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Decarbonising transport

Climate smart parking policies

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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

There have always been compelling arguments to improve the way we manage parking as part of a balanced transport strategy, but the management of parking must change because of the climate emergency.

The Department for Transport estimates that, if left unchecked, the number of cars owned in the UK might grow by 10 to 13 million over the next three decades. That would be 40 to 50 per cent more cars on our streets which, if parked nose to tail, would run five to six times the length of the UK.[1]

What would our communities look like if this future came to pass? There are already many areas where there are too many cars for the space available.

For example, almost one half of all housing in the UK comprises flats and terraced houses and, of these, 33 per cent and 23 per cent respectively have no or inadequate on-street parking.[2]

Substituting internal combustion engine cars for electric vehicles (EVs) is necessary to get to a zero-emission goal in the long-run. However, there are more CO2 emissions required to build electric cars, including the batteries, than current combustion engine cars.

A recent study showed that, from a total emissions perspective, EVs will provide few benefits before 2030. Sticking within the overall carbon budget will require a balance of demand reduction and mode shift policies as well as electrification.[3]

Accommodating this anticipated growth in vehicles is not possible in some places. In many, it is not desirable from a local environmental perspective. Nor is it consistent with the global climate commitments which our national governments and many local authorities have declared support for.

Parking management is a crucial part of local authorities' policy toolbox. It can make walking, cycling and public transport more attractive, and it can deliver a shift away from individual car ownership.

Instead of individual car ownership, climate smart parking management can promote car sharing and ride sharing, so everyone can still access cars when they need to. This will require thinking differently about how space is allocated in our towns and cities.[4]

This briefing considers the different elements that typically comprise a good integrated parking strategy. It explains how these policies can be used to accelerate decarbonisation, in line with wider transport, climate and social policy.

RELEVANT POLICY STRANDS

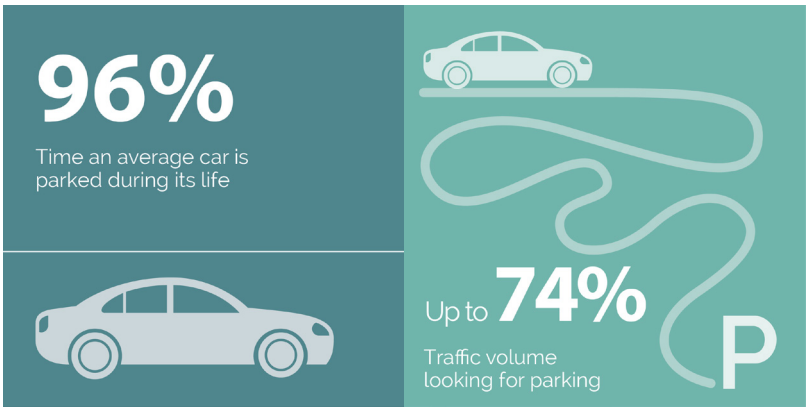
The **National Planning Policy Framework (NPPF)** (2019)[5] sets out the Government's planning policies for England and how they should be applied by local planning authorities. NPPF Chapter 9 'Promoting Sustainable Transport' sets out how parking standards for new development should be used as part of the overall approach to planning for sustainable transport.

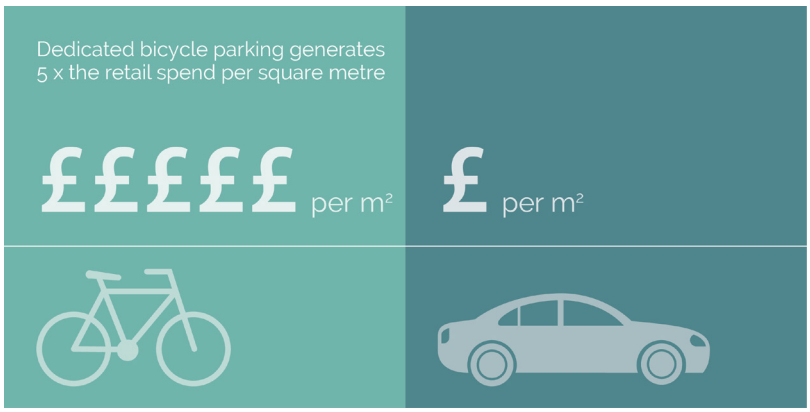
The powers for local transport authorities in England outside London to propose **Workplace Parking Levy schemes** are provided for in the **Transport Act 2000**.

Part 3 of the Government's policy paper **The Road to Zero** (2018)[6] sets out the suite of grant schemes available to develop charging infrastructure for EVs when parked on and off street.

The general legislation governing local authorities' powers with respect to parking on and off the highway is the **Road Traffic Regulation Act 1984**.

Key facts[7,8,9,10,11]





Parking policies

Parking policy covers a wide range of different interventions including the management of on-street parking and the kerbside more generally, and of off-street parking, both public and private.

All car journeys start and end with parking. Different considerations are important for residential, workplace and other non-residential uses. This briefing covers all of these.

As people take decisions about whether to own a car and what type of car to purchase based on all the activities they do, having a comprehensive and coherent approach to parking management is essential.

Intervening to reduce parking availability and to raise parking costs, where there are good alternatives to the car, can reduce car ownership.[12,13]

Once people have invested in owning a car, they are inclined to use it, even for short trips. This is because they largely ignore the purchase, insurance, maintenance, and fuel costs in decisions about how to make each trip. [14 15]

However, when car owners make decisions about how to travel, they do factor in the abundance, convenience, and price of parking.

Parking is, therefore, a key policy lever which local councils can use to promote mode shift to walking, cycling and public transport.[16]

Local councils manage parking as…

…the **local highway and local traffic authority**, with responsibilities for the good management of streets.

…**owner/operator** of public car parks.

…the **local planning authority**, with responsibility for setting and enforcing parking standards for new developments.

…a **local transport authority**, with powers to develop schemes for introducing local workplace parking levies.

Because parking policy is a demand management tool, it is more 'stick' than 'carrot' and can be politically contested and unpopular to use. Some even argue for the removal of parking fees to stimulate local economies.

There is, however, no such thing as 'free parking'. The cost of parking is bundled into home ownership through bigger plots and higher prices, office rental costs, supermarket food prices, and the public health costs of car-based living.

These costs are faced by non-car owners, even though they do not drive. Where parking is under-priced, or the supply is badly managed, areas risk becoming over-parked.[17] This causes safety and accessibility issues, as well as congestion, air quality, and environmental problems.

This briefing focuses on five action areas where local councils can make a difference through parking management. However, parking is interconnected with most aspects of transport policy and these interventions should not be seen in isolation.

These actions are best implemented as part of a suite of measures to make space for active travel[18], increase bus ridership[19], promote online working[20], deliver walkable communities through better planning[21], and manage the transition to EVs[22].

Pavement parking causes major accessibility problems

Image credit: Pedestrian Safety[23]

Action area 1: Get parking right for new developments

There is a need to rethink the relationship between housing locations and levels of residential parking. Otherwise, in striving to deliver on ambitious housing targets, national and local governments will also increase car ownership and use.

The 2001 revision of Planning Policy Guidance note 13, Transport (PPG13) introduced England to the concept of the maximum parking standard for new developments.

The 2019 National Planning Policy Framework (NPPF) emphasises that maximum standards should only be set where:

'there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport'

Locating housing in areas well served by public transport allows the reduction of parking in ways which support building at higher density. This in turn reinforces the viability of public transport.

In their evaluation of the London parking reform from minimum to maximum standards in the early 2000s, Li and Guo found a 49 per cent reduction in new residential parking supply.[24]

A study of residential parking by Kent County Council found that parking allocation led to excessive waste of valuable land.[25] Several studies have demonstrated that forcing all homes to have parking is regressive, given the need for non-car owning households to pay for the land area required even though they do not need it.[26]

Key policy actions for new developments

First, it is essential to locate housing in the right places.[27] New developments in more accessible and central locations generate less car travel, whilst increased residential densities are associated with lower transport CO2 emissions.[28] Parking for accessible developments can, and should, be limited.

Second, local councils can work with developers to ensure that compelling alternative modes of transport are built in to developments from day one.

These can include walking and cycling routes, public transport, and shared mobility solutions such as car clubs[29]. These can be linked together through Mobility as a Service-led integrated pricing.[30]

CASE STUDY: FUTURE MOBILITY ZONE WINNERS NOTTINGHAM AND DERBY

Blueprint, the developer of Trent Basin, is building 500 new sustainable low-energy homes in the Waterside regeneration area of the city.

In Derby, the neighbourhood concept will be delivered in an existing residential area to prove the concept is also applicable in established communities.

Both will concentrate on reducing car dependency for residents through the provision of a wide range of mobility solutions, including secure cycle parking and community track pump, e-bike hire from docking stations, e-bike charging facilities, electric car club hire, electric vehicle charging and e-cargo bike hire.

To enhance the public transport offer, smart bus stops with digital information displays and WiFi hotspots will be provided alongside real time public transport displays.

Bus stops will be co-located with wider community facilities and services such as 'click and collect' lockers, delivery hubs for local food schemes, and hubs for volunteer driver services linked to car club and mobility credit packages for elderly and vulnerable residents.[31]

Pavement parking is recognised as having disruptive and detrimental effects, particularly those with limited mobility. Following from the 2019 Transport Committee report, the Government is currently considering a nationwide ban on pavement parking.[32]

Local councils can begin to address pavement parking by working to identify the places in which it is occurring and engaging with residents to develop locally-acceptable solutions to reduce the practice.

Councils can help future-proof new developments, by requiring the inclusion of adequate EV charging provision for new developments, and sufficient local network and substation capacity on the grid.[33]

The design of parking provision also makes a difference. In residential locations, distance from parking can have a strong impact on the decision to use the car to travel, especially for short distances. When parking is closer to walk to than public transport then the car usually wins.[34]

In developments where the provision of spaces is unbundled from the cost of the housing (ie spaces can be bought or leased) then take up of parking is lower. Some 'car free' or 'car lite' developments provide parking, but on this basis, and at the periphery of the development.[35]

Action area 2: Work with employers to reduce commuter parking

There can be mutual gains from councils and larger employers working together to reduce the amount of parking offered on site. This is an effective way of reducing single occupancy car commuting[36], and there are several types of intervention to choose from.

For example, for both new developments or changes of use, planning applications can be used to influence parking policy by amending parking provision and obtaining obligations through **Section 106 agreements**, funding car club vehicles for example.

These obligations can include a requirement to improve active travel and public transport connections, and to provide other mitigation measures to reduce traffic impacts.

Workplace travel plans, which are focused on reducing car commuting can also be very effective. For example, ARUP West Midlands partnered with Liftshare to create a bespoke car sharing platform. Forty-eight per cent of staff signed up to the programme, saving 764 thousand car miles and 151 tonnes of CO2 annually.[37]

Parking cash-out schemes can also be used which, rather than giving employees a car parking permit for the whole year, reward people for every day the permit is not used or for rescinding the permit.

Vodafone in Newbury, Berkshire introduced a parking cash-out scheme to employees due to an insufficient number of parking spaces, leading to a third of their staff (1500 employees) forgoing their parking spaces in return for the monthly cash-out.[38]

Powers for local councils to introduce a **workplace parking levy** (WPL) were brought in by the Transport Act 2000. Workplace parking levies can be introduced for any business with more than 11 employees.

Councils can evaluate the value of a workplace's parking according to the number of parking spaces. The employer must then choose to pay the levy or pass the cost on to employees.[39]

The first scheme implemented was in Nottingham in 2012. Impact assessments suggest a small mode shift away from car use.[40] Equally important is that the scheme yields around **£10 million a year.**

This scheme therefore has been integral to funding the extension of the Nottingham Tram network and delivering wider sustainability benefits.

At the end of 2019, Leicester, Reading, Edinburgh, Glasgow, Cambridge, Bristol and Hounslow and Camden in London all had a WPL under consideration.[41]

Action area 3: Park and Ride

Park and Ride can reduce the number of commuters or shoppers who drive all the way into a city centre. This has been successfully implemented around smaller cities such as York, Nottingham, and Oxford.

Park and Ride bus services may be particularly well suited for electrification as the services are typically on relatively short routes and can build in top-up charging at the end sites.

York will have 33 all-electric Park and Ride buses in service by the end of Summer 2020. Meanwhile in Leeds, two recently opened sites have taken 9,000 car journeys off city centre roads and shifted them to ultra-low emission buses.[42]

However, to date, Park and Ride's ability to reduce traffic overall has been limited. The reasons for this are two-fold.

First, Park and Ride attracts some users who would previously have used a train, bus or bike for their whole journey.

Second, unless the addition of Park and Ride spaces is accompanied by other measures in the town or city centre, such as a reduction in parking capacity, increased parking prices, and reallocation of road space from cars to buses, cyclists and pedestrians, then this adds additional options but does little to impact on the demand for car use.[43]

It is only in places where Park and Ride is part of a wider strategy of reducing car access to town and city centres that the benefits can really be delivered.

Action area 4: Manage on-street parking better

Active management of on-street parking is essential in busy areas but is contentious, with local businesses often adamant that the provision of convenient and, where possible, free parking is essential to their bottom line.

There are many reasons why local councils will need to take an even more proactive stance on managing access to the kerb.

These include a 6 per cent per annum growth in online retail and associated deliveries, rapid rises in the use of taxi services such as Uber and Lyft in some areas, and the aging population and the additional demand for Blue Badge parking this will likely bring.[44]

Here, we limit the actions recommended to those which will have most impact on decarbonising transport.

First, **on-street parking should be priced higher than off-street parking**. Low on-street parking fees encourages traffic to cruise, looking for spaces and creates additional emissions.[45]

Low parking fees also reduce the turnover of spaces and should not be assumed to be beneficial for businesses. In a study of three different UK town centres, no systematic relationship was found between levels and convenience of parking provision and economic performance.[46]

Councils can also hand over some parking spaces to **Parklets**. This is particularly important to provide more space for businesses during the COVID-19 social distancing restrictions. Eight bikes can typically be parked in one car parking bay.

It is important to assess the adequacy of bike parking and consider handing over space for cycle parking. Forsyth and Krizek[47] found that cycling infrastructure and furniture – particularly **secure bicycle storage and lighting** – was a key factor in getting people to take up cycling beyond recreational use.

Finally, local councils can also join the park4SUMP.eu network. The cities who make up the network use parking management for greater sustainability.

Park4SUMP measures include investing at least 10 per cent of parking revenue into active and sustainable transport, freeing up at least 10 per cent of parking to be used as public space, and using participatory planning processes to design solutions acceptable to the community.[48]

Removing parking for economic gain (**Hackney Parklet**)
Image credit: CycleHoop[49]

Parklet in Norwich accommodates eight bike share bikes
Image Credit: Peter Silburn, Horsham District Cycling Forum

Action area 5: EV uptake and anticipating the future

There are two key aspects to consider in parking policy for EVs, above and beyond ensuring adequate future proofing of the residential housing stock set out in Action area 1.

The first relates to the provision of on-street and off-street EV charge points, which may be for public use, or bespoke networks for taxis and other intensive users.

Here, the provision of charge points can help adoption by reducing 'range anxiety' which is a factor in vehicle purchase. The issue of charge point provision is covered in more detail in the companion briefing on accelerating the uptake of EVs.[50]

The second, however, relates to whether EVs should be given preferential parking rates or cheap or free electricity to encourage uptake. There are two reasons why this is undesirable from a wider transport policy perspective:

There is currently little to be gained from a whole life emissions perspective, at least until around 2030, at which point there will be too many EVs for parking privileges to matter to uptake.

In Norway, Europe's leading electric vehicle nation, cheaper parking was only ranked eighth in the most important incentives or reasons for buying an EV.[51] There is no case for incentivising EV uptake through parking incentives.

Conclusion

An effective and integrated climate smart parking management strategy is essential for every local authority. It should cover residential, workplace and other non-residential uses.

The needs of each and the strategies required differ but should be joined up and fully linked to wider councils plans to accelerate a mode shift away from the car.

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.

Whilst parking management can be politically challenging to implement, there is a growing evidence base on the benefits of a range of interventions.

New innovations in how to manage parking and access, including participatory planning, shared mobility, and mobility as a service, can help to change the nature of the parking debate, and offer greater scope to deliver climate smart parking management.

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