

CLIMATE CHANGE

Cars and climate change: the need for more ambition

Prof John Whitelegg, Liverpool John Moores University, argues that major reductions in transport pollution are only achievable if we set our sights beyond electric vehicles and driverless cars.

In the recent Budget, the UK government announced huge spending of £29 billion for roads.¹ This comes on the back of a recent rise in the greenhouse gas (GHG) emissions of UK cars – in contrast to falling emissions in most other sectors of the economy.² It is clear that the government does not take the issue of pollution from cars seriously enough.

Decarbonising passenger road transport has been heavily researched especially in Sweden under the ‘Fossil Fuel Free’ policy discussion and in Germany in many publications by the Wuppertal Institute for Climate, Energy and the Environment. The conclusion from such work is that there is no significant technical or financial problem in totally decarbonising land transport. While the focus of UK government policies tends to be on improving vehicle efficiency – at which it is not doing well – there are actually larger gains to be made from ‘modal shift’ – a wholesale move away from car transport. The problem is a lack of will on the part of politicians to try to implement ‘joined-up’ policies that have a proven impact on reducing GHGs from the transport sector. The measures and interventions that will reduce GHG emissions from cars by 100% were set out in a report which I co-wrote for the Stockholm Environment Institute back in 2010.³

Despite this evidence, the UK’s central and local government continue to push forward with extensive road-building projects. Most local authorities are implementing or have recently implemented road schemes, including the Hereford Western Bypass, the Heysham M6 Link Road, the Shrewsbury North West Relief Road and the Port of Liverpool Access Road. These will increase traffic volumes and GHG emissions – as demonstrated by the robust scientific evidence presented in the 1994 SACTRA report which concluded that new roads generate new traffic.⁴

The UK is remarkable in its dismissal of best practice in decarbonising land transport, including cars. The performance of the city of Freiburg in southern Germany is a compelling example of what can be achieved. Through a consistent, funded, co-ordinated transport strategy over at least three decades, Freiburg has reduced car use to 21% of all trips every day and increased bike use to 34% (see figure 1).⁵ In a typical UK city – e.g. Liverpool – approximately 2% of all trips every day are by bike and approximately 55% by car. Fundamental GHG reduction in the transport sector can only be achieved by modal shift away from the car on the scale already achieved in Freiburg and many other German, Dutch, Swedish and Danish cities.

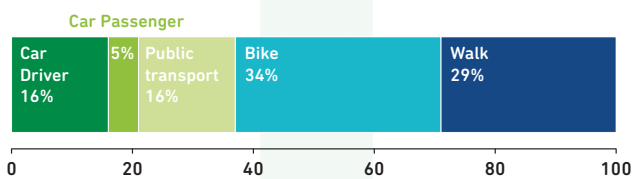


Figure 1 – % breakdown of journeys in Freiburg by transport mode, 2016

It is also important to question some of the perspectives commonly presented in this area⁶ – especially related to the costs of driving, driverless cars and electric vehicles:

- Cars “are often cheaper than public transport”. This is not the case although it is a generally held perception. The total cost of travel by car includes obvious things like fuel but also includes less obvious things that need to be replaced at intervals depending on use, e.g. tyres, brakes, exhaust systems. When all costs that vary by distance travelled are included, a car trip is more expensive than a bus trip.⁷ In addition, there is a large literature on externalities. Who is paying for the costs generated by the driver but not paid for by the driver, e.g. damage from GHG emissions, deaths and injuries in road crashes, health impacts from local air pollution?
- “Car travel is just too attractive”. This may be the case in the UK where we have created a poor quality public transport system and do not fund safe cycling infrastructure at the same level as is normal in Denmark or the Netherlands. The alternatives to car travel are far more attractive than the car in places such as Copenhagen, Berlin, Lund, Oslo, Zurich or rural Switzerland.
- Driverless cars (autonomous vehicles) strengthen and deepen the car-centric ideology that currently dominates all UK discussions. The driverless car still needs road space and converts our streets into vehicle-dominated unpleasant spaces when they should be people-friendly and child-friendly spaces. They also are intended to replace public transport and will need physical changes to streets to stop pedestrians and cyclists “getting in the way”.⁸
- Electric vehicles (EVs) may well reduce GHGs but only if a secure electricity supply is based on very high levels of renewable energy. EVs still produce particulate (PM) emissions from non-exhaust sources (brake wear, tyre wear and road surface abrasion). The European Environment Agency has stated that “90% of total PM emissions from road traffic by end of decade will come from non-exhaust sources”.⁹

John Whitelegg is a Visiting Professor, School of the Built Environment, Liverpool John Moores University.

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