

The smart choice

Relying on supply-side measures to save the planet would be wrong, says **Stephen Stradling**

TRANSPORT modes fall into three types: wholly self-propelled modes such as walking, running and swimming; augmented modes which amplify bodily effort, such as rowing, cycling and skiing, or focus on natural resources, such as sailing and paragliding; and fuelled modes, whether hay-powered such as horse-drawn carriages and farm wagons or motorised modes such as motorcycle, car, van, lorry, bus, tram, ferry, train and plane.

All transport modes carry a cost to the individual user in expending physical, intellectual and nervous energy. Physical effort - even maintaining body posture while just sitting in, or waiting for, transport, let alone powering feet and/or pedals - consumes calories that will require replenishment; the cognitive effort involved in journey planning, way-finding, progress-monitoring and error-correction uses brain power and thus more calories, otherwise, its effectiveness will be diminished by fatigue; and affective effort, or worry, about safe passage and timely arrival consumes nervous energy.

Fuelled modes additionally deplete natural resource, especially finding, extracting, refining, storing and transporting the fossilised fuel which presently powers most of the planet's motorised road vehicles. In the UK, 74 per cent of oil consumption is used for transport, while 98 per cent of the fuel used for transport is oil. The UK alone accounts for some 2.2 per cent of world oil consumption. And peak oil approaches fast.

Choosing to undertake a journey, and choosing the appropriate transport mode to use have a direct impact on the environment. Transport choices thus need to be smart choices. Direct impacts of motorised transport on the planet include: anthropogenic global warming through the production of greenhouse gases from the burning of fossil fuel; vehicle emissions affecting local pollution and health; vehicle noise; land take for roads and parking, railways and airports; extraction of materials for manufacture; and waste from scrapped vehicles.

Improving the fuel efficiency of vehicles and reducing the fossil carbon content of transport fuel are supply-side measures, while encouraging the use of more sustainable forms of transport and more fuel-conscious driving, for example, are demand-side measures. Unfortunately, as has recently been noted by several researchers, the adoption of cleaner cars may still lead to overall increases in environmental burden through sheer growth in activity volumes as well as through 'rebound effects' which are the offset part of a successful implementation of a more efficient technology, which compensates for some of its environmental gains or even negates them entirely by stimulating additional, unanticipated resource consumption and/or use of the technology.

Thus improving the fuel efficiency of vehicles or reducing the fossil carbon content of transport fuel may actually stimulate demand by increasing *distances* travelled. Indeed, in the worst-

case scenario, motorists, given more environmentally-friendly cars and fuel, may feel they can thus drive more frequently, further and faster ('If I drive a car that is better for the environment, I can drive it more frequently/further/faster without causing any more damage to the environment than I was before. And if I drive just a little bit more often/further/faster, I'll still be doing less damage than I was before'). This is akin to the risk compensation or behavioural adaptation drivers show in consuming car safety benefits as performance benefits ('With ABS and side air bags, I will be more protected from the consequences of driving less safely - and can thus drive less safely!').

In October 2006, at the launch of the Stern Review on the Economics of Climate Change the then UK Prime Minister, the Rt Hon Tony Blair MP, said: "There is nothing more serious, more urgent or more demanding of leadership ... the Stern Review has demolished the last remaining argument for inaction in the face of climate change ... We will not be able to explain ourselves to future generations if we fail."

And he was right. And politicians should provide that leadership. But as we enter the era of peak-oil, problems with energy security and scarcity generating diplomatic incidents and oil wars, increased emissions fuelling anthropogenic climate change, increased road congestion and rapid growth in domestic and international aviation, there is an urgent need to burn less carbon-based fuel as we go about our daily business. To rely on supply-side measures to save the planet would be dumb. Demand-side changes are the smart choice.

The Scottish Government has made plain in various position papers that it seeks to balance economic, social and environmental concerns. But which of these is to be *primus inter pares* - first among equals? Recent experience of a planning application for a large golf course development in north-east Scotland has shown that trumpeted economic benefits may trump social and environmental concerns. Even when local application of procedures put in place for balancing the three requirements has resulted in rejection of the proposal.

Short-haul air travel remains a continuing threat to the climate with the Edinburgh and Glasgow routes to London generating over 100 flights per day. The recent Transform Scotland Report 'The Railways Mean Business' (http://www.transformscotland.org.uk/info/docs/2007-11-1_The_Railways_Mean_Business.pdf) shows that rail travel may be the smarter alternative and make better business sense. The report, commissioned by Virgin Trains, analysed the productivity benefits for business travellers of switching from air to rail for journeys from Glasgow or Edinburgh to London. It found that the benefits of rail travel - reliability, better use of the working day, comfort, lower stress - outweighed the assumption that shorter travel time equates to greater productivity.

Recent research shows that many car users in Scotland are

ready – willing and able – to cut their car use. Figures from the most recent British Social Attitudes survey show that amongst Scottish car drivers, 81 per cent agree that ‘the current level of car use has a serious effect on climate change’, 69 per cent agree that ‘for the sake of the environment everyone should reduce their car use’ while, at the opposite end of the attitude spectrum, only 30 per cent think ‘people should be allowed to use their cars as much as they like, even if it causes damage to the environment’.

Research on responses to questions about attitudes to car use and the environment has identified four driver segments in Scotland: Die-Hard Drivers, Car Complacents, Malcontented Motorists and Aspiring Environmentalists.

Die-Hard Drivers (DHD) like driving and would use the bus only if they had to. Few believe that higher motoring taxes should be introduced for the sake of the environment and many of these support more road building to reduce congestion.

Car Complacents (CC) are less attached to their cars but currently see no reason to change. They generally do not consider using transport modes other than the car and faced with a journey to make, will commonly just reach for the car keys.

Malcontented Motorists (MM) find that current conditions on the road such as congestion and the behaviour of other drivers make driving stressful, would like to reduce their car use, but cannot see how. They say that being able to reduce their car use would make them feel good, but they feel there are no practical alternatives for the journeys they have to make. In Scotland more of this group live in accessible rural areas.

Aspiring Environmentalists (AE) are actively trying to reduce their car use, already use many other modes and are driven by an awareness of environmental issues and a sense of responsibility for their contribution to planetary degradation.

The table above, from a recent study, illustrates the paradox: most drivers say they enjoy driving but many – apart from the Die-Hard Drivers – are finding it stressful and most of the Malcontented Motorists and Aspiring Environmentalists are trying to use their cars less.

Getting smarter

Smarter Choices is an inexpensive and effective set of measures encouraging and helping organisations and individuals to choose more sustainable forms of travel as they go about their quotidian round. Examples include: workplace travel plans, school travel

Table: Support for car use and environmental attitude statements by Die-Hard Drivers (DHD), Car Complacents (CC), Malcontented Motorists (MM) and Aspiring Environmentalists (AE) in Scotland

	DHD	CC	MM	AE
Base	155	142	213	159
% of 669 Scottish car drivers	23.2	21.2	31.8	23.8
% Male (all car drivers in the sample: 51.6 per cent)	55	47	55	48
% Strongly agree + Agree				
I like travelling in a car	98	89	77	77
I find car driving can be stressful sometimes	9	55	54	62
I am trying to use the car less	7	11	74	70

plans, personalised travel plans, public transport information, travel awareness campaigns, car clubs, car-sharing schemes, teleworking, teleconferencing and home shopping. Small changes can cumulate and make large differences.

A soon to be released Transform Scotland report on the uptake of Smarter Choices measures amongst Scottish local authorities shows they are popular at both regional and local level, and that measures with a ready framework for implementation (car sharing) or which are supported through central government (workplace and school travel plans) are the most popular. Central support – and political leadership – is vital to maintaining a habitable planet.

This year will bring the delayed Climate Change Bill to the Scottish Parliament in September. Many Scottish motorists are already making ‘smarter choices’ about their car use, and we would urge Scottish politicians to follow the lead of their enlightened electorate.

Stephen Stradling is professor of transport psychology at the Transport Research Institute, Napier University, and chair of the Transform Scotland Trust. The trust is a registered charity recently formed to support and disseminate research on sustainable transport. Transform Scotland Ltd agitates for sustainable transport in Scotland. It is a national alliance, bringing together the public, private and voluntary sectors.



NO to Heathrow Expansion
Yes to Scottish Transport Policy

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HACAN ClearSkies is opposed to the proposed expansion of Heathrow airport. Our concerns are about safety, pollution and noise – all of which impact on the residents of a large area of London. But we also believe that expansion is wrong on environmental and sustainable transport grounds. Rather, we seek to reduce the number of short-haul flights using Heathrow, we support further investment in the rail network and encouraging more people to use rail services as an alternative to internal flights, and we support the development of more direct flights from Scotland and regional airports to international destinations, rather than relying on connections at Heathrow. In short, we support the kind of transport priorities that have been favoured by the Scottish Parliament since devolution. We hope that, in turn, we can rely on your support in securing a policy for Heathrow which is good for the long-suffering residents under its flight paths, which benefits the environment, and which is consistent with a sustainable transport future.

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