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Public Attitudes to Transport: Interpreting the Evidence

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Abstract

Public attitudes to transport are complex. This paper summarises selected themes from a large scale evidence review of over 300 studies, with a focus on attitudes to important (and sometimes controversial) aspects of transport policy, namely assessment of the importance of congestion, relative popularity of different policy interventions, expanding provision for international air transport, and environmental improvement. Findings include: (i) evidence of majority attitudes that traffic congestion is seen as a national problem but less so for individual respondents and their families; (ii) evidence of large majority (but not unanimous) support for improvements to public transport, reductions in speed, and restrictions on traffic in residential areas, while road building and road pricing are divisive and controversial; (iii) recent deep inconsistencies in evidence cited on attitudes to providing for growth in air transport; and (iv) evidence of a gradation of willingness to change behaviour for environmental reasons. A critical evidence gap is on changes in individual attitudes over time, essential for understanding how attitudes form, and for their assessment in informing policy formulation.

Keywords: attitudes, opinions, transport policy, congestion, aviation, environment.

Introduction

There are two quite different modes of discussion which have influenced studies of attitudes to transport.

First, there is their treatment as a complex psychological phenomenon, with highly contested theoretical arguments about how they emerge and change, subtle distinctions derived from the way they are expressed, and especially their relationship with behaviour. There are strong arguments both that attitudes precede and follow choice, with elaborate structures connecting values, attitudes, intentions and action,

with constructs (especially cognitive dissonance) of the way in which choices and attitudes may be ill-matched.

Secondly, there is an apparently much simpler and more straightforward tradition, rooted in 'Mass Observation' and the opinion polls it gave rise to, in which relatively simple questionnaires are used to enable large samples of the population to express a view – analogous almost to a referendum – of what things are important to them and which policies they like. This tradition is most strongly linked to the interests of governments and lobbying groups to demonstrate 'what the public wants' as part of a case for or against specific policy initiatives.

In either case, it is essential for Government to have a good understanding of public attitudes to transport, for democratic accountability and to inform policy development.

A substantial amount of research has been carried out on this topic in the UK in the last 30 years, much of this commissioned by Government itself. Interpretation of this expanding body of evidence is complex. As a result of the different traditions and contests within each tradition, there exist a variety of means of interpreting 'attitude', shading from (seemingly) straightforward opinion polls, inferences drawn from the language used in focus groups and other qualitative research, through to formally structured enquiries based on one of several different psychological theories of how attitudes are formed, what they mean, and what their relationship is with intended, reported and revealed behavioural choices.

The UK Department for Transport commissioned a review of (as far as possible) 'all the available evidence' from both traditions. The full report of this review is available as Lyons, Goodwin, Hanly, Dudley, Chatterjee, Anable, Wiltshire and Susilo (2008). Its intention was to inform Government's ongoing transport policy development (DfT 2007a). The study involved initial examination of some 300 sources followed by detailed assessment of a subset of about 130, mostly from the last decade. The review encompassed two different sorts of information: first, published reports from a large number of one-off exercises, using both qualitative and quantitative methods, by public and private agencies; and secondly study of raw and polished data tables from five repeated large scale 'official' surveys by Government or Government agencies, namely the Bus Passenger Satisfaction Survey; National Passenger Survey (rail); Road User Satisfaction Survey; British Social Attitudes Survey; and ONS Omnibus Survey. (Several thousand such tables are available in the written reports and on-line data-bases for these surveys.)

The main study report and much of the source data are fully accessible for further research and enquiry.

The overarching theme of the full report is an examination of how people's attitudes reflect both the value they see in the opportunities that modern transport brings them, and a growing acknowledgement that the benefits come at a high cost, resulting in complex and multi-stranded attitudes to questions of personal preference and government policy. Attitudes are rooted in deeper values of how people want to lead their lives. It is a common result – almost, by now, axiomatic – that economic motivations (cost, allocation of time, participation in production and consumption) are important, but so are wider influences including stress, tranquillity, comfort,

enjoyment, feelings of control and independence, social obligations, peer pressure, concerns for (close and more distant) others, status and self-image. Such findings, while well reflected in the review, are not of themselves new, and they are not discussed at length here.

Rather, this paper focuses on some selected themes with a direct policy link, and for which there are frequent (and contested) statements about 'the public view'. The review in fact found that there is virtually never a single public view: on every issue of importance there is a range of different views, and this remains true even within quite small and well-defined groups for example of age, gender, socio-economic group, car ownership or region. There are of course differences between majorities and minorities, but even then there is a significant impact of questionnaire wording and framing, which can alter the apparent strengths of different views. Understanding the nature of those differences may be important to policy development, especially when Government needs to reconsider major policy assumptions and initiatives in the light of public accaptability.

With this in mind, we look at four themes selected because they have been at the forefront of policy discussion, and illustrate interesting differences between a simple and more complex understanding. These are:

- apparent differences in the importance attributed to congestion, depending on the implied or explicit question 'important for whom?';
- a hierarchy of policies grouped and ordered according to the degree of consensus they appear able to command;
- highly disputed evidence on whether the public is in favour of or against airport expansion; and
- willingness to change behaviour for environmental benefits.

How important is congestion?

Reducing congestion continues to be a central concern in transport policy in many countries, both for economic and environmental reasons. This is usually predicated on observation that doing so is important to the public. Before considering attitudes to the measures intended to reduce congestion, we need to know how important the problem of congestion is perceived to be. Two different broad groups of research results can be identified.

The first group includes a number of questions in the ONS Omnibus Surveys, a monthly swift response survey which started in 1990 (see http://www.statistics.gov.uk) targeted at representative samples of British adults aged 16 and over. Respondents were asked about how serious congestion was as a problem for the country as a whole.

In 2004, 92% of respondents thought road congestion was a serious problem for the country as a whole, with 44% considering it a very serious problem (DfT 2005).

The same question was asked again in late 2005: 87% thought it was a serious problem for the country as a whole (91% of drivers and 80% of non-drivers); and in late 2006 / early 2007: 85% thought it was a serious problem (88% of drivers and 78% of non drivers) (DfT 2007b).

The surveys also asked respondents about how important it is for Government to tackle road congestion in relation to its other responsibilities. Proportions considering it very important or quite important (very important shown in brackets) were: November 2005 - 76% (37%);

October/November 2006/January 2007 – 74% (40%); and October/November 2007 – 77% (42%) (DfT 2008a).

Thus, while there is some modest decline over time, substantial majorities are reported as seeing congestion as a problem, approaching half of whom consider it very serious.

Correspondingly, similar figures (with some modest increase over time for 'very important') see congestion as an important problem for Government to tackle. Alongside the driver/non-driver distinction,

'[t]hose groups particularly likely to consider congestion a problem were those in managerial or professional occupations, with the highest levels of income (£31,200 or more per year), living in the least deprived 20% of areas or living in the South East. Certain groups were significantly less likely to consider congestion to be a serious problem: young people aged 16 to 24, those living in the most deprived areas or living in the North East' (DfT, 2007b).

Results from the British Social Attitudes Survey 1992-2006 similarly reveal that a majority (over 70%) have agreed with the statement 'The amount of traffic on the roads is one of the most serious problems for Britain', with only 20%-25% disagreeing with this over time. In the late 1990s the question was asked whether people agreed that 'within the next twenty years or so, traffic congestion will be one of the most serious problems for Britain'; over 80% did. This question was not continued, but as part of the ONS Omnibus Survey in October/November 2006/January 2007, 77% of respondents felt that the level of congestion had increased in the last 2 years. The DfT concluded that

'[t]he public were even more pessimistic looking to the future with 83% believing congestion would worsen. Drivers were more likely to believe congestion had got worse in the last two years and would worsen in the future than non-driver' (DfT 2007b).

A second group of questions however shows a different picture. In this group respondents were not asked about how important congestion is for the country, but about how much of a problem it is for themselves as individuals, and their families.

July/November Omnibus Surveys (DfT 2005) found 63% of adults saying that road congestion was either not a very serious problem or not a problem at all for them personally. Only 8% indicated that they had *not* experienced congestion in the last

month, so the people saying it was not a serious problem included many of those actually experiencing congestion. Across a series of Omnibus Surveys, respondents have been asked to indicate, for their most frequently undertaken journey, the extent to which congestion is a problem. The proportions indicating it is a problem all or most of the time (versus in brackets the proportions indicating it is rarely or not at all a problem) were: November 2005 - 25% (42%); October/November 2006/January 2007 - 24% (42%); and October/November 2007 - 26% (41%).

The British Social Attitudes Survey has asked questions over a number of years concerning how serious a problem congestion is on motorways, rural areas and urban areas for the respondent. (The discontinuity for urban areas from 2000 to 2001 was associated with a change in wording of questions.) Figure 1 shows the results.

** Please insert Figure 1 about here **

Putting the two groups of results side by side reveals the robust finding over time that while a very large majority of the public asserts the seriousness of congestion for the country, a large proportion of the population do not find congestion a serious problem for themselves.

Prima facie this implies that in some sense people are assuming that other people have a more serious problem with congestion than they do themselves. One explanation may reside in the inconsistent phrases used, for example 'important', 'serious', 'very important', 'very serious', etc, which is likely to have an effect on responses but in an unknown way. Further, obvious differences in headline results can be produced by decisions about adding 'serious and very serious' together, and whether 'slight' should count as a problem or not, etc. The reporting from such surveys also does not seek to expose the degree of correlation at the level of the individual between concern about congestion for the country as a whole and for themselves (although the figures suggest that there must be some correlation).

However, drawing upon other research findings, we also suggest the following explanation for this apparent difference in overview between concerns for the country and concerns for individuals.

There is evidence to suggest that people have come to accept congestion as a fact of life – younger people highlight that they have never known any different while older people are resigned to accommodating congestion in their lives (Owen et al 2008). People are coping with congestion as drivers by listening to the radio/CD player and generally trying to relax – indeed this ability to 'relax' in congested traffic is seemingly responsible in part for young drivers aged under 25 saying they never or rarely divert on motorway journeys (Faber Maunsell 2008). People can limit congestion's damage to their lives by various coping strategies including changes in the pattern or timing of their travel. Thus, personal experience may account for substantial proportions of people not considering congestion a (serious) problem for them personally. At the same time they are aware of and take seriously media coverage, and views of Government and other opinion leaders, who say that congestion causes substantial economic losses. The result, it appears, is that there is a significant proportion of the population who take the view 'well, I am not bothered myself, but it must be serious because everybody else says so'. Recent qualitative

research also suggested that some people have come to a view that congestion is an insoluble problem (Owen et al 2008), and therefore disengage from worrying about it.

The policy significance of these findings might be to somewhat lower the priority of reducing congestion among other public priorities. There is rarely an explicit political challenge to its leading or near-leading role, as it is not on any political agenda, but if there were such a challenge, the pattern of results suggests that it could win a sizeable body of support. The implication is that, to some extent, people may be acquiescing in a perceived consensus in favour of the urgency of Government action rather than seeing it as very closely related to their own problems.

How much consensus is there on transport policies?

Many surveys have addressed the public popularity of a range of different policies that may be applied to tackle congestion and other road transport problems. Of particular value is a series of results from the British Social Attitude Survey over a number of recent years, and Table 1 is built from published and unpublished data from this source. We have then classified policies not in terms of their internal logic or how they fit in terms of ideological viewpoints or broader objectives, but simply by the degree of consensus they seem to command. There is an impression of some discontinuity in the groupings – they are not uniformly spread over all possible balances of opinion, but seem to cluster into about 5 separate groups, as indicated in Table 1. These are as follows:

- *Almost unanimous support:* improve public transport (supported by many sources) (over 95% support)
- *Broad agreement to measures*: reduce speed limits in residential areas, reduce traffic, favour spending on public transport over roads, reward clean cars, priority for buses and pedestrians, charge for road use in proportion to use (55%-80% support)
- Split down the middle: contested strong minorities with fairly equal balance of 'for' and 'against' cordon charge with revenue used to improve public transport; build roads to reduce congestion (around 35:35 with 30% 'abstain')
- Fairly substantial minorities in support: mileage charge on cars to improve public transport, unrestricted motoring, higher taxes for environmental damage, reduce new road spending. (20%-30% support)
- *Small minorities in support*: support public transport by: increasing petrol cost, or reducing road maintenance, or increasing VAT (around 10% support)

Although there is variation in the levels of support for each policy over time, this does not seem to be marked by very strong systematic trends, and is also bounded: there seems to be no case where a policy has jumped between the five levels of support listed. For example, from 1991 to 2006 there have been shifts up and down in the strength of support and opposition to building motorways, but neither side has ever exceeded 50% during this period. This begins to suggest that there has been an appreciable degree of stability in terms of where particular policy propositions sit within this simple 5-way classification.

It is notable that the two specific policy areas which in these sources remain as divided and controversial – road building and road pricing – the proportion of people unable or refusing to express a preference is also the highest.

It does not necessarily follow, of course, that policy propositions enjoying majority support or majority opposition will always remain so – one thinks of drink-driving, speed control, traffic restrictions in pedestrian areas, for example - but the influence of external events or Government intervention in changing such attitudes remains unclear.

In policy discussion, the 'newsworthy' results are often not those of a rather slow change in the balance of opinions shown in a continued data source like BSAS, but the most recent ad hoc surveys carried out by stakeholders in policy debate, quite often having the character of demonstrating public support for the policies they favour, and opposition to the policies they oppose: since they all use different words and design, such headline results can create an appearance of a greater volatility of public opinion than seems the case here. This is shown in the next section.

** Please insert Table 1 about here **

Air travel

Air travel is often accorded a special status in transport policy discussions, though Government has affirmed that it is accepting the Committee on Climate Change recommendation to include emissions from aviation in the 2050 carbon reduction targets. At the time of writing, implications for aviation planning are unclear: it is notable that the air industry often asserts the importance that it will and should continue to grow, and also that environmental lobbies often assert the disproportionate effect on greenhouse gas emissions of doing so.

Evidence on public attitudes is marked by a particularly wide range of results. Figure 2 shows four results that at face value could not be further apart, ranging from nearly 80% in favour to only 16% in favour of the proposition that people should be allowed to fly as much as they want to.

There is however a consistency in the answers. This may be seen by taking them in sequence:

- 79% are in favour of a simple unmodified concept of 'freedom to fly';
- This reduces to 49% when it is pointed out that new terminals and runways may be needed;
- And reduces to 16% if it is pointed out that there may be harm to the environment (not explicitly, in this case, including both infrastructure and environmental effects):
- But it returns to a majority of 79% with the condition 'as long as damage to the environment is limited'.

Thus a commanding majority clearly would like to be in favour of allowing people to fly as much as they want to at the same time as limiting damage to the environment, an outcome whose realism of course is the subject of disagreement itself. It may be pointed out that the word 'limited' is particularly ambiguous in this context, seeming to imply 'very small' or 'negligible' but not actually saying so, therefore leaving the possibility of claiming a large support even if the limits imposed were not very tough: this would be a misinterpretation.

** Please insert Figure 2 about here **

Further insight is provided from a series of surveys which have asked about attitudes to expansion of aviation infrastructure (as distinct from flying).

Some of these surveys have been constructed around the twin assumptions that aviation is good for the economy and bad for the environment: when these propositions are embedded in questions, responses appear to reflect an 'economy versus the environment' choice, though when respondents are actually asked whether they agree with the assumptions themselves, both are challenged.

Thus Omnibus Surveys in 2006 and 2007 (DfT 2008b) presented respondents with two statements regarding air travel and asked them to select the statement that came closest to their own views – 'Air travel should be limited for the sake of the environment' or 'Limiting air travel would be too damaging to the economy'.

In each survey views were close to equal strength – e.g. in August 2007 the first statement attracted 47% and the second attracted 53% and in 2008 opinion was exactly divided, i.e. 50% each (DfT 2008c). Those who travelled by plane more than twice a year were more likely to say limiting air travel was too damaging to the economy (64%) than those who travelled by plane less than once a year or never (45%).

The significant point is that these statements cannot be interpreted as a direct test of the relative importance of economic and environmental considerations, since some of those supporting the first proposition do not accept as true the presumption that limiting air travel would actually be bad for the economy, and some of those supporting the second proposition do not accept as true the presumption that limiting air travel would be good for the environment. Thus the division of opinion in part reflects, it would seem, differing opinions about the science and economics, rather than the importance of the different policy considerations (i.e. economy and climate change).

The Omnibus Survey in 2006 (DfT 2006) asked about local airport expansion (rather than air travel per se) and the survey report summarises the results in the following words:

'46% of adults said they would personally support the expansion of their local airport; 24% said they would oppose this. In the South East, 39% said they would support the expansion of their local airport; 36% said they would oppose this...The most commonly mentioned advantages of local airport expansion were increased job opportunities (mentioned by 36%) and

improvements to the local economy (29%). The most commonly mentioned disadvantages were noise from flights (46%), pollution (38%) and congestion on the local roads (33%). Almost a third of respondents said they could not immediately think of any advantages to their local area, while a quarter could not think of any disadvantages' (DfT 2006).

Respondents were asked several other questions to assess their general attitudes towards airport expansion. 84% of respondents believed that a condition for airport expansion should be improved transport links to the airport. Only 5% disagreed with this.

When considering 'the economy versus the environment' it is necessary to consider five results:

- Presented with the statement 'in order to boost the economy, new terminals and runways should be built', 49% agreed and 22% disagreed.
- On the other hand, presented with the statement 'in order to protect the local environment, we should limit the expansion of airports', almost two-thirds (62%) of respondents agreed, and only 13% disagreed.
- By separate examination of results for each question linked together, it is found that 26% of respondents both supported airport expansion on economic grounds and felt that expansion should be limited for environmental reasons.
- A fifth opposed airport expansion in both scenarios, believing expansion should be limited for environmental reasons and there was no need to expand for economic reasons. A tenth felt that expansion was required for economic reasons and did not believe environmental concerns should constrain this.
- 44% of respondents neither agreed nor disagreed, or were unable to give an
 opinion, on one or both of the questions: as in the case of road building and
 road pricing, controversial policies with a fairly equal division of opinion
 between strong pro and strong anti views, are also those where there is a high
 proportion of undecided or refusal to say.

The implications for policy of these results are complex, and not altogether comforting. There seem to be two robust observations. First, aviation growth and airport expansion are subjects of strongly divided opinions among the public, with no evident signs of a consensus. Secondly, assessing the balance of view will be very dependent on the exact design of surveys (apparently more so than any other issue we have studied) and therefore conclusions need to be drawn with great caution. One could imagine great risk of 'misjudging the public mood' in this area, since the evidence is canvassed vigorously but is apparently not very robust. It is indeed quite possible to word questions in such a way as to appear to give large majorities, but the near-consensus produced is an artefact of the research design, and therefore a political illusion.

How willing are people to change their behaviour for reasons of climate change?

In recent years there has been a growing emphasis on the need to achieve reductions in the emissions of greenhouse gases for reasons of reducing the level of threat caused by global climate change In the UK, the Climate Change Act 2008 places a legal

obligation on the Government to 'to ensure that the net UK carbon account for the year 2050 is at least 80% lower than the 1990 baseline' (HMSO 2008). This endorses a recommendation made by the Committee on Climate Change which then subsequently published its first report (CCC 2008) in December 2008 setting out recommendations on carbon budgets for the UK and what action can be achieved to reduce carbon emissions.

The contribution that could be made within that from the transport sector is still under consideration, but the balance of evidence is that it would imply a degree of change in transport choices and travel behaviour, not only technological improvement relating to efficiency of consumption. Accordingly there has been a strong strand of research looking at people's expressed willingness to change their behaviour. The headline results are often generalisations of the form 'travel behaviour is very difficult to change', 'there is a strong resistance to change', or sometimes 'people say they will be willing to change, but then do not do so'.

None of these statements seem to adequately capture the results of the research on this question. Part of the problem seems to be that the question of 'changing behaviour' has been considered as a single concept, whereas in the evidence it actually refers to 'changing behaviours' of many different kinds. There are then two errors of aggregation: choices of greatly differing significance and difficulty are added together, and people in different circumstances or with different attitudes are added together.

Table 2 summarises the stated answers to a range of propositions concerning behaviour change. The pattern of results is not surprising, and entirely credible: when people are asked flat questions about extreme adjustments such as entirely giving up car ownership, a majority find this unacceptable. (It is intriguing, but has not been followed through, that a non-trivial minority seems willing to consider even that). When a range of different changes are posited, there is greater acceptance for less drastic changes. The apparent obvious nature of this result underlines the importance of talking about specific changes rather than 'change' in general.

There is a substantial variation within the population in terms of views relating to environmental concerns, with high levels of recognition and concern at a general level. Anable et al (2006) reports that a majority are aware of and concerned about climate change. The National Statistics Omnibus Surveys in 2006, 2007 and 2008 (DfT, 2008b, 2008c) reported that around 80% of adults said they were very or fairly concerned about climate change, with about a quarter being very concerned. It seems that around two-thirds of the population are convinced that climate change is linked to human activity and similarly around two thirds recognise a link between transport and climate change (Anable et al 2006). The largest percentages consider that within transport, cars and vans are the largest transport contributors to UK climate change overall, and flying as the most harmful for specific journeys, but smaller numbers contest all these propositions.

Such results are sensitive to context and the wording of questions. There is a lower level of awareness or acknowledgement of the relative importance of *specific* choices, especially in comparing one-off and frequent journeys (e.g. the family holiday abroad

versus the trips associated with day-to-day life), carbon emissions from buses, and driving styles.

Willingness to change behaviour is a complex mixture of individual and social interests. People seem more prone to consider change if the benefit is a proximate one to the individual, his/her family, or the local community – such as improving children's fitness, improving local air quality, or saving money (Richardson et al 2007). There is some indirect evidence that there could be 'snowball effects' in which people are influenced by other people's choices (Miller at al 2007). This seems lower in Britain than in many European countries (Anable et al 2006).

Research on barriers to change indicates a conflict for some between concern for the environment and concern about upsetting current lifestyles (Defra 2008). Hence findings about intentions to change behaviour for other reasons such as stress, economic reasons, and health and quality of life must have an important interaction with environmental motives.

Various simple classifications of the population by age, gender, car ownership and socio-economic status, have shown some differences, as noted above, but for willingness to change a different form of segmentation may be more revealing: the hypothesis of recent work for Defra (2008) is that the population may be divided into different groups or segments by reference to their expressed readiness to change their choices, each group then having a different (but overlapping) set of characteristics of current travel patterns. outlook and circumstances. Adding the 'most likely' groups together suggests that altogether up to 50% of the population may be ready to make changes, though the proportion depends on the nature of the change and it is not yet known whether this represents only the first wave of responses which may be set to evolve over time.

The policy significance of these results is that there does appear to be a very substantial proportion of the population who consider environmental objectives as a valid influence on travel choice, including minorities for whom really quite big choices are involved, and majorities for less drastic change. But it is not clear how the standpoint 'ready to consider changing' converts to the behaviour 'changing', for which research on actual choices is probably more important than research on attitudes.

** Please insert Table 2 about here **

Concluding discussion

The primary conclusion of the four specific aspects considered in this paper is that phrases like 'the public attitude on transport' simply do not help. There is a range of attitudes reported with a great sensitivity to how the questions are asked. The use of 'loaded' words or implied assumptions, and the presentation of results, further compound the problem of interpretation. The variance in attitudes, however, prevails even in the best and least ambiguous research – neither the population as a whole nor any detectable sub-group is homogenous in transport attitudes.

That said, there are clearly aspects which command quite large majorities and others which are divisive and on which the public is split. There are correlations with the classifications of interest – age, gender, SEG, and so on – but none of these are so strong as to permit commentators to describe such groups as having a single mind.

Our review of the evidence on public attitudes also served to support and reinforce what may now perhaps be taken as a prevailing view among transport professionals: there is a general understanding that just as transport and travel choices are rooted in the structure of activities undertaken by individuals and families, it follows sensibly that attitudes to transport must also be rooted in deeper values and aspirations of how people want to lead their lives. The evidence bears this out: economic motivations (cost, allocation of time, participation in employment) are important, but so are a much wider set of influences including stress, tranquillity, feelings of control and independence, social obligations, and desires for both excitement and calm.

There are recurrent queries about the three-way connection between behavioural intention expressed in attitude studies; actual behaviour observed in traffic and passenger counts, household travel diaries, and expenditure data; and the analytical models (both orthodox and new) which are used to forecast choices. None of these seem fully consistent with each other, and there is a fruitful and important new research agenda to understand the inconsistencies and seek reconciliation.

Finally we note the almost complete lack of evidence on how individual attitudes change over time: evidence from time-series, derived from repeated cross-section surveys, only provides aggregate trend data. Therefore longitudinal analysis of individual attitudes seems to be the most important evidence gap, both for understanding and for the practical application of policy development. This will enable policymakers to be informed about the processes by which attitudes change (as distinct from snapshot views of what they are at a point in time), which is critical to public acceptability, and how attitudes relate to the actual choices people make in practice, which is critical to policy effectiveness.

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References

Anable, J.; Lane, B.; Kelay, T., 2006. An evidence base review of public attitudes to climate change and transport behaviour. Final Report to the Department for Transport, July, London.

CCC, 2008. Building a low-carbon economy – the UK's contribution to tackling climate change. Committee on Climate Change, December, London, TSO.

Defra, 2007. Survey of public attitudes and behaviours toward the environment: 2007. Department for Environment Food and Rural Affairs, London.

Defra, 2008. *A framework for pro-environmental behaviours*. Department for Environment, Food and Rural Affairs, January, London.

DfT, 2002. Attitudes to walking and cycling. Department for Transport, London.

DfT, 2005. Attitudes to congestion on motorways and other roads. A report by Transport Statistics, Department for Transport, August, London.

DfT, 2006. *Public experiences of and attitudes towards air travel*. A report by Transport Statistics, Department for Transport, October, London.

DfT, 2007a. Towards a Sustainable Transport System – Supporting Economic Growth in a Low Carbon World. October, Department for Transport, London.

DfT, 2007b. *Public attitudes to congestion and road pricing*. A report by Transport Statistics, Department for Transport, October, London.

DfT, 2008a. *Public attitudes to congestion and road pricing*. A report by Transport Statistics, Department for Transport, May, London.

DfT, 2008b. *Public attitudes to climate change and the impact of transport (2006 and 2007)*. A report by Transport Statistics, Department for Transport, January, London. DfT, 2008c. *Public attitudes to climate change and the impact of transport (2008 added)*. Department for Transport, London.

Faber Maunsell, 2008. *Perceptions of congestion on motorways*. Report for Department for Transport.

HMSO, 2008. *Climate Change Act 2008*. Act of Parliament, Her Majesty's Stationery Office, TSO, London.

Lyons, G., Goodwin, P., Hanly, M., Dudley, G., Chatterjee, K., Anable, J., Wiltshire, P. and Susilo, Y., 2008. *Public attitudes to transport: Knowledge review of existing evidence*. Department for Transport, London, July. Available online (as at 02/07/09): http://www.dft.gov.uk/pgr/scienceresearch/social/evidence.pdf

Miller, G., Rathouse, K., Scarles, C., Holmes, K. and Tribe, J., 2007. *Public understanding of sustainable leisure and tourism*: A report to the Department for Environment, Food and Rural Affairs. University of Surrey. Defra, November, London.

Owen, R., Sweeting, A., Clegg, S., Musselwhite, C. and Lyons, G., 2008. *Public acceptability of road pricing*. Final report by the British Market Research Bureau and the University of the West of England to the Department for Transport, May, London. Richardson, J., Harrison, G, and Parkhurst, G., 2007. *Public Understanding of Sustainable Transport*: A report to the Department for Environment, Food and Rural Affairs, November, London.

Figures

Figure 1. Trends in personal problems from congestion (1994-2006)

——Congestion in towns & cities (94-00) ——Congestion in towns & cities (01-06)

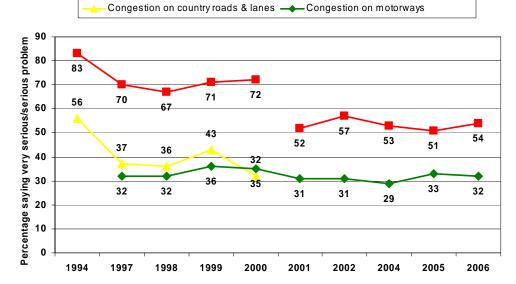


Chart constructed using data supplied by DfT and from www.britsocat.com

Figure 2 Opinions on 'freedom to fly' (reproduction of Figure 7 in (DfT, 2006))

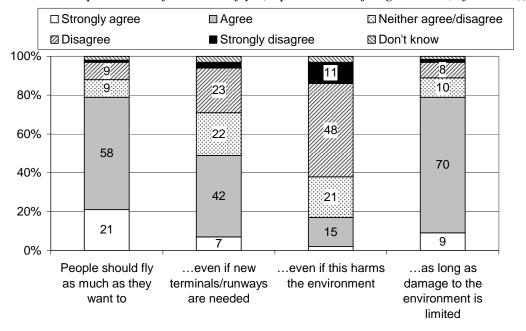


Table 1a Level of support for surface transport policies							
Proposition		Proportion in favour, or saying 'important'	Notes				
Almost unanimous support							
In 2004 - how important is it to improve public transport in Britain?	Very important Fairly important	77% 18%	Proportion saying 'not important' has varied between 2% and 4%				
Broad agreement to measures							
In 2006 - speed limits on residential roads of 20 mph		76%	Mostly suggested for safety and quality reasons				
In 2004 - how important is it to cut down the number of cars on Britain	72%	'Very' plus 'fairly' important - reflects a view that 'the sheer volume of traffic' is a major cause of congestion					
In 2002 - if the government had to choose, should it public transport (PT)? In country ar In towns and In 2005 - pedestrians and cyclists should be given priority in towns ar makes things difficult for other road users (was 59% in 2004)	eas in 2002 I cities in 2002	67% PT, 31% roads 62% PT, 37% roads 60%	Choice forced in question				
In 2006 - people who drive cars that are better for the environment use the roads than people whose cars are more harmful to the enviro	66%						
In 2005 - buses should be given more priority in towns and cities things more difficult for car drivers	55%	20% disagree, others not stated					
In 2006 - the current system of paying for road use should be camount people pay relates more closely to how often, when and roads	55%	29% disagree; 56% of drivers agree					

Table 1b Level of support for surface transport policies		
Proposition	Proportions in favour (and against)	Notes
Split of	down the middle	
In 2002 - charge motorists £2 to enter city to raise money to improve public transport	40% (40%)	
In 2006 - it is important to build more roads to reduce congestion*	39% (37%)	24% not stated – ambiguous: could be because congestion is thought not important or that more roads might not reduce it
building more roads just encourages more traffic	44% (27%)	Assumed to affect attitudes concerning policies
In 2006 - The government should build more motorways to reduce traffic congestion*	33% (36%)	Quite volatile from year to year, no overall trend - 'Pro' strongest in 2003, 'anti' in 1997, neither side has yet exceeded 50%
Fairly substan	tial minorities in	support
In 2003 - £1 per 50 mile charge for motorists to improve public transport	28%	
In 2006 - People should be allowed to use their cars as much as they like, even if it causes damage to the environment	23%	
In 2007 - for the sake of the environment car users should pay higher taxes $^{\#}$	25%	Quite strongly related to car ownership -36% of non car owners agreed, 23% of 1 car owners and 21% of two car owners. There was little difference as between cities, towns and rural areas. (Defra, 2007)
In 2003 - cut spending on new roads by half to improve public transport	21%	
Small m	inorities in suppo	ort
In 2002 - gradually double cost of petrol over next ten years	12%	All these in context of raising money to improve public transport
In 2003 - cut road maintenance spending by half	8%	
In 2001 - Increasing VAT	9%	

Question about behaviour	•	Answers	Notes
Omnibus - Individuals should try to li sake of the environment	mit their car use for the	About three quarters said they would undertake some form of activity to reduce car journeys, mostly non-essential journeys	Only 5% of cars users said they had done so in the previous year
BSAS 2003 - Driving one's own cagive up for the sake of the environment		44% agree, 26% disagree	Figures are unstable 1997-03
Suppose you were forced for some reason to cut <i>half</i> of your regular car trips. How inconvenient would you find it?		Only 6% 'not inconvenient' 13% 'fairly inconvenient'	Figures are stable 1997-2001
BSAS 2006 - Many of the short journ	neys I now make by car		Reasonably stable
I could just as easily go by:	Bus	28% agree, 54% disagree	
	Walk	34% agree 47% disagree	
Defra 2007 - Reduce the number	of flights made in the	About 10% of those who had flown in the last year	

frequency or route.

very much

Range of resistance to varying behaviour

Omnibus 2006 - Would change behaviour if road pricing

Limit car use *currently* due to: the price of petrol

Table 2

introduced

following year for environmental reasons

2% a great deal 18% to some extent, 22% not the environment very much Omnibus 2003 - I would reduce my car use if: NB size of reduction in use not specified in questionnaire pavements better maintained 30% Safer walking 37% Cycling facilities better 20% of those who currently do not cycle Charges on car use 40%-60% Charges along with better public transport 52%-72%

10% of total said would change mode, time,

5% a great deal, 22% to some extent, 20% not

NB total included non-drivers

Source: Table constructed using data from British Social Attitudes Survey (1992-2007), (Defra, 2007, (DfT, 2006) and (DfT, 2002)