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CHAPTER FOUR

# Transport and infrastructure

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Transportation exists as one of the primary gears driving social and economic development, itself driven by investment in the physical environment such as infrastructure and mobility<sup>101</sup>.

Continued use of transport is vital, not only for everyday mobility but to ensure the connection of human capital, infrastructure, and social capital to contribute to economic development as well as a better lifestyle for residents<sup>102</sup>. There is scope for local action across tiers in this sector - local authorities at the country/unitary level have transport authority status, and those at the district/unitary level have a role to play in terms of planning and the built environment.

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101 Bamwesigye et al (2019) – Analysis of Sustainable Transport for Smart Cities

102 Ibid.

## Key points

### Driving decarbonisation

- Transport is the UK's highest-emitting sector, and decarbonisation will need to be driven both by technological and behavioural change.
- Electric vehicles and innovation in public transport systems can greatly reduce emissions, but encouraging the behavioural change that underlies a modal shift in transport is also required.
- Local authorities have a role to play in both aspects of transport decarbonisation. Across all types of local authorities and geographies, multiple powers and resources exist to help aid a smooth transition.
- However, the disjointed and piecemeal nature of these powers means that authorities must make the best use of their ability to convene and collaborate across different geographies and at different scales in developing an integrated and holistic vision.

### Achieving clean growth

- Improving transport infrastructure has been identified repeatedly as crucial to alleviating regional inequality and delivering local growth.
- Increasing active travel has been shown to have benefits for local businesses as well as for health and wellbeing.

## 4.1 The current national picture

### 4.1.1 Changing the focus of transport strategy

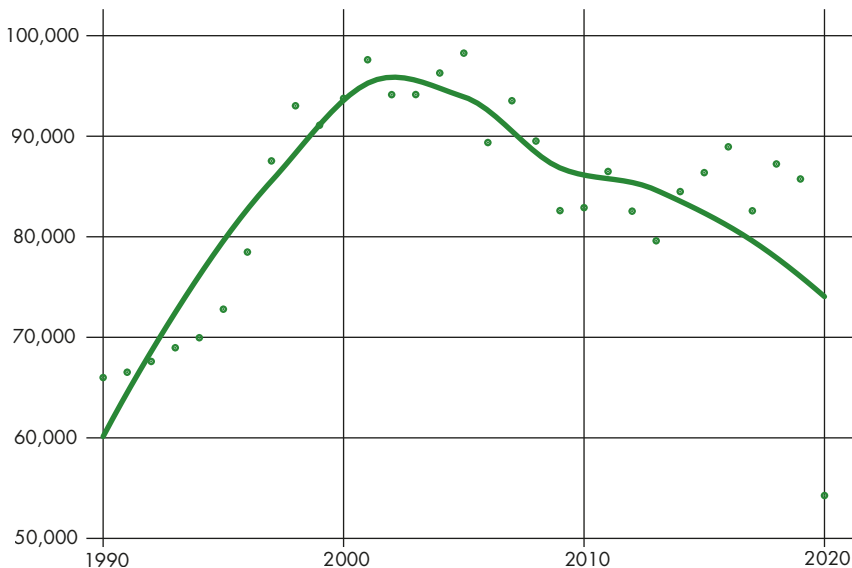
Sustainable transport has two main dimensions. One attempts to reduce the need for travel through the spatial distribution of land uses so that distances can be minimised or using technology to substitute for travel (for example, through working from home). The other is to ensure that the most efficient form of transport is used, and that any energy needed is provided from renewable or non-carbon-based sources. Currently, the barriers are huge. Tens of millions of cars will have to be replaced requiring an enormous shift in cultural behaviour, with fit-for-purpose infrastructure also required. High-quality walking and cycling routes will need to be provided as alternatives to the car, which will also bring about opportunities to improve air quality, improve health and wellbeing, address inequalities, and tackle congestion on our road.

In recent history, when faced with making decisions between economic and environmental benefits, transport policy has increasingly pursued economic

targets<sup>103</sup>. This is despite claims from governments since New Labour, in power from 1997-2010, that transport would enter a more sustainable 'new realist' paradigm, where sustainability targets would be integrated into transport to replace 'predict and provide' policy which focused on projecting and meeting demand, usually with road infrastructure<sup>104</sup>. Until recently, sustainable transport was underrepresented in policy and only in 2021 was a transport decarbonisation plan<sup>105</sup> produced.

**Figure 15.** UK transport emissions, 1990-2020

Thousand tonnes of CO<sub>2</sub> equivalent



Source: ONS

The importance of transport infrastructure to economic development is obvious. This has been centred in the government's approach to levelling up, with a focus on achieving the benefits of agglomeration through improved connectivity one of the more consistent elements of an agenda which is often criticised as nebulous. Yet, despite this continued focus on transport as an economic necessity, the

103 Goulden et al (2014) – Beyond 'predict and provide': UK transport, the growth paradigm and climate change

104 Docherty (2011) - The Transformation of Transport Policy in Great Britain? 'New Realism' and New Labour's Decade of Displacement Activity

105 Department for Transport (2021) – Transport Decarbonisation Plan

government have widened the scope of policy repeatedly over the past decade, as a more holistic view of transport decarbonisation has come together through various strategies and policies. The country is now beginning to arrive at a position which centres the need to decarbonise transport as both a necessity and as complementary to the goal of local economic development.

Published following months of delays, the Transport Decarbonisation Plan outlines the government's approach, in terms of timings and technologies, to decarbonising the UK's highest-emitting sector. The plan includes a raft of policies with headline commitments to ban the sale of new diesel and petrol Heavy Goods Vehicles (HGVs) and buses by 2040. Also included are new public consultations on initiatives to reduce emissions from transport, including on the zero emissions vehicles (ZEV) mandate which would see car makers having to produce a minimum number of electric vehicles for sale<sup>106</sup>. Former transport secretary Grant Shapps heralded the plan as "just the start"<sup>107</sup>.

In addition to the Transport Decarbonisation Plan, other progress of note has been<sup>108</sup>:

- Publication of the long-awaited National Bus Strategy for England
- Additional support for railway service upgrades and reduced support for new roads (although the government is continuing with its multi-billion-pound roads programme)
- Requirement for all road transport fuel producers to ensure 10 percent of fuels are from bioethanol
- Support for the 2030 phase out of sales of new petrol and diesel vehicles as the government has committed to higher funding of £1.3bn for EV charging infrastructure

#### 4.1.2 Changing transport behaviours

Behavioural change will be a core factor in successfully achieving net zero by 2050. Government, business, and industry interventions to develop sustainable methods of transport are one part of the equation. The other will be interventions aimed at influencing and changing the way people organise and live their lives in a manner that is more conducive to net-zero goals and ambitions.

Behavioural change will be required across a whole range of areas from eating

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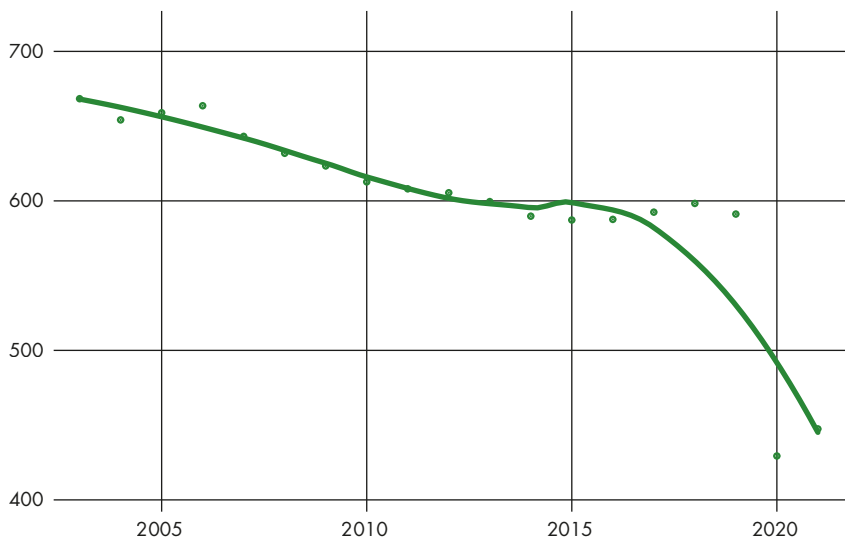
106 Climate Change Committee (2021) - CCC responds to Government's Transport Decarbonisation Plan

107 Edie (2021) - At a glance: Everything you need to know about the UK's Transport Decarbonisation Plan

108 Green Alliance (2021) - Net zero policy tracker: April 2021 update

less meat, reducing the amount people waste to changing home heating patterns to be more energy efficient. Here, transport behaviour change must be at the forefront. Increasing community understanding of the climate-friendly benefits of active travel, a switch to electric vehicles, and utilising zero-carbon modes of transport for short distances are a few of the initial areas where efforts will need to be focused. However, the task of embedding this change is easier said than done.

**Figure 16.** Car journeys in England  
Average trips per person per year



Source: DTT

In 2021, BEIS commissioned an independent report 'Net zero public engagement and participation'<sup>109</sup>, which showed that while public concern for climate change is at an all-time high, this does not translate to committed support for 'the types of changes that may be required to meet net zero'.

Given this, concerted public engagement aimed at an eventual change of behaviour with regards to transport use will be critical. Local authorities are the best suited to breakdown national ambitions around net zero and translate what this means for individual communities based on their unique circumstances.

109 BEIS (2021) - Net zero public engagement and participation

It will be up to authorities, working with local state stakeholders to effectively communicate and bring along residents on the journey to net zero. Giving communities a sense of agency to act on net zero will empower them to make the correct choices, whether that be switching to an electric vehicle or increasing their use of public transport and modes of active travel.

Stakeholders have also pointed to recent changes to the Highways Code as helping encourage behavioural change towards more active travel and making it easier and safer for people who choose to walk or cycle. Presumed liability<sup>110</sup> is at the forefront of these changes, described as a 'golden ticket' in changing the way drivers behave in response to other active travel road users.

Along with increasing the provision of active travel, addressing the significant costs of using public transport has to be a priority if transport behaviours are to be changed. There is an affordability issue with trains and a need to simplify the national ticket system to make train travel cheaper and discourage long distance, cross-boundary car journeys. However, making public transport cheaper should be taken as one aspect of a broader suite of interventions.

It is worth noting that the prize on offer for increased active travel goes beyond the obvious benefits to health and wellbeing associated with higher rates of exercise. A House of Commons Library paper found that the spill-over benefits of increased active travel include a boost to local businesses and assessed the value for money in investing in measures to promote its use as "very high". These distinct local benefits are recognised by residents, until individual responsibility is invoked (i.e. low traffic neighbourhoods), to which there can be considerable pushback. Practitioners have claimed that this is typically due to poor engagement and a lack of information campaigning.

## 4.2 Local authority powers and capacity

### Local authority powers and capacity to drive decarbonisation – transport and infrastructure

Power	District/Unitary	County/Unitary	LEP
Soft power	<ul style="list-style-type: none"> <li>• Can launch resident and business engagement campaigns and programmes to promote low-carbon transport.</li> </ul>	<ul style="list-style-type: none"> <li>• Can launch resident and business engagement campaigns and programmes to promote low-carbon transport.</li> </ul>	<ul style="list-style-type: none"> <li>• Can help join up local priorities as members of subregional Local Transport Bodies.</li> </ul>
Hard power	<ul style="list-style-type: none"> <li>• Planning authority status particularly relevant to transport where infrastructure provision around development is concerned.</li> <li>• Can implement Clean Air Zones and Air Quality Management Areas.</li> <li>• Responsibility for managing public car parks.</li> <li>• Can use council-owned land for provision of EV charging points.</li> <li>• Can cut emissions through decarbonising council-owned vehicles.</li> </ul>	<ul style="list-style-type: none"> <li>• Highway authority status gives responsibility for managing most roads.</li> <li>• Decision-making power on transport planning and public transport.</li> <li>• Can use council-owned land for provision of EV charging points.</li> <li>• Can cut emissions through decarbonising council-owned vehicles</li> </ul>	

### 4.2.1 Roads and public transport

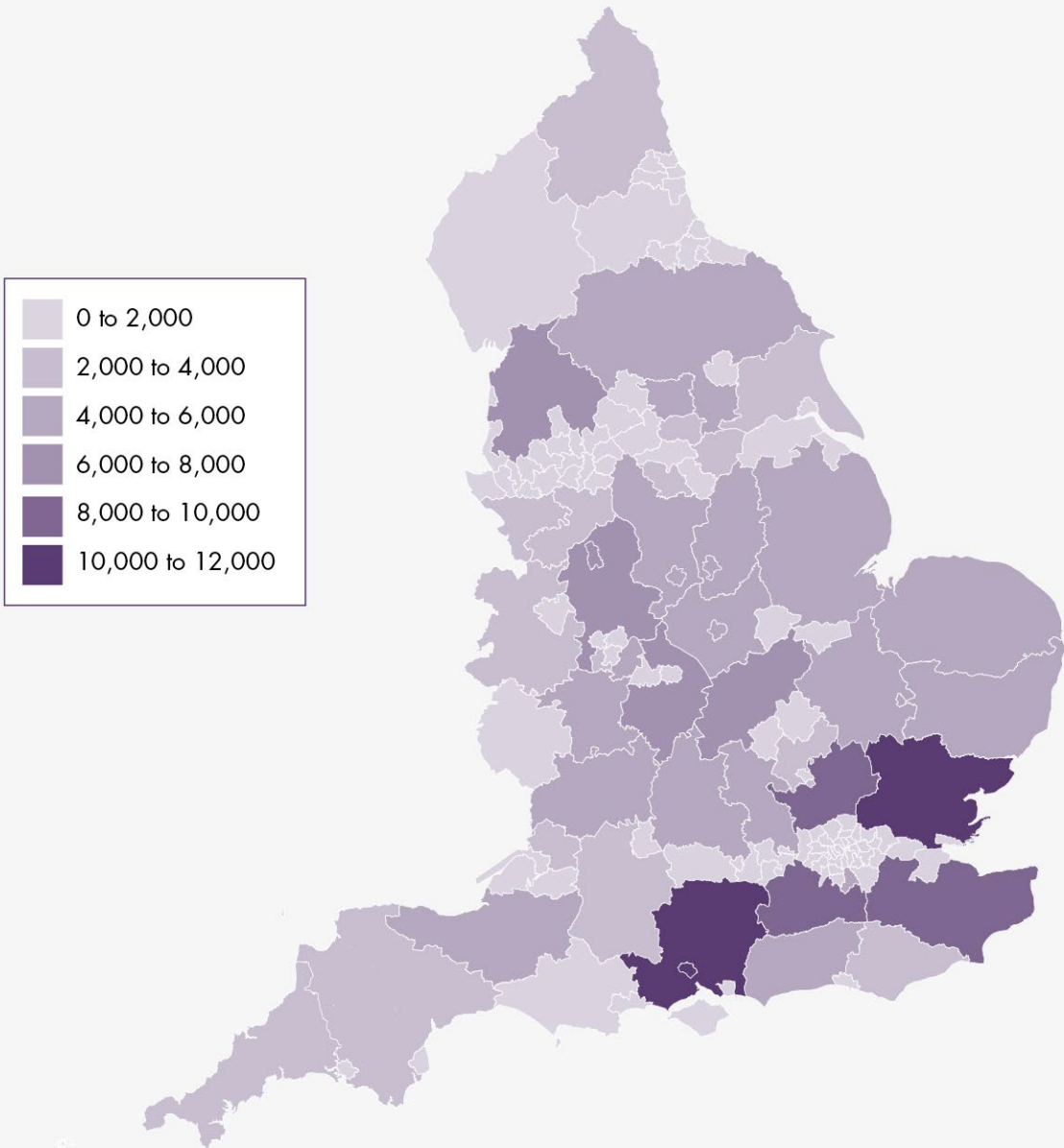
Local authorities determine local transport policies and objectives with responsibility for 98 percent of publicly owned roads in England<sup>111</sup>. County councils are the highways authority and hold the funding and decision-making power for transport planning, roads, and public transport. District councils are responsible for parking and development planning. This means that local government has an influence over local provision for bus journeys, walking and cycling, and on-street charging facilities for electric vehicles, providing significant leverage over transport emissions.

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111 NAO (2021) – Local government and net zero in England



**Figure 17:** Road traffic volume (total vehicles, 2019)



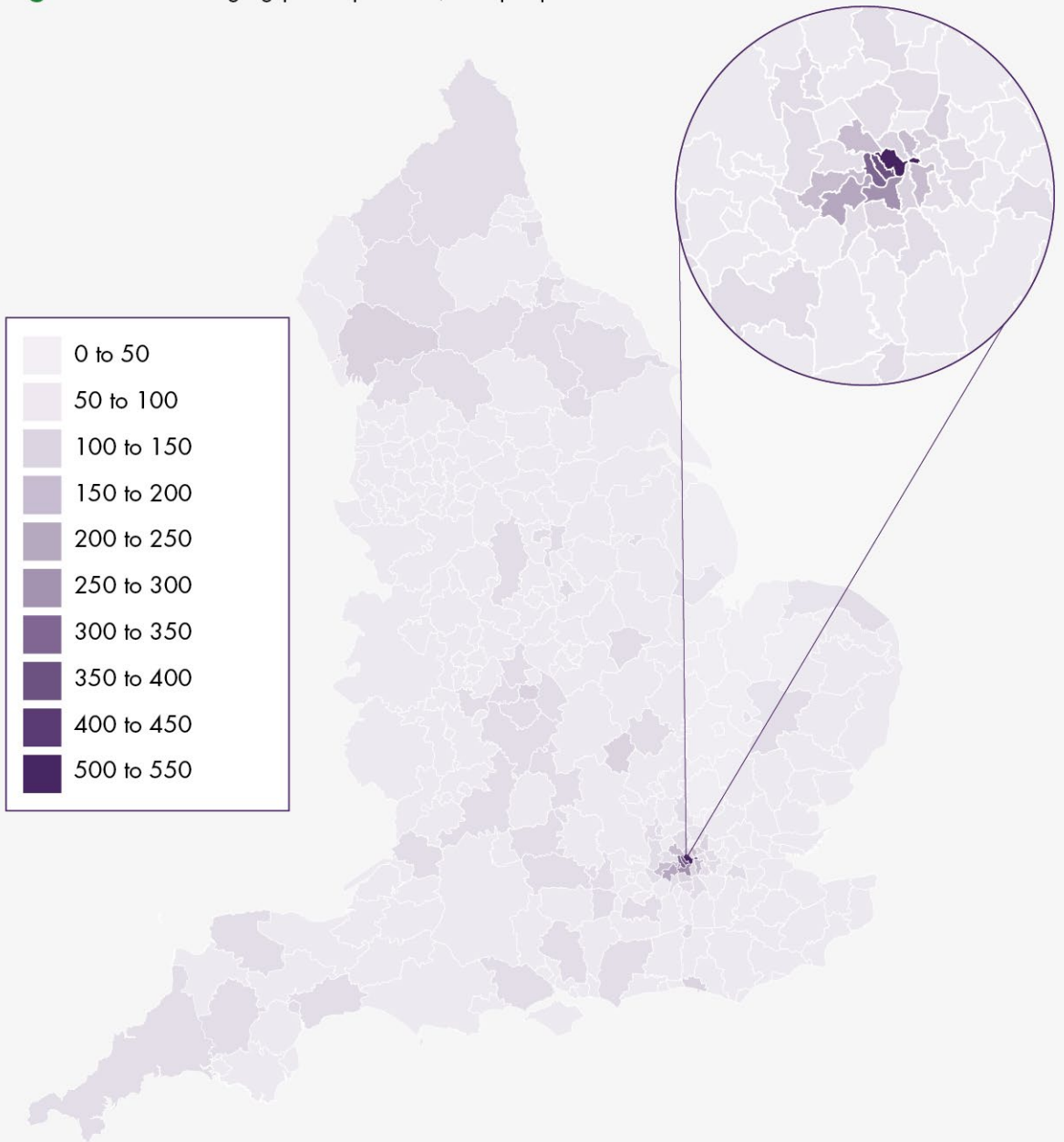
Yet there are limited local authority powers to support integrated transport solutions, so for a system change to be implemented, there needs to be a framework for transport authorities that prioritises carbon reduction, clarifies the sources of carbon they are responsible for cutting; and provides the resources to enable them to act. A piecemeal approach to delivery which does not recognise the complementary nature of national, regional, and local action will fall short.

While local authorities will have to work with limited powers on this agenda, strategic coordination is a key tool that will help bolster action at the local level. A lot of carbon emissions come from long trips going across boundaries, whether for commercial, recreational, or supply purposes, meaning that the decarbonisation of transport must involve cross-boundary working from local authorities. Regional governance organisations, such as sub-national transport bodies (STBs), combined authorities, or local enterprise partnerships (LEPs), can facilitate this, as well as working towards producing data on where emissions are most acutely present in regions and localities.

### Electric vehicle take-up

The public sector, and in particular local authorities, will have a central role in ensuring that the infrastructure required for electric vehicles (EVs) is delivered across the country to meet the needs of communities and ensure uptake. There are a number of factors that make local authorities well suited to act on EV uptake, particularly in the provision of EV infrastructure. For example, a consideration for local authorities of all configurations will be the use of council land. This could prove to be a significant contribution to increasing the provision of charging points across a locality.

**Figure 18:** EV charging points per 100,000 people



With regards to county councils, their function as a highways authority means that they can plan for charging points and other needed infrastructure at key points across public roads within the county area. Here, close alignment and working with constituent districts as well as public sector partners will be necessary to ensure that the maximum amount of local knowledge is fed into decisions on the location and specificity of infrastructure.

District authorities can also use their functions as a planning authority, and their local plans, to mandate charging points in new development schemes, both commercial and residential. They can also be mandated in new council developments. Partnership building and strategic planning is another strength of local government that can be used to bring local state stakeholders together to work on increasing the uptake of EV's and increasing the provision of related infrastructure. For district councils in ownership of car parks, it will be relatively easy to dedicate a portion for EV charging.

Resident engagement on the uptake of EVs is something local authorities can all take a lead on, using their position as the most trusted form of government to drive the awareness of impending government deadlines on EVs as well as the importance of switching to EVs for the wider net-zero agenda.

### Decarbonising heavy goods vehicles (HGVs)

According to statistics from the Department of Business, Energy and Industrial Strategy (BEIS)<sup>112</sup>, HGVs accounted for 18 percent of road transport emissions. This makes HGVs the second biggest contributor of road transport emissions, which itself accounts for 91 percent of all transport emissions. Therefore, the decarbonisation of HGVs will be an equally important policy agenda on the road to net zero. The Department for Transport (DfT) acknowledge this, especially how action is needed to reduce the impact of the freight system on carbon emissions while equally ensuring the continued flow of goods along the supply chain of sectors of the UK economy.

Here, there are several initiatives that councils can take to lead at the local level in this decarbonisation process. Recognising this, DfT have published a local authority toolkit<sup>113</sup> which outlines the powers, capacities, and actions available to authorities. Actions covered by the toolkit include decarbonising council owned fleets and setting standards for the use of zero-emission fleets

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112 Department for Transport (2021) – Transport and environment statistics: Autumn 2021

113 Department for Transport (2022) - Decarbonising road freight, servicing and deliveries: local authority toolkit

when procuring. Engaging the local freight sector will be important in raising awareness and growing support for the decarbonisation and use of electrified fleets. This is something all local authorities can do and will help in developing an understanding of the needs of freight and HGV operators.

### The role of bus transport

Buses form a core aspect of public transport and are an important way to reduce the amount of car dependence and ownership across the country. In the National Bus Strategy for England<sup>114</sup> emphasis has been placed on decarbonising and electrifying bus transportation. The strategy comes alongside a £3bn investment in bus services that will entail increasing the capacity and skills of local transport authorities, increasing zero-emission vehicles, and investing more in comprehensive services.

The Transport Act 1985 has been cited<sup>115</sup> as a barrier to comprehensive action at the local level. This is because the act deregulated buses, which has meant local transport authorities have relatively few powers to act, especially on aspects such as bus routes. A consequence of the deregulation of buses has been that no authority, apart from London and a select few cases across England, has retained control over services. This means that they are in competition with private operators who run services on a demand-led basis. Therefore, if a certain route is not proving profitable it could be cut, which will have negative consequences for certain demographics in rural areas at risk of isolation.

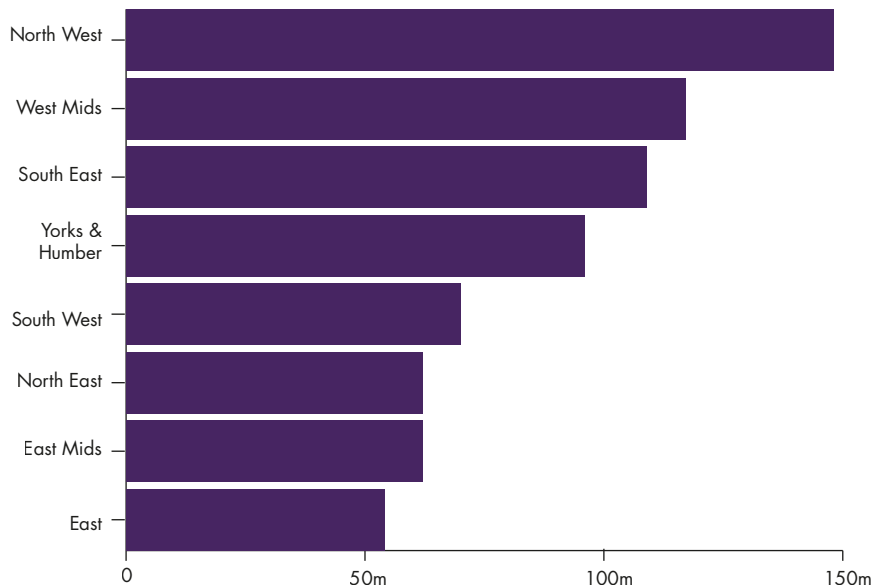
However, other pieces of legislation supporting authorities to act on increasing bus transportation usage have been introduced in recent years. For example, the Bus Services Act 2017 has allowed transport authorities to form Enhanced Partnerships with bus operators that detail things such as timetables and register bus services. The National Bus Strategy places an expectation on these partnerships to produce detailed Bus Service Improvement Plans. A large part of BSIPs is transport authorities and bus operators setting out plans for the decarbonisation of existing fleets. Local transport authorities can also work to bring these plans into wider decarbonisation plans for the local area.

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114 Department for Transport (2021) – Bus back better

115 UK 100 (2021) – Power Shift

**Figure 19.** Bus journeys by region, London not included



Source: DfT

### 4.2.2 Influencing powers

Given their responsibility for over 98 percent of public roads across the country, and their respective roles as transport and planning authorities, county and district authorities will naturally have extensive responsibility when it comes to enacting the behavioural change required in increasing active and sustainable transport. This is a key goal of government as captured in multiple transport strategies over the last few years and seen through the creation of Active Travel England.

Government have launched an active travel local authority toolkit<sup>116</sup> that identifies actions councils can take. Alongside the development of plans around sustainable transport infrastructure, a key action is enacting behavioural change in residents. This can be done through effective communication strategies, the implementation of behavioural change interventions, and using their role as local leaders to lead by example and embed active travel in corporate strategies and offer active travel schemes to staff. District councils can also use their parking powers to repurpose

parking spaces for EV charging and cycle parking and can alter parking charges to encourage the use of public transport. Low Emission and Clean Air Zones and Air Quality Management Areas can be implemented to reduce polluting traffic. Looking at the potential found in young people to drive the agenda, authorities can partner with schools and colleges to develop cycle schemes.

Relatedly, borough, county and unitary councils can work with businesses and other local state stakeholders to implement cycle sharing schemes in their localities. Public schemes are already well known and extensively used in cities across the UK including in Belfast, Cardiff, Glasgow, and London. But more recently there has been an expansion of these schemes in towns such as Watford<sup>117</sup> where Beryl Bikes were launched in March 2020. On the other hand, districts can work with local stakeholders, including county partners, to implement Local Cycling & Walking Infrastructure Plans, as is happening in Three Rivers District Council<sup>118</sup>

Behavioural change away from car dependency is something that can be embedded into local plans by local planning authorities. This is a key method through which to mitigate and lower carbon emissions in the area. When developing their plans, authorities should give prioritisation to developments that focus on enhancing active travel in town centres and high streets. They can also put in measures to ensure that transport and public health policies are thought of holistically in a joined-up manner. As will become increasingly important, planning authorities can also consider and plan for EV charging infrastructure within their local plans.

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117 Watford Observer (2020) - New 'cheap and sustainable' bike scheme launched in Watford

118 Three Rivers District Council - Three Rivers Proposed Cycling and Walking Infrastructure Plan

### 4.3 Achieving clean local growth in transport and infrastructure

Opportunities	Barriers
<ul style="list-style-type: none"> <li>Local authorities can achieve <b>meaningful community engagement</b> on transport and decarbonisation, two issues which impact everyone, through things like citizen's assemblies.</li> <li>Strategic use of a range of powers alongside public information campaigns can help <b>incentivise active travel</b> to the benefit of local health and wellbeing as well as decarbonisation.</li> <li><b>Joined-up procurement, planning, energy, and highway strategies</b> can be used to greatly simplify the roll-out of electric vehicles, easing the transition for the public.</li> </ul>	<ul style="list-style-type: none"> <li>Whilst capital funding can be obtained for many decarbonisation solutions, <b>the revenue funding gap</b> of local authorities remains a significant barrier to running services once the initial capital injection has been obtained.</li> <li>The piecemeal devolution landscape across England makes <b>comprehensive integrated transport strategy</b> difficult in many parts of the country.</li> </ul>

#### Creating market conditions for clean local growth in transport and infrastructure

Local authorities have a strong role to play in providing market confidence and bringing in the investment needed to accelerate the decarbonisation and clean growth of their local economy. Creating the right market conditions for clean local growth in the transport and infrastructure sector will entail:

- Increasing the provision of EV charging points on council owned land including in public car parks.
- Using local planning system, including through the local plan, to develop and deliver active travel schemes in local centres as well as setting stringent targets for developers and related stakeholders to follow.



- Working with neighbouring local authorities and other local state stakeholders at an appropriate level on joint strategies to facilitate the decarbonisation of transport and roll out of electric vehicles.
- Local authorities using their role as a trusted broker to launch resident and business engagement campaigns aimed at encouraging a shift to low-carbon and active travel transport options.

### 4.3.1 Encouraging cultural change

Meaningful community engagement will be a vital first step in enacting cultural and behavioural change in residents. However, for this to have any real impact it will be vital that engagement isn't done in a superficial manner or as a tick-box exercise. If a move to sustainable and active travel is the overarching objective, the importance of this needs to be effectively communicated to residents. At the same time, the concerns of residents need to be heard and they must feel that they are being taken along on the journey.

Clear communication with the general public and concise messaging is a key ingredient to meaningful engagement. Creating the steps to get to net zero and demonstrating the community's role in the process is of utmost importance. Breaking the journey down and explaining how each project and development in the local area will contribute to the transition will help bring the public on board as well as give an understanding of their priorities. Tailored messaging is also crucial in demonstrating the benefits of net-zero projects in a way that is relatable to the community. Regarding active travel, communicating the wider health advantages such as cleaner air and increased green space of developing less car reliant neighbourhoods will be a big part of increasing their appeal.

There are a number of local authorities already leading the way on meaningful engagement. One example is Oxford City Council, who held the UK's first citizens' assembly on climate change<sup>119</sup> in September 2019. It consisted of 50 randomly selected residents of the city representative of its demographics. A key focus was on how the city should reduce emissions from transport and better enable active travel across Oxford. However, the key to its success has been in the city council taking forward recommendations advanced by citizens and implementing them in their Economic Strategy, climate change, and sustainable travel plans. This has given a sense that residents are active stakeholders in the future of their place and has helped facilitate behavioural change more easily.

Babergh & Mid Suffolk District Council have used extensive public engagement when developing and delivering their Local Cycling and Walking Infrastructure Plan as a way of encouraging increased active travel. The engagement aspect of the plan involved collecting over 1,800 responses to a tailored survey. The end result has been a list of prioritised infrastructure schemes that the council is now working, alongside partners at the highways authority, to progress and deliver. As part of their LCWIP, the council is actively utilising their existing communication channels to promote and raise awareness of national and regional campaign messaging relating to the health, wellbeing, and environmental benefits of walking and cycling.

Another form of encouraging behavioural and cultural change is through 'nudging'. This refers to the tweaking of the decision-making environment to encourage certain behaviours over others<sup>120</sup>. Certain advantages to this approach include potential cost savings for the local authority through preventing long term adversities as well as improving the quality of life for people who are making positive decisions for themselves. For example, nudging people to quit smoking reduces costs endured by local healthcare providers and enhances the ex-smoker's quality of life. The Smarter Travel Sutton<sup>121</sup> initiative is an early example of local policy that helped change travel behaviours. Run in the latter half of the 2000s, it employed a mix of marketing and travel planning to reduce the amount of car usage in the borough. The 'nudges' that were employed to encourage cycling included interventions such as placing cycle stands in car parks and enacting workplace travel plans for council staff that incentivised them to walk or cycle to work twice a week. A key result achieved from this initiative was a 75 percent increase in cycle traffic at counter locations.

The role of local authorities in kickstarting a change toward active travel has been recognised through their ability to influence planning and to take a strategic view of travel infrastructure in the local area in a manner that connects residents to services and amenities. District councils, in their capacities as local planning authorities, can use the planning system to their advantage and instil behavioural change. The nudges enacted by Sutton Borough Council, such as placing cycle stands in car parks, could not have been possible without going through the planning system.

By taking a holistic view of the interaction between physical and travel infrastructure in a place and how best to plan these in a way to incentivise

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120 London Councils (2011) – Making Behavioural Change work for Councils

121 NSMC – Smarter Travel Sutton

active travel, local planning authorities are able to lead the change needed in residents. Examples here could include pedestrianisation of the high street, increasing the amount of separate cycle lanes in town centres, and creating low traffic neighbourhoods that could support the eventual creation of 20-minute neighbourhoods.

One thing that will boost these efforts would be the NPPF being clearer on creating walking and active travel environments and how these link to site allocations. Sustrans have been keen advocates for creating and maintaining these spaces<sup>122</sup> and have been working with local authorities, putting together their evidence base at the local plan level to see how best they can create such environments. It will be important to consider issues such as where site allocations are for developments in relation to walkability and the potential for sustainable travel links in order to help encourage cultural change via the planning system.

#### 4.3.2 Decarbonisation by mode of transport

All modes of transport need to decarbonise, no matter the scale and complexity:<sup>123</sup>

- Cars – the mode of transport with the highest greenhouse gas emissions and the starting point on the journey to decarbonisation, to be solved through increased uptake of EVs and associated infrastructure
- HGVs – decarbonisation of HGVs will scale up the demand of electricity either for the use of vehicle charging or production of green hydrogen
- Buses – the bus sector is expected to decarbonise quickly and is currently undertaking trials using both electric and hydrogen technologies. The sector can expect to see charging hubs at depots as operators decarbonise their fleets
- Rail – will continue to see further electrification across networks. Hydrogen and battery technology rollouts will help to decarbonise more rural areas where electrification has not been possible
- Maritime and aviation – expected to be the last sectors to decarbonise as they require significant investment and sustainable fuels. Ports and airports across the UK can be utilised as charging hubs for road and rail.

For local authorities in England, the main policy levers are around cars, HGVs and buses. While action is happening at pace with each of these modes of transport, there are a few broad challenges that need to be addressed. A critical

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122 Sustrans – Streets for everyone

123 National Grid (2021) – Grid Guide to the Decarbonisation of Transport

challenge for the deployment of decarbonisation technologies and provisions is that each local government organisation typically approaches procurement in isolation. If local authorities are all approaching decarbonisation of transport, or its constituent aspects, differently, this seriously impacts the efficiency of its roll out.

As such, guidance is required to help different types of local authorities better understand how they should approach the decarbonisation of transport, covering important aspects such as the procurement process. Guidance to this end should be the result of research into the similarities, differences, and challenges for both urban and rural areas.

Elsewhere, decarbonisation necessitates better demand management for England's roads. Despite the great work done by regional transport bodies such as Transport for North, they lack decision-making powers to enact strategy and demand management mechanisms. Sub-national transport bodies have an important role to play in managing demand for roads but need more facilitation and decision-making powers to be effective. Fast-tracking their statutory basis, as well as devolving more decision-making powers down to them, will be key aspects of unlocking the potential of sub-national transport bodies and having them work with local authorities to enact change.

### Cars and HGVs

Aside from ensuring that policies and plans support walking, cycling and public transport, local authorities can contribute to the decarbonisation of road vehicles through promoting EV uptake, which can be promoted by installing charging points, particularly in rural authorities.

For example, Horsham District Council have released an Electric Vehicle Charge Point Strategy<sup>124</sup> that outlines the vision of the council regarding charging infrastructure. Overall, its aim is to ensure the provision of infrastructure that allows EVs to form part of a low-carbon transport solution for the district that reduces carbon emissions locally while improving air quality for residents. The council acknowledge their role in increasing the uptake of EVs, but at the same time do not envisage that they will themselves provide all the infrastructure. Rather, they can help kick start the market, especially where it is less likely to be commercially attractive to install charging points.

The most common challenges identified included reluctance to switch to EVs owing to range anxiety and concerns over the availability of charging points –

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124 Horsham District Council (2020) – Electric Vehicle Charge Point Strategy

particularly for those with no off-street parking. In addressing these concerns, the main focus of the strategy has been to install charge points in car parks in locations where residents cannot charge at home owing to not having off-street parking. It is envisaged that these will form residential charge hubs for overnight parking with the ability for visitors to use them to top up their vehicle during the day. These hubs will also incorporate smart technology and will eventually use renewable energy.

Brighton and Hove City Council<sup>125</sup> have already installed over 200 charging points across the city as part of their ambition to become net zero by 2030. The council have noted that the key to its success in doing this has been partnership working as well as getting funding applications and procurement processes correct. They also cite their relationship with campaign group Electric Brighton as important to its success. They helped the council develop an online mapping tool that helped identify the demand for EV infrastructure and where this demand was located.

Looking at barriers, the LGA released a report<sup>126</sup> aimed at better understanding the roles, responsibilities, and capacity of local authorities in delivering EV infrastructure. It found that while there is a significant commitment to deliver the infrastructure, there are substantial barriers that impact their full ability to do so. A factor impacting the ability to act at pace is that, until recently, the role of local government in the delivery of EV charging infrastructure has not been made clear by a coherent strategic direction at the national level. Currently there is no statutory duty on local authorities to plan and deliver it – although it is now being considered by government<sup>127</sup> who have launched the Electric Vehicle Infrastructure Strategy<sup>128</sup> that has begun to address many of these concerns.

One aspect of EV infrastructure that will have to be addressed soon is its appeal as an investable proposition. In urban areas, its case is much easier to make, given the higher appeal and density of electric vehicles in cities than in the countryside. As such investing in charging infrastructure is seen as lucrative for private investors. However, this is not the case for rural parts of the country, where there are simply not enough residents to match a similar level of demand. However, meeting the government targets of a full switch-over to EVs by 2035 hinge on the provision of green technologies across all of England, not just urban areas.

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125 Patrol (2020) – Local authorities ‘leading the charge’ on EV infrastructure provision

126 LGA (2021) - Scoping the role of local authorities in the provision of electric vehicle charging infrastructure

127 Local Gov (2021) – Councils face legal obligation to plan and deliver for EVs

128 Department for Transport (2022) – UK electric vehicle infrastructure strategy

Finally, the decarbonisation of HGVs and encouraging an uptake of an electrified fleet will be equally important as personal vehicles. This is something many local authorities are aware of and actively working on. For example, the London Borough of Hackney adopted the use of low-carbon renewable biofuels as early as 2008 and is now in a position to run 198 vehicles on 100 percent renewable biofuel from hydrotreated vegetable oil (HVO). When tested for NOX emissions, savings between 28 to 69 percent were confirmed. Elsewhere, Babergh District Council is one of the first rural district councils in the country that has switched its entire fleet to HVO. It is estimated that the switch will eventually lead to a CO<sub>2</sub> emissions reduction of 90 percent and NOX emissions reduction of 30 percent.

## Buses

There are examples of success where local authorities have worked to decarbonise bus transportation. In York, the council worked with their bus operator First Bus to launch the largest Zero Emissions Bus park and ride fleet across the UK. It was introduced with help from the government's Ultra Low Emission Bus Scheme, with an initial fleet of 21 double-deck electric buses. Advantages of the buses include having a 160-mile range as well as not needing to be charged during the working day.

More recently<sup>129</sup>, the council has been awarded £8.4m by the DfT to support the purchase of an additional 44 buses. This is in addition to £10m being provided by First Group. The new funding comes from the government's Zero Emission Bus Regional Area (ZEBRA) scheme. After the fleet is delivered, York will have 77 zero-emission buses, which is expected to reduce carbon emissions in the city by 2,300 tonnes per year.

Government have stated<sup>130</sup> that local transport authorities will have an important role in accessing funding for zero-emission bus fleets and the required infrastructure that is needed. Additionally, while lower tier authorities, including districts and boroughs, do not have formal power in transport planning, they can work with their transport authorities to decarbonise existing fleet. Elsewhere, they will have an essential role to play in the procurement of zero-emission buses and in supporting the provision of infrastructure that will be required.

Resulting from the austerity programme pursued since 2012, transport has been one of the main local services that has had its budgets cut for revenue support.

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129 Green Car Congress (2022) – City of York awarded £8.4m to support purchase of 44 more electric buses

130 Department for Transport (2022) – Zero emission buses: local authority toolkit

Conversely, investment through capital budgets has substantially increased with major new investments such as Crossrail and Thameslink. Concerns remain about the ability of local authorities to deliver sufficient walking and cycling infrastructure – there is necessity for revenue and not just capital funding. These barriers have been recognised – DfT is developing plans to reform local transport funding, and in July 2020 announced a new funding body and inspectorate, Active Travel England, to better enable local authorities to achieve the government’s ambitions for local transport, including net zero.

Local authorities in areas with greater devolution of integrated transport powers have shown what is achievable where a holistic vision can be provided. Greater Manchester<sup>131</sup> secured £35.8m funding through the ZEBRA scheme for the introduction of 170 zero-emission buses. The funding came as a result of a partnership and joint bid being submitted by Greater Manchester Combined Authority, Transport for Greater Manchester, Stockport Council, and Stagecoach Group. The funding won will also be topped up by £12.5m from the combined authority. This has been viewed as ‘a major boost’ to the region’s ambition to deliver on its integrated transport network called the Bee Network as well as reach net-zero carbon emissions by 2038. The buses are expected to start running from Stockport from 2024.

Population sparsity and existing funding mechanisms are other barriers. Regarding the former, many areas do not have the sufficient amount of people to make bus services profitable for operators. This has led to a significant number of services being permanently cut at the expense of communities. Regarding funding, it has been noted that the current Bus Service Operators Grant undermines fuel efficiency and efforts for electrification as it repays fuel duty spent.



#### 4.4 Case study: Staffordshire County Council

Over the last two years, Staffordshire County Council led the SIMULATE<sup>132</sup> (Smart Infrastructure & Mobility Urban Laboratory and Test Environment) Live Lab, which was an infrastructure partnership designed to accelerate innovative solutions in air quality and intelligent mobility within the county. It was part of the first phase of the ADEPT Smart Places Research Programme<sup>133</sup> that was a two-year, £22.9m project funded by the DfT that ran until June 2022. The ADEPT programme has supported eight projects to introduce digital innovation across areas including transport and highways maintenance.

SIMULATE has acted as an accelerator programme and through it, Staffordshire County Council partnered with key stakeholders including infrastructure support provider Amey, Keele University, and Connected Places Catapult to engage with SMEs on innovative solutions to the challenges faced by the council in urban

air quality and mobility. Amey as a strategic partner worked in an integrated manner with Staffordshire County Council not only to help lead the SIMULATE bid and secure funding from the ADEPT Programme, but also with engaging the SMEs. Working with them to showcase and bring forward their solutions was seen as important given how a lot of innovation sits at this level.

SMEs could submit their bids to SIMULATE for up to £100,000 with proposed solutions to core mobility challenges identified by the Live Lab. Four unique challenges<sup>134</sup> were highlighted. The first, 'Clean Community', looked at how to facilitate active travel within a small urban community and remove the requirement of car travel for two-mile journeys to and from the community. The second, 'Dynamic Connections', looked at integrated connectivity between urban and rural areas. The third, 'Rapid Transit', looked at the provision of rapid transit between rural areas of the county and to urban settings in

132 SIMULATE Live Lab – Homepage

133 ADEPT – Live Labs – Transforming Local Places

134 SIMULATE Live Lab – Mobility Challenges



a commercially viable manner. The final one, 'Behaviour Change and Integration', looked at how to overcome the barriers that prevent uptake of sustainable transport in the rural parts of the county.

SIMULATE received over 130 applications from SMEs across the country of which 10 were selected. An example of an SME addressing the mobility challenges includes Urban Electric and MEV. They submitted a joint bid that comprised of 'pop up' electric charging points which integrate back into pavements when not in use, as well as the trialling of electric car share next to these charging points. In a rural context this solution has significant appeal given their ability to be integrated into the local landscape. Thus, addressing resident concerns regarding their aesthetic appeal. Overall, the trial has been a success in terms of the operability of the charging points, and the prototype is now being developed. Staffordshire County Council are also looking at where this solution fits into the delivery of EV charging infrastructure within their wider EV strategy currently being developed.

The other example is Liftango who delivered research into local mobility requirements and formulated a blueprint for demand responsive transport across Staffordshire. Work has looked at how a demand led service to bus travel in rural areas can better aid connectivity in a cost-effective and climate-friendly manner. Such a service would see a shift away from empty buses running on a schedule through multiple communities to one which runs only to those who pre-book it and wait at a virtual bus stop.

SIMULATE is a rare example of an accelerator programme that sits within the local government sector and is being led by a local authority. Amey have been working with more of their local

authority partners to help get them involved in such innovative propositions, however a leading challenge identified in doing so has been a lack of readily available funding. Nevertheless, the success of SIMULATE demonstrates the unbound potential for local innovation through effectively working with SMEs and should give inspiration to other local authorities to do the same.

Its success did not come without certain challenges. The COVID-19 pandemic was an immediate obstacle that the partnership had to contend with. This had an impact on working with the SMEs who were putting bids in, given that everything had to move online at a critical moment of idea development. Relatedly, the nature of SMEs means that they are working with small teams and limited resources in various parts of the country. Coupled with COVID-19 restrictions, this made face-to-face engagement difficult, which had an impact on the ability to embed confidence.

Regarding the testing of transport solutions across the county, behaviour change and resident engagement remained a significant challenge. Understanding what the solutions looked like at scale and the effect this could have in a model shift away from high-carbon transportation relied on being agile and responsive to feedback – something that itself relied on effective engagement. However, issues around low rates of responses to surveys and focus groups were reported. To get around this, incentives had to be put in place to attract people.

## 4.5 Recommendations to central government

- Bring forward a new Transport Act:
  - Create a legal framework for integrated transport strategies across the country with carbon reduction targets and responsibilities.
  - Give councils powers to incentivise bus operators to decarbonise through local regulation.
- Create a mechanism to increase transport revenue funding to local authorities proportionate to the percentage of local public transport which is net zero.