

Decarbonising transport

Growing cycle use





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Decarbonising transport

This briefing forms part of the 'Decarbonising transport' series, a toolkit of seven evidence-based policy briefings prepared for the Local Government Association by the DecarboN8 Research Network and the Centre for Research into Energy Demand Solutions.

The briefings are designed to help councils in the task of setting goals for reducing carbon emissions from transport and then in understanding a range of key options available to them to make the rapid progress that is required. Decarbonising transport will require an ambitious package of measures and so, whilst the briefings are designed to provide clear options for specific policy areas, councils will need to design the right mix for their own context.

You can find the other briefings online at: www.local.gov.uk/decarbonising-transport or by emailing info@local.gov.uk

The Decarbonising transport series

- Getting carbon ambition right
- The role of buses
- Accelerating the uptake of electric vehicles
- Climate smart parking policies
- The role of land use, localisation and accessibility
- Travelling less and the role of online opportunities
- Growing cycle use

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Introduction

Cycling needs to play a much bigger part in everyday travel if rapid progress to a zero-carbon transport system is to be achieved. Analysis suggests that cycling will need to increase from the current 2 per cent of all UK trips to between 6 per cent and 8 per cent.¹

This is challenging but not impossible. Consistent investment and prioritisation have delivered a cycling mode share of over 25 per cent of all trips in some European cities. In England, some councils have already developed a strong local cycling culture, but progress is uneven.

Promoting cycling is directly aligned with UK Government policy. The Ministerial Foreword in the Government's March 2020 policy paper, 'Decarbonising transport: setting the challenge' states: 'Public transport and active travel will be the natural first choice for our daily activities'

Estimates are that levels of cycling have surged during the COVID-19 period, bringing an increase in demands for more road space for safe cycling.²

All councils in the UK, from urban to rural, will need to get more people cycling in order for the country as a whole to get on the road to Net Zero. Increased cycling will also help to deliver on public health and local economic and quality of life objectives. This briefing outlines the most cost-effective interventions councils can make to build an inclusive local cycling culture; to develop safe, healthy facilities for cycling; and to deliver a climate smart recovery from COVID-19.

RELEVANT POLICY STRANDS

Cycling and walking plan for England (2020) sets out a plan for making England a 'great walking and cycling nation'. Sets out 22 principles for cycle infrastructure design which will be promoted and enforced by a new funding body and inspectorate, Active Travel England.

Cycling and Walking Investment Strategy (2017) is a requirement from the Infrastructure Act and a statutory duty for the Department for Transport to

1. develop specific objective over the period of its implementation
2. provide long-term financial support and allocate resources with ample guidance on how to access them over the period of implementation.

Local Cycling and Walking Infrastructure Plans (2017) sets out strategic approaches for local bodies to identify cycling and walking improvements required at a local level over a long-term (ideally 10-year) period.

Infrastructure Act (2015) targets transport among other provisions such as energy, housing, and other nationally significant infrastructure projects.

Active Travel Act (2013) sets out guidance for local bodies to map out active travel networks, plans for their development, and progress reporting. Plans must include information on the quality of provision and promote awareness among citizens to accelerate the uptake of active travel.

Cycling in the UK

Over the past 20 years, many cities across the world have delivered large increases in cycling uptake from a low base. Cities including London, Ghent (Belgium), Paris (France), Budapest (Hungary) and Seville (Spain), have increased cycle use by an average of 12 per cent.³

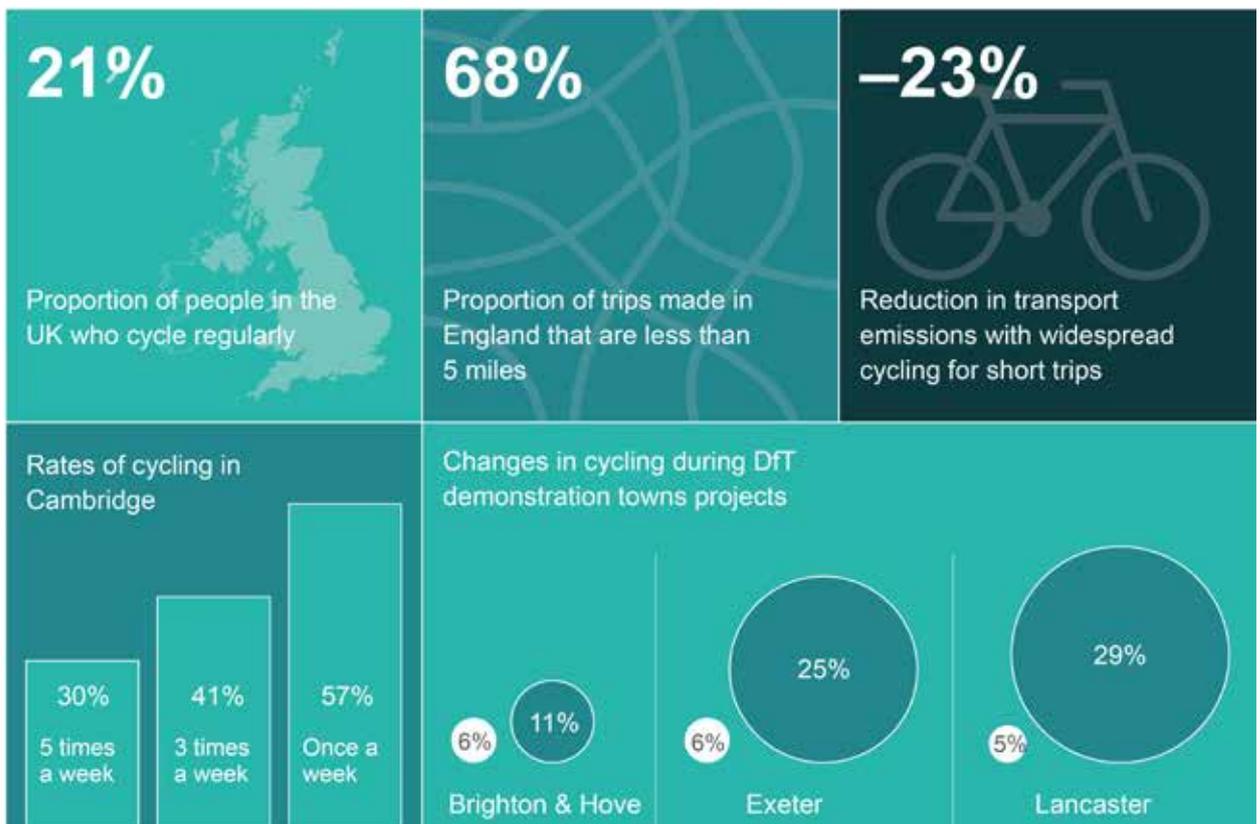
Cities that have increased cycling have done this through major programmes; building new facilities for cyclists that make it feel safe to cycle, easy and secure to park bikes, and where it seems as normal to ride a bike as it does to drive a car.⁴

To develop the cycling culture in the UK, widely perceived barriers to cycling must be addressed.

Non-cyclists worry most about road safety (43 per cent), personal security (10 per cent) and the risk of bike theft (5 per cent).⁵

Measures which address these concerns and can make cycling more attractive to potential cyclists include:

- protected, physically separated cycleways
- traffic-calming measures to limit or restrict motor traffic
- involvement of police, parking enforcement and community wardens
- provision of secure cycle parking both on street, in 'cycle hubs' and with local employers.



Source:7,8,9

Some argue that the UK's weather and hills mean there are places here that will never have much cycling. However, Denmark and Norway have colder temperatures and a similar number of wet and windy days to the UK but have very high cycle mode shares, and electrically assisted bikes (e-bikes) make cycling in windy weather or on hilly terrain much easier.

Every council has the potential to increase cycling: research shows that even though some places might have more favourable natural conditions for cycling, improving cycling infrastructure grows cycle use right across the UK.⁶

What works?

Below we set out the key actions that have been shown to increase cycle use. Success will depend on other local measures such as the approach to speed enforcement and the management of heavy vehicle access. These measures will be most effective if implemented as part of a comprehensive cycling strategy which is clearly integrated with the wider transport, climate, and housing strategies of the council.

For example, Manchester City Council has drawn on evidence-based carbon budgets developed by Tyndall Centre for Climate Change Research¹⁰, leading to the proposal of a vision for the UK's largest (1,800 miles) of protected cycling and walking spaces across the city.¹¹

Action 1: Provide safe and secure road space for cyclists

Safety is the biggest concern among those who would like to cycle more often. Road safety and security must be addressed to deliver a significant shift in active modal share to cycling.¹²

The introduction of high-quality segregated bike infrastructure encourages cycling. The development of a network, rather than ad-hoc pieces of infrastructure, is also important for growing cycling levels. The denser the network the more attractive it will be. Segregated infrastructure is perceived to be safer than painted lanes.

CAR-FREE ZONES

In a pilot project undertaken in urban areas across Europe, the implementation of private car restrictions in the Ruhr area of Germany was observed to shift 50,000 car journeys per day to cycling. A similar observation was made with the establishment of car-free zones in Paris (France) and Copenhagen, where the car-traffic fell by 30 per cent and 45 per cent respectively.¹³

However, it is unlikely that everywhere can be covered by a segregated cycle lane and other accompanying road safety measures are necessary, such as speed management and heavy goods vehicle routing, to make the whole cycling experience safe.

Action 2: Make key activities easy to reach

Direct connections make cycling more appealing, so network planning needs to pay attention to providing easy access to key destinations (education, employment, healthcare, leisure). Cities which have achieved high bike mode shares have good permeability, meaning cyclists benefit from measures such as routes blocked off to car traffic and use of one-way streets with a contra-flow bike lane.

Several studies have demonstrated how efficient road and build space utilisation have turned cities with little history of cycling into strong cycling cities (for example, Bogotá, Seville, and Copenhagen).

The key drivers include: the directness and connectivity of these high-quality cycling routes, destination proximity; and the uniformity of the implementation.¹⁴

THE ROLE OF E-BIKES

E-bikes make cycling accessible to more people and help to overcome the challenge of hills.

They can extend a commuter's average reach by an additional 15-20 miles, particularly in medium and larger cities.¹⁵

If used to replace car travel in rural and suburban settings, e-bikes could cut car emissions in England by up to 50 per cent. E-bikes also have potential to help those most affected by rising transport costs.¹⁶

Finally, E-bikes can also serve as urban cargo-bikes, replacing the increasing numbers of LGVs in urban areas.¹⁷

Planning for secure bike parking at key public transport access points is also important to ensure intermodal bike-bus or bike-rail journeys can extend the reach of cycling. A pilot study undertaken in London (UK), Ghent (Belgium) and Budapest (Hungary), observed that implementing traffic-calming measures boosted cycling by 1.5 per cent for every 4.5 per cent reduction in car-traffic.¹⁴

Working in collaboration with the local public transport (PT) authorities to boost intermodal mobility through the installation of secure bike-parking and bike sharing facilities, there was an observed boost to both cycling and the use of public transport within a 3 kilometre radius of every PT node.

Whilst ease of access matters, cyclists are also attracted by green routes, and will take advantage of natural water features or parks if the routes are safe.

Action 3: Make cycling part of the local culture

Providing the right sort of network and facilities matters, but the effects can be

amplified by promotion and integration with activities in schools, workplaces, and town centres (such as Bike Week and Sky Ride).

A number of cities worldwide have introduced car-free Sundays, where roads are closed to cars and given over to cyclists and pedestrians (often with space for traders and cultural activities) with the intention of changing the way people think about space and how it is shared. There are a range of positive economic and health benefits reported.¹⁸

The combination of improvements and communications delivered through the English Cycling Demonstration Towns showed an average increase in cycling, among a sample population that has never or only occasionally cycled before, by an average of 5.2 per cent. These towns also reported an average of 14 per cent increase in children cycling to school. This resulted from peer-influence and a sense of safety among parents, resulting from the availability of high-quality segregated bike lanes.⁹

FINANCING THE TRANSITION

As part of its COVID-19 response the Department for Transport has announced a £225 million Emergency Active Travel fund to support councils in reallocating road space to cycling and walking.

Recent developments in sustainable transport funding include awards from the Transforming Cities Fund to boost active and public transport infrastructure. Leeds City Council has been awarded £319 million, while other city councils including Sheffield, Tyne and Wear, Plymouth, Southampton, Nottingham, Derby, Preston, Bournemouth, and Leicester have also received funds.

Other sources of funding that are ring-fenced for active travel, particularly cycling infrastructure, include Access fund, Bikeability, Cycling Ambition Cities, Cycle safety fund and Cycle rail.¹⁹

Detailed costings suggest that much greater funding will be required to deliver the UK's cycling ambition. It is hoped that the Emergency Active Travel fund represents a first step in this direction.

Wider Benefits

In addition to decarbonising transport, there are many other valuable benefits which investing in cycling delivers for towns, cities, and rural areas.

Prosperity

There are economic benefits from making places more cycle friendly. A pilot study in Toronto reallocated high street on-street parking to either bike lanes or bike parking and found that, over a period of one year, this increased consumer footfall per unit area of the parking area. Businesses (particularly small and medium) and retailers saw an increase in consumer influx (+20 per cent), spending (+16 per cent), and frequency of visits (+13 per cent).²⁰

Health

There are strong health related benefits from increasing cycling. Premature mortality rates from physical inactivity in the UK accounted for 43 per 100,000 individuals, while in the Netherlands, it was about 29 per 100,000.²¹ It has been estimated that if cycling rates were elevated to 'London' levels in all cities across the UK, this would provide £377 million in savings per annum for the NHS.²²

Safety

Some people worry about the safety record of cycling in the UK. The rate of serious accidents involving cyclists is five times greater in the UK than in Copenhagen.²³ Cycling is not inherently unsafe. The level of danger is significantly dictated by policy action or inaction. By providing better infrastructure which gets people cycling, councils can create a virtuous circle. As cycling levels increase, so the risk of cycling accidents falls because it becomes more normal to see and to be a cyclist.²⁴ The

solutions are known if the commitment is there.

THE ROLE OF E-SCOOTERS

The Department for Transport has accelerated trials for the introduction of regulations to legalise the use of e-scooters on the road and in cycle lanes.²⁵

E-scooters and other electrically assisted micromobility vehicles (including trikes and adapted bikes for disabled and older people) can provide a viable alternative to driving for first and last mile journeys that may be too long or too difficult for people to walk or cycle. The trials will only permit those with a driving licence to use the e-scooters.

In other countries e-scooters have been shown to reduce car trips although they also reduce walking and public transport.²⁶ A critical issue for the forthcoming trials is whether e-scooters help join up the last-mile between public transport and destinations in ways which effect a carbon beneficial mode shift.

The management of scooter maintenance and relocation also affects the emission benefits. There are potential safety impacts of e-scooters for riders and pedestrians although the evidence in different contexts with different rules (eg not pavements and with speed limits as proposed in the UK) is not yet conclusive.

Conclusion

Tripling or quadrupling cycling requires a step-change in how councils think about and deliver cycling improvements. What needs to be done is clear. There are examples across the world where places with low levels of cycling have been transformed. It requires commitment and an integrated approach to promote and mainstream cycling across all planning and policy.

As well as being good for health and beneficial to the economy, cycling has been one of the safe and acceptable options for travel during the extended period of social distancing we are undertaking to control the spread of COVID-19. According to a COVID-19 briefing by Sport England, cycling levels doubled between January 2020 and May 2020.²⁷

Cycling cities such as Berlin, Milan, Vancouver, Denver, Brighton, and Glasgow spotted this early and made moves to quickly reallocate road space to cycling. This is an affordable option to protect citizens and the economy, whilst mainstreaming cycling as a mode of transport for a climate smart recovery.

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