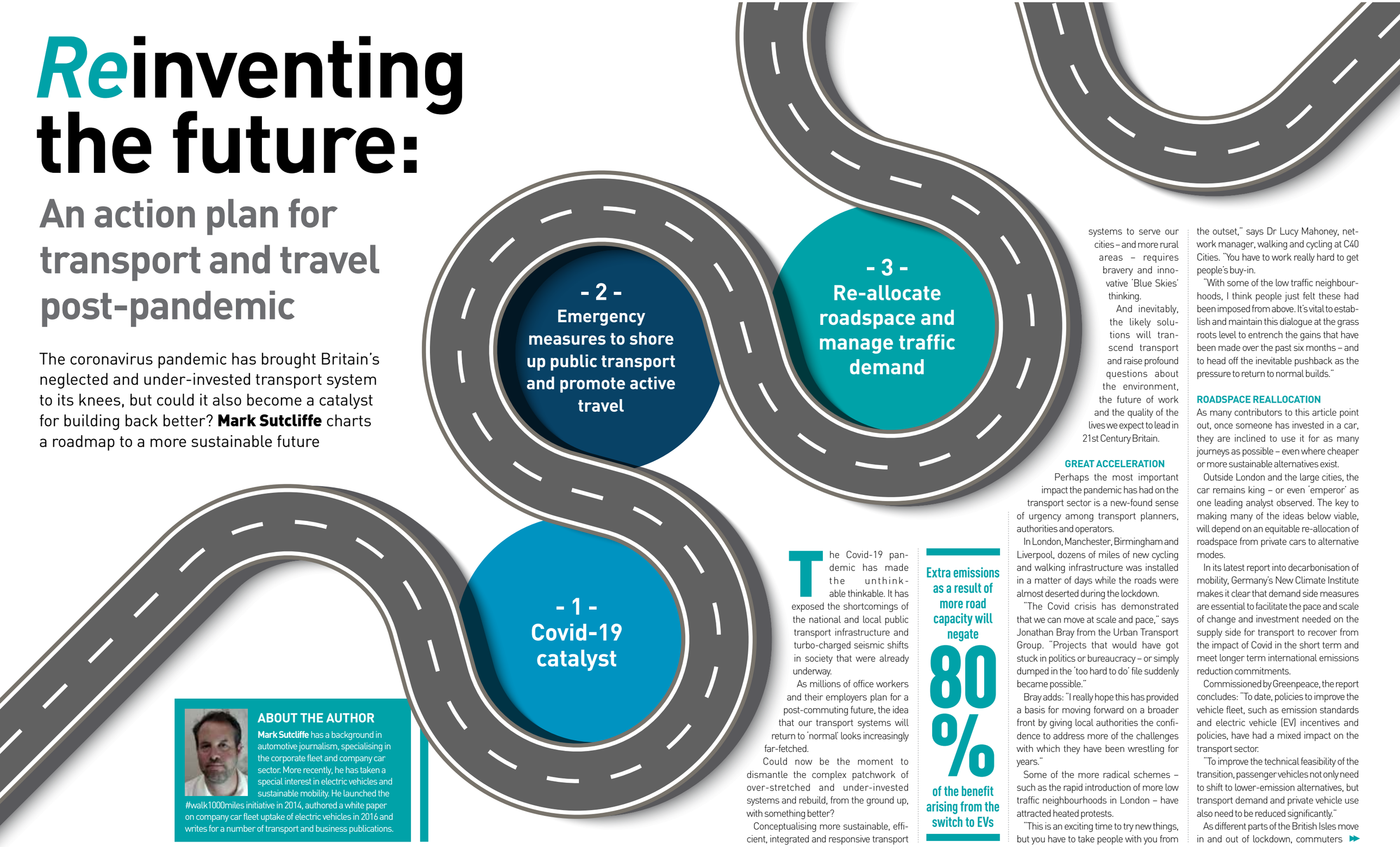
Reinventing the future:

An action plan for transport and travel post-pandemic

The coronavirus pandemic has brought Britain's neglected and under-invested transport system to its knees, but could it also become a catalyst for building back better? **Mark Sutcliffe** charts a roadmap to a more sustainable future



ABOUT THE AUTHOR

Mark Sutcliffe has a background in automotive journalism, specialising in the corporate fleet and company car sector. More recently, he has taken a special interest in electric vehicles and sustainable mobility. He launched the #walk1000miles initiative in 2014, authored a white paper on company car fleet uptake of electric vehicles in 2016 and writes for a number of transport and business publications.

The Covid-19 pandemic has made the unthinkable thinkable. It has exposed the shortcomings of the national and local public transport infrastructure and turbo-charged seismic shifts in society that were already underway.

As millions of office workers and their employers plan for a post-commuting future, the idea that our transport systems will return to 'normal' looks increasingly far-fetched.

Could now be the moment to dismantle the complex patchwork of over-stretched and under-invested systems and rebuild, from the ground up, with something better?

Conceptualising more sustainable, efficient, integrated and responsive transport systems to serve our cities – and more rural areas – requires bravery and innovative 'Blue Skies' thinking.

And inevitably, the likely solutions will transcend transport and raise profound questions about the environment, the future of work and the quality of the lives we expect to lead in 21st Century Britain.

> Extra emissions as a result of more road capacity will negate **80%** of the benefit arising from the switch to EVs

GREAT ACCELERATION

Perhaps the most important impact the pandemic has had on the transport sector is a new-found sense of urgency among transport planners, authorities and operators.

In London, Manchester, Birmingham and Liverpool, dozens of miles of new cycling and walking infrastructure was installed in a matter of days while the roads were almost deserted during the lockdown.

"The Covid crisis has demonstrated that we can move at scale and pace," says Jonathan Bray from the Urban Transport Group. "Projects that would have got stuck in politics or bureaucracy – or simply dumped in the 'too hard to do' file suddenly became possible."

Bray adds: "I really hope this has provided a basis for moving forward on a broader front by giving local authorities the confidence to address more of the challenges with which they have been wrestling for years."

Some of the more radical schemes – such as the rapid introduction of more low traffic neighbourhoods in London – have attracted heated protests.

"This is an exciting time to try new things, but you have to take people with you from the outset," says Dr Lucy Mahoney, network manager, walking and cycling at C40 Cities. "You have to work really hard to get people's buy-in.

"With some of the low traffic neighbourhoods, I think people just felt these had been imposed from above. It's vital to establish and maintain this dialogue at the grass roots level to entrench the gains that have been made over the past six months – and to head off the inevitable pushback as the pressure to return to normal builds."

ROADSPACE REALLOCATION

As many contributors to this article point out, once someone has invested in a car, they are inclined to use it for as many journeys as possible – even where cheaper or more sustainable alternatives exist.

Outside London and the large cities, the car remains king – or even 'emperor' as one leading analyst observed. The key to making many of the ideas below viable, will depend on an equitable re-allocation of roadspace from private cars to alternative modes.

In its latest report into decarbonisation of mobility, Germany's New Climate Institute makes it clear that demand side measures are essential to facilitate the pace and scale of change and investment needed on the supply side for transport to recover from the impact of Covid in the short term and meet longer term international emissions reduction commitments.

Commissioned by Greenpeace, the report concludes: "To date, policies to improve the vehicle fleet, such as emission standards and electric vehicle (EV) incentives and policies, have had a mixed impact on the transport sector.

"To improve the technical feasibility of the transition, passenger vehicles not only need to shift to lower-emission alternatives, but transport demand and private vehicle use also need to be reduced significantly."

As different parts of the British Isles move in and out of lockdown, commuters ▶▶

- 4 - Divert road-building budget to fund public transport and active travel

> To get people out of their cars, a mixture of measures is needed to ensure people have access to attractive, accessible and affordable alternatives
>
> SILVIYA BARRETT, CAMPAIGN FOR BETTER TRANSPORT

- 5 - Consolidate public transport and active travel gains

- 6 - Incentivise modal shift with mobility credits linked to MaaS

are continuing to avoid public transport and use their cars instead. As well as reversing the modest gains seen in bus ridership figures in some areas prior to the pandemic, this risks a huge increase in congestion and pollution.

It will also make it almost impossible to rebuild passenger numbers without further subsidies to allow public transport companies to maintain their operations until passenger numbers recover to pre-pandemic levels.

Transport for Quality of Life (TfQL) is warning about a potential collapse of transport systems once the 'life support' funding runs out. It says: "Services may disappear overnight, bus workers will be laid off, and companies may go bust.

"So it makes sense for public money to be used to pay for the network we want, rather than just plugging the funding gap caused by the loss of fares and concessionary travel."

TfQL is unequivocal about the urgency of preventing a wholesale return to car commuting: "If public transport users switch to driving, pollution and congestion will dramatically worsen and residential roads will become dangerous rat runs. Now is the time to go hell-for-leather on building safe, segregated spaces for walking and cycling."

And in its 'Decarbonising Transport' series of reports, the Local Government Association suggests levelling the playing field so motorists contribute to the indirect costs they impose on other modes.

"At present, outside the central London congestion charge zone, car users do not pay directly for the costs the traffic congestion they impose on other road users, including bus users," says the report.

"Meanwhile, as car users switch from petrol/diesel to battery electric power, fewer will be paying any motoring taxes on a per mile basis, because they will not be paying fuel duty. This offers scope to councils to explore strategies for charging for parking and congestion."

Removing city centre on-street parking spaces – a policy which is already underway in Amsterdam, Oslo, Paris and Glasgow – is increasingly seen as an effective means of rationing roadspace. This can have the additional benefit of making room for cycle lanes and/or wider pavements to encourage more active travel.

The Local Government Association concludes a more proactive approach to parking management is central to achieving modal shift in the longer term. It says: "Parking is one of the few 'sticks' which can complement the 'carrots' of better active travel and public transport options."

Without changes in how parking is managed, progress on mode shift will likely be limited to well below the levels of ambition regarding the climate emergency which both national and local governments have declared."

Grasping the nettles of demand management and roadspace reallocation are challenges governments of all political hues have wrestled with for the past two decades. But for many of the ideas set out in this article to become viable, dislodging the private car's primacy as the default travel choice for millions of Brits is a prerequisite.

Silviya Barrett, head of policy, research and projects at Campaign for Better Transport, says: "Increased car use would lead to illegal, and dangerous, levels of air pollution and greenhouse gas emission. To get people out of their cars, a mixture of measures is needed to ensure people have access to attractive, accessible and affordable alternatives. This includes giving public transport, walking and cycling priority on the roads, and ensuring travelling by bus and rail is better value for money than private car ownership."

90%
of the time private cars remain stationary

CANCEL THE ROADS PROGRAMME

The New Climate Institute report warns of the dangers of locking into any carbon-intensive long-term transport infrastructure investment such as major highways or airport extensions.

Yet in his first budget, Chancellor Rishi Sunak announced a doubling of expenditure on road building to £27.4 billion over five years.

Annualised spending in the new Strategic Roads Network (SRN) budget dwarfs spending on local public transport (£2.5bn) and the recently announced £2bn allocated to active travel.

But the enhanced roads budget is coming under increasing scrutiny from the sustainable transport lobby. If a significant proportion of the current budget were diverted to active travel infrastructure and public transport improvements, this would offset some of the 20 million additional tonnes of CO_2 TfQL research has calculated the new roads will add over the next 12 years.

This enormous increase in carbon emissions will almost completely outweigh any benefits gained by switching to EVs.

TfQL's Lynn Sloman says: "If we are to meet the legally-binding carbon budgets that have been set by the Committee on Climate Change, we need to make big cuts in carbon emissions over the next decade. That will require faster adoption of electric cars but it will also require us to reduce vehicle mileage by existing cars.

"Unfortunately, the road programme will make things worse. At a time when we need to cut emissions from the SRN, the Road Investment Strategy will increase them. And the extra emissions as a result of more road capacity will negate 80% of the benefit arising from the switch to EVs."

TfQL recommends diverting the roads budget to building thousands of local remote working hubs to reduce commuter demand and accelerating investment in active travel infrastructure and low carbon public transport.

Given the costs of rebuilding the wider transport network in the wake of the pandemic, the road and rail review recently announced by Prime Minister Boris Johnson may revisit the SRN budget.

Conducted by chair of Network Rail Sir Peter Hendy, the review will ostensibly focus on improving road and rail links between England, Wales and Scotland. But, as concerns over the sustainability of the roads programme grow, could the review potentially pave the way for a 'Beeching Moment' (the review that led to the closure of railway branch lines) for the SRN?

MOBILITY CREDITS

Mobility credits have – in one form or another – been around for decades, but in the era of mobility as a service (MaaS), the concept of a consolidated travel account covering everything from bus and train travel to flights and car hire has received fresh impetus.

Despite the explosion of real-time data services, making a genuinely comprehensive MaaS offer economically viable has proved more problematic.

While some city-based pilots have shown promise, making MaaS work in rural areas has proved more of a challenge, but this hasn't deterred one of the largest trials in Europe getting underway in the Scottish Highlands next year.

The Highlands and Islands Transport Partnership (HITRANS) is trialling a new mobility platform that will offer all modes of transport – including ferries and flights.

According to Ben Lawson, vice-president strategy Europe at vehicle rental and car club giant Enterprise, the key to making MaaS affordable is to ensure the service is so dependable that users have the confidence to ditch their cars.

"Once people have bought or leased a car, that is likely to become their default travel choice – even if better or cheaper options are available for some journeys," says Lawson.

"But if you offer people mobility credits linked to a MaaS app, once the right infrastructure is in place, MaaS becomes a viable alternative to car ownership and you start taking vehicles off the road," he adds.

"Private cars spend more than 90% of their time stationary – parked on a driveway or in a car park. The remaining 10% is typically spent in traffic jams during peak commuting hours.

"The main challenge is maximising the utilisation of these assets so fewer cars are crowding onto the roads during the rush hour. The key to this is making people aware of the alternatives *before* they go out and buy a car.

"If people are confident they have access to the right car at the right time on the occasions when the car is clearly the best solution, they will be happier to use other modes for the daily commute."

"Hiring a car every day would soon burn through those mobility credits, but taking the bus or using an e-bike as the default commuting options and booking an electric car club vehicle for a trip to see family at the weekend would be far more cost-effective for the user and a much more efficient use of assets."

The Campaign for Better Transport suggests mobility credits should be offered to incentivise people to consider new ways to travel at key life moments, such as moving home, starting a new job or replacing their current car.

Lawson says: "Instead of including garage and driveway space in high density housing developments, home-builders should bundle mobility credits into the price of the house to encourage the uptake of public transport.

"Section 106 money gained from new-build developments could then be diverted towards funding better public transport

connectivity rather than new roundabouts or other roads infrastructure associated with newbuilds."

Barrett adds: "People value the convenience of owning a car, but may be unaware of the lifetime cost of ownership (including car purchase and repair, tax and insurance). Public transport and shared mobility options (such as car clubs) can offer better value for money, particularly to infrequent users.

"Mobility credits can be used to entice people to try such alternatives. While the technology to make them work exists, their cost needs to be subsidised and we are calling on Government to provide funding to enable more areas to participate."

Following the Government announcement that the ban on sales of new petrol and diesel cars and vans would be brought forward to 2030, many commentators feel the transition to EVs presents a huge opportunity to recast our relationship with the private car.

The motor industry will likely renew calls for a scrappage allowance to replace 'dirty old diesels' with clean new EVs. At first sight, this looks like an easy decarbonisation 'win', but maybe this moment of transition offers the opportunity to take a different path.

Offering an enhanced package of mobility credits alongside a trade-in scrappage allowance could persuade some motorists to abandon their cars altogether.

While backing the transition to EVs, when it comes to decarbonisation and unclogging city streets, the Local Government Association makes it clear that EVs are not the silver bullet.

It says: "EVs are still not zero-emission, and not only do they not generate the health benefits which come through active travel, they take up road space which could often be more efficiently used by buses and cyclists. As such, EVs create the greatest carbon reductions and co-benefits when they are shared (through car clubs or ride-sharing) and when they are used for trips which cannot easily be made by active travel or public transport."

PUBLIC AND ACTIVE TRANSPORT INTEGRATION

While ridership levels on public transport during the pandemic have plummeted, active travel has boomed thanks, in part, to a range of local authority interventions to improve infrastructure. Government statistics suggest an increase of up to 200% in cycling trips during lockdown.

The Government has made it clear that it is committed to investment in both modes in the future, yet integration between public transport and active travel – especially cycling – remains patchy. We remain some way behind many European counterparts, where cycling to the station, taking your bike on the train and completing the journey at the other end is a much more established form of 'hybrid' commuting.

While secure cycle storage is now commonplace at many mainline stations, the acres of land dedicated to car parking at commuter stations across the country suggests there is still a long way to go.

The Government's Gear Change policy document promises an active travel revolution – including greater integration between walking and cycling and public transport.

"We will invest substantial sums on safe cycle routes to stations and increase cycle storage at stations, including at city-centre termini, where it is currently limited," says the paper.

"Bringing a bike on board makes a train journey even more convenient, but the railways have reduced space for bikes on trains. We will reverse that and will make it easier to reserve bike spaces online and without reservations on emptier trains."

And on bikes and buses, the report says: "Far more people live near a bus stop than a rail station. In many rural areas, where demand is lower, we will work with bus operators to allow a limited number of bikes on board, in addition to on-board wheelchair space, on appropriate routes, as a few country routes already do."

Welcoming these pledges, Mahoney suggested the ongoing impact of the pandemic on public transport passenger numbers offered a perfect opportunity to trial the provision of additional cycle space.

"Germany, Holland and the Scandinavian countries have far more spaces on trains for bikes. But, given the levels of over-crowding on popular commuter routes, it's easy to see why that has been harder to achieve in the UK," Mahoney says.

"With passenger numbers remaining low on both buses and trains, now seems like an obvious opportunity to trail additional spaces for bikes to gauge demand and map the impact prior to a wider a rollout."

Edward Pegram, cycle-to-work business manager at Raleigh, says: "For those that cannot work from home, it is important that more sustainable, affordable and long-term solutions are adopted. The combination of electric bikes and other forms of transport such as rail come together to make travel more affordable and sustainable.

"We need to work with other industries to create this fundamental step change and encourage more people to take alternative modes of transport more often."

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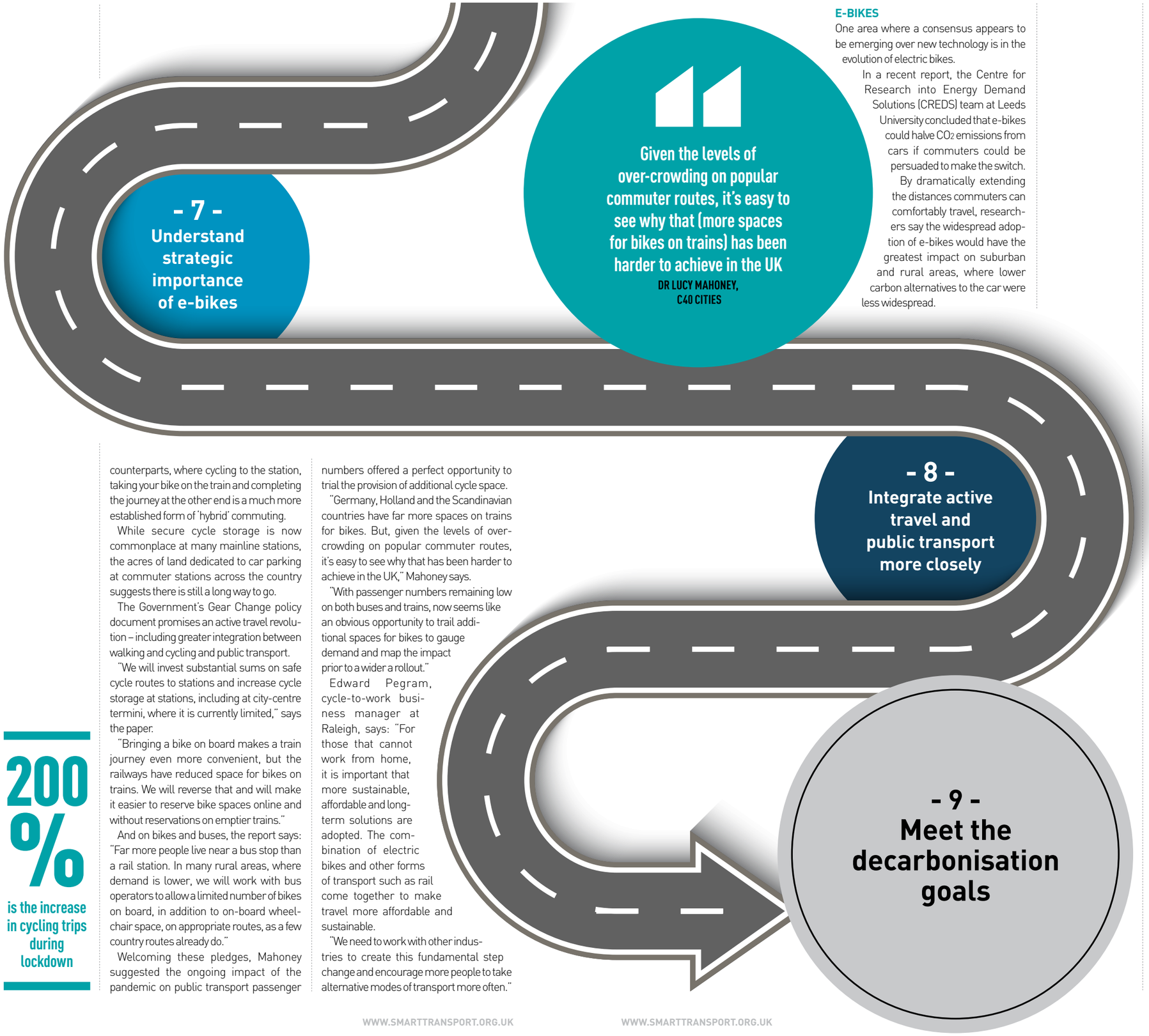

E-BIKES

One area where a consensus appears to be emerging over new technology is in the evolution of electric bikes.

In a recent report, the Centre for Research into Energy Demand Solutions (CREDS) team at Leeds University concluded that e-bikes could halve CO_2 emissions from cars if commuters could be persuaded to make the switch.

By dramatically extending the distances commuters can comfortably travel, researchers say the widespread adoption of e-bikes would have the greatest impact on suburban and rural areas, where lower carbon alternatives to the car were less widespread.

E-bikes are increasingly seen as a means of encouraging modal shift among people who wouldn't identify as cyclists and are currently intimidated by 'cycle culture' seen as the preserve of wealthy, healthy, white males in Lycra – many of whom are already enthusiastic cyclists.

The costs of buying and running an e-bike are tiny compared with running a car and the emissions associated with e-bikes are around a tenth of those of a petrol car.

Raleigh's Pegram is excited about their potential. He says: "Electric bikes can be life changing, from increased mobility, freedom to travel greater distances at low cost or just for the enjoyment of not being stuck in traffic, they offer users the ability to travel up to 100km (62 miles) with ease; in short, they offer low cost, energy efficient emission-free transport."

Copenhagen's transformational Cycle Superhighways network extends out for 30 miles – equivalent to the distance from Central London to the M25 – with the widespread uptake of e-bikes pushing up average commuting distances to 10 miles.

Mahoney says: "E-bikes have a huge role to play in making cycle commuting viable over much longer distances. But authorities need to be a lot more ambitious about building cycling infrastructure beyond the city limits so residents outside the central zones also benefit. We need to be extending high quality segregated cycling infrastructure out to the suburbs and beyond."

CREDS report author Jillian Anable says: "We should define e-bikes as a strategically important mode of transport within key transport policy initiatives. E-bike use should be incorporated into the UK Transport Decarbonisation Plan and in the Government's Covid-19 economic recovery stimulus package.

"Pilot programmes to incentivise the use of e-bikes to replace car travel should focus on schemes outside major urban centres to maximise the CO_2 reduction per person."

Barrett says: "The increase in walking and cycling since the pandemic has been very encouraging. E-bikes and e-scooters can provide a viable alternative to driving for journeys that may be too long or too difficult for people to walk or cycle.

"Non-standard and electrically-assisted bikes can also enable disabled and older people to travel independently. That's why we are calling for greater provision of safe and inclusive cycling infrastructure, as well as financial incentives to increase the take-up of e-bikes." ST

TURN OVER FOR THE PEER REVIEWS