

Future of Transport

Helping local authorities to unlock the benefits of technology & innovation in rural transport



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Ministerial foreword

The Government is working hard to ensure that rural areas are prosperous and thriving across the whole of the UK. Improving the quality of life in rural areas and boosting opportunity and growth are fundamental to this ambition, and the connectivity which transport offers is a key enabler of prosperity for people and business in rural areas.

Rapid technological changes are under way in transport services. Zero tailpipe emission cars and vans are becoming commonplace. Advances in the use of data are improving the ways in which transport services and infrastructure are planned and delivered to and for users. New services, such as shared and demand-responsive transport, are creating more choice for travellers than ever before.

It is tempting to think rural areas are outside the reach of technology and innovation, and quite wrong. Yes, there are places where the roads are typically smaller and used by a variety of different people for everything from horse riding to moving agricultural vehicles. Where the geography is more challenging and where people travel significantly longer distances. Where populations are spread out and where public transport needs to adapt to remain commercially viable.

But these factors underline both the need and the opportunity for technology to play its part. Almost 10 million people live in rural areas. Highway improvements that decongest local roads, easier access to electric vehicle chargepoints, expanded and improved public transport, as well as provision for active travel, will enhance everyday journeys. Emerging technologies can complement existing transport options and rural areas represent a significant potential market for transport innovators to expand into. This guide is designed to help rural local authorities, their communities and other stakeholders to harness transport innovation. Roughly a third of England's local authorities are mainly or predominantly rural.¹ They frequently work together to rise to the unique challenges facing their residents, learning from each other and improving connectivity. The Government can help them to do still more.

Getting transport right for rural people will also help to tackle wider issues like access to jobs, supporting local businesses, and tackling loneliness. The Department for Transport has a strategic role in fostering innovation and encouraging collaboration between these stakeholders, but it cannot do this alone. This document is intended to help build a platform for greater partnerships in the years to come.



Jesse Norman MP Minister of State for Transport

Executive summary

Survey evidence shows that people in rural areas want to travel conveniently, safely and at a reasonable cost. For many in rural areas, this means completing most journeys using a private car. Walking, cycling, public transport and taxis provide additional options, but these do not always fully meet the needs of local people. Living in a rural area often means travelling longer distances for everyday journeys: travelling to work, school or to access services like healthcare and shopping. As a result, those who are unable to drive can feel isolated, cut off from their communities and out of reach of key services and opportunities.

Innovation in transport technologies and services has the potential to enhance rural transport and support a higher quality of life for people in rural areas. The Government wants to preserve rural ways of life, while providing greater choice for how journeys are completed. This document looks at the technologies and innovations emerging within the transport sector, and how rural areas might benefit from their introduction. Innovations such as demand responsive services, shared mobility options, self-driving vehicles, drones and many more could enhance connectivity across rural areas.

Local authorities have an important role to play in planning and delivering the future transport system. This document expands the Future of Transport Principles, first published in 2019, that local government should follow to unlock the benefits of transport innovation in rural areas. It sets out how the Government is providing funding and accelerating knowledge sharing to spur innovation across the countryside. The Department for Transport is making up to £3 million of R&D funding available for innovation that tackles rural challenges. The Department is also inviting local leaders to collaborate on rural mobility to share and scale best practice.

Innovation in transport technologies and services has the potential to enhance rural transport and support a higher quality of life for people in rural areas.

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Progress since the Future of Mobility: Urban Strategy (2019)

The Department for Transport's 'Future of Mobility: Urban Strategy' (2019) set out actions to support innovation, using towns and cities as testbeds for trialling and service improvements. This learning is now being extended and adopted into rural settings. Progress includes:



Investing over **£400m**

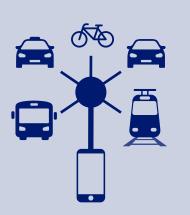
to support the development of automated vehicle technologies.



Investing £92m

through the Future Transport Zones programme

to test innovative technology.

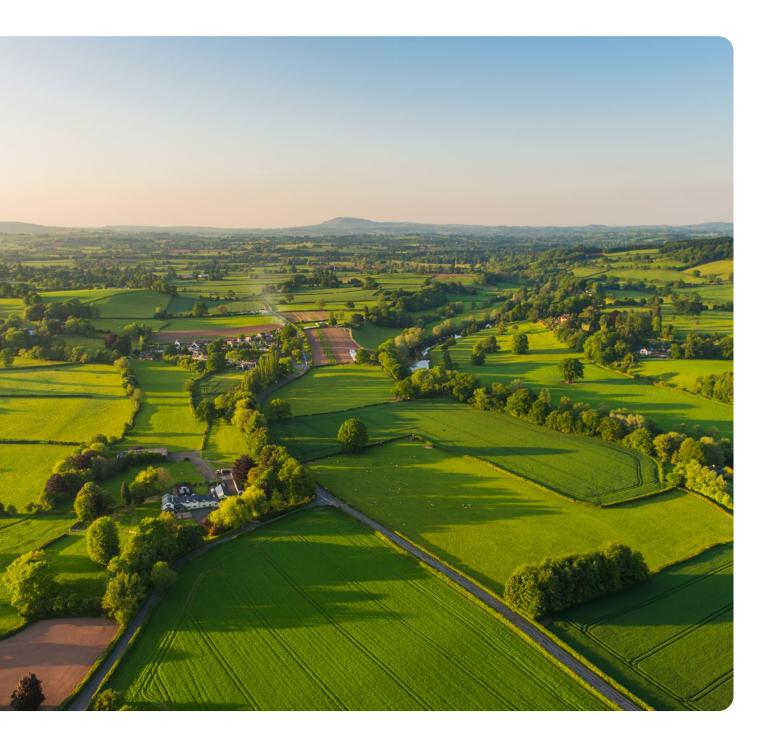


Using this document

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The principles, examples, case studies, recommendations and support set out in this document will be relevant to a wide range of people. People in rural areas can build knowledge on the emerging trends in rural mobility, while local authorities can use the practical principles, alongside the available support, to help plan and implement them. Businesses can see examples of how new technologies and services are helping them thrive whilst operators can see how delivery models and service planning may change in the future.

This document does not supersede any existing plans or strategies but is an aid to support transport planning now and into the future. Using this document with existing guidance, tools and funding will help authorities and operators create a more connected and integrated rural transport network.



Structure of this document



Continuing the conversation

This document is designed to start a conversation about how rural areas can take advantage of innovations in transport, connect communities and open up new opportunities. The Government is committed to engaging with local authorities, operators, businesses and other key stakeholders to unlock these benefits and enhance the experience of rural life for the millions of people who live in the UK's countryside.



Supporting rural communities

Rural areas are diverse, and their needs and challenges vary from place to place. Transport networks across these areas may need to be designed to work for longer distances, varied terrain and isolated communities.

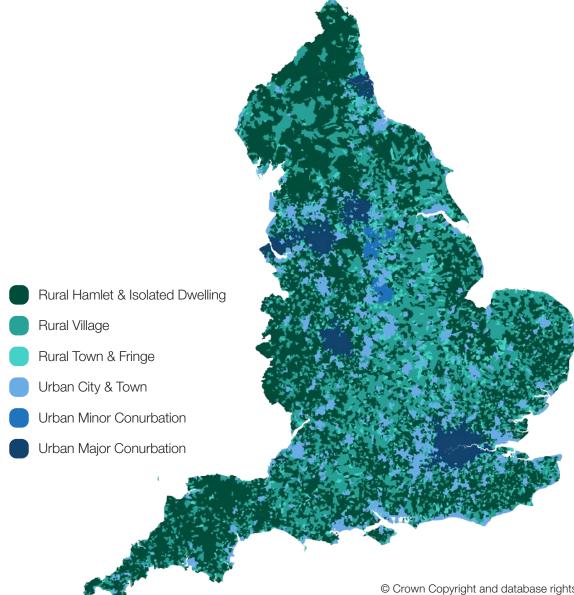
This chapter introduces definitions used throughout this guide, and draws upon evidence from the public, local authorities and rural stakeholders to identify the major themes that matter to people in rural areas.

Rural transport today

The term 'rural' covers a diverse range of places across the United Kingdom. Market towns, villages, hamlets, coastal communities, isolated dwellings and many other places make up the patchwork of the rural countryside.

The majority of the UK's landmass is rural. In Scotland and England around a fifth of the population live in rural areas, while closer to a third of people in Wales and Northern Ireland live in rural areas.² This guide adopts the ONS definition of rural as areas with 10,000 or fewer residents, albeit many of the principles and practices referenced may be applicable to non-rural settlements. While this document is largely aimed at local authorities in England (noting that transport is largely devolved in Scotland, Wales and Northern Ireland), many of its findings are relevant to all areas of the UK.

The 2011 Rural-Urban Classification for Output Areas in England³



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User insights from the 'Future of Transport Rural Strategy Call for Evidence' (November 2020 to February 2021)

In 2020/21, the Department for Transport ran a UK-wide public consultation on how emerging technologies and services could improve rural transport. The diverse range of responses, covering a broad range of issues, clearly set out the dayto-day realities and needs of rural mobility.⁴ Many highlighted the need for greater choice, changes to improve accessibility, the creation of better links to jobs and services and driving growth and prosperity in rural areas through transport provision.

Many respondents were optimistic that new technologies and services could offer more credible travel choices. E-cycles, shared mobility (like car clubs and lift sharing) and demand responsive transport (alongside fixed route bus services) were cited as opportunities to improve connectivity. Respondents highlighted the opportunity to use data and digitalisation to make existing services safer and more reliable. Live travel information was spotlighted as a powerful example of how to build public confidence in the reliability of local public transport.

When looking into the future, respondents believed the combination of demand responsive services and self-driving technologies could unlock safer, more accessible and user-friendly travel choices in rural areas.

Engaging rural areas and understanding changing trends

The Department for Transport and the University of Hertfordshire's Smart Mobility Unit ran a series of roundtables on the future of rural mobility in 2020 and 2022.⁵ Leading voices from the rural transport community including experts, academics, operators and policy makers came together to discuss the challenges and realities of designing transport for rural living. Key conclusions included:





Poor or no access to a car can exacerbate social challenges that disproportionately affect **low-income** households, old people, and disabled people.



New forms of mobility, such as demand responsive buses, shared cycle schemes, car clubs at rural rail stations, and mobility hubs **Can increase connectivity and tackle social issues.**



Local plans for themes like transport, economic growth, housing, land use, and health **should be more integrated** and transport solutions designed to deliver connectivity, as well as wider benefits.



Rural areas need to plan for and be ready to manage the impacts of climate change and severe weather events on local transport infrastructure.



International trends have informed this document.

The International Transport Forum's 'Innovations for Better Mobility' report demonstrates how other countries are tackling rural issues – such as Spain's digital mapping efforts, and Japan's automated and demand-led services.⁶

Alongside the call for evidence, roundtables and international research, this guide has benefited from the insight generated from the Department for Transport's 'user personas'.⁷ A suite of transport personas has been developed that capture a range of traits and attitudes of different types of people. Personas can be used as a starting point to inform engagement with people living in rural areas and help decision makers to consider the wide breadth of user needs.

What rural communities want

The evidence, insights and ideas that inform this document have been arranged into four main themes:

Importance of rural roads for everyday journeys



Most people will rely on a personal vehicle to get to work, take children to/from school or to see friends and family.⁸ The Department for Transport, together with the devolved administrations, is working hard to deliver well-maintained roads that are less congested and safer.

Improving services and greater choice



The needs and expectations of users must be at the heart of transport services. Journeys should be considered in terms of end-to-end journeys and services should seek to integrate local rail and bus services. Services can also be designed to unlock wider benefits (e.g. active travel benefiting health outcomes).



Meeting net zero by 2050 relies on the transition to electric vehicles. The Government is investing in the charging infrastructure needed to support the transition.

Enabling innovation in rural mobility



Technology and innovation provide the opportunity to push rural economic growth further and faster. The transformative impact on transport for people in rural areas promises significant wider benefits if managed properly. Demand responsive services, automation, and shared mobility can all benefit rural communities.



Importance of rural roads for everyday journeys

Whether completed by walking, cycling or driving, 96 per cent of journeys are made on local highway networks. This chapter explores the importance of investment and innovation in local highways and details the benefits to rural areas.

Why protecting highways is critical

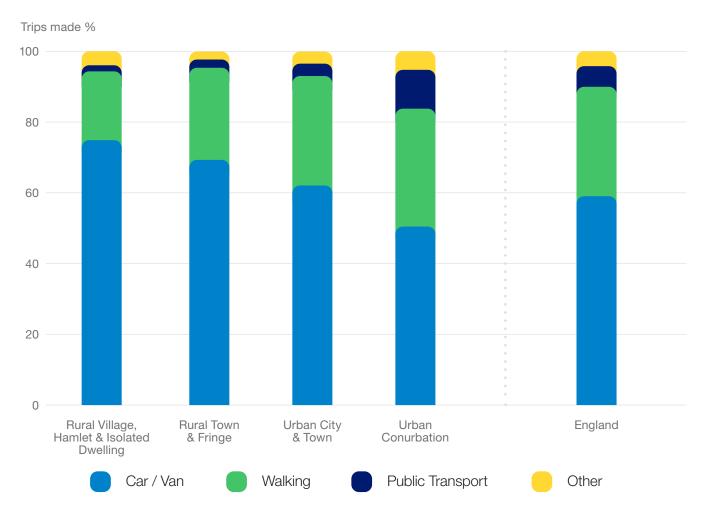
The vast majority of journeys begin and end on a local highway, particularly given the distances travelled by rural residents. Good quality highways are critical for all local transport users, including cyclists and pedestrians, as well as cars, buses and freight vehicles. Maintaining connectivity is also important for community cohesion, pride of place and personal safety.

Resilience is also a key concern for rural road users. Roads must provide a smooth flow of traffic and respond to external pressures, such as peaks in the visitor economy or extreme weather events.

323.8bn vehicle miles

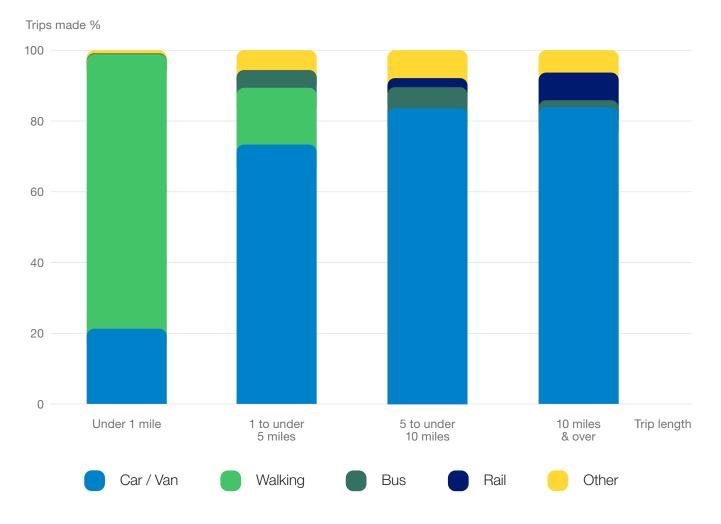


Proportion of trips made by mode of transport, per person per year, Rural-Urban Classification, in England, 2021¹⁰





Mode share of trips by main mode for different trip lengths: England, 2022¹¹





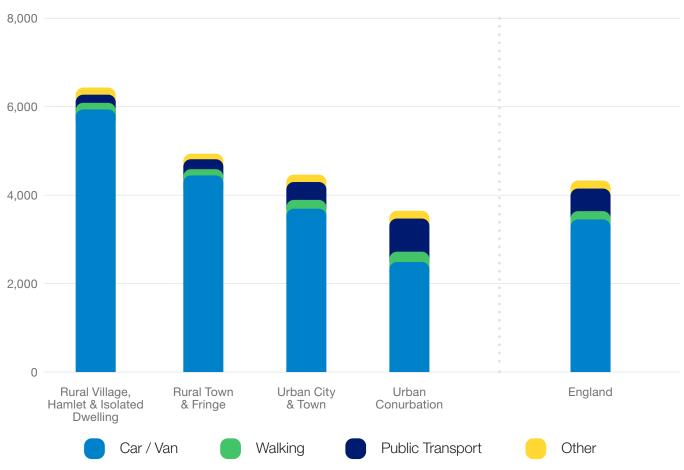
The majority of road length in England is rural, accounting for

68% of 'A' roads 76% of 'B' roads 55% of the combined 'C' & 'U' (unclassified) roads.¹²

Scotland and Wales collect their own data on road lengths.

Average total distance travelled, per person per year, by mode and settlement type, in England, 2021¹³

Distance travelled (miles)



Investment in local roads

Well-maintained highways support economic activity and strengthen local pride in a place. Poorly maintained highways, with issues like potholes and poor drainage, present a safety risk to users and impose costs on motorists. The Government is providing funding to eligible local highway authorities in England (outside of London) to help them respond to local needs and priorities and has committed £2.7 billion for local highways maintenance from 2022/23 to 2024/25. This means more money for local areas to tackle potholes and poor road conditions and improve local roads. The Government also provided an additional £200 million in funding in 2023 to help top up support for highways maintenance and respond to inflationary pressures.

The Department for Transport advocates for a comprehensive approach to road maintenance. Maintenance is not just about potholes, but the repair and maintenance of all parts of the highway network, such as bridges, cycleways, footways and lighting. This helps authorities to create a safe environment for all transport users.

Rural authorities also received a share of £170 million funding through the Department for Transport's Integrated Transport Block. This funding mechanism provides support to local authorities for smaller scale improvements to local networks.

The local road network is devolved in Scotland, Wales and Northern Ireland, meaning they are responsible for their own road networks including their maintenance.



Tadcaster bridge repair, Yorkshire

The Tadcaster Bridge repair project was more than simply rebuilding a structure damaged by floodwater; first and foremost, it was about reuniting a community. Following the devastating flooding in December 2015, Tadcaster bridge collapsed, splitting the town into two. Without the bridge, locals were forced to make a 9 mile detour of 20 minutes by car to reach essential services on the 'other side' of town. In January 2016, the Department for Transport responded by announcing an additional £3.3 million highways maintenance funding for the restoration of Tadcaster Bridge, and the construction of a temporary footbridge to serve the community during the repairs.¹⁴ North Yorkshire County Council was then able to make these urgent repairs to the 300-year-old listed bridge, with the bridge's successful reopening taking place in February 2017.

Supporting roads innovation in a rural context

The Government has backed a broad range of trials and initiatives to improve road networks for users. The ADEPT Live Labs 2 Programme is a three year £30 million programme funded by the Department for Transport, focusing on how to decarbonise local highway infrastructure and assets. This programme follows ADEPT Live Labs 1, a £22.9 million project exploring innovation in local roads that ran until June 2022. Many of the local authorities participating in the programme are rural focused authorities. By developing new methods of construction for local roads, they are helping other rural authorities to benefit from their learning.



ADEPT Live Labs 2 Programme

Within the ADEPT Live Labs programme there are seven projects, grouped by four interconnected themes. These are being led by local authorities working alongside commercial and academic partners.

One of these themes concerns the development of a suite of corridor and place-based decarbonisation interventions covering both urban and rural applications, trialling, testing and showcasing these applications within the circular economy and localism agendas. The local authorities involved are Somerset County Council, Cornwall Council, Hampshire County Council, Devon County Council and Liverpool City Council.

Devon County Council's A382 MRN project in particular is a high-profile rural project, strategically important within Devon. The proposed major upgrade of this important stretch of road enables several facets with which to test high quality carbon reducing interventions.



Driving towards a sustainable future

The decarbonisation of the transport system is essential to meet the UK's legally binding target of net zero greenhouse gas emissions by 2050.

Our world-leading policy to transition to zero emission vehicles will have multiple other benefits too, such as reducing noise pollution, improving air quality and supporting economic growth.

One of our world-leading policies is our commitment to ending the sale of all new non-zero emissions road vehicles by 2040, with all new non-zero emission cars and vans phased out by 2035. This chapter explores how the Government is helping rural areas to make the transition to zero emission vehicles for personal use, with confidence.

EV Residential & Workplace Chargepoint Grants

For UK residential properties, the domestic EV Chargepoint Grant is available to flats, whether owned or rented, as well as for all domestic rental properties, including those supplied by social housing providers and private landlords. This scheme provides grants of up to £350 towards the cost of purchasing and installing a chargepoint. Additional support through the EV Infrastructure Grant is available to help install EV chargepoints in residential car parks, such as apartment buildings, with grants of up to £30,000 available.

The Workplace Charging Scheme provides funding for chargepoint installations in business carparks, including charities and small accommodation businesses such as small hotels, B&Bs and camping grounds across the UK. Similarly, the scheme provides grants of up to £350 per socket towards the cost of purchasing and installing chargepoints, with up to 40 sockets per applicant across all sites.

Hospitality businesses across Scotland have taken advantage of funding from Transport Scotland to install chargepoints for visitors. This enables a shift to EVs by tourists while also benefitting the businesses. Chargepoints are an increasingly popular facility for guests looking for convenient recharging facilities when choosing accommodation and they can help to secure repeat customers.



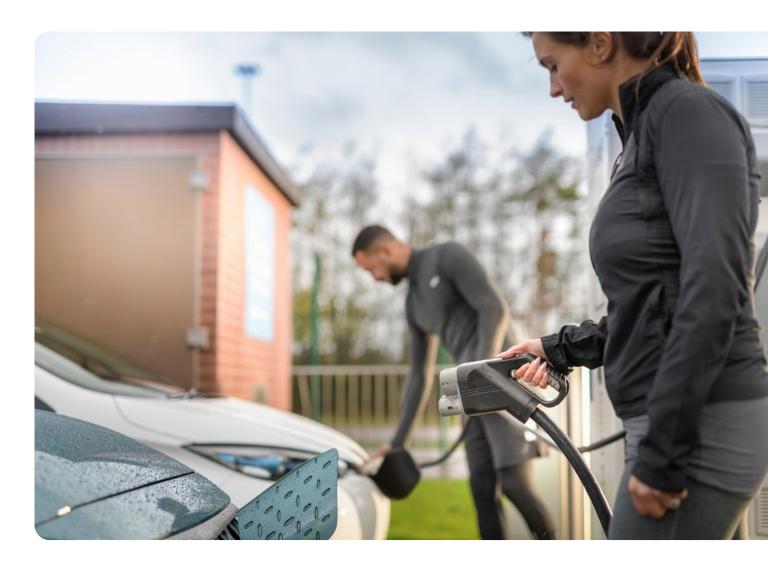
Helping rural communities drive zero emission with confidence

The United Kingdom's transition to zero emission vehicles is firmly underway. There were already over 770,000 purely battery electric vehicles on UK roads in March 2023.¹⁵ Battery electric cars were also the fastest-growing share of the used car market between January and March 2023.¹⁶

Rural businesses and residents are more likely than urban counterparts to point to lack of charging points and concerns about range as a disadvantage of electric vehicles.¹⁷ Rural motorists drive further on average than urban. Confidence in, and ready access to, charging infrastructure is critical to overcoming these challenges.

EV charging infrastructure has vastly increased in recent years. As of 1 September 2023, there are more than 48,000 public chargepoints installed across the country, alongside hundreds of thousands more in homes and workplaces. There has been significant growth in the last year, with an increase of 43 per cent in publicly available chargepoints since September 2022 and a comparable 44 per cent increase in rapid and ultra-rapid chargepoints.¹⁸

The Government estimates that by 2030 at least 300,000 public chargepoints will be needed to satisfy demand. For homes and workplaces, the Government's infrastructure grants continue to support flats, rental properties, businesses and charities to install chargepoints. Already, one in six publicly accessible EV chargepoints are in rural areas. This number will continue to grow through government investment.





The Government's £381 million Local Electric Vehicle Infrastructure (LEVI) Fund is delivering capital and resource funding to all Tier 1 local authorities in England. This will help local authorities have more capacity and skills to deliver tens of thousands more local chargepoints. It is designed to help address the unequal distribution of charging provision across England by improving the viability of all locations, including rural areas.

As a springboard for the full scheme, the LEVI Pilot provided over £61 million of public and private funding to roll out 3,400 local chargepoints and 1,000 gullies across 25 English local authorities.

The LEVI Fund is allocated by a number of set variables, including: chargepoints per population and a weighting index taking account of income, employment and education levels. The fund also considers the level of rurality, factoring in the proportion of residents within the local authority that are in rural areas. The inclusion of this variable means local authorities in rural areas are allocated additional funding compared to urban ones. In addition, Government's On-Street Residential Chargepoint Scheme (ORCS) is available to local authorities in the UK, including town and parish councils, to part-fund the capital costs of installing public chargepoints for residents without access to off-street parking. Chargepoints up to and including 22 kW are eligible for funding. The scheme has already provided funding which will see more than 14,000 public chargepoints installed.

As the Government transitions to the LEVI Fund, it has adapted ORCS to focus on smaller chargepoint projects which plug gaps in charging coverage and maintains chargepoint installation momentum.

A visible and functional long distance charging network is vital for rural communities and for mass zero emission vehicle adoption. Government's Rapid Charging Fund (RCF) will future-proof electrical capacity at strategic locations to prepare the network for a fully electric car and van fleet. Access to a comprehensive rapid chargepoint network will enable more consumers to confidently purchase electric vehicles.

The Government's £381 million Local Electric Vehicle Infrastructure (LEVI) Fund is delivering capital and resource funding to all Tier 1 local authorities in England.



Improving services & providing greater choice

Rural bus and rail services are important parts of the local transport system. This chapter explores how technology, innovation and more transport options are unlocking ways to plan services better, improve routes and frequency, to make local services safer and more attractive.

The role of local buses

Due to dispersed populations, longer distances and varying levels of demand, rural bus services can be challenging to operate commercially. Local authorities need to plan, manage and fund services in ways that deliver good outcomes for users.

To help passengers to save money on their regular travel costs and to encourage them back onto buses following the pandemic, the Government introduced a £2 fare cap in January 2023. The cap runs until 31 October and applies to single bus tickets on over 5,000 routes in England outside London. From 1 November 2023, the cap will be replaced by a longer-term cap of £2.50, until the end of November 2024. Data since the fare cap is already showing how rural areas are benefitting more, with prices dropping more in rural areas than anywhere else.¹⁹ This means a real benefit for people in rural areas who typically need to travel longer distances by bus.

£2 bus fare cap

The £2 fare cap has lowered travel costs, particularly in rural areas. The average fare has dropped by 10.8% in rural and non-metropolitan parts of England. When adjusted for inflation, local bus fares in England, outside of London, for April to June 2023 were comparable to those seen in 2007.

To enable passengers to plan their journeys more easily the Government launched the 'Bus Open Data Service' in November 2020. Strengthened by the statutory obligation to publish data which was introduced in January 2021, this has made details of bus services as open data, including timetables, fares and real-time locations of vehicles. This has helped more passengers to save time when waiting for services and getting cheaper tickets.

In the National Bus Strategy, the Government recommitted to supporting the introduction of 4,000 zero emission buses (ZEBs) and achieving a zeroemission fleet. Since February 2020, an estimated 4,200 ZEBs have been funded across the UK so far. In this Parliament, the Government have awarded £330 million of dedicated funding for ZEBs in England (outside London), with £129 million more funding to be issued by March 2024.

The Zero Emission Bus Regional Areas (ZEBRA) scheme was launched in 2021 and awarded £280 million funding to 16 local authorities in England (outside of London) to deliver 1,300 zero emission buses (ZEBs) and supporting infrastructure.

The £129 million ZEBRA 2 scheme, which launched in September 2023, will support the introduction of hundreds more ZEBs and associated infrastructure for local authorities in England (outside of London). ZEBRA 2 will expand on the success of ZEBRA 1 and focus on increasing the number of local authorities introducing ZEBs, supporting the longterm goal to transition the entire bus fleet.



Investing in bus services

The National Bus Strategy looks to improve the quality and availability of services outside London within England, with £3 billion in funding provided.

Bus Service Improvement Plans (BSIP) were developed by local transport authorities (LTAs) in collaboration with local bus operators, community transport bodies and local businesses. Over £1 billion was committed to deliver 31 BSIPs, covering 34 LTAs including rural counties like Norfolk, Devon and North East Lincolnshire.

The devolved administrations have their own bus strategies which acknowledge the importance of buses for travelling in rural areas, and address the challenges they face.



North Yorkshire Zero Emission Bus Scheme

The Zero Emission Bus Regional Areas (ZEBRA) scheme was launched in 2021 and awarded £280 million funding to 16 local authorities in England (outside of London) to deliver 1,300 zero emission buses (ZEBs) and supporting infrastructure.

North Yorkshire County Council were awarded £7.8 million of funding to deliver 39 zero emission electric battery buses and support infrastructure across the Harrogate and North Yorkshire area.

The Government recognises the additional challenges faced by local authorities and bus operators when introducing ZEBs in rural areas. To decarbonise the whole bus fleet, all local authorities and all bus operators will need to take the first step towards decarbonising buses. To assist with this, £25 million of this funding has been initially reserved for proposals to introduce ZEBs in rural communities.

The Government remains committed to supporting the introduction of ZEBs, having funded 4,000 already, and to achieving an all-ZEB fleet. ZEBRAs 1 and 2 will play a vital role in helping to ensure Government meets that ambition.

The National Bus Strategy contained a commitment to set a legal end date for the sale of new diesel buses and set an expectation for when the entire bus fleet will be ZEB. In spring 2022, the Department for Transport ran a consultation to help determine the exact date for ending the sale of new non-ZEBs. The Government will make an announcement on the end of sales date shortly.

From April 2022, the Government increased the rate at which the Bus Service Operators Grant can be claimed for ZEBs to 22p per km, further incentivising the take up of ZEBs. The Government have also committed to consulting on reforming the Bus Service Operators Grant (BSOG).

Community transport provides flexible and accessible solutions on a not-for-profit basis to meet local transport needs. This can help isolated people, often older or disabled people, access the transport system. It predominately uses minibuses, but services can include: car schemes, bus services, school transport, hospital transport, dial-a-ride, 'wheels to work' and group hire services. Community transport can help combat loneliness and social isolation, helping people remain independent for longer and maintain social connections.



Nidderdale Plus Minibus Pilot

Nidderdale Plus is a rural community hub serving the Nidderdale and Washburn Valley areas of North Yorkshire. It provides a community transport service using a mixture of community cars and minibuses, and private vehicles driven by volunteers. The service is used by people who have no access to other transport, many of whom require door-to-door assistance with local transport needs.

The hub's 'Befriending Through Transport' minibus pilot combines running their regular services with a 'befriending service', intended to help passengers form new relationships that last 'beyond the journey'.

The role of local rail

The Department for Transport is investing heavily in rail enhancements across England and Wales, to grow local economies and spread prosperity and opportunity. More than 80 per cent of this spending is outside of London and the South East, and is particularly focussed on the Midlands and the North. The Government is aiming to manage funding for rail enhancements within affordable levels to deliver value for money to the taxpayer.

Community rail partnerships help bring together local communities with train operators and industry to deliver a range of community engagement activities. These partnerships promote access to sustainable transport and community cohesion through local railways in providing access to sustainable transport and building community cohesion. Engagement through community rail partnerships helps communities have a voice in the future of their local railways.

In 2020, the Government launched the Restoring Your Railway fund. This £500 million fund is exploring the reopening of lines and stations, including ones closed following the Beeching Report. This will reconnect smaller communities, regenerate local economies and improve access to jobs, homes, and education opportunities.



Restoring Your Railway: Northumberland Line

The Restoring Your Railway Fund is supporting the reopening of the Northumberland Line with six new stations. It is the second Restoring Your Railway project to be delivered after the successful Dartmoor Line.

The Department for Transport funding will enable passenger services to run on the line for the first

time in almost 60 years, reconnecting people to places and opportunities that were cut off by the Beeching closures.

The scheme will assist in enhancing connectivity, reducing congestion and facilitating economic growth for the wider region.

More opportunities to walk, wheel and cycle safely

Survey evidence shows that people are interested in active travel in rural areas. The Department for Transport recognises the barriers posed by distances in many rural contexts and is investing in rural cycle infrastructure. The advent of e-cycles will help lower these barriers for some journeys, increasing confidence and bringing into range trips that would have previously been considered unviable.

Millions will benefit from £200 million of funding for cycling and walking schemes. This latest round of funding will provide a boost to high streets and local businesses and transform the school run for tens of thousands of children, generating up to 16 million extra walking and cycling trips a year. This fund, Active Travel Fund 4, will benefit rural areas and allocations have already been made to boost rural areas across the country, such as Gloucestershire, Devon, Herefordshire and Cumbria.

England has seen a fundamental change in active travel in recent years. Alongside the establishment of Active Travel England, record levels of investment are now enabling more people to walk, wheel and cycle. Transport Scotland's Active Travel Framework brings together key policy aims to improve uptake of walking and cycling. Wales passed its Active Travel Act (2013) to promote walking and cycling as the first choice to get around.²⁰ Northern Ireland has a range of guidance on promoting active travel, and the Department for Infrastructure's Strategic Framework helps embed this into broader planning objectives.

Innovation in micromobility, including e-scooters and similar lightweight electric mobility options, have seen rapid growth in users.²¹ Within small rural towns, or in networks of small villages, micromobility options could help provide an additional alternative to driving. The Department launched e-scooter trials in July 2020, and they are currently live in 23 areas across England. Trials are designed to assess the safety of e-scooters and their wider impacts. The trials will run until 31 May 2024. In the meantime, private e-scooters remain illegal to use on public roads, cycle lanes, or pavements.

North Yorkshire: Implementing active travel

North Yorkshire County Council developed a Travel Demand Management plan to encourage walking, wheeling, and cycling to schools in the aftermath of the COVID-19 pandemic, focussing on raising awareness of transport options and road safety.

A brand identity and core messaging were developed, along with a social media content plan to target specific demographics and publicise resources such as Open North Yorkshire.

Businesses operating in rural areas are also benefitting from the growth of e-cargo bikes. These can help to move goods between villages, towns and other rural communities and they are also increasingly being used for last mile deliveries. E-cargo bikes can help move goods where a van or lorry may struggle, such as narrow streets within villages, and creates streets that are safer, greener and quieter.

The Government has made an ambitious commitment that everyone lives within a 15-minute walk of a green space and to reduce barriers to access greenspace.²² To deliver this commitment, the Department for Transport will be enhancing routes to and through the countryside and doing more than ever to help the public enjoy England's beautiful countryside and coastline. Everyone should feel safe when using the transport system. Many people consider personal safety a key benefit of private vehicles. The Government recognises the importance of providing safe public transport services and eradicating anti-social behaviour on the transport network. Safer streets for walking and cycling are also critical.

In the Tackling Violence Against Women and Girls (VAWG) Strategy, the Government recognised the need to improve transport safety, appointing two independent VAWG Transport Champions. They published 13 recommendations in March 2022 on how to improve the safety of women and girls on the transport network.

Cargodale e-cargo bikes in rural Yorkshire

Cargodale is a delivery service in Calderdale, West Yorkshire using e-cargo bikes. These bikes can carry up to 100kg and electrical assistance allows longer journeys to be completed with ease, even in the hilly rural terrain in Calderdale.

Cargodale uses live routing software to ensure deliveries are efficient and provide a reliable service for users.



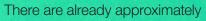
Cornwall e-cycles

The 2021/22 Cornwall E-Cycles Pilot sought to raise public awareness of the benefits of e-cycles and increase the overall number of e-cycle trips. It was supported by funding from the Department for Transport and delivered by Cornwall Council, Wheels 2 Work South West and Wheels to Work Cornwall. The pilot included roadshows where the public could try out e-cycles.

The evaluation of the pilot focuses on: whether and how its different elements have worked and why, the user profiles of participants and the kinds of journeys that have been undertaken using the e-cycles. The evidence from the evaluation will inform the national e-cycles support programme that provides people with short term e-cycle loans and access to e-cycle training sessions.



The recommendations cover a range of areas including improvements in the collection of gender disaggregated data. As part of this, the Department has published a new and bespoke module on personal safety in the National Transport Attitudes Study in August, the first comprehensive piece of research on this subject undertaken by the department.²³



118,000 miles of public rights of way in England,

most of which is open to horse riders and cyclists as well as walkers. Local Authorities are funded to maintain these rights of way and are required to keep a Rights of Way Improvement Plan to maintain and enhance their network.

The Government has committed **£14.5m** of funding through the Access for All programme

to make targeted access improvements in protected landscapes, national trails, forests and the wider countryside.

More than **£3.5m** has already been spent on

making protected landscapes more accessible,

including on: resurfacing paths, replacing stiles with accessible gates, new benches and resting stops, accessible viewing platforms and the provision of new all-terrain trampers to support disabled people to access the countryside.



Enabling innovation in rural mobility

Innovation in technology is helping to enhance services available to people and businesses in rural areas.

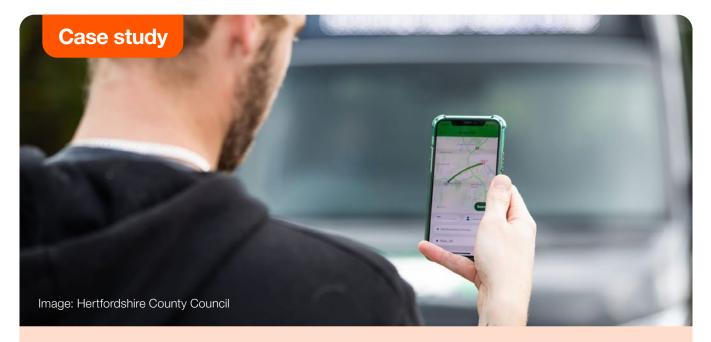
In most instances, new types of mobility will complement and augment existing services like buses, but some emerging mobility options may also catalyse large-scale change to realise wider social and economic benefits. This chapter looks at future possibilities, drawing on existing case studies for demand responsive transport, car clubs and even drone delivery.

Demand-led, people-centred transport

Demand responsive transport (DRT) is a form of shared mobility that allows users to specify their desired location, pick-up time and drop-off time, usually through an online platform, app or phone service. These services are especially attractive in rural areas, where demand can be dispersed and fixed route services such as buses, can be difficult to operate commercially.²⁴

DRT is an exciting and practical addition to fixed-route bus services. It can help extend service coverage and bring connectivity to areas that might otherwise not benefit from a traditional, fixed-route service.²⁵ The Government has backed trials through its Rural Mobility Fund (RMF) to understand the potential benefits of DRT to communities and the practicalities of operation.

A comprehensive monitoring and evaluation process is in place for these ongoing projects funded by the RMF. This will help local authorities learn what works best, in which circumstances and why. All data is valuable and contributes to supporting learning about how to increase the viability of DRT and assess whether it can provide an effective solution to rural and suburban transport provision in some areas.



HertsLynx Demand Responsive Transport (DRT) service

HertsLynx, working with technology provider Padam, is a DRT service that launched in September 2021, with five buses covering villages in the rural area surrounding the market town of Buntingford in Hertfordshire. The trial is supported by the Department for Transport's Rural Mobility Fund. The service runs in an area that is sparsely populated, with no commercially viable way to run a fixed route.

Most of the 43,399 completed trips were for people travelling between villages and towns or getting to and from stations. The service has also been extensively used by students, demonstrating the ability of DRT to connect people to education, employment and services.

By aggregating demand for DRT in the region using data analysis, Padam can improve the efficiency of the service and reduce the subsidy required for its operation. The service also complements, rather than replaces, the existing transport network by connecting users to suitable public transport services if they are available.

Growth of shared mobility

Shared mobility enables people flexible access to vehicles, for example, through car clubs and mobility hubs (where shared bike and scooter services are often available).

Demand for car clubs services are growing. The active membership in 2022 was 350,000, which was 30 per cent higher than 2020.²⁶ Car club vehicles are often newer and more efficient, which people hire when they need to use a vehicle but do not own one.²⁷ These clubs provide access and opportunities to people where public transport may not be viable.

Cycle share and e-cycle schemes are growing rapidly. In 2021, there were 39 cycle share trials, and the number of cycle share users doubled between 2019 and 2022 to over 1.3 million.²⁸ User feedback from these schemes has mentioned these services provide benefits such as improved access to education and employment.²⁹

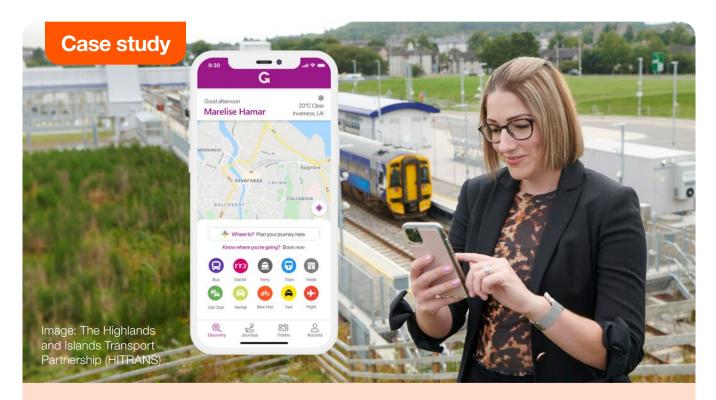
Mobility hubs physically integrate transport by creating locations where parking for shared mobility, private cars and cycles are located next to public transport stations, local businesses and services to allow easy interchanging between forms of transport and access to community centres. Delivery hubs in community centres and commuter routes could reduce the need for last mile deliveries, helping to decarbonise and consolidate freight and logistics.



Highland Council and Enterprise car club partnership In 2018, the Highland Council in northern Scotland partnered with Enterprise to provide council employees with access to car club and rental vehicles for business use. Since the partnership began, it has saved 649 tonnes of CO2 emissions by providing access to hybrid and electric vehicles and saved the council over £900,000 in business travel costs.

Integration of services though data and digitalisation

Data has become the cornerstone of transport planning. As digital systems and data collection become more sophisticated and more integrated, journey planning is becoming more user-friendly and efficient. Mobility as a Service (MaaS) platforms bring together payment and timetable information for various types of transport. Having information on all available forms of transport in a local area in one single platform can help improve access to transport and make journeys safer, cheaper and more efficient. MaaS will allow different modes (such as car sharing, trains, buses, taxis and private hire vehicles) to join up under a single service.



Go-Hi Mobility as a Service app

Go-Hi was launched in Summer 2021, in the Highlands and Islands of Scotland and allows users to plan, book, and pay for an end-to-end, multimodal journey in a single transaction using their smartphone or computer.

The Go-Hi MaaS app is designed to make it easier for residents, tourists and business users to switch between different modes to increase the use of public transport, car clubs and car hire and encourage active travel. The scheme also includes access to planes, ferries and demand-responsive transport to offer a solution to some of Scotland's most rural areas and islands. It also enables people to book hotels as part of their trip to support tourism in the Highlands.

The Go-Hi project also generates data for operators and the HITRANS partnership to understand the needs of users and make decisions to ensure the long-term viability of the transport services.

The future of other rural vehicles

There are other vehicles that have a big role to play in rural areas. For example, heavy vehicles such as tractors or HGVs. Tractors are considered "non-road mobile machinery" (NRMM). This term broadly refers to any mobile machine, transportable equipment or vehicle which is not intended for the transport of goods or passengers on the road and is installed with a combustion engine.

The Government has announced that it will publish a Call for Evidence (CfE) on NRMM decarbonisation options. The CfE will seek evidence on areas including decarbonisation options available to NRMM and possible barriers to adoption. Responses to the CfE will be used to support future policy, in particular the development of a NRMM decarbonisation strategy. This CfE forms part of the Government's wider range of assistance to industry in their efforts to decarbonise and support net zero by 2050 targets.

Low carbon fuels deliver a third of the carbon savings in the domestic transport sector under current carbon budgets.³⁰ Renewable fuel made up 5.4 per cent of total road and NRMM in 2021.³¹ Hydrogen is an emerging low carbon fuel being explored by the Government, and one which could play an important role in decarbonising the rural transport network, particularly for heavier applications such as some buses and HGVs. Hydrogen fuel cell electric vehicles can offer an alternative zero emission transport solution and may have advantages over batteries in specific use cases. These tend to be where vehicles need longer ranges and more rapid refuelling (for example, some longer distance HGVs), or greater energy density (including agricultural vehicles).

To inform future investment decisions and provide confidence to the road freight industry, the £200 million Zero Emission Road Freight Demonstrator programme will be demonstrating zero emission battery electric and hydrogen fuel cell freight technologies at scale over the coming years with hundreds of 40- to 44-ton trucks. The innovation, research and development emerging from this programme will be relevant for other heavy vehicles.

Alongside these vehicles, the programme will also deploy the associated refuelling and recharging infrastructure, testing whether a specific technology may be better suited for specific use cases, including rural areas.



Looking to the future

The widespread use of the internet and smartphones has already changed how people interact with transport and plan journeys. Smart phones and digital resources allow operators to deliver demand responsive services and increasingly give customers more choice, including flexible routes and doorto-door services. As machine learning and more integration of data accelerates this trend, services are expected to become more tailored to individuals.

Roads in the sky

Significant private investment is being made internationally in personal air mobility.³² Electric vertical take-off and landing services (sometimes referred to as eVTOLs) could be especially advantageous in rural areas, helping to move people rapidly over long distances. The application of these services includes ambulance and emergency rescue, as well as rapid access to hospital appointments, scans, or treatments, especially beneficial for those living in particularly remote areas. Drones offer public and private organisations an opportunity to carry out tasks faster, safer, cheaper and with less impact on the environment than traditional methods. Uses for rural communities could include last mile and middle mile delivery, search and rescue, infrastructure inspection, building surveying, agriculture efficiencies such as crop spraying, medical delivery and emergency services use.

According to the Transport Technology Tracker survey, the use of drones for emergency response (e.g. search and rescue) is supported by 9 in 10 people, followed by use of drones for infrastructure management and for distributing medical supplies (both supported by 8 in 10 people).³³



Drone delivery of life-saving chemotherapy

Chemotherapy can be difficult to transport, as medications can be patient-specific and have short shelf lives. This is particularly challenging for the delivery of chemotherapy to patients on the Isle of Wight, where each delivery can take several hours, requiring two car journeys and one hovercraft or ferry journey.

Solent Transport is leading a project funded by the Department for Transport to see if drones can be used to address this. The trials are being delivered by a partnership between the NHS, the Universities of Southampton and Portsmouth and drone suppliers. Several trials have been undertaken already.

A self-driving future

Self-driving vehicles (SDVs) could offer safe, cost-effective and efficient services for rural communities.³⁴ As self-driving vehicle technologies continue to develop and improve it could also help support shared mobility services to provide cheaper transport options. SDVs could reduce the cost of transport and improve access to education, work and leisure.

In many cases, the benefits of automation could be even more profound in rural areas than in cities, providing lower cost, door-to-door mobility to support greater access to education, work, and their wider community. Research conducted by the Department for Transport explored the specific attitudes of people in rural areas towards self-driving vehicles. The Great Self Driving Exploration suggests that there is increasing interest in these technologies and their potential to help address existing rural transport challenges. People in rural areas have more reservations about SDVs than those in urban areas, however research suggests that as people learn more about a given technology, their views towards it tend to become more positive.³⁵



Self-driving technology in rural Alnwick

In 2022, the Department for Transport, in partnership with Thinks Insight & Strategy, University College London, and SDVs developer Aurrigo, undertook a series of large-scale public engagement events centred on public perceptions of SDV technologies. These events, the Great Self Driving Exploration, were in areas where such engagement had not been carried out before.³⁶

At the beginning of the research, most participants were broadly unsure about the potential impact that SDVs could have on their local area (55 per cent were either unsure of the impact or felt there were as many advantages and disadvantages). However, by the end of the study, over half of the participants felt there were more advantages than disadvantages and 71 per cent of participants in the rural Northumberland market town of Alnwick felt that SDVs could make their local transport system better. Participants could see benefits on a range of issues, such as safety, reliability, accessibility, improving local transport offers and reducing cost.

Residents in Alnwick suggested that self-driving services could give more independence for non-drivers, and that tailoring such services to demand could help bolster the existing public transport services in the area. People also saw benefits for tourists and congestion, as better links could reduce the number of cars on rural roads as well as creating new opportunities for the local economy and improving health and wellbeing.



Getting rural innovation right

Public investment can help to accelerate and incentivise innovation and collaboration between local authorities and operators will be critical to scaling up successful initiatives.

This chapter details how the Government has invested in building capability and capacity across local authorities to embrace new technology and innovation. It also introduces the Future Transport Principles, which provide a framework to guide local authorities and transport operators in embedding transport innovation into rural areas effectively.

Supporting innovation to benefit communities and businesses

The Government has invested in establishing structured research and development hubs, undertaking real world trials and developing a world-class evidence base for scaling and deploying new transport technology. Alongside this, the Government is making it easier to build and access the information, case studies and evidence needed to support the planning and delivery of local services.

Investing in the future

The investment and support outlined in earlier chapters includes a broad range of areas that could transform local services, including, but not limited to:

£3bn worth of investment in active travel

to improve walking, wheeling and cycling infrastructure over the course of this Parliament.

£20m fund to deploy demand

responsive services in underserved rural communities.

£200m to fund multi-year

demonstrator programme for zero emission road freight.

The UK's Centre for Connected & Autonomous Vehicles has helped secure over

£400m

in joint industry-government funding to date

...with an additional **£100m**

in funding announced in 2022, supporting over 90 projects involving 200 organisations.

This funding will play a key role in ensuring an effective deployment of connected and automated vehicle technology across the UK.

£20m

fund to deploy **demand** responsive services in underserved rural communities.

£5m in funding to help tackle loneliness and isolation.

The Future Transport Zones

programme was set up in 2020 to test new technologies in transport over a four-year period.

The Government provided

£92m

in funding to four areas in England

to deliver the programme. Selected interventions include trials of Mobility as a Service schemes, e-scooters, mobility hubs, demand responsive transport and drone deliveries. Current zones include the West Midlands, Derby and Nottingham, the West of England and Portsmouth and Southampton.

Programmes such as Future Transport Zones have **enabled on the ground demonstrations of what new technologies might mean for users**,

how they can deliver transformational benefits and how transport can play a bigger role in tackling wider social issues.

£1bn

funding provided through strengthening requirements for Bus Service Improvement Plans,

covering 34 local transport authorities including rural counties such as Devon, Norfolk and North East Lincolnshire.

Investing £330m

of dedicated funding for Zero Emission Buses in England (outside

London). A further £129 million will be awarded by March 2024 as part of the Zero Emission Bus Regional Areas 2 scheme to provide hundreds more zero emission buses, prioritising the first £25 million for rural areas.

Investing £450m

through the Local Electric Vehicle Infrastructure fund to **help local authorities expand the charging network,** to help to meet the

demands of the transition to zero emission vehicles.

Direct support to consumers and businesses through the **Domestic EV Chargepoint Grants and Workplace Charging Scheme**.

Launching a Freight Innovation Fund

to explore how new technologies can improve the freight and logistics sector, including the support for drones to deliver packages on remote Scottish islands.

This is just some of the funding made available to support innovation that will benefit transport users and rural communities. This investment for the future is alongside our continued support and funding for the rural transport network today.

Building capability and capacity

To support local authorities and build capability and capacity across the sector, the Government has:

Investing in infrastructure through the UK wide Levelling Up

Fund to enhance public transport and bringing more places across the UK closer to opportunity.

Created a code of practice providing recommendations to local authorities and transport operators when setting up Mobility as a Service platforms so users are at the heart of design. Created a code of practice for safe deployment of self-driving vehicles, helping to support an emerging industry.

Conducted user research and gathered insight from members of the public on automated vehicles and other emerging technologies, to help shape their future use. Updating regulations to help support growth and achieve improved outcomes for transport users and communities,

such as the world-leading project with the Law Commission of England and Wales and the Scottish Law Commission to prepare the UK for automated vehicles.

Published a Local Authority Transport Decarbonisation

Toolkit providing voluntary advice to councils on new technologies and business models, such as demand responsive services and zero emission fleets.



Principles for the future of rural mobility

The **Future Transport Principles** will help to accelerate and embed innovation and new technologies in the rural transport system. The principles have been refreshed based on the version published in the Urban Strategy (2019) to ensure relevance in rural areas and to reflect views gathered through consultation with the public. The principles will help authorities and operators to work towards a future transport system that is cleaner, safer and greener. These principles help ensure that the duties and expectations under the Public Sector Equality Duties and Equality Act 2010 are met and that services are designed with all users in mind.

Our nine rural principles:



New modes of transport and new mobility services must be safe and secure by design.

2

Innovation in transport should consider the needs of rural transport users and must be available and accessible to all parts of the UK and all segments of society.



Walking, wheeling, cycling and micromobility must be enabled as the best options for short rural journeys.



Affordable and accessible public transport and shared mobility must be fundamental to an efficient rural transport system.



New transport modes and services in rural areas should support a rapid transition to zero emissions and be adapted to climate change.



Innovation should improve road efficiency and reduce congestion by promoting shared mobility, improving user choice and consolidating freight.



The marketplace for mobility must be open to stimulate innovation and give the best deal to users, working alongside local authorities to complement existing services.

8

New transport services must be designed to operate as part of an integrated system that combines public and private modes with community-led schemes for transport users.



Data from new transport services must be shared where appropriate to improve both choice and the operation of the transport system.



What next for rural mobility?

This chapter outlines the new pledges and commitments the Government is making to help support innovation in rural transport, in addition to the large amounts of existing funding going into rural transport.

This includes funding innovation in rural areas, providing practical advice to local authorities, sharing best practice and working directly with decision makers to help unlock opportunities in rural mobility.

Pledges for the future of rural transport

Pledge

Rural Innovation and Decarbonisation Fund: new funding for rural innovation



Building on the investment set out in chapter 6, the Department for Transport is making up to **£3 million of R&D funding available for innovation** that tackles rural challenges over 2023/24 and 2024/25.

The Department for Transport has seen and heard the transport challenges faced by rural communities, particularly in relation to sustainable transport options in rural areas, and hopes this funding can help explore innovative solutions to longstanding issues, such as loneliness and isolation, poor access to services, and economically challenging business cases for rural transport services.

Pledge

Sharing best practice in communities

Transport East, the leading subnational transport body for rural issues, has set up a Centre for Excellence in partnership with local authorities, the private sector and academia. It aims to improve understanding of rural mobility challenges across the region. This means identifying new models of working, adapting best practice, providing better data and analysis and encouraging the private sector to roll out new innovation, ultimately delivering better outcomes for rural communities.

The Department for Transport will work with the Centre to help continue the conversation that this document has energised and look for opportunities to deploy some of the initiatives outlined in this document. The Department for Transport will also look to work with devolved administrations to help share best practice and learn from the experiences and developments across the whole of the UK.

The Department for Transport is making up to £3 million of funding available for innovation that tackles rural challenges.

Pledge

Practical advice for deploying new services and attracting investment

Local authorities and transport operators will be central to transforming services and embracing innovation. However, truly transforming services and people's experiences of the rural transport system will require broader support from businesses. The Department for Transport will look for opportunities to invite private finance into the future mobility ecosystem, working with key stakeholders, such as leading mobility providers and investors.

Pledge

Local leadership

The Department for Transport will invite leaders from local government and devolved administrations to collaborate on building capability and capacity across rural authorities over the next two years. This group will help to share and scale best practice and identify ways mobility can unlock wider economic and social benefits.

Pledge

Keeping the conversation going

The Government will continue to look to support rural communities and businesses and promote the use of technology and innovation to support a high quality of life, stimulate growth and prosperity, and preserve the key aspects of rural life.

Local authorities and transport operators will be central to transforming services and embracing innovation.

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