

Electric car obsession impedes race to net zero: More active travel is essential

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Globally, only [one in 50 new cars](#) were fully electric in 2020, and one in 14 in the UK. Sounds impressive, but even if all new cars sold were electric, it would still take [15-20 years](#) to replace the world's fossil fuel

car fleet.

The [emission](#) savings from replacing all those internal combustion engines with zero-carbon alternatives will [not feed in fast enough](#) to make the necessary difference in the time we can spare: the [next five years](#).

Tackling the climate and air pollution requires curbing all motorized transport, particularly private cars, as quickly as possible.

Focusing solely on [electric vehicles](#) is slowing down the [race to zero emissions](#). This is partly because [electric cars](#) are not [truly zero-carbon](#). Mining the raw materials for their batteries, manufacturing them and generating the electricity they need for fuel produces emissions.

Transport is one of the most challenging sectors to decarbonise because of its heavy fossil fuel use and reliance on carbon-intensive infrastructure—such as roads, airports and the vehicles themselves—and the way it embeds car-dependent lifestyles. One way to reduce transport emissions relatively quickly, and potentially [globally](#), is to swap cars for [cycling](#), e-biking and walking—active travel, as it is called.

As many as 50% of car journeys are less than five km and could easily be replaced by active travel. Electric bikes increase this range to 10 km or more. They have become more popular over the past few years as prices have come down. These bikes allow older people to cycle and help riders cycle in hilly areas. But they still provide physical activity. In the Netherlands and Belgium, [electric bikes](#) have become popular for long-distance commutes of up to 30 km. They could be the [answer to our commuting problems](#).

Active travel is cheaper, healthier, better for the environment, and no slower on congested urban streets. So how much carbon can it save on a

day-by-day basis? And what is its role in reducing emissions from transport overall?

[In our own research](#), colleagues and I show that people who walk, cycle or use e-bikes have lower carbon footprints from all their daily travel, including in cities where lots of people are already doing this. Despite the fact that some walking and cycling happens on top of motorized journeys instead of replacing them, more people switching to active travel would equate to lower carbon emissions from transport on a trip-by-trip and daily basis.

What a difference a day makes, 24 little hours

In one study, we observed around 4,000 people living in the cities of London, Antwerp, Barcelona, Vienna, Orebro, Rome and Zurich. Over a two-year period, our participants completed 10,000 travel diary entries, which served as records of all the trips they made each day, whether going to work by train, taking the kids to school by car or riding the bus into town. For each trip, we calculated the carbon footprint.

Strikingly, the carbon footprint for daily travel is up to 84% smaller for people who walk or cycle than for people who use other modes of transport.

We also found the average person who shifted from car to bike for just one day a week cut their carbon footprint by 3.2kg of CO₂ – equivalent to the emissions from driving a car for 10km, eating a [serving of lamb or chocolate](#), or [sending 800 emails](#).

[We found](#) emissions from cycling can be more than 30 times lower for each trip than driving a fossil fuel car, and about ten times lower than driving an electric one.

While [public policy](#) tends to focus on commuting, trips for other purposes such as shopping or social visits are also often done by car. These trips are often shorter, increasing the potential for a shift toward walking, cycling or e-biking.

E-cargo bikes can carry heavy shopping and/or children and can be the key ingredient needed to make the shift to ditching the family car.

What does this mean for net zero cities?

Our research has shown that [urban residents](#) who switched from driving to cycling for just one trip per day reduced their carbon footprint by about half a ton of CO₂ over the course of a year, and save the equivalent emissions of a one-way flight from London to New York.

If just one in five urban residents permanently changed their travel behavior in this way over the next few years, we estimate it would cut emissions from all car travel in Europe by about 8%.

Nearly half the reductions in [daily carbon emissions](#) during global lockdowns in 2020 came from reductions in transport emissions. In the UK, walking and cycling have been the big winners, with a [20% rise](#) in people walking regularly, and cycling has increased by [9% on weekdays and 58% on weekends](#) compared to pre-pandemic levels. This is despite cycle commuters being [very likely to work from home](#).

What deters many people from cycling or e-biking is safety. Accidents rates for cyclists are still considerably higher than, say, for car drivers (although accident rates for motorbikes are even worse). Therefore, an important prerequisite for cycling is the availability of safe cycling infrastructure, including segregated cycling lanes.

Cities urgently need to create (more) safe cycling networks or free up

some streets altogether for cycling and walking only. A recent German study using bicycle counters in 106 European cities showed that the 20 cities that had considerably increased their cycling network (on average by 11.5 km) during the COVID-19 pandemic and this saw an increase in cycling of 11%-40%, compared to those that did not.

Active travel has offered an alternative to cars that keeps social distancing intact. It has helped people to stay safe during the pandemic and it could help reduce emissions as confinement is eased, particularly as the high prices of some electric vehicles are likely to put off many potential buyers for now.

So the race is on. Active travel can contribute to tackling the climate emergency earlier than electric vehicles, while also providing affordable, reliable, clean, healthy and congestion-busting transportation.

To make this happen, cities urgently need to create (more) safe cycling networks or free up some streets altogether for cycling, walking and zero emission public transport only—as is starting to happen in cities around the world. This will not only benefit those who [travel](#) actively, but everyone who lives in cities.

More information: Christian Brand et al, The climate change mitigation effects of daily active travel in cities, *Transportation Research Part D: Transport and Environment* (2021). [DOI: 10.1016/j.trd.2021.102764](https://doi.org/10.1016/j.trd.2021.102764)

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