

Travel Planning (Schools)

Introduction

This record of evidence forms part of the work undertaken by UKERC's Technology and Policy Assessment team relating to its project on policy strategy for carbon emissions reduction in the passenger transport sector. The material was produced alongside the project's main report and since it supports that report, it was judged appropriate to make this material available to a wider audience. The main report itself '*What Policies are Effective at Reducing Carbon Emissions from Surface Passenger Transport?*', and the supporting evidence can be found at:

<http://www.ukerc.ac.uk/ResearchProgrammes/TechnologyandPolicyAssessment/TPAProjects.aspx>

Explanation of Content

Evidence on this policy measure has been collected by the TPA team on the basis that it has, or may have, the potential to result in carbon dioxide emissions reductions in the passenger transport sector. This evidence document begins with a summarised description of the policy measure. The evidence itself follows the summary and is presented in table form.

Each piece of evidence has been assigned a separate row and tabulated using four columns:

- Year of publication, arranged chronologically, beginning with the most recent year
- Name of author, including where applicable additional cited authors (and year); and a Reference ID number.
- Type of evidence:
 - Evidence containing quantitative information is denoted by the letter 'Q'
 - Qualitative evidence is denoted by the letter 'C' for 'comment'
- The evidence itself

The evidence was originally gathered and assessed using several sub-headings. The purpose of this was primarily internal i.e. to facilitate the handling of evidence and the production of the main report. These sub-headings have been retained here as follows:

- Policy Measures and Carbon Savings
- Other potential CO₂ Impacts i.e. outside of the immediate policy influence
- Other Benefits e.g. air quality improvement or traffic congestion reduction
- Policy Costs and/or Revenues i.e. to local or national government
- Business and Consumer Costs
- Unintended Consequences e.g. rebound effect
- Reasons/Arguments for Carbon Savings Achievement or Failure
- Policy Suitability for the UK

A list of references follows the evidence tables. Note that the Reference ID numbers are allocated by Reference Manager, the referencing software used by the TPA team.

Any charts, figures and tables referenced in the evidence are not reproduced here but can be found in the original publication or evidence material.

Where no relevant evidence was found for a particular sub-heading, this has been noted.

Policy Description

The evidence recorded here covers policies which encourage or require the establishment of ‘School Travel Plans’ – a package of measures targeting journeys to and from school with the aim of reducing the number of car trips made.

Evidence Tables

Carbon Savings and Policy Measure

Year	Author	Type	Evidence
			<i>General</i>
Forth-comin	Anable et al (ref 11589)	Q	Estimated potential for traffic savings is 0.04 MtC or 0.15 Mt CO ₂ after 10 years of intensive application of school travel plans.
2005	Wolfram (ref 11380) citing Goal Consortium 2003	Q	The GOAL project was an awareness campaign carried out at schools and kindergartens which led to car mileage savings of 20,000 km, an increased speed limit compliance of car drivers (from 69,6% to 77,9%), as well as a shift away from the car regarding the modal split of teachers and children (citing Goal Consortium, 2003).
2004	Cairns et al. (ref 11489)	Q	In terms of the effects of school travel work, there have been a number of studies assessing where the greatest impact can be made, what individual schools are achieving, and what particular types of school travel initiatives are achieving. Details are summarised in Table 1 of Cairns, 2004.
2004	Cairns et al. (ref 11489) citing SDG, 2004	Q	An evaluation of the introduction of yellow buses into the UK shows they can be effective at reducing car use, particularly at primary schools. Surveys took place after their introduction in September 2002 and May 2003. Car use at both the evaluated primary schools reduced (from 45% to 34% at Wrexham Primary and 40% to 36% at Hebden Bridge Primary – comparative reductions of 24% and 10% respectively). Results at the two secondary schools were more mixed (at Wrexham Secondary car use increased, whilst at Runnymede Secondary, there was an initial dip in car use, from 38% to 33% by September 02, although car use had returned to previous levels by May 03) (citing SDG, 2004).
2004	Cairns et al. (ref 11489) citing Mackett et al, 2003	Q	A survey of schools with walking buses has been carried out in Hertfordshire. 62% of the children now travelling this way used to travel to school by car (though not necessarily every day). Admittedly, the ‘buses’ frequently folded due to a lack of volunteers or coordinators, but the majority achieved one of their objectives: shifting children from car to walking. The work also suggested that there might be a natural age limit for children participating (with the peak in interest being amongst children aged 6-7) (citing Mackett et al, 2003).

Year	Author	Type	Evidence
			<i>Making School Travel Plans Work' project</i>
2004	Cairns et al. (ref 11489)	Q	<p>Data for the Department for Transport's 'Making School Travel Plans Work' project were available from 12 UK local authorities as shown in Table 4.10.</p> <p>In summary, information from the 12 areas seems to suggest a mixed picture. Some (Buckinghamshire, Devon and Bath & NE Somerset) have managed to reduce car use overall. Others (Oxfordshire, Cambridgeshire Nottinghamshire and Suffolk) are holding car use at below the regional average. However, others have had less success in making an area wide impact – notably (and surprisingly) York (all schools, particularly primaries), Bradford (all schools) and Shropshire (primary schools).</p>
2004	Cairns et al. (ref 11489)	Q	<p>Reductions in car use of 20% or more are not uncommon for schools involved in 'Making School Travel Plans Work' initiatives, including reports of 8 schools (89%) in Devon; 6 or 7 schools (75/88%) in Cambridgeshire; 2 or 5 schools (33%/83%) in Buckinghamshire; 2 schools (50%) in Cornwall; 4 schools (27%) in Hertfordshire; and 6 or 9 schools (15/23%) in Merseyside.</p> <p>Several authorities quoted schools where car use had more than halved, including 2 schools in Buckinghamshire; 1 in Devon and (possibly) 2 in Merseyside. Notably, of the 80 schools which responded to the survey, 61 (76%) had achieved reductions in total car use. Thirty-three (41%) appeared to have achieved reductions in total car use in excess of 20%, and 8 (10%) appeared to have more than halved overall car use.</p>
2004	Cairns et al. (ref 11489)	Q	<p>Results suggest that when local authorities engage with schools a high proportion (somewhere between 60 and 90%) can be expected to achieve positive modal shift, and there are more than an hundred schools around the country where this has occurred. Moreover, a significant percentage of them can be expected to reduce car use by over a fifth – for all schools that are engaged with, the proportion is likely to be somewhere between 15 and 40% (see Figure 4.2).</p> <p>Taking this data, the implied overall reduction in traffic that might occur across all engaged schools is likely to be in the order of 8-15%.</p>
2004	Cairns et al. (ref 11489)	Q	<p>Combining assumptions in Table 13.2 of Cairns et al. (2004), the reduction in UK car escort trips to and from school is estimated to be 4% or 20% over ten years. The effect is similar in urban and non- urban areas.</p>

Other CO2 Impacts

Year	Author	Type	Evidence
			No specific evidence found.

Other Benefits

Year	Author	Type	Evidence
2004	Cairns et al (ref 11489) citing Christie et al 2004	C	An international survey of travel by 10-14-year-olds, using comparable data from 8 countries has also shown that higher levels of cycling amongst this age group are linked with fewer accidents per kilometre cycled (citing Christie et al 2004).
2004	Cairns et al (ref 11489)	C	Cairns (2004) identifies a wide range of benefits from school travel work in addition to achieving modal shift: <ul style="list-style-type: none"> • Improvements in road safety skills • Improved safety • Increased independence for children • Health and fitness benefits • Improved attendance and ability to learn • Greater knowledge of environmental and citizenship issues • Community benefits • Increased social inclusion

Policy Costs and/or Revenues

Year	Author	Type	Evidence
Forth-comin	Anable et al (ref 11589)	Q	On the basis of their estimated potential for traffic savings (0.04 MtC or 0.15 Mt CO ₂ after 10 years of intensive application), school travel plans would cost between £405 - £2865 t/C (£110 – £732 CO ₂), the range being due to the different costs found in the original case studies.
2004	Cairns et al. (ref 11489)	Q	In September 2003 the government announced an initiative to address travel to school. £7.5 million per year has been allocated for at least two years to fund more local authority based school travel advisers, and regional travel advisers have been appointed. Schools with an authorised travel plan have also become eligible for capital funding (approximately £5000 per primary school and £10,000 per secondary school) to fund their travel work.
2004	Cairns et al. (ref 11489)	Q	Cairns (2004) examined three UK local authority case studies of school travel work in detail. Table 4.5 shows the revenue costs per pupil targeted. Revenue costs were similar in all three case study areas, at about £3.50 - £4 per pupil. This is comparable to the upper end of the range of costs per employee targeted for workplace travel plans.
2004	Cairns et	Q	As well as revenue costs, it is important to add in the

Year	Author	Type	Evidence
	al. (ref 11489)		capital costs of 'safe routes' infrastructure such as pedestrian crossings, traffic calming and cycle lanes. Using data from the parallel project for the Department for Transport (Making School Travel Plans Work), Cairns (2004) was able to estimate infrastructure costs per school and per pupil. Provisional figures show capital costs per school ranging from £30,000 to £75,000, and capital costs per 'pupil place' ranging from £32 to £243, with an average of £95.

Business and Consumer Costs

Year	Author	Type	Evidence
			No specific evidence found.

Unintended Consequences

Year	Author	Type	Evidence
			No specific evidence found.

Reasons/Arguments for Carbon Reduction Achievement and/or Failure

Year	Author	Type	Evidence
2008	DfT (ref 11545)	Q	In Britain, over the ten year period from 1995/97 to 2006, cars taking children to school in urban areas have increased as a proportion of car trips in the morning peak period from 10% to 12%. However, this proportion peaked at 15% in 2004 and has fallen slightly since then.
2008 2000	McDonald (ref 11621) Jones & Bradshaw (ref 11622)	Q	Travel planning can have a measurable and significant impact on travel choices, typically reducing car usage by between 6% and 30% depending upon context. The most common shifts appear to be to non-motorised modes, though use of public transport and improved occupancy are also significant. Programmes that target workplaces appear to be more significant than schools in carbon terms, though it is possible that there are synergies that exist between the two given the number of parents who drop their children to school on the way to work.
2004	Cairns et al (ref 11489) citing Bradshaw and Jones, 2000	C	Improvements to public transport offer the greatest potential to reduce car escort mileage (as opposed to car trips), because most car mileage for this journey purpose is on trips too long to be walked or cycled (Cairns, 2004 citing research commissioned by the AA Foundation For Road Safety Research undertaken by Bradshaw and Jones, 2000).
2004	Cairns et al. (ref 11489) citing	Q	The 'Are you doing your bit' campaign involved interviews with school children across England. The results showed that, of children travelling to school by car, 17% would prefer to walk and 21% to cycle. A

Year	Author	Type	Evidence
	DETR, 2000		higher proportion of children travelling on foot, 57%, liked their current method of transport compared to 43% of those going by car (citing DETR, 2000). Meanwhile, a survey for the DfT in 2002 found that 65% of parents taking their children to school by car would prefer not to drive, but feel that they have no alternative.
2004	Cairns et al. (ref 11489)	C	Regarding the potential to scale up delivery of travel plans, the main issues likely to influence the success of school travel planning are as follows: <ul style="list-style-type: none"> - Willingness of schools to engage with the process - Funding - Use of the planning system - Presence or absence of traffic restraint measures - Parental preference - Advertising & Marketing
2003	Goodwin & ECMT (ref 11497)	C	Policies that seek to minimise travel demand through planning can be undermined if transport services are not appropriate.

Policy suitability for UK

Year	Author	Type	Evidence
2006	Fujii (ref 3338)	C	Since 2004, transport and education depts have funded a “school travel plan” program for all elementary and junior high schools in England (see Figure 4.1).
2004	Cairns et al. (ref 11489)	Q	Whilst the UK has been slow to introduce widespread practical work with schools, there has been relatively rapid progress in the last few years. Based on Local Transport Plan annual progress reports, the Department for Transport has provided data for this project about the current and future number of school travel plans to be implemented. This has been combined with DfES data about total numbers of schools in Tables 4.2 and 4.3 which show the scale of school travel plan implementation in 2003 and 2006.
2004	Cairns et al. (ref 11489)	C	In terms of reductions in car use for school travel across the whole of a local authority area, there is a mixed picture. Some have managed to reduce car use overall, whilst others are holding car use at below the regional average. However, other areas have had less success in making an area wide impact.
2004	Cairns et al. (ref 11489)	C	Interviewees in the UK felt the following policy measures would be helpful in encouraging more widespread and effective school travel work: <ul style="list-style-type: none"> • Possibility of requiring schools to adopt travel plans, as part of health and safety responsibilities to pupils, could be explored. OSFTED could be required to acknowledge good school travel work. • There may be potential to strengthen the wording in PPG13 to encourage more consistent application by planning authorities in relation to

Year	Author	Type	Evidence
			<p>schools.</p> <ul style="list-style-type: none"> • Encouraging local authorities to consider school travel work as a long- term programme would help to provide the security of funding and other resources that permit strategic planning. • To ensure school travel work is successful, it is important that local authorities plan revenue and capital budgets that allow measures to be implemented which emerge from planning. • National government could provide a stronger policy steer about the desirability of traffic restraint measures outside schools, such as parking restrictions or speed limits or traffic calming. • The transport implications (including the costs) of parental choice and increasingly specialised schools need to be factored into policy decisions on these topics.
2004	Cairns et al. (ref 11489)	Q	<p>Evidence from the UK case studies suggests that in the next ten years a significant proportion of schools in all areas will have developed effective travel plans – somewhere between 30% (a little higher than Merseyside’s estimate for 2006) and 95% (close to the estimates of Buckinghamshire and York for 2011). Coverage is likely to be similar in urban and non-urban areas.</p>

References

- Anable, J., Cairns, S., Sloman, L., Newson, C., & Goodwin, P., 32766 - 11589 - Smart Carbon - calculating carbon savings from smarter travel choices. Report for the UK Department for Transport. Department for Transport, London
- Cairns, S., Sloman, L., Newson, C., Anable, J., Kirkbride, A., & Goodwin, P. 2004 – 11489 - *Smarter Choices - Changing the Way We Travel* , DfT, London.
- Fujii, S. & Taniguchi, A. 2006 – 3338 - *Determinants of the effectiveness of travel feedback programs - a review of communicative mobility management measures for changing travel behaviour in Japan*, Transport Policy, vol. 13, no. 5, pp. 339-348.
- DfT 2008 – 11545 - Travel to School, Personal Travel Fact Sheet, Deptment for Transport, London.
- Goodwin, P. & ECMT 2003 – 11497 - Managing the Fundamental Drivers of Transport Demand, OECD, Paris.
- Jones, P. & Bradshaw, R. 2000 – 11622 - The Family and the School Run: What Would Make a Real Difference? Summary Report, Foundation for Road Safety Research, University of Westminster.
- McDonald, N. 2008 – 11621 - Household interactions and children's school travel: the effect of parental work patterns on walking and biking to school, Journal of Transport Geography, vol. 16, no. 5, pp. 324-331.

Wolfram, M. 2005 – 11380 - *Sustainable Urban Transport Plans (SUTP) and urban environment: Policies, effects, and simulations - Review of European references regarding noise, air quality and CO2 emissions*, EC, Brussels.