

Insights

LOCKDOWN HAS SHOWN US THE ENVIRONMENTAL COST OF TRANSPORT: WILL WE NOW DO WHAT'S NECESSARY TO REDUCE THE BILL?

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Will we travel as we did before?

It is perhaps curious to write something about the future of mass transit at a time when many of us might legitimately question whether mass transit might even have a future. When the only mass transit we are involved in at present is the silent 2 metre apart, single-file train into the supermarket to not get eggs, toilet roll or Rice Krispies. Like being in the queue for the world's worst roller coaster. "Please keep your arms inside the trolley at all times!" "Scream if you want to go down the aisles faster!" I'm here all week. Every week.

But it is starting to look like patience will run out before COVID-19 patients do. Economic, societal and mental pressures are likely to drive us back to opening up to some extent sooner rather than later, and so travelling to some extent sooner rather than later.

It is quite possible that we may never go back to precisely the same work or leisure patterns, and so the same travel patterns. This period of extended home working for some of us may accelerate the trend we had already seen in that regard. And in the early months after lockdown, fear may be the biggest obstacle to travel normalcy. How will we possibly social distance in mass transit options? Before all this, people would just about risk someone's bad breath, but that was when that breath would only figuratively kill you. It is almost certain that a period of reflection and data gathering is going to follow in which central and local government will look very closely at what we do to get from A to B. That means future public transport projects will depend in part on existing mass transit usage after lockdown.

In the short term, we may see (as we've already seen elsewhere) unless and until a vaccine is developed, obligatory masks, temperature readings before boarding, more generously-spaced seating/personal space. For a time, we may even see an end to the turn-up-and-go nature of mass transit services in order to control usage.

Despite all those considerations, longer term, I tend to think that we will largely return to how we got about before. There is simply too much invested in what we collectively used to call everyday life.

It is perhaps callous to say so, but human beings have short memories. We want to see and experience things, to be active, to holiday, but above all, to interact with other human beings. What this time has probably made us realise above all else is what social animals we are. All of that requires travel.

I say largely, because hopefully these strange times have made us finally realise that, for the sake of the environment, we cannot just go back to how we got about before. Has the fact that we haven't actually been sitting at a crossroads finally shown us that we are at a crossroads in how we choose to impact on the environment from this point?

Come in, or rather, stay in, the air is wonderful

One thing everyone sitting at home quietly going out of their minds has brought about is the dramatic improvement in the air quality in our cities and towns. I'm betting you've seen a lot of TV or read a lot online recently and so will have seen at least one report confirming the dramatic drop in air pollution and NOx levels as a result of the imposition of restrictive travel measures.

It is one of life's rich ironies that the air outside is great right now, but we can only enjoy it mostly through the window. It's yet another rich irony that driving is a pleasure right now because not many of us are driving. The roads finally look like the roads in car adverts. Empty. So empty that people can step into the roads to maintain social distancing without fear of getting run over.

It's even been reported that the significant reduction in travel and human activity has stopped the Earth moving. There is a reduction (a marked one in seismology circles) in seismic noise (the hum of vibrations in the planet's crust caused by human activity that causes it to move). About as close as we typically get to this phenomenon is around Christmas time.

We'll always have Paris?

Of course, the environmental conversation around transport was already taking place before this most dramatic demonstration of human impact on the environment. Assessment of the environmental impact of transport schemes has long been a requirement of transport planning. But the Court of Appeal decision in February in relation to the third runway expansion of Heathrow appears to take matters much further, and if the decision survives the appeals that have been lodged, it may mean that it is not enough for any future transport scheme to just be sympathetic to and compensate for its impact on the environment. As per the Court of Appeal, any future transport scheme may have to show how it positively contributes to the UK's commitment to reducing global climate change effects (however that might be assessed).

The Court said the Government's ratification of the Paris Agreement in November 2016 made the climate change commitment in the Agreement government policy – a conclusion strongly denied by the Government throughout its defence to the challenges brought. As a result, according to the Court, in deciding whether or not to effectively make the third runway government policy also, the

Government should have taken account of the commitment to restrict the increase in the global average temperature as soon as possible to “well below 2°C above pre-industrial levels and [to pursue] efforts to limit the temperature increase to 1.5°C above pre-industrial levels”. But, it concluded, the Government did not.

The Court of Appeal was at pains to make clear that it was not ruling on the acceptability of expanding Heathrow airport, nor even on whether any airport expansion scheme was capable of being consented to while still respecting climate change commitments. But it was not for the Court to consider the practicalities of how the Paris Agreement climate change commitments could be taken account of in the context of decisions in relation to individual transport schemes. That is now, or perhaps more pointedly, has always been, the responsibility of government, transport planners and promoters.

But just how do you weigh up the environmental impact of an infrastructure-heavy transport scheme on the country’s commitment to restrict increases in global average temperature – a single local, or even national, project’s contribution to the UK government’s own commitment to restricting rises globally? The larger mass transit schemes will often have large carbon footprints while being constructed and noticeable ones when in operation, so the positive carbon contribution of any large mass transit scheme is unlikely to be felt much until it’s too late as far as our global, arbitrary environmental targets are concerned. It’s Catch-22: assessed according to current orthodoxy, it’s simply not environmentally-friendly building and operating an environmentally-friendly public mass transit scheme.

Nor was it for the Court to consider the consequences of its decision on other, nationally significant, transport, or indeed energy, water or waste schemes. But, following the judgment, in relation to the former, the Department for Transport will have to. And it promptly did, shelving development of two airport-related transport schemes, Western Rail Link to Heathrow (heavy rail) and Southern Access to Heathrow (multi-modal), both of which would have facilitated travel by public transport to the expanded airport. Together, the two schemes would have taken thousands of people per year off the roads, so the environmentalists who have perhaps cheered the decision, need to appreciate that it has also had adverse environmental side effects.

The Department is also no doubt looking at all those other transport schemes it has promised for the north, and how they fit (or don’t) with carbon commitments, otherwise if they ever get the green light, they may be subject to similar legal challenge. But the project in need of the most urgent review is HS2. Now government policy to finally build and the four main works civils contractors in receipt of a formal Notice to Proceed, the Oakervee Review in December said that HS2 would, once complete, make a positive contribution to the Government’s commitment to reduce carbon emissions because of the switch from the car it would induce. But it also said that “In the short to medium term, the construction of HS2 is forecast to add to carbon emissions.” Somewhere between 8m to 14m tonnes of CO₂e (carbon dioxide equivalent) over the construction period. Or, put another way, a 0.1 per cent. annual addition to the country’s emissions over the 18, 19, 20 years

it is being built. Square that with the Paris Agreement and net zero emissions targets over a similar period. Environmental campaigner Chris Packham is certainly focusing his challenge to the decision to proceed with HS2 on precisely this conundrum.

Fail to plan. Plan to fail

Perhaps knowing that this debate was coming, or more likely, a simple case of the planets aligning, the Department for Transport published its '*Decarbonising Transport: Setting the Challenge*' last month, setting out a roadmap to getting us off the roads and onto public transport and active forms of getting about, thereby reducing our carbon emissions.

It starts by saying that "Public transport and active travel will be the natural first choice of our daily activities", because we will "be able to rely on a convenient, cost-effective and coherent public transport network." They are going to create a Transport Decarbonisation Plan which will tell us all what we need to do to reduce emissions when we travel. To create the plan, they will take advice from an external advisory Net Zero Transport Council.

The sentiment is certainly right. To look across all modes of transport and to look how to decarbonise its use. But it is worrisome if the plan is just to create a plan to create a plan. Isn't it a bit too late for that against a backdrop of already failing to meet our climate change target (80% reduction in emissions by 2050), before it was then decided in June last year to do an even better job of failing, by moving the target to net zero emissions by 2050? And do we need to workshop the problem more? Isn't the answer obvious? Don't we have to start making better transport choices? To make better transport choices, we have to have better transport choices to choose from – the public transport network they refer to for one.

Do we really consider the environmental impact in the choices we make?

This approach is symptomatic of the somewhat disingenuous way in which we come at environmental discussions. Talk today about doing something tomorrow. And this is not directed only at the government's ability to speak out of both sides of its mouth on this subject. We are all indirectly guilty of selective reasoning when it comes to what we want and the cost that desire might have for the environment.

Let's start with your smartphone. Have you considered where all of its raw materials and components come from? From silicon to gold. Arsenic to Manganese. Accelerometers from Germany. Semi-conductors from Taiwan. Cameras from Japan. Your phone's lithium-ion battery probably comes from the Atacama Desert in Chile. Lithium is found there in pools of marine brine which has to be extracted and refined through an expensive process involving evaporation, concentration, purification, filtration, carbonisation, drying and compacting, before shipping, perhaps to China, so that less than one gram of lithium can be assembled with the other components in your smart phone. Like aluminium. The most abundant metal on Earth is probably the most abundant component in your phone. Aluminium is smelted from bauxite, which is strip-

mined. Strip-mines and smelters are about as abundant as the natural resource they extract and manufacture. The process produces, if it's possible to under exaggerate, a tonne of waste and accounts for 3.5 per cent. of Earth's entire energy consumption.

And so on. It's estimated that it takes about 34 kilograms of varying ores to make the metals necessary to make one 130 gram smartphone. All extracted by means and with environmental impacts we put to the back of our minds as we flick through cat videos.

What about something that many people consider to be the future of responsible environmental transportation? The electric car. Well, see smart phone for aluminium and lithium, only in much bigger quantities of course. And it's estimated that producing a mid-sized electric vehicle results in around 15 per cent. more emissions than manufacturing an equivalent petrol/diesel vehicle because of the higher energy usage required to produce lighter materials.

Oh you say, well that uplift will be more than offset when I start running it. Energy efficiency is much better than a car with an internal combustion engine and it is less polluting to run of course, but it's not environmentally cost-free. It's worth spending a moment thinking about what it takes to run an electric car from an environmental perspective. A typical electric vehicle currently requires 10 kWh of electricity per day. Or, to give that some perspective, about the amount your house already requires per day. You are essentially doubling your daily electricity consumption to drive past a garage with a smile on your face.

There seems to be a disconnect in people's minds between the idea of an electric car and the fact that it still needs refuelling like a conventional car, with electricity that still has to come from somewhere. Still has to be generated. For now at least in the UK, from non-renewable sources such as nuclear reactions or burning fossil fuels, and unless something in government policy changes, from fracking. Even the Government ignores this fact. In 'Decarbonising Transport', it compares the emissions of varying modes of transport travelling between London and Edinburgh and it shows the notional electric car as contributing zero emissions in making that journey. If you ignore all the emissions that led up to the point you set off perhaps.

But what about the paragon of environmental virtue? The bicycle. I am a cyclist. A keen cyclist. Full MAMIL. I commute to work most days (or at least I did). It's a long way, over a 50km round trip. But before I saddle up my chariot of righteousness to Worthyville, I have to acknowledge that even my bike has a carbon footprint. And the more you ride, the more tyres and inner tubes and bike parts you get through. My tyres come from Thailand and my inner tubes from China. No particular reason. I didn't even know that until I just looked. My bike parts, who knows where? It all adds up to a large environmental cost before I turn a pedal.

Bicycle manufacturers aren't keen on releasing data as to the carbon footprint involved in making one because it cuts across the narrative, but I'm sure elves don't hew carbon fibre from fallen branches and druid tears. It has been estimated that about 240 kilograms of greenhouse gases are

produced when an average bicycle is made and that number gets higher the more high-end the bike. So even a bicycle starts carbon negative and you need to ride about 650 kilometres before you manage to offset that environmental impact.

Let's end by risking the offence of the last great British sensibility – keeping a dog. Even a dog is environmentally unfriendly. Some reports suggest keeping a medium-sized pet has a larger carbon footprint than keeping a car. Hell, the air would be even cleaner during this lockdown if we hadn't all seemingly sent a cloud of CO₂ into the atmosphere bread-making.

An honest conversation

We have to start having an honest conversation about all this. The key it seems is to stop compartmentalising our thinking on the environment. We must not let ourselves off for driving the car to the local shops just because we do a bit of recycling. Understand that everything we do has consequence, including how we travel.

We have to be honest about our own individual impact and the choices we make, and stop talking about human activity impacting the environment as if it's something going on over there. In that sense, let's not delude ourselves that we are saving the planet by making incrementally-better environmental choices. Choosing an electric car is a positive environmental step; compared to a conventional car that is. The equivalent to choosing to cut down smoking, rather than stopping smoking all together.

Equally, it's no good continuing to bang on about the green belt being sacrosanct if we continue driving around it, even if we do so in electric cars. We might save it from the bulldozers, only for it to be destroyed anyway by all the human activity outside it. If it is environmentally better for some encroachment on it in order to create better public transport and housing solutions, isn't that the better choice? Sometimes some ancient woodland might just have to be hurt in the making of a mass transit scheme. That's unfortunate, but saving that woodland by stopping something that will have a 100-year country-wide, environmentally-positive impact seems tragic. As Confucius said, "Better a diamond with a flaw than a pebble without."

Lockdown has shown us what the environmental benefits are of the close to 'do nothing' transport option. But do nothing is not a long-term, real world yardstick, so let's not waste time trying to measure ourselves against it. We have to be realistic. Humans need to move. We just have to focus on the best way to continue to do that without continuing to materially impact the environment. As the Government's decarbonising paper suggests, that means active and public transport options.

When this lockdown is over, our goal must be to be able to travel freely, yet still be able to hear the sound of bird song and see through the air in our cities. To achieve that, we must all start going places under our own steam more. But when our journeys mean that choice is not feasible, we must use public transport options more. To do that, those options have to be there, or, if they are

not, we have to build them in order to create the convenient, cost-effective and coherent public transport network the Government is calling for.

Perhaps we should try to avoid making the ultimate bad environmental choice – to not build that public transport network or hold up building it so we can decide whether it, or any part of it, cuts across a supra-national, arbitrary, man-made environmental commitment. Because the tragedy of doing that is that it leads to the real ‘do nothing’ outcome – the continued use of environmentally harmful transport choices.

We must accept that human existence involves some environmental impact, particularly in a key facet of that existence, movement. We must all do our best to minimise that impact, but let’s stop making the perfect the enemy of the good – the greater good. In that, we must accept the old cliché that you cannot make an omelette without breaking some eggs, or perhaps the more apposite Russian equivalent: to chop down a forest, splinters will fly.

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MEET THE TEAM



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