



The health implications of inequalities in travel

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ABSTRACT

The purpose of this paper is to examine whether some groups in society have poorer travel opportunities or are affected adversely by transport more than others with consequent implications for their health. The following potential inequalities in access to travel are considered: income, ethnicity, gender, rurality and disability. The impacts of two externalities of the transport system are considered: casualty rates and atmospheric emissions. Access to a car is found to be a key factor. Generally, the inequalities are decreasing over time as those with lower incomes increase their car ownership towards the levels of those with higher incomes.

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1. Introduction

Travel has a number of links with health: for example, walking and cycling ('active travel') provide exercise directly. Travel is the means to access shops selling healthy food and health care facilities and to reach recreational facilities offering the opportunity to exercise, both indoors and outdoors. The limited availability of time in the day means that faster modes of travel offer access to more opportunities and faster modes, such as cars and trains, tend to be more expensive than walking, cycling and bus. This means that those with higher incomes are able to reach more locations to purchase healthy food, attend health care facilities and obtain exercise. Because travel often requires monetary expenditure and the opportunities that are required for a healthy lifestyle are distributed unevenly over space, there are bound to be differences in the resources required to access them. Jobs, schools and shops tend to cluster in urban areas, so those living in rural areas tend to live further from many of these opportunities than those in urban areas, so those living in rural areas may have more difficulty leading healthy lifestyles. Transport can have an adverse effect on health, for example, through casualties from road crashes and atmospheric emissions.

The purpose of this paper is to examine whether particular groups in society in Britain such as those with low incomes or those living in rural areas appear to have significantly poorer travel opportunities or are affected adversely by transport more than others with consequent implications for their health. This is a vast subject and the objective of this paper is to establish whether such inequalities exist using the literature and secondary data including the UK National Travel Survey, the UK Family Resources Survey and the Statistical Digest of Rural England, so that others can then research into specific aspects of the topic.

2. Income inequalities

A key link between income and travel is the amount of money spent on travel. In Britain, the percentage of total expenditure on travel increases with income, as do the purchase of vehicles such as cars and the operation of personal transport (Office for National Statistics, 2012). Expenditure on rail and Tube fares also increases with income because rail travel is relatively expensive and is often associated with commuting and business travel particularly in South East England where incomes tend to be higher. In contrast, the percentage of total expenditure spent on bus and coach travel decreases with income, reflecting its characteristic as the cheapest form of public transport.

The link between income and car ownership is illustrated in Table 1 which shows how car ownership increases with income. Between 2002 and 2012 the overall percentage of households with access to a car decreased from 78% to 75%, but the percentage with two or more cars increased from 25% to 31%. The percentage of households owning one or more cars has increased for the two lower income groups,

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Table 1
Household car availability by real household income quintile in Great Britain, 2002 and 2012.
Source: Department for Transport (2013a).

	Percentage of households					
	2002			2012		
	No car (%)	One or more car (%)	Two or more cars (%)	No car (%)	One or more car (%)	Two or more cars (%)
Lowest real income	59	41	6	48	52	11
Second level	42	58	11	35	65	19
Third level	18	82	25	20	80	32
Fourth level	12	88	36	13	87	43
Highest real income	8	92	48	11	89	50
All households	22	78	25	25	75	31

Table 2
Number of trips per head per year by mode, by household income quintile in Great Britain, 2012.
Source: Department for Transport (2013a).

	2002						2012					
	Walk	Bicycle	Car	Bus	Rail	Total	Walk	Bicycle	Car	Bus	Rail	Total
Lowest real income	294	14	399	101	13	848	260	15	400	101	15	819
Second level	282	15	580	79	11	996	236	14	520	73	15	884
Third level	232	19	721	60	17	1074	195	14	658	60	19	967
Fourth level	203	16	834	46	24	1149	189	18	748	41	32	1047
Highest real income	204	17	857	32	50	1187	182	19	739	31	56	1052
All	244	16	674	65	22	1047	212	16	614	61	27	954

Note: 'Bus' includes coach; 'other' modes are included in the 'Total' column.

but decreased for the upper three income groups. The number of households owning two or more cars has increased for all the income groups, but more for the lower income groups. This suggests that the differences in car ownership levels between income groups are decreasing.

Table 2 shows how the total numbers of trips by the various modes per head per year varies by income group in 2002 and 2012. Overall, there has been a decrease in the number of trips per head by about 9%, with decreases in the number of trips by walking, car and bus, and an increase in the number by rail. There is clear difference in the use of the various modes with income although the ranking of the modes for each income group are similar. Car is used for the most trips even by the lowest income group, but they make just over half the number made by the top group. Low income people make over three times as many bus trips as the highest group. Rail has the largest differential with the top income group making nearly four times as many as the lowest income group. Low income people also walk more than the rich, but the differential is much less, with the highest income group walking about 30% fewer trips than the lowest group. The bicycle is the mode with the smallest variation across the income groups, but in 2012 tends to increase slightly with income, which is not necessarily what would be expected. In 2002 there was less difference in cycle use across the income bands, suggesting that those with higher incomes are favouring cycling more than in the recent past, possibly for health or sustainability reasons, or possibly to avoid delays on public transport and in the car.

The distance travelled by the modes (Table 3) is relevant to health. Walking and cycling provide physical activity which contributes to health while the car offers access to a wider range of health facilities and opportunities for physical activity. It can be seen that the distance walked each year tends to decrease with income apart from the top group in 2012; over time, the amount of walking has decreased for all income groups except the highest. Cycling tends to increase with income and has increased over time for all income groups, especially the highest income group. This means that, in 2012, those with the highest incomes not only travel furthest by car they also travel furthest using active travel (walking and cycling combined). This is in contrast with ten years earlier when this group had the lowest combined total for walking and cycling.

An important aspect of obtaining access to good quality travel is being able to access information and book travel when appropriate from home. Until fairly recently this meant using the telephone. Availability of home and mobile phones increases with income (Office for National Statistics, 2012). At the higher income levels, access to a telephone is close to 100% whereas only 66% of the lowest income decile group have a home telephone and 75% a mobile phone. Interestingly this group is almost the only one to have more access to mobile phones than to home phones, perhaps reflecting the fact that it is possible to purchase a basic mobile phone on a pay-as-you-go tariff very cheaply. Nowadays, travel information is increasingly being made available over the internet. Here there is a larger difference between those with low and those with high incomes with only 41% of those in each of the two lowest income decile groups with internet access compared with 99% of those in the top group. It is clear that many of those on very low incomes do not have access to travel information from home. This means that they are unlikely to find out about the most cost-effective and efficient ways to travel, and so may be spending more money and time travelling than those with higher incomes who are more likely to be able to access good quality information.

All forms of transport require some form of public investment, in terms of the provision of infrastructure and subsidy. Horten and Reed (2010) have examined Government spending by income group and found that expenditure on transport is biased towards higher income groups, unlike some other forms of public expenditure such as health, education and housing. This is probably because, as shown above, those with higher incomes travel more, particularly by car and rail, both of which receive large volumes of public expenditure.

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