

Rural transport policy and equity

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1 - SYNOPSIS

Sustainable transport policies should reduce carbon dioxide without hurting poor car-owners and those with no access to a car, particularly in rural areas.

2 - ABSTRACT

Curbing emissions from the transport sector is an important component of climate change policies in most countries, because travel-related emissions are growing faster than most other sectors. Opposition from rural residents and the risk of causing hardship to low-income households are constraints on the political acceptability of many policies, particularly when they increase the cost of travel. This is because these two groups of the population have few travel choices.

The challenge is to integrate policies so that the rural poor benefit, whilst creating pressure on the rural rich to reduce their travel. The rural poor without a car visit only a third of the places visited by rural car owners, so those on low-incomes may need more accessibility, not less travel.

Data from the UK are used to identify the issues and explore the solutions. Evidence is provided of the number of people who live independently of cars and the overlaps between income levels and car ownership. The solutions include a greater emphasis of the provision of local facilities, as well as an examination of what is defined as adequate public transport. An important dimension is an emphasis on local decision-making, with greater responsibility being given to regional authorities. The role of household travel audits could be important in providing local councils with information and in assisting the householder make environmentally-friendlier choices. The results of a pilot study on travel emission profiling for car-drivers are utilised.

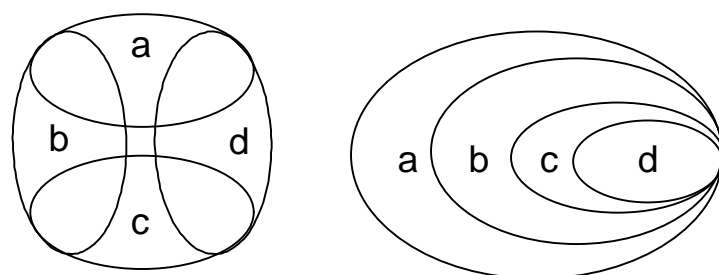
3 - CONTEXT

The aim of transport policy is to slow down and eventually reverse the growth in car usage, in order to contribute to lower carbon dioxide emissions and the Kyoto target (amongst many other environmental and economic benefits). This has to be achieved within the context of assisting the poor, many of whom are non car-owners. Existing policies, such as the fuel tax escalator², hit the rural poor the hardest: the urban poor have access to better public transport and the rich, wherever they live, absorb the cost. Therefore, an acceptable package of policies has to solve the problem of the rural poor, whilst reducing the environmental impact of all travel. Policies such as more efficient cars and alternative fuels have contributions to make, but they do not improve the access problems of those without cars. If transport policy is focused solely on the pricing mechanism, the poor in rural communities will, without support, suffer considerable hardship and perhaps be forced to move to urban areas.

All facilities and services become easier to sustain as the density of living increases, though that does not guarantee they will be provided. Much of the debate in this paper applies to the poor in deprived urban communities, as well as to rural residents. The present focus is on those with the most limited travel choices - the rural poor - though there is a continuum of deprivation that extends into other communities. There are several definitions of 'rural' and these result in 10-33% of the population being classified as resident in rural areas. None of them includes settlements with more than 20,000 people (Boardman 1998a, p35). People living in rural areas represent a significant proportion of the population, with a concentration of problems not found by those that live in urban areas or metropolitan conurbations.

4 - INDEPENDENT OF THE CAR

Many people in rural areas do not have access to a car, for a variety of reasons (Figure 1). It is not clear how the different groups overlap, hence these two sample Venn diagrams. The 40% of rural residents who are retired, unemployed or unoccupied include those who are too frail to drive, disabled or long-term sick. A third of households are on a low income, probably in receipt of a means-tested benefit, which is the same as the national average. In rural areas, 22% of households do not own a car. The proportion in the rest of the country is 34%, implying that many poor households in rural areas have decided to purchase a car, despite the probable stress to the family budget. It is not known what economies have to be made to compensate - though less is spent on fares and other travel costs by rural residents in comparison with those who live at greater densities (ONS 1998, p90).



- a) 40% retired, unemployed or unoccupied
- b) 33% households on low income
- c) 22% households have no cars
- d) 14% adults have no driving licence

Figure 1 Households in rural travel poverty³

In addition, there are individuals with limited travel choices, who come from an even wider range of incomes:

- 14% of rural adults with no driving licence;
- young people who are capable of independent travel;
- an adult at home when the only car is elsewhere (typically with a man at work).

For these reasons, travel deprivation can spread high up the income scale in rural areas. It is the problem of a poverty of travel options rather than necessarily of low-income. All of these individuals suffer from a limited range of travel choices, from rural travel poverty. For them the answer is better public transport and, best of all, improved provision of local facilities. Both of these more energy efficient solutions will provide greater equity - for those in travel poverty - and benefit the environment. More sustainable rural lifestyles depend upon a package of measures that improves access to facilities, particularly on foot or by bike.

5 - ACCESS TO FACILITIES

In our daily lives we need access to a range of facilities - a bank, a few shops, post office, doctor, chemist, library, pub, Job Centre. The demands vary in frequency and in relation to lifestyles, but the choice is needed. These facilities may be close by, in urban areas, or more dispersed, in rural ones. Over the past few years, more people have moved into rural villages, increasing the potential market for local facilities. This should have revitalised the rural settlements, but, as many of the new residents are both affluent and mobile, the provision of amenities has declined, making more people more dependent on travelling. The challenge is to reverse this trend and encourage the provision and better use of local facilities. The demise of the local banks and post offices has resulted in no local source of cash in rural Wales, just as in many areas of Birmingham.

The effect of travel poverty is limited access to facilities and cannot be clearly identified from present data, but includes:

- the average rural household spends more on travel than a family on the same income but in the rest of the country, because more rural households own a car and spend an average of 10% a week more on fuel. Further research is needed to establish what are the compensating economies, though domestic fuel costs are also higher in rural areas, because few homes are connected to gas;
- poor rural households travel about half the distance of better-off rural families;
- non-car-owning rural residents went to only a third of the places visited by car owners in rural Oxfordshire (Root et al 1996, pi);
- remote rural households in Norfolk without access to a car were three times less likely to visit their GP, given similar levels of need, than urban households with cars (Macintyre 1993);
- current national usage indicates that rural residents use the bus on average less than once a week. This probably results from a quarter of the population using the bus four times a week (Boardman 1998a, p18)⁴.

6 - PUBLIC TRANSPORT

Another trend has been for public transport in rural areas to decline - at least two-thirds of rural settlements do not have a daily bus service and in rural areas public transport is synonymous with buses. Those households without a car have been faced with the need to travel, because less is available in the village, but with increasingly limited bus services. As a result, they suffer from restricted access to vital facilities - the problem of travel poverty. The extreme examples of this are found in rural areas, but there are gradations of the problem across the country.

Linked with the demise of local bus services has been the increase in their costs, particularly in relation to the cost of private motoring: in Great Britain, between 1985 and 1995, bus fares increased by 89% in absolute terms, whereas the cost of private motoring only rose by 54%, about the same as the rate of inflation (DoT 1996).

In England, the responsibility for securing 'socially necessary' but non-commercial transport services rests with the appropriate local authority. A survey of bus services to rural settlements in England, with a population of up to 20,000, judged the frequency and extent of the bus service, and resulted in two main classification groups (TAS 1997):

- subsistence service level: any parish with fewer than four return journeys a day and without an evening or Sunday service is below this level;
- reasonable service level: an example is a parish with an hourly service and one evening and two Sunday return journeys.

By this definition, 64% of rural settlements in England did not have a reasonable level of bus service in 1997 (Table 1). There was a positive correlation between settlement size and bus service and between the level of spending and service level: the bigger the population, the greater the spend and the better the level of service.

Table 1: Bus services in rural settlements, England 1997

Bus service level	Settlements	Percentage	Average per capita expenditure by local authority*
Below subsistence	767	18	
Subsistence	1,894	46	£0.70 - £2.36
Reasonable	665	16	£4.01 - £5.66
High service	814	20	£7.31 - £8.96
Total	4,140	100	

*for sub-groups in each service level, based on county population

Source: TAS pp36, 39

7 - HOUSEHOLD TRAVEL AUDITS

Household travel patterns and their implication for the environment can be assessed through audits. One ECU study looked at the emissions of greenhouse gases from rural car usage and how these varied, based on a short household questionnaire - travel emission profiles (Anable et al 1997). Emissions of carbon dioxide are closely related to distance travelled. If drivers are ranked by the distance driven, the top decile in two Oxfordshire villages cause 33% of the carbon dioxide emissions, whereas the bottom decile only cause 1%. Other greenhouse gases are less sensitive to distance: 31% of carbon monoxide is from journeys of less than 2 miles. The short journeys are an important contributor to the extra pollution caused when the engine is cold. In total, cold miles comprised 25% of distance but produced 69% of carbon monoxide.

In comparison with the least polluting 20% of households, the most polluting quintile produce 16 times more carbon dioxide and nitrogen oxides and 20 times more carbon monoxide. All three of these gases are greenhouse gases, directly or indirectly contributing to climate change.

Some households in rural areas are contributing substantial carbon dioxide burdens. These are primarily better-off families, using company cars, who would not be affected by even substantial increases in road fuel tax. These drivers average 160 kms (100 miles) a day or more. The use of household travel audits can alert both individuals and the local authority to the range of travel patterns and the ways in which people might be prepared to change. Further support for higher-income households wishing to reduce the environmental impact of their travel will come from the introduction of energy labels onto new cars⁵.

In summary, the rural resident has less travel choices than people living elsewhere and is more likely to be dependent on the car (Table 2). Even though rural car drivers travel further than other households, this is for roughly the same expenditure, because smoother traffic flows and higher speeds result in more energy efficient travel. Poor motorists in rural areas spend about 10% more than similar families elsewhere. Everywhere, rich motorists drive twice as far as poorer ones.

Table 2: Summary of car usage in rural areas and the rest of the country

	Rural	Rest
Motorists	80%	70%
Expenditure per week, per motorist	£51 (72 euro)	£50 (71 euro)
Distance travelled, pa	14,600 km	10,000 km
Distance, rich: poor motorists	2:1	2:1
Expenditure by poor (index)	100	90

8 - AN APPROPRIATE PACKAGE OF POLICIES

To tackle rural travel deprivation and reduce environmental impacts, policies have to be devised in relation to the running costs and capital expenditure aspects for both car and non-car households (Table 3).

Table 3: Future policy options to reduce rural travel poverty

	non-car household	car-owning household
running costs	keep bus fare increases below the rate of inflation; rural travel passes for claimants* to travel to a minimum range of facilities, for about £3.50 (5 euro) per week	means-tested benefit levels increased to compensate for fuel tax increases
capital expenditure	investment in local facilities and bus services	enable the purchase/ exchange to small, efficient cars for claimants*, where bus services are inadequate

* a claimant is someone in receipt of a means-tested benefit.

The policy package to reduce travel deprivation in rural areas, despite increasing petrol costs, requires a combination of more facilities, better public transport (which means buses in rural areas), restraint for car-users, support for low-income households and an overall strategic role for local authorities. The present policy - the fuel tax escalator - raises considerable revenue, so the money is there if the political will determines that it should be spent in these ways.

More facilities: The objective should be to provide a wide range of facilities in the village, or as locally as possible, and to increase this provision over time.

There is no definition of what is perceived as an adequate range of services as the 21st century approaches, and a consensus needs to be developed. A dialogue is needed within villages and between the village and the local authority about the need for new facilities and the ways these can be supported. Some initiatives will be sponsored by the village community, some will need local authority support. These could extend mobile services, like the library, to banks, doctors and Job Centres.

All opportunities should be taken to reverse the decline in local amenities, for instance by requiring proposals to rationalise medical and educational facilities to include statements of the effects on private travel. The definition of minimum standards could assist in establishing a specified range of facilities. For instance, every community should have a source of cash.

The increased price of petrol makes the provision of some services more expensive, particularly those provided in the home by health and social services. For this and similar reasons, support funding for the service providers needs a rural component.

Better bus services: The objective is to improve bus services to surrounding areas, so that all appropriate facilities are easily accessible by public transport or more environmentally-friendly means of travel. The level of service should improve annually.

Although local authorities already have discretionary powers, under the 1985 Transport Act, to support 'socially necessary' public transport, there is no definition of what 'adequate' access means. A definition is needed, to include what 'access' to a bus service might mean - how far to the nearest bus stop, for what proportion of the population.

To encourage people back onto public transport:

- bus fares should go up less than petrol prices;
- bus routes should be protected from sudden change - continuity is needed to build up trust and reliance;
- the image of bus travel needs to be revitalised, to overcome any present social stigma, through modern equipment, better integration of routes and reliable timetables that are widely available and publicised, and punctual buses;
- most of the travel-deprived are non-car-drivers, so that the solution is not a communally-owned car but a form of public transport.

The Chancellor of the Exchequer announced in the March 1998 budget that an additional £50 million (71 million euro) will be given each year to rural transport investment initiatives for the next three years. For non car-owners, this is the most important impact of the budget. The £50 million is sufficient to provide 'reasonable' bus services (Table 1) in all rural parishes. If matched by other investment, real improvements could be seen. An additional £20m was given in the 1999 budget.

Restraining car use: The objective is to reduce the need for car owners to get into their cars therefore to reduce the amount of carbon dioxide emissions from private car use in rural areas in absolute terms each year, despite increasing numbers of households.

The increased tax on fuel will make little difference to the driving habits of better-off households. Some people will be encouraged out of their cars by improved facilities and bus services, but additional restraints and incentives will be needed. An education campaign would demonstrate the benefits for the environment and their own personal health of using the local facilities by walking or cycling, to reduce the number of short journeys by car. The environmental improvement would benefit future generations, by lessening the impact of climate change. Intergenerational equity could be a powerful motivator in changing lifestyles and reducing car dependence, when the real implications of climate change become recognised. The more carbon dioxide that is released into the atmosphere by today's residents, the more constraints there are likely to be for future generations (Boardman 1998b).

A wider range of policies would improve the environment and encourage less car use, for instance safe cycle routes (to shops and schools), speed limits on more roads so that walkers and cyclists feel less vulnerable. A main role of policy is to restrain the growth in car usage so that reduced travel by some is not used as an opportunity to increase by others. Parking policy will be an important component of this restraint.

The theme that unites these solutions is the more efficient use of energy: providing the opportunity to obtain the access to facilities wanted for less fuel. Clarifying the objectives in this way is important, but the timescales of policy mean that the maximum effects will take years to achieve. Meanwhile, there are many people in rural areas suffering from limited travel options for whom individual help is needed. This is the fourth dimension for transport policy:

Support for individuals: The objective is to provide financial support for low-income households in rural areas who are not able to afford adequate access at the moment and to ensure that they are protected from the harmful impact of present and future policies. Most of these initiatives are targeted on those who are in receipt of a means-tested benefit⁶.

The level of means-tested benefits should be increased to compensate for further increases in the fuel tax escalator and paid to claimants with rural postcodes. This will compensate rural drivers and enable all the poor to travel more, thus reducing their present deprivation and providing greater demand for local facilities and transport services. More local facilities and better public transport both enhance job opportunities.

Rural travel cards, at concessionary rates, would enable people on benefit and pensioners, to visit an area which encompasses (a defined) range of facilities. Even with the provision of more facilities in each village, there will still be the need to go to the nearest town for more infrequent purchases, such as household durables and clothing. The cost of the weekly card should be based on the £3.50 (5 euros) spent by bus users now. If these are

introduced at the same time as improved bus services, there is additional growth in demand for public transport, reducing the need for subsidies to the bus service.

The strategy: The objective is for local authorities to be given the powers and responsibility to implement a strategy for their region that reduces carbon dioxide emissions from travel each year.

Local authorities have an important role in devising transport strategies that contribute towards national objectives and integrate local facilities and services, particularly in the proposed Local Transport Plans. The Road Traffic Reduction Act requires them to assess traffic levels and plan for reduction targets set locally not nationally.

The first task of a strategy is to have a method of grading for energy efficiency. Audits of personal travel patterns would provide data on the cumulative impact of local emissions and provide every household with options to travel in a greener way (Anable et al 1997). The travel emission profiles (TEPs) project assessed household travel profiles on an address-specific basis. This is the first attempt to audit annual travel patterns through a simple self-completion questionnaire for adults that link behaviour and car usage. The TEP would combine with an energy audit of the house to quantify the greenhouse gas burden produced by a family and provide a basis for assessing personal quotas or targets.

Household audits could have a greater role as emission targets are devolved to local authorities for energy use and emissions through the Home Energy Conservation Act and the Road Traffic Reduction Act. This is leading to an emphasis on simple methods of auditing, whether for energy use in the home or through travel, so that policies can be developed and the impacts evaluated periodically.

The choices available to the household would result from the local authorities taking a market transformation⁷ approach to the provision of access and services, recognising the interactive nature of policies and the importance of timing:

- the provision of new facilities and services have to be financially supported until they have a certain share of the market;
- education on the environmental impacts of present lifestyles is needed to inform people of the impact of their actions, particularly on future generations, and of the individual health improvements that come from walking and cycling;
- there may have to be regulation to reduce or remove the most polluting forms of transport and methods of providing access;
- the real benefit of a strategy is to make clear to all users and providers the direction of change and its timescale.

9 - NATIONAL STRATEGIES AND EUROPEAN COMMISSION POLICIES

In the UK, the emphasis, for environmental reasons, is likely to be to increase the cost of petrol, whilst reducing the annual duty⁸ first for small cars⁹, and then for efficient ones. The annual charge may be linked to the forthcoming EU Energy Label¹⁰. In addition, increased national expenditure on public transport and facilities for walking and cycling (partly funded by urban road pricing and workplace parking charges) will encourage alternative forms of travel. The latter implies a transfer of funds from urban to rural areas, which is justified if it reduces car journeys to urban areas by rural residents. One aspect of this debate is that public capital expenditure is needed on local, public bus transport in addition to the national, rail infrastructure, whereas previously it was used to extend the road and motorway network.

The European car manufacturers have adopted a voluntary agreement to reduce carbon dioxide emissions by 25%. This will be beneficial for the environment, but specific policies will be needed to ensure that the poorer households are also able to have access to more efficient vehicles. This is a particularly complex policy area, but could be based on subsidies to scrap the most polluting cars, if those are owned by the poor.

At the level of member states, a strategic approach would ensure that policies to increase facilities locally are supported, but not challenged, by new transport initiatives.

10 - CONCLUSION

In the last few years, in the UK, there has been a major population movement from urban to rural areas, accompanied by a decline in village facilities and rural bus services. This combination of events has both been caused by and itself caused greater reliance on the private car. As a result, there has been a growth in car travel by rural residents and an increase in the problems faced by those who live in rural areas but do not or cannot drive. The debate about the need to reduce greenhouse gas emissions from cars is producing a policy emphasis on increasing the cost of private travel. This compounds the problems for the rural poor and has brought the issue of rural travel deprivation to the fore. If the poor are going to continue to have the opportunity to live in rural areas, then new policy initiatives are needed.

There are further implications: should planning policy aim to concentrate population in settlements of a minimum size, in order to make the provision of local services more cost-effective? There is an interplay between the rights of non-car owners and the poor to choose to live in rural areas and the obligations on society to support these individuals. This paper does not address these broader social and planning issues, but merely provides an introduction.

By recognising the extent of travel deprivation in rural areas and by instituting policies to ensure that the quality of life is improved for these households, it will be possible to obtain environmental benefits and equity in rural travel patterns in future.

11 - ACKNOWLEDGEMENTS

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12 - REFERENCES

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13 – ENDNOTES

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² The price of petrol in the UK increases by 6% pa in real terms.

³ The data were collected from various sources from 1990 onwards and with different definitions of 'rural', from England, GB or UK.

⁴ DoT (1995), pp28-29 and Boardman, B (1998), p18 - only 24% of rural households report weekly expenditure on bus and coach fares.

⁵ A draft European directive requires each Member State to introduce legislation by early 2000.

⁶ Known as the passport benefits in the UK.

⁷ Market transformation is a suite of interactive policies stretching over a 10-15 year timescale to ensure that more efficient equipment is purchased.

⁸ Vehicle Excise Duty is equivalent to an annual 'standing charge'.

⁹ In March 1999 budget, the Chancellor announced that for cars up to 1.1 litres the VED would be reduced from £150 to £100 annually - a saving of 75 euros. Effective from 1 June 1999.

¹⁰ The UK Government is consulting on this, February 1999.