

Don't forget the rural need to decarbonise

When studying CO2 emissions there is a tendency to focus on our urban environments, but **Stephen Joseph** urges policymakers to go further afield

With Covid still raging and escalating again, and a new lockdown and more restrictions with it, it is more than usually difficult to see patterns and policies for the future. Disentangling structural changes, like people working from home and not being in offices full-time, from Covid's economic effects of redundancies and impacts on the catering, leisure and hospitality sectors, will be difficult to see for some time.

However, the Government is giving some clarity on the future. With its new 10-point plan, it has shown that it is still committed to a decarbonisation agenda, and that this includes transport.

One of the headlines in the 10-point plan was bringing forward to 2030 the date for banning the sales of new petrol and diesel cars, and there is also a genuinely ambitious commitment to consult on a date for phasing out diesel trucks, with research on hydrogen and other options as alternatives for these and for planes and ships.

The plan also includes renewed commitments to greener public transport and to cycling.

Alongside this, the Government released further funding for active travel in England and seems to have decided to face down some opposition from its backbenchers and from local campaigns. Despite this opposition, which has led to the withdrawal of some schemes, polling shows these active travel schemes are generally popular and supported. The charity Sustrans estimates that in excess of 900 schemes have gone in so far, with more to follow.

Non-metropolitan districts account for **63%** of population and **74%** of transport carbon emissions

This is not the end of it. The Government is still on track to produce its Transport Decarbonisation Plan around the end of the year and further funding and commitments to upgrade and re-open rail lines and fund demand-responsive bus services and green buses.

Given that, even with all this, the UK is still off-track for meeting the future carbon budgets, we can expect more of this, especially with the approach of the COP26 UN climate change conference to be held in Glasgow next year. The UK Government will want to have a good story to tell there.

However, all of this depends on public support. And in discussions about transport and decarbonisation, there is a strongly expressed view from some quarters (notably in below the line comments in all media outlets, from the *Daily Telegraph* to *The Guardian*) that while it might be possible to decarbonise transport in cities, outside these there is no alternative to cars for any of the journeys people make and that any attempts to reduce car use outside cities are unrealistic.

So I thought it might be interesting to look at transport outside cities in some detail and summarise some ways forward. As I mentioned in the previous issue, when peer reviewing the article



ABOUT THE CHAIRMAN

Stephen Joseph is the Chairman of the *Smart Transport* Editorial Board and was chief executive of the Campaign for Better Transport for 30 years before taking up a position as advisor to the charity last summer. He has also been a member of various government advisory groups and was awarded an OBE in 1996 for services to transport.



Measures to support cycling and walking are continuing to take shape – despite high profile opposition and, in some cases, withdrawal, the charity Sustrans estimates that more than 900 schemes have gone in so far, with more to follow

on rural mobility, I'm coming at this having convened a set of roundtables at the University of Hertfordshire, where I am a visiting professor at its Smart Mobility Unit, between January and July this year. I should say that the roundtables did not look at the issues involved in spreading electric cars and vans, and charging for them, outside cities, because there have been other forums for looking at this.

CARBON EMISSIONS FROM TRANSPORT OUTSIDE CITIES

First, should we worry about decarbonising transport outside cities? A review of the numbers by Richard Walker at the DecarboN8 project at Leeds University suggests we should. He found that non-metropolitan districts account for 63% of the population and 74% of transport carbon emissions. Shire counties have transport carbon emissions per head over twice the level of London and almost two thirds higher than the met districts. Districts classified as rural account for 21% of population and 32% of transport carbon. Districts classified as urban or rural outside the conurbations account for 60% of population and 72% of transport carbon. His work also found wide variations between different but apparently comparable authorities and concluded that "there appears to be plenty of opportunity for pro-active levelling up of performance between comparable districts" and that "a district's population density, deprivation level or car ownership rate gives context, but does not justify not acting" (R Walker, presentation for roundtable on decarbonising transport outside cities, May 5, 2020).

DIRECTIONS OF TRAVEL

Clearly "outside cities" is very varied – it encompasses places like Hertfordshire or Cheshire which are on the edge of conurbations and (pre Covid) commuting into them, with places like Cornwall and the Lake District at the other end of the spectrum – lower population and population density, and a large tourist and visitor economy. However, there are some directions that might bring them together. These include:

- **Spatial planning:** Government seeks to build 300,000 homes a year in England to tackle housing shortages. Where these homes are built and the design of the developments will have an impact on travel and on ►

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► carbon emissions, but the current planning system appears to take limited or no account of the transport impacts (as set out in ST 7 by Jenny Raggett of Transport for New Homes [1]).

So, locating new development where it can be easily served by public transport, strengthening requirements for local facilities and for active and sustainable travel as part of the design, and reorienting Housing Infrastructure Funding and Transport Assessment tools to support this, would all be helpful.

■ **Short journeys:** even outside cities, many journeys currently made by car are very short and could transfer to active travel modes with the right conditions, infrastructure and support. The “propensity to cycle” tool developed by Dr Rachel Aldred and colleagues at the University of Westminster has been applied to many smaller towns and rural areas, see [2] and see case study of Kenilworth in Warwickshire [3]. Even very small settlements can make walking easier [4].

■ **E-bikes:** there is good evidence of the potential for these in providing an alternative for longer car trips, and some other countries have seen very high levels of adoption. See [5]. This

suggested that e-bikes could cut carbon emissions by up to 50%, especially outside cities. Building wide lanes for e-bikes alongside main roads linking towns, as the Danish Government is doing, would provide the infrastructure to support widespread use. E-cargo bikes can offer first/last mile distribution even in small rural settlements, see [6].

■ **Public transport:** there has been widespread coverage of the decline in rural bus networks, and this has engendered a sense that it’s not possible to provide a good public transport network in areas outside cities. However, Cornwall is showing this need not be true – the council has developed the One Public Transport System for Cornwall project [7] and [8]. Key features include an integrated timetable linking buses and trains with good interchanges, a single ticketing system with contactless payment on all operators and a single brand. Covid has interrupted its introduction but the council still plans to roll it out, and to experiment with reduced fares. Another non-urban example of success is Jersey, where the current contractor, Liberty Bus, has grown public transport by 30% – see [9].

■ **Demand-responsive transport (DRT):** This suggests that fixed route public transport can be viable if it forms part of a network outside cities. There is also

significant interest in demand-responsive transport, and Covid responses have included these, as we discussed in the Smart Transport webinar on Covid-19 responses for transport outside cities (see [10]). There is a wide range of DRT services now running – some are reshaped bus services responding to apps or phone calls, like ArrivaClick, powered by ViaVan [11] and [12], while others are aggregating demand for business or education travel and co-ordinating existing coach or taxi operators to provide the services (see [13] and [14]). One ArrivaClick service serves a new housing estate in Leicester [15]. There is a debate on how far DRT can and should supplement or replace fixed route services – and even those involved acknowledge that some authorities have unrealistic expectations of what it can do. This is an area for more research. It is also important to recognise the importance of community transport [16], which provides good transport services in many rural areas (and some urban ones) – these operations are there largely for social reasons, but could be asked to develop a decarbonisation role in providing alternatives to car travel too.

■ **Lift sharing and new mobility options:** given low densities and spread out travel patterns, increasing car occupancy looks like a good bet for reducing carbon outside cities. The Commission of Travel Demand

reviewed this last year and found significant opportunity for cutting carbon through shared transport [17].

Many employers and others outside cities have developed liftshare schemes – the organisation Liftshare has worked with these and has now developed a joint venture with Enterprise to provide shared assets [18]. Car clubs and shared bike and e-bike schemes, and the new e-scooter trials also offer alternatives to traditional single-occupancy/private cars in rural areas [19].

BRINGING IT ALL TOGETHER

These points suggest that there are a range of approaches to decarbonising transport outside cities. However, there is a need to bring them together:

■ **Mobility/accessibility hubs:** bringing transport services together in a single place is a theme in other countries – Germany, Belgium, Norway and Austria have “mobility hubs” where bus, trains and tram services meet, local (shared) taxis and e-bikes can be hired and there can also be local car hire or car clubs [20]. However, some argue that we should think about “accessibility hubs” – with local services, cafés and workspaces, where people can work remotely but not at home, can receive deliveries of goods and can meet others. This seems very appropriate in the post-

Covid environment. Midlands Connect and England’s Economic Heartland [21] have done work on this concept.

In some cases, the hubs could be part of or link to railway stations, where there is often spare land and redundant buildings. Community Rail Partnerships have increasingly developed such links [22]. This also links to the public transport network concept championed by Cornwall, as above.

■ **Visitor travel:** there is a particular challenge in decarbonising tourism and visitor travel. The National Parks and other tourist areas have huge levels of car traffic and have not been able to find ways to curb it or to provide alternatives, though there are some good examples [23]. The Glover Review of designated landscapes [24] recommended there should be a pilot in giving the Lake District Park Authority transport powers. At the roundtables it was noted that Center Parcs makes a good business out of requiring people to cycle and walk in their sites and not use cars, and that this approach could be applied elsewhere. In the wake of Covid, many tourist towns have excluded traffic for social distancing and this may become more permanent [25].

■ **Long-term planning and funding:** underlying all this, there is a need for long-term funding and planning frameworks for decarbonising transport outside cities. This argument has been made strongly here

▼ **Aerial panoramic vista over the green patchwork landscape of the Cotswold escarpment, pasture and farms, to the City of Gloucester, the Severn Vale and Welsh mountains beyond.**

SOURCES

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[26] and here [27]. In the wake of Covid, new forms of operations – franchising and contracting for a range of transport services – need to be considered. ‘Total Transport’ – the subject of pilots 2015-7 – could be extended and implemented more widely, bringing together bespoke transport contracts and co-ordinating transport for different public services [28].

Underpinning all this is the application and use of data. Much of the work that we found at the roundtables drew on the gathering and application of data to identify and aggregate demand and to give people a user-focused transport system outside cities. However, there is an important caveat: we found evidence of suppressed demand in rural areas, people not travelling because services were not available or were too expensive. This gives rise to the idea of ‘transport deserts’ [29]. There is a key point from this – there are co-benefits from providing good transport options outside cities, including reduced loneliness, reduced social care costs, an improved economy, increased physical activity and improved wellbeing. In considering options for decarbonising transport in places outside cities, these co-benefits and unmet demand need to be included in any business case.

The roundtables are not the end of the story – they are, in effect, a beginning. Much transport research and policymaking has gone into work on cities, and that is right and sensible, given that many people live and work there. But there has been less attention on transport outside cities. This is starting to change.

The Department for Transport (DfT), which co-sponsored the roundtables, is planning a ‘Future of Transport: Rural Strategy’, to complement the ‘Future of Mobility: Urban Strategy’ that came out last year. It will be issuing a call for evidence to build on the work of the roundtables and other work by the Connected Places Catapult and others. There hasn’t been a Government rural transport strategy for many years, so even having one called that could be a bit of a game changer.

I found in convening the roundtables that there is a lot of interesting practice and a number of people and organisations with great ideas on ways to reduce car dependency and carbon emissions from transport in rural areas. The DfT’s strategy and the work of others, could help these people and initiatives take root.

I’d like to thank the DfT and the other roundtable sponsors – England’s Economic Heartland, Hertfordshire County Council, Gascoyne Estates and the Connected Places Catapult. A report on the roundtables themselves will be issued later in the year.