



North East Zero Emission Vehicle (ZEV) Strategy

December 2023

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Foreword

Back in 2021 when the North East Transport Plan was published, I stated that it was the first step in a journey towards a green, healthy, dynamic and thriving North East. Since then, we've been working hard towards our aim of delivering reliable public zero emission vehicle charging infrastructure across the region, wherever people need it. Our North East Zero Emission Vehicle Policy that we published last year was the next step, and this strategy builds on this, moving us further along on our journey to reach our goals.

We know that road transport contributes 36% to the North East's carbon emissions – the most out of any sector. To tackle the climate emergency our region faces, it is imperative that we increase use of green, sustainable transport. Whilst significant work is underway to encourage the use of sustainable travel (walking, wheeling, cycling and public transport), we recognise that travelling by car or van may be the only suitable option for some journeys and circumstances.

This strategy is therefore intended to help reduce the environmental impact of car/van travel by encouraging the switch to zero emission vehicles (ZEVs).

It is not the aim of this strategy to encourage people who are already walking, wheeling, cycling or using public transport to switch to a ZEV. Instead, we want to promote the use of ZEVs for journeys which have to be made by cars and vans.

It is proven that electric vehicles (EVs) provide a cleaner, more sustainable option for motorists than standard petrol or diesel cars and indeed why the government has stipulated that all new cars and vans must be fully zero emission by 2035.

We want the transition to emission-free driving to be as easy and as accessible as possible for local people, and to happen as quickly as possible in light of the alarming climate emergency we all face. To do this, we believe that excellent infrastructure, along with well informed people is the right recipe for a seamless increase in zero emission vehicles.

I am very proud that the North East has constantly been at the forefront in championing the use of zero emission vehicles (ZEVs). Our region is home to Europe's most successful EV (the Nissan Leaf), the UK's only large-scale battery factory (Envision, Sunderland) and we continue to hold our position as a key global centre in emerging clean energy technologies.

Through this strategy, and by investing in EV infrastructure and supporting people to make the changes required, we can build those successes to deliver more zero emission vehicles on our roads, tackling air pollution and creating a better environment.

This updated version of the strategy outlines our final proposals, taking into consideration feedback from public consultation, in which we carried out numerous types of engagement. Thank you to everyone who shared their views on the strategy which have really helped to shape this final version.

I do not underestimate the scale of the challenge ahead, but by working together, we can make the most of this opportunity, and make the North East a green, healthy, dynamic and thriving place to be.



Councillor Martin Gannon, Chair of North East Joint Transport Committee

Executive summary

Background

This North East Zero Emission Vehicle (ZEV) Strategy sets out our aim **to deliver reliable public zero emission vehicle charging infrastructure across the North East, wherever people need it.** It builds on the 2022 North East ZEV policy, which outlined initial proposals for how the region will complement private sector charging facilities, co-ordinate action with local authority charging initiatives and build a partnership with Northern Powergrid and Scottish Power.

Development of this strategy fulfils a commitment made in the 2021-2035 North East Transport Plan and will help deliver the five objectives of the Plan:

- Carbon Neutral North East;
- Overcome Inequality and Grow Our Economy;
- Healthier North East;
- Appealing sustainable transport choices;
- Safe, secure network.

The lead policy of the Transport Plan is to help people to make the right travel choice. Whilst significant work is underway to encourage the use of sustainable travel (walking, wheeling, cycling and public transport), we recognise that travelling by car or van may be the only suitable option for some journeys and circumstances.

This strategy is therefore intended to help reduce the environmental impact of car/van travel by encouraging the switch to ZEVs. **It is not the aim of this strategy to encourage people who are already walking, wheeling, cycling or using public transport to switch to a zero emission vehicle. Instead, we want to promote the use of ZEVs for journeys which have to be made by cars and vans.**

The geographical area addressed by this strategy comprises the seven local authorities in the North East, (Durham, Gateshead, Newcastle, Northumberland, North Tyneside, South Tyneside, and Sunderland) soon to be brought together under a North East Mayoral Combined Authority (NEMCA).



Strategy content

The strategy represents a positive step to assist people who need to travel by car or van but wish to do so more sustainably, including those in rural areas or densely built urban locations with no off-street parking.

Whilst our initial focus is primarily public electric vehicle (EV) infrastructure such as chargepoints for cars and vans, the strategy also reflects the potential role of other ZEV infrastructure, such as Hydrogen refuelling for larger vehicles, and proposes some innovation schemes. Future refreshes may strengthen reference to other zero emission vehicles and infrastructure.

The strategy covers the period up to 2035, to reflect the UK Government's September 2023 commitment to phase out the sale of new petrol and diesel cars and vans by 2035. The document will be refreshed when appropriate.

The delivery plan of this strategy sets out a new prioritised list of 221 potential sites for public chargepoints as the result of a refreshed enabling study (Appendix 1). This has helped inform the region of the investment into publicly available chargepoints which is required over the next five years.

This pipeline of chargepoint locations on publicly owned land will be able to be taken forward as public funding becomes available. However, the region's public charging network simply will not be able to increase at the scale and pace required with public funding alone. Whilst the North East is seeing ever-increasing investment from private chargepoint operators, significantly more private investment will be required across the region for the demand for publicly available chargepoints to be met. This is why this strategy proposes the creation of an EV partnership group to work together with local authorities, the private sector and Northern Powergrid to gain a better understanding of where each sector is planning to install chargepoints so that gaps in the network can be identified.

Research has informed the development of this strategy and has highlighted concerns around access to charging infrastructure, range anxiety and the cost of zero emission vehicles as key factors affecting the switch from petrol or diesel vehicles. This strategy sets out how we can help overcome some of these challenges by working in partnership with the public and private sector.

We believe that **excellent infrastructure** + **well informed people** (who can access the right chargepoints/information when they need it) will lead to an **increase in ZEVs**.



Current situation

The number of zero emission vehicles is growing but they currently make up just less than 1% of registered vehicles in the region.

As of May 2023, there were approximately 850 publicly accessible charging points in the North East, offering a range of different charging speeds. This figure includes chargepoints that have been delivered by both the public and private sectors which are all publicly available for use.

The majority of public chargepoint infrastructure is located in areas with high demand, which tend to be urban areas. Some chargepoints are located at public transport interchanges and Park and Ride sites enabling ZEV trips to form part of an integrated sustainable journey when entire journeys cannot be made by public transport. However, a significant proportion of the region's public charging network is very old and in some cases faulty or out of use.

Area of focus

The strategy mainly focuses on car and van drivers that will rely on the publicly available infrastructure network in the region to charge their electric vehicle, to deliver reliable public Zero Emission Vehicle charging infrastructure across the North East wherever people need it.

According to the Energy Savings Trust, EVs are most conveniently and economically charged at home, but off-street parking, and therefore a home chargepoint, is not available to everyone. Public EV charging infrastructure therefore plays a crucial role in supporting the widespread adoption of ZEVs and making them more convenient for the general public.

Private residential charging (such as home charging on a driveway) is out of scope; however, the proposed delivery plan does include some publicly available residential on-street chargepoints.

Whilst hybrid vehicles (combining a petrol or diesel engine with an electric motor) produce lower emissions than conventional petrol and diesel vehicles, they do still produce emissions and are not classed as ZEVs. However, plug-in hybrid vehicles are considered in the medium term as many vehicles will require electric vehicle infrastructure to charge them.

Zero emission buses are included within the scope of the strategy but will mainly be addressed through the North East's Bus Service Improvement Plan (BSIP).

Whilst we acknowledge that the cost of purchasing an EV can be prohibitive and prevent people from making the switch away from petrol/ diesel cars and vans, the we have no levers in which to influence the cost of EVs or manufacturing. Therefore, the cost of vehicles is outside the scope of this strategy. We will however aim to raise awareness of this issue and highlight its impact on EV take up in the region.

Key commitment statements

In order to put this strategy into action, and to overcome the identified challenges, we have created a list of clear key commitment statements linked to, **infrastructure**, **people**, and **vehicles**.

These commitments are aimed at supporting the delivery of this strategy, and how introducing excellent infrastructure plus well informed people will help to achieve the North East Transport Plan vision and objectives, by delivering reliable public ZEV charging infrastructure across the North East wherever people need it.

Delivery plan

The strategy sets out a delivery plan with an initial list of ZEV schemes worth approximately £80m. The plan includes sites identified as part of a refreshed enabling study. The enabling study has identified an initial 221 strategically located chargepoint sites to grow the charging network across the region (see appendix 1) and we will continue to work towards expanding the public charging network, when funding is available. The delivery plan is a “live pipeline” of schemes and is expected to further develop over time. The proposed investments and initiatives set out in the strategy broadly consist of:

- **The creation of an EV partnership group with the public and private sector;**
- **New public EV chargepoint infrastructure;**
- **Maintenance and upgrading of the existing public chargepoint network;**
- **Increased awareness and information to help people to make the transition to ZEVs;**
- **Innovation schemes to develop ZEV technology;**
- **Flexible procurement framework (NEPO) available to deliver public EV chargepoint infrastructure.**

Successful delivery of this strategy will help ensure that future public ZEV infrastructure projects:

- Support both urban, suburban, and rural areas of our region;
- A data-led approach to help address competing pressures;
- Are sustainable and well maintained;
- Meet current and future legislative requirements;
- Plug the gap between public chargepoints installed by the private sector and home charging facilities – supporting local authority infrastructure plans and ensuring charging infrastructure is provided in areas that are not covered by commercial operators.
- Support all users, including those with disabilities whether visible or hidden, and restricted mobility.
- Are actively promoted, highlighting the benefits to the region, such as reduced CO2 emissions and improved air quality through the complete removal of localised and toxic tailpipe emissions.

Consultation

This final version of the strategy has taken into account feedback from both public and private sector stakeholders as well as people who live or work in the region, as part of the public consultation which ran for five weeks from 3rd October to 7th November 2023.



Role of the region

Proposed regional and local roles and responsibilities to help support the development of ZEV infrastructure:

Our regional role	Local Authorities
Agreeing and monitor regional policy and standards.	Council and community-specific strategies including on-street and residential.
Sourcing funding at a regional level and co-ordinate delivery of regional programmes.	Local authority-specific funding and local delivery of regional funding.
Providing region wide information to motorists.	ZEV charging facilities at public-facing council facilities e.g. public car parks and on local highways.
ZEV charging facilities for long distance traffic, strategic Park & Ride sites and transport interchanges.	ZEV charging facilities for council fleets and employee workplace parking.
Co-ordinating regional strategy with private sector providers, Northern Powergrid, Scottish Power, and national agencies.	Planning requirements for new build housing, workplace, retail etc.
Representing the region to the ZEV industry, regulators, government and other partners.	Liaison with communities, employers and businesses.
<p>Table 1: Proposed regional and local roles and responsibilities</p>	

How this strategy is structured

Chapter 1 – Introduction and context

Provides the background to the strategy and the policy context.

Chapter 2 – Where we are now?

Explains the current situation and where we are now as of late 2023.

Chapter 3 – What are the challenges?

Sets out the challenges and barriers which need to be overcome.

Chapter 4 – Where do we want to be?

A key chapter describing where we want to be by 2035.

Chapter 5 – How do we get there?

Sets out how we will get there, the key commitment statements, and the proposed delivery plan.

Chapter 6 – Measures of success

Contains the proposed reporting metrics to measure success.

Glossary of terms used

BEVs	Battery Electric Vehicle
BSIP	North East’s Bus Service Improvement Plan
CPO	Chargepoint Operator
EV	Electric Vehicle
EVCPs	Electric Vehicle Charging Points
HGVs	Heavy Goods Vehicles
LA	Local Authority
LA7	North East Local Authority seven councils (Durham, Gateshead, South Tyneside, Sunderland, Newcastle, North Tyneside and Northumberland)
LEVI	Local Electric Vehicle Infrastructure fund
LGF	Local Growth Fund
NE JTC	North East Joint Transport Committee
NEMCA	the proposed North East Mayoral Combined Authority

NEPO	North East Procurement Organisation
Nexus	the Tyne and Wear Passenger Transport Executive
NPG	Northern Power Grid
OZEV	Office for Zero Emission Vehicles
PPCP	Public-Private Commercial Partnership
REEVs	Range-Extended Electric Vehicles (REEV)
TfN	Transport for the North
TNE	Transport North East
Wheeling	An inclusive term which groups <i>walking and wheeling</i> together as part of active travel. Walking and wheeling represent people moving at a pedestrian’s pace, whether someone is standing or sitting, walking or wheeling unaided or using any kind of mobility aid, including walking aids, wheeled aids (such as mobility scooters and wheelchairs), personal assistants or guide dogs. The term is advocated for by many disability-led organisations, such as the Mobility and Access Committee in Scotland and Wheels for Wellbeing, while being used by Transport for All.
ZEV	Zero Emission Vehicle

Introduction and context

What is the North East ZEV Strategy?

This is the North East's first region-wide Zero Emission Vehicle (ZEV) strategy which sets out our ambition to further develop and expand the North East's growing public ZEV charging network, building upon the North East ZEV Policy published in March 2022.

The aim of this strategy is to deliver reliable public Zero Emission Vehicle charging infrastructure across the North East wherever people need it.

Whilst our initial focus is primarily publicly available electric vehicle (EV) infrastructure such as chargepoints for cars and vans, the strategy also reflects the potential role of other ZEV infrastructure, such as Hydrogen refuelling for larger vehicles, and proposes some innovation schemes. Future refreshes may strengthen reference to other zero emission vehicles and infrastructure.

Significant work is underway to encourage the use of sustainable travel (walking, wheeling, cycling and public transport), we recognise that travelling by car or van may be the only suitable option for some journeys and circumstances.

This strategy is therefore intended to help reduce the environmental impact of car or van trips by encouraging the switch to zero emission vehicles.

It is not the aim of this strategy to encourage people who are already walking, wheeling, cycling or using public transport to switch to a zero emission vehicle. Instead, we want to promote the use of ZEVs for journeys which have to be made by cars and vans. This is because whilst ZEVs will still emit some very fine particles from braking systems and tyre wear, it is expected that the transition to electric vehicles will result in better air quality in the North East and lead to improvements in population health.

This document sets out how the region could help guide the delivery of public chargepoints and support and encourage people and businesses to make the transition away from petrol and diesel cars and vans to ZEVs.

The strategy covers the period up to 2035, to reflect the UK Government's September 2023 commitment to phase out the sale of new petrol and diesel cars and vans by 2035. The document will be refreshed when appropriate.

This regional document complements the work being undertaken by local authorities (LA) in delivering ZEV infrastructure, mainly electric vehicle (EV) chargepoints. We aim to add value by taking a strategic overview of the network to ensure that people can access reliable charging infrastructure wherever they need it. We will also work to ensure that charging points are inclusive to all users.

Whilst the make-up of the North East region is unique, with a mixture of urban, suburban and rural communities, we recognise that there are some common challenges that we face at a regional level, such as the provision of EV charging infrastructure in areas of old, high-density terraced housing without private off-street parking, as well as the need to ensure that our rural communities have equitable access to public charging sites. There is also a necessity to meet socio-economic challenges such as pockets of deprivation existing across the region in both rural and urban areas, often with poor public transport provision.

The region will need to help ensure residents from rural and urban locations with high levels of deprivation can also easily access affordable public charging infrastructure. This strategy therefore also proposes targeted investment specifically at locations which are not commercially viable for EV charging infrastructure.

The strategy sets out how we could complement private sector charging facilities, coordinate action with local authority charging initiatives and build a partnership with Northern Powergrid and Scottish Power through the formation of a partnership group. We will look to support by providing public chargepoint infrastructure in areas that aren't commercially viable.

We hope that, if funded, the proposed interventions set out in this strategy will ensure that ZEVs are a viable option for our residents, businesses and visitors who need to make journeys by car or van.

Partnership working – public and private sector

The uptake of electric vehicles and EV charging is currently in the 'early adopter' stage of development. However, it is expected that within the next few years we will meet a tipping point, with electric vehicles reaching an 'early majority' stage.

The delivery plan of this strategy sets out a new prioritised list of 221 potential sites for public chargepoints as the result of a refreshed enabling study (Appendix 1). This has helped inform the region of the investment into publicly available chargepoints which is required over the next five years.

This pipeline of clearly evidenced chargepoint locations on publicly owned land will be able to be taken forward as public funding becomes available. This strategy and its delivery can also strengthen future funding bids. However, the region's public charging network simply will not be able to increase at the scale and pace required with public funding alone.

Whilst the North East is seeing ever-increasing investment from private chargepoint operators, significantly more private investment will be required across the region for chargepoints that are publicly available.

This is why this strategy proposes the creation of an EV partnership group. The purpose of the group will be to work together with local authorities, the private sector, Northern Powergrid (NPG) and Scottish Power, **sharing information and best practice**, to help create reliable public zero emission charging infrastructure across the North East wherever people need it.

As EV uptake and chargepoint infrastructure grows, it is currently anticipated that public funding may tail off as EV ownership and private sector confidence increases. Figure 1 shows how both the public and private sector will need to collaborate public chargepoint installation over the coming years to 2035. However, this is an ever-changing situation which we will keep under review.

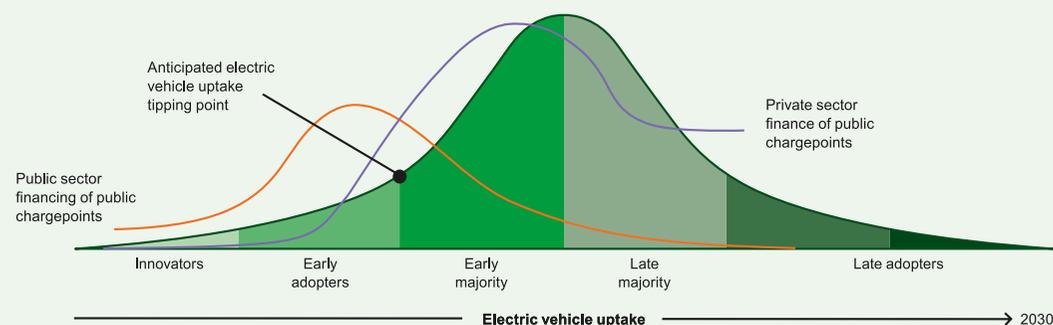


Figure 1: Public and private sector partnership working will be key over the coming years
Credit - Transport Scotland - *A Network Fit For The Future: Vision for Scotland's Public Electric Vehicle Charging Network (2023)* www.transportscotland.gov.uk

Why is a ZEV strategy needed?

Background

Road transport was estimated to contribute 36% of the total carbon emissions of the North East (LA area) in 2022 – the most out of any sector, with the overwhelming majority being from petrol or diesel powered vehicles. Global temperatures are rising, driven by a build-up of greenhouse gases in the atmosphere. These gases, of which the most commonly known is carbon dioxide, are largely a result of burning fossil fuels.

In addition to this, vehicles on our roads emit air pollutants from their tailpipes that are harmful to human health. These include nitrogen dioxide and sulphur dioxide gasses and very fine particulate emissions which can contribute to respiratory and cardiovascular health conditions. Although zero emission vehicles will still create some air pollution (such as from brakes and tyres) they are considerably less than petrol and diesel vehicles and will help improve air quality.

The ZEV strategy builds on the recent [North East Zero Emission Vehicle policy](#) (2022).

This strategy document provides a strategic overview of the region's current ZEV charging network and sets out plans to tackle the challenges that are faced at a regional level when transitioning to ZEVs.

We hope this strategy will facilitate further growth by addressing gaps in coverage and ensuring infrastructure access is inclusive to all users regionwide.

This strategy sets out a costed pipeline of schemes focused on supporting the shift away from petrol and diesel cars and vans to ZEVs.

The successful delivery of this strategy will help to achieve all five of our Transport Plan objectives by helping to tackle several of the region's transport challenges including carbon emissions, air quality, transport poverty and transport-related social exclusion. It is our belief that, by delivering a comprehensive and inclusive network of public charging infrastructure, together with clear positive messaging, we can overcome these concerns and people will feel more confident in switching to ZEVs. We have therefore structured this ZEV strategy to focus on the approach that:



By providing accessible infrastructure and addressing public concerns that deter the switch to ZEVs, we can encourage growth in the number of zero emission vehicles used to replace journeys currently made using petrol/diesel vehicles.

What is a Zero Emission Vehicle (ZEV)?

A Zero Emission Vehicle is defined in this strategy as any vehicle that does not emit any pollutants at the tailpipe, for example, Battery Electric or Hydrogen Fuel Cell vehicles and can include all types of vehicles including cars, vans, buses, and heavy goods vehicles (HGVs).

Battery electrics are likely to be the dominant choice for smaller ZEVs cars and vans, whereas hydrogen fuel cells are expected to be the dominant choice for larger, heavier vehicles, including aircraft, trains, and ships. But this isn't an exact science as these two technologies are growing at significant pace. For example, some vehicle manufacturers are developing hydrogen fuel cell powered cars. Therefore, this strategy notes that both batteries and hydrogen fuel cells will likely play an important part in our greener future to power ZEVs.

Hybrid vehicles

Hybrid vehicles use more than one form of energy combining a petrol or diesel engine with an electric motor.

Whilst hybrids produce lower emissions than conventional petrol and diesel vehicles, and some may use public chargepoints, they do still produce emissions and are not classed as ZEVs.

Plug in hybrid vehicles are considered in the medium term as many vehicles will require infrastructure to charge them, as we continue to make the transition over to vehicles with zero emissions on our roads.

What is public charging infrastructure?

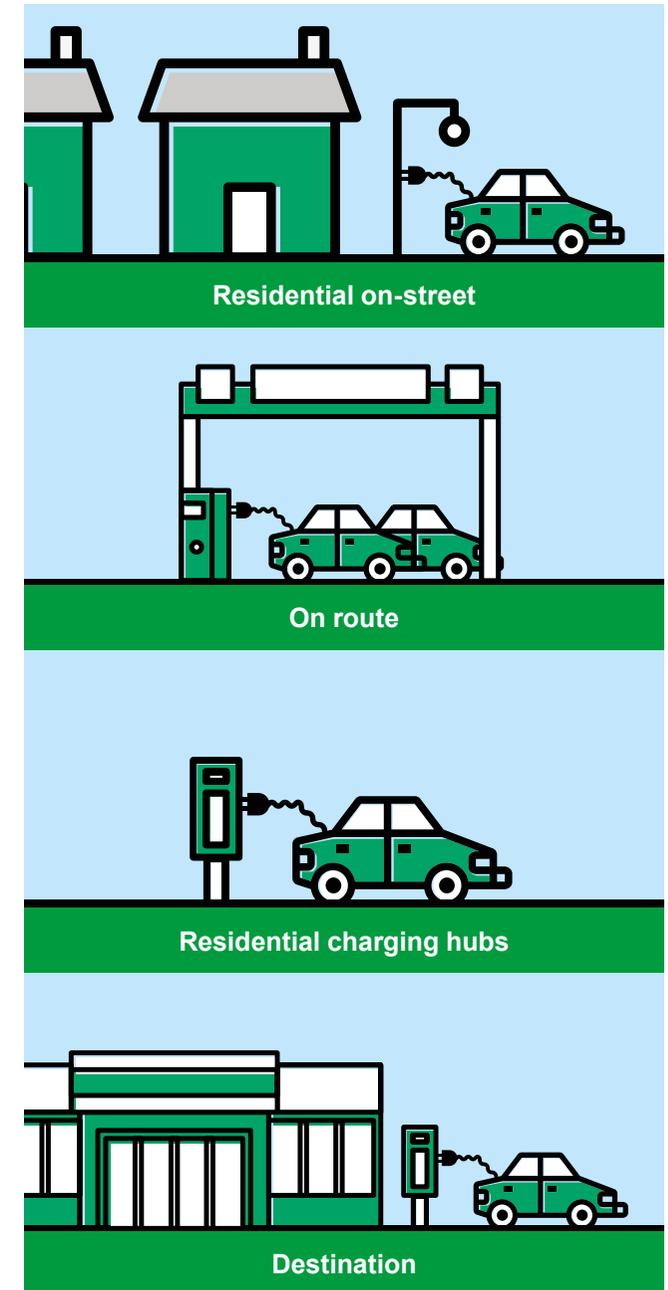
Public charging infrastructure is defined as the network of charging stations and related facilities that are available to the public for recharging ZEVs, mainly electric vehicles (EVs).

Public charging includes on-street residential chargepoints and residential charging hubs that are publicly available to use for vehicles parked on-street. Another type of public charging infrastructure is on-route charging, such as service stations on busy roads and motorways which use rapid and ultra-rapid charging to enable longer distance journeys.

Depending on the EV type, rapid and ultra-rapid on-route chargers can charge a car or van from 0-80% charge in 30 minutes. Destination charging facilities are used for longer duration visits such as gyms, supermarkets, and shopping centres, as well as transport hubs and interchanges.

According to the Energy Saving Trust, EVs are most conveniently and economically charged at home, but off-street parking, and therefore a home chargepoint, is not available to everyone. Public EV charging infrastructure therefore plays a crucial role in supporting the widespread adoption of ZEVs and making them more convenient for the general public.

As part of **'well-informed people'** we will look at information and awareness on types of chargepoints for different journey circumstances so that people can know where they need to charge to suit their travel habits.



North East Transport Plan

Vision

“Moving to a green, healthy, dynamic and thriving North East”

The North East Transport Plan published in 2021 outlines our region’s transport aspirations up to 2035. It seeks to improve the health, environment, and economy of the North East by tackling regional issues such as air pollution, carbon emissions, transport poverty and transport related social exclusion.

Transport Plan Objectives

- Carbon-neutral North East;
- Overcome inequality and grow our economy;
- Healthier North East;
- Appealing sustainable transport choices;
- Safe, secure network.

The North East Zero Emission Vehicle Strategy is a key commitment within the Transport Plan.

Aim and objectives

The aim of this strategy is to **deliver reliable public zero emission vehicle charging infrastructure across the North East, wherever people need it.** We hope to deliver an excellent public charging network throughout the region, including areas which are not commercially viable to help support petrol and diesel car/van drivers transition to ZEVs.

This aim reflects national Government ambition to ban the sale of new petrol and diesel vehicles by 2035 and will ensure there is sufficient infrastructure throughout the region to enable this change.

The next page shows the North East Transport Plan objectives and how the roll-out of further public charging facilities could help to achieve them:



North East Transport Plan 2021-2035

Moving to a green, healthy, dynamic and thriving North East

The Vision

‘Moving to a green, healthy, dynamic and thriving North East’

The Objectives



Carbon-neutral North East

Electric Vehicle uptake in the region to match or exceed national average



Overcome inequality and grow our economy

Charging facilities and fair tariffs for every community regardless of wealth or rurality



Healthier North East

Improving air quality. Charging locations encourage use of public transport (Park and Ride), active travel and culture/heritage



Appealing, sustainable transport choices

High quality and accessible chargepoints with reliable public information



Safe, secure network

Chargepoints in safe and secure locations for you and your vehicle

Strategy and key commitment statements

North East Zero Emission Vehicle Strategy

Infrastructure
key commitment statements

People
key commitment statements

Vehicle
key commitment statements

Scope of this strategy

The North East Zero Emission Vehicle Strategy follows many levels of national and regional strategy and policy with numerous additional key players, including the private sector, Northern Powergrid (NPG) and Scottish Power. This strategy aims to help tackle the challenges that are faced at a regional level (discussed within the “what are the challenges” chapter) during the transition to ZEVs, however combined efforts will be required from all stakeholders and key players to ensure we can deliver reliable public ZEV charging infrastructure across the region.

The strategy focuses on EV drivers that will rely on the publicly available infrastructure network in the region to charge their EV, and how we will ensure that an excellent charging network is delivered throughout the North East. Zero emission buses are included within the scope of the strategy but will mainly be addressed through the North East’s Bus Service Improvement Plan (BSIP).

Whilst the focus of this strategy is primarily public electric vehicle chargepoints for cars and vans, this document touches upon other ZEV infrastructure such as Hydrogen refuelling for larger vehicles and the delivery plan includes some ZEV innovation schemes. Private residential charging is out of scope; however, the delivery plan does include some publicly available residential on-street chargepoints.

Whilst we acknowledge that the cost of purchasing an EV can be prohibitive and prevent people from making the switch away from petrol/ diesel cars and vans, we have no levers in which to influence the cost of EV or manufacturing. Therefore, the cost of vehicles is outside the scope of this strategy but is recognised as a current barrier to switching. We will however aim to raise awareness of this issue and highlight its impact on EV take up in the region.

This strategy sets out in more detail how we will support sustainable, low carbon travel throughout the region, including rural areas, making clean alternative fuels a realistic and attractive option for the North East.



What is covered in this strategy?

- Public electric vehicle charging infrastructure delivered by the region on behalf of our partners. This will cover destination charging and on-route charging infrastructure.
- Battery electric vehicles including hydrogen vehicles and hydrogen refuelling infrastructure.
- Promotional and marketing activities delivered by the region for people and businesses.
- Plug in hybrid vehicles are considered in the medium term as they will require infrastructure to charge them.
- Cars, small vans, HGVs, taxis and private hire vehicles and fleets making use of the public charging network.
- Shared mobility services such as electric car clubs and the effective integration of ZEV provision with the wider transport network, such as through the provision of chargepoints at Metro stations.
- Zero emission buses are included within the scope of the strategy but will mainly be addressed through the North East's Bus Service Improvement Plan (BSIP).

What is not covered?

- On-street residential charging schemes will be delivered by local authorities. However, we will look to allocate a proportion of regional funding for ZEV infrastructure to areas of high-density housing without off street parking, areas with limited public transport provision and remote rural communities.
- Private residential charging infrastructure (such as home charging on a driveway).
- VOs (hydrotreated vegetable oil), CNG (compressed natural gas) and biodiesel, are not included in scope because, despite being cleaner alternatives with lower tailpipe emissions than their conventional counterparts, they are not zero emission vehicles.
- E-bikes, E-cargo bikes, and E-scooters are covered under the North East Active Travel Strategy.
- Prohibitive costs of electric vehicles – influencing the cost of EVs and their manufacturing processes are outside of our remit.

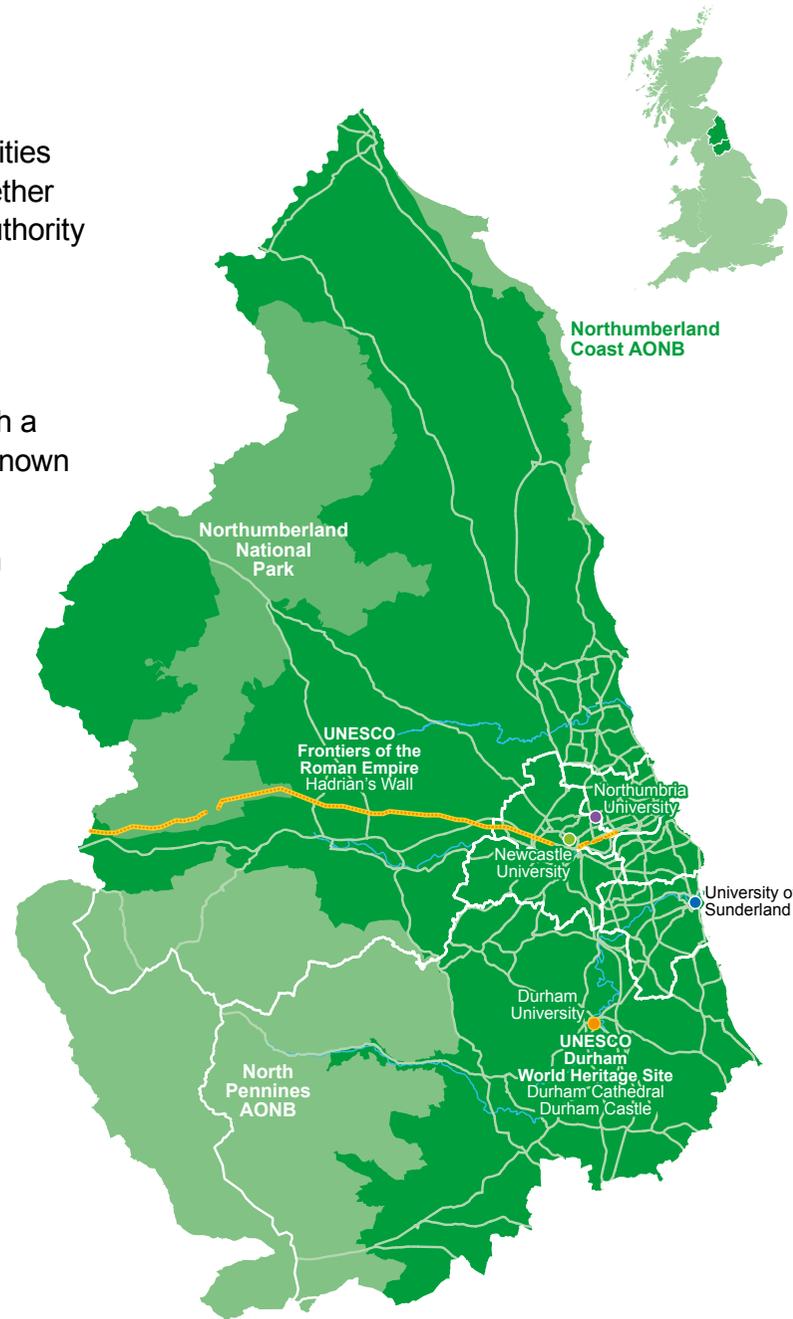
Area covered

The geographical area addressed by this strategy comprises the seven local authorities in the North East, soon to be brought together under a North East Mayoral Combined Authority (NEMCA).

Our region

North East England is a unique region with a rich history, stunning landscapes, and is known for its warm and welcoming communities.

The region is already leading the way with its green agenda and plans to boost the area's eco-credentials further could see residents and the transport authority making a substantial difference to the local environment and quality of life.



The North East region has pioneered a series of schemes with the aim of accelerating the uptake of ultra low emission cars and vans by both business operators and private car users. We are building upon initiatives such as the Plugged in Places Project which saw the installation of over 1,000 chargepoints in the North East, in order to make electric vehicles a practical and viable choice for many local motorists.

In recent years, our region has played a vital role in the manufacturing of electric vehicles as home to the Nissan plant in Sunderland, where the Nissan LEAF, one of the best selling electric vehicles globally, is manufactured. This has not only created employment opportunities but has also helped secure the North East region as a key player in the production of ZEVs.

As part of the UK's commitment to reducing carbon emissions, the North East has witnessed a significant increase in the availability of charging infrastructure and a growing number of public charging points can be found throughout the region. This strategy is needed to build on the strong progress made to date.

Policy context

National

Automated and Electric Vehicle Act 2018

The Automated and Electric Vehicles Act 2018 set out the regulatory framework to enable the deployment of world-class EV charging infrastructure across the UK.

Environment and Climate Emergency

The 2008 Climate Change Act sets out emission reduction targets that the UK must legally comply with. This was the first legally-binding climate change mitigation target set by a country. The Act committed the UK to reducing its greenhouse gas emissions by 80 per cent by 2050, compared to 1990 levels.

However, this was built upon in May 2019, with the UK being the first national government to declare that there is an environment and climate emergency,

The UK's 2050 net zero target legally requires the government to reduce the UK's net emissions of greenhouse gases by 100% relative to 1990 levels by 2050. Transport is the largest contributing sector to greenhouse gas emissions, representing around 27% of all UK greenhouse gas emissions in 2022.

Clean Air Strategy

The UK Government's 2019 Clean Air Strategy set out actions to reduce emissions of harmful air pollutants, including those emitted from vehicles. It noted significant improvements in air quality over recent decades, but cleaner transport will play a key role in reducing air pollution and meeting the government's objectives for the environment and public health. Transitioning to less polluting ZEVs and increasing charging capacity are identified as actions to support this.

UK Government – new approach to Net Zero

In September 2023, the government announced a commitment to phase out the sale of new petrol and diesel cars and vans by 2035. It is anticipated that this will help accelerate the transition to Zero Emission Vehicles and expand electric vehicle charging infrastructure to achieve net zero by 2050.

By the time we reach 2035, the UK will need to have sufficient electric vehicle charging infrastructure in place to cope with the demands of electric vehicle charging. In line with this an initial £1.3 billion was announced in 2020 to accelerate the rollout of chargepoints for electric vehicles in homes, streets across the UK and on motorways across England.

To meet the overall net zero target, all transport emissions will need to be eliminated before 2050; as the average life of a vehicle in the UK is 14 years, phasing out of petrol and diesel engine vehicles should be achieved in advance of 2050.

Zero Emission Vehicle Mandate

The UK Government has pledged to deliver a ZEV mandate in 2024 to support the 2035 ban on new petrol and diesel car and van sales. The ZEV mandate is expected to require vehicle manufacturers to ensure that an increasing proportion of the vehicles they sell are zero emission each year between 2024 and 2035.

The UK Government's Office for Zero Emission Vehicles (OZEV) has stated that in 2030, 80% of new cars and 70% of new vans will need to be zero emission at the tailpipe, with the proportion of new non-zero emission cars and vans decreasing each year to 2035.

Public Charge Point Regulations 2023

In October 2023, Parliament approved new public chargepoint regulations to further support the transition to ZEVs.

The regulations require all new public charge points with a power rating of 8 kW and above must provide contactless payment, and all existing Rapid charge points (50 kW and above) must be retrofitted within one year from October 2023.

Within two years, all charge point operators must offer payment roaming at all their charge points through at least one third-party roaming provider. People will be able to pay for a charge across multiple charge points through one app or radio frequency identity (RFID) card, similar to a fuel card for petrol and diesel cars.

Chargepoint providers will also be required to open up their data, so drivers can easily find an available chargepoint that meets their needs.

The regulations mandate that all public chargepoint operators must run a 24/7 free-to-use telephone helpline for consumers within one year, and clearly display the details on charge points or through a separate device.

The regulations also require reliability across the public rapid charge point network. Charge point operators must ensure that the network of public charge points of 50 kW and above is working 99% of the time.

Publicly Available Specification (PAS) 1899 accessible charging standard

In October 2022 a Publicly Available Specification (PAS) 1899 on accessible charging standards was introduced to work towards ensuring public electric vehicle (EV) chargepoints are accessible to disabled people.

The specification gives chargepoint providers and manufacturers a way of checking that their public chargepoints meet the accessible charging standard and are accessible to disabled people.

PAS 1899 was sponsored by the charity Motability and the Office for Zero Emission Vehicles (OZEV). Its development was facilitated by the British Standards Institution (BSI).

In 2022, Motability stated that from their engagement with industry, providers and manufacturers were keen to have a way of checking if their chargepoints conform with the standard.

Whilst this PAS is not yet a British Standard, it is hoped that formal standardisation will follow in 2024.



Policy context

Regional

Climate emergency declarations

Our two combined authorities and seven local authorities have all declared their own climate emergencies, introducing climate change plans and targets which centre around the need to reduce carbon emissions by at least 45%, with four of the authorities in the region committing to carbon neutrality by 2030.

Air quality management areas (AQMA)

In the North East seven air quality management areas (AQMA) have been declared where air pollution levels are likely to exceed the national air quality objectives. Local authorities with AQMAs must monitor air quality in these areas and devise a plan of action to ensure national targets are met in the future. Facilitating the uptake of ZEVs is highly likely to support better air quality in these areas.

North East ZEV policy (2022)

The policy forecasted the number of plug-in vehicles expected to be on the roads in the region and set out the levels of infrastructure which would be required to support future demand based on the UK government's Transport Decarbonisation plan growth scenarios and also taking into account a set of Future Travel Scenarios produced by Transport for the North.

The policy outlined initial proposals on how the region will complement private sector charging facilities, co-ordinate action with local authority charging initiatives and build a partnership with Northern Powergrid, assisting us to move towards a carbon-neutral North East.

A particular challenge the policy identified was the challenge of rolling out ZEV infrastructure to areas of high-density housing without off street parking and in remote rural communities, where there is unlikely to be a strong economic case for private sector investment.

The policy also set out a series of visionary policy statements outlining the proposed direction for the region to follow to achieve where we want to be. These statements have been updated and expanded upon in this strategy in the form of key commitment statements.

This strategy directly flows from the policy document and further develops the work carried out in the policy and will set out a costed pipeline of schemes focused on supporting the transition to ZEVs.

How to make the right travel choice

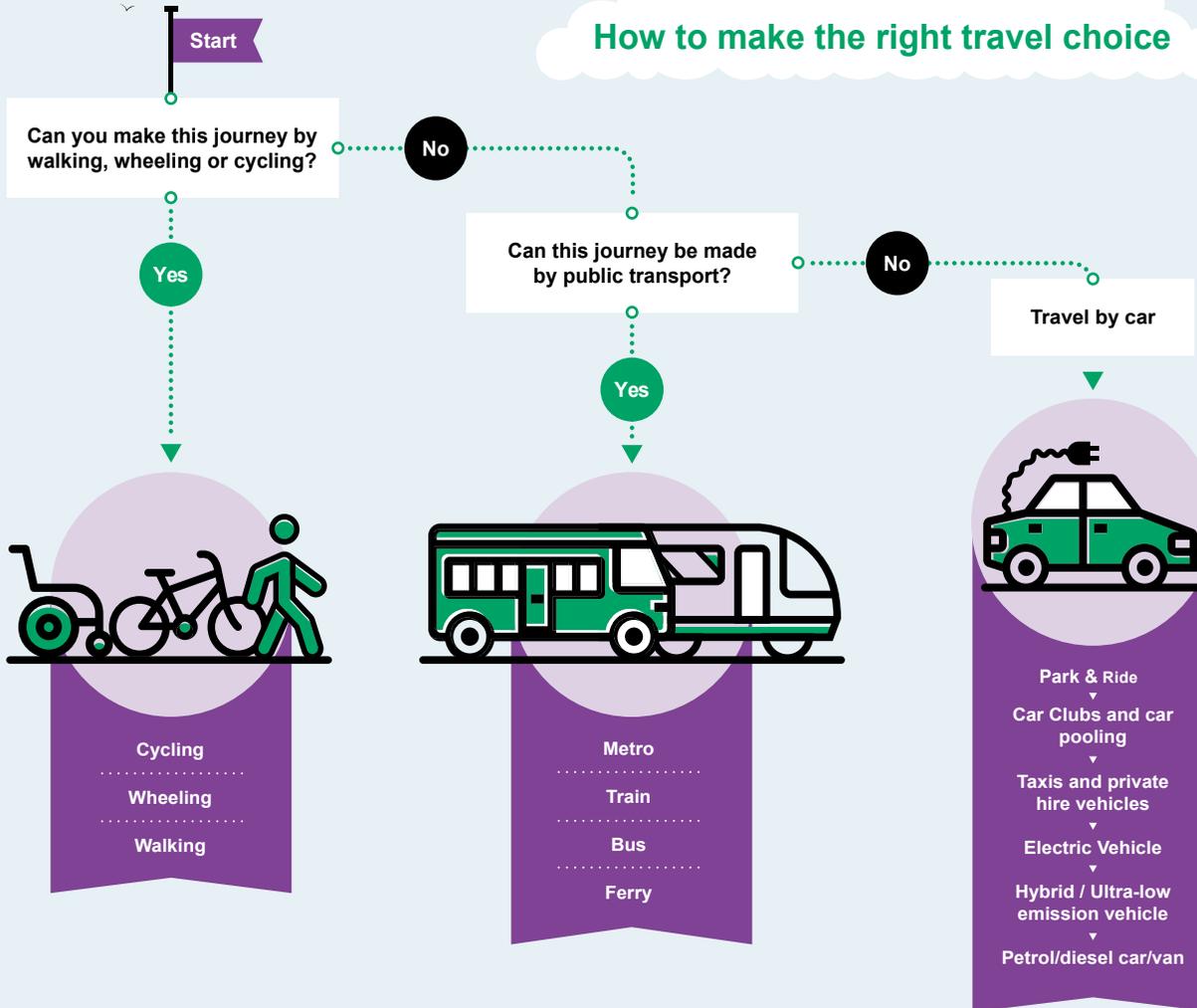


Figure 2: Making the right travel choice – decision tree

Making the right travel choice

As we decarbonise transport, making cars and vans zero emission is part of the solution, but relying solely on zero emission road vehicles isn't enough. The lead policy of the North East Transport Plan is 'helping people to make the right travel choice'. The 'decision tree' (as shown to the left) has been developed to help people consider their travel options when they need to make a journey. The decision tree helps people to consider whether the journey they are planning to make can be made by sustainable transport instead of by car/van.

If car users switched one journey a week to public transport, walking or cycling and people who don't have access to a car continue to travel sustainably this could potentially save around 214,000 tonnes of CO2 emissions a year, helping to reduce poor health caused by road traffic emissions.

Whilst we aim to encourage the use of walking, wheeling, cycling or public transport, we recognise that for a lot of journeys travelling by car or van might be the only option for certain journeys and personal circumstances and we'd like a ZEV to be used for these journeys.

December 2022 – North East devolution deal

A new devolution deal for the North East has been agreed that will see the allocation of significant new funding and powers to the region from May 2024. In total, the deal is expected to provide £4.2 billion of additional investment in to the region over 30 years, including a £1.4 billion investment fund alongside significant funding for transport, education and skills, housing and regeneration.

The deal would involve the creation of a new mayoral combined authority covering County Durham, Gateshead, Newcastle, North Tyneside, Northumberland, South Tyneside and Sunderland, and is projected to create 24,000 additional jobs in the area and unlock £5 billion of additional private sector investment into the region.

In respect of commitments to ZEV infrastructure, the devolution deal text states:

The North East has ambitious plans to introduce a region-wide electric vehicle charging network and has recently introduced a Zero Emission Vehicle (ZEV) policy, an outline of the region's aim to lead the country in boosting the up-take of electric vehicles by developing and expanding charging facilities. The government recognises the aspirations of the North East Mayoral Combined Authority to improve public electric vehicle charging infrastructure across the region, which would increase the uptake of electric vehicles in the region and reduce carbon emissions by supporting all motorists in making the switch. Government is introducing a new £450 million local electric vehicle infrastructure (LEVI) scheme for local authorities to support local EV infrastructure delivery and will work with the North East Mayoral Combined Authority to ensure the area is well placed to respond once funding arrangements are announced.



Policy context

Local

Each of our seven local authorities is delivering plans to decarbonise transport emissions in their area by working towards, or having already produced a Zero Emission Vehicle or Electric Vehicle strategy for their area.

Clean air strategies have been incorporated in certain parts of the region including in Newcastle and Gateshead where a clean air zone (CAZ) has been introduced to help improve air quality by taking targeted action on high-polluting vehicles.

Nexus, which operates the Metro, the Shields Ferry and supporting bus services across Tyne and Wear are enabling further transport decarbonisation by aiming for ambitious reductions in greenhouse gas emissions whilst building a more resilient, reliable public transport network. In addition to this, it published an Environment and Sustainability Strategy in 2022.

Our local authorities are all working towards a reliable network provision for EV charging with plans to install more chargepoints. This strategy will complement the work being undertaken at a local authority level in delivering ZEV charging infrastructure to help us move the region to a greener and healthier future.

Introduction and context – chapter summary

The delivery of a North East ZEV strategy will ensure a consistent approach to delivering reliable public zero emission vehicle charging infrastructure across the North East and helps achieve our Transport Plan vision and objectives by tackling the region's climate emergency, reducing carbon emissions and improving air quality. The transition to ZEVs could also help to address transport poverty and transport related social exclusion. The strategy will also assist with the UK Government's target to phase out the sale of new petrol and diesel cars/vans by 2035.

This strategy will provide insight into planning and delivering a ZEV infrastructure network for people who live, work, and visit the North East by ensuring that all future public ZEV infrastructure projects:

- Support both urban, suburban, and rural areas of our region;
- A data-led approach to help address competing pressures;
- Are sustainable and well maintained;

- Meet current and future legislative requirements;
- Plug the gap between public chargepoints installed by the private sector and home charging facilities – supporting local authority infrastructure plans and ensuring charging infrastructure is provided in areas that are not covered by commercial operators;
- Support all users, including people with disabilities whether visible or hidden, and restricted mobility.
- Are actively promoted, highlighting the benefits to the region, such as reduced CO2 emissions and improved air quality through the complete removal of localised and toxic tailpipe emissions.

Where we are now?

Current ZEV infrastructure and vehicles in the North East

The North East is at the forefront of the ZEV agenda and is home to the Nissan LEAF, one of the world's first electric vehicles, the UK's first rapid filling station and research and design (R&D) centres working to identify alternative fuel sources.

It is important to note that the figures presented in this chapter includes publicly available chargepoints that have been delivered by both the private and public sectors.

To get an overall view of the current position of the region, this chapter focuses on two main areas: the current regional charging infrastructure and the size and make-up of the current ZEV fleet in the North East as of mid-2023.

Infrastructure

As of May 2023, there were approximately 850 publicly accessible charging points in the North East, offering a range of different charging speeds ranging from 3.7kW to >50kW. Table 2 sets out the locations and number of publicly accessible charging points in the North East as of May 2023.

There are various options for charging an electric vehicle from slow to ultra-rapid and the most suitable solution will depend on the needs of the user. Ultra-rapid chargers are the fastest way to charge an electric vehicle (EV) and take a fraction of the time a slow or fast charger would take. However, the rate of which EVs are able to charge is ultimately dependent on the vehicle model. As a result, not all EVs on today's market are able to charge at 100-150kW.

Local authority	Total devices	% of region	per 100k people
County Durham	222	26.2%	42.5
Gateshead	115	13.6%	58.6
Newcastle	114	13.5%	38.0
North Tyneside	50	5.9%	23.9
Northumberland	186	22.0%	58.0
South Tyneside	55	6.5%	37.2
Sunderland	104	12.3%	37.9

Table 2: Locations and number of publicly accessible charging points in the North East May 2023 (totals include both public and private sector chargepoints)

EV charging is in the early adopter stage of market development and can be considered to be a relatively immature market. As yet, there is no one standard set of definitions for the description of charging type specifications. However, Table 3 summarises current definitions from the Energy Savings Trust.

There are a variety of rapid chargepoint providers in the UK. Confusingly, rapid chargepoints (50kw+) sometimes have brand names such as Tesla's network of 'Superchargers' and Fastned's 'Superfast' chargepoints.

Energy Savings Trust	Low/Slow Speed	Standard	Fast	Rapid	Ultra Rapid
	<3.7kW	3.7kW to 8kW	8kW to 50kW	50kW to 150kW	150kW+
Public Chargepoint Regulations 2023				Rapid	
	= 8kW		8kW to 50kW	50kW+	

Table 3: EV charging speed definitions

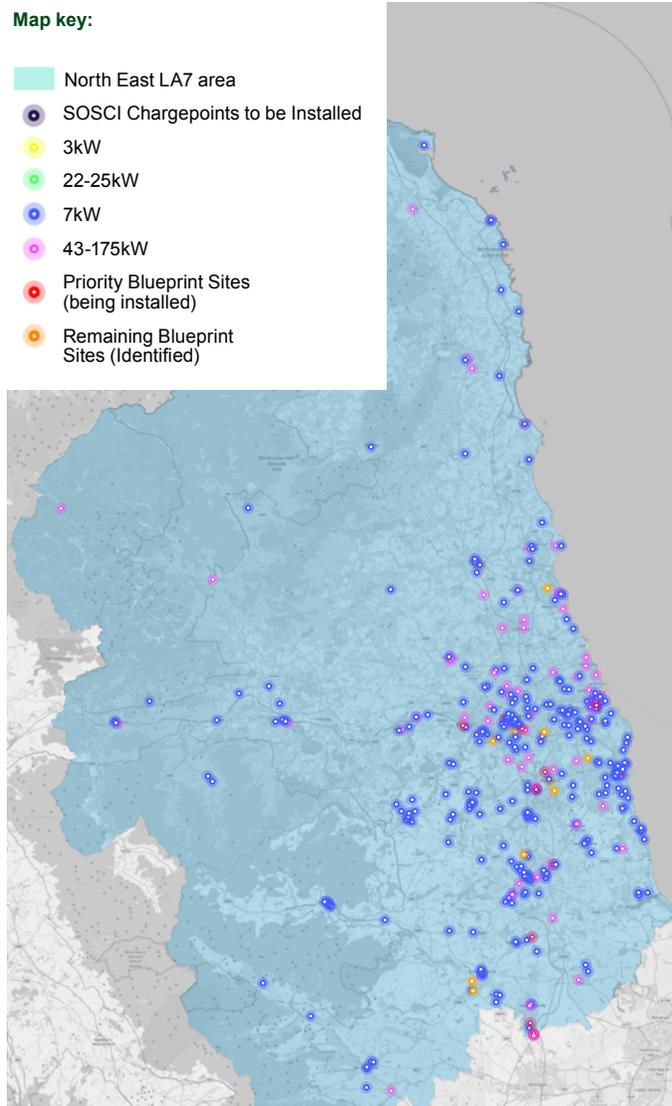


Figure 3: Existing and planned public EV chargepoint infrastructure across the North East (through the enabling study) (LA7 area, 2023)

The UK government published Public Chargepoint Regulations 2023 with the definitions outlined in table 3. In this strategy we have used the definitions from the Energy Savings Trust, which we also used in our Local Electric Vehicle Infrastructure (LEVI) funding bid. Figure 3 shows the existing and planned public EV charge point infrastructure and their speeds (through the enabling study).

Approximately two thirds of the public chargepoints in the North East are *Fast* (defined as 8kW-50kW). On average, fast chargers in the region are situated 1.89km apart, but the gap can be up to 21.5km in some of our more rural areas. The vast majority of other chargepoints are *Rapid* or *Ultra-Rapid*, offering greater opportunities for a quick top-up at the edge of urban centres, along motorway services and in more rural locations. The average distance between rapid chargers is 2.77km but with some up to a maximum of 27.4km.

Location category	Devices	% of devices	Locations	% of locations
Council car park / on-street	354	42%	197	49%
Retail sites	230	27%	99	25%
Service stations	46	5%	17	4%
Hotel	44	5%	20	5%
NHS/Hospital	103	12%	30	7%
Other	69	8%	40	10%

Table 4: Location categories of public chargepoints in the North East May 2023

Whilst EV charging infrastructure is situated in both urban and rural areas across the North East, around 75% of chargepoints are found in urban locations, with much of the infrastructure also situated in areas of higher population density (see Figures 4 and 5). Some of this infrastructure is located at public transport interchanges and stations, enabling ZEV trips to form a part of a wider sustainable journey. For example, there are charging points at 5 Metro stations (Jarrow, Kingston Park, Heworth, Northumberland Park and Stadium of Light), 2 local railway stations (Haltwhistle and Morpeth) and 1 park and ride site (Great Park). These publicly available chargepoints have been provided by both private and public sectors.

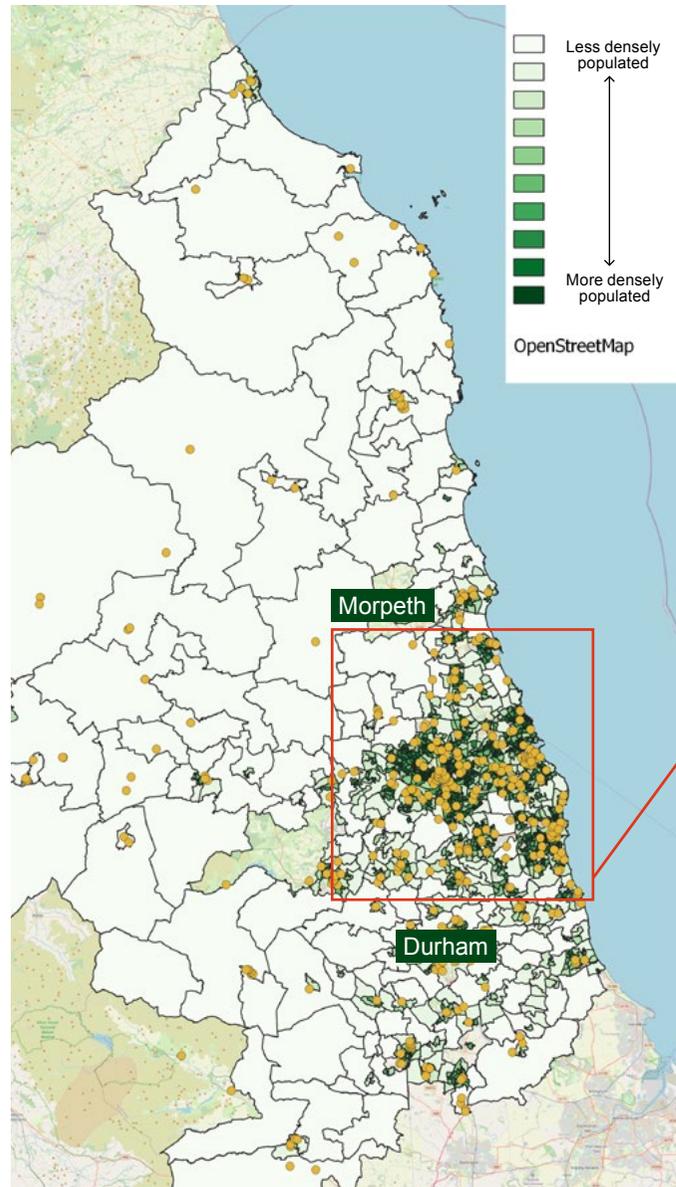


Figure 4: Chargepoints and Population Density

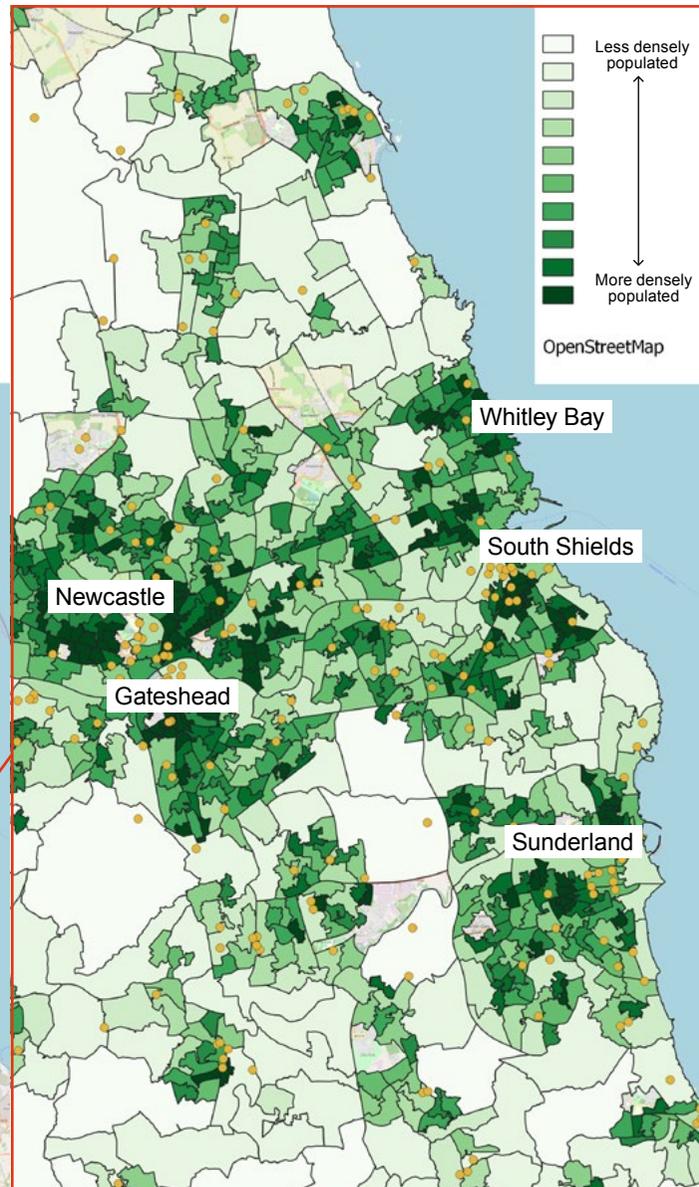


Figure 5: Chargepoints and Population Density, focus on Tyne and Wear

Although there is a diverse range of chargers in use across the region and demand continues to grow; some of the region's public network hosted by local authorities are now relatively old, with a significant proportion of these chargers installed as early as 2011. As a result of the end of maintenance agreements and warranty periods, users across the region may discover that many of these chargers are either faulty or out of use with 42% of those surveyed as part of the North East Local Enterprise Partnership (LEP) area EV Charging Behaviour study in 2020 stating that the chargepoint they tried to use was sometimes not working. This can have an impact on confidence in infrastructure, which may have a knock-on impact on the uptake of ZEVs if not resolved. There is currently a lack of information on chargepoint reliability and this has been identified as a problem for EV drivers. This is discussed in the next chapter – **What are the challenges?**

Electric Vehicle Charging Infrastructure Projects

The North East has achieved significant success in the development of electric vehicle charging infrastructure since the 2009 'Plugged in Places' programme was launched. We are experienced in bidding for ZEV infrastructure funding and delivering associated charging infrastructure.

Other examples of our region's strong track record in winning and managing ZEV funding are:

- **Funded by the Office for Zero Emission Vehicles (OZEV) and the European Regional Development Fund (ERDF) to a value of £3 million, the Go Ultra Low North East (GULNE) programme has delivered the UK's first electric vehicle filling station and 11 new rapid charging hubs across the region since 2016 to support the increasing uptake of ZEVs.**

- **The region has also secured additional funding from OZEV of £500,000 to install rapid electric chargepoints for taxis and private hire vehicles at 10 locations across the North East. These are currently being installed, with eight of the chargers now in operation.**

- **The North East region has also been successful in bidding for £19.5 million from the Levelling Up Fund (LUF) Round 2 to boost transport decarbonisation. This funding will deliver a fleet of 52 electric buses and 92 electric vehicle chargers, including 26 rapid chargers at 36 different sites across the region.**

- **The region has secured funding of £349,580 from the LGF (Local Growth Fund). This will enable the installation of 7 EV chargepoints, one in each of our local authority areas. The chargepoints installed will be rapid charging over 50kwh.**

- **The LEVI (Local Electric Vehicle Infrastructure) funding is the largest amount of funding announced from the Department for Transport to date. The North East has an indicative allocation of £15.8 million to build capability to support local authorities to plan and deliver chargepoint infrastructure for residents without off street parking.**

- **North East Local Authorities have benefited from the government's On-Street Residential Chargepoint Scheme (ORCS) to increase the availability of on-street chargepoints in residential streets where off-street parking is not available.**

- **In 2022, South Tyneside Council became part of a world Vehicle to Grid (V2G) trial. V2G enables electricity from chargepoints to be sold back to the National Grid, to help alleviate pressure on it.**

- **The North East region continues to identify potential funding opportunities for the roll out of rapid and superfast EV infrastructure, complementing existing activity and targeting investment in locations where it demands public sector investment.**

Vehicles

ZEV uptake in the region has grown significantly in the last few years (see right, figure 6).

There are approximately 11,211 ZEVs licensed in the North East. This is around 1.1% of all vehicles in the region, which is below the figure for other regions in the North and the national average (see figure 7 on the following page). There are approximately 7454 plug-in cars and vans privately licensed in the North East, with around a further 3553 battery electric and range extended electric cars and vans licensed to company keepers. This is more than double the number of both company and private vehicles since mid-2021.

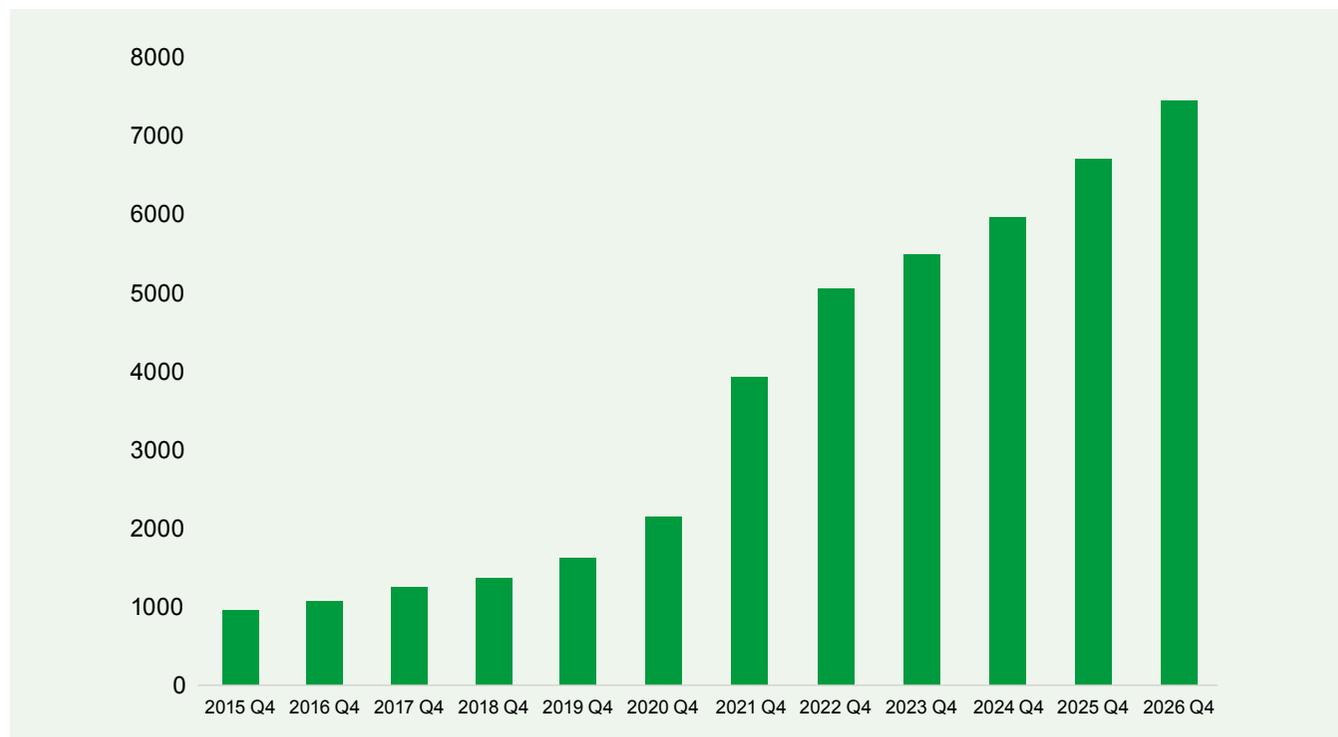
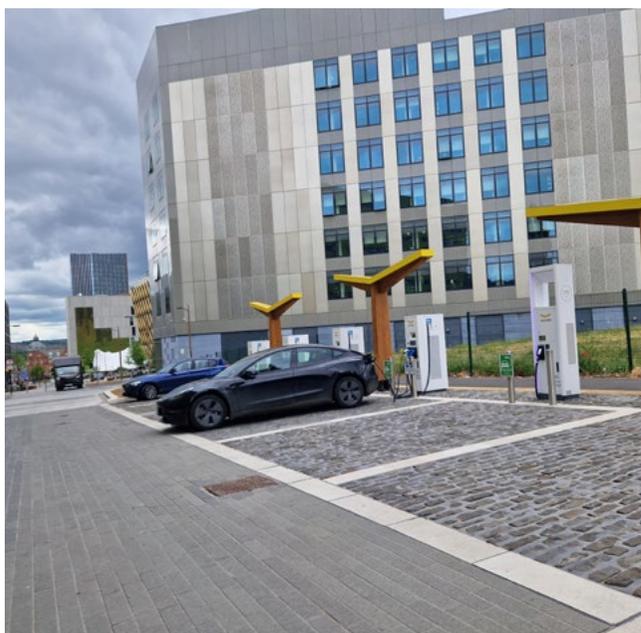


Figure 6: Growth of private Battery Electric Vehicle numbers in the North East (2015-2023)

The region has seen the introduction of several shared electric car club vehicles for both public use and as corporate pool vehicles. New shared mobility solutions are being introduced providing users with the option of using either a bus or a car club vehicle to best suit their needs. In more remote rural areas such as large parts of Northumberland and Durham, where walking, wheeling, cycling and public transport are not always practical transport options, car clubs can provide a practical and cost-effective alternative to car ownership, especially for residents on low incomes, reducing overall car use whilst offering access to a car for longer journeys. The provision of a ZEV further enhances the environmental advantages of such schemes.

Where we are now?

To date there are still limited ZEV options available to users of larger vans, freight heavy goods vehicles and specialist vehicles. Each sector is currently at different stages in their transition to zero emission vehicles due to the various logistical challenges for each vehicle type.

In the most recent figures, there were 11 battery electric licensed heavy goods vehicles (HGVs) registered in the North East. However, the industry is still dominated by diesel, with over 11,700 such vehicles in the region.

These measures will help improve the user experience of public charging and driving battery electric vehicles (EVs) in the UK.

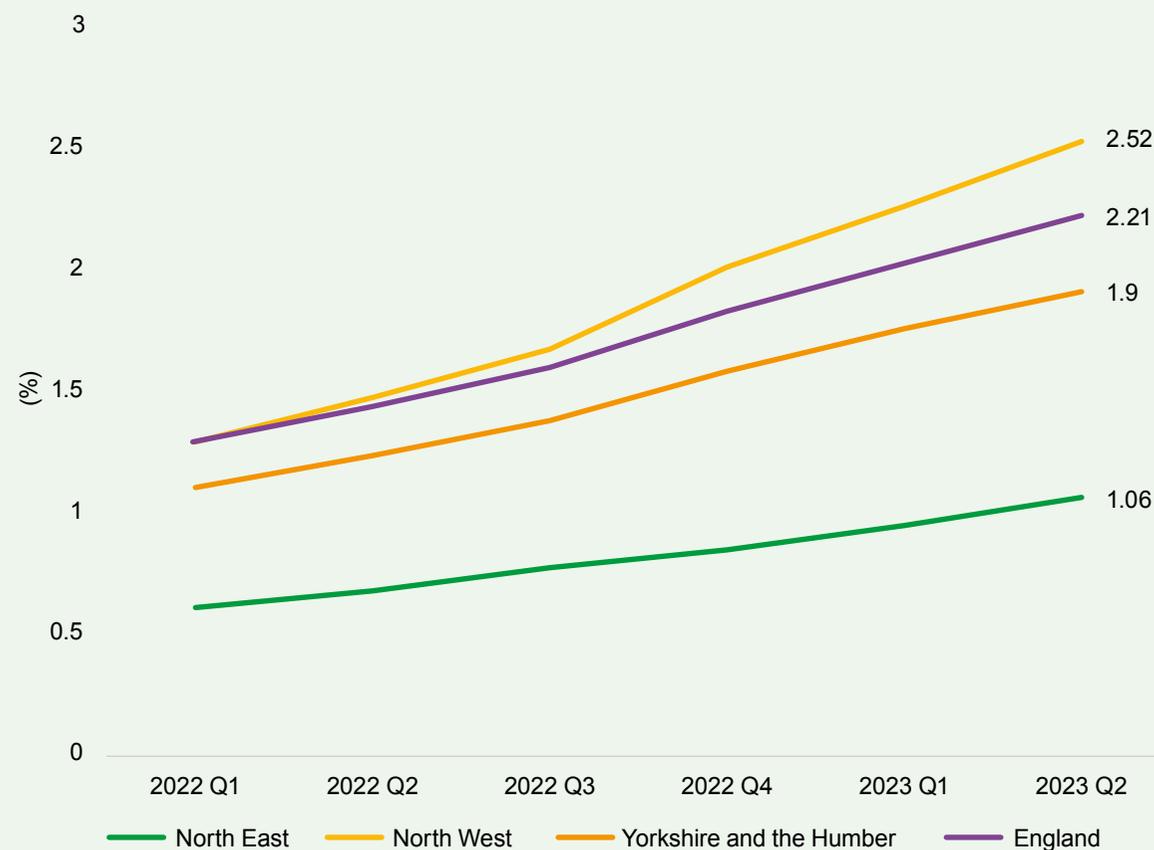


Figure 7: Battery Electric Vehicles as a percentage of regional vehicles (2022-2023)

Buses

The regional Bus Service Improvement Plan (BSIP) published in October 2021 and refreshed in October 2022, outlined a commitment for all buses in the region to be either zero emission or the highest emission standard for conventional buses by March 2025. In April 2023, over 60% of the fleet in the North East meets the Euro 6 standard.

The region's three major bus operators (Arriva, Go North East, Stagecoach) are working towards lowering emissions from their fleets with considerable investment in new, modern low emission vehicles over the last decade and 52 more battery-electric buses are to enter service in North East England. It comes after the region was awarded a £19.5 million grant through the government's Levelling Up Fund as outlined earlier in this chapter.

In 2020, Go North East invested £3.7 million in new fully electric zero emission buses, which were partly funded by the Ultra-Low Emission Bus Scheme (ULEBS). Branded Voltra, the buses are powered by electricity that is sourced from zero emission supplies such as solar, wind and hydro. They operate services 53 and 54 between Newcastle, Gateshead, Bensham and Saltwell Park.

The fleet of 9 vehicles are capable of an all-day service from the power of one overnight charge. Go North East have subsequently purchased 9 more Voltra buses that run the Q3 service between Great Park and Wallsend. The Voltra buses run out of a new electric bus depot in Gateshead.

Where are we now? – chapter summary

This chapter has laid out where we are now regarding charging infrastructure and the uptake of EVs in our region. The North East has an excellent record in the delivery of significant electric vehicle infrastructure projects that have a strong positive impact for our region, and we are continuing to seek funding to install additional infrastructure that will support the transition to ZEVs. This transition will impact all vehicle types and whilst significant progress has been made in the region, the numbers of ZEVs in the North East are still relatively low. The next chapter will focus on the challenges which need to be overcome in order to grow the uptake of ZEVs.



Source: Go North East – 'Voltra' electric bus – January 2023

Newcastle International Airport

Newcastle International Airport are proposing to build a brand new, ultra-rapid electric vehicle (EV) charging forecourt and convenient coffee drive-thru facility. Based on Airport land at Callerton Parkway, which is just off the A696 and minutes from the A1, the super-fast EV charging facility will benefit a variety of customers including Airport passengers, local commercial drivers such as taxi drivers waiting to pick up Airport customers, and commuters and visitors to the region. The station will comprise up to 12 charging bays, each of which is supplied by 100% renewable energy, and will be capable of adding up to 400 miles of range to fully-electric cars in 20 minutes.



Image 1: Proposed Ultra Rapid Charging Forecourt at Callerton Parkway

Derwent Valley Car Club

Derwent Valley Car Club (DVCC) was set up in Blackhall Mill in 2013, operated by the Blackhall Mill Community Association (BMCA). BMCA secured Village SOS funding from the National Lottery Community Fund to create the scheme with a key focus on environmental sustainability and social inclusion. The scheme has developed over the last ten years and now has five fully electric cars available to borrow in Shotley Bridge, Rowlands Gill, Blackhill and Blackhall Mill, with a further hub in North West Durham to open soon.

In addition to car sharing the club also run a voluntary driver scheme to enable people who are unable to drive to access essential appointments and social activities.

The club works closely with local authorities and in 2020 was a partner with Durham County Council on the Scaling On-Street Charging Infrastructure (SOSCI) project. The project allowed the County Council to install over 100 electric vehicle charge points across the county, including a charge point in Shotley Bridge for the car club.

Residents can hire a vehicle from 30 minutes, the flexible scheme provides affordable, maintenance free, access to EVs and helps families who have returned to workplaces on a hybrid-basis, where they no longer need to run two cars every day.

The club has recently undertaken a research project with Edge Innovation to create a Car Club in a Box to support other communities to develop similar schemes. It is hoped that the scheme can be rolled out across the North East.

DVCC are focused on not only reducing carbon emissions through the use of EVs, but also supporting behavioural changes with training and support for members ensuring an affordable, just transition to Net Zero. Following the success of their e-bike scheme the club are keen to look at adopting more micro mobility options into the club in the future.



What are the challenges?

We have identified key challenges which we will need to help address in order to support the uptake of zero emission vehicles whilst developing and expanding the public charging network.

Although the North East is making steady progress with infrastructure expansion and take up of ZEVs, as shown within chapter 2 - *Where are we now*, the region must work to tackle the identified barriers to ZEV take up and the roll-out of public chargepoint infrastructure which include range anxiety, chargepoint coverage, the perceived reliability of infrastructure and the cost of electric vehicles.

It is our belief that, by delivering a comprehensive and inclusive public infrastructure network offer, together with clear positive messaging, we can support people and businesses to switch from petrol and diesel cars or vans to ZEVs.

We have therefore structured this strategy on the following approach:



The findings from recent studies and surveys, as listed to the right, have helped us to better understand perceptions and barriers for local businesses and residents in making the transition to ZEVs. These sources provide reassurance that by developing and expanding the public EV charging network, together with up-to-date information and regular monitoring and maintenance, we will be able to support drivers make the switch to ZEVs.

Research studies

Regional:

- North East ZEV Infrastructure Delivery Model Research (2023)
- Making The Right Travel Choice: Research with North East residents and employers (2022)
- North East Transport Plan public consultation (2020/21)
- North East LEP area EV Charging Behaviour study (2020)
- North East Fleet Revolution (business-focused) (2020)
- Nexus Insight Panel: Electric vehicles (2019)

National:

- Department for Transport: Electric Vehicle Drivers: Attitudes and Behaviours (2022)
- Department for Transport: Public Electric Vehicle Charging Infrastructure (2022)

The samples of these studies and surveys are not intended to be representative of the North East as a region but can be read as useful indicators.

What are the challenges?

Research findings have identified the following challenges and barriers which we will need to help overcome in order to support the transition to Zero Emission Vehicles:

Infrastructure

- Accessibility and availability of public charging infrastructure
- Reliability of current publicly available chargepoints
- Inclusive infrastructure and ease of use
- Having suitable power supply to meet demand

People

- Range anxiety
- Perceived and actual gaps in the charging network
- Provision of information
- Cost of public charging tariffs
- Perceived complex payment process

Vehicles

- Prohibitive cost of Electric Vehicles
- Challenges around the development and use of other ZEVs and alternative fuels

We must work towards tackling these challenges in order to ensure excellent infrastructure and well informed people in our region, which we hope will result in increased take up of zero emission vehicles.

Although the cost of electric vehicles is outside of our remit, research suggests that it is a current barrier to adoption.

Infrastructure

Accessibility and availability of charging infrastructure

The accessibility of charging infrastructure is frequently raised by consumers as a key consideration when choosing an electric vehicle. Public chargepoints that are readily available, easy to access, and reliable are pivotal for our region's continued transition to zero emission vehicles and tackling the below challenges will help us to achieve **Excellent Infrastructure**.

Concerns over access to current charging infrastructure was a common topic raised by research participants. Businesses and residents also said they felt that additional infrastructure was required to support EV usage.

“How are we expected to make the switch with a chronic lack of infrastructure and investment?”

87.69% agreed that more public chargepoints were needed in their local area.

North East LEP EV Charging Behaviour Study (2020)

“I think it's probably quite costly in terms of ensuring that there are enough electric car charging ports – which there are barely any where I am.”

Lives in city / town in the North East

Making the Right Travel Choice Strategy – Resident research (2022)

A significant proportion of future ZEV owners in the North East will not have access to off-street private parking and will be reliant on public EV charging infrastructure. For example, 40% of housing in County Durham does not have a driveway or garage, and on average 47% of current terraced streets and flats in the North East are unlikely to have private parking facilities.

What are the challenges?

These drivers may not be able to benefit from residential charging and will therefore need to rely on the public EV charging network.

A third of EV drivers who took part in the North East EV Charging Behaviour Study (2020) stated they were reliant on access to public EV charging infrastructure, with the remainder using it to top-up between home charging. This highlights the increased importance of public EV charging across the region to support the switch to ZEVs.

“I can’t actually get my car anywhere near my house. Because we have a communal car park for probably around 50 houses, which are all terraced houses. So even if I wanted to buy an electric car (EV) I couldn’t, because I have no means of charging it.”

Making The Right Travel Choice Strategy
– Resident research (2022)

“Living in a terraced street with no private parking I do not see how an electric car could work.”

North East LEP EV Charging Behaviour Study (2020)

Respondents to the North East EV Charging Behaviour Study felt that when thinking about future charging locations, it was important to consider transit locations such as motorways and main roads. This was then followed by workplace chargers, and then out of town areas, city centres and residential locations.

Some EV drivers require the opportunity to charge their vehicles around their daily activities, rather than at home. A national study by the Department for Transport (DfT) found that frequently used charging locations were at places of work, education and business/organisation car parks such as supermarkets and shopping centres, with 3 in 10 EV drivers using chargers at these locations at least once per week. The study also found that 74% of respondents have used a public charger within a business/organisation car park at some point, followed closely by service station/EV charging hub at 69%.

“Encourage charging stations at large workspaces and public buildings as this will be hugely beneficial.”

North East Transport Plan public consultation response (2020/21)

The evidence base suggests that the level of concern around accessibility of EV charging infrastructure fluctuates depending on where people live or work in the region. This is a particular concern in our rural areas, which tend to have lower levels of public charging infrastructure. Some of our rural residents have told us that they want to switch to an EV but feel that they are unable to do so due to a lack of local charging infrastructure in their community. Respondents have also told us that they believe there is lack of charging infrastructure in rural areas of the region, particularly in Northumberland, which is affecting both residents and visitors to the region.

“The private sector isn’t going to put them in some rural village in Northumberland, so someone has to fill the gaps.”

North East LEP area EV Charging Behaviour study (2020)

“As I don’t have off street parking at home, I’m not sure how I would be able to charge an electric car, therefore I would need there to be more public chargepoints in my area.”

North East LEP area EV Charging Behaviour Study (2020)

Public chargepoint availability, whether perceived or actual, is a challenge which will need to be overcome. In some cases, there is a perceived lack of confidence in using the public charging network due to not being able to rely on a charger being available when a driver arrives. This has been a highlighted issue amongst current EV drivers in the North East with 62% of responses to a local study stating they “sometimes” found the chargepoint they intended on using was already occupied, and 24% stated that this “usually” happened. 87% of respondents were in agreement that additional public chargepoints were needed in their local area to meet demand, as they had doubts about there being sufficient infrastructure available to support their switch to a ZEV.

62% of potential EV drivers were put off buying an EV for their next car due to poor chargepoint availability.

North East LEP area Charging Behaviour Study (2020)

“The charging points are always busy, which can again be a barrier.”

Large business, South Tyneside

Making The Right Travel Choice Strategy – Employer research (2022)

Reliability of current publicly available chargepoints

The perceived or actual unreliability of some public electric vehicle chargepoints has been raised as a concern for many current EV drivers. Older charging infrastructure can suffer from maintenance issues and occasional technical glitches. This has led to instances where drivers encounter unavailable or malfunctioning chargepoints, hindering their journey plans and causing frustration.

The North East Charging Behaviour Study (2020) highlighted that a large proportion of EV drivers found that a chargepoint they intended on using was non-operational when they arrived, and 40% claimed this “usually” happened.

If more people are to make the switch to ZEVs then they need confidence that the charging infrastructure will be maintained and operational. 2020 research found that satisfaction levels with the current North East charging network is fairly low, receiving an average rating of 3 out of 10, reflecting the current issue with poor chargepoint maintenance and slow repairs (North East EV Charging Behaviour Study). Local residents who took part in the study stated that they were unable to rely on the current public chargepoint network when making journeys in their EVs as there are too many chargepoints that are out of service, and they may end up running out of charge before getting home.

“The thing that is most frustrating about using an electric car is that hardly any rapid chargers in the region actually work. The network isn’t reliable enough to drive somewhere without having at least enough battery left to get back home.”

North East LEP area EV Charging Behaviour study (2020)

“Drivers cited needing more chargers, but they also felt strongly that the current estate needed better maintenance and quicker repairs, commenting that this had a detrimental effect on their satisfaction levels.”

North East LEP area EV Charging Behaviour study (2020)

Inclusive infrastructure and ease of use

The layout and space surrounding public chargepoints has been highlighted as an issue for some drivers with restricted mobility. A disabled driver investigation user trial, carried out in County Durham, found that overall scores on experience were positive for those with mobility issues using charging infrastructure, with an average rating of 3.8 out of 5. However, it was found that 1 disabled user with limited manual dexterity, from the 13 that took part was unable to complete the tasks that were needed to charge an EV. Many participants also commented on difficulties when reading the information that was displayed on chargepoint screens as they had to bend to be able to read it, highlighting that this could cause falls for those with restricted mobility.

Bollard positioning was also a highlighted issue that was causing problems for some wheelchair users as they had issues reaching the chargepoint. Overcoming accessibility challenges for people with visible or hidden disabilities is crucial to promote inclusivity.

Chargepoint operators who engaged with our recent ZEV Infrastructure Delivery Model Research mentioned that accessibility issues are a particular concern, as additional land is often needed to make public EV charging infrastructure accessible for disabled users. Some chargepoint operators claimed that some landowners are not always willing to give up another bay under the same contractual conditions.

“Manual dexterity issues are a problem and bollards prevented close approach to get the plug inserted.”

Scaling on Street Charging Infrastructure Project – Disabled Driver Investigations User Trial Report (2021)

“I’m disabled so getting out and trying to plug in an EV would be a trip hazard for me”.

Department for Transport: Public Electric Vehicle Charging Infrastructure (2022)

Having suitable power supply to meet demand

Future charging sites may not have the required power capacity to support the expansion of EV charging infrastructure. As EV take up grows there will be increased strain on the power grid to handle the electricity demand that is needed for drivers to charge their EVs. Identifying suitable sites which can utilise existing connections that have the capacity to support charging infrastructure which could be challenging, in some cases there may be a need for new connections to the grid which would be costly and require thorough planning and combined efforts to ensure infrastructure can be rolled out efficiently.

People

Range anxiety

Range anxiety is frequently referenced as a barrier to the take up of EVs with respondents telling us that they have concerns that they would run out of charge during a journey and not be able to recharge their vehicle. As well as sufficient infrastructure, it is important that we provide clear and accurate information that is easily accessible to help tackle range anxiety challenges. This will help us achieve **Well Informed People**.

Responses to the North East Charging Behaviour Study showed that limited range was amongst drivers' top reasons for not making the switch to a ZEV, with half of responses stating it was a major barrier. Interestingly, despite these concerns, 77% agreed that they could use an EV for most of their daily journeys.

There is some research to suggest current drivers would be reluctant to use their EVs for long distance journeys on unfamiliar routes due to uncertainties regarding where the next available chargepoint will be. A national study into EV behaviours found that 83% of drivers use their EV for short local trips, whereas only 19% were willing to use it for long distance journeys on unfamiliar routes due to range anxiety.

“It would be considerably more difficult, constantly having to think about ‘where is the next charging point?’ and having to add time into the journey and my plans.”

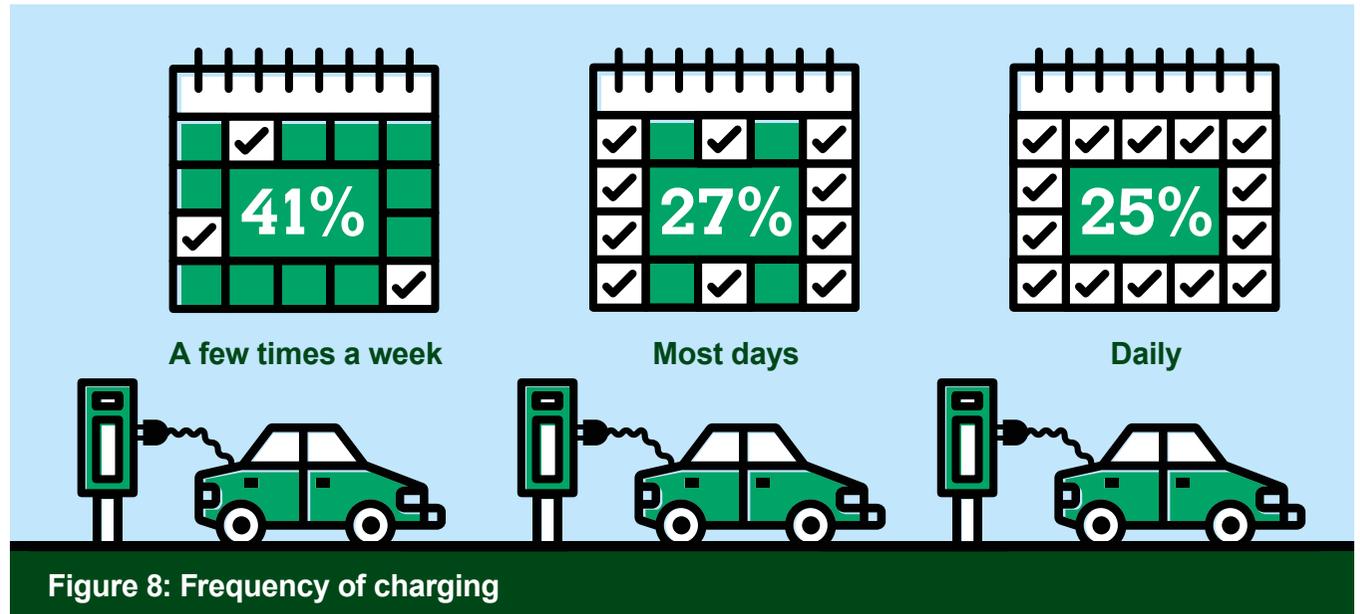
Non-EV driver, Urban

Department for Transport: Public Electric Vehicle Charging Infrastructure (2022)

“As my parents live a 400-mile trip away, until range gets up there, electric cars are not an option.”

North East LEP area EV Charging Behaviour study (2020)

Despite average daily mileage being well within the range of an electric car, drivers throughout the region found some comfort in the reassurance of frequent public charging opportunities on their usual routes. Local research below shows how often people charge their electric car each week.



What are the challenges?

Perceived and actual gaps in the charging network

A challenge which will need to be overcome is ensuring that chargepoint operators can provide EV chargers in locations where there may be limited commercial incentive. This can be seen through the fact that 80% of chargers are in heavily populated urban locations and reduced levels of infrastructure in more rural areas of the region which may have reduced demand. These gaps are adding to range anxiety amongst drivers throughout the region due to the limitations on charging opportunities.

There are also current issues with securing public EV charging sites at urban areas. This is due to the scarcity of suitable land in these locations, as they are often already heavily built up. There is also the need to obtain planning approval to install infrastructure which can be a lengthy and complex process.

Research shows that some EV drivers want to be able to access chargepoints on their usual routes so that extensive planning is not required to make a journey and they are not at risk of running out of charge.

“Having to plan in advance when and where to charge... That goes closely with fitting charging into a busy routine. I’d literally have to leave my car and get a cab.”

Non-EV driver, Urban

Department for Transport research:
Public Electric Vehicle Charging
Infrastructure (2022)

Range anxiety is also a major concern amongst some businesses, with approximately 80% of those who engaged in the 2020 Fleet Revolution programme stating this to be one of the key barriers to incorporating ZEVs within their fleet.

Provision of information

There is a lack of awareness on EVs, including range capabilities and the infrastructure that is available in the region. There is a need to change public perceptions that there are no chargers in their area through education and promotion of the regional public EV charging estate. The North East EV charging behaviour study asked drivers to rank their knowledge and awareness on EVs and found that the most common response was 5 out of 10, with 51% choosing 5 or below (1 being no knowledge and 10 being first-hand experience).

A similar study undertaken in the Midlands found the most common response to be 8 out of 10. This indicates that there is scope for improvement on the awareness of EVs, in regard to both the infrastructure that is available and the range that EVs are capable of.

“After the cost of those vehicles (EVs), the next biggest barrier to me and anyone I speak to is lack of knowledge. Where will I charge it? How easy is it to do?”

North East LEP area EV Charging
Behaviour Study

The lack of data (including its accuracy) around public EV chargepoints such as status, type, levels of use, and queue times is resulting in limitations on the level of up-to-date information available to the public, via apps or promotional campaigns. For example, we found that a popular chargepoint mapping tool which is available to the public only covered 84% of the actual regional chargepoints (NE Delivery Model Research, 2023) and there is no distinction between slow, fast, and rapid chargers at present, including if the site is operational or in use by another driver. This can cause issues for EV drivers who are trying to plan their journey in advance and are relying on a chargepoint to reach their destination.

Cost of public charging tariffs

The unique geography of the North East region with urban, suburban, and rural communities means that there is currently some variation on chargepoint tariffs. Publicly available chargepoint tariffs are decided upon by chargepoint operators. Operators use tariffs to create revenue to cover maintenance and energy costs and to support faster turnaround times at busier chargepoints. Tariff inconsistencies and perceptions of high charging costs could hinder the transition to ZEVs. For example, public chargepoints that are situated in areas which aren't usually commercially viable could be perceived as operators charging EV drivers at a premium to help make up for reduced revenue. Overcoming this challenge is crucial for promoting the switch from petrol and diesel cars and vans to ZEVs.

People have told us they expect to pay to charge a vehicle with 100% of responses to the North East EV Charging Behaviour Study (comprising both current and non-EV drivers) stating that it was right that some payment be introduced and 25% saying that they would much rather pay for a service that they knew was well maintained, reliable and working when they needed to use it. However, failing to offer a suitable charging tariff could potentially deter some drivers from switching to electric vehicles public chargepoints.

Perceived complex payment process

The complexity of payment methods at some public chargepoints has been highlighted by EV drivers as a barrier to using public charging infrastructure. Some current EV drivers respondents highlighted confusion with current payment methods. Uncertainty could be hindering further adoption and take up. For example, the need to have numerous cards or contactless card payment being unavailable at some sites.

“It has to accept contactless debit or credit card. It's crazy we still have chargers that don't do that. You go to a petrol station and pay with your card, no reason why you shouldn't be able to with a charger. I don't want to have to sign up with an account.”

Non-EV driver, Urban

Department for Transport: Public Electric Vehicle Charging Infrastructure (2022)

Although smartphone app payments showed to be a favourable option, current users have expressed frustrations with the various apps needed which has resulted in them not using public charging infrastructure.

Some thought that some current payment processes were failing to deliver the “charge-and-go” experience they were looking for, suggesting some have perceptions that current payment methods may be too complicated.

“The number of different cards, apps and accounts you need is harrowing. My wife refuses to learn how to charge the car as it's so complicated.”

(EV driver, Suburban)

Department for Transport: Public Electric Vehicle Charging Infrastructure (2022)

Having 10 different apps is just absurd and then you have 2-3 different physical cards, and they don't all accept the same payment. It's just a mess and is not ideal.”

BEV driver, Urban

Department for Transport: Public Electric Vehicle Charging Infrastructure (2022)

Vehicles

We strongly believe that providing **excellent Infrastructure** + **well informed people** will lead to an **increase in zero emission vehicles**.

However, the costs associated with switching to ZEVs are regularly referenced as a current barrier amongst consumers. Although the cost of electric vehicles is outside of our remit, research suggests that it is a current barrier to adoption.

Prohibitive cost of Electric Vehicles

Prohibitive costs may restrict the widespread adoption of electric vehicles as they tend to be considerably more expensive than the petrol or diesel equivalent. *Which?* found that buying the EV equivalent to many current petrol/diesel models could require up to £10,000 additional upfront costs. This could restrict many people from purchasing them, especially during the current cost of living crisis where disposable incomes are being hit by the rising costs of necessities, such as food, housing, and fuel. We have heard from some local residents that have expressed concerns on the cost of buying an electric vehicle.

“I would love to own one but find it hard to justify replacing my current car that cost me £3,000 and does 55mpg for a car that costs £30,000.”

North East LEP area EV Charging Behaviour study (2020)

The North East EV Charging Behaviour Study found that the initial cost of hiring or buying a ZEV was referenced as a common barrier to uptake, with 52% of those who considered buying a ZEV telling us that they hadn't done so yet due to the costs that would be involved. National research from *Aviva* found that two-thirds of all drivers would be more likely to buy a ZEV if they were cheaper or subsidised by central government. The second-hand market is also currently underdeveloped due to ZEVs being a relatively new technological advancement. This can result in limited numbers of second-hand cars being available on the market for those who cannot, or do not wish to purchase a new vehicle.

“The cost of having an electric vehicle that is able to make long distance journeys is far too expensive and for out of town remote travel there are too few charging points.”

“Make them more affordable – cost is the only factor stopping me buying one.”

North East LEP area EV Charging Behaviour study (2020)

Another key issue adding to this challenge is the perceived lack of awareness of available grants and business-focused tax incentives. There is low awareness of financial support to assist businesses with purchasing ZEVs, with 95% of businesses surveyed as part of the Fleet Revolution programme stating that they were unaware of any tax incentives available to businesses to purchase electric vehicles.

“People don’t understand the schemes, don’t understand how the incentives work for electric cars. It’s complicated and messy for an SME to implement. You need to be an accountant to understand how the tax benefits and incentives work, so how are staff going to navigate this? It needs to be easier to understand, to navigate. Make it easy and simple for both staff and business owners.”

Small business, North Tyneside

Making The Right Travel Choice Strategy - Employer research (2022)

“Incentives for electric cars were strong 10 years ago, less so now. They can be tax efficient and are cheap to run. But those tax benefits are starting to wane.”

Small business, South Tyneside

Making The Right Travel Choice Strategy - Employer research (2022)

Challenges around the development and use of other ZEVs and alternative fuels

The region is looking to help support the development of alternative clean fuels and ensure that the regional focus is not limited to electric batteries when it comes to zero emission vehicles.

Electrification is not the only potential solution for zero emission vehicles. Larger vehicles such as heavy goods vehicles (HGVs) may consider alternative fuels such as hydrogen to be the best solution going forward. It is vital that the transport sector explores and implements several different technology solutions to meet the UK’s 2050 greenhouse gas emissions targets.

However, there are specific challenges around alternative ZEV fuels. For example, the expense and difficulty producing hydrogen fuel has been identified as a barrier to its further growth. There are currently only eleven hydrogen fuelling stations in the UK, so developing a refuelling infrastructure network could involve large costs and take several years to develop.

The distribution of hydrogen has also been identified as a technical challenge as it must be produced and compressed into storage tanks. For use in vehicles, it needs to be mixed with oxygen in a fuel cell to create the electricity to power the vehicle. The continued research, and development on the use of alternative fuels that do not emit any pollutants at the tailpipe will be crucial.

It is vital that other options are also explored going forward in order to reach decarbonisation targets.

‘Need to consider hydrogen and futureproofing, not just focus on EVs.’

North East Transport Plan public consultation (2020/21)





What are the challenges? – chapter summary

The feedback received from our residents and businesses strengthens our understanding of the barriers to ZEV uptake in the region and provides assurance that this strategy will help to address the challenges that the North East region is facing.

Although there are many concerns that current drivers have expressed, the number of people seriously considering making the transition to an electric vehicle or hybrid is growing at a significant rate. As discussed in chapter 2, the number of plug-in and battery electric vehicles have more than doubled since mid 2021 and are continuing to grow at a steady pace, as shown in figure 6.

“A Nexus Insight Panel survey on electric cars in 2019 found that the three main factors that would most influence drivers when considering buying an electric car were firstly, availability of chargepoints; secondly, how far you could travel before it needs recharging; and thirdly, the initial purchase cost.”

We will strive to install more EV infrastructure to support and encourage more people and businesses to transition away from petrol/diesel cars and vans to ZEVs; helping to achieve our vision of ‘moving to a green, healthy, dynamic and thriving North East’.

Where do we want to be?

Background

The aim of this strategy is for **'reliable public zero emission charging infrastructure across the North East wherever people need it.'** This is ambitious but to be achieved with the right level of investment and policy change.

By 2035 we want our region to be at the forefront of having made the transition to decarbonise transport, having cleaner air to breathe, and having a stronger, more inclusive economy.

We want to be in a position where the vision and objectives of the North East Transport Plan and the aim of the Zero Emission Vehicle Strategy are realised. Delivering this strategy will encourage the switch from petrol and diesel vehicle use to ZEVs in the region where active travel is not a suitable option for the whole journey. Benefits of this will include reduced greenhouse gas emissions, and improvements in public health and wellbeing from improved air quality. Inequalities will also be reduced as we will strive for charging facilities with transparent and fair tariffs will be available for every community regardless of wealth or rurality.

Chargepoints will be high quality, accessible, safe and reliable with public information available.

Successful delivery of this strategy will enable a future where excellent infrastructure and well-informed people will combine to create a significant increase in zero emission vehicles. It will be achieved through the public and businesses switching from petrol and diesel vehicle use to ZEVs for trips which need to be made by car. People will still be making the right travel choice for them, so if walking, wheeling, cycling and public transport are suitable options for all or part of the journey they will continue to do this. We want the public and businesses to only use their ZEV for essential car journeys.

With a reliable, accessible, and affordable public charging network, electric vehicle drivers will be able to confidently undertake journeys in the knowledge that they can charge their vehicle when they need to, and it will be easy, quick, and safe to do this, with an efficient payment system at a reasonable price. People will be well informed and know where chargepoints are located and how to use them. This will give the public the confidence to switch from their petrol and diesel vehicles to ZEVs.

By 2035 we want to have overcome the main challenges highlighted in chapter 3 of accessible, available and reliable infrastructure; range anxiety; and cost of vehicles and charging. This can be achieved by focusing on the following:



We must ensure that the region has the public charging capacity in place to cope with the impact of the ban on the sale of new petrol and diesel cars/vans in 2035.

For this to be achieved, and to encourage a smooth transition, our public ZEV charging infrastructure will need to be much larger, more inclusive, and better integrated than it is today.

Chargepoints should be in places where people require them to be, including rural locations, helping to reduce transport poverty. Public charging must also be reliable and perceived as value for money.

Although this chapter focuses primarily on EV charging, we also want to enable progress with alternative green fuels such as hydrogen, which are likely to be required to fully decarbonise large vans and heavy goods vehicles over the next few years.

Excellent Infrastructure

People will be able to conveniently and reliably charge their electric vehicles wherever they need it regardless of if they live in urban, sub-urban, or rural locations. Charging should become second nature and a part of everyday life, just like refuelling a petrol or diesel car or van is today. Public electric vehicle charging infrastructure will also be in sustainable locations where possible, with excellent connections to the wider transport network, such as public transport. We want to be in the position where high quality charging infrastructure can be introduced speedily and efficiently in the right locations.

There will have been considerable progress made in ensuring public EV charging facilities are available in all parts of our region, both urban and rural, as well as in areas of high social deprivation, tackling both isolation and transport poverty.

The public sector will have successfully filled in the gaps left by the private sector, so chargepoint infrastructure is located wherever people need it.

The locations of public chargepoints will encourage the use of walking, wheeling, cycling or public transport as part of an integrated sustainable journey.

More public chargepoints will help to encourage tourism and help to attract visitors to the region by offering the assurance and convenience of EV charging, enabling tourists to explore and enjoy the North East without having to worry about charging limitations, overcoming challenges around 'range anxiety'.

Information on public chargepoint locations at or on the way to tourist destinations will be provided to visitors to the region. This will also help to overcome challenges around range anxiety, by ensuring that people know that there is a public chargepoint in between villages and towns that they can rely on.

Accessible public charging infrastructure will cater to the diverse needs of all users, including those with physical disabilities, sensory impairments, or cognitive challenges. There will be ample space for wheelchair users, clear signage, tactile surfaces where appropriate, and easy-to-use interfaces which will enhance the user experience for individuals with disabilities. This is recommended by accessibility guidance.

Locations of chargers will not only be accessible for all, and placed at strategic locations, but they will also be safe and secure for drivers and their vehicles, with adequate lighting where possible.

It is hoped that by 2035 the public charging network will be reliable and well maintained and any faults will be rectified quickly.

Over time public EV chargers will be greatly improved so they can charge faster and more efficiently. This means people can charge quickly and get on with their journey rather than having to plan around potentially long charging waiting times which can disrupt their trip. Robust contracts between Transport North East, its regional local authorities and chargepoint operators (CPOs) will have been successfully implemented to accommodate technology advancements.

A prioritised list of public EV charger locations identified in this strategy will have been taken forward for delivery, working in partnership with local authorities, Nexus and other key partners such as electrical distribution companies. This will help ensure people can charge wherever they need to.

Concepts where “Charge and ride” will have been trialled and introduced enabling people can park their ZEV at Park and Ride sites, including transport interchanges, allowing users to slowly charge their vehicle whilst they use public transport (Bus, Metro and local rail) for the rest of their journey. This will have helped support the switch to ZEVs and help part of the journey to be moved onto public transport, in line with our “making the right travel choice” policy. Drivers will be able to charge their vehicle in a parking bay, improving the effectiveness of public chargepoints. Smart tariffs, smart charging and parking management systems will help to prevent possible parking issues.

We will be in a position where electricity output from the power grid at regional public charging locations is efficient as possible to ensure there is enough power to meet the necessary charging demand in 2035 and beyond.

We will also have forged even closer working relationships with other organisations involved in the provision of public ZEV infrastructure from both the public and private sector such as regional local authorities, central government, landowners, car park and public transport interchange providers, chargepoint operators (CPOs), and disability groups. The benefits of this to the user are expected to be an increase in chargers available regardless of ownership, with an increased awareness of issues around disabled access which are acted upon.

A consistent regional offer and message will be provided across both the public and private sectors for public EV charging, including the layout/design of the public charging locations, joint apps for payments and service information, and consistent messaging regarding public charging infrastructure. There will also be integration and alignment with public transport marketing and information.

In addition, there will be enhanced relationships with neighbouring local and regional authorities so there is a greater knowledge of the state of the public charger network in the surrounding area and their ambitions going forward.

This will ensure that for cross-boundary journeys which start or end in our region, there is a more joined-up approach to public chargepoint infrastructure provision, which is vital as these journeys may be over longer distances rather than being local based trips. It means that decision making on public charger locations will be more co-ordinated so there is no duplication, avoiding having two charger sites in the same location either side of our regional boundaries. It will also take into account future changes such as new housing developments near to regional boundaries with neighbouring areas or major new road infrastructure. It will result in a better value for money charging infrastructure which can meet the changing needs of the public going forward.

The development of hydrogen as an alternative zero emission fuel for heavy transport (large vans, heavy goods vehicles, buses and trains), will have advanced further over the next few years, leading up to 2035. We will have made progress with making use of the region’s expertise in exploring opportunities to test bed innovative clean energy solutions.

Well Informed People

People will have confidence in the North East's charging network and have an awareness on the availability and locations of public chargepoints, enabling people to plan and use charging facilities effectively. Reliable information will ensure that people know how to use the charging infrastructure and understand the benefits of ZEVs.

Information provision will be up-to-date and available before people make their journey. This includes the status of chargepoints, the expected tariff, the approximate queue waiting time, the exact location of the charger facilities within a site and how they can charge. This will lead to strong customer confidence and satisfaction. Regular updates on new public chargepoints will be provided to members of the public and third-party mapping services.

There will be strong engagement with businesses, ensuring employers and their staff have information relating to the benefits of ZEV and publicly available chargepoints to help support more sustainable travel

Increased levels of awareness and understanding will have contributed to improved confidence in electric vehicle switching, leading to a greater demand and use of public charging infrastructure.

Information on third-party ZEV car club services will be available regionally, providing easy access to electric vehicles close to bus interchanges, enabling convenient sustainable travel choices for residents and visitors to combine ZEVs with public transport. The region's network of public chargepoints will have been developed to account for local circumstances and needs, including rural areas.

The information provided at public chargepoints, along with the payment process itself, will be made straightforward and efficient for all users, achieved through adhering to agreed-upon design and accessibility standards.

Current and potential users of the network will have been fully engaged to shape its continued development, ensuring that public chargepoints are inclusive and cater to everyone's needs.

Vehicles

Having excellent infrastructure and well-informed people will have had a positive impact in supporting the transition to ZEVs away from petrol and diesel cars and vans.

ZEV uptake in the region will have significantly increased for purchased public vehicles, work vehicle fleets and public car hire opportunities, including in rural locations. EV uptake in the North East will match or exceed the national average.

More public chargepoints will have played a pivotal role in supporting businesses transition vans and vehicle fleets to zero emission.

Funding awards will result in a greater number of zero emission buses on our region's roads. The region will have monitored the uptake in zero emission vehicles including producing frequent reports on progress, leading up to 2035.

Our region will have strengthened its position as a world-leader in the development and manufacturing of electric vehicles and other zero emission vehicles technology and will continue to attract investment from global vehicle manufacturing companies, supporting the further growth of the advanced manufacturing and supply sector.

The potential of hydrogen technology will have been explored and developed for vehicle propulsion particularly as a means of decarbonising Heavy Goods Vehicles (HGVs), the second largest contributors to UK transport emissions after cars.

The North East will continue to lead on innovation, research, and collaboration between academia, industry, and government to further shape the growth of Zero Emission Vehicles and associated technology.

Where do we want to be? – chapter summary

The aim of this strategy is *'reliable public zero emission vehicle charging infrastructure across the North East wherever people need it.'* This chapter has set out what this will look like by 2035 if the strategy is successfully implemented. ZEV charging infrastructure will take a more prominent role in the North East, helping to meet its climate change declaration targets. This will be achieved through high quality and reliable public charging infrastructure throughout the region, complimented by its residents, businesses and employees being well informed on how to charge and on availability, tariffs, and the benefits compared to petrol and diesel vehicles.

This will help to ensure the switch from petrol and diesel vehicles regionally to ZEVs increases considerably by 2035 for journeys not suitable by walking, wheeling, cycling, or by public transport.



How do we get there?

To achieve this strategy's aim of *creating reliable public zero emission charging infrastructure across the North East wherever people need it*, the Joint Transport Committee (JTC) will need to work in collaboration with central government (particularly the Office for Zero Emission Vehicles), local authorities, Nexus, the private sector, Northern Powergrid, Scottish Power, and crucially local people to help enable an increase in the number of ZEVs across the region by further developing and expanding the North East's ZEV public charging network.

There is significant potential to greatly increase ZEV use across the region where walking, wheeling, cycling and public transport are not feasible options, but this is dependent on having much higher levels of public chargepoint facilities throughout the North East including rural areas and areas which aren't commercially viable. We need to collaborate with partners to make sure this happens.

Key commitment statements

In order to put this strategy into action, we have created a list of clear key commitment statements linked to, **infrastructure**, **people**, and **vehicles**. These commitments are aimed at supporting the delivery of this strategy, and how introducing excellent infrastructure and well informed people will help to achieve the North East Transport Plan vision and objectives, by delivering reliable public ZEV charging infrastructure across the North East wherever people need it.

Actioning these commitment statements will lead to us overcoming the following challenges and barriers identified, whether actual or perceived, as outlined earlier in this strategy.

Infrastructure

- Accessibility and availability of public charging infrastructure
- Reliability of current publicly available chargepoints
- Inclusive infrastructure and ease of use
- Having suitable power supply to meet demand

People

- Range anxiety
- Perceived and actual gaps in the charging network
- Provision of information
- Cost of public charging tariffs/fees
- Perceived complex payment process

Vehicles

- Prohibitive cost of Electric Vehicles
- Challenges around the development and use of other ZEVs and alternative fuels

Excellent Infrastructure



Well Informed People



Increase in Zero Emission Vehicles

How we will interface with the private sector

The delivery plan of this strategy sets out a new prioritised list of 221 potential sites for public chargepoints. This has helped inform the region of the level of public investment which is required over the next five years.

This pipeline of clearly evidenced chargepoint locations on publicly owned land will be able to be taken forward as public funding becomes available. This strategy and its delivery can also strengthen future funding bids.

But the region's public charging network simply will not be able to increase at the scale and pace required with public funding alone. Whilst the North East is seeing ever-increasing investment from private chargepoint operators, significantly more private investment will be required across the region for chargepoints that are publicly available. This is why this strategy proposes the creation of an EV partnership group. The purpose of the group will be to work together with local authorities, private sector, Northern Powergrid (NPG) and Scottish Power, **sharing information and best practice**, to help create reliable public zero emission charging infrastructure across the North East wherever people need it.

What this chapter covers

This chapter sets out the recommendations for this strategy in the form of key commitment statements. It also includes a delivery plan providing a list of proposed regional schemes which we will seek funding to grow the public charging network, and to raise awareness and information so that people are well informed.

As we get closer to 2035, and with the sale of ZEVs increasing, we need to ensure the challenges for people moving to EVs (accessibility of infrastructure, range anxiety and the cost of vehicles and charging) are addressed. The following commitment statements will help to address these barriers, enabling people to move from petrol and diesel cars or vans to zero emission vehicles.

Northern Powergrid (NPG) Distribution System Operation (DSO)

Northern Powergrid is delivering distribution system operation (DSO) functions to ensure the region's electricity distribution network is fit for the future and ready to meet the demands of a decarbonised region. As uptake of Zero Emission Vehicles, particularly electric vehicles (EVs), and associated chargepoint infrastructure increases, so will the demands on the electricity network.

This is why this strategy recommends the of an EV partnership group, working closely with Distribution Network Operators (DNOs) such as NPG.



North East Zero Emission Vehicle Strategy – key commitment statements

Infrastructure – key commitment statements

- We will work with partners on charging specifications to ensure minimum requirements and robust maintenance agreements are standard across the region, ensuring a more consistent and positive user experience.
- To achieve consistent high quality public facilities we will investigate the opportunity for a regional public EV charging infrastructure design framework.
- We will continue to grow partnerships across the region, working with public and private sectors to understand new opportunities for chargepoint infrastructure.
- We will work with partners to review and coordinate the deployment of charging in remote rural areas and areas of high social deprivation to address transport related social exclusion and transport poverty.
- We will consider sites from our 2023 refreshed regional zero electric vehicle enabling study and continue to seek existing and new funding opportunities to take these and future sites forward.
- We will undertake a future refresh of our existing regional zero electric vehicle enabling study to ensure that future priority sites continue to be identified to develop the region's public chargepoint network.
- We will seek opportunities to work with the private sector, with the aim of coordinating the installation of ZEV infrastructure in the region, ensuring that future demand is able to be met.
- We will take a flexible approach to filling the infrastructure gaps and monitor the deployment of public chargepoints across the region, reporting on progress.
- We will ensure that the government's accessibility standards are implemented regionally in future procurement exercises and infrastructure projects.
- We will continue to take advantage of our region's expertise and explore opportunities to test bed innovative clean energy solutions.
- We will continue to seek and apply for funding to install and maintain ZEV chargers across the region, especially in commercially unviable locations, for use by the public and the taxi and private hire industry.
- We will set up a ZEV partnership group to learn about what the public and private sector are doing with regards to EV infrastructure in the region, to avoid duplication whilst also supporting each other in installing EV infrastructure to get the best solutions to suit different needs and identify gaps in the network.

Infrastructure – key commitment statements

Local authorities and key stakeholders

- We will work in partnership with local authorities and their local communities to ensure that the delivery of chargepoints in both rural and urban areas which are necessary but perhaps not commercially viable to ensure that no community is left behind.
- We will work in partnership with the North East Procurement Organisation (NEPO) and our local authorities, to provide a key facilitation and coordination to ensure that the network continues to meet future demand and that regional standards are incorporated.
- We will work together with local authorities and Nexus to source suitable available land for future public EV charging, so the region has a prioritised list of potential sites to develop and install further public charging infrastructure.
- We will seek stronger links with planning departments to encourage the installation of chargepoint provision within new housing developments and other developments such as businesses to provide future provision.
- We will work in partnership with local authorities and key stakeholders to help identify and address planning issues early on such as consents, including rights of way for installing wires (wayleaves) for chargepoints.
- We will ensure that the deployment of public chargepoints align with local authority and Nexus plans.

Energy Sector (Distribution Network Operator)

- We will seek to enter into a strategic partnership with Northern Powergrid and Scottish Power to make sure that the power network can support the installation of new EV charging infrastructure, both in terms of substation capacity and overall demand on the network.
- We will invite both Northern Powergrid and Scottish Power to be members of the EV partnership group to give insight into future plans, opportunities to identify whether there is grid capacity early on, and suggest alternative sites for public chargepoints if necessary.
- We will work in partnership to ensure that power capacity, connection issues and the need for new substations for chargepoints will be identified at an early stage, prior to funding.
- We will also investigate energy storage systems where there are restrictions on the grid to deliver charging infrastructure to ensure there is sufficient power capacity to enable the installation of chargepoints.

Private sector

- We will seek opportunities to work with the private sector (chargepoint operators, businesses and other organisations) to understand their long-term plans for chargepoint delivery and development to ensure that there is no duplication, with the aim of coordinating the installation of ZEV infrastructure in the region, ensuring that future demand is able to be met.

People – key commitment statements

- We will embrace current work being undertaken on accessible and inclusivity standards for infrastructure and support our partners to ensure people with mobility/accessibility impairments are able to access and use charging infrastructure.
- We will engage with the people who live, work and visit the North East to understand their current and future infrastructure requirements to enable their transition to ZEVs.
- We will market and promote activities to support the uptake of zero emission vehicles, particularly electric vehicles such as raising awareness and information on the location of chargepoints, how to use them, including payment and tariff information.
- We will seek revenue funding to support information on destination chargepoints for residents and visitors to help overcome challenges on range anxiety.
- We will continue to seek funding to install chargepoints for shared car club projects, particularly in rural areas and areas of high social deprivation, to help tackle challenges with social isolation and transport poverty.
- We will support a region-wide discussion on the approach to setting payment tariffs to deliver the best possible customer experience.
- We will procure a supplier to manage any chargepoints that are within our ownership, and they will be required to meet a set of minimum standards including maintenance and quality.

Vehicle – key commitment statements

- We will monitor the uptake in zero emission vehicles across the region and report on progress against projected growth.
- We will prioritise the use of cleaner, greener cars and vans.
- We will continue to seek funding opportunities to deliver zero emission buses.

Exploring other Innovation opportunities

- We will work with the region's universities, catapults, and national centres of excellence, covering digital, energy, and advanced manufacturing to test and monitor a wide range of ZEV related innovation projects.
- We will work with partners to identify funding opportunities and possible trials of alternative fuelled vehicles, to maintain momentum and create a critical mass of ZEV projects that could deliver significant regional benefits.
- We will work closely with the research and development sector to exploit hydrogen technology for vehicle propulsion and to deploy at scale if required, particularly as a means of decarbonising Heavy Goods Vehicle fleets.
- We will continue to monitor advancements in alternative clean fuel technologies and when appropriate, they will become a more prominent feature in future ZEV strategy refreshes, with the potential to develop hydrogen refuelling stations as well as other ZEV infrastructure.

Work currently underway

2023 Refresh of the Regional Electric Vehicle Enabling Study

In 2020, we commissioned a blueprint to deliver ZEV infrastructure. The study identified a substantial list of priority sites that can be taken forward as demand requires and funding opportunities arise.

The study was initially refreshed in summer 2022 to reflect changing priorities, sites which had been delivered, and the introduction of Metro sites.

A further refresh of the enabling study was commenced in June 2023, to look at EV infrastructure requirements over the next 5 years 2023-2028. Following completion of the sites identified and funded in the initial study, we have established a new prioritised list of 221 sites for public chargepoints. The enabling study also highlights passive infrastructure (existing underground electrical wiring) that can be used for future EV chargepoints when required. This will help us to future proof and ensure infrastructure can meet further demand.

We will use these further sites to seek available funding opportunities and will then work with partners to deliver reliable public zero emission vehicle charging infrastructure across the North East wherever people need it, ensuring that both urban and rural communities are covered. This work will complement the wider infrastructure projects being delivered by local authorities and agencies such as National Highways in delivering a network in the North East that supports the next stage of transition to electric vehicles.

The most recent funding to be released is the Local Electric Vehicle Infrastructure (LEVI) fund. The UK government announced £343m in capital funding to support the installations of EV chargepoint infrastructure for local authorities, these chargepoints will primarily benefit residents without off-street parking.

There is also an additional £37.8m in capability funds to ensure that local authorities have the staff and capability to plan and deliver chargepoint infrastructure.

We will co-ordinate funding on behalf of our region to provide support and delivery of this strategy.

Proposed infrastructure delivery models

To enable the uptake of ZEVs required to meet the regions' forecasted demand and decarbonisation targets, it is important that the infrastructure is of a consistently high standard, and that as far as possible the user has a seamless experience across different chargepoints. This will be achieved through procurements which will enable long-term investment in the region's public EV infrastructure network.

This investment is needed to upgrade, operate and maintain the current public authority owned network, and to resource its expansion in order to secure a sustainable long-term future which aligns to our future commitments.

To manage the region's growing public EV infrastructure network, we need to contract and operate with chargepoint operators (CPO). Some of our existing network of chargepoints that were installed in 2011 have been left without an operation contract, these chargepoints were left broken and unusable. It is important to have the right contract in place going forward with a CPO to ensure chargepoints are reliable, accessible, safe and secure.

Local authorities need to agree a contractual agreement to operate EV infrastructure, the following are the different types of operating models that can be considered;

Contracts and Operation Model Types

Below is a description all the contractual agreements a local authority and a chargepoint operator can agree on to successfully operate the chargepoints:

Own and operate

The own and operate model offers the greatest level of control for a local authority however, it brings with it risks. With this model the local authority pays for all the capital costs, covers all operational costs and in return retains ownership of control, responsibility risks and revenue.

Concessionary contract

A Concessionary contract is an agreement with the local authority and the CPO that offers the right to deploy electric vehicle charging infrastructure with a local authority and CPO investment. This model puts some of the risk and funding back to the CPO. In this method the control over pricing and location is generally negotiable if an attractive “package” can be put together which attracts commercial investment. However, this allows rural and urban areas to be included and not left behind.

Joint venture

A joint venture is a separate business entity created by two or more parties, including the local authority and at least one service provider.

Public-private commercial partnership (PPCP)

PPCP is a flexible commercial arrangement that shares aspects of capital, operational cost control and risk between the service provider and public bodies.

Land lease

A land lease is a low risk, low revenue commercial arrangement for EVI (Electric Vehicle Infrastructure) procurement where the local authority retains little control over the resulting service by leasing land it owns to CPOs.

Our regional approach

After careful consideration of the various delivery model options, it could be beneficial to proceed with a flexible procurement framework to create reliable public zero emission charging infrastructure across the North East wherever people need it.

The region has worked closely with the North East Procurement Organisation (NEPO) to produce an overarching procurement process in which a Framework will be established and awarded to the suppliers. This will be available for NEPO member Authorities (Contracting Authorities) to call off their requirements from, via Direct Award, Flexible Direct Award or by Mini Competition directly with the suppliers who were awarded to the framework.

The framework, to be initially established in October 2023, has a contractual term of 4 years, plus the option to extend for a further 2 years (2023 –2029). Contracting authorities can select to use one of the chargepoint operators who have been appointed to the framework for their charging infrastructure requirements.

The contract includes flexibility to initiate arrangements for local authorities to adapt to their own requirements, for the installations of chargepoints that meets their criteria. Projects can include ongoing support and maintenance agreements, ensuring the reliability of our charging network.

By working in partnership with NEPO and our local authorities, we propose to provide a key facilitation and coordination role to ensure that the network continues to meet future demand and that regional standards are incorporated.

Providing this flexible approach for the region could help local authorities with upcoming EV Infrastructure plans, if they wish to use the framework. We will continue to monitor the development of EV infrastructure and procurement contracts to ensure the best solution with the region.

Proposed regional responsibilities

To ensure that we keep up with ZEV charging demands and infrastructure for our region, we propose to complement the work of Local Authorities by working towards the agreement and monitoring of regional policy and standards on behalf of Local Authorities. We will source funding at a regional level and co-ordinate the delivery of regional programme.

Local Authorities will be responsible for council and community specific strategies including on-street and residential however, we will support our Local Authorities to stay up to date with current developments of ZEV infrastructure and the development of further technologies towards Zero Emission Vehicles.

Given the significant increase in public chargepoints which will be required to meet the aim of this strategy to deliver reliable public zero emission vehicle charging infrastructure across

the North East wherever people need it, the region won't solely be able to depend on sites which do not require planning permission, such as the use of existing public car park spaces.

Where planning permission is required for new public chargepoint infrastructure we will work with the region's seven local authorities and Nexus to ensure, where possible, there is a consistent and joined-up approach to the installation and design of public charging facilities.

Proposed regional and local roles and responsibilities to help support the development of ZEV infrastructure:

Our regional role	Local Authorities
Agreeing and monitor regional policy and standards.	Council and community-specific strategies including on-street and residential.
Sourcing funding at a regional level and co-ordinate delivery of regional programmes.	Local authority-specific funding and local delivery of regional funding.
Providing region wide information to motorists.	ZEV charging facilities at public-facing council facilities e.g. public car parks and on local highways.
ZEV charging facilities for long distance traffic, strategic Park & Ride sites and transport interchanges.	ZEV charging facilities for council fleets and employee workplace parking.
Co-ordinating regional strategy with private sector providers, Northern Powergrid, Scottish Power, and national agencies.	Planning requirements for new build housing, workplace, retail etc.
Representing the region to the ZEV industry, regulators, government and other partners.	Liaison with communities, employers and businesses.

Table 5: Proposed regional and local roles and responsibilities

Delivery plan

Our identified programme of proposed investment stems from the North East Transport Plan. The plan sets out a live programme of interventions, all of which were initially tested to ensure that they are consistent with the Transport Plan objectives and that they are deliverable.

All schemes that have been identified and delivered by the region will be fully developed as projects in accordance with the region's assurance framework or that of partners. This will demonstrate that all of the proposed improvements are socially acceptable, economically viable and deliverable as well as supporting the achievement of objectives nationally, regionally, and locally.

Our schemes are ambitious and are worth approximately £80m. The plan also includes a list of proposed chargepoint sites to grow the charging network across the region. The list is a "live pipeline" of schemes and is expected to further develop over time.

But that is not the end of the process. All schemes will be subject to more rigorous testing and appraisal and will only be delivered where they have demonstrated, through detailed business case development, that they can appropriately contribute towards the delivery of the objectives.

If schemes cannot contribute towards objectives and don't support the Transport Plan, they will not be taken forward.

This strategy has utilised the Transport Plan pipeline and Nexus' (The Tyne and Wear Passenger Transport Executive) capital pipeline schemes. We have identified schemes that will support North East objectives from the below delivery plan.

What are we proposing?

The proposed investments and initiatives set out in this strategy broadly consist of:

- **The creation of an EV partnership group with the public and private sector;**
- **A new public EV chargepoint infrastructure;**
- **The maintenance and upgrading of the existing public chargepoint network;**
- **Increased information provision for people to make the transition to ZEVs;**
- **Innovative schemes to develop ZEV technology;**
- **A flexible procurement framework (NEPO) available to deliver public EV chargepoint infrastructure.**

Delivery

This programme will be delivered by the constituent authorities and Nexus within the North East, together with schemes being delivered by the region.

The region's Transport Programmes team will manage this programme and will be responsible for sponsoring the development of various schemes and projects that support this plan, as well as a series of region-wide initiatives.

Implementation of the interventions that are regional initiatives are within the control and will be delivered in accordance with the region's programme management and assurance frameworks.

In some cases, the region's transport programmes team will act as the promoter of schemes and will be responsible for delivery, but in most circumstances, delivery may be undertaken by another organisation, for example our constituent local authorities, with the region securing funding and providing technical assistance as required.

Programme Management and Assurance

The funding required to realise the ambitions of this strategy is substantial, however the region is fortunate to have a well established and endorsed Transport Assurance Framework in place which is proportionate to the nature, scale, and value of schemes.

The heart of our Transport Assurance Framework is a scalable series of gateways that provide our governance structure with the confidence that each component investment is delivering on the requirements of the programme and delivering the Zero Emission Vehicle Strategy and Transport Plan outcomes that have been attributed to that investment.

Our assurance framework has been developed in stages. Each stage represents a gateway in the process and approvals and reviews are applied at each stage.

For further information on our Transport Assurance Framework please visit: www.transportnortheast.gov.uk, contact info@transportnortheast.gov.uk, or call **0191 433 2973**.

Funding and Development options

The region will continue to work with government to secure funding through competition based funding, and longer-term devolved settlements to unlock schemes.

For certain investments, developer contributions will form a viable part of the financial model. We will work with the individual authorities to secure appropriate levels of contributions or works in kind where the investment is directly related to the development and is needed to mitigate the impact of the scheme in question.

Realising the ambition of this strategy will be partially reliant on the ability to secure the necessary powers and consents for delivery in terms of traffic regulation orders (TRO) and in some cases planning consent.

Alternative funding may be considered on a case-by-case basis, particularly where shared integrated priorities can be realised.

How do we get there? – chapter summary

Working in partnership with local authorities, the private sector, Northern Powergrid and Scottish Power, together we will create reliable public zero emission charging infrastructure across the North East wherever people need it.

Our schemes are ambitious and will be worth approximately £80m, including a list of proposed chargepoint sites to grow the charging network across the region. The list is a “live pipeline” of schemes and is expected to further develop over time.

We will keep this pipeline updated and have plans in place to develop schemes, so they are ready for delivery over this time period.

Delivery plan 2023 – 2035

Key	
	Infrastructure
	People
	Vehicles

Scheme number	Scheme name	Promoter	Scheme description	Timescales for Delivery
TNE50	EV Partnership Group	Transport North East	Setting up a partnership group with the public and private sector and Distribution Network Operators (DNOs) to support, build, and grow the EV charging infrastructure in the North East.	Shovel ready
NX15	Creating electric vehicle charging points across Nexus car parks	Nexus	EV charging infrastructure at all Nexus owned car parks.	Shovel Ready
NX16	Installing solar panels at Nexus infrastructure	Nexus	As a means of supporting EV chargepoints and the demand on the National Grid, installing PV on Metro infrastructure.	Next 5 years
TNE18a	Fund replacement and upgrade of existing EV infrastructure	Transport North East	Plug funding gap to replace and or upgrade EV legacy equipment.	Shovel Ready
TNE18b	Electric Vehicle Infrastructure – Consider gaps in the network	Transport North East	<p>This project will install publicly available EV chargers at 221 sites across the North East.</p> <p>The refreshed enabling study completed in September 2023 will provide 221 EV chargepoints sites and passive infrastructure to future proof areas going forward.</p> <p>Sites will be chosen based on the requirement for the charging infrastructure to be easily accessible to a range of different users; this will entail a set of criteria likely to include:</p> <ul style="list-style-type: none"> • proximity to major employment sites; and, • proximity to popular tourist attractions. 	Next 5 years
TNE18c	EV Charging Residential Options	Local Authorities	The expansion of EV charging focused on residential areas where they lack off street parking. Initial estimates suggest a £15.8m of upwards of 1200 charging points.	Shovel Ready

Scheme number	Scheme name	Promoter	Scheme description	Timescales for Delivery
TNE48	Promotion of public chargepoints and the benefits of ZEVs	Transport North East	A communications campaign to raise awareness of the benefits of zero emission vehicles, and the region's public chargepoint installations. Also raise awareness of ZEV car clubs available in the region.	Shovel Ready
TNE49	Accessibility forum (EV Chargepoint infrastructure)	Transport North East	The creation of a stakeholder forum specifically for disabled stakeholders to advise us/ delivery partners on accessibility needs for public chargepoint infrastructure.	Shovel Ready
TNE34a	Decarbonising Public Transport	Transport North East	Innovation securing funding and looking at alternative funding and finance options to support the greater roll out of low emission vehicles and vessels, incorporating electric, gas and hydrogen solutions.	Next 5 years
EX35	Enhancing the electric vehicle offer on the strategic road network	National Highways	Enhancing the EV offer on the strategic road network.	Next 5 years
GA51	EV Charging Improvements	Gateshead Council	Lack of convenient EV charging facilities in car parks owned by Gateshead Council - Provision of facilities.	Next 5 years
DU41	Decarbonisation of P&R fleet	Durham County Council	Durham City currently suffers from poor air quality as defined by the Council's Air Quality Management Area and linked Air Quality Action Plan. To address this problem and reduce vehicle emissions within the city, it is proposed to convert Durham County Council's Park & Ride bus fleet from diesel to electric.	Next 5 years
SU30	Energy generation and storage projects in Sunderland	Sunderland City Council	Funding secured to provide roof mounted solar PV at Jack Crawford House, Washington BC, Sunderland Software Centre, Evolve Business Centre, and Transit Shed 7 at the Port. Solar Car Ports to be provided at Jack Crawford House and Evolve BC. Battery storage facility to be provided at Jack Crawford House and new Parsons depot. Planning application submission currently being prepared for this financial year.	Next 5 years
TNE51	Go Smarter to Work Zero Emission Vehicles	Transport North East	Through engagement with businesses carry out employee travel surveys to inform current forms of commuting. Focused marketing, raised awareness and initiatives to promote ZEVs for necessary journeys that cannot be made by active travel or public transport.	Next 5 years

Scheme number	Scheme name	Promoter	Scheme description	Timescales for Delivery
SU41	Zero Emission Refuelling Hub	Sunderland City Council	Sunderland City Council and Partners, are developing a project to deliver both hydrogen and rapid electric vehicle refuelling/charging at a single site.	Next 10 years
TNE34b	A regional energy package	Transport North East	Innovation - A regional energy package focused on generating energy on our transport assets, depots, stops and stations to support ZEV infrastructure and vehicles.	Next 10 years
TNE35	Future Fuels Innovator	Transport North East	Run an Innovator programme to examine future fuel technologies for all road vehicles, including hydrogen.	Next 10 years
NX22	Clean Ferry Ferry asset renewal programme	Nexus	The Shields Ferry is currently dependent on fossil fuels. A project working with universities and engineering specialists to help transition the ferry to run carbon free.	Next 10 years

Measures of success

The aim of this strategy is to deliver reliable public Zero Emission Vehicle charging infrastructure across the North East wherever people need it. This cannot be achieved by public sector efforts alone, we will need to work in partnership with the public and private sector.

The key measures of success of this strategy will therefore be an increase in the number of public EV chargepoint sites as well as an increase in the proportion of ZEVs in our region over the coming years to 2035.

We will monitor the number of public EV sites and chargepoints as well as the proportion of ZEVs to vehicles in our region. Alongside these key metrics, we also propose to monitor CO2 road transport emissions in the region.

An increase in the proportion of ZEVs, mainly electric cars and vans, should lead to a decrease in road transport emissions.



By providing accessible infrastructure and addressing public concerns that deter the switch to ZEVs, we can encourage growth in the number of zero emission vehicles used to replace journeys currently made using petrol/ diesel cars and vans.

We propose to review and report on these metrics annually to monitor the region's journey working in partnership to grow the number of public chargepoints and support the transition to ZEVs.

These reporting metrics align with the vision and five objectives of the North East Transport Plan. The column to the right indicates how this delivering this strategy could help towards achieving them:



Carbon-neutral North East

Electric Vehicle uptake in the region to match or exceed national average



Overcome inequality and grow our economy

Charging facilities and fair tariffs for every community regardless of wealth or rurality



Healthier North East

Improving air quality. Charging locations encourage use of public transport (Park and Ride), active travel and culture/heritage



Appealing, sustainable transport choices

High quality and accessible chargepoints with reliable public information



Safe, secure network

Chargepoints in safe and secure locations for you and your vehicle

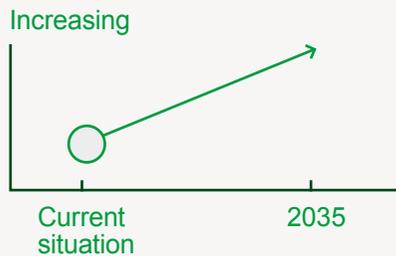
Number of sites and chargepoints



We want to see an increase in the number of sites and chargepoints in our region.

Key insight

As of May 2023, we have around 403 locations with 846 chargers. An increase in the number of sites and chargepoints will mean that there are more opportunities to charge across our region and that more people at any one time can charge their ZEVs.



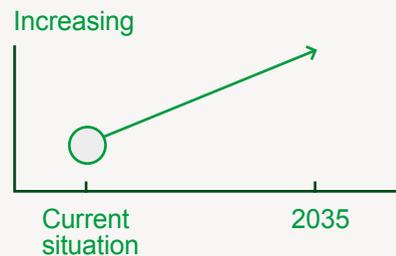
Proportion of ZEVs to vehicles in our region



We want to see an increase in the proportion of vehicles that are zero emission at the tailpipe.

Key insight

In early 2023, around 1% of all registered vehicles in the North East were ZEVs. This was around 9,970 vehicles.



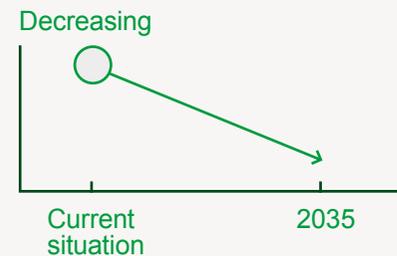
Road Transport Emissions



We want to see a decrease in the proportion of regional CO2 emissions from road transport.

Key insight

In 2021 in the North East, road transport was responsible for around 36% of overall CO2 emissions.



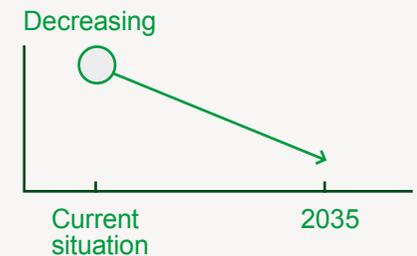
Climate Action



We want to see a decrease in the CO2 emissions per capita emitted using road transport.

Key insight

In 2021 in the North East, road transport emitted 1.43 tonnes of CO2 per person.

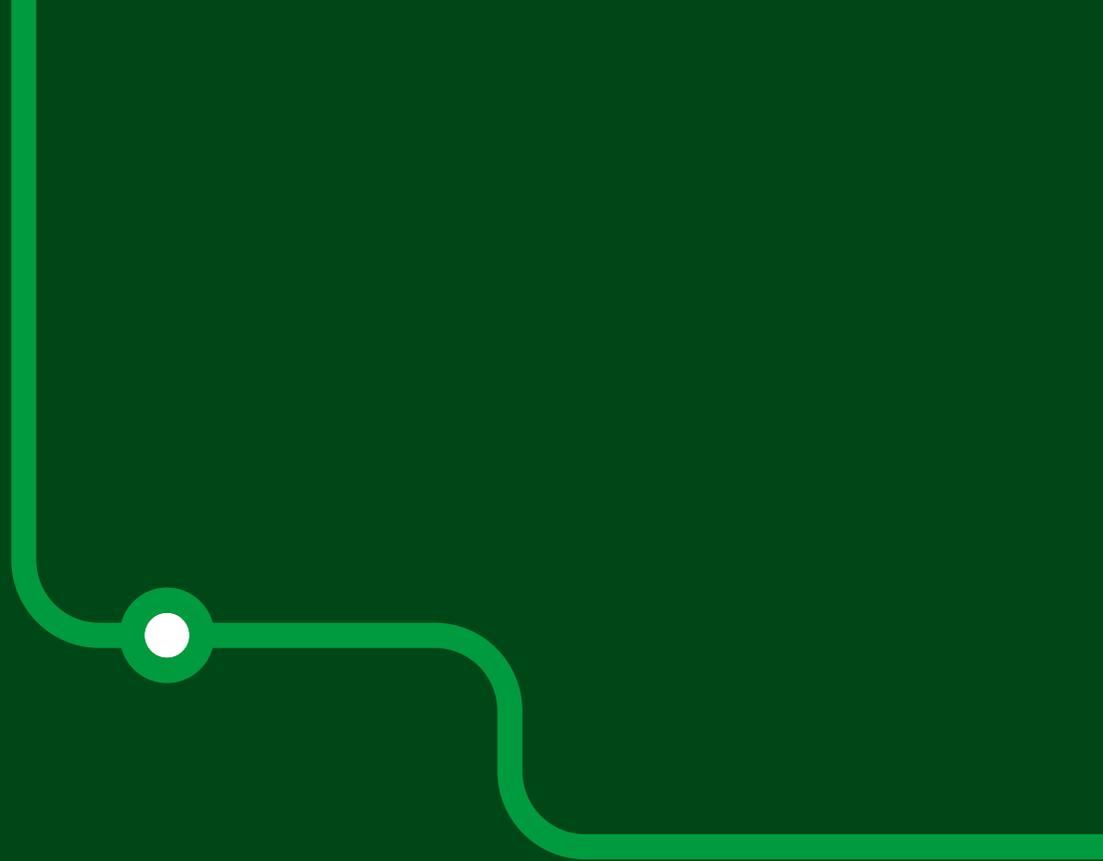


Appendix 1 – Enabling Study Results

Local Authority	Total
Durham County Council	31
Gateshead Council	22
Newcastle City Council	38
Northumberland County Council	52
North Tyneside Council	24
Sunderland City Council	26
South Tyneside Council	28
Total	221

This table shows the list of the potential sites by Local Authority

This pipeline of 221 potential chargepoint sites on publicly owned land in strategic locations will be able to be taken forward as public funding becomes available. However, the region's public charging network simply will not be able to increase at the scale and pace required with public funding alone. Whilst the North East is seeing ever-increasing investment from private chargepoint operators, significantly more private investment will be required across the region for the demand for publicly available chargepoints to be met. This is why this strategy proposes the creation of an EV partnership group to work together with local authorities, the private sector, Northern Powergrid and Scottish Power, to gain a better understanding of where each sector is planning to install chargepoints so that gaps in the network can be identified over the coming years to 2035.



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