The last chance saloon: we need to cut car mileage by at least 20%

Lisa Hopkinson, Jillian Anable, Sally Cairns, Anna Goodman, Phil Goodwin, Beth Hiblin, Alistair Kirkbride, Carey Newson and Lynn Sloman

Climate targets won’t be met unless we reduce car traffic significantly over the next ten years.

As COP26 has highlighted, the next ten years are critical for averting the worst impacts of climate change. To align with the goals of the Paris Agreement, the UK is committed to reducing greenhouse gas emissions by 68% by 2030 (compared to 1990). Some are calling for even faster and deeper cuts on the basis of urgency and global equity.

Transport is the single biggest contributor to the UK’s emissions and is the only sector that has not yet achieved reductions from the 1990 baseline. This means that the transport sector has just one decade to reduce its emissions by at least two-thirds. There are no longer any sectors of the economy that can deliver bigger emissions reductions so that the transport sector can deliver less: the “low hanging fruit” has now all been picked.

Cars, which are the main source of transport carbon dioxide (CO$_2$) emissions, will have to achieve even greater emissions reductions by 2030 to compensate for the road freight, maritime and aviation sectors where technological solutions are some way off.

The Government has announced it will end the sale of new fully petrol and diesel cars and vans by 2030, but the impact of this on CO$_2$ emissions will not be fully felt until the next decade. This is because:

- New cars are a small proportion of cars on the road. The average age of a car at scrappage is 14 years (with some considerably older), so it will take many years to replace all the fossil fuel vehicles. In 2021, fully battery electric cars were less than 1% (345,000) of all cars on the road. A new petrol car bought in 2029 could still be on the road well into the 2040s.
- The sale of plug-in hybrid cars and vans (which have a battery but also run on petrol and diesel) will continue until 2035, and there is evidence that these are not that much better than fossil fuel vehicles for emissions.

Even with a newly announced Zero Emission Vehicle (ZEV) mandate, the government expects only 55-60% of new cars to be battery electric by 2030. This means that most cars on the road will still be fossil fuelled in 2030. Moreover, those cars will be relatively high polluting given that the ZEV will do nothing to ensure that the tailpipe emissions from new petrol and diesel cars will reduce steeply between now and then. Therefore, even if sales of battery electric and plug-in hybrid cars...
increase steadily from today, electrification would only reduce car tailpipe CO$_2$ emissions by – at best – about 25-30% by 2030$^8$.

To drive transport carbon emissions down further during this decade, it will therefore also be necessary to implement other policies, including reducing car mileage, banning the largest, heaviest fossil-fuelled cars, and reducing vehicle speeds on trunk roads and motorways.

The UK Government has not published any analysis to show what reduction in car mileage it considers is necessary (and achievable, which may not be the same thing). But there is growing evidence from other sources:

- UK – analysis by the Centre for Research into Energy Demand Solutions (CREDS), a consortium of universities, estimates that a **30-50% reduction in total car mileage is needed by 2030**, relative to 2020$^9$.
- UK – analysis by Green Alliance estimates that a **20-30% reduction in total car mileage is needed by 2030**, relative to 2019$^{10}$.
- Scotland – analysis by Element Energy for the Scottish Government supports a target of a **20% reduction in total car mileage by 2030**, relative to 2019$^{11}$.
- Wales – the Welsh Government has committed to **reduce the number of car miles travelled per person by 10% by 2030**, relative to 2019$^{12}$.
- Bristol – analysis found that meeting the City’s net zero target by 2030 will need nearly all vehicles to be electrified and car mileage to be cut almost in half$^{13}$.

All local authorities have carbon budgets developed by the Tyndall Centre for Climate Change$^{14}$, and over 80% have declared climate emergencies$^{15}$. However, very few have estimated what traffic reduction is necessary to meet their own carbon budgets$^{16}$, and what is achievable. Judging by the analysis at a national level, **reductions of at least 20%** are appropriate for a pathway to net zero by 2050; larger reductions (perhaps 50-60%) are necessary for a pathway to net zero by 2030.

There is currently no requirement on the UK Government, sub-national transport bodies or local authorities to reduce traffic, and no requirement for local authorities to meet carbon budgets.

We believe that **UK Government should set a binding traffic reduction target for England**, similar to those set by the Scottish and Welsh Governments. There should be a **traffic reduction mandate at all levels, including local authorities, sub-national transport bodies and National Highways**.

The cuts in car mileage that are necessary may sound ambitious. But measures to cut car use will go with the grain of some recent trends, including reducing car use amongst younger people over the last 25 years$^{17}$. With a traffic reduction target, the focus of capital investment should switch to improving sustainable transport infrastructure, for both longer and local journeys, with new railway stations, trams and cycle and pedestrian routes (not more road capacity). City streets could be made largely car-free. **Free local buses and lower train fares might be offered in places that opt for a pay-per-mile Eco Levy on driving$^{18}$.**

Even without climate change, it has been known for decades that there are many benefits from cutting traffic. It’s good for health, safety and air quality; enables more efficient and equitable use of resources; improves social and economic vitality; and makes for better neighbourhoods. The need to cut CO$_2$ strengthens the case for realising those benefits.
UK sets ambitious new climate target ahead of UN Summit

A factor of two: how the mitigation plans of ‘climate progressive’ nations fall far short of Paris-compliant pathways.

Average Vehicle Age. 2021 Automotive Sustainability Report.

Electric Car Motor Statistics.

UK briefing: The plug-in hybrid con.

Released in the Government’s Net Zero Strategy, this will mean a certain proportion of a car manufacturer’s sales must be for EVs.

Transitioning to zero emission cars and vans: 2035 delivery plan

The scenarios were mainly based on a 6CB pathway (~5 GtCO₂), hitting net-zero GHG in 2050, with an extra scenario with a cumulative CO₂ budget (2020-2050) of around 3.85 GtCO₂ (also with a 2050 net-zero GHG target) to demonstrate how you could ratchet up ambition with lower energy demand.

Not going the extra mile: driving less to tackle climate change.

Why are younger people travelling less by car? What follows?

A Radical Transport Response to the Climate Emergency.