is being carried out by other organisations such as the CBI and London First in this area.

- ***Enforcement***. Enforcement is key to acceptability since it provides assurance that cheaters will be caught. A potential tension exists, however, with infringement of civil liberties.
- ***Operators***. There is support for the scheme to be operated by an independent third party.

Note on methodology

This paper is based on a review of available literature on attitudes towards transportation issues in general and road pricing specifically. The majority of this work has been based on quantitative polls. It has also included a small number of qualitative studies. The data presented in this paper is, however, of varying quality as the size and robustness of the studies is variable. In addition, questions on road pricing are often asked as part of much broader surveys that are not all transport-related.

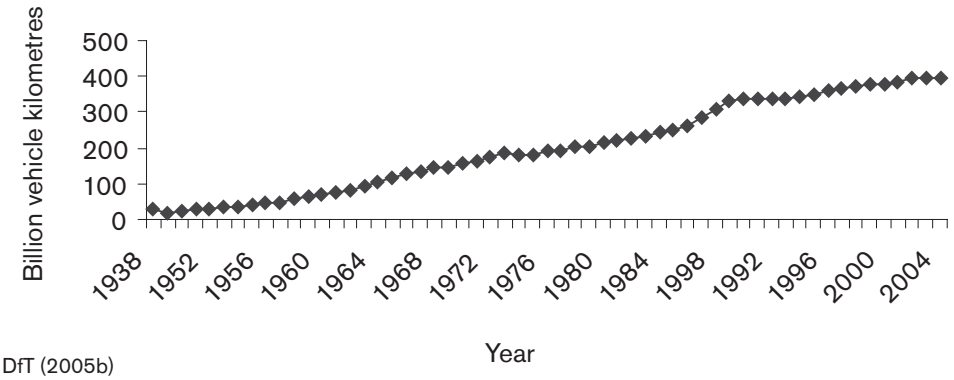
This makes the task of clearly identifying the public's attitudes to road pricing and an acceptable form of road pricing difficult. Furthermore, we have not found much work that disaggregates 'the public' into particular cohorts. The purpose of this paper is, bearing the methodological issues in mind, to identify the areas that receive most attention in the literature and provide a basis for our future public engagement work.

1. The scale of the challenge

There is no question that gaining support for any policy aiming to check car use will be a very big challenge. Car use in Great Britain has grown relentlessly (Fig. 1) and is expected to continue growing. Car traffic in England is predicted to increase by 26 per cent between 2000 and 2010 and 37 per cent by 2025 (DfT, 2005a). Household car ownership is also increasing (Fig. 2) and is forecast to increase by 18 per cent between 2000 and 2010 (DfT, 2005a). In attempting to build national support for road pricing, it is necessary to understand people's love for the car and their distaste for public transport.

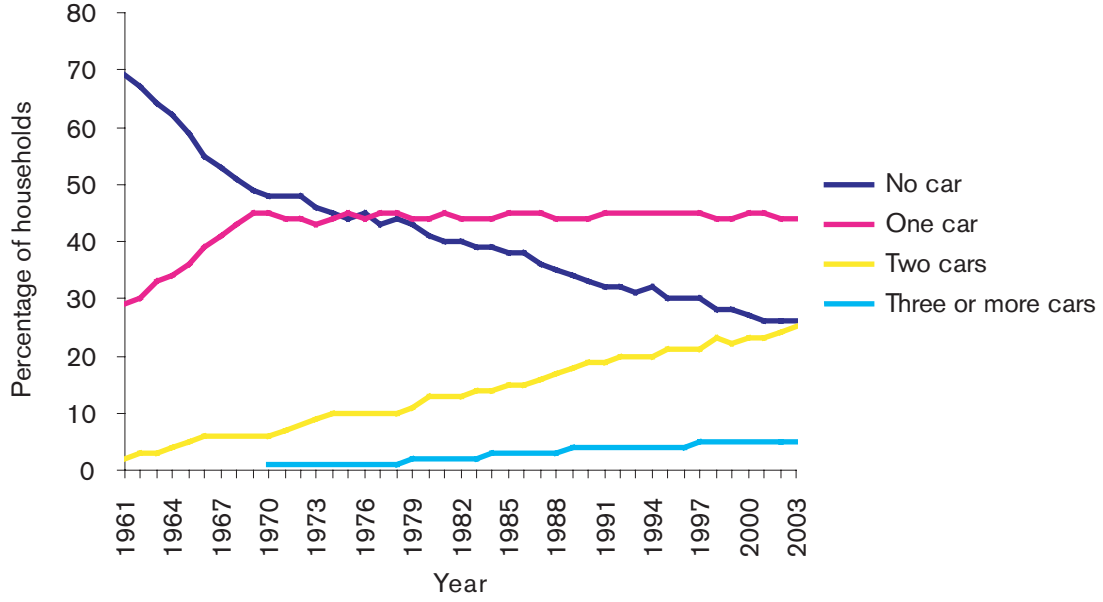
This section discusses these issues as key barriers to the public's acceptance of the principle of road pricing. It will firstly argue that although owning a car is certainly viewed as a status symbol and is an expression of personal identity for some, it is ultimately the car's convenience that makes it the mode of choice. Other transport options are not seen as viable substitutes for the car's convenience. We will then go on to discuss the perceived importance of cost in influencing travel behaviour before finally considering the level of public understanding of road pricing.

Figure 1: Car and taxi traffic in Great Britain, 1938-2004



Source: DfT (2005b)

Figure 2: Households with regular use of car(s), 1961-2003



Source: DfT (2005b)

1.1 Why are cars so popular?

1.1.1 Status

As any regular viewer of BBC's *Top Gear* will know, for some, cars can represent much more than just a mode of transport. Forthcoming research from the Sustainable Consumption Roundtable shows that for many people, the car is a status symbol and form of personal identity. What's more, consumers aspire to car ownership and to upgrading to more prestigious, even top-of-the-range models (Opinion Leader Research 2006).

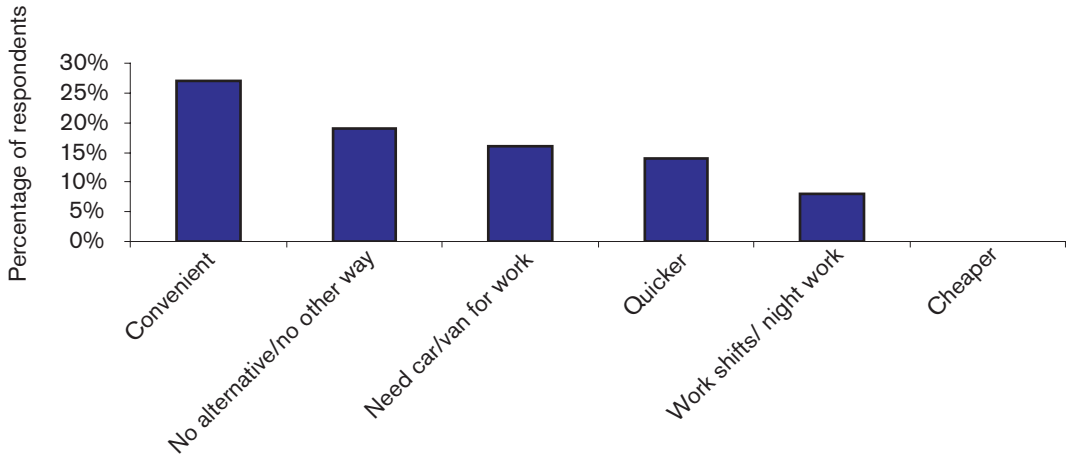
Public transport on the other hand – and buses in particular – is generally viewed as being lower status. Research carried out in Edinburgh highlighted 'self-image' as one reason that people disliked bus travel (Stradling *et al* 2004).

Overcoming these entrenched social norms presents a significant challenge to those seeking to induce a modal shift from private cars to public transport. As MORI points out in its 2003 report for the Department for Transport (DfT): 'significant communication investment is required to alter public opinion towards viewing the bus as socially acceptable to everyone' (DfT 2003a: 7).

1.1.2 Modal choice

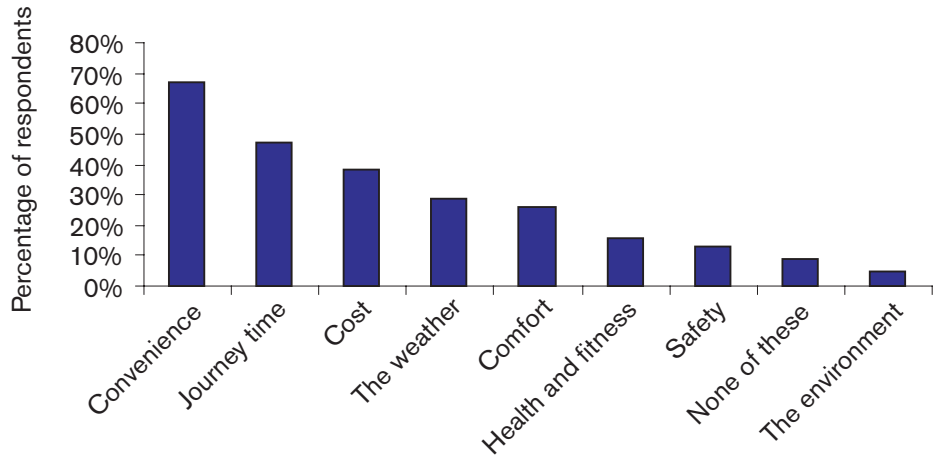
Status and personal identity play an important role in explaining people's attachment to their cars but do not give the whole story of why people choose to use their cars for particular journeys over other forms of transport. Research carried out for the Commission for Integrated Transport (CfIT) in England (2002), the Scottish Executive in Scotland (Anderson and Stradling 2004) and the Welsh Consumer Council in Wales (Harper 2003) showed broadly similar trends in the factors that influence people's choice of mode (Figs 3-5). In all three cases, convenience emerges as the most significant factor (it is important to note, however, that the reasons given are not necessarily mutually exclusive). The lack of alternative modes is also important in both the English and Welsh studies. Interestingly, in general, cost is not cited as the major reason for choosing to use the car. However, it should be noted that none of the surveys probe the issue of cost specifically, without reference to other factors.

Figure 3: Why do you travel to work by car? England, 2002



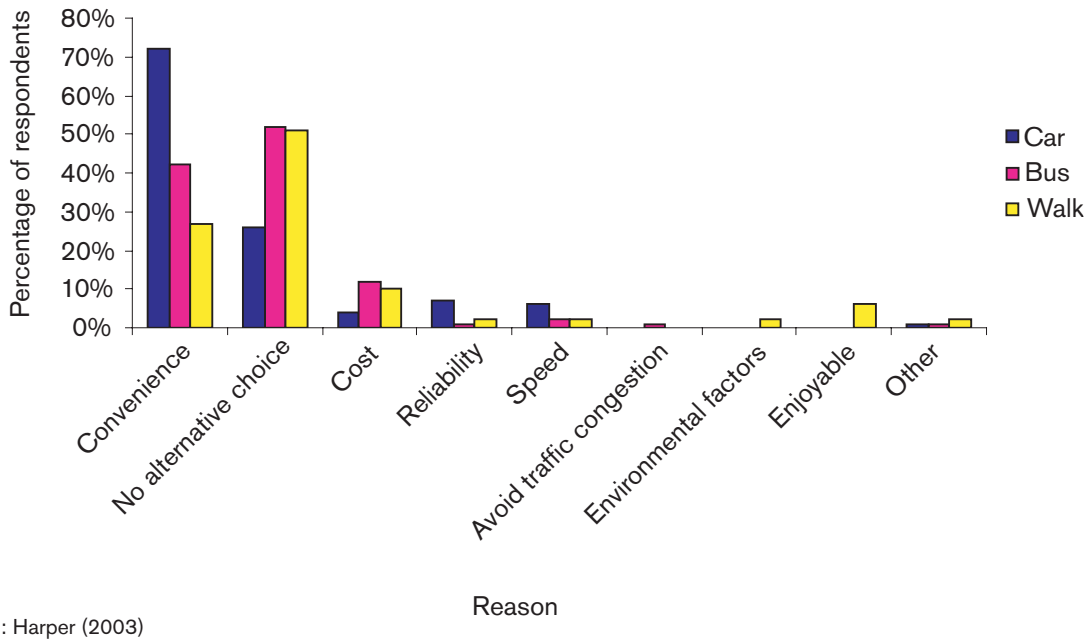
Source: CfIT (2002)

Figure 4: Factors considered in modal choice in Scotland, 2004



Source: Anderson and Stradling (2004)

Figure 5: Factors determining choice of transport for most frequent journey in Wales, 2003



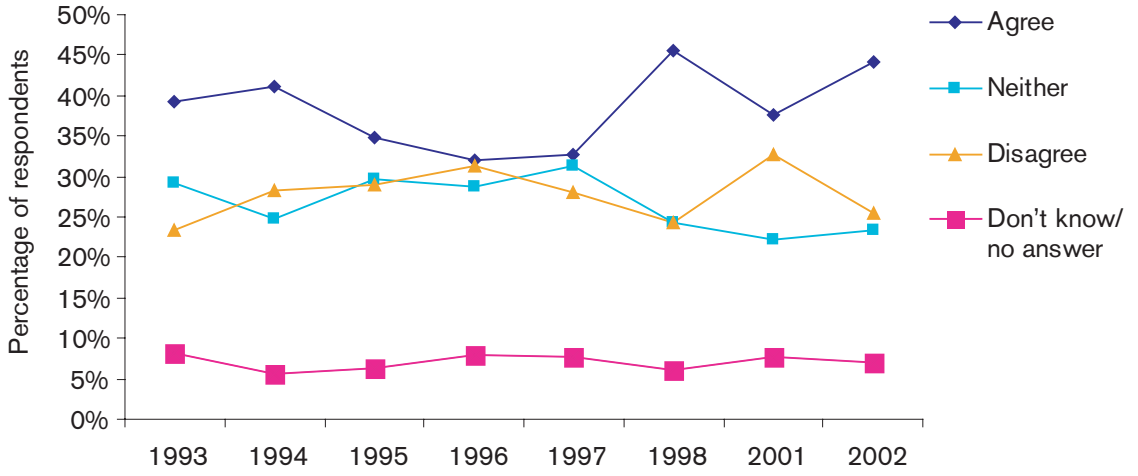
Source: Harper (2003)

Convenience

Convenience is clearly a very persuasive factor for people choosing to use a car over other forms of transport. Respondents to a survey by GFK-NOP (2003) felt that 'the car was integral to their lives because it provides a personal space, convenience, control over movements and control over the atmosphere in which people travel'. Clearly, no other mode of transport is able to offer all of these advantages.

Furthermore, convenience is so important that people are reluctant to give up their cars to help tackle problems like congestion or environmental damage. In a survey carried out for DfT, 69 per cent of respondents agreed that 'giving up travelling by car would be too inconvenient, even if it helped reduce congestion' (DfT, 2003b: 7). Results from the British Social Attitudes Survey show that an increasing majority of people consider their cars to be too convenient to give up for the sake of the environment (Fig. 6).

Figure 6: Driving one's own car is too convenient to give up for the sake of the environment, 1993-2002



Source: British Social Attitudes Survey (2006)
Note: Latest available data

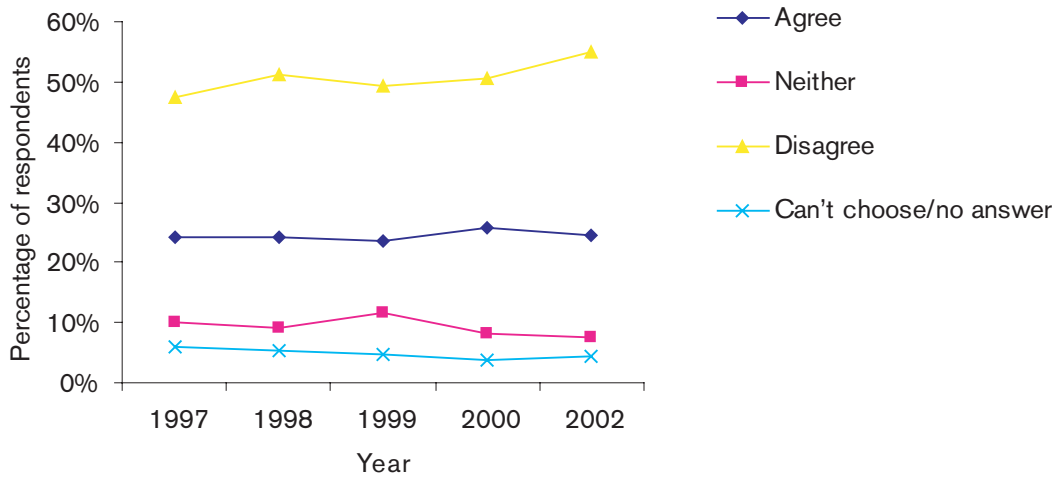
In contrast, public transport is generally not perceived as being convenient. Stradling *et al* (2004: 1) found people in Edinburgh disliked using the bus because of 'problems with the convenience of route, scheduling and other service provision' as well as concerns about personal safety and levels of discomfort.

Research from BMRB Social Research (Green and Stone 2004) showed that habit was also an important determinant in people's travel behaviour. The New Economic Foundation's (nef) report on Behavioural Economics (Dawney and Shah 2005) argues that habits that are repeated frequently, have strong associated rewards and are rewarded quickly after completion are the most difficult to break. This suggests that changing behaviour for regular journeys – such as the daily commute to work – will be difficult, especially if there are strong rewards such as convenience and comfort associated with the current behaviour.

No alternative

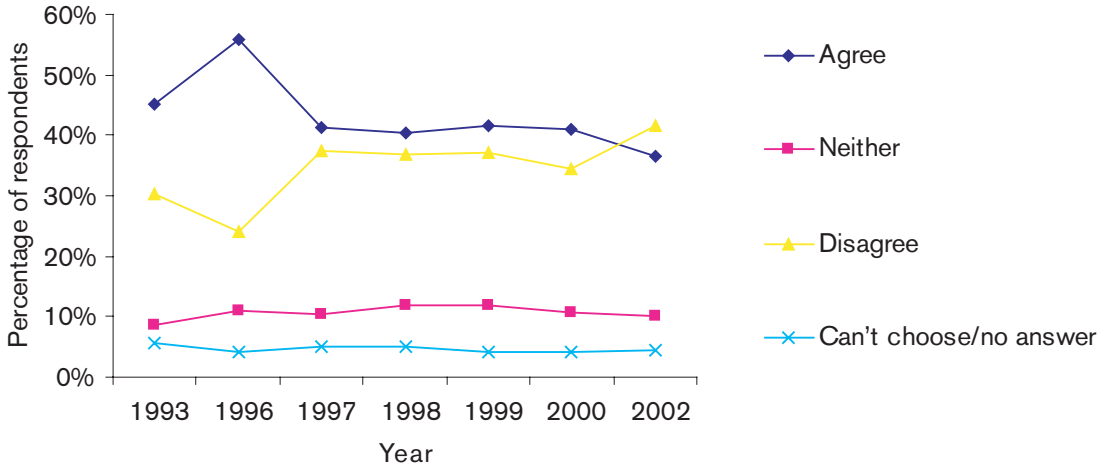
As Figures 3 to 5 show, people often choose to use their cars because they feel they have no other alternative. Research by the British Social Attitudes Survey (2006) shows that for short journeys, the majority of people do not consider the bus to be a viable alternative to the car (Fig. 7). The picture is less straightforward when considering walking as an alternative mode. The number of people agreeing that they could just as easily walk as take the car for short journeys has remained similar to those disagreeing. More recently, however, disagreement has become the majority view (Fig. 8).

Figure 7: Many of the short journeys I now make by car I could just as easily go by bus, 1997-2002



Source: British Social Attitudes Survey (2006)

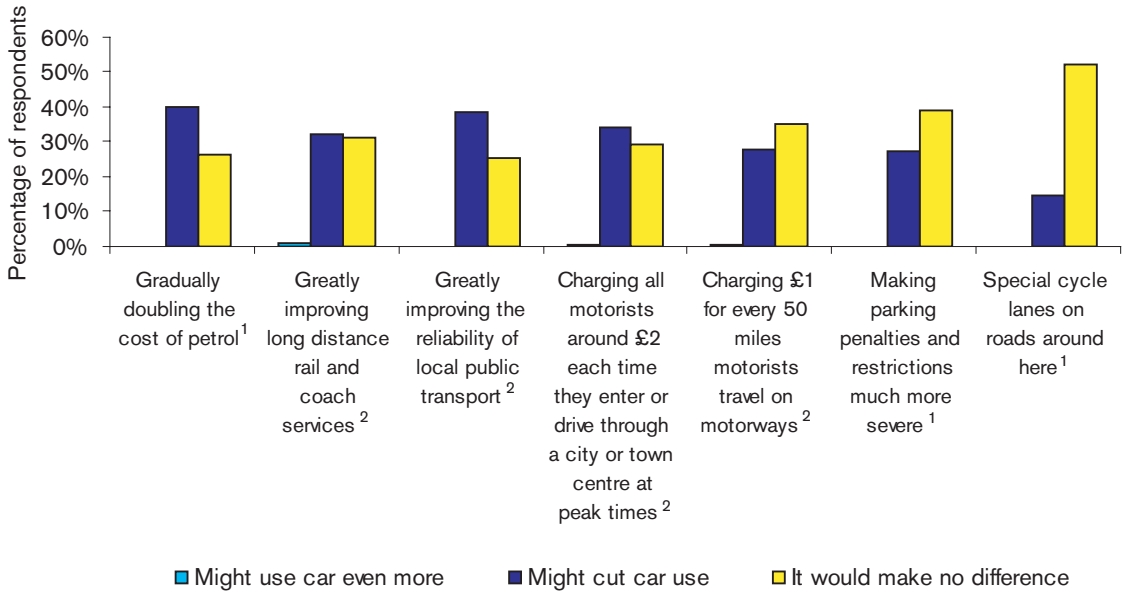
Figure 8: Many of the short journeys I now make by car I could just as easily walk, 1993-2002



Source: British Social Attitudes Survey (2006)

While this may not be an encouraging finding for those trying to induce modal shift within the current transport system, there are more positive signs to suggest that with improved public transport services, people would be prepared to change their behaviour. Results from the British Social Attitudes Survey, presented in Fig. 9, showed that 39 per cent of people felt they would use their car less or give it up completely if the reliability of local public transport was improved. A total of 32 per cent felt improved long-distance public transport services would change their behaviour (British Social Attitudes Survey 2006).

Figure 9: Perceived impact of different transport policies on own car use, 2002/2003



Source: British Social Attitudes Survey (2006)
Notes: 1. Data from 2002 2. Data from 2003

However, there is still a large number of drivers who claim that improvements in public transport alone would not be sufficient to persuade them to change their behaviour. Surveys carried out for the RAC Foundation found that the number of drivers agreeing with the statement 'I would use my car less if public transport were better' declined from 46 per cent in 1997 to 36 per cent in 2001 (RAC Foundation 2002). Surveys in Scotland showed that around half of car users agreed that 'even if the public transport in my area was really good, I would still want to travel by car most of the time' (Anderson and Stradling 2004: 9).

Of course, the way people *think* they might change their behaviour in response to a theoretical policy intervention can be different to how they actually *do* change their behaviour once faced with the reality. London provides a useful case study in which to examine the observed changes to people's behaviour in response to improved bus services alongside the levying of a congestion charge. The findings suggest that the observed increase in the number bus passengers is – at least in part – due to these improvements (Box 1).

Box 1. Effect on bus patronage of improvements to bus services in London

Significant improvements were made to bus services in London around the time of the introduction of the London congestion charging scheme. The number of buses entering the charging zone on a typical week day during charging hours increased from 8,280 in 2002 to 10,500 in 2003. This was coupled with improvements in reliability – a reduction in excess waiting time of over 20 per cent and a 60 per cent cut in the amount of disruption to bus services caused by traffic congestion for passengers in and around the zone between 2002 and 2003. During the same time period, there was a 37 per cent increase in the number of people entering the charging zone by bus – equating to an extra 70,000 passengers. Transport for London (TfL) attributes about half of this increase to the introduction of charging but believes that the remaining half represent 'a strong "background" trend of growth in bus patronage, reflecting wider service enhancements' (TfL, 2005).

However, Stradling (in press) points out that such increased patronage is generally not due to modal shift made by car drivers. Stradling (in press) highlights research by Colin Buchanan and Partners showing that although increasing spending on public transport does increase patronage, measures to make car use less attractive, such as parking restraint and road space reallocation, are needed in order to induce a modal shift.

So-called 'soft' measures such as travel plans and car clubs have also been shown to reduce traffic. DfT's *Smarter Choices* (2004a) report predicted that under the scenario with maximum coverage and effectiveness, by introducing soft measures[2], peak period urban traffic could be reduced by about 21 per cent over ten years from 2003-04 levels. However, it should be noted that again, such measures tend to be more effective when they are combined with demand management measures (ippr 2005).

Cost

Figures 3 to 5 show that, when presented with a choice of factors, people do not select cost as a significant influence on their choice of mode. However, this does not necessarily mean that fiscal incentives cannot be used to influence people's travel behaviour. Participants in workshops held by BMRB Social Research (Green and Stone 2004) felt that the current taxation system does not create a sufficient link between behaviour and payment in the minds of motorists. Neither Vehicle Excise Duty (VED) nor fuel tax was felt to deter people from using their cars. In the case of VED this was because the annual or six-monthly payment was considered to be part of the cost of running a car and was quickly forgotten once it had been paid.

The impact of fuel duty is less clear cut. Participants in the BMRB Social Research workshops (Green and Stone 2004) felt that even though fuel duty is much more closely linked to car usage, people still buy fuel 'as and when' they need it rather than considering the cost of the fuel used per trip. The small increases in fuel duty were felt to have been imperceptible but some respondents believed that a large increase in fuel duty would curb car use. However, 40 per cent of respondents to the British Social Attitudes Survey in 2002 (British Social Attitudes Survey 2006) believed that gradually doubling the price of petrol would cause them to use their cars less, or give them up altogether. Glaister and Graham (2000) demonstrated that increasing fuel duty has an effect on levels on fuel consumption. Although there is also some effect on traffic levels, it tends to be less since people will find ways to use their fuel more efficiently, such as by purchasing more fuel-efficient vehicles.

Apart from increasing the cost of petrol, a peak-time city-centre charge was considered by respondents to have the greatest potential impact on behaviour (Fig. 9) (British Social Attitudes Survey 2006). Research by BMRB Social Research (Green and Stone 2004: 25) showed that people felt payment 'at the point of use' would 'create a connection in motorists' minds between paying for the roads and using their car'.

2. Based on a combination of soft measures: workplace travel plans, school travel plans, personalised travel planning, public transport information and marketing, travel awareness, car clubs, car-sharing, teleworking, teleconferencing and home shopping.

Participants were asked to consider payment in the form of toll roads, congestion zones and distance-based charging. It was felt that all three would have an impact on driving behaviour.

In particular, respondents believed the direct link between mileage and charge in a distance-based system would make people reconsider how they used their car (Green and Stone 2004). Forthcoming research from the Sustainable Consumption Roundtable on attitudes towards pay-as-you-drive road pricing supports this finding. Although opinions were divided, those that supported pay-as-you-drive liked the connection between car usage and charge paid. Some also said that it would encourage them to cut down their car usage (Opinion Leader Research 2006).

Although there are not many examples of charging schemes in existence, experience from the London congestion charge (LCC) suggests that payment at the point of use does influence behaviour. Since its introduction in 2003, the congestion charge has resulted in a significant drop in the number of cars entering the zone during charging hours, while the number of passenger journeys has remained more or less constant (Box 2).

Box 2. Impacts of the London congestion charge on car use in the charging zone

In the first year of operation of the LCC, there was an 18 per cent reduction in the number of cars entering the zone during charging hours. Of these trips, 50 to 60 per cent transferred to public transport, 20 to 30 per cent diverted round the zone and the remaining 15 to 25 per cent made other adaptations such as driving outside of charging hours, switching destination or making fewer trips altogether. Fewer car movements resulted in a reduction in congestion in the charging zone of around 30 per cent compared to before the scheme's introduction. This level of congestion relief has been maintained in subsequent years (TfL 2005).

1.2 What is road pricing?

Another obstacle in the public debate is that 'road pricing' has not been clearly defined. A national scheme is not expected to be operational for at least 10 years, but a number of smaller pilot schemes are likely to be run in the interim. As well as the existing London congestion charge, these pilots could take a number of forms, from area- and cordon-based local congestion charges, to motorway tolls and the possibility of an opt-in 'early adopters' road pricing system, based on Global Positioning System (GPS) technology. The Government has recently awarded 'pump-priming' funding to seven local authorities to carry out feasibility studies for introducing local demand management schemes. These are described in more detail in Box 3.

Box 3. Demand management aspects of the seven Transport Innovation Fund 'pump-priming' projects

Bath and North East Somerset, Bristol, North Somerset and South Gloucestershire
Building on road pricing work done in Bristol and controlled parking areas and a bus gate in Bath, this study will involve further investigation of demand management systems, including workplace parking levies.

Cambridgeshire
This study will investigate a city centre, cordon-based charging scheme. The scheme would be broadly cost neutral for an average driver, but would cost more for drivers with higher car use. Cost neutrality could be achieved in a number of ways:

- Providing a discount on road fund licence for motorists who live within a certain distance of Cambridge
- Integrated with the income tax system - through tax coding credit
- Other forms of credits - such as reduced parking costs, and/or provision of credits for use of public transport.

Durham
This is an investigation into the practicality of implementing road user charging on the through road and/or introducing an increased cordon scheme in the city. The study will also include an evaluation of the technology available.

cont. next page

Box 3 cont.

Greater Manchester Authorities
The Authorities will develop a 'toolkit' of demand management measures, including workplace parking levies and central parking charges (as well as wider parking measures).

Shropshire
The study will be for a scheme based in Shrewsbury town centre which would consist of a small cordon-based charging system, probably based on Automatic Number Plate Recognition (ANPR) technology.

Tyne and Wear
As well as looking at parking charges, Urban Traffic Management and Control (UTMC), and workplace parking charges, this study will also assess distance-based road user charging.

West Midlands Metropolitan Authorities
As one of a number of options being investigated, this project will look at the technical feasibility of a satellite-based road pricing scheme.

Although we do not know how people in the UK currently interpret the term 'road pricing', there appears to be a common misconception over charging schemes aimed at tackling congestion. Frey (2003) explains that people often do not realise that the aim of a congestion charge is to prevent some of the trips that would otherwise be charged from being made. As shown in Figs 3 and 5, people often feel they have no alternative but to use their cars at that time. This leads people to assume that traffic growth is inevitable and that therefore road pricing is a tax. Research due to be published by the Sustainable Consumption Roundtable confirmed that to many people, road user charging does indeed represent 'just another tax' (Opinion Leader Research 2006).

Reporting of the recent successful Transport Innovation Fund (TIF) bids in the local press used fairly consistent language across all seven areas. The reports described 'road pricing' or 'road charging' schemes, with some articles describing in more detail what this might look like, mentioning 'congestion charges' or 'pay-as-you-drive' schemes (Box 4).

Box 4. Local reporting of TIF announcements

A review of the coverage of the TIF 'pump priming' announcements in the local press reveals three key issues for the road pricing debate:

1. Achieving a consensus among key stakeholders could be difficult. Despite in-principle political support for road pricing at a national level, at the local level opposition was reported from politicians and businesses. In Bristol a Conservative councillor wrote a piece arguing against introducing road pricing in the area. In several other areas, local businesses were reported as opposing the introduction of road pricing on the grounds that it could damage the local economy.

2. There is a balance to be struck between raising levels of acceptance and managing expectations. Most of the reporting was vague about additional public transport measures that could be put in place. An exception was the reporting in Shrewsbury, which outlined a long list of the possible benefits of the TIF study, including: improvements to public transport, more pedestrian priority in the town centre, measures to tackle congestion hotspots and major highway investment. If expectations are raised too high and fail to be met, there could be a resulting backlash against the introduction of any further schemes.

3. Reporting in all of the areas uses similar language, referring generally to 'road pricing' and 'road charging' schemes and only using terms such as 'congestion charging' and 'pay-as-you-drive' when describing in more detail what a scheme might look like. However, there is still a question over whether people understand what these different terms mean.

Key findings

- Convenience is a significant factor in determining modal choice. People do not seem prepared to sacrifice the convenience of travelling by car to help combat problems of congestion or environmental pollution.
- People often feel they have no alternative but to use their car. Views are mixed regarding the impact of improvements to public transport. Some people claim that they would use their cars less as a result but others maintain that they would carry on driving nonetheless.
- Cost is not identified as a major factor in determining whether people choose to use their car or not. VED and even fuel duty are felt to be too far removed from everyday usage to create a strong enough connection between cost and use. Payment at the point of use may create a more immediate link between driving and its cost and therefore could be influential in affecting people's behaviour.
- There does not seem to be a high level of public understanding of what 'road pricing' is, or what it entails. Whether the interchangeable use of phrases such as 'congestion charging', 'road user charging' and 'road pricing' will lead to confusion in the public's mind is an issue for consideration.
- There is a tendency for people to regard road pricing as 'just another tax'.

2. The trouble with cars

It is likely that road pricing schemes will be more acceptable the bigger the problem they are addressing is perceived to be. This section aims to investigate people's concerns relating to car use, particularly those that might be addressed through the introduction of a national road pricing scheme.

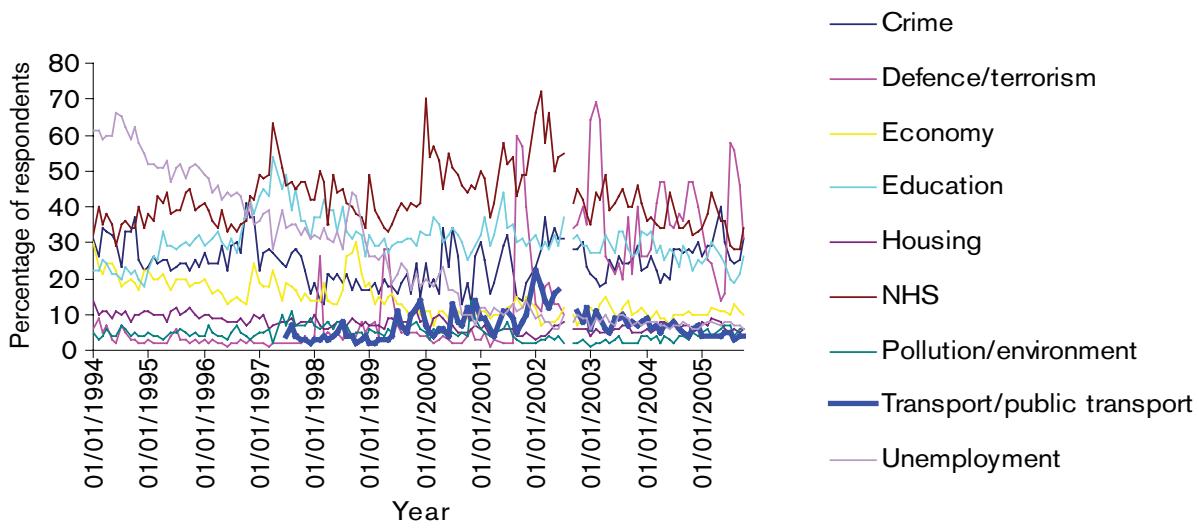
Transport is only seen as a relatively important issue when considered alongside other issues facing Britain today. However, when people are asked about road transport issues specifically, congestion does seem to be a major concern. While the concept is ambiguous – 'congestion' might look different in a town centre compared to on a motorway – there does seem to be a consensus that it is more of a problem in urban areas.

It is difficult to disentangle environmental concerns related to road use from concerns about congestion and opinion surveys often link the two together. It is generally understood that vehicle emissions contribute to climate change but air pollution appears to be more closely linked to congestion as well as being perceived as a more immediate problem.

2.1 Is transport a problem?

Transport is seen as a relatively important problem for Britain – remaining consistently among the issues selected by members of the public as being most important – but other policy areas such as crime and health are felt to be more pressing. MORI's political monitor (Fig.10) (based on unprompted responses) shows that, unsurprisingly, a greater number of people select issues like crime and education as the most important issues facing Britain today. However, there is still a consistent proportion of people who spontaneously select transport as the most important issue facing Britain today.

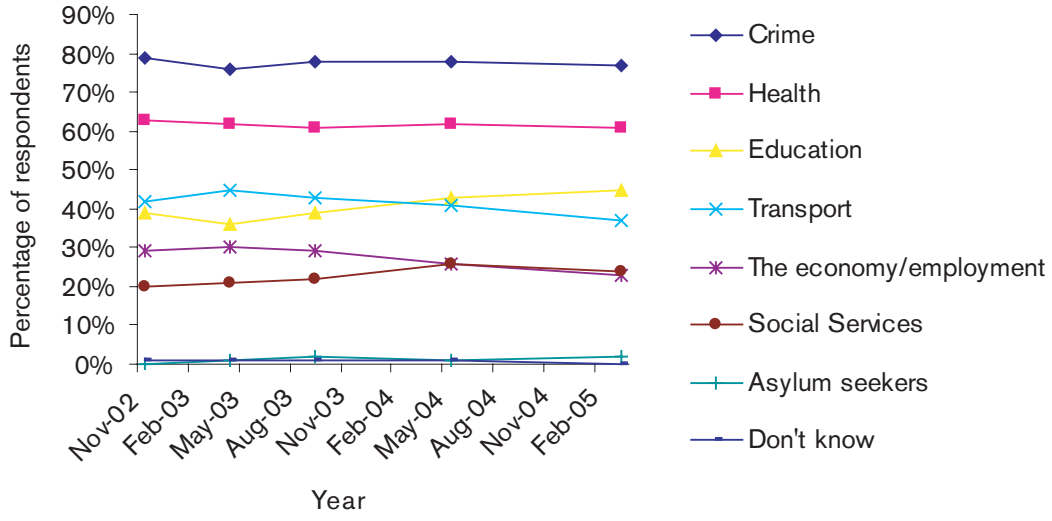
Figure 10: The most important issue facing Britain today, 1994–2005



Source: MORI (2005a)

DfT's own monitoring (Fig. 11) finds transport is considered slightly more significant compared to issues such as the economy and social services than MORI's poll found (although it should be noted that data from DfT is only available over a short timescale).

Figure 11: Which three issues are the most problematic in Britain today? 2005

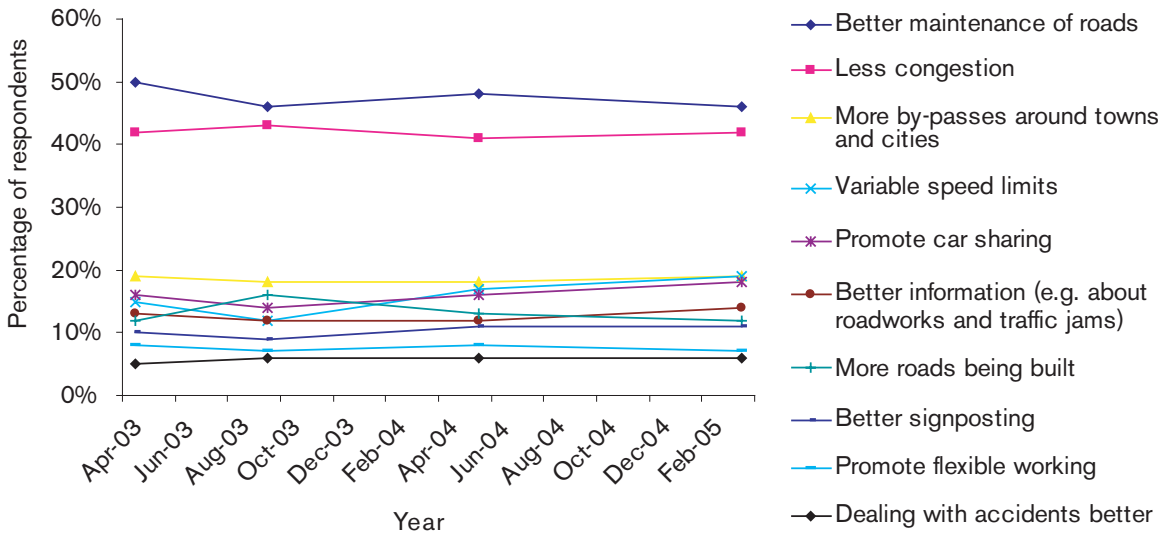


Source: DfT (2005c)

When members of the public are asked about transport-specific issues, congestion is seen as particularly problematic. DfT's Transport Omnibus Survey (2005c) found the most common suggestions for improvements to transport (when asked to name only one issue) in descending order, were reduced congestion, followed equally by improved roads, cheaper fares, better bus services and then better public transport. Research by Ipsos MORI (Page 2005) suggests that congestion may be considered a bigger problem. A total of 68 per cent of respondents thought that the level of traffic congestion had got worse over the last three years, with only seven per cent believing it has improved. This is compared to public transport, where 20 per cent thought it has got worse but 28 per cent felt it has improved.

When asked to focus specifically on roads, congestion is consistently highlighted as a problem, as shown in Fig. 12. Only the need for maintenance of roads provokes similar levels of concern. Issues such as speed limits, information provision and dealing with accidents appear to be much lower priorities DfT (2005c).

Figure 12: Which three things do you think would bring most improvements to the roads? 2005



Source: DfT (2005c)

Note: DFT's data is only available over this short timescale

2.2 Is congestion a problem?

The concept of 'congestion' is difficult to define precisely and therefore open to different interpretations. Context also appears to play an important role. This is perhaps reflected in the fact that a much larger percentage of people feel that congestion is 'a problem for Great Britain' (92 per cent) than think it is 'a problem for them personally' (37 per cent) (DfT 2004b: 3). On the other hand, only 57 per cent of respondents to a MORI poll felt that congestion was a problem everywhere in Britain (MORI 2005b).

Generally, people feel that congestion in town centres is a more serious problem for them personally than congestion on major roads. An exception is drivers who use the motorway frequently, who tend to feel that the latter is the more serious problem (DfT 2004b). Research by DfT (2003a) found that while people living in smaller cities and rural areas did not necessarily feel that congestion was a severe problem in their areas, they believe it is more significant in London and bigger cities (such as Newcastle and Liverpool).

2.3 Are air pollution and climate change emissions associated with car use a problem?

It is not certain to what extent environmental damage is perceived as a problem associated with car use. MORI's research on attitudes to transport issues described some respondents as 'surprisingly apathetic about the environmental impact produced by … vehicles that use roads' (DfT 2003a). However, this does not seem to be due to lack of knowledge. For example, there is clearly an awareness that cars contribute to climate change. A total of 67 per cent of respondents in a BBC-commissioned poll correctly identified 'air and road transport' as a cause of climate change (Darnton 2004). And cars were identified by 77 per cent of respondents to a survey carried out on behalf of DfT as a form of transport making a major contribution to climate change in this country (DfT 2006).

There is little research showing to what extent people connect other environmental concerns such as air pollution and noise pollution with car use generally or whether they consider these to be more important problems than climate change. When asked about problems in their local area, 74 per cent of respondents stated that exhaust fumes in towns were a serious problem, but only 16 per cent thought the quality of air in their local area was poor (DfT 2001). More recently, DfT's Transport Omnibus Survey (2005a) showed that 75 per cent of respondents were either fairly satisfied or very satisfied with air quality.

2.4 Problems associated with congestion

The PRoGRESS project concluded that time spent in traffic jams was the most important factor in terms of the immediacy with which the problem of congestion is perceived compared to secondary effects such as air pollution or damage to architecture (PRoGRESS 2004b). This is contradicted by findings from MORI (2005b), shown in Table 1, which suggest that pollution is considered to be as big a concern as the impact

Table 1: Greatest concerns about the impact of road congestion

Makes journey times unpredictable	45%
Causes pollution which can cause health problems	45%
Causes accidents	39%
Contributes to global warming	32%
Leads to more roads having to be built	26%
Creates noise pollution	24%
Makes me late for meetings, appointments and engagements	19%
Increases costs to UK businesses	15%
Other	2%
I have no concerns about the impact	4%
Don't know	1%

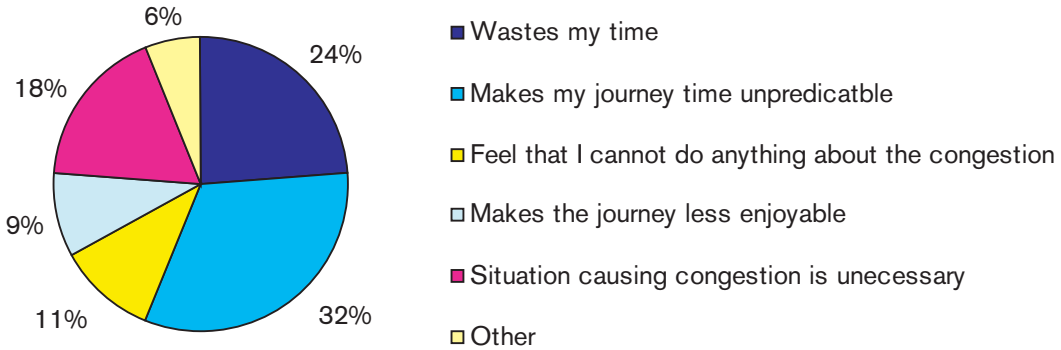
Source: MORI (2005b)

on individuals' journeys. Interestingly, road safety also features as a significant concern with 39 per cent of respondents highlighting accidents as a problem associated with congestion.

2.4.1 Delays and uncertainty

People do not seem to be overly concerned about delays *per se* but the unpredictability that congestion brings to journey times is considered a problem. This resonates with the discussion of the importance of convenience in the previous section. Table 1 shows that 45 per cent of respondents gave unpredictable journey times as one of their biggest concerns about congestion, whereas only 19 per cent highlighted being late. In a survey carried out by DfT (2004b), the majority (32 per cent) of respondents stated that unpredictable journey times were the reason they found congestion annoying (Fig. 13).

Figure 13: Reasons congestion is annoying



Source: DfT (2004b)

Longer journey times in themselves do not seem to be as much of a concern. Evidence suggests people are choosing to commute longer distances as they live further from their workplace (Nielsen 2005).

2.4.2 Environmental problems

Table 1 shows that air pollution is considered to be a significant concern relating to congestion. Less immediate environmental impacts, such as contribution to global warming and noise pollution, are lesser concerns. This supports the findings from Defra's Quality of Life Barometer (2001), in which 52 per cent of people selected traffic (congestion, fumes and noise) as the environmental issue of greatest concern in the next 20 years compared with only 32 per cent choosing climate change. In contrast, however, participants in BMRB Social Research workshops, although aware of the environmental impacts of congestion, 'did not raise this as a key concern' (Green and Stone 2004: 14).

Key findings

- Transport is perceived by some people to be a relatively important issue in Britain.
- Congestion is seen as being a particularly significant issue for road transport. There is some evidence to suggest that people consider it to only be a concern in certain localised hotspots.
- A major concern relating to congestion is the resulting uncertainty of journey times. Longer journey times do not appear to be as much of a concern.
- Both local air pollution and climate change are recognised as environmental impacts of car use. There is little data, however, to show which is considered to be more problematic. Within the context of congestion, local air pollution is felt to be of greater concern.

3. How should we tackle the problem?

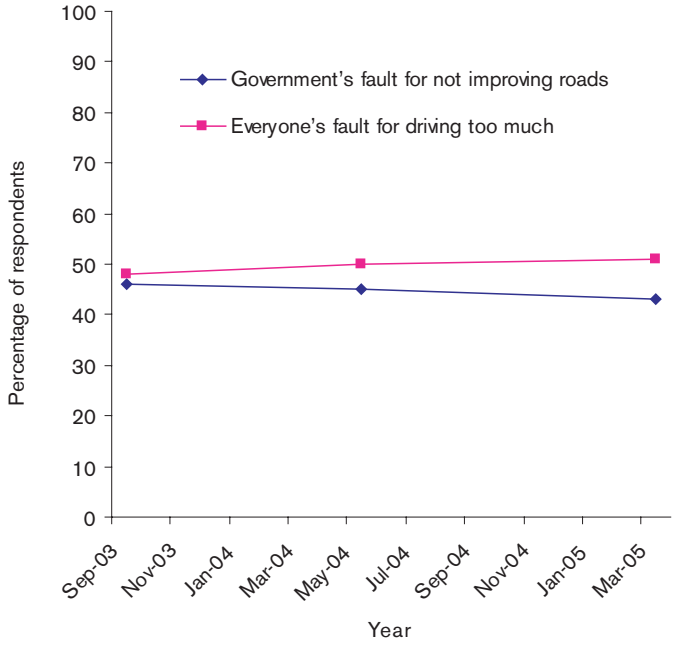
This section looks at who is perceived to be responsible for the problem of congestion on roads, and which methods for addressing it have the most popular support. While there is a general acceptance that 'everyone' is to blame for congestion, the most popular solution – improving public transport – still relies upon 'other people' changing their behaviour.

As a general rule, people are opposed to the idea of road pricing as a form of demand management not only because they dislike the concept, but also because they believe it will not be effective. However, there is evidence that given sufficient time to explore the implications and when provided with relevant information, attitudes towards the effectiveness of road pricing as a method of tackling congestion can change. Presentation also plays an important role: when presented as part of a 'package' of measures, road pricing receives greater levels of support.

3.1 Who is to blame?

Although many people still hold government responsible for causing congestion (due to lack of investment in infrastructure), there seems to be a conviction among the general population that motorists are to blame for driving too much (Fig. 14).

Figure 14: Who is to blame for congestion?



Source: DfT (2005c)

Perhaps unsurprisingly, though, congestion is seen to be caused by other people. Participants in BMRB Social Research workshops 'did not see themselves as part of the problem' (Green and Stone 2004: 14). Certain types of driver are felt to be more responsible than others. Research carried out on behalf of the RAC Foundation demonstrated that the groups who were felt to be most responsible for causing congestion were parents on the school run (27 per cent) and commuters (17 per cent). Findings from DfT's research also showed that the school run was blamed for congestion, with 37 per cent of respondents citing this as a cause. People driving with no passengers in the car were blamed by 35 per cent of respondents (DfT 2003b).

3.2 How should we tackle congestion?

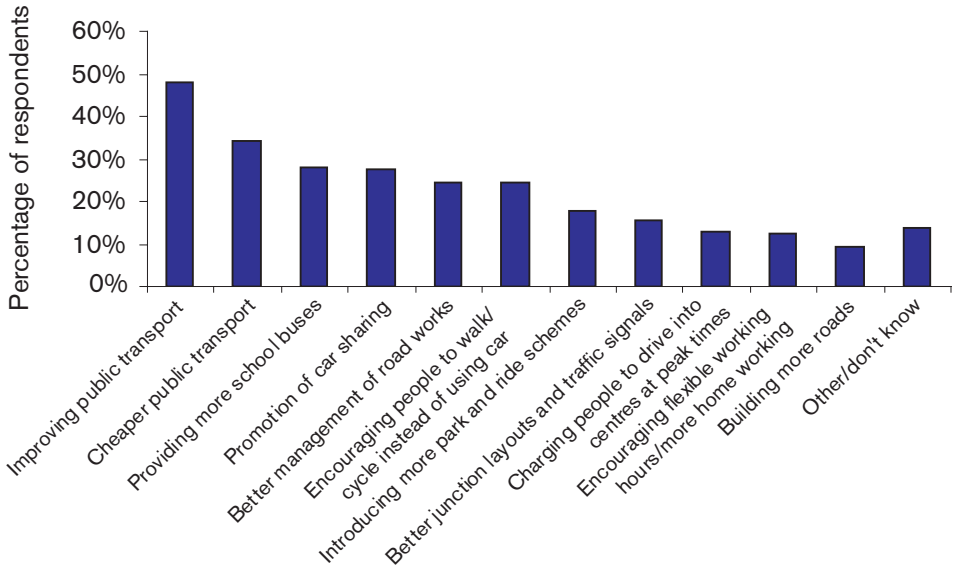
Different policy measures aimed at tackling congestion receive different levels of support from the public.

3.2.1 Build more roads?

In the past, increasing road capacity was seen as an adequate solution for coping with increasing levels of

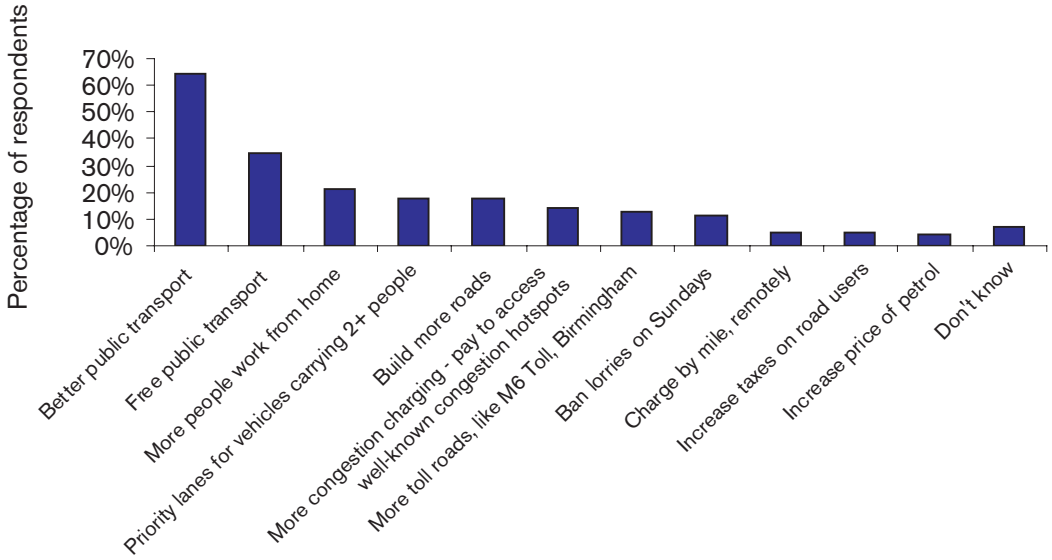
traffic. However, road building is no longer seen as an effective answer. In a survey carried out by DfT, building more roads was seen as the least effective method of tackling congestion, with only nine per cent of respondents supporting this approach (DfT 2003b) (Fig. 15). Similarly, research by MORI showed that only 18 per cent of those questioned selected building more roads as the best way to tackle the problem (MORI 2005b) (Fig. 16). Participants in workshops carried out by BMRB Social Research felt that there was not sufficient space in cities to widen roads, hence this was not a feasible solution (Green and Stone 2004).

Figure 15: Policies perceived as having the most effect on reducing congestion, 2003



Source: DfT (2003b)

Figure 16: Policies thought to be the best way to tackle road congestion, 2005

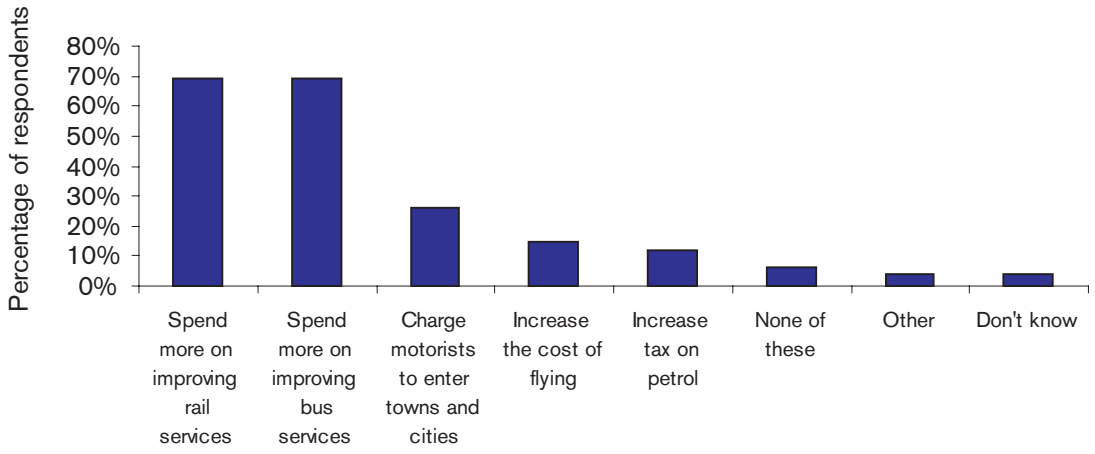


Source: MORI (2005b)

3.2.2 Entice people out of their cars?

Figures 15 and 16 show that improving public transport was selected as the most effective policy by respondents to both the DfT and MORI surveys: 48 per cent and 64 per cent respectively chose this option (DfT 2003b, MORI 2005b). Participants in the BMRB Social Research workshops also suggested mechanisms

Figure 17: Support for policies that could reduce car/aeroplane emissions



Source: DfT (2006)

which they saw as 'carrots rather than sticks' – including car-sharing and park and ride schemes – as being the most preferable ways of tackling congestion (Green and Stone 2004). Figure 17 shows that improving public transport also gains the most support as a measure to tackle climate change emissions from transport.

In reality, this type of approach has not been found to be effective. As discussed in section 1, although improved bus services do lead to an increase in patronage, this is not as a result of modal shift.

When people are pressed, for example in focus groups or deliberative workshops, there seems to be some acknowledgement that improving public transport might not be the answer to congestion. Research carried out by MORI showed a common perception that 'people were too selfish to give up their cars' (DfT 2003a: 49). Participants in BMRB Social Research's workshops recognised that 'people would be keen for others to switch to public transport and thus improve the roads for themselves; the problem was that 'everyone' would be thinking this' (Green and Stone 2004: 51).

3.2.3 Introduce demand management?

Introducing road pricing in any form as a way of managing demand for road space is not popular. In particular, when people are asked 'cold', for example as part of an opinion poll, support for road pricing is very low. Results from the Office for National Statistic's omnibus survey showed that seven per cent of respondents supported pricing measures as the best way to deal with congestion, compared to 40 per cent who suggested public transport as the solution (DfT 2004c). A poll by MORI on behalf of Detica showed similar results (Fig. 16).

In the context of tackling emissions of carbon dioxide (CO_2), charging motorists to enter towns and cities is equally unpopular (Fig. 17). However, support is much greater among individuals who are very concerned about the problem of climate change. A total of 40 per cent of this group stated that they would support the introduction of charges, compared to 24 per cent of those who were fairly concerned and 13 per cent of those not very concerned (DfT 2006).

Perhaps we should not be surprised that road pricing is generally unpopular: at the most basic level drivers feel they will have to start paying for something which they currently perceive as being 'free'. Some participants in workshops held by BMRB Social Research felt that paying VED gave them the 'right to drive'. The introduction of road pricing would result in some people thinking they were being forced to pay twice for the same thing (Green and Stone 2004).

Kocak *et al* (2005) provide a good summary of key concerns about road pricing as a form of demand management:

- Motorists are being penalised (due to a lack of alternative transport options)
- Charging is ineffective at reducing congestion

- Charging represents just another form of tax
- There may be undesirable impacts (such as rat running and implications for local businesses)
- It is not fair (goes against free movements of goods and people and will increase disparities by disadvantaging those who cannot afford to pay the charge)
- There are technology and privacy concerns (unreliable, not enforceable, will invade privacy).

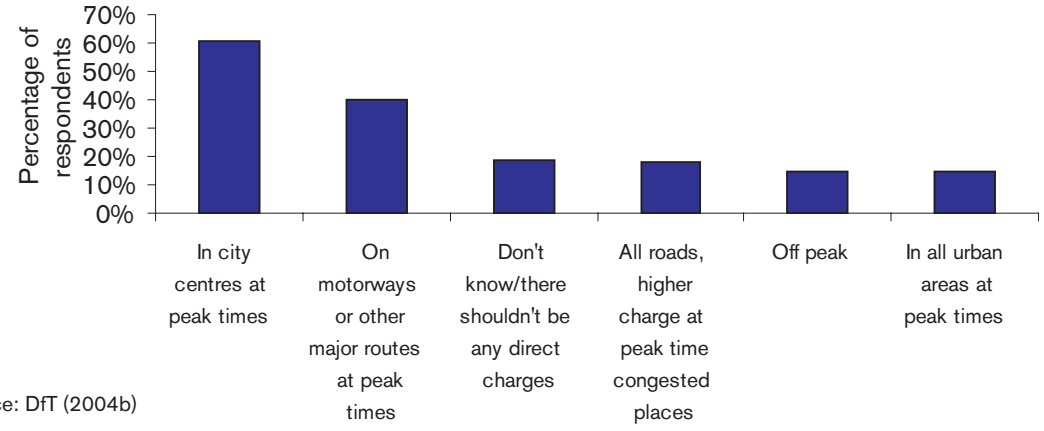
In addition, participants in the BMRB Social Research workshops disliked the idea of road pricing because it would affect motorists' 'carefree' attitude to driving. They felt it would complicate driving and did not like the thought of 'driving round the country clocking up charges' (Green and Stone 2004: 38).

Although initial reactions to the concept of road pricing are negative, there is some evidence that attitudes can change. The following section examines how overall *acceptability* of a scheme can be increased and also how perceptions of the *effectiveness* of a scheme can change.

Evidence suggests that acceptance of road pricing increases when it is presented as part of a 'package'. Opinion polls show that when road pricing is presented alongside other measures such as reductions in motoring taxes or using the revenue to improve public transport services it is felt to be more acceptable (RAC Foundation 2002, CfIT 2002). This is discussed in more depth in the section on use of any revenue.

There is more acceptance of road pricing schemes in urban areas. Fig. 16 shows that although road pricing options were less popular than other methods of tackling congestion, the option of introducing charges just for well-known congestion hotspots received most support. Research carried out by DfT showed that charges in city centres at peak times gained most support (Fig. 18). As discussed in section 2, people feel that congestion is more of a problem in urban areas, so this suggests that the perceived level of congestion can affect acceptance.

Figure 18: If there were to be direct charges for the use of roads, where and when do you think the charges should be applied?



Source: DfT (2004b)

While a well-designed scheme can minimise undesirable impacts, tackle equity concerns and ensure reliable technology, the belief that charging is ineffective in tackling congestion could prove to be a significant barrier to public acceptability. Figures 15 and 16 showed that only a small percentage of people currently think that charging is effective.

Jones (2003) suggests that perceptions of ineffectiveness are based on two misconceptions: that people tend to recall situations when there was no alternative but to use their car; and that people tend to overestimate the amount of traffic reduction necessary to cut congestion. Findings from the European PRoGRESS project suggest that current levels of public transport provision can influence people's attitudes towards the effectiveness of introducing a road pricing scheme. If there are not sufficient alternatives, people do not believe that road pricing will be effective (PRoGRESS 2004a).

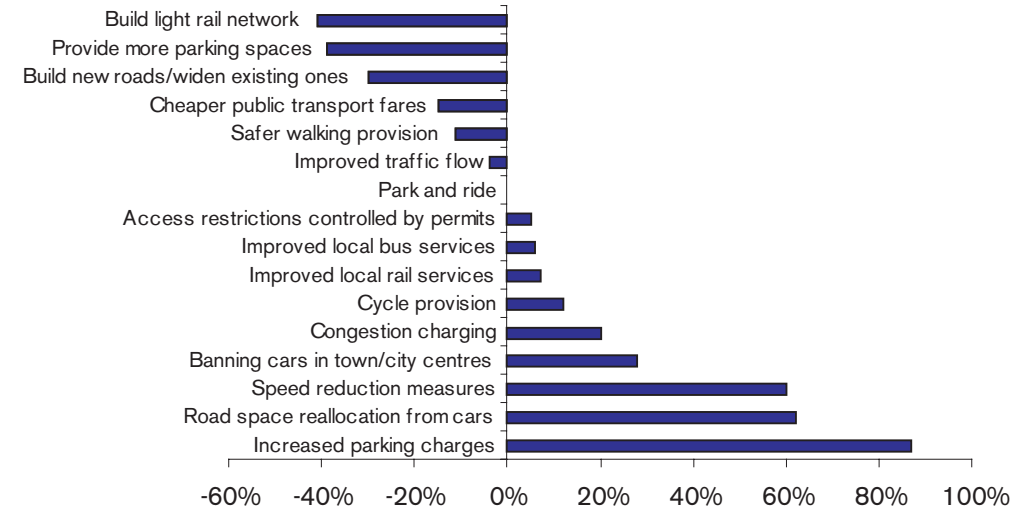
Little research is available on whether people's attitudes towards the effectiveness of road pricing can be changed. However, there is some evidence to suggest that this is possible.

When given the opportunity to discuss the issue in more depth, some participants in BMRB Social Research workshops, acknowledged that charging at the point of use could be an effective method of tackling

congestion because it 'would create a connection in motorists' minds between paying for the roads and using their car' (Green and Stone 2004: 25). This was also the case in deliberative workshops carried out for the Sustainable Consumption Roundtable (Opinion Leader Research 2006).

Jones (2003) showed that presenting people with information about the effectiveness of different policy measures drastically changed their levels of support for different measures (Fig. 19). 'Sticks' such as congestion charging and parking charges saw a net increase in support while less effective 'carrots' such as building roads and cheaper public transport fares became less popular. However, it should be noted that this research was carried out with only a small number of respondents. In reality, these options do not have to be mutually exclusive and a package of both 'carrots' and 'sticks' may be introduced together.

Figure 19: Change in support for local policy measures after information provision



Source: Jones (2003)

People's attitudes towards road pricing schemes do not remain constant over time. Jones (2003) states that levels of acceptance generally decrease in the run-up to the introduction of a scheme as people move from thinking about general principles to considering a specific proposal. However, both acceptability and perceptions of effectiveness have been shown to increase after schemes had been introduced and people had been able to experience them in reality.

In Norway, opinion on the Oslo 'Toll Ring' (cordon scheme) shifted from only 13 per cent in favour before the start to 50 per cent in favour within one year of the toll opening. Similarly in Trondheim, opposition dropped from 70 per cent before the charging scheme was introduced to about 35 per cent after its introduction (Tretvik 2003).

Support for the London congestion charging scheme rose after its introduction. In addition, the perceived effectiveness also increased. Research carried out by MORI among residents within the charging zone showed that before the introduction of the scheme, 49 per cent thought that the charge would improve congestion whereas 55 per cent felt that congestion had improved after the scheme was introduced (Table 2).

Table 2: Expected and experienced impact of London congestion charge on congestion (according to residents in the congestion zone)

	2002 Expected impact on congestion (%)	*2003 Experienced impact on congestion (%)*
Better	49	55
Same	23	33
Worse	15	10
Can't say at this time	13	2

Source: MORI (2004)

Although this data shows only a small increase in perceptions of effectiveness among residents of the congestion zone, other surveys, although not directly comparable, suggest that the increase was more significant. Jones (2003) cites a survey carried out in 1999 among London residents in which only five per cent believed that a £5 central London road user charge would be the most effective way of reducing London's traffic levels. A survey carried out in the first month after the introduction of the scheme showed that 73 per cent of London residents thought the scheme would be effective in reducing congestion (TfL 2003).

Key findings

- There is recognition that congestion is due more to the sheer volume of traffic on the road than to poor road infrastructure and a lack of government investment. Consequently, people are more willing to accept that 'everyone' is to blame.
- Building new roads is not seen as an effective way to tackle congestion.
- Improving public transport is perceived to be the most effective way of tackling congestion.
- Road pricing is generally not a popular option for combating congestion when presented 'cold' and without other measures such as use of revenue. The reasons for this seem to centre on the dislike for extra payments – which are often perceived as penalising drivers or as being a stealth tax – and unintended impacts such as rat-runs and the disadvantaging of certain groups.
- Nor is road pricing generally considered an effective solution to the problem of congestion. A major contributor to this opinion seems to be the belief that current public transport systems would not provide an adequate alternative to the car.
- But the acceptance of road pricing increases when it is presented as part of a package of measures, for example, making cuts in other motoring taxes or hypothecating the revenue for improvements in public transport.
- It seems possible to change people's attitudes towards the effectiveness of road pricing in tackling congestion, through in-depth discussions or by providing relevant information.
- The acceptability and perceived effectiveness of a scheme tend to increase after its introduction.

The previous sections have shown that there is recognition of problems associated with car use, in particular congestion. There is also an understanding that behaviour needs to change in order to tackle these problems. Although road pricing may not be viewed by the majority of people to be the most effective way of achieving behaviour change, evidence that says it is effective may convince people to change their minds. However, it is not known whether people's acceptance of road pricing increases once they have been convinced that it represents an effective solution.

The next section investigates what is known about attitudes towards the composition of road pricing schemes. It will investigate different aspects of such a scheme and highlight key issues for acceptability. It is worth noting here, however, that many preferences will not be compatible in a single scheme. For example, opinion surveys have shown a preference for a revenue-neutral scheme and also for revenue to be invested in improving public transport services. Clearly a road pricing scheme cannot deliver both of these desires. What is lacking from most of the attitudinal research to date is a study of public attitudes when presented with such trade-offs.

4. What would be an acceptable system?

A review of available literature on what would constitute an acceptable form of road pricing reveals that it is only possible to draw broad conclusions. Much of the detail remains uncertain. This is partly a result of patchy data and partly due to difficulties in comparing surveys. Much of the data is drawn from questions that were asked in isolation or as part of a broader survey. In addition, different aspects of road pricing are considered individually and respondents are not challenged when their responses are contradictory.

This section examines the main factors identified in the literature that contribute to the acceptability of a scheme: objectives, fairness, use of any revenues, technologies, enforcement and operators. All of these factors are considerably interlinked.

This section will take each in turn to demonstrate the following:

- Objectives: there is a potential tension between ensuring the scheme adequately reflects the overall objectives for its introduction while not being over complex.
- Fairness: the need for modal alternatives is an important issue.
- Use of revenue: hypothecation to public transport is a popular option, but raises a question of trust in the Government to do this.
- Technology: satellite-based schemes raise concerns over privacy and reliability. There is potential for addressing these fears through legislation, technological solutions and the provision of additional services.
- Enforcement: the need for reassurance that cheaters will be caught is important for acceptability.
- Operators: trust and the potential need for an independent body to run the scheme are most significant.

4.1 Scheme objectives

Most research carried out to date on attitudes towards road pricing has been done in the context of introducing a scheme aiming to tackle congestion. It is therefore difficult to determine attitudes towards the overall objectives of a scheme. Table 3 shows that there is greatest support for charging by the size of a vehicle's engine and the amount of emissions produced. However, congestion was not presented as an option in this survey.

Table 3: Support for different charging criteria

If there were a charging scheme for using British roads, which of the following criteria do you think should be used to work out how much road-users are charged?

Size of vehicle's engine	33%
Exhaust emissions vehicle produces	29%
Type of vehicle used	27%
Mileage/distance travelled	26%
Time of day travelled	23%
Number of people in car	17%
Location and use of public transport, i.e. those living near mainline railway stations or with good local bus services pay more to use the roads	16%
Driving history, such as speeding fines or insurance claim records	13%
Don't know	13%

Source: MORI (2005b)

Evidence suggests that road pricing is more likely to be accepted by those who are aware of the problems caused by motoring (Jaensirisak *et al* 2003). Road pricing schemes must also be seen to be effective in tackling the problems they are designed to address. Findings from BMRB Social Research showed that for a congestion charging scheme, people felt charging would only be 'necessary in certain towns and cities with high levels of congestion' and that this kind of approach would be favoured over a charge on all roads (Green and Stone 2004: 35). In addition Bonsall *et al* (2004) assert that distance-related charges could be confusing in that they would appear to make fuel-efficient cars more expensive.

While it should be clear that a scheme is addressing problems associated with car use, there is some evidence to suggest that complexity could be an issue, presenting a potential conflict to scheme designers. Owing to a lack of direct evidence, Bonsall *et al* (2004) use evidence from the mobile phone industry to point out that customers are put off by too much choice and that people are less likely to change their behaviour as complexity increases. They are also most likely to choose the tariff with the most predictable charge. Sorensen and Taylor (2005) highlight the PRoGRESS project to demonstrate that a higher level of communication is required for more complicated schemes.

As highlighted in the previous section, there is more support for road pricing when it is presented as part of a package of measures, such as better roads, improved public transport and traffic management measures, than as an isolated intervention (Green and Stone 2004, PRoGRESS 2004a).

Key points relating to scheme objectives

- It is not known whether tackling congestion is considered to be the most appropriate objective of a road pricing scheme (compared to other aims such as cutting emissions or improving road safety).
- The design of a scheme must be seen to reflect its objectives. For example, if a scheme is aiming to tackle congestion, there may not be acceptance for its introduction on non-congested roads.
- Evidence from the mobile phone industry suggests that people are less likely to change their behaviour as the complexity of a charging scheme increases. They also favour predictable charges.

4.2 Fairness

Unsurprisingly, the perceived fairness of a scheme has been shown to influence its acceptability (Lyons *et al* 2004). Two particular concerns are that those on low incomes could be disadvantaged and that people will be forced to pay the charge due to a lack of viable non-car options, especially those living in rural areas.

A number of factors could be used to determine the levels of charges for a national road pricing scheme, including the distance driven, the levels of congestion and vehicle emissions. There is little data available on attitudes towards charging by vehicle emissions, although initial evidence seems to show that this would be acceptable. Attitudes towards distance- and congestion-based charging are mixed. Generally speaking, distance-based charging seems to have an initial appeal because of the clear link between the level of car use and the level of charge.

It is worth reiterating that the information is drawn from a number of surveys, which may not be directly comparable. It does, however, serve as a useful starting point in assessing attitudes towards issues of equity.

4.2.1 Overarching equity concerns

Participants in BMRB Social Research workshops highlighted the following groups as people who could be disadvantaged by a road pricing scheme (Green and Stone 2004):

- People on low incomes
- People who have to use their cars, for example those living in rural areas
- People with health problems or disabilities
- People on fixed incomes, such as pensioners
- Small businesses
- Residents living in or close to a congestion charge area.

Jones (2003) suggests two ways of tackling inequity in road pricing schemes. The first is to ensure that a sufficient choice of transport options is available. The second is to reduce the impact of the charge on those who are likely to be disadvantaged. This second method is discussed further in the section on concessions below.

The need for alternative modes of transport is clearly an important factor when considering the fairness of a road pricing scheme. Jones (2003) argues that without modal alternatives, those who are unable to pay the charge will be disadvantaged. Indeed, the lack of public transport was one of the criticisms which led to the failure of the proposed Edinburgh congestion charge: opponents to the scheme argued that this resulted in an unfair system (MacKintosh 2005). Numerous studies show that without sufficient alternatives, people will find road pricing unfair.

4.2.2 Concessions and exemptions

There is little attitudinal research available in this area, but there seems to be a general consensus that disabled drivers (Blue Badge holders) should be exempt from a charge (Jones, nd). There may also be some support for concessions for those on low incomes – 58 per cent of drivers surveyed on behalf of the RAC Foundation agreed with this principle (RAC Foundation 2006).

Findings from BMRB Social Research showed that people felt the following groups should be offered discounts (Green and Stone 2004):

- Elderly people and pensioners
- Disabled people and people with health problems who are unable to use public transport
- People living in rural areas with access to little or no public transport
- Residents who live within a congestion zone, although concern was also expressed for residents who live just outside the boundary of the zone
- Emergency services or people who have to drive somewhere in an emergency.

More research would need to be carried out to investigate attitudes on concessions for other road users such as key workers, charities, car clubs or alternative fuel vehicles.

4.2.3 Distance-based charging

There is some evidence to suggest that as a general principle, distance-based charging is thought of as fair. A survey by the AA showed that drivers thought that payment per mile travelled was fair (AA Motoring Trust 2002). This fits with findings from the US where pay-as-you-drive schemes were seen as fairer than tolls where the perception was that rich drivers are able to buy their way out of congestion (Sorensen 2005).

Emerging evidence from the Sustainable Consumption Roundtable suggests that pay-as-you-drive road pricing has the potential to be seen as fair because it links people's behaviour with the impacts. In addition, people liked the idea of linking environmental benefits with personal benefits: if you drive less, you pay less (Opinion Leader Research 2006).

A purely distance-based charge could be seen as unfair for drivers living in rural areas, though, as they need to travel longer distances to access goods and services than those living in urban areas. Attitudinal research carried out as part of the DfT's feasibility study showed concerns about 'people living in rural areas with no alternative forms of transport' (DfT 2004b: 123). In addition, for a scheme aiming to tackle congestion, respondents expressed concerns that a distance-based system would not 'affect those who used their cars for small unnecessary journeys who … ought to be the target of road pricing' (Green and Stone 2004: 38).

4.2.4 Congestion-based charging

There does not seem to be a consensus on whether congestion-based charging is fair or not. Recent research carried out by Ipsos MORI for the Energy Saving Trust found that 59 per cent of respondents agreed that 'Even if congestion levels are rising, charging drivers more to use roads is unfair' (EST 2005: 36). The reason for this view is not clear. However, Jones (2003) argues that people are reluctant to pay for what they see as a systems failure.

On the other hand, 60 per cent of drivers in a survey carried out by NOP for the RAC Foundation felt that it would be fairer to pay tax according to the amount of time spent in congestion than tax on fuel and VED (RAC Foundation 2002). This number rose to 62 per cent when the survey was repeated in 2005 (RAC Foundation 2006).

Location also plays a role. In general, people seem more prepared to accept the idea of paying to drive in congested urban areas – 51 per cent of respondents in a survey carried out for DfT agreed that town centre charging would be fair, and 45 per cent disagreed. On the other hand, 61 per cent of respondents felt that paying to use motorways at peak times would be unfair (DfT 2003b). As discussed in the previous section, this could be because congestion is perceived to be more of a problem in urban areas than on motorways (DfT 2004b).

4.2.5 Emissions-based charging

A recent survey by MORI showed that when asked to select which variables should be used to determine a charge for drivers, the aspects gaining greatest support were those relating to the environmental impact of the car: engine size, exhaust emissions and vehicle type (Table 3).

While it appears that charging on an emissions basis might be acceptable, there is little data available on whether this is also perceived as fair.

The following sections look at attitudes towards other features of a road pricing scheme: use of revenue, technologies and enforcement. There are equity issues attached to all of these elements, which are highlighted at the end of each section.

Key points relating to equity

- Two particular areas of concern are the impacts road pricing might have on those with low incomes and those who do not have a viable alternative to using their cars, particularly those living in rural areas.
- There is widespread support for giving concessions to Blue Badge holders. There is also some support for concessions for those on low incomes.
- There is general support for varying charges by emissions levels.
- There are mixed views towards whether distance- and congestion-based charging schemes would be fair. In both cases, members of the public highlight equity concerns.

4.3 Use of any revenue

It is generally acknowledged that returning any revenue from a road pricing scheme increases its public acceptability. However, the question of how to spend any revenue is less clear-cut. Support for road pricing schemes increases when there is some reduction in other motoring taxes but the option that receives the greatest support is hypothecation for investment in public transport. It is not certain to what extent people would wish this to happen at a local level as opposed to investment in national level services.

While hypothecation could help overcome scepticism that road pricing is 'just another tax' (Opinion Leader Research 2006), there is clearly an issue with trust. Evidence from proposed and existing road pricing schemes suggests that up-front investment in public transport is needed in order to convince the public that the responsible authority is committed to improving services (Gaunt *et al* 2006).

There is also a need to manage expectations since road pricing will provide a finite amount of revenue that will not be sufficient to accomplish all of the suggestions that have been put forward for its use.

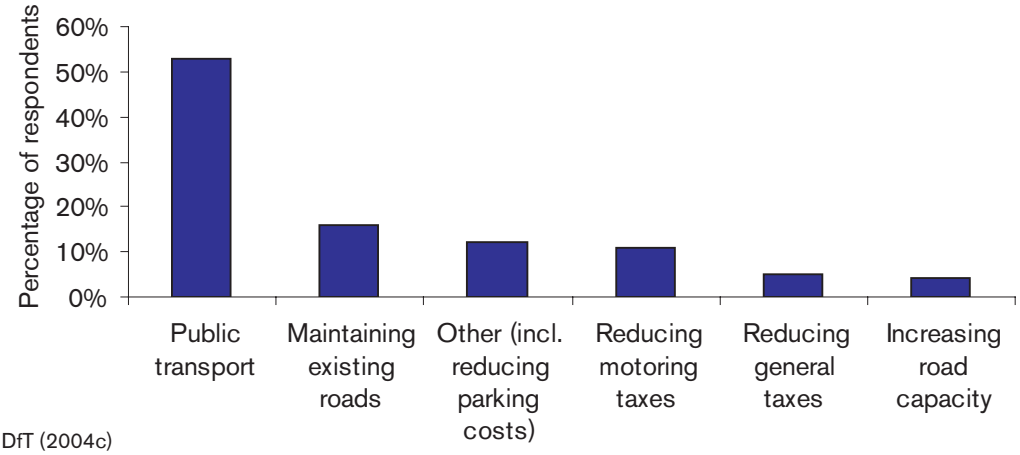
4.3.1 Returning revenue

Returning the revenue from a road pricing scheme has been shown to increase its acceptability. Lyons *et al* (2004) examined a number of attitudinal studies and showed that acceptance increased when something was offered 'in return' compared to a baseline 'no return' scheme.

In determining how the revenue ought to be returned, two options in particular appear popular: cutting motoring taxes, and investing money in public transport. Other options, such as spending on road building/maintenance, environmental improvements or investing in public services generally receive much less support.

Although Lyons *et al* (2004) concluded that it was not clear whether using revenue to reduce motoring taxes or for investment in public transport was more popular, several more recent surveys show a clear preference for improving public transport over reducing taxes. In a survey carried out for DfT (2004c), 53 per cent of respondents selected public transport as a priority for spending the proceeds of a road pricing scheme, while only 11 per cent chose reducing motoring taxes (Fig. 20). Polls by MORI show similar trends (MORI, 2005b).

Figure 20: Priorities for spending the proceeds of a road pricing scheme



Source: DfT (2004c)

4.3.2 Revenue neutrality

Tied up with deciding how to use the revenue is the question of how much revenue the scheme should raise. Talk of 'revenue-neutral' and 'revenue-raising' schemes can be confusing since the impacts on individuals can be very different to those at the national level.

There is clearly support for the notion of offsetting the costs introduced by a road pricing scheme with cuts in motoring taxes. Participants in BMRB Social Research workshops favoured a system in which 'paying at the point of use for the average motorist [would] be equal to their present bill' (Green and Stone 2004: 44). However, as demonstrated by the previous section, there is also support for hypothecation for public transport spending. Clearly these two options are incompatible but no studies have been carried out into how people resolve this contradiction when they are presented with the trade-off resulting from their preferences.

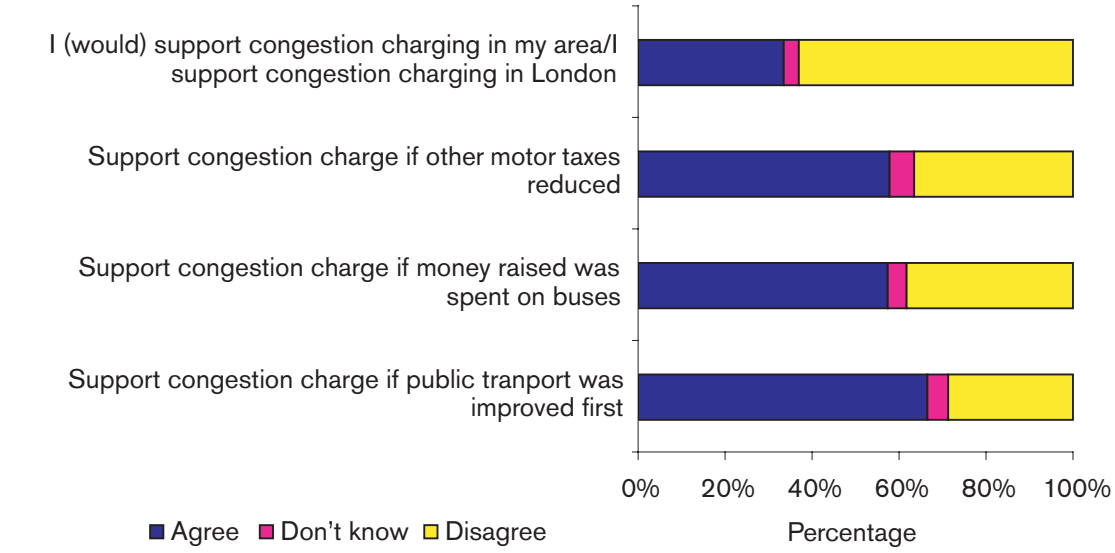
Although the concept of 'revenue neutrality' is popular, it is not known how individuals interpret the phrase. Even under a revenue-neutral scheme, some people will end up paying more than they did under the current motoring tax regime. Further research is needed to investigate how individuals react when presented with the potential trade-offs between cutting congestion, providing for public transport and the cost of motoring to the individual.

4.3.3 Trust

Trust is an important issue where use of revenue is concerned. Respondents stated that they would 'question the motive of the government if the trade-off [a reduction in taxes offsetting any road pricing charges] resulted in them paying more for the roads' (Green and Stone 2004: 43). In the case that extra revenue was being hypothecated for transport funding, people 'would want to see clearly what use was being made of the revenue' (DfT 2004d: 11).

One way to address this issue could be to make up-front investments. Attitudinal work carried out as part of DfT's feasibility study of road pricing (DfT 2004d) showed that the hypothecation scenario receiving greatest support was that in which public transport was improved prior to the introduction of a scheme (Fig. 21). Visible improvements in public transport help to build trust that the Government is committed to tackling congestion. Evidence from Edinburgh shows that up-front investment in local bus services might have increased support for the proposed congestion charging scheme (Gaunt *et al* 2006).

Figure 21: Support for charging in town centres



Source: DfT (2003b)

This finding could imply that up-front investments should reflect the objectives and structure of a road pricing scheme. For example, a scheme based on increased charges for driving in congested urban areas might require up-front investment in local public transport for affected areas. Alternatively, a scheme that charged on longer distance inter-urban journeys could need investment in national-level public transport infrastructure. In reality, a national road pricing scheme would probably encompass elements of both these models.

More generally, there appears to be a research gap in determining whether hypothecation of revenue to public transport improvements in an area compared to investment in national-level public transport infrastructure affects attitudes or not (Lyons *et al* 2004).

4.3.4 Managing expectations

The Transport Select Committee points out that the Government must be careful not to raise expectations about the amount of money that will be available as a result of a road pricing scheme (House of Commons Transport Committee 2005). A balance will need to be struck between paying for the costs of running the scheme, investing money in public transport and reducing taxes.

As with any potential new source of revenue, the amount of calls on it mean it is likely to be hypothetically spent many times over before its introduction. While road pricing could provide a new source of revenue (in the future), it will not be sufficient to provide funding for every transport planner's pet scheme.

4.3.5 Equity issues associated with use of revenue

Jones (2003) argues that if revenue from a scheme is to be hypothecated, it must be seen to be distributed fairly. For example, hypothecation of revenue from town-centre based charges could produce a tension where long-distance commuters pay a congestion charge but benefits in the form of improvements to public transport are mainly enjoyed by local residents. This was found to be the case in Trondheim, Norway, where some residents paid 'most days' whereas others 'never' paid, yet all benefited from the road investment. The problem was addressed by adding new toll cordons (Jones 2003).

Key points relating to use of revenue

- In general, schemes in which revenue is returned – for example through tax cuts or investment in public transport – are found to be more acceptable.
- The use of revenue that receives most support is hypothecation towards public transport.
- Although the idea of a revenue-neutral scheme is more popular than a revenue-raising scheme, it is not

known how people reconcile the contradiction of wanting a revenue-neutral scheme at the same time as wanting to hypothecate revenue for public transport.

- It is not known if people would still support an overall revenue-neutral scheme if its design meant that they personally would be worse off.
- Visible improvements in public transport could increase trust and help persuade people that road pricing is not 'just another tax'.
- With so many options for how revenue could be used, there is a need to manage public expectations.
- Any revenue that is hypothecated must be distributed fairly.

4.4 Technologies

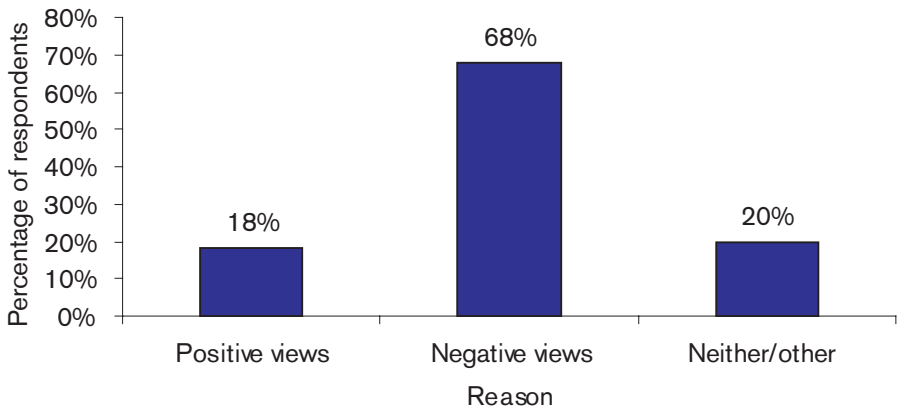
The technology employed to operate any road pricing scheme does appear to have an impact on people's attitudes and concerns regarding the scheme. There is little data available on attitudes towards tag-and-beacon and Automatic Number Plate Recognition (ANPR) systems other than to say that both can raise concerns about unsightly roadside equipment (Green and Stone 2004).

There is more information available regarding GPS-based schemes but again data problems persist. In general, satellite-based charging is not popular although additional services provided by the same on-board unit could increase acceptance. Privacy is often cited as a potential concern with road pricing schemes and applies to tag-and-beacon and ANPR schemes as well as GPS-based schemes. There is some evidence to show that these concerns may be addressed if systems are put in place to ensure any data collected is not used for other purposes.

4.4.1 GPS-based schemes

A GPS-based system does not currently enjoy much support from the public: 68 per cent of respondents in a survey carried out for the DfT (2004c) reported that their views towards such a system were negative (Fig. 22). The reasons for this opposition seem to centre on concerns of trust, the practicalities of operating such a scheme and privacy.

Figure 22: How do you feel about satellite-based charging?



Source: DfT (2004c)

There is some evidence, though, to show that additional services – provided by the same on-board unit – could increase acceptance of GPS-based schemes. A survey by MORI (2005b) shows that a large proportion of drivers (73 per cent) agreed that such services would be likely to persuade them to fit an on-board unit (Table 4).

Table 4: Additional services providing an incentive to fit an on-board unit

In-car electronic devices that locate your vehicle and electronically deduct a charge from your account are one way that road-user charging could work. Which of the following potential benefits would encourage you to consider having such a device fitted to your vehicle?

Enable the emergency services to quickly locate you in an accident	32%
Automatic discount on the road-user charge for all who have the device fitted	29%
Save hassle of repeated payment transactions	25%
Help insurers understand how you drive and potentially bring down your personal insurance premium if you are a good driver	24%
Bring you real-time traffic information relevant to your journey	18%
Provide proof that payment has been made	16%
Provide information on and directions to places such as petrol stations, historic sites, car parks and restaurants	10%
I already have such a device in my car	1%
None of these/nothing would make me have an in-car device	20%
Don't know	6%
All naming a benefit	**73%**

Source: MORI (2005b)

4.4.2 Reliability

Whatever technology is selected, it must be reliable. As Lyons *et al* (2004) point out, faulty or over complicated technology can lead to the ultimate failure of a scheme. The European PRoGRESS project concluded that 'new equipment is often blamed for car malfunctioning' (PRoGRESS 2004a: 15). For example, in the Copenhagen demonstration project, people blamed the GPS unit whenever they got a flat battery (PRoGRESS 2004a). People also fear that unreliable technology may result in them being charged too much or allow others to get away without paying. Concerns over trust have a similar basis: drivers do not trust the Government to set charges and fear they will end up paying more.

4.4.3 Privacy

The issue of privacy is particularly complex. In all, 62 per cent of people surveyed for the DfT 'did not regard it as a major issue' (DfT 2004d: 11). On the other hand, 52 per cent of respondents to a survey of motorists for the RAC Foundation believed that 'the use of satellites to monitor the location of cars is an infringement of personal liberty' (RAC Foundation 2002: 156). When the survey was repeated in 2005, this figure increased to 58 per cent (RAC Foundation 2006). But where people do show concerns over privacy, it is not clear exactly which aspects of their driving behaviour people object to being watched 'big brother' style, whether monitoring journeys and locations or their driving habits, such as how fast they drive.

Monitoring journeys seems to be less of a concern. Of course, ANPR and tag-and-beacon schemes are also able to pinpoint the location of vehicles as they pass gantries. The experience of schemes in Europe has shown that despite this capability, privacy has not been a major concern. Findings from the European PRoGRESS project suggest that this could be because people have got used to other technologies – such as credit cards and mobile phones – that potentially allow individuals to be located (PRoGRESS 2004a). This was also the finding in Trondheim, where take-up of the option for anonymous registration was low (Jones 2003). However, in the UK, recent press stories have highlighted privacy concerns surrounding other applications of GPS and ANPR technology (Box 5).

Box 5: GPS and ANPR technologies in the press

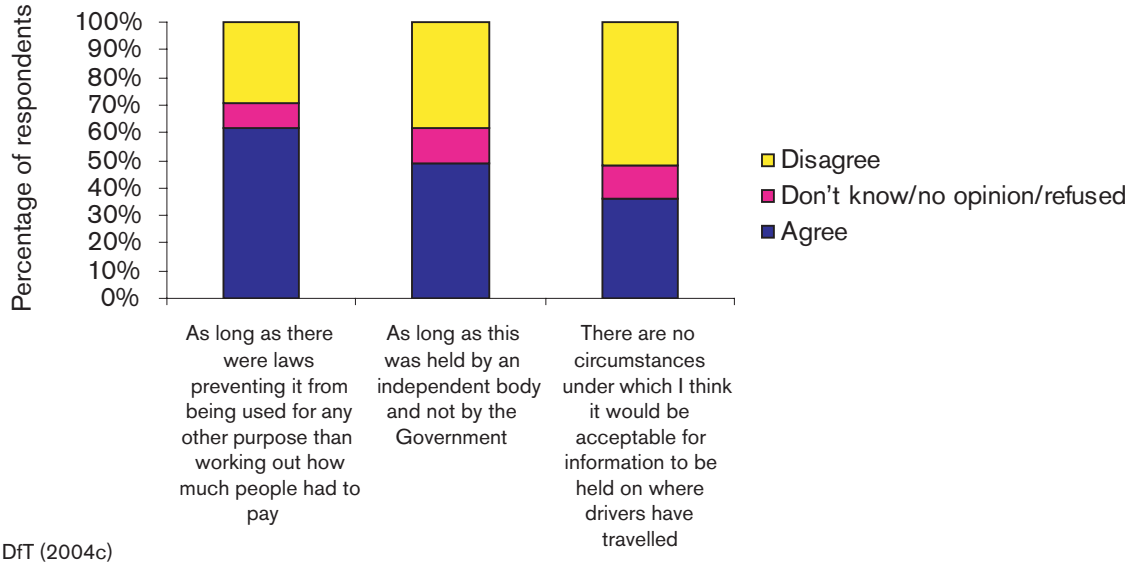
'Forget cameras - spy device will cut drivers' speed by satellite' ***The Sunday Times*****, 3 July 2005**
This article reported on trials in Leeds of satellite-based technology which will allow car speeds to be monitored. Using GPS-technology, the system has the ability to automatically reduce a car's speed if it is breaking the speed limit.

'Surge in cameras that can track your car planned for 2006' ***The Daily Telegraph*****, 23 December 2005**
The Telegraph featured this story following an announcement by the police on plans to fit ANPR cameras on major roads across the UK which would allow monitoring of the movements of suspected criminals. Information relating to movements could be held for up to two years on a central database.

'Brit brother is watching you – is UK satellite a life-saver or spy in space?' ***The Mirror*****, 29 December 2005**
The launch of the first satellite of the Galileo constellation, which will provide an alternative to NASA's GPS system and built in Britain, received wide coverage in the media in December 2005. This article in the Mirror suggested that tracking car movements using the Galileo satellites as part of a road pricing scheme could be a step towards a 'surveillance society'.

Fears over privacy could be mitigated as shown by a poll carried out for DfT (2004c) that demonstrated that the majority of respondents thought it would be acceptable for the Government to hold information on where drivers had travelled, provided that laws were in place to prevent it being used for other purposes (Fig. 23).

Figure 23: When would it be acceptable to hold information on where drivers had travelled?



Source: DfT (2004c)

However, GPS-based schemes offer the opportunity to collect much more detailed information about driving behaviour than either ANPR or tag-and-beacon could. This includes information about speeds and, if combined with a Global System for Mobile communications (GSM) messaging capability, the ability to track vehicles in real time. Sorensen and Taylor (2005) suggest that drivers fear data from a GPS system could be used as proof against them in the case of an accident, in particular as evidence of speeding. Another fear is that insurance companies could penalise those drivers who speed.

Some of these fears could be overcome through the system design. For example, a GPS-based on-board unit could have the capacity to calculate and bill the correct charge *in situ* without ever having to reveal the details of the journey to the billing authority. Complications arise, however, around the issue of enforcement. In this case, it is necessary to monitor traffic to ensure that charges are being paid and this unavoidably results in information being collected about people's whereabouts. In addition, journey details would be required in order for people to contest their bills.

The Government could address these fears by passing laws to specify how any data collected can be used. Indeed, this is already the case in several other charging schemes such as the Trondheim toll and the lorry charging system in Germany where all enforcement data is deleted at the end of each day. In Germany it is illegal to use the data for any other purpose, including tracking suspected criminals, without the consent of the individual concerned.

However, such legislation would need to balance these concerns with the opportunities that such technologies provide for additional services. While it is possible to ensure privacy through the technological design of any system, communicating this to the public to sufficiently reassure them is likely to be a key challenge. Clearly understanding which elements of any technology the public dislike – or like, in the case of some additional services – will be fundamental.

4.4.4 Equity issues associated with technology

As well as concerns over infringement of personal freedoms, choice of technology raises other questions of equity, especially in the case of schemes requiring on-board units. Most obviously, who would pay for the equipment? In addition, if a scheme were to 'piggy-back' on other services using similar technologies, would it be fair to offer incentives to early adopters given that some drivers may not be able to afford to install such services?

Key points relating to technologies

- Little is known about attitudes towards ANPR and tag-and-beacon technologies.
- More information exists on attitudes towards a satellite-based system. The most frequently cited concerns on this technology are over privacy and reliability.
- Technology and legislation can be used to ensure privacy, but communicating this to the public is likely to be a challenge.
- There is some evidence that additional services such as satellite navigation and emergency service location could increase acceptance.
- The question of who would pay for any on-board units necessary for the operation of a scheme is important when considering equity, particularly if incentives are used for 'early adopters'.

4.5 Enforcement

Little research has been carried out into attitudes towards enforcement of road pricing schemes, yet there is evidence to suggest that enforcement needs to be seen to be effective in order to convince people that other drivers are not able to cheat the system. This could result in a tension between ensuring effectiveness and protecting civil liberties.

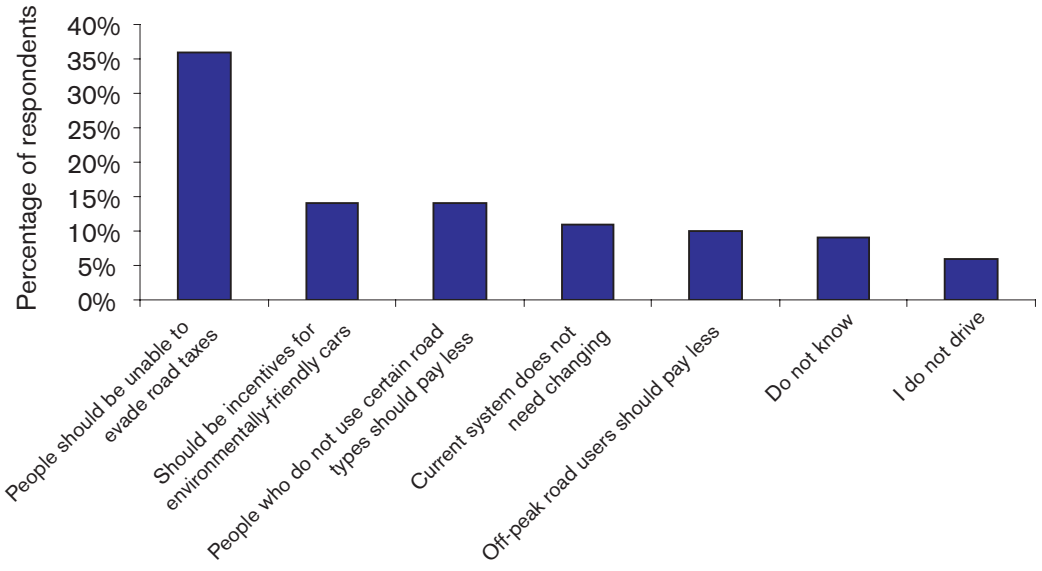
4.5.1 Ensuring cheaters are caught

Forthcoming research from the Sustainable Consumption Roundtable showed that for policy interventions aiming to change behaviour, people wanted 'assurance that they will be acting in collaboration rather than isolation' (Opinion Leader Research 2006: 10). A key implication is policies relying on voluntary actions would be unlikely to change behaviour whereas those employing more restrictive measures such as bans or taxes could be more successful. Ittner *et al* (2003) demonstrated that in Germany, such restrictive policies ultimately received more public support too.

Sorensen and Taylor (2005: 64) assert that 'successful programmes require widespread belief among the participants that cheaters are rare and will eventually be caught'. Effective enforcement is clearly vital in achieving such a belief. It may even be necessary to go beyond the level of enforcement considered technically necessary as was the case in both the German lorry charging scheme and the Melbourne City Link, where a visible ANPR enforcement system was used in order to demonstrate to the public that the system was being enforced. (Lyons *et al* 2004).

Little research has been carried out in the UK into determining appropriate levels and methods of enforcement. However, there is evidence that free-riding is a concern held about the current motoring taxation system. A survey for DfT in 2004, presented in Figure 24, showed by far the biggest concern with the current motoring taxation system was that people should not be able to evade road taxes (DfT 2004c).

Figure 24: Views on possible changes to the current system of road charging



Source: DfT (2004c)

Studies carried out by BMRB Social Research (Green and Stone 2004) showed that respondents liked the fact that a system of payment at the point of use would be hard to evade, unlike VED, where people might continue to use their cars (illegally) if they have not paid the tax.

Any enforcement system will require monitoring of traffic to check that drivers have paid the correct charge or have a functioning on-board unit to calculate the bill. A number of different technologies could be employed to achieve this and in each case, the concerns and safeguards concerning privacy – as outlined in the previous section – would apply.

Ultimately, a trade-off will be necessary to ensure that effective enforcement is not at the expense of civil liberties.

Key points associated with enforcement

- Effective enforcement is important to reassure people that cheaters will be caught and that other drivers are paying the charges or changing their travel behaviour too.
- The fact that payment is unavoidable when levied at the point of use is seen as a positive attribute. There is currently discontent that drivers are able to 'get away' with not paying VED.

4.6 Operators

The section on use of revenue raised the issue of trust as a potential barrier to public acceptability for a road pricing scheme. People need to be able to trust that levels of charge will be set fairly and that the revenue will be used as promised. There are concerns about both the Government and private companies running a road pricing scheme; however, there is some support for the idea of an 'independent body' being responsible.

4.6.1 Who would be trusted to run a road pricing scheme?

There is already a certain level of suspicion around how existing revenue from fuel duty and VED is spent by the Government. People believe that an equivalent sum of money ought to be spent on improving roads and that this is currently not the case. Research by MORI (DfT 2003a) concluded that there was a greater need for transparency in how revenue from motoring taxes was spent. Transparency would also be important in the introduction of road pricing. The DfT's Feasibility Study suggested that public acceptability 'would depend largely on what people thought was the rationale behind its introduction, and how far they could trust government to deliver its objectives' (DfT 2003b: 10).

It is not certain that the public would trust a private company to run a road pricing scheme either. There is

apprehension about a profit-motivated company running such a scheme, particularly when people believe that revenue should be re-invested into the transport system (Green and Stone 2004). People expect that with a private company in charge, 'prices charged will reflect what the market will bear' (Bonsall *et al* 2004: 17).

There is support for the idea of an independent body to set the level of charges and to make use of the revenue (DfT 2004d). A total 52 per cent of motorists supported the idea of setting up an independent trust fund for the revenue compared to 18 per cent who thought it should be overseen by central government (AA Motoring Trust 2002).

Little data is available on whether people think the revenue should be managed at a local or national level. This will almost certainly depend on how the revenue is to be used.

Key points relating to operators

- Transparency in the use of revenue is important. There is a lack of trust in the Government over the use of current motoring taxes.
- The public is also suspicious of private companies running the scheme, who are perceived to be 'profit-motivated'.
- There is more support for an independent body to set the level of charges and make use of the revenue.
- More research is needed to determine whether the revenue and its use should be managed at a local or national level.

Key findings

- The design of a road pricing scheme must clearly reflect its overall objectives.
- A scheme must not be over complex, if behaviour change is to be achieved.
- The provision of modal alternatives is essential if a road pricing scheme is to be considered fair.
- There are mixed views about the fairness of both distance- and congestion-based schemes. In both cases, the public is able to point to groups who might be disadvantaged.
- There is clear support for hypothecating the revenue to public transport, although further research is needed to determine whether this is envisaged at a local or national level.
- The idea of using a satellite-based charging scheme does not appear to be immediately popular to survey respondents. More work is needed to understand which aspects of satellite-based charging people dislike.
- Technology itself may aid acceptability – for example, through any additional services offered or techniques employed to protect the data gathered. Appropriate legislation may also help address public concerns in this area.
- Effective enforcement is important to securing acceptability by demonstrating that it is not possible for people to cheat the system.

Conclusion

The evidence presented in this paper provides a mixed picture.

The challenge of winning the argument of the need for road pricing, let alone the details of any scheme, is significant. While at the national-institutional level there are few who disagree with the principle of road pricing, the public are more sceptical. This is partly because a large number seem unsure exactly what road pricing is. But this only demonstrates the scale of the communication challenge facing government.

Yet there are some signs of hope. Four general points stand out. First, there is a level of support in the country that can be built on. Second, there is a growing awareness of the rising levels of traffic and the associated problems – particularly congestion – this creates. Third, there is some evidence that when participants of deliberative workshops are presented with evidence of the effectiveness of road pricing, their acceptance increases. Fourth, acceptance of congestion charging schemes generally increases after the schemes have been introduced.

So, what do we currently know about the state of public opinion towards road pricing? At this stage of the road pricing debate it is important to distinguish between two different aspects of public attitudes: whether people find first the *principle*, and second the *details*, of road pricing acceptable.

We have already noted the problems associated with presenting the results of many different surveys – some with methodological problems themselves – in this paper. However, it is still useful to draw out the broad themes that emerge. These themes also help inform our own public engagement work.

In looking at people's attitudes towards the principle of road pricing we see that the current lack of a defined national scheme is reflected in people's uncertainty over what the term road pricing means. There is a greater understanding of the concept of congestion charging, particularly after the introduction of the London scheme. It is also important to understand how road pricing fits in with the public's views about their cars and broader transport-related issues. In this regard, we find convenience to be significant. This is demonstrated by people's preference to use their cars over public transport and their annoyance at the uncertainty of journey times caused by congestion.

Although road pricing is not readily endorsed as a method of tackling congestion – the suggestion of improving public transport receives a greater level of public support – there are situations in which the acceptability of road pricing increases, specifically, when it is proposed as part of a package of measures aimed at improving transport rather than as an isolated initiative.

More is known about people's attitudes towards the individual details of a scheme, although once again, the picture is varied. One aspect that appears to be particularly important is the level of provision of public transport that would go alongside the introduction of any scheme. This touches on many of the key debates around road pricing, including:

- fairness and the perception that people who are reliant upon their cars might be 'forced' to pay a charge (or 'forced' off the road if they cannot afford to pay)
- the use of revenue and whether it should be hypothecated towards public transport
- trust – where additional provision of public transport could help to overcome scepticism that road pricing is 'just another tax'.

Attitudes towards technology and enforcement show that there could be ways to overcome initial apprehension. Additional services based on GPS technology that could be provided through an on-board unit might make people more likely to fit such a device in their car. Suitable legislation over the use of data collected as well as technological solutions could help to overcome fears over invasion of privacy. However, communicating these measures to the public presents a significant challenge.

The issue of equity is likely to feature heavily in the road pricing debate, in particular the potential impact a scheme might have on those with low incomes and those living in rural areas.

This initial review of attitudes reveals many unanswered questions and challenges for future research. As stated above, it is unclear whether people know what road pricing is or understand how it would work. It is therefore difficult to assess its degree of popularity. There is also very little evidence about how different people in society

would be affected by road pricing, giving scope for further research to identify relevant 'groups' and also to investigate the most appropriate messages to communicate effectively with them. We hope to investigate this further in the public engagement phase of our 'Building a national consensus on road pricing' project. For more information see: www.ippr.org/research/teams/ then click on Sustainability, and current projects.

A major challenge will be overcoming the preference for selecting public transport improvements over road pricing as a solution to congestion problems. Given that people tend to prefer the convenience of using a car to taking public transport, it seems that the former method of tackling congestion is based on the assumption that *other* people will change their behaviour.

A reasonable amount is now known about views on the details of road pricing schemes (although this is based upon evidence from a number of different surveys, not all of which focus exclusively on road pricing). The challenge for future research is to move beyond looking at which are the more and less acceptable aspects of a scheme, to identify how to reconcile some of the inevitable trade-offs that result from combining these details into a coherent scheme – trade-offs including levels of charge and use of revenue, effective enforcement and protection of civil liberties, and how to achieve objectives without being over complex. It is only then that we will be able to begin to assess how acceptable particular road pricing schemes are to the public.

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