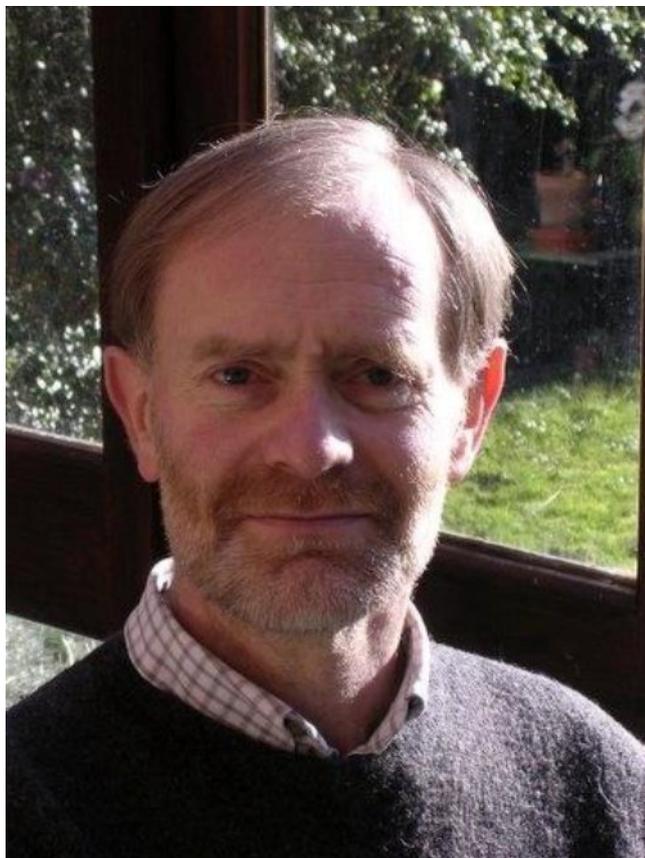


By Daniel Sharf



The impact of every transport system is a function of volume, mix and speed. Transport systems, by definition are susceptible to beneficial systemic change if potential virtuous circles are identified. Alternatively they suffer from inertia and increased incoherence and conflicts. Seeking to change the volume of traffic or the mix of modes through regulation or pricing has been tried and failed. The GreenSpeed virtuous circle is triggered by addressing the speed of two modes; the private car and the coach. The reduction of the maximum (and rigorously enforced) speed limit for the car can be done tomorrow, with no technical advances, at no public cost and with no unfairness to the users of cars or other transport modes.

The reduction in the speed of cars and all the knock-on effects from this change significantly reduces carbon from transport.

A 33% reduction in the maximum speed for cars will reduce car use by about 25% (Lee 2007)<sup>1</sup>. The reduction from 75mph to 50mph will also save about 30% of fuel before the reduction in congestion from both these changes is taken into account (2010 CE Delft)<sup>2</sup>. It is much easier to design electric vehicles for a maximum speed of 50mph, partly because this will also increase their range when not having to compete with the performance of the internal combustion engine. Without these changes the Government's target of zero carbon from road transport will not be achieved by 2040 (Carbon Plan 2011).

Coaches allowed to travel at anything above the 50mph limit set for cars will benefit from a comparative advantage on all trunk roads and motorways (as well as allowing for mobile phone and laptop use). At 80mph, using the overtaking lanes, there would be a substantial modal shift by the car drivers in the slow lane.

Incidentally, trains will benefit from the comparative advantage of being faster than cars without resorting to higher and more wasteful speeds. A combination of a relatively fast classic train network and high speed coaches (meeting some of the needs of commuters around cities) would remove the case for HS2. The coaches could be run on biogas or, more likely, batteries charged overnight on wind turbines unaffected by the dark.

Cars with slower maximum speeds will have lower GHG emissions whether or not they are powered by electricity from the grid or ICEs and, when specifically designed for lower maximum speeds, they will also become lighter, more efficient and less polluting at the lower speeds suitable for urban areas and on roads shared with pedestrians and cyclists. The modal shift from car to walking and cycling is part of the same low carbon virtuous circle.

These are all important cumulative and mutually reinforcing benefits from this change to the speed limits. In 2005 the Environmental Audit Committee held an inquiry into *Reducing Carbon Emissions from Transport*. The Committee accepted the finding of the VIBAT study

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1 Lee Chapman Transport and climate change: a review [Journal of Transport Geography](#) Volume 15, Issue 5, September 2007, Pages 354–367

2 Otten M and Essen v H 2010 Why Slower is Better : Pilot study on the climate gains of motor speed reduction C E Delft

carried out by UCL/Halcrow for the DfT<sup>3</sup> that in order to reduce carbon emissions by 60% by 2030 the national speed limit would have to be reduced. In para 82 of its Report the Committee commented not only on the apparent difficulties and benefits of the reduced speed limit but, and this would be the 'game changer', identified this to be a particularly effective way of Government drawing the seriousness of potential climate change to the attention of the general public. *"We understand the Government's reluctance to lower the motorway speed limit, or rigorously enforce the current 70 mph limit, given the likely public controversy such a policy would provoke. However, compared to the potential danger which this could help avert, proper enforcement of the legal speed limit would be a trivial incursion on personal liberty. The Government cannot forever duck the hard decisions in its duties to face up to "the greatest long-term challenge facing the human race", the words of the Prime Minister. In matters of such grave importance, Government does a disservice to future generations by running scared of critical tabloid headlines. Beyond its direct impact a new policy on speed limits would help to raise awareness of the reality of climate change, and of the need for everyone to take action on it."*

The views of many other organisations can be found at <https://sites.google.com/site/pauseforthought/home/greenspeed>

The other benefits of the virtuous circle that would have less effect on emissions of GHGs but would, importantly, add to the popularity of the change, would be the reduction in the frequency and severity of road traffic accidents with the associated trauma thereby lessening the burden on the NHS. There would be less wear and tear on cars, tyres, passengers and drivers. There would be a substantial reduction in noise from both engines and tyres, A transport system based on a reduced speed would emit less (or zero) carbon and would also reduce costs and increase energy security. All elements in the transport system would be more easily integrated and coordinated and overall

reliability would be increased. It goes without saying that there would be no need for a road building programme. Whilst slower speeds would result in cheaper motoring there is unlikely to be a 'rebound effect' of using any savings for increased mileage as there is a resistance to driving for a greater length of time.

There is little if any dispute about the benefits of a reduction in the maximum speed of cars on both the volume and mix of all means of travel and the level of overall emissions. The main difficulty is the very substantial loss of tax revenue anticipated by the Treasury were such a measure to be put in place. The stimulus that a lower speed limit would give to the design, reduction and use of electric vehicles (which have Government support) would bring forward the time when Treasury would no longer be the main and possibly only obstacle to this sensible and effective change to the transport system.

#### About the author:



Daniel Scharf has been running GreenSpeed since 1995 both distributing the 20>55 bumper stickers and lobbying for a reduction of the national speed limit, primarily for environmental rather than safety reasons.

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<sup>3</sup> DfT, 2005a. Visioning and Backcasting for UK Transport Policy (VIBAT). Stage 1 Baseline Report. Department for Transport, Crown Copyright 2005