

Annex D

Consumer Attitudes and Behaviour

Introduction to research programme

- D.1** Public attitudes and behavioural responses are important determinants of the likely success of road pricing. Knowledge of how people travel and how their attitudes are shaped provides useful insight into significant issues such as privacy, hypothecation and public understanding, and hence on how best to design road pricing schemes. Failure to address appropriate issues adequately will hamper plans to introduce road pricing.
- D.2** With this in mind, Department for Transport analysts recommended a series of projects to the Road Pricing Feasibility Study (RPFS) steering group. These recommendations were accepted and the Department has worked with external researchers and in-house analysts to deliver the work detailed below.
- D.3** The purpose of this Annex is to outline and discuss the key findings emerging from this new research into road pricing funded by the Department.

Evidence base review on attitudes to road pricing

- D.4** An important first stage was to take stock of existing research in this area. It was also considered useful to explore international experience, and to see if any transferable lessons could be identified that would be relevant in the UK context.
- D.5** The Department commissioned the Centre for Transport and Society (CTS), University of the West of England (UWE) to conduct an evidence base review of attitudes to road pricing. The review covered attitudes of both the public and business, and included attitudinal research undertaken in other countries. The study was also commissioned to identify gaps in the evidence base and priorities for taking forward future research.
- D.6** Consequently, the review has covered around 200 reports, papers and other articles addressing research in the UK, Europe, North America, Asia and Australasia. These are now catalogued and summarised as the Attitudes to Road Pricing Research Compendium. The final report draws on the material within the Compendium to discuss a broad range of topics that impinge on the issue of attitudes to road pricing. The report identifies nine key topic areas covering:
 - the importance of trade-offs
 - informed attitudes
 - determinants of attitudes

- disaggregating the public
- attitude shapers
- technologies
- equity
- business attitudes
- success and failure in the introduction of road pricing.

D.7 For each of these areas the report assesses the coverage, findings and limitations of research to date. In some areas, a paucity of research is highlighted. In the light of the review findings and an assimilation of key issues, research recommendations are put forward for each area.

Office for National Statistics Omnibus module

D.8 The Department inserted a module on road pricing in the ONS Omnibus for March 2004 covering general acceptability of different technologies, and to broadly test objections and relevant solutions. This provides an overview of the public's attitudes to the issues, but not a detailed understanding of why they have formed these opinions. A module has also been inserted in the June edition of the Northern Ireland Omnibus survey; results will be available later in the summer.

D.9 The ONS Omnibus survey is a multi-purpose survey carried out eight times a year. Each wave of the survey involves a representative sample (1,850) of the general public in Great Britain. A series of thirty-three questions on transport attitudes were asked in the March 2004 edition; establishing travel behaviour, attitudes towards the current system of road charging, and opinions on the potential introduction of a new road pricing system.

D.10 A report on the findings of the Omnibus survey has been prepared by the Transport Statistics Personal Travel division of DfT.

Qualitative attitudinal research

D.11 DfT commissioned BMRB International to conduct a qualitative research project on public attitudes to road pricing. This research complements the ONS Omnibus findings and explores in greater depth the underlying rationale of people's attitudes. Its main purpose was to investigate further the underlying influences and determinants of attitudes.

D.12 The project consisted of, firstly, fifty hour-long depth interviews with members of the public throughout the United Kingdom (selected to ensure a range of opinions roughly representative of the population); and secondly, a series of five workshops held in England (two, north and south), Scotland, Wales and Northern Ireland, to reflect on the findings emerging from the interview research, and to further investigate the public's opinions on various methods of tackling congestion.

Pricing structures evidence base review

D.13 Current transport models depend on a number of assumptions on reactions to choices of prices, travel times etc. Furthermore, questions have been raised about people's ability to understand complex pricing structures. This review establishes the existing evidence base on

the public's understanding of, and reaction to, various pricing structures. The emphasis of the research is therefore primarily focused on people's likely behavioural response to different pricing mechanisms, as opposed to their preferences.

- D.14** An evidence base review of this area is currently being conducted by the Institute for Transport Studies (ITS), University of Leeds. The review is looking at evidence both with regard to road charges, and also pricing mechanisms in other modes of transport, and other industries, such as mobile phone tariffs. The main aims and objectives of the review are to explore:
- the balance between complexity and simplicity of the structure of pricing schemes
 - to what level of detail pricing information is required
 - whether conclusions about structure will change over time
 - the interaction between the key issues, structure and behavioural responses.
- D.15** The review, as well as examining research conducted in these fields, will also include interviews with key individuals involved in price setting in all the fields of industry mentioned above. The review produced an interim report in mid-June, with a final report due by late July. A database of all articles and research consulted and assessed will also be made available.
- D.16** Initial findings (from the interim report) indicate that:
- most travel decisions already have to be made using incomplete information. People have to make decisions with incomplete and complex information and have well-developed strategies for doing so
 - many people have problems dealing with types of spatial information. Estimates of distance are generally poor and are often based on perceptions of the duration of journeys. However, perception of journey duration itself is subject to bias and inaccuracy
 - customers are put off by complex tariffs and by the availability of an excessive range of options. This phenomenon is increasingly recognised by marketing specialists in several industries. For example, in the telecommunications industry, after a period of increasing complexity and despite technological capability to make tariffs even more complicated, the trend is now very clearly towards simplicity. It should be noted that this evidence relates more to marketing and customer preferences than to actual behaviour in response to a pricing mechanism
 - however, despite the move towards simple pricing structures, people have not found it difficult to understand the idea that they have to pay more at times of greater demand (e.g. Singapore, the US HOT lanes, bus and train ticketing structures, and the airline industry).

Cluster analysis of National Travel Survey (NTS)

- D.17** The National Travel Survey (NTS) is the key survey into people's travel behaviour and is designed to pick up long-term trends (therefore, it is not suitable for monitoring short-term trends). It was suggested that exploratory analysis be carried out on these data to inform future work on devising tailored travel solutions.

D.18 As the Department did not hold an attitudinal database large enough to undertake cluster analysis, and to collect it would have been outside the timescale of the feasibility study, some exploratory analysis was undertaken on the (behavioural) NTS data. The purpose of this study was to use cluster analysis to group NTS respondents, which could enable the development of options that different segments of the population are likely to find attractive. This work was done in-house by the Department's Operational Research Unit (ORU).

Benefits of research

D.19 This programme of research provides the following benefits:

- enables a baselining of current attitudes before the publication of the RPFS report
- informs the actual road pricing options selected by exploring attitudes to particular types of technology
- improves the understanding of the impacts of different options on the decision making of transport users
- helps explore acceptability and usability issues
- assists the steering group in advising the Secretary of State on the feasibility of road pricing.

D.20 Qualitative research enables a consideration of the relevant issues for particular social groupings, and a better understanding of the underlying factors influencing attitudes. It is complemented by quantitative research, such as surveys, exploring exactly **why** opinions are held, and the beliefs and social norms behind them.

D.21 DfT analysts also recommended to the steering group that **deliberative methods** would likely prove beneficial in terms of providing evidence on social attitudes, behaviours and their evolution over time. This type of research project would be likely to have the greatest impact **after** the report's publication.

D.22 Because of the timescale, the research conducted to support the work of the RPFS has been, of necessity, exploratory in nature. This research, then, should be seen more as a starting point for future studies (in many cases, asking as many questions as it answers) rather than as a final and conclusive commentary on the topic.

Context to the research findings⁴

D.23 Road traffic has grown by 77 per cent since 1980, although since 1990 at a lower rate than in the previous decade. Many factors have affected traffic levels, including increasing car ownership and numbers of drivers, falls in car occupancy levels, fuel price changes and varying levels of expenditure on roads, both capital and current. Over a quarter of households now have two or more cars. Men are still more likely to have a driving licence but the number of women holding a licence has been increasing at a quicker rate.

D.24 Car use has continued to increase as disposable income has risen, against a backdrop of little change in the real cost of motoring and rising real costs of public transport fares. While the

⁴ For further detail on these findings, please refer to *Transport Trends*, available online at http://www.dft.gov.uk/stellent/groups/dft_transstats/documents/pdf/dft_transstats_pdf_508294.pdf.

average time people spend travelling has hardly changed, at around one hour per day, increased car use has allowed them to travel further in the same time.

- D.25** People are now travelling further by car, for all purposes, although they make slightly fewer trips. The average distance people travel to work has increased by 17 per cent since 1989-91, to an average of 8.5 miles in 1999-2001. The average trip length for leisure travel has also increased (by 11 per cent) over this period. These increases in travelling distance, coupled with a similar increase over the same period in freight travel, has led to corresponding increases in congestion on UK roads. The current system of road pricing (vehicle excise and fuel duties), although incorporating through fuel duty a blunt instrument of distance-based charging, does not address the problems of congestion on roads.
- D.26** A 2001 DfT qualitative study on attitudes to congestion⁵ found that drivers usually expected to see congestion get worse in future, continuing what they saw as the accelerating trend of recent years.
- D.27** Participants often seemed pessimistic about the likelihood of anything effective happening to tackle or reduce congestion. It seemed somehow an intractable problem. It was thought to be fuelled mainly by growth in ownership and use of cars, and there was usually a somewhat fatalistic assumption that this growth would continue inexorably. The desire for mobility was not expected to diminish, nor did people imagine that travellers were likely to switch away from motor vehicles into other transport modes.
- D.28** A few people thought more roads should be built to relieve the pressure, but this approach to solving congestion was surprisingly uncommon considering that the group sessions were entirely made up of drivers. Apart from environmental concerns there was often a feeling that new roads would inevitably fill with traffic, and that congestion would find its level again.
- D.29** For most participants, the only really convincing solution to congestion was to limit the number of cars on the road, but many were not at all sure that this was in itself either practical or desirable. Drivers were also often reluctant to endorse curbs that might limit their own cherished freedom to use their cars.
- D.30** Abstaining personally from car use in the interests of the general good can strike people as pointless and quixotic, because few believe that others would follow suit. For some, one car less on the road seemed neither here nor there in the face of the growing tide of traffic. Congestion results from the cumulative weight of individual decisions to use the car, but these decisions tend to be taken in the light of immediate personal advantage and not in a collective spirit. Individuals would only benefit personally from abstention if a large number of other people also left their cars at home, in which case congestion would reduce but the sense of collective decision in this context is typically weak. Some people felt that they ought to use their cars less, but practical action in this direction often seemed to be inhibited both by lack of social consensus and by the seductive attractions of getting in the car.

Departmental research conducted to support the RPFS

- D.31** The findings of the research conducted for the RPFS are varied. For the purposes of this report, they have been grouped together under four main headings:

⁵ The report on Perceptions of Congestion is available online at http://www.dft.gov.uk/stellent/groups/dft_roads/documents/pdf/dft_roads_pdf_503854.pdf.

- attitudes to road pricing (general, cluster analysis, and business attitudes)
- the importance of trade-offs
- equity and convenience
- technology, trust and privacy.

D.32 Of course, these headings do not encompass the totality of issues raised nor topics covered by the research. Rather, they serve as a useful tool to aid in the dissemination of the findings. For further detail and a more comprehensive discussion, each of the individual reports should be consulted. Furthermore, it should be noted that the discussion of findings below does not address other, already-existing research in these areas; further details on other research can be found in each of the evidence base reviews, conducted as part of this programme.

Attitudes to road pricing

D.33 Both the qualitative interviews on public attitudes to road pricing and the Omnibus survey found that motorists felt they were already paying enough (or in some cases, too much) to use the roads. The Omnibus findings showed that 48 per cent thought that car taxes were too high, and 32 per cent that they were about right. Interestingly, only 11 per cent thought that the current system did not need to be changed. Participants in the qualitative research also thought that paying road tax gave motorists a right to use the road. Some also felt that people were used to the present system; there was a general understanding of how much needed to be paid, and how the system worked. However, it was also acknowledged that the current system did nothing to dissuade people from using their cars, and that it therefore had no impact on congestion.

D.34 Congestion was often considered as being caused by specific (one-off) incidents such as obstructions; parked cars, bus lanes, road works, accidents, queues at traffic lights (particularly in relation to turning right), or lorries making deliveries. The 'school run' also emerged as one of the perceived main causes of congestion. The effects of this were seen as being particularly acute, with lots of people on the road during a short period of time, and especially the consequent stop/start traffic around the entrances to schools. The Omnibus findings showed that the majority (78 per cent) of adults did not consider congestion to be a serious problem on their regular journey; however over one fifth did.

D.35 As well as these specific causes, other, more general reasons for congestion were also identified by the public. It was commented that many of the existing roads are narrow, and were not built for the volume of traffic using them. Respondents also commented that people often jumped into their car without thinking about using an alternative. Interviewees said that they avoided making journeys when the roads were busy, but commented that they could not always do this.

D.36 Of the Omnibus respondents, 75 per cent of those working in managerial or professional occupations considered that having a car was essential for their work, 71 per cent in intermediate occupations, and only 60 per cent in routine and manual occupations thought likewise. It is not clear whether the respondents envisaged their car use as necessary to get to work, or necessary for work. A more detailed investigation as to what constituted a 'necessary' journey was conducted within the qualitative research, although it was found that in general, participants found it difficult to conceptualise in a workshop setting what did and

did not constitute a necessary journey. It was suggested by the contracted researchers that further work, using more innovative techniques, could be used to explore this issue further.

- D.37** The acceptance among qualitative research participants that the current system of road pricing did not encourage drivers to think about their car use led to discussions of other potential systems of charging. Overall, and perhaps unsurprisingly, there was a marked preference for not paying more than current rates. However, there was a recognition that a potential system of paying at the point of use was more likely to encourage people to think about the journeys they make. Questions did arise though: respondents queried the potential purpose of such a system – would it be to raise money, or would it be a method for tackling congestion? Questions also arose as to whether such a system would be introduced instead of, or in addition to, the current paying mechanisms.
- D.38** Related to these issues were additional concerns about a possible lifestyle restriction; some respondents were worried about losing a sense of freedom. Others commented that this would be another expense to take into account (although it is not clear to what extent this was a monetary concern, or whether it was a concern about getting used to another system of payment).
- D.39** In the qualitative research, the issue of population diversity emerged through discussions on whether there should be discounts or exemptions for certain groups; specific concerns were raised about people on low incomes being unfairly affected. It was commented by some participants that ‘everyone has a right to own a car’. Concerns were also raised about people who have to make journeys (potentially for their work), and also about people living in rural areas with no alternative forms of transport. Disabled people, specifically those who cannot manage other forms of transport, were also mentioned as those who could be unfairly disadvantaged by road pricing. There were also consumer concerns about small businesses being unable to absorb a potential increase in costs, or about costs being ‘passed on’ to the consumer. The Omnibus findings further demonstrate evidence of the differences in attitudes between different groups of the public.

Urban/rural:

- In rural areas a greater proportion drive, and a lower proportion use public transport
- People travel further on their regular journeys in rural areas than in urban areas
- More respondents living in rural areas say they would find it difficult to change to another mode if road pricing were introduced

Deprivation:

- In more deprived areas a lower proportion travel by car on their regular journeys. These respondents also travel shorter distances
- More of the people living in the most deprived areas say they would find it easy to change to another mode of transport if direct charging were introduced

National statistics-social economic class:

- A lower percentage of people from lower socio-economic groups travel by car on their regular journeys, and these respondents also tend to travel shorter distances than respondents from higher groups
- A higher proportion of people from higher socio-economic groups considered car travel to be essential for their work

Age:

- Older respondents travelled shorter distances on their regular journeys
- A higher proportion of older than younger respondents were unhappy with information being held on where they had travelled
- Younger people were generally more accepting than older people of the idea of road pricing provided there were good alternatives

Region:

- In London, a higher than average proportion of people use public transport, and a lower proportion travel by car. The opposite is true for the South West
- A higher than average proportion of respondents in the South West and Wales thought car travel was essential for their work
- More people from the South West would find it difficult to change to another mode if direct charging were introduced. London is the area where least people say they would find it difficult
- Residents in the South East and Scotland were more in favour of road pricing to prevent road building than those from other regions
- People from London were less happy with information being held on where they had travelled than those in other regions
- A higher proportion of Londoners thought they might drive more often if there were less congestion than those living in other regions
- A significantly smaller proportion of people living in the South East believed that the public transport system would be able to cope with extra users should road pricing be introduced

D.40 As the public is not a homogeneous group, though, neither should public attitudes to road pricing be regarded as homogeneous. Consequently, as was noted within the evidence base review, geographical, spatial, social, and institutional differences can all represent significant elements in shaping attitudes. It was noted, for example, that acceptance of road pricing tends to be higher in larger urban areas, and where levels of car ownership are lower, although the reasons for these differences are not always clear. Similarly, there appear to be gaps in understanding the attitudes to road pricing of residents of suburban and rural areas, and of contrasts in attitudes between car owners and non-car owners. It was concluded that research in these fields was undoubtedly an area of need, but in its character was likely to represent more of a long-term acquisition of knowledge and understanding, such as in studying the effects of scheme implementation and more innovative qualitative social research.

Cluster analysis of National Travel Survey data

D.41 As an initial attempt to disaggregate the general public, the cluster analysis of NTS⁶ data attempted to segment the NTS respondents into discrete groups according to travel behaviour combined with demographics. It was hoped that segmenting the population in this way could eventually enable the development of policy objectives that would be attractive to different segments of the population, with the potential for better tailoring pricing options for them.

D.42 The objective of this analysis was thus to describe the existing population of road users, possibly identifying new 'classes' in the data that had not previously been identified, rather than to predict behaviour in terms of already defined target classes. Cluster analysis was chosen over other data mining techniques as an appropriate exploratory tool for this purpose.

D.43 Clusters based on demographic variables were broadly in line with *a priori* typologies and the journey characteristics of these groups were consistent with what might have been expected. However, as there was a desire for travel behaviour characteristics to play a greater role in the formation of clusters, further analysis was carried out using a combination of travel and demographic variables and five clusters were found:

- low travel pensioners – low income, low employment and more likely than other groups to travel by bus
- around retirement – low income, low employment, making more trips by foot and bicycle as well as by bus
- car commuters, least likely to live in London
- affluent car business travellers in less urban areas
- low car users most likely to live in London or to other urban areas and have families.

D.44 Testing of these results was carried out and some encouraging consistency found. The results also seem to make sense logically. This analysis was an initial exploratory exercise completed within very limited timescales and the intention was that interesting results could be built upon with further work. The results should be treated as preliminary, and more testing and

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The NTS has been a continuous survey since 1988 following ad-hoc surveys from 1965 to 1985/1986. During 2002, over 7,400 households provided details of their personal travel, compared with nearly 3,500 households in 2001.

comparison of clusters would be needed to ensure that the patterns found are robust. Insufficient time was available to do this fully within the timescale of this study.

Business attitudes

- D.45** Although the BMRB and Omnibus research did not address the issue of business attitudes to road pricing, it has been noted above that the effect of road pricing on small businesses, and its potential knock-on effect to consumers, emerged as a concern in the qualitative research. The evidence base review found that surveys of business attitudes to road pricing are rare compared with those for public attitudes as a whole, although the business community is clearly one of the stakeholders most affected by these policies.
- D.46** Even within the existing surveys themselves, there is generally a tendency for their scope to be restricted in terms of the size and type of business contacted, rather than being representative of a wide range of organisations. Looking to the future, more representative surveys of business attitudes are required which would compare organisational effects by economic sector, size and location. In addition, longitudinal studies can discover how business knowledge and attitudes may shift over time. It was commented that the large gaps in understanding with regard to these key stakeholders make this a high priority need for research, which must be integrated with any concrete developments in road pricing policy.

Areas for further research

- D.47** The findings so far discussed address contemporary attitudes to road pricing as they stand within the context of the existing system, and are mainly descriptive in nature. The evidence base review of attitudes, in identifying evidence gaps, took a more holistic approach and pinpointed some key areas in which it would be desirable to conduct research in order to better inform the processes of introducing and implementing any future road pricing system. Among these areas were identified:
- the medium and methods by which people acquire and disseminate knowledge about road pricing, which can play an important role in shaping attitudes. It was noted that there is limited understanding of the dynamics of these cognitive processes, such as the influence of the media and public information campaigns. There also appear to be other significant gaps in understanding the interrelationships between knowledge and the formation of attitudes over time, such as the timing and motivations of people to acquire knowledge about road pricing (e.g. before or after scheme implementation)
 - identifying underlying values can provide significant insights into why people hold particular attitudes with regard to road pricing. For example, research in recent years has suggested that conforming to social norms can be a more important indicator of attitudes to road pricing than socio-economic characteristics such as self-interest and income. A greater understanding of the links between underlying values and the formation of attitudes can therefore assist significantly in the design of road pricing schemes in order to maximise the number of 'winners'. An understanding of why people hold particular views on road pricing is fundamental to the whole policy debate

- it was also noted that an issue such as road pricing involves not only various levels of government, but also a wide range of interests on all sides of the debate. However, surprisingly little appears to be known about how this process actually works in practice, with few systematic analyses of the dynamics of the policy process. Similarly, the role of leadership is of particular importance in the development of road pricing, but there is little understanding of how this works in practice. The lack of knowledge and understanding of the policy process is therefore a major research gap, that was recommended to be filled, at least in the medium term. This would not only inform the policy debate, but also enhance the quality of consultative and policy making processes.

The importance of trade-offs

- D.48** Trade-offs emerged as being important to the public acceptability of road pricing in the Omnibus survey findings. 32 per cent of respondents felt that encouraging the use of public transport by improving it or making it cheaper would be the best way to deal with congestion. 66 per cent of all respondents agreed that they would be prepared to accept direct charging for roads if there were good alternative ways to travel. 60 per cent would accept it if the overall level of car tax did not increase.
- D.49** The qualitative research also uncovered the centrality of trade-offs to the acceptability of road pricing. Overall, evidence from the interviews pointed to a recognition among the public that generally there was felt to be a need for payment at point of use to deter people driving in congested areas. However, this acceptance of the logic of the argument in favour of road pricing was tempered by concerns over new charges being placed on habitual or necessary journeys and concerns about charging where there was no alternative to driving. Therefore an important factor was the desire for alternative forms of transport to use in making a journey – such as public transport – or the option of using an alternative road to the same destination without incurring a charge.
- D.50** This also relates to the importance of hypothecation in public acceptability of road pricing. The qualitative study found that participants in general were keen for potential revenues raised through road pricing to be channelled back into funding for transport, both public transport schemes and road-building/maintenance. The attractiveness of toll roads to participants in the workshops would also seem to emphasise this point; seeing a material benefit from paying a road charge would appear to enhance its acceptability levels.
- D.51** The evidence base review found that trade-offs were an inherent element in any road pricing policy, but that there were still major gaps in the understanding of their interrelationships with public attitudes. For example, it was found that revenue hypothecation frequently emerged as a key factor in the acceptability of road pricing; however, a fundamental issue yet to be determined was how much drivers might be prepared to pay in order to raise sufficient revenues to bring about significant improvements in the transport system. Further investigation into this topic would be likely to be a priority should the decision be taken to go forward with further work on road pricing. In turn, these issues raise the question of the key trade-off in pricing schemes generally between effectiveness (such as an objective to reduce congestion) and acceptability (this is discussed further in the evidence review on pricing mechanisms). It was found that there appeared to be significant gaps in understanding here, particularly in the context of the potential viability of inter-urban and national schemes.

Equity/issues of convenience

- D.52** The Omnibus findings demonstrate that in more deprived areas a lower proportion of respondents travel by car on their regular journeys. These respondents also travel shorter distances. A higher proportion of the people living in the most deprived areas say they would find it easy to change to another mode of transport if direct charging were introduced.
- D.53** As mentioned above, respondents to the qualitative research raised issues of equity as a concern with road pricing; specifically worries emerged that a new system might disproportionately disadvantage those on lower incomes, or disabled people. When this is related to the Omnibus findings, it is not clear to what extent these arguments are a deflection of the participants' own preferences: in actuality, it would appear that those from low income or deprived backgrounds are more likely to consider that they would have an alternative to travel by car, and are less likely to travel by car in the first instance, so being overall less affected by the introduction of a road charge.
- D.54** Geographical issues of equity also emerged from this research, with participants voicing concerns with regard to road pricing in their local areas. Firstly, concerns emerged over whether residents should be expected to pay; and it was suggested that discounts or exemptions for those living within or close to the zone would be desirable. It was also considered unfair by some participants that people would have to pay to use their local shops and services, particularly as the costs could mount up very quickly; it was considered that it would be more acceptable to pay to use town centres in other areas for occasional visits.
- D.55** The evidence base review findings also highlighted the importance of ensuring that a new scheme should be, and appear to be, as equitable as possible. It found that research over several continents emphasised that a widespread perception of equity in a road pricing scheme was likely to be a major determinant of its public acceptance. Nevertheless, to date the concept has not been widely researched. Perceptions of fairness may differ across the wide range of stakeholders, and it would be particularly important to understand how these may be incorporated into scheme design in order to maximise the number of 'winners'. It was also noted that perceptions of fairness could encompass not only the operation of the scheme itself, but also the allocation of revenues. Due to the high salience attached generally to equity in considerations of road pricing acceptability, the evidence base review recommended that this area be a particularly urgent priority for research.

Technology and privacy in road pricing

- D.56** In general, there was agreement amongst respondents to the Omnibus survey that it would be acceptable to hold information if legislation was introduced, to prevent it being used for any other purpose than road charging, with 62 per cent of respondents agreeing and 29 per cent disagreeing. Younger respondents were more likely to agree with this statement, although there was a high proportion of older people answering 'don't know'.
- D.57** A rough outline of a potential distance-based charge using satellite technology was outlined to participants in the qualitative interviews. As with the Omnibus findings, most did not raise concerns as regards privacy. However, the qualitative techniques also drew out the importance of these concerns to the significant minority that held them. These participants were also concerned about the practical implications of using such technology, and worried that they would not be able to keep track of their own 'running costs'.

- D.58** Participants imagined they would need to maintain detailed records to check they were charged the right amount. It was also thought that varying tariffs could complicate motoring, as people would set off and be uncertain about the cost of their journey. A sense of a restriction on lifestyle also emerged here, with some commenting that such a road pricing system would affect the sense of freedom connected with motoring, and that people would not feel able to travel anywhere at anytime.
- D.59** Technological developments in recent years, that have opened up considerable possibilities for facilitating a wide range of road pricing schemes, in themselves pose fresh problems in terms of being reconciled with public and political attitudes. If the technology does not work, or is not easily understood by the public, then the credibility of a road pricing scheme is fatally undermined. It was reported in the evidence base review that there appears to be a need for greater understanding of the links between the efficiency of types of road pricing and ease of public use. In addition, the review noted that there are few studies which examine at length the important issue of road pricing technology and the protection of privacy and concluded that the interrelationships between public attitudes and technological developments in road pricing are therefore fields of research which must be an integral part of any future policy developments in this area.
- D.60** The topic of complexity versus simplicity thus emerged both from the qualitative research and the evidence base review as being important in relation to the acceptability of any road pricing scheme. In the Omnibus survey, a mixture of views was apparent, with varied responses to the question on preferred payment methods.

Conclusions and next steps

- D.61** These findings are undoubtedly of interest and provide a useful and important evidence base for the report of the RPFs. However, should further work on road pricing be taken forward following the first report, we recommend that the findings from this programme of exploratory research be built upon and added to.
- D.62** Six main conclusions can be drawn from the research detailed above.
1. (a) Public concerns regarding the issue of privacy and satellite-based charging schemes do not appear to be as prevalent as may have previously been thought. There is some initial evidence to show that concerns over privacy are in some way mollified when an independent third party is proposed as responsible for managing schemes.
 - (b) This has implications as regards public acceptability. A tentative conclusion is that privacy issues carry less weight than might have been expected. Further work on this would be useful to develop and explore further.

2. (a) There is also some evidence to show that acceptance of road pricing increases with exposure to or experience of road pricing schemes.
 - for example, the London based response to the Omnibus survey was more accepting of road pricing than other areas. However, it is not clear from these findings as to whether this is a direct response to the experience of the London Congestion Charge or, for example, the higher number of alternatives to car travel in London
 - furthermore, it was evident from the qualitative research process that engaging with participants and enabling them to discuss the issues more fully (as is the nature of qualitative research) led them to think more deeply and engage further with the issue at hand, and thus in some way went beyond an initial 'knee-jerk' response to road pricing
 - it was also noted that it is only when a scheme is actually implemented or imminent implementation is confirmed that the public has the motivation to discover how it affects them.
- (b) This also has implications bearing on public acceptance as a barrier to implementation. The research evidence implies that public acceptability of a system is difficult to measure in an abstract setting, without the material workings of a system to discuss and debate.
3. It is also evident that there is already a level of awareness among the public of the benefits of road pricing, especially when contrasted with the current system, which, it was agreed, did not go a great way to tackling the problem of congestion. It was acknowledged by qualitative research participants that payment at the point of use could potentially reduce congestion levels.
4. (a) Disaggregation of the population on socio- and geo-demographic characteristics clearly leads to differing findings both in terms of travel behaviour and in attitudes to road pricing. This is important both in terms of preferences for road pricing schemes, and also in terms of the equity of such schemes in their effect on different population segments.
- (b) Further research could investigate in greater detail how opinions on road pricing vary according to:
 - socio-economic group
 - region
 - geographical area type (rural/urban)
 - ethnicity/disability
 - it would also be useful to establish whether opinions in these different groups vary according to the rationale on which they are based – i.e. do people in different classes oppose/support road pricing for different reasons?

5. An evidence gap exists in terms of how and where public attitudes are formed, specifically the medium and methods by which people acquire and disseminate knowledge about road pricing, which can play an important role in shaping attitudes. It was noted that there is limited understanding of the dynamics of these cognitive processes, such as the influence of the media and public information campaigns.
6.
 - a) The research did not explore the issue of potential conflict between hypothecation and revenue neutrality of schemes.
 - b) Future research on this topic might explore the importance of the issue of hypothecation for acceptability levels among the general public. It would also be necessary to establish the levels of current understanding of spending of revenue from road-taxes and the expectations on the spending of any additional revenue from road pricing.
 - How would the public measure the success of hypothecation – would public expectations be reasonable – i.e. what would people expect to see as a result of paying road charges? This would thus help to establish the priorities among the public for spending
 - It would also be useful to establish the significance of the issue of revenue neutrality for acceptability levels, for example whether the public would be prepared to pay in order to gain a tangible decrease in congestion.

D.63 Other potential areas for exploration in future research are:

- business attitudes to road pricing; also disaggregated according to industry, size of business, location
- what constitutes a 'necessary' car journey, and for what types of journeys can people not shift transport mode? To what extent is this due to the location/time of journeys and to what extent is this due to the nature of journeys?

D.64 The pricing structures evidence base review will, in its final report, identify evidence gaps; it is likely that further recommendations for research projects to fill these gaps will emerge after publication of this report.

D.65 Finally, it would also be important for future research to establish how attitudes towards road pricing might be expected to develop over time with exposure to information or experience of road pricing systems. In order to probe beyond the existing knowledge base, we would recommend the use of more innovative techniques (such as, for example, deliberative methodologies, which would enable investigation into the development of public attitudes over time), to probe further, and to explore in greater detail underlying issues behind public attitudes to road charging.