

House of Lords Science and Technology Committee: behavioural interventions to reduce car use

Evidence submitted Dr David Metz, visiting professor, Centre for Transport Studies, University College London, formerly Chief Scientist, Department for Transport.

Summary

There is evidence that some people can be persuaded to give up car use through behavioural interventions, but little evidence that such measures in isolation can reduce traffic levels. It is, however, possible to reduce the relative share of journeys made by car through a comprehensive approach to transport planning, as demonstrated in London, where car use has been in decline since the early 1990s.

Context

1. The scope for effecting behavioural change to reduce car use in towns and cities needs to be seen in the context of the development of demand for personal travel.
2. Personal daily travel, as measured in the National Travel Survey, has been steady since 1995 at 7000 miles and 1000 journeys per person per year (excluding international aviation), and there is no reason to expect this to increase in the future.¹ It follows that future traffic growth will be driven largely by population growth, given that the present population of Great Britain of 60m is projected to increase to 70m by 2035. However, much will depend on whether the additional population is housed on greenfield or brownfield developments.
3. Greenfield housing is associated with car use and will require more and better managed road capacity. The travel implications of brownfield development can be seen in London, where the population has increased by nearly a million over the past two decades, within existing boundaries. Car use, as a proportion of total journeys, has declined and public transport use has risen, as population density has increased.² This decline in car use in an economically vibrant world city is remarkable, given that, historically and globally, car use has risen as incomes have grown.
4. In recent years, 80% of new dwellings in Britain have been on brownfield sites.³ Were this proportion to be maintained in the future, the impact of population growth on car use would be modest.
5. The population of Britain is not only growing. In common with other developed countries, it is ageing. The proportion of older people is increasing, as life expectancy increases and as the baby boom cohort moves into later life. Mobility is important for quality of life, and loss of mobility in later life is detrimental, not just in respect of access to desired destinations, but also loss of the incidental benefits – getting out and about, exercise and social engagement.

¹ D Metz (2010) 'Saturation of demand for daily travel', *Transport Reviews* 30(5), 659-674

² http://www.tfl.gov.uk/assets/downloads/corporate/Travel_in_London_Report_2.pdf

³ <http://www.communities.gov.uk/publications/corporate/statistics/housingplanningstatistics2010>

6. Population ageing has implications for travel demand and for transport provision. A key issue is the timing of giving up driving, usually prompted by the cumulative impact of a number of minor disabilities – visual, hearing, musculo-skeletal, and cognitive. Alternative means of mobility and access are then needed, the demand for which will increase as the population ages. One response has been the provision of free off-peak travel on buses for older people. Another is the growing use of pavement-running mobility scooters, well suited to preserving personal mobility in dense urban areas for those with ambulatory disabilities.
7. A further noteworthy demographic trend in Britain is the decline in driving licence holding by men in their twenties, from a peak of over 80% to 67% currently. The most common reasons given by this group for not driving are the cost of learning to drive, of car ownership and insurance. Possible further factors are the larger proportion of the age group entering higher education, where the car is not central to the student life style, and the increasing reliance on mobile phone and internet technology for keeping in touch.

Behavioural change: possibilities

8. In recent years, there has been a growing interest in a range of transport policy initiatives which are designed to influence people's travel behaviour away from single-occupancy car use and towards more benign and efficient options, through a combination of marketing, information, incentives and tailored new services – often described as 'Smarter Choice' measures. Such measures include workplace and school travel plans, personalised travel planning, information and awareness campaigns, car clubs and car sharing schemes, and tele-working, -conferencing and -shopping. It has been claimed that Smarter Choice measures have the potential to reduce national traffic levels by about 11%.⁴
9. Both older people and younger people could be new target groups for Smarter Choice campaigns. Older people may be persuaded to give up the car earlier, and younger people to defer car ownership for longer, if the needs for access and mobility of both groups could be met adequately in other ways. The crucial requirement is to reside in an environment of sufficient population density that easy access to frequent destinations is possible using modes other than car.
10. Particularly relevant to young adults is the trend of increasing urban density in inner city areas, first seen in London, which has spread to other economically buoyant British cities over the past decade, including Manchester, Nottingham, Bristol and Sheffield, as employment in finance, creative and business services has grown. This reflects a break from the previous long term trend of declining inner city populations and shift of employment to low density residential areas in the urban periphery and beyond. The phenomenon is at its most intense at Canary Wharf where 100,000 people work in a dense urban complex that has grown up over the past twenty years, relying on rail access, and with only 3000 parking spaces.

⁴ Cairns S, et al 2008, Smarter Choices: assessing the potential to achieve traffic reduction using 'soft measures', *Transport Reviews*, 28(5) 593-618.

11. Dense inner cities are not attractive to most older people. Nevertheless, living in conveniently located districts of seaside and market towns and in mature suburbs will offer readier access to facilities than living in more remote areas.

Behavioural change: constraints

12. Although there is good evidence that some people can be persuaded to make less use of their cars, we lack evidence that this results in significantly lower levels of traffic. For instance, in the three pilot Sustainable Travel Towns, in which Smarter Choice measures were promoted, household surveys indicated a reduction of car trips per person of 9% on average, whereas the observed reduction in traffic was estimated at only around 2%.⁵ In part this may be due to traffic uninfluenced by the intervention, such as through traffic and commercial vehicles.
13. A further reason is that the success of Smarter Choice measures depends on the reduction in car use by some people *not* being offset by greater car use by others, who take advantage of reduced congestion to make more and/or longer car trips – known as ‘induced traffic’. Hence there is a need to ‘lock in’ the benefits of the ‘soft’ behavioural interventions by complementary ‘hard’ measures that result in, for instance, reallocation of road capacity to buses, cyclists or pedestrians and parking controls. Such complementary measures were not adopted in the Sustainable Travel Towns.
14. If, as seems to be generally agreed, complementary hard measures are needed to lock in the benefits of soft measures, the question is then which kind is the more important. Arguably, it is the hard measures that really matter – these have teeth. The soft measures would be seen as facilitating – helpful but not essential since people would learn to adapt to the hard measures in any event. From this perspective, it is the interventions which *oblige* behavioural change that can be relied upon to reduce traffic and carbon emissions. The interventions that only *incentivise* behavioural change persuade some people but not all, thus allowing a ‘rebound’ in the forms of more and/or longer car journeys by those not persuaded.
15. A further constraint on behavioural measures to reduce car use is that access is thereby reduced for those for whom the car provides the quickest door-to-door journeys. It is likely that those who are persuaded to give up the car are those for whom this is practicable at the time, on account for instance of living conveniently close to work, or not having children to escort. If circumstances change – a new job or a new child – these people could be back in their cars, although there would be others for whom circumstances changed the other way who could be targeted for the Smarter Choice treatment.

5

Governance

16. The evidence suggests that behavioural change to reduce car use can have a modest but significant role as part of a comprehensive approach to transport provision. This in turn requires governance arrangements that foster such an approach. In London, the Mayor has responsibilities in respect of economic development, housing, land use and transport. Car use in London has been declining, from a peak in the early 1990s when 50% of all journeys were by private transport, to 41% currently, with a corresponding increase in public transport's share.⁶ This trend is expected to persist as the population continues to grow, with car mode share projected to be 37% in 2031.⁷ The Mayor wishes to promote walking and cycling, seeking a 4-fold increase in cycle trips and a 5% mode share by 2016, in part through the cycle hire scheme and the cycle superhighway routes.
17. What London demonstrates is that a steady reduction in the share of car trips can be achieved over many years through a comprehensive approach involving hard measures such as parking constraints and congestion charging in the context of a non-enlargeable road network; substantial investment in public transport; planning policies that encourage high density living and the revival of the inner city; as well as the promotion of cycling and walking. Behavioural change measures alone cannot be expected to have a comparable impact.
18. Regrettably, the governance arrangements for transport in other parts of England do not at present facilitate the comprehensive approach possible in London. Perhaps the most useful means to reduce car use in other cities would be to instigate City Region governance of transport, regeneration and economic development, as recently announced for Manchester.⁸

January 2011

⁶ <http://www.tfl.gov.uk/assets/downloads/corporate/travel-in-london-report-3.pdf>

⁷ http://www.london.gov.uk/sites/default/files/MTS_part_one_0.pdf

⁸ <http://insidethem60.journallocal.co.uk/2010/12/03/whitehall-grants-new-powers-for-proposed-manchester-city-region/>