

KEEP CALM — — CARRY ON

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Why Covid-19 will not derail the smart transport agenda

Did transport planning received a major setback during the pandemic, or has it helped to provide some much-needed catalysts for change? asks **David Fowler**

Since the Covid-19 lockdown was imposed in March, transport has been changed almost beyond recognition.

Buses and trains have continued to provide vital services to get essential workers to work, but have been carrying a fraction of normal passenger numbers. Emergency Government support has been needed for both rail and bus operators.

For a few weeks, roads were almost deserted and congestion disappeared.

With the overriding advice to stay at home except for exercise, there was a surge in walking and cycling, with towns and cities taking advantage of emergency Government funding to create pop-up cycle lanes and wider pavements.

As the lockdown is eased, many expect only a gradual return to something like what was perceived as normality.

Since their formation, the focus of the new city-region combined authorities and their transport arms has been on developing smart transport and future mobility strategies. In general, these aim to create seamless and integrated systems combining mass transit coupled with active travel, with the aim of promoting sustainable growth, social inclusion and public health.

Last year, one of the nine principles set out in the Department for Transport (DfT) document *Future of Mobility: Urban Strategy* was: "Mass transit must remain fundamental to an efficient transport system."

Where does the pandemic leave such strategies, given the resultant decimation of public transport patronage?

Overall, opinion appears to be that Covid-19 presents challenges, not least the immediate question of attracting people back to public transport, but there are opportunities, too.

There is a widely expressed view that the crisis represents a turning point that offers a chance to accelerate behaviour change and introduce reform. And there is a wide consensus that, in the medium-to-long term, mass transit will remain fundamental to smart transport strategies.

Siobhan Campbell, head of the central research team and deputy chief scientific adviser at the DfT, says: "I think the challenge of achieving the strategy hasn't changed the principles – one of the solutions remains mass transport."

Kit Allwint, a senior consultant working across transport, innovation and placemaking at AECOM, adds: "Mass transit has to be at the centre if only because of the amount of space an individual requires in a car – there simply isn't the space to have an economically viable and thriving town centre if everyone is moving in and out of it by car. There are two options: mass transit or active travel."

Martin Tugwell, director of England's Economic Heartland (EEH), the subnational transport body for the Oxford-Cambridge arc

and surrounding areas, says: "Fundamentally, the challenges we face over how we travel and the choices we make, remain. People are walking and cycling more, but they aren't substitution trips. They've been doing things differently because they've been working at home or on furlough, but location factors such as their journey to work haven't changed fundamentally."

"For EEH, the challenges we had as a region, that we travel more than the national average, our carbon emissions are more than the national average and the rate at which they were growing was faster than the average, all remain. So the focus on public transport and moving away from reliance on the car hasn't changed."

Mike Waters, director of policy, strategy and innovation at Transport for West Midlands (TfWM), says: "I think aspects of the smart transport agenda will be accelerated. Some of the behaviour patterns we've seen in the response to the lockdown are a really good stimulus, extending the conversation on behaviour change with cohorts of the travelling public that have perhaps been less receptive."

He adds: "We've struggled to see a scenario for the short-to-medium term in which public transport demand returns to pre-Covid levels. But, whatever happens with Covid, the overarching objective of a strong place with a good public realm that enriches the lives of citizens, and striving towards the decarbonisation of the transport system, these underlying policy positions and objectives do not change. In a dense urban area mass transit has to be ►



ABOUT THE AUTHOR

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► an integral part of that future.”

Both negative and positive effects have emerged from the crisis.

Jonathan Bray, director of the Urban Transport Group (UTG), says: “To an extent, we don’t know what the long-run implications will be. My surmise is that active travel is a winner in certain areas. The dam has burst on active travel with more journeys being made and cities, generally, are getting the message about healthier spaces.”

But he adds: “The car could also be a winner, for example, in the suburbs where it’s still king in market share. If people are thinking of health and minimum risk, the car offers a lot. Public transport and buses are, potentially, the biggest losers, but we don’t know how demand is going to come back.”

TfWM’s Waters says the operational response needed at the start of the pandemic “has been an immediate boost and catalyst to the digitisation agenda, the opening up of cross-agency data sharing and platforms. A lot of good work happened very quickly. The need to collaborate and coordinate an emergency response has really catalysed the sharing of data, the opening up and creation of APIs (application programme interfaces) and so on. That’s been a massive boon”.

That was shown early in the crisis when TfWM had to gather information from hospitals, the NHS and transport operators and re-plan the transport network to support key workers, often at the low end of the income spectrum and disproportionately

reliant on public transport to get around.

Among other things, TfWM created an operational dashboard showing the number of cases and occurrences of Covid-19, public transport use and highway use, all available in one place and to all agencies. Then operators started to feed in data previously considered commercially sensitive.

“There were benefits for all concerned and that enabled us to re-plan the ‘ring and ride’ infrastructure to provide an emergency and key workers’ demand-responsive service – we were able to observe usage and adjust the operational parameters to respond to demand,” says Waters.

IMMEDIATE CHALLENGES

Overall aims might not have changed, but there are short-term obstacles to smart transport strategy, notably how to encourage passengers back to public transport in general and, especially, onto buses. One of them is social distancing. Even at one-metre-plus, capacity is significantly reduced.

UTG’s Bray says: “Any level of social distancing creates challenges in the message to the public about the use of public transport, but also for revenue funding and future projections and business cases.”

The DfT’s Campbell adds: “Social distancing makes things harder on public transport. We’ve been looking into that as it will remain challenging. Parts of the solution could include encouraging people to stagger journey times around the peak, or use differ-

ent modes where available. There are ways round it, but no silver bullet.”

Sam Li, senior innovation officer at Transport for Greater Manchester (TfGM), says: “We need to rebuild confidence in the networks. We need a better understanding of the level of confidence in public transport and the interventions we need so people will return. The biggest worry as a transport authority, is perceived safety concerns about public transport. Are people going to use polluting secondhand cars to fill the gap?”

As one aspect of this, TfGM is working with predictive artificial intelligence (AI) company Humanising Technology to analyse CCTV footage at critical transport interchanges to monitor passenger behaviour and identify ‘hot spots’ for social distancing breaches. And TfGM’s Insight team is analysing the data for travel in lockdown and is conducting surveys into likely behaviour post-lockdown.

EEH’s Tugwell says: “Short-term, there will be a real lack of confidence about public transport. But there’s an opportunity. We’ve got to convince people it’s a safe, quality product, that’s clean and reliable. Those are the features we’d want in a high quality public transport network. So the response is something we need to do, anyway.”

In smart transport strategies, Allwinds says, much of the emphasis is on “creating an integrated system with high frequency mass transit corridors hammering up and down”.

The ‘smart’ element is about getting people to and from those corridors in a better way than just park

and ride. For example, by car clubs, car sharing, or demand-responsive services, creating a seamless transfer. In the short-term there’s going to be a reaction against that kind of mass transit simply because people won’t want to share things.

Instead, the focus could change to active travel for the first and last mile, building better walking and cycling routes to the main corridors, and with high quality bike-share systems, in which, in contrast to a car club car, a bike can be easily sanitised with a wet wipe.

Another unknown is the effect on demand of new work patterns.

Campbell says: “There are more profound changes we don’t understand yet, such as the future of work. Polling of our own staff shows people would like to work from home a couple of days a week. What will that mean in practice, and how can this uncertainty be taken account of in decision-making?”

In May, TfWM undertook a detailed survey of travel plans following lockdown. The first poll received 6,000 respondents and a second followed in June. Again, the results have both positive and negative aspects.

“People are travelling more actively,” says Waters, “but also intend to use the car more. There is almost a stated intent to use public transport less. In other words, the national message has landed. It’s likely to mean suppressed demand for public transport.”

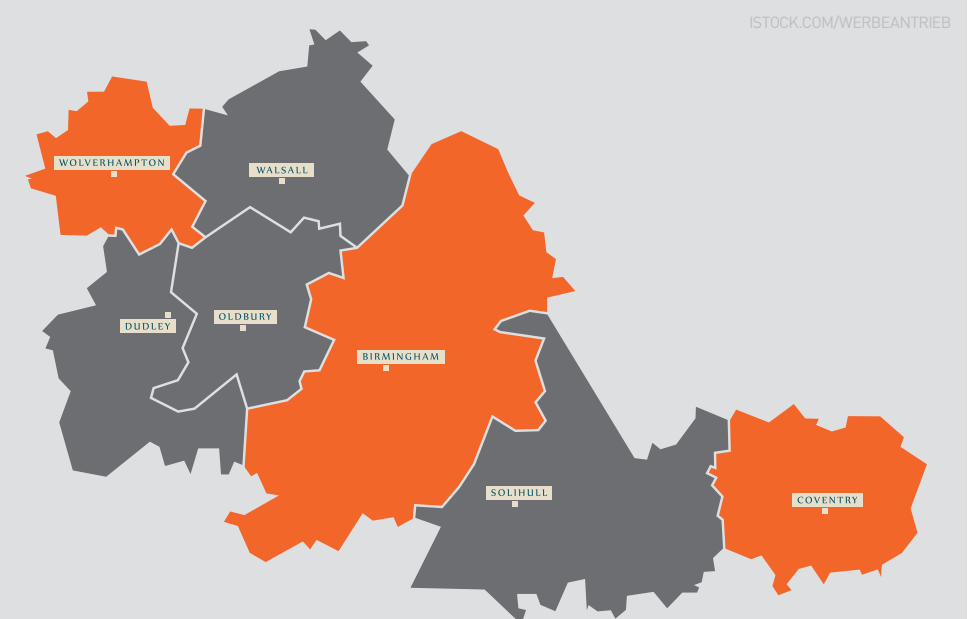
There will be less need to be in the office five days a week and, with the rise of online conferencing, fewer people will be travelling to other cities for business meetings.

Waters says: “What is likely to be a very slow and suppressed recovery of public transport demand is placing some extreme challenges on the business model and commerciality of public transport. That will, inevitably, affect the ability of private sector operators to invest and develop some of the solutions you would want to see as part of a smart integrated transport system. So I think that the agenda could potentially be hampered unless there is preparedness on the part of the public sector and the State to intervene.”

SEIZE THE MOMENT

However, there is a widely held view that the crisis presents a turning point, offering possibilities which can be capitalised on to change behaviour. “This is a critical intervention point, where we can influence the way people travel,” says TfGM’s Li.

Campbell adds: “From a behavioural science point of view, you are looking for a moment of change when habits are ►



West Midlands powers on

In 2018, the first of four Future Mobility Zones was established in the West Midlands. Three more, renamed Future Transport Zones by the DfT, were announced in March. As a result, a number of initiatives were already under way, and these have continued unaffected by the lockdown.

Installation of roadside infrastructure on the Midlands Future Mobility route, a test corridor comprising more than 185 miles of different road types on which to assess connected and autonomous vehicle (CAV) technology, due to become operational next year, got under way in May, as planned.

“We’ve been able to continue through lockdown with our contractors,” says TfWM’s Mike Waters. The region’s £50m 5G testbed is also being accelerated.

“We are fortunate in having a broad portfolio that encompasses a number of programmes including digitisation, 5G comms, CAVs, future mobility – MaaS, mobility credits and e-scooters. It’s all coming, and coordinated within one portfolio spanning Coventry, Birmingham and Wolverhampton.”

The corridor will provide a test bed for automotive industry

suppliers to try out their systems.

“The CAV agenda has matured somewhat towards a focus on connected vehicles over some of the higher levels of autonomy. Those in the industry have recognised that autonomy levels 4 or 5 are extremely challenging and are still very much in the R&D phase. But there’s a keenness, which we support, to exploit the more immediate benefits of connectivity and that’s where the synergy between the 5G mobility programme and the future transport zone travel experience all hang together really nicely.”

One outcome could be improved first and last mile and demand response services and shared mobility solutions, particularly for suburban areas. “About 85% of journeys in the West Midlands do not start or end in a city or town centre,” says Waters. “There’s a failing of the current transport system which perpetuates higher levels of need for private car use.”

Mobility as a Service, launched separately through a partnership with MaaS Global and its Whim app in 2018, has not, so far, taken off as some had hoped. “The MaaS agenda is still important,” says Waters. “We are specifying some quite detailed trials in a few areas

of the Future Transport Zone to try to take MaaS to the next level.”

He adds this is intended to address perceived gaps in the MaaS proposition concerning DRS (direct rail services) and first/last mile solutions.

Two types of mobility credits are expected to be introduced next year in which drivers will be given incentives to give up their cars in return for transport credits. The first is linked to Birmingham City Council’s clean air zone plans, and the credits will be focused on public transport.

The second, in Coventry, uses a broader definition of mobility. The £1m project is intended to allow people who give up private cars an equal or better travel experience, combining cycle hire and car hire as well as public transport.

Coventry’s council is also driving a project in collaboration with the Very Light Rail National Innovation Centre at Dudley and Warwick Manufacturing Group. It aims to develop a form of rail-based mass transit much cheaper than conventional trams, dispensing with overhead electrification, and a low cost, lightweight removable track system which will avoid the need for expensive utility diversions.



► Active travel received an unexpected boost during the height of the coronavirus pandemic

► broken. This is one such moment. If, after the crisis, more people are in their cars, it will have been an opportunity missed."

Allwinter says: "We'd be remiss if we didn't see this at least as a flex point where we might be able to make decisions that could have positive ramifications rather than ones that might be negative."

Tugwell adds that some of the challenges transport faces as a result of the pandemic had to be faced anyway.

He says: "We knew, for example, for traditional bus services in rural and less dense areas that the model was broken. Instead of trying to continue to support a broken model, the switch to remote or flexible working is an opportunity to think about what's the right model for public transport. Almost by serendipity, the Government has announced the Future of Transport regulatory review and, if there are things we need to happen to make a new business model, there's a chance to use that review to do it."

For rail, with all franchises now supported by emergency measures, Tugwell believes "that might be the opportunity to see some of the changes we were looking for through the Williams review to be made real".

EEH consulted last autumn on its Outline Transport Strategy for the period to 2050. Has the pandemic knocked it off course?

"I'd like to think we were a bit ahead of the curve in what we were thinking," Tugwell says. "We wanted to put the user at the heart of what we did. The twin objectives we've always had have been a successful economy, and how do we do that in a way that delivers a net environmental gain or net zero carbon? We've said from the start that means we've got to do things differently, you've got to shift away from reliance on the car to providing a choice."

For that reason, EEH invested in creating its Regional Evidence Base, which shows where development and growth is planned, as well as policy tools to examine scenarios, and another to model first/last mile options.

To assist in this, the organisation used Experian's Mosaic database, normally associated with the retail sector, to segment the region's population into areas with different characteristics and transport needs. Cambridge, for example, might need a different set of mobility solutions from Luton, with a different mix of industries and employment.

The region is also seeking to be ambitious on decarbonisation. A study was undertaken, to be published alongside the EEH's draft Transport Strategy in July, by Oxford University Professor Jim Hall using the national infrastructure model Nismod to

identify paths to decarbonisation.

This influenced a number of elements of the region's strategy, such as the aim to use digital connectivity to reduce the need to travel. It also pointed to the need for 'sticks' as well as 'carrots' for influencing behaviour, including how people pay for access to travel and the relative costs of different modes. This could lead to consideration of mechanisms such as workplace parking levies, for example.

The study also showed that, if the transport fleet was to be electrified, there was a need to plan for a significantly strengthened power and distribution network – confirming the view of EEH's political leaders.

"The scale of the challenge means we need to think about it now," Tugwell says. "The politicians were right three or four years ago. With the opportunity we have now, there's an appetite and need to do things differently, and we've got to seize that moment."

Li says: "On the other side of Covid we need to really understand the demand. What does the future commercial model look like?" Data will play a key role in this. "One of the obvious things to central Government, the DfT and to us is that the commercial sector has a big role to play in providing data on usage," he adds.

This includes organisations like CityMapper, Google and Zipabout, as well as phone companies such as Telefonica, because data on phone movements will help planners to understand demand and manage supply better.

TfGM is building a "future mobility persona" to personalise future demand patterns. Whereas previously a five-day nine-to-five work routine was the norm, it is expected there will need to be more flexibility, new ticket options such as carnets instead of season tickets and so on.

The authority is reviewing how it will go about implementing mobility as a service (MaaS). "Is MaaS a tool to help regenerate the city centre and gather data to build the mobility persona?" Li asked.

For the UTG, Bray sees the crisis as an opportunity for public transport and funding reform. "The bus was struggling before we lost all the passengers. What was a big challenge before is even bigger now. There were

big questions pre-Covid-19 about whether there was sufficient revenue support for bus services. Covid-19 massively increased this."

The logical approach, he says, would be to "step back and look at how public transport contributes to wider economic goals – for example, air quality and decarbonisation. How do we want transport to contribute to those wider goals?"

This logic would lead to lower, simpler fares in which public transport is seen as an integral part of a low-carbon economy. Instead, transport, and buses in particular, are funded by a range of disjointed schemes and Whitehall funding competitions, which hamper long-term planning. "Covid-19 adds impetus to the call for routing funds through the city-region authorities," Bray argued. "In the economic challenge post-Covid-19 transport stands out – it creates jobs, capacity, greening."

CYCLE LANES AND ACTIVE TRAVEL

An unexpected beneficiary of the crisis has been active travel, boosted by the Government's £150 million Emergency Active Travel Fund. There is general agreement that Covid-19 has accelerated momentum and raised awareness of active travel.

"There's a lot of emphasis on pop-up cycle lanes," says Bray. He adds "all the calls on road space

are still there", among them bus priority, electric vehicle charging points and so on. "You can't reconcile them all," he adds. "However, temporary road space reallocation gives the opportunity to lock in change for active travel and buses and lock out non-essential car commuting."

Tugwell believes the Emergency Active Travel Fund offers councils a chance to try things out on a larger scale. "Walking and cycling pilots are often innovative, but also small scale. Now there's an opportunity to try some of these things at a large scale."

Not all the temporary schemes will become permanent. Authorities are monitoring the initiatives to see how well they work.

Some of TfGM's planned pop-up interventions are intended to complement Bee, Manchester's strategic cycleway network, and are, therefore, intended to be long-term.

Li says: "We're being more agile and responsive in getting schemes up and running. It's critical to evaluate and monitor whether they are performing to expectations."

For monitoring, TfGM plans to use computer vision and AI-based systems developed by Tracsis and Vivacity Labs for Transport for London. It is also collaborating with a start-up, Seesense, which makes smart cycle lights with built-in sensors. These gather data not just on what routes people use, but also on near misses and road condition.

In the West Midlands, cities such as Birmingham and Coventry and urban areas across the region are introducing pop-up cycle lanes and other active travel initiatives,

with £3.85m in DfT funding. "All the highway authorities are keen to maximise the opportunities," says Waters. "The schemes are all going to be monitored. There is a requirement to use scarce infrastructure most effectively."

Again, the approach will be 'agile', with successful initiatives kept and unsuccessful ones discarded.

Allwinter suggests restaurants and cafés, finding internal space restricted by social distancing, might think that the ability to take over, for example, roadside parking spaces to fit in extra tables would help their businesses to remain viable.

He adds that if such 'temporary' road space allocation lasted for several months or a year, public opinion might swing behind it. This was the case in Stockholm, where road pricing was unpopular when introduced, but then approved when a referendum was held six months later.

"People probably won't want to go back to the way it was," Allwinter says.

However, the dramatic reduction in emissions and improvements in urban air quality seen during lockdown will be more difficult to lock in. Campbell warns: "Once lockdown is relaxed, congestion will come back. It's a contradiction to be resolved. Habit change is not all going to go in the right direction."

Cementing behaviour change from the lockdown will not be simple, and will need coordinated local and national effort, Campbell adds. "We know that successful behaviour change initiatives aren't about a single nudge. It's a concerted effort across regulation, enforcement,

nudging, public campaigning – all working together."

Tugwell emphasises the need for public and private sector collaboration. "There's been a blurring of the lines, with rail nationalised in all but name, and subsidies for buses."

But there needs to be cooperation not just with transport operators, but the business community. "The new business perspective may be to allow employees to come into the office only two or three days a week. It's something we need to link into, for example through Local Enterprise Partnerships," he adds.

And, as the furloughing scheme is wound down, businesses will face decisions about how many people they will continue to employ. "We need to be reaching out as transport planners to understand that," Tugwell says.

And there need to be closer links with developers – for example to put the emphasis on active travel rather than providing highway links when new developments are planned.

For Tugwell, one of the main lessons of the crisis was the speed with which his organisation was able to react.

"At the peak of the pandemic we got through things very quickly," he says. "Now I'm starting to hear people say 'we need data about the new normal before we know what the way forward will be'. But data can only tell us what was going on a few months ago. We should be brave enough and bold enough to ask 'what's our vision for the way forward and how do we make it work?'" **ST**

▼ Bikes are parked ready for use in Manchester

TURN OVER FOR THE PEER REVIEWS

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of journeys in the West Midlands do not start or end in a city or town centre

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Martin Tugwell, England's Economic Heartland

