Wirral Council
Electric Vehicle Charging Infrastructure Strategy

May 2025

WIRRAL

Definitions of key terms

Table 1: Definitions of key terms

Abbreviation	Definition
BEV	**Battery Electric Vehicle** – fully powered by electricity and has to be plugged in to charge.
CPO	**Chargepoint Operator** – a provider and operator of chargepoints.
DfT	**Department for Transport**
DNO	**Distribution Network Operator** - owns and operates the infrastructure that connects properties to the electricity network.
EV	**Electric Vehicle** – any vehicle that uses electricity for propulsion including PHEVs and BEVs.
kW	**Kilowatt** – A measure of how much electrical power a device needs to operate.
kWh	**Kilowatt hour** - A unit of electricity. The capacity of electric car batteries is measured in kilowatt hours.
LEVI	**Local EV Infrastructure Fund** - UK government initiative that supports local authorities in England to work with the chargepoint industry to improve the roll out and commercialisation of local charging infrastructure
ONS	**Office of National Statistics**
ORCS	**On-street Residential Charge point Scheme** – a scheme by DfT to deliver funding for installation of chargepoints in residential areas
OZEV	**Office for Zero Emission Vehicles** – a team working to support the transition to zero emission vehicles, part of the Department for Transport.
PHEV	**Plug-in Hybrid Electric Vehicle** – a vehicle that can be plugged in and charged but also has a combustion engine.
ULEV	**Ultra Low Emission Vehicle** – any vehicle that emits less than 75g of CO_2/km from the tailpipe.
LCR / LCRCA	**Liverpool City Region / Liverpool City Region Combined Authority** – combined authority region which includes Wirral Borough Council
ZE	**Zero Emission** - any vehicle that uses a propulsion technology that does not produce internal combustion engine exhaust emissions

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Foreword

Our Electric Vehicle Charging Infrastructure (EVCI) Strategy has been developed to support the delivery of a sustainable transport system for Wirral – so we can create a vibrant, green borough that is an attractive place for people to live and work. The strategy aligns with our emerging Local Plan, the Birkenhead 2040 Regeneration Strategy and Cool2 Wirral.

The sale of new petrol, diesel and hybrid cars and vans will be banned from 2035 and we know that currently our charging infrastructure is not sufficient to support the roll out of Electric Vehicles, this is often said to be a barrier leaving people reluctant to move away from internal combustion engine vehicles.

Our strategy seeks to encourage wider adoption of electric vehicles across the borough and tackle some of the current barriers slowing down this transition. We have started to facilitate the roll out of electric vehicle charging infrastructure, including on street charging for those that can't charge at home, but our strategy sets out a clear plan of action as to how this will be done going forward. The strategy also looks at how we can help change people's perceptions of electric vehicles and what support we can give to residents, local businesses and visitors.

By accelerating the switch away from fossil fuelled vehicles, we have an exciting opportunity to drive improvements in air quality that will bring benefits to both the health of residents and the economy of the borough. Electric vehicles are not a panacea for reducing the impact of too much driving, but they are part of a step forward and away from petrol and diesel fuelled vehicles. Electric vehicles still cause some emissions, albeit not from the tail pipe and they will not address the issue of congestion or road safety. Therefore, increasing the uptake of EVs is only part of the answer, and this strategy fits into a wider programme of improving active travel and public transport to give residents a choice of travel options.

Cllr Elizabeth Grey

Committee Chair of the Environment, Climate Emergency and Transport Committee at Wirral Council

Introduction

Throughout Wirral and the UK, the number of EVs and hybrid vehicles has increased quickly in recent years. The number of chargepoints required to charge them has also grown.

This strategy sets out our approach to scale up EV charging infrastructure in the Wirral, securing benefits of the EV transition for our residents, visitors and businesses.

This is an important step in our commitment to a greener and more sustainable future for Wirral, promoting economic growth, social well-being, and environmental regeneration.

We will consider the impact of changes in the local and national environment. The EV charging market is affected by policy and what funding is available, as well as other fast-changing factors. Regeneration in Wirral will also have an influence on delivery.

This strategy underlines our determination to create a vibrant and environmentally sustainable Wirral for residents, businesses, and visitors, underpinned by an effective, customer focused charging network.

Background

Purpose of this strategy

This strategy supports the Liverpool City Region's commitment to elevating active travel modes and public transport to the top of the transport hierarchy and supports our approach to providing a choice of travel modes to residents and facilitating modal shift from fossil fuelled vehicles.

The provision of high-quality EV infrastructure is very important to achieving our commitments, but EVs are just one part of a much bigger picture in our journey to achieving net zero.

This strategy is broken down into four key sections, followed by the action plan and next steps. Each key section reflects a core part of our vision.

What does this strategy cover?

Why we need to act

Where we are now

Where we are going

How we are going to get there

Action plan and next steps

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Why we need to act

Wirral Council declared an Environment and Climate Emergency in July 2019. We have committed to take action to address the ecological and climate crisis.

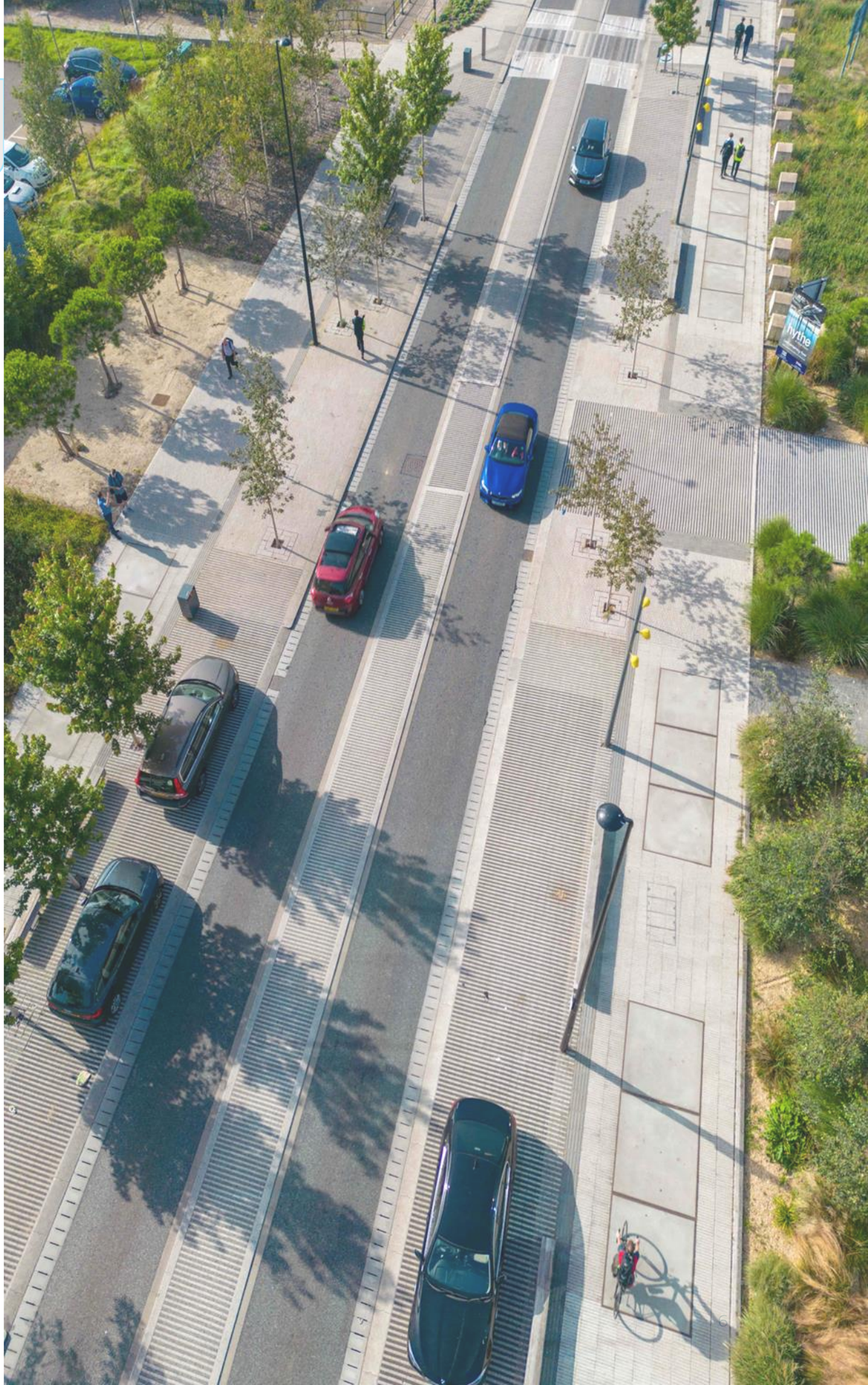
We aim to achieve 'net zero' carbon emissions from our own council activities by 2030, and for the whole of Wirral to achieve net zero carbon emissions by 2041.

Transport accounts for 29.1% of all greenhouse gas emissions in the UK[1]. Encouraging walking, wheeling and cycling, use of public transport, and switching to Electric Vehicles (EVs) will help achieve out net zero goal.

Our commitments

We have made some important commitments which will each play a part in helping us achieve net zero and be more environmentally responsible. These commitments include:

- Modal shift: Encouraging a move away from vehicles fuelled by diesel and petrol and instead towards walking, wheeling and cycling, and the use of ultra-low carbon vehicles, like EVs.
- Using clean energy : We require cleaner, renewable energy sources in our own operations to significantly reduce our carbon footprint. We commit to leading by example in embracing sustainable practices.
- Promotion of clean energy sources: We encourage the adoption of renewable, non-fossil fuel energy sources across our community. We will foster a community-wide commitment to sustainable energy practices.
- Regeneration and green investment: We will prioritise sustainable regeneration and green investment practices. We have a "brownfield first" development strategy, which is set out in our draft Local Plan. This reflects our commitment to fostering growth and development whilst also protecting the natural environment.



National and regional policies

Through policy, the UK Government* has set out a clear ambition that we need more vehicles to be EVs.

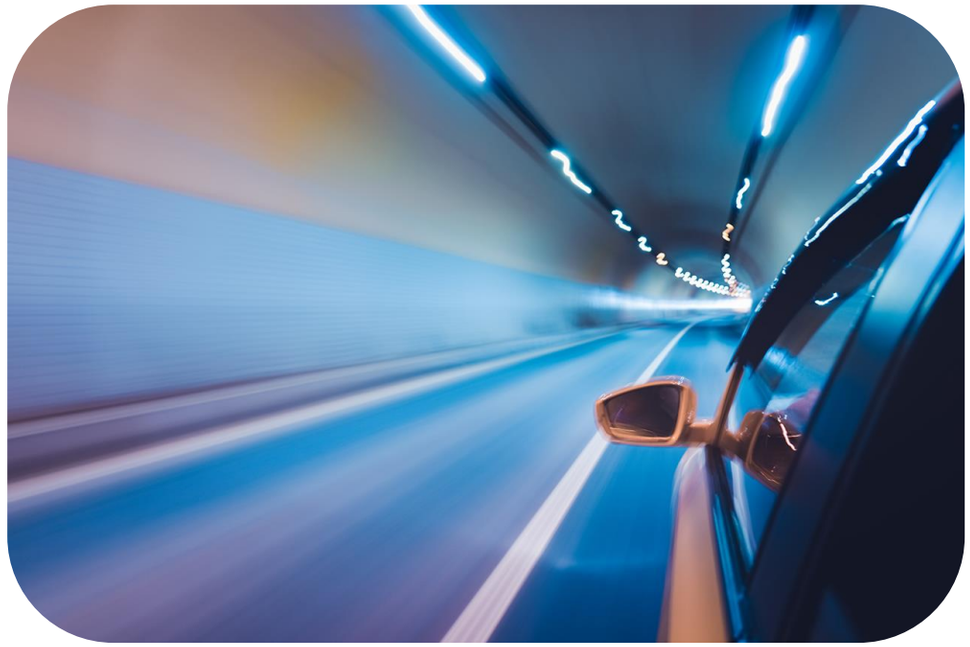
A recent policy change by the previous Prime Minister in 2023 says that no new diesel and petrol vehicles will be sold from 2035. From 2045, no new non-zero emission vehicles will be sold.

To support this policy, there needs to be more EV charging infrastructure.

The previous UK Government has given local authorities new roles and responsibilities to help deliver this. Grant funding has been made available, most notably through the Local EV Infrastructure (LEVI) Fund.

Regional and local strategies also strongly support investment in EV charging, including several net zero[2] and climate change strategies[3], the emerging LCRCA Local Transport Plan[4], Wirral Draft Local Plan[5], and the Birkenhead 2040 Framework[6]. Investment in EV charging infrastructure will help to fulfil our commitments to be net zero as a whole by 2041.

Further detail on policies is in Appendix 1.



National policies

- The Climate Change Act (2008) [3]
- Net Zero Strategy: Build Back Better (2021)[2]
- Powering up Britain (2023)[7]
- Decarbonising Transport: A Better, Greener Britain (2021) [8]
- Taking Charge: The Electric Vehicle Infrastructure Strategy (2022) [9]
- Transitioning to zero emission cars and vans: 2035 delivery plan (2011)[10]

Regional policies

- Transport for the North EV Charging Infrastructure Framework (2022)[11]
- Liverpool City Region Net Zero Targets (2019) [12]

Local policies

- Wirral Council's Draft Local Plan 2021 – 2037[5]
- Birkenhead 2040 Framework [6]
- (Emerging) LCRCA Local Transport Plan [4]
- Wirral Parking Strategy [13]

* In July 2024, a general election was held, and a new Labour government was introduced. We await an update on government position regarding any updates to transport policy that could impact the direction of transport for local authorities. Where required, this document will be refreshed in response to these changes.

Types of Electric Vehicle

There are two major types of EV: Battery Electric (BEV) and Plug-in Hybrid vehicles (PHEVS).

Hybrid vehicles, including 'mild' or self-charging hybrids, are not classed as EVs or zero emission (ZE) vehicles as they have very small batteries and still generate more emissions than EVs and PHEVs. These vehicles are refuelled with petrol and diesel and cannot be plugged into an EV chargepoint.

BEVs (and PHEVs when driven on electric power), do not produce any emissions (greenhouse gases or air pollutants) from the vehicle tailpipe. These are also referred to as zero emission vehicles.

In addition to EVs there are other e-mobility options such as e-bikes, e-scooters, e-cargo bikes and electric motorbikes. These form part of the transition to electric modes though the charging infrastructure requirements are considerably different to EVs. This strategy focuses on the infrastructure requirements for EVs rather than wider e-mobility options.

The EV market is always changing, with sales of vehicles growing rapidly. The choice in types of vehicle is growing, and EVs can drive longer between charges now.

Across the UK, nearly 315,000 battery-electric cars were registered in 2023, a growth of 18% on the number registered in 2022[14].

The upfront cost of buying or leasing an EV is falling due to more low-cost options emerging, as well as greater availability of second-hand EVs. The cost of running an EV is much lower than running petrol and diesel vehicles. Many businesses have chosen to adopt EVs. EVs will become more affordable when more become available second-hand.

Types of chargepoint

Chargepoints range in power from <7 kW to 500 kW+ for ultra rapid chargepoints (approximately 15-30 mins to fully recharge).

The suitability of different chargepoints depends on the length of time vehicles are typically parked, space available, the type of location (i.e. private home, public car park, workplace), the available power supply, and vehicle compatibility. Rapid and ultra-rapid chargepoints (43-62 kW) are much more expensive, difficult to install (i.e. more intensive groundworks) and require lots of energy from the grid. Slow and fast chargepoints (<7 kW to 25 kW) have an important role in the EV charging network, especially in residential areas.

Many EV drivers currently charge at home off-street via a private 7kW chargepoint on their driveway or in a garage, however, those without a driveway or garage will rely on the public charging network, either located on-street, car parks, or via a private charging facility located at a workplace.

There is a growing range of on-street charging infrastructure, each with advantages and disadvantages. Chargepoints are available on bollards, specially fitted lampposts and through the pavement. It is likely that a mix of solutions will be needed across the Wirral, so we can match local needs and the type of land available. Some solutions are more advanced, and some are more expensive than others.

Table 2: Power brackets for different chargepoint speeds

Output power level	Minimum power	Maximum power
Slow/standard	- kW	<7 kW
Fast	7 kW	25 kW
Rapid	43 kW	62 kW
Ultra-rapid	62 kW	500kW (+)

Where we are now

Figures show that throughout the UK, more people are choosing electric and hybrid vehicles. As the number of EVs increases, so does the number of chargepoints needed.

This section of the strategy looks at the current situation in Wirral. This is called the EV baseline, and it will be used to work out how quickly people might adopt EVs in the future.

EV ownership in Wirral

There are **3,379*** electric and plug-in hybrid vehicles registered in Wirral. EVs make up **1.75%** of vehicles in Wirral, which is lower than the UK average of 3.9% and the LCRCA average of 1.85%. Figure 1 shows how EV figures in Wirral have grown compared with Liverpool City Region and the UK.

Vehicle ownership in Wirral

Car ownership is fairly low across much of Wirral, with lowest car ownership in urban areas like central Birkenhead, Wallasey, New Ferry and Moreton.

The more rural areas of the borough are much more car dependent.

Reliance on on-street parking

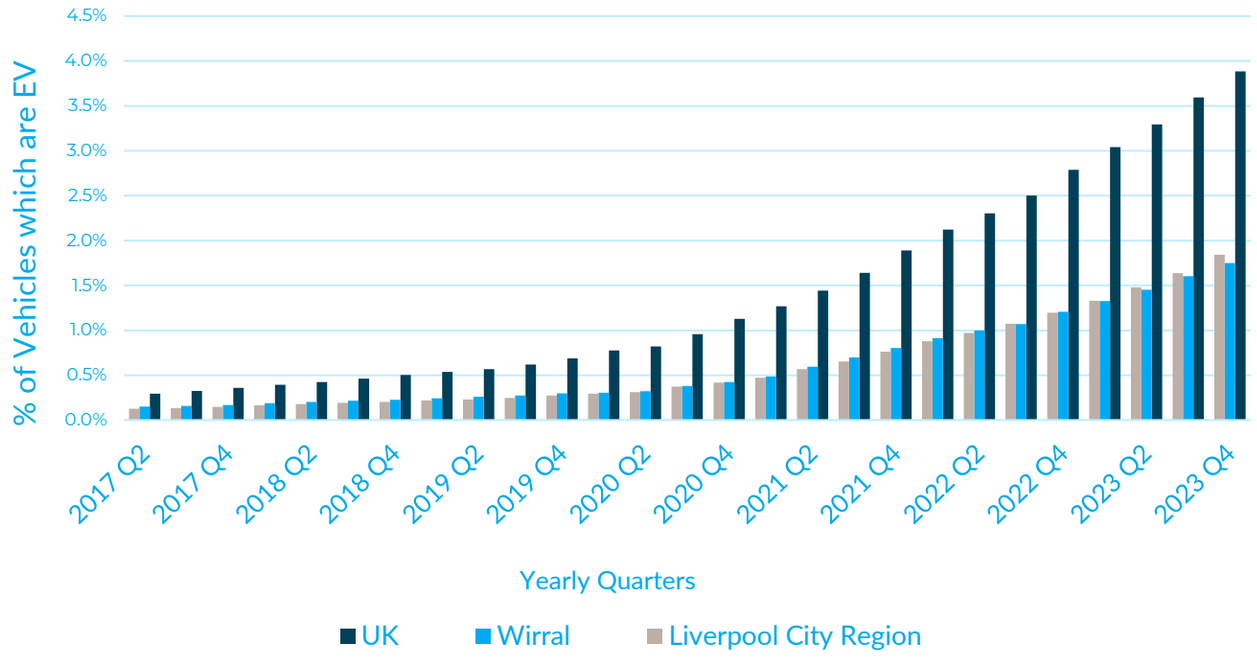
Access to off-street parking has a big influence on EV uptake – those with access to off-street parking like garages and driveways are over three times more likely to switch to an EV.

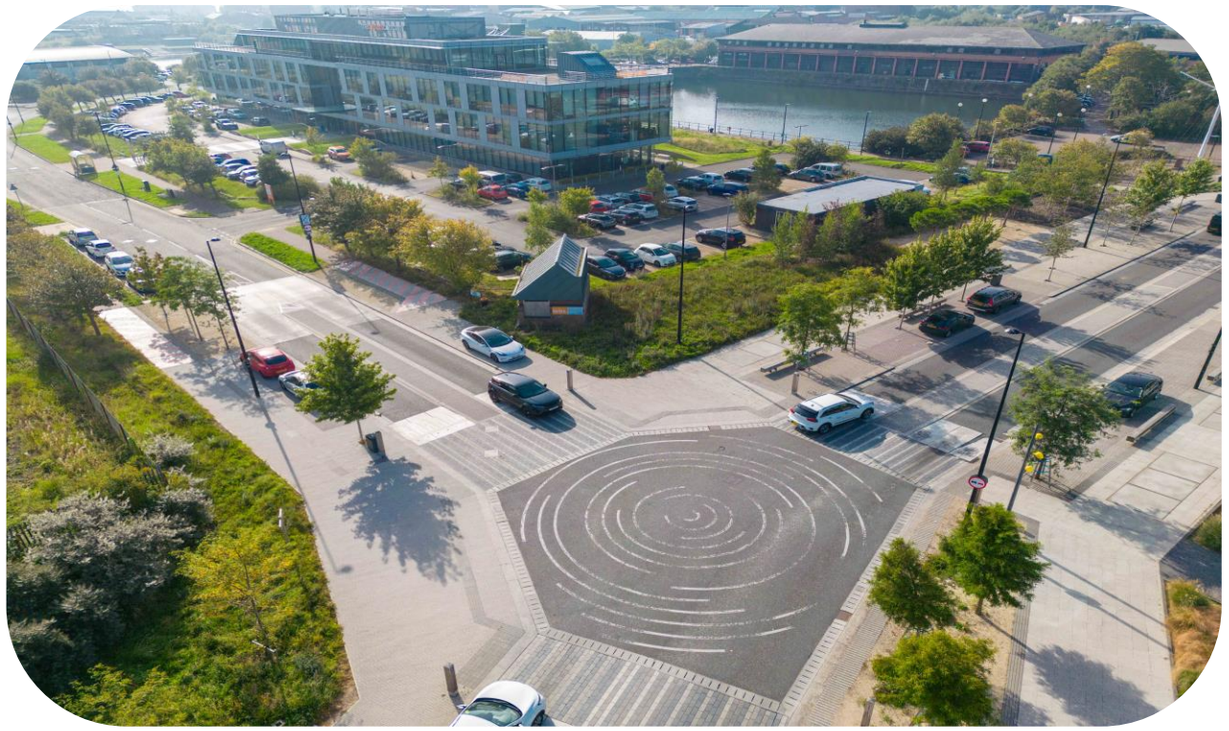
80% of EV charging in the UK is done at home[15].

22% of households in Wirral are reliant on on-street parking. This is lower than the UK average of 30%. [16]

* DfT data up to Q3 2023

Figure 1: EV vehicle percentage in Wirral, Liverpool City Region and UK (2017 – 2023) (Source: DfT)





EV chargepoints in Wirral

The number of chargepoints in Wirral is steadily increasing.

Number of chargepoints per EV

Across Wirral, in January 2023 there was one publicly accessible charging device (of any speed) for every 50 EVs*, which is much lower than the UK average of one chargepoint per 21 EVs. Public chargepoints include those in car parks, at supermarkets, on street, at petrol stations, and other public locations.

Wirral has one rapid chargepoint for every 182 EVs* on average, which is below the UK average of one rapid charging device per 117 vehicles.

Chargepoints per 100,000 people

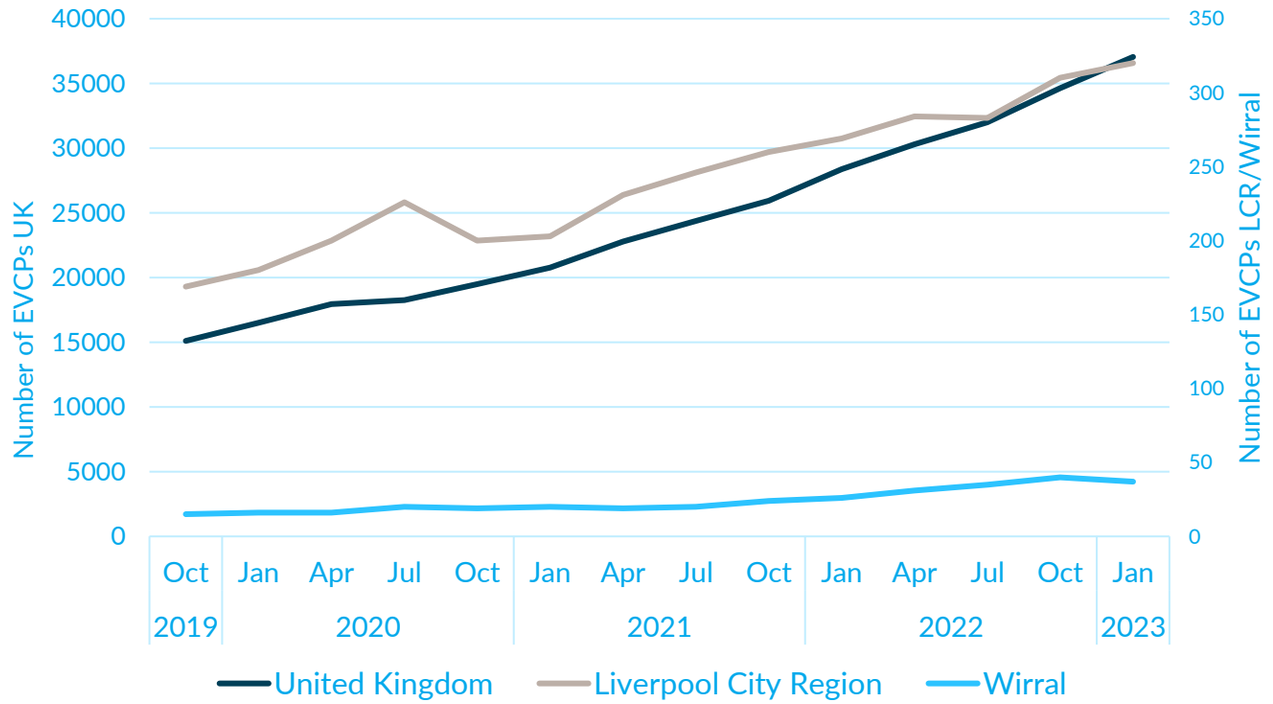
In Wirral there are 11.5 chargepoints for every 100,000 people*. In the Liverpool City Region there are 22.5 per 100,000, and the UK average is 55.3 per 100,000 people. Table 3 gives a comparison across local authorities.

Table 3: Number of public chargepoints by 100,000 people in Wirral and neighbouring authorities

Local authority	Devices per 100,000 people
Liverpool City Region	22.5
Wirral	**11.5**
Liverpool	40.0
Sefton	12.9
St. Helens	15.3
Knowsley	16.1
United Kingdom average	55.3

*DfT data up to Q3 2023

Figure 2: Number of Electric Vehicle Chargepoints in Wirral, Liverpool City Region and UK (2019 – 2023) (Source: DfT)



Speed of chargepoints

In Wirral there are 86 publicly accessible chargepoints[1]. The speed of these chargepoints is shown in Table 4. Further detail on chargepoint speeds is in Appendix 2.

Table 4: Number of public chargepoints by speed category in Wirral[14]

Speed	Number of chargepoints
Slow/Fast AC (5-22kW)	55
Rapid DC (25+ kW)	31
Total	86

Further detail on the EV baseline is in Appendix 2.

Where we are now- summary

Summary of key points from ‘where we are now’ and Appendix 2

- Wirral has had a slower level of EV uptake when compared to the UK and LCR.
- Wirral has the lowest number of EV devices per 100,000 people out of the other local authorities within the LCR.
- West Wirral has a higher propensity to switch to an EV than East Wirral, although the East has the highest housing density.
- There is high reliance of on-street parking in the urban areas of Birkenhead, Wallasey and New Ferry, which has likely had an impact on EV adoption within those areas.
- Birkenhead and Bromborough have the highest concentration of car parking spaces within Wirral, with most car parks situated in the East.
- The land along the East of Wirral has the greatest concentration of ‘destination’ land use which will generate demand for EV charging.

Where we are going

We used WSP's EV:Ready model to predict future uptake of EVs in Wirral. The model combines neighbourhood data with regional and national data sets to calculate how many people are likely to use an EV in Wirral up to 2035 and how many chargepoints are needed.

Forecast EV uptake

Figure 3 shows the forecasted EV numbers within Wirral area in the high, medium and low uptake scenarios. We use high, medium and low scenarios because the real uptake numbers are uncertain.

The forecast model assumes that by 2050 almost all vehicles will be EVs. This is in line with the previous government's legislation and projections*. The estimated increase of EVs to 2030 is impacted by the planned 2035 ban on the sale of petrol and diesel vehicles.

Figure 4 shows the medium forecast EV uptake as a percentage of total vehicles. It is expected that EV uptake in Wirral will rise from present levels (1.05% DfT 2022, Q3), to 33% in 2030. By 2035 the percentage of EVs will have grown significantly.

Although Wirral has a slower estimated EV uptake when compared to the UK, EV: Ready baselining has found that EV uptake in Wirral is higher than the Liverpool City Region as a whole, as well as being higher than three of its five neighbouring authorities.

This prediction is based on a number of factors that are considered in the EV:Ready modelling, including current vehicle ownership, population and number of households, vehicle sales trends, the amount of on-street parking, and socio-demographic data.

* We will update targets to align with any changes in legislation introduced by the new government

Figure 3: Estimated Change In The Number Of EVs And ICEs In Wirral 2021 - 2050

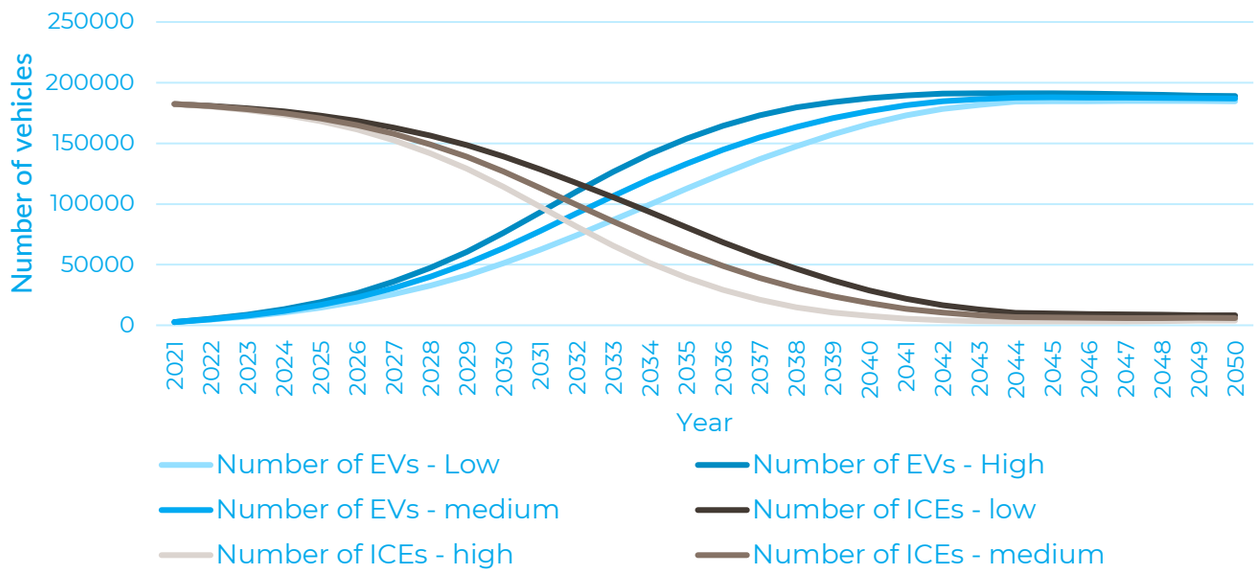
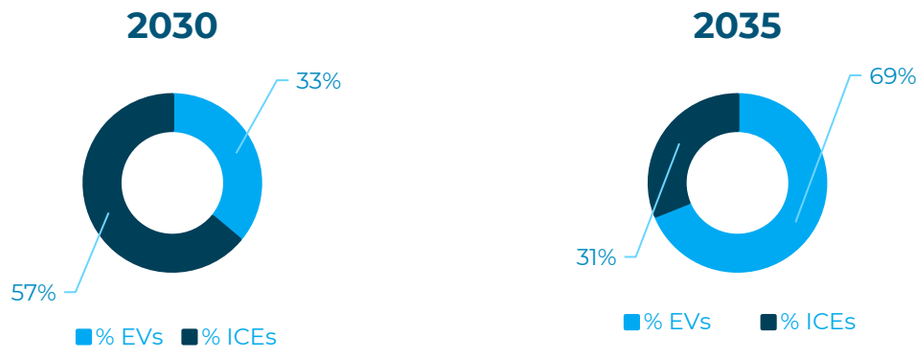


Figure 4: Estimated proportion of EVs and ICEs in Wirral 2030 and 2035 (mid uptake scenario)



Wirral is likely to have some of the highest EV uptake compared with the other Liverpool City Region authorities.

Forecast number of chargepoints required

To meet growing demand for chargepoints in Wirral, there is a need to speed up delivery of publicly available chargepoints.

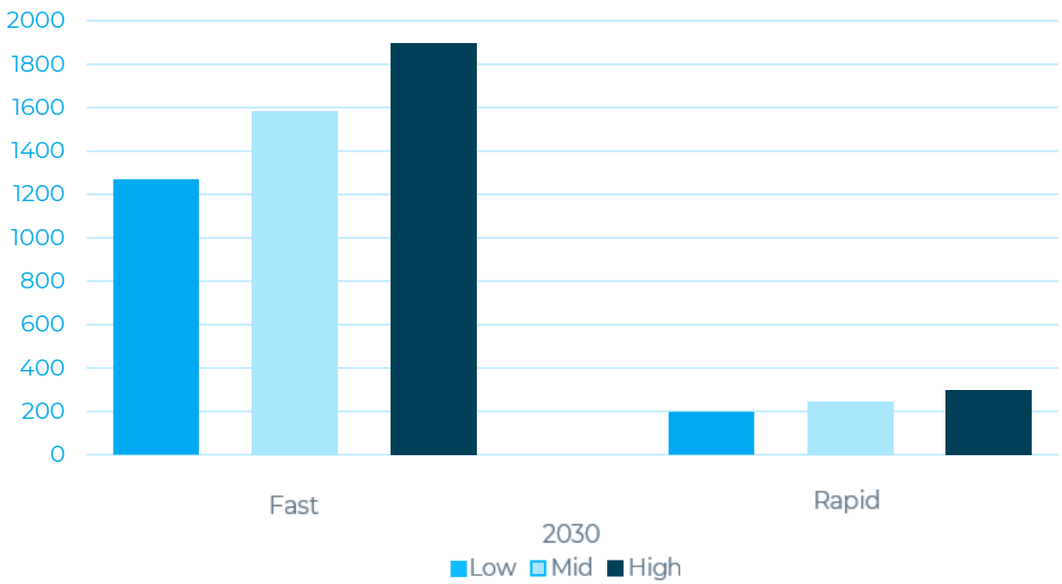
It is challenging to accurately predict chargepoint requirements as many factors can influence uptake. The numbers presented here are an estimation. Estimations can vary based on:

- Forecast EV growth,
- Charging habits - Public vs Private charging, rapids vs slow chargepoints,
- Vehicle mileage and efficiency,
- BEV and PHEV ratios, and PHEV mileage in electric mode,
- Off-street parking availability, and
- Trends in vehicle and chargepoint technologies, including range and charging rates.

Three scenarios are presented in Figure 5 (low, mid-range and high) which represent the range of uncertainty. These are forecast by the EV:Ready model.

By 2030, the requirement for chargepoints is expected to speed up, with a requirement for around 1,580 fast chargepoints and 250 rapid chargepoints in a mid-range scenario.

Figure 5: Forecast number of fast and rapid chargepoints required in Wirral in 2030 (low, medium, high scenarios)



Where will demand for charging occur?

It is important that chargepoints are installed where there is demand to ensure that the infrastructure will meet the needs of users and be well used.

Analysis was carried out using the EV:Ready model to identify where demand for EV charging will be located.

Demand is higher in the east of Wirral and lower in the west.

The areas of greatest demand are located where EV uptake is expected to be high and there is limited private off-street parking where drivers could charge their vehicles. These areas are generally more urban, and near to major roads.

Further detail on forecast chargepoint locations is in Appendix 3.

Where we are going - summary

Summary of key points from 'where we are going' and Appendix 3

- 1,270 to 1,900 standard/fast chargepoints and around 200 to 300 rapid chargepoints will be needed in Wirral by 2030.
- There is greater demand for chargepoints in the east of Wirral.
- In the west there are some areas with high demand such as central Heswall, West Kirby and the west side of Hoylake.
- In central Wirral, there is high demand in central Moreton and in the West of Wirral.
- There is high demand for rapid chargepoints in Central Birkenhead due to high traffic volumes and industrial, commercial and retail areas.
- It is expected that there will be less investment from private chargepoint operators in residential areas in the west of Wirral such as Caldy and west Heswall, with these areas requiring additional public sector support.

How we are going to get there

EV chargepoint deployment

Site selection is the third step in a seven-stage process of deploying chargepoint infrastructure and should follow an EV charging infrastructure strategy (this document).

Site selection gathers detailed information about the location, technology and type of chargepoints. This can be used to determine the selection of certain sites over others.

Resident requests for chargepoints will also be factored in as part of site selection. We will develop an engagement and consultation process for EV chargepoint sites.

Figure 6 shows the overall chargepoint site selection process.

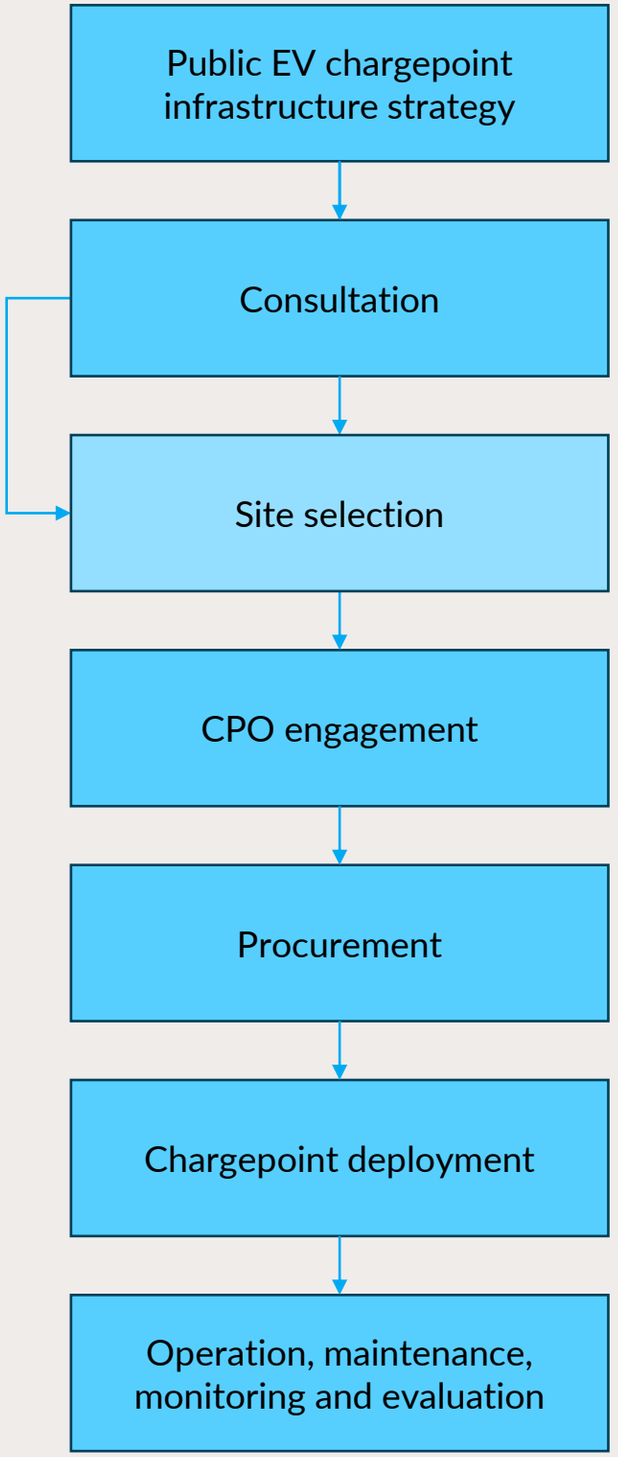


Figure 6 : Overall chargepoint site selection process

On and off-street site assessment criteria

Translating this EV infrastructure strategy into real chargepoints across Wirral will require a site selection process. The site selection process will take on board information in this strategy, like the demand analysis, commercial and funding models, as well as requests for chargepoints from residents (these are received on an ongoing basis).

With this information we will create a longlist of potential sites. This list will be shortened when we consider the type of technology available, the pavement width, and the availability of on-street parking. We will engage with Distribution Network Operators (DNOs) to create a shortlist. The shortlist will be further refined by cost analysis and high-level site assessment. Our final shortlist will form the basis for CPO engagement.

Site assessment is governed by many legal considerations which must be factored in. These include traffic regulation orders, permitted development rights, trailing cables and procurement including social value. CPOs must consider chargepoint equipment and electrical safety and installation compliance with safety regulations. Chargepoints should comply with accessibility criteria specified in PAS 1988:2022 Electric Vehicles. There are also multiple British Standards which must be considered during deployment.

Delivery Models

As EVs have become more popular, different delivery models for local authorities and other landowners installing chargepoints have emerged.

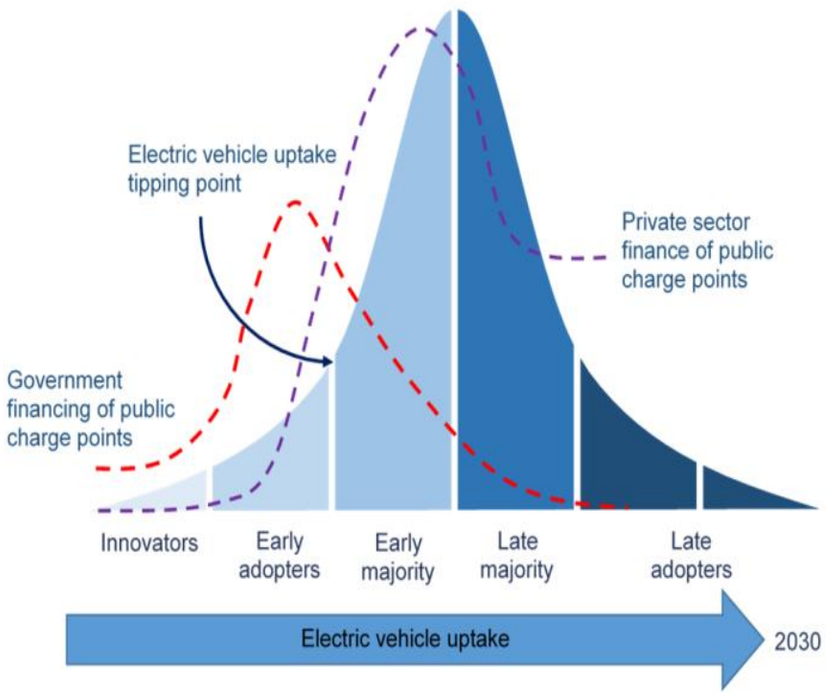
Many local authorities are moving away from full public sector funding, ownership and management of chargepoints, toward alternative models which make use of greater private investment, as illustrated in Figure 7.

Funding Routes

There are a choice of options to finance our investment in charging investment. The relative share of the costs covered by the public and private sectors will depend on the delivery model chosen.

While the private sector is increasingly expected to invest, grant funding will still be needed to unlock investment at some proposed public charging locations.

Figure 7: Transition between public sector and private-led funding for chargepoints[1]. (Image source: Transport Scotland)



Commercial and operating models

There are several potential delivery models, funding options and procurement strategies which could be used to invest in an EV Infrastructure network in Wirral.

The LCRCA are currently exploring the use of a concession model for the LEVI Fund submission as this allows some control and revenue to be retained but transfers operational risks to the concessionaire. We will look to further explore advantages and disadvantages of the various models going forward.

We will seek to make use of Government grant funding, as well as private investment from the CPOs and other sources, to fund the EV Infrastructure. Working in partnership with Liverpool City Region is key to securing LEVI grant funding to provide high quality chargepoints to on-street reliant households throughout Wirral. ORCS is an alternative which could be accessed directly.

We will seek to balance increasing demand, time for installation, and cost of faster chargepoints by providing a range of options. Chargepoints on street lighting columns are quicker to install and cheaper as there is already a connection to the grid, so more could be delivered with the funding available. However, these take longer for vehicles to charge, and a balance needs to be struck in terms of faster chargepoints which cost more to install against a wider spread of slower but cheaper chargepoints.

How we will get there - summary

Summary of key points from 'how we will get there' and Appendix 4

- We will create a plan for selecting sites for chargepoints in Wirral, including an engagement and consultation process for EV chargepoint sites.
- There are challenges and opportunities associated with the different chargepoint sites we have considered so far.
- Opportunities include taking advantage of residential streets with unregulated parking, wide pavements and deploying chargepoints in public car parks in the centre of residential areas to provide off-street EV charging.
- Challenges include restricting bays to EV charging on streets with unregulated parking, installing chargepoints where there are already pressure on parking spaces and on streets with narrow pavements and/or concrete lamp posts which cannot be converted to chargepoints.
- Site assessment processes are governed by many legal considerations for both us and the appointed CPOs which must be factored in.

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Action plan

Our EV chargepoint Action Plan (p21) outlines the key recommendations, organised under 5 key objectives.

The Action Plan builds on the recommendations of the Wirral Council EV Strategy to provide a series of actions for us to follow which will improve EV adoption, EV chargepoint access and provide support for the provision of alternatives to diesel and petrol vehicles.

This EV infrastructure strategy has reviewed chargepoint technologies, relevant policies and a range of delivery considerations and provided forecasts of EV uptake and chargepoint required to 2030.

The following actions should ensure that a lack of charging infrastructure is not a barrier to EV uptake and that all EV drivers in the borough have access to convenient, high-quality charging infrastructure.

The actions have been grouped to cover key action areas which are in line with broader policy objectives of the council.

When writing our delivery plan, we will take account of changes in the local environment which might affect delivery, such as new housing or industrial developments.

Next steps

The next step is to create a delivery plan, to deliver what is outlined in this strategy. The detailed site selection process will form part of the delivery plan.

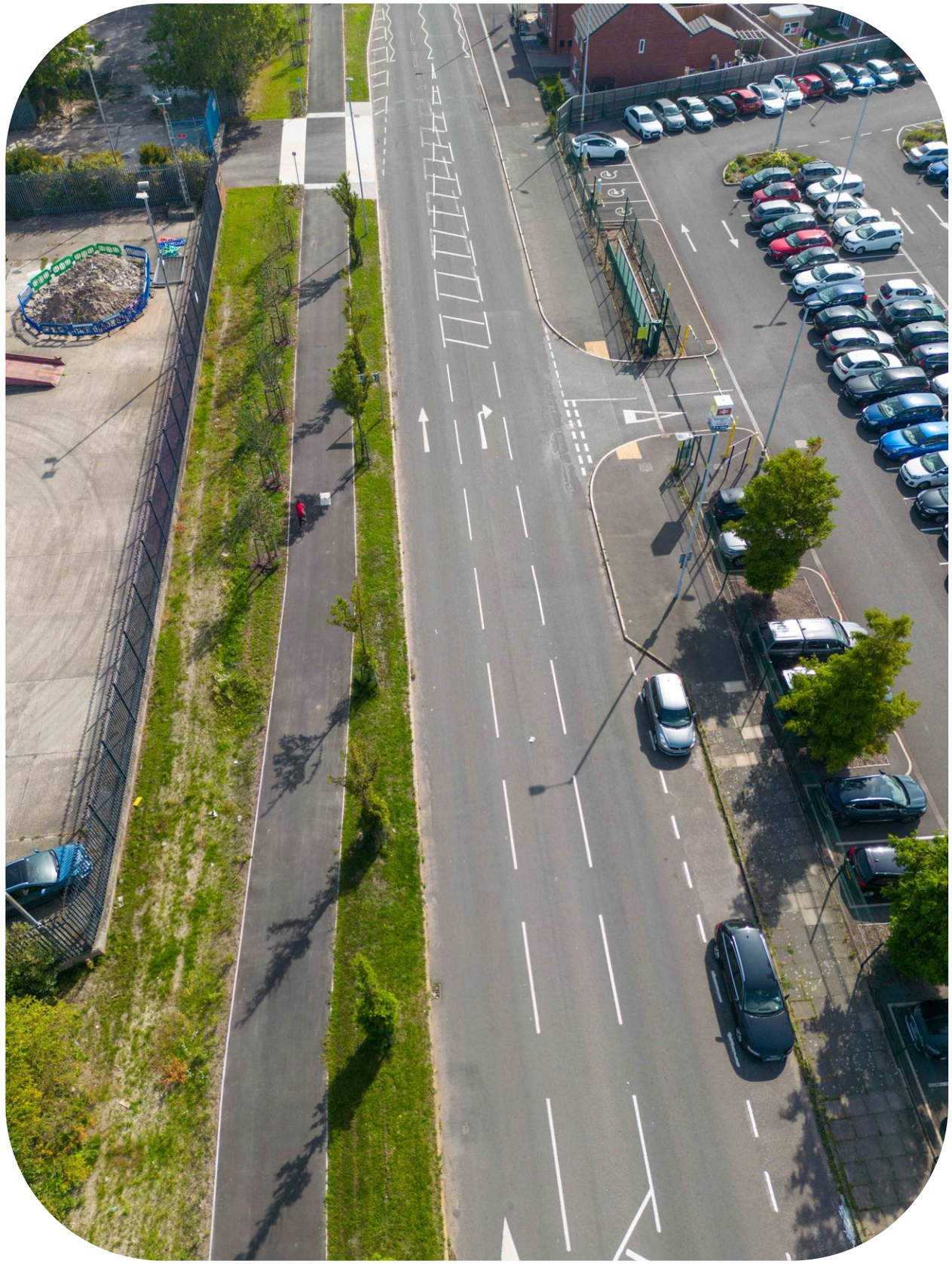

Table 5: Key action areas and sub-actions

	Action	WBC Role	Other Stakeholders	Timescale
Action Area 1: Ensure all EV drivers have access to a high-quality electric vehicle chargepoint network				
1.1	Liaise with CPOs/DNOs/OZEV	Explore - consultation	CPOs/DNOs/OZEV	Short-term*
1.2	Collect necessary data for site selection and create a longlist of potential sites	Lead/explore - consultation	Constituents	Short to medium-term
1.3	Consider how forecourts, supermarkets and other private business can install chargepoints	Explore - consultation	Retailers and forecourt operators	Short to medium-term
1.4	Shortlist the longlist of sites and secure OZEV funding	Lead	LCRCA	Short to medium-term
1.5	Follow best practice design principles and ensure chargepoints are inclusive and accessible**	Require – procure CPO and approval of charge point installations	CPO	Short-medium term
1.6	Undertake a pilot in a conservation area to develop the approach for installation of chargepoints	Explore - consultation	Private businesses	Short to medium-term
Action Area 2: Ensure that the chargepoint network is future proof and innovative				
2.1	Align EV Charging with wider local, regional and national transport strategy	Lead	DfT, LCRCA	Ongoing
2.2	Review the impact of EV charging bays on parking management	Lead	LCRCA and other local authorities	Short-medium term
Action Area 3: Accelerate the uptake of EVs in areas the council can directly influence				
3.1	Explore options for increased levels of sustainable commuting including EV Taxis and EV Car Clubs	Lead	Taxi operators, Car Club operators	Medium-term
Action Area 4: Support tourists and visitors to be able to charge				
4.1	Explore potential car parks in tourist destinations that could serve visitors and local communities	Lead	CPO	Short to medium-term
Action Area 5: Raise awareness and grow confidence in EVs				
5.1	Ensure a high-quality user experience is maintained	Require – procurement of CPO	CPO	Short-medium term
5.2	Work closely with Elected Members to provide information to support decision making and secure engagement and support in line with wider Council priorities	Lead	LCRCA	Short to long-term

* Timescales defined as: short-term is 2 years or less, medium-term is 2 years to 5 years, long-term is 5 years and above.
** High-level information on design considerations; Design considerations for electric vehicle chargepoints - GOV.UK (www.gov.uk)

Appendix 1: National and regional policies

This appendix provides further detail on the policy review.

National policy

The previous UK Government's policy provides us with direction, regulations, and funding support which will help enable our move toward EVs.

UK's Net Zero ambitions

In 2008, the UK agreed to legally-binding carbon budgets through the **Climate Change Act**[3]. This means that by law, the UK's emissions must be net zero by 2050.

Since then, the UK has made a lot of progress. In 2021, the UK published the **Net Zero Strategy**[2], which commits the UK Government to achieve net zero carbon emissions by 2050.

Planned phase out of petrol and diesel vehicles

In September 2023, then Prime Minister Rishi Sunak announced that new petrol and diesel cars and vans will continue to be sold in the UK until 2035.

Decarbonising transport

In July 2021, the previous Government published the **'Decarbonising Transport: A better, Greener Britain'**[8], which identified six big priorities to help the UK decarbonise the transport system by 2050. Decarbonisation means minimising the amount of carbon emitted.

A National EV Infrastructure Strategy

In March 2022, the previous Government published **Taking Charge**[9] which sets out a national vision and action plan for the roll out of EV charging infrastructure in the UK.

Wider policy and funding support for the EV transition

In 2021, the 'Decarbonising Transport' strategy was accompanied by the '**Transitioning to zero emission cars and vans: 2035 delivery plan'**[8]**.** This details many actions including taxing vehicles, providing money to spend on research and development of new ideas, and new laws.

Regional policy

Transport for the North EV Charging Infrastructure Framework (2022)[11]

Transport for the North published an EV Charging Infrastructure Framework, showing the need to speed up net zero goals for transport.

Transport for the North set targets for 20% of vehicles in the region to be EVs by 2025, and 40% by 2030.

Liverpool City Region (LCR) net zero targets[12]

In 2019, the Metro Mayor and the Combined Authority (the LCRCA) also declared a climate emergency. They set a target for the LCR to become net zero carbon by 2040, 10 years ahead of the UK's national target.

Local policy

Wirral's Draft Local Plan (2021-2037) [5]

Wirral Council's Draft Local Plan (2021-2037) promotes low carbon travel. The Plan aims to make sure that new developments are managed well and improve connectivity for people in Wirral.

Birkenhead 2040 Framework[6]

The Birkenhead 2040 Framework provides a 20-year plan for the transformation of Birkenhead, centred around the creation of ultra-sustainable, family-friendly neighbourhoods with green public spaces.

The vision includes a 'Connected Birkenhead' and a 'Sustainable Birkenhead' with the ambition to achieve 'clean travel' by 2040. To support this Birkenhead needs simple and accessible EV charging. Ideas to improve connections and sustainability include increasing local deliveries by electric vans and e-cargo bikes.

Policy summary

Through their strategies, the previous UK Government has set out a clear ambition that we need more vehicles to be EVs.

A recent policy change by the previous Prime Minister in 2023 says that no new diesel and petrol vehicles will be sold from 2035. From 2045, no new non-zero emission vehicles will be sold.

To meet this goal, there needs to be more EV charging infrastructure.

The UK Government has given local authorities new roles and responsibilities to help deliver this. Grant funding has been made available, most notably through the Local EV Infrastructure (LEVI) Fund.

Regional and local strategies also strongly support investment in EV charging, including several net zero[2] and climate change strategies[3], the emerging LCRCA Local Transport Plan[4], Wirral Draft Local Plan[5], and the Birkenhead 2040 Framework[6]. Investment in EV charging infrastructure will help to fulfil our commitments to be net zero as a whole by 2041.

In July 2024, a general election was held, and a new Labour government was introduced. We await an update on government position regarding any updates to transport policy that could impact the direction of transport for local authorities.
Where required, this document will be refreshed in response to these changes.

Appendix 2: Calculating the EV baseline

This appendix provides further detail on the EV baseline.

Figures show that throughout the UK, more people are choosing electric and hybrid vehicles. As the number of EVs increases, so does the number of chargepoints needed.

The number of people choosing to use an EV varies across the country, due to different reasons:

- **Economic differences** between regions,
- **Demographic differences-** how many people live within one area,
- **Off-street parking availability** – whether people living there have driveways and garages, and
- **Public charging availability** – how many chargepoints are available in local car parks and on streets for the public to use.

In this part of the report, the current situation in Wirral is investigated to see what the current situation is in Wirral. This is called the EV baseline, and it will be used to work out how quickly people in Wirral will adopt EVs in the future.

What is the baseline situation?

To establish a baseline for Wirral, the following elements were considered:

- **Baseline EV ownership** – how many EVs have been registered in the study area,
- **Baseline EV chargepoints** – how many publicly accessible chargepoints are there in the study area,
- **Baseline vehicle ownership** – how many vehicles (EVs and non-EVs) are registered in the study area and per household,
- **Reliance on on-street parking** – how many households in Wirral are reliant on on-street parking,
- **Likelihood of local populations to switch to EVs** – using Mosaic socio-demographic data[1] to estimate the likelihood of households to switch to EVs,
- **Existing car parks** – location and capacity of both private and public car parks in Wirral,
- **Household density** – which areas of Wirral have the most households,
- **Current grid capacity** – understand the existing capacity within the electrical grid at the primary substations, and
- **Land use in Wirral** – which areas have land uses which influences the demand for chargepoints.

How are the inputs used?

The baselining data is fed into a tool - WSP's EV:Ready model - which predicts the uptake of EVs across a region, the likely demand for chargepoints and the requirements for EV chargepoints.

Appendix 2: Calculating the EV baseline

Number of chargepoints per EV

Across Wirral, on average in January 2023 there was one publicly accessible charging device for every 50 EVs, which is much lower than the UK average of one chargepoint per 21 EVs. Wirral has one rapid chargepoint for every 182 EVs on average, which is below the UK average of one rapid charging device per 117 vehicles.

Chargepoints per 100,000 people

The UK average for the number of chargepoints per 100,000 people is 55.3, in LCR it is 22.5 and in Wirral it is 11.5, which is the lowest value in each of the five LCR local authorities.

**DfT chargepoint data provides numbers of chargepoints per local authority area in the UK and is the only local authority level data source on chargepoints. This dataset has been used to compare between local authority areas. This dataset was published in January 2023 and therefore does not account for the chargepoints installed by Wirral in the period since.*

Location of chargepoints

Figure 8 shows the location of existing publicly available chargepoints across Wirral, in 2023 Q2*. This data was taken from the ZapMap and National Charge Point Registry databases.

In total, there are 86 chargepoints currently operating in the area.

In February 2022 planning permission was granted to install a charging hub at Bromborough. At the time of writing installation of this hub has not started.

There are 33 chargepoints operated by the private sector. They are largely located at sites such as supermarkets, shops and hotels.

The council currently operates 53 lamp column chargepoints in residential areas. They were funded via the DfT's On-street Residential Charge point Scheme (ORCS)[17].

**ZapMap data provides numbers of chargepoints on a local scale, and the latest published data (March 2023) accounts for the additional chargepoints installed by Wirral since DfT data was published in January 2023. Therefore, the number of chargepoints in this assessment differs from the figures in the national comparison.*

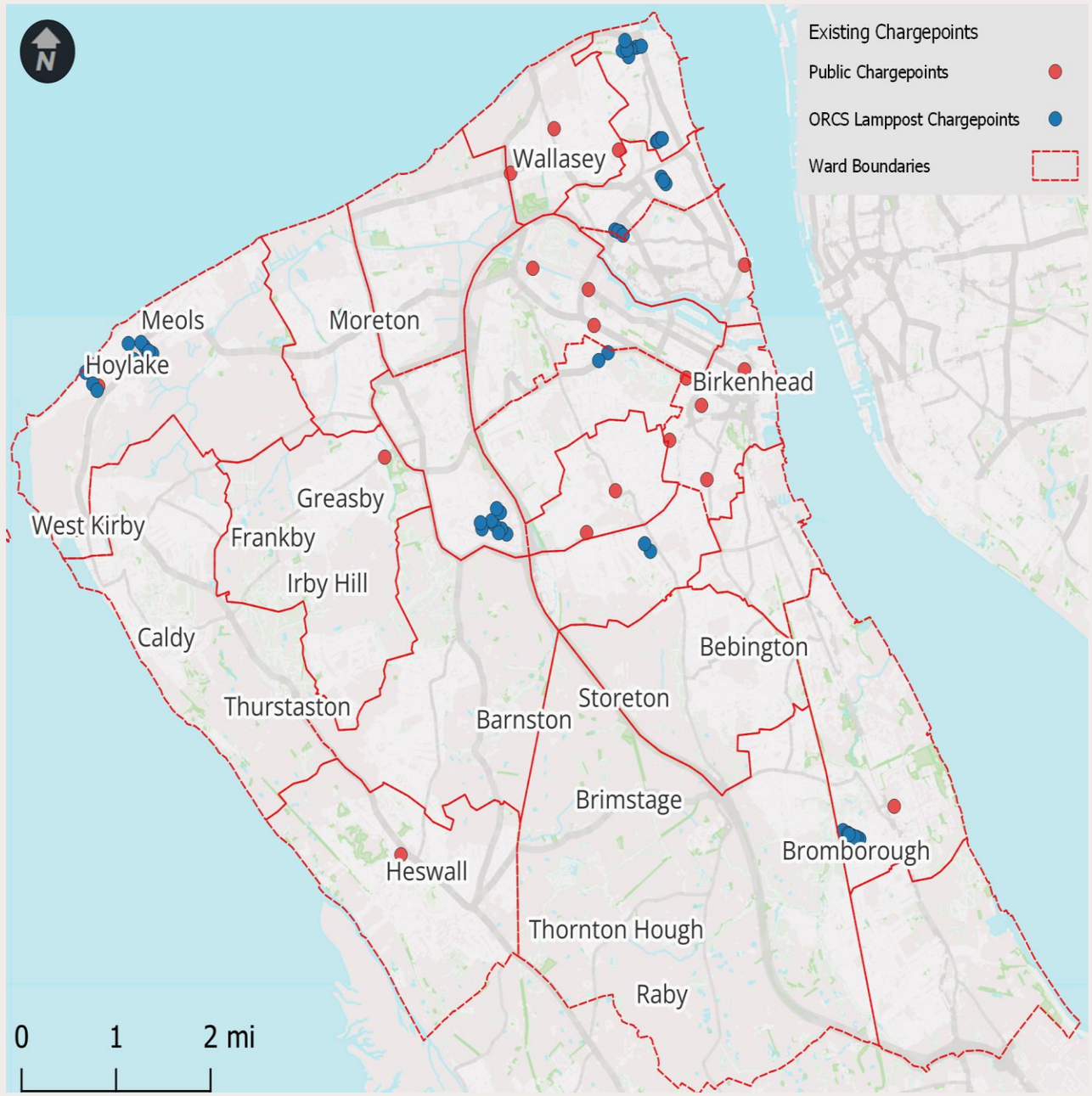

Figure 8: Categories of chargepoints in Wirral

Appendix 2: Calculating the EV baseline

Chargepoint speeds

The 86 publicly accessible chargepoints in the area charge vehicles at different speeds.

There are 55 slow and fast chargepoints which charge between 5-22kWh. The council operated lamp column chargepoints provide charging speeds of up to 5.5kWh.

There are also 31 Rapid DC devices which charge between 25 and 50 kWh.

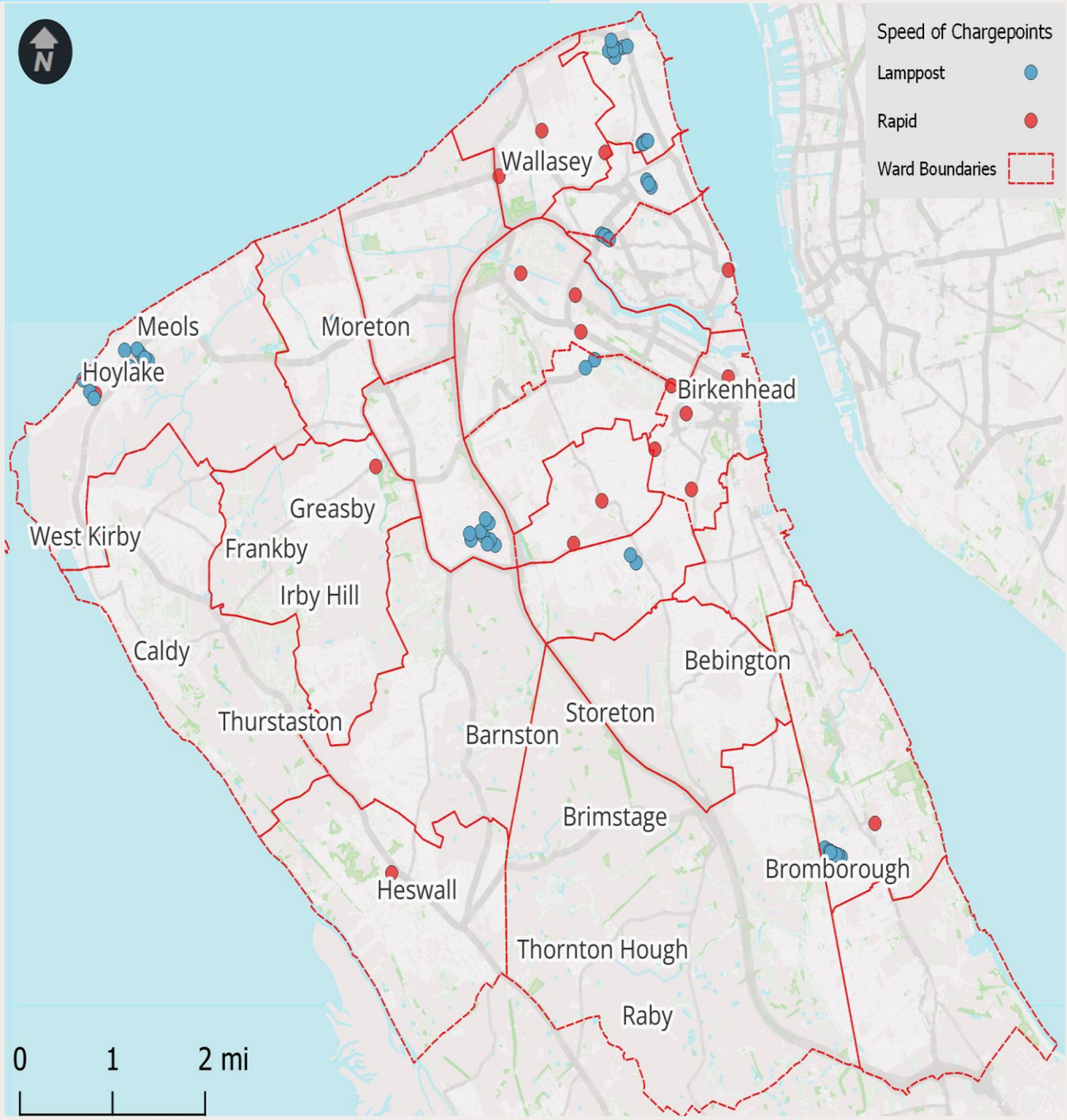

Figure 9: Speed of chargepoints in Wirral

Appendix 2: Calculating the EV baseline

Current car ownership

Figure 10 shows how many vehicles are owned by households at a postcode level, based on Office for National Statistics (ONS)[14] data.

Whilst some people may have a higher likelihood to switch to an EV based on other factors, they would not be expected to purchase an EV if they do not already own a vehicle.

Figure 10 shows that car ownership is fairly low across much of Wirral, and as would be expected, areas of lowest car ownership are concentrated around urban centres such as central Birkenhead, Wallasey, New Ferry and Moreton.

Car ownership rates are influenced by many things such as greater access to public transport and active travel, employment and household income. Parking supply in these areas is also typically more limited.

The more rural areas of Wirral are much more car dependent, and they have higher levels of vehicle ownership.

Blank areas on the map indicate a lack of data due to these areas being very low in population.

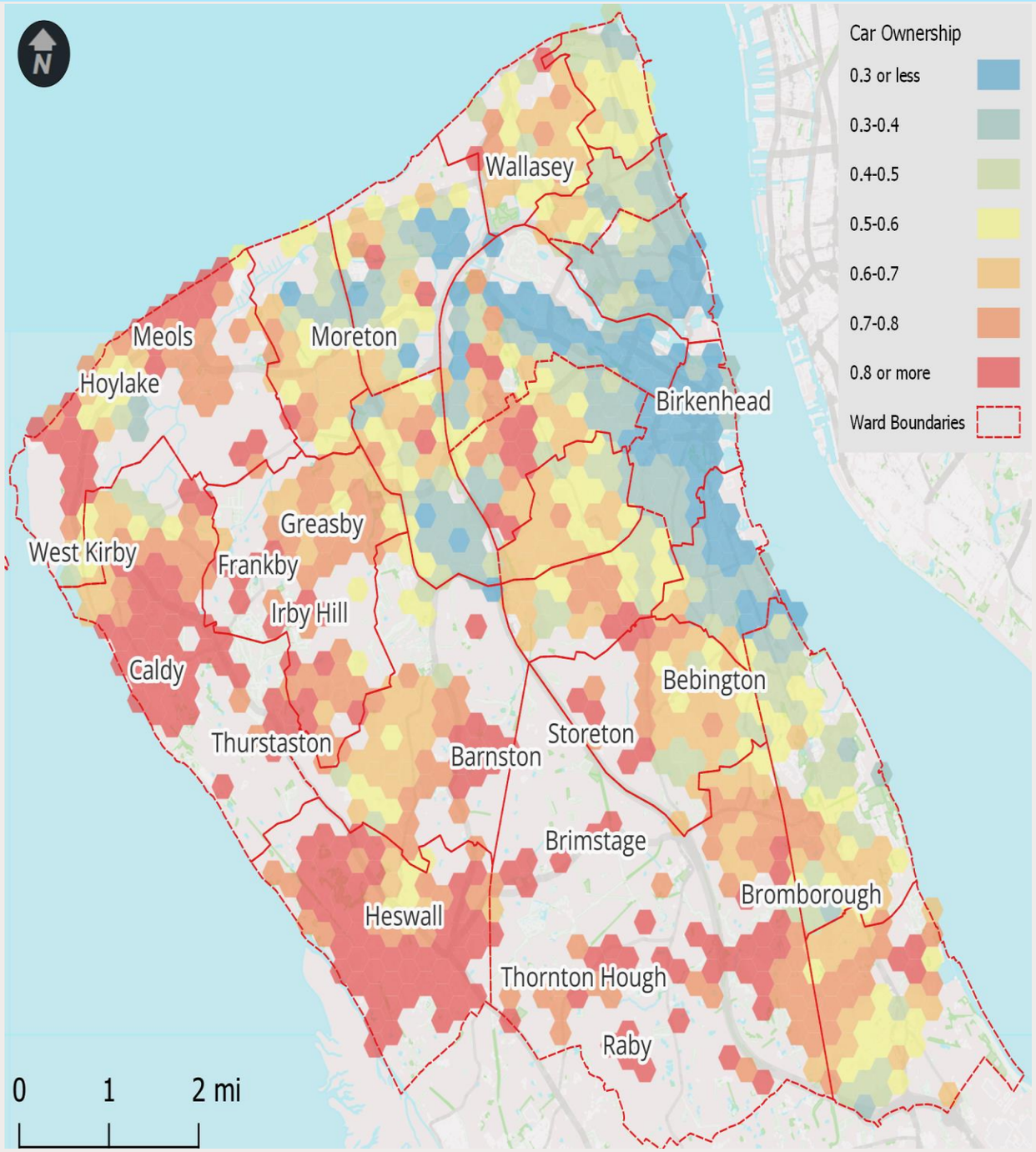

Figure 10: Car ownership (vehicles per household)

Source: WSP EV:Ready

Appendix 2: Calculating the EV baseline

On-street parking

In areas where residents do not have driveways or garages, residents rely on on-street parking.

Those with access to off-street parking where they can conveniently and reliably charge their vehicle overnight have been over three times more likely to switch to an EV[9].

The proportion of households reliant on on-street parking across Wirral is 22%, which is lower than the average for the UK (30%)*.

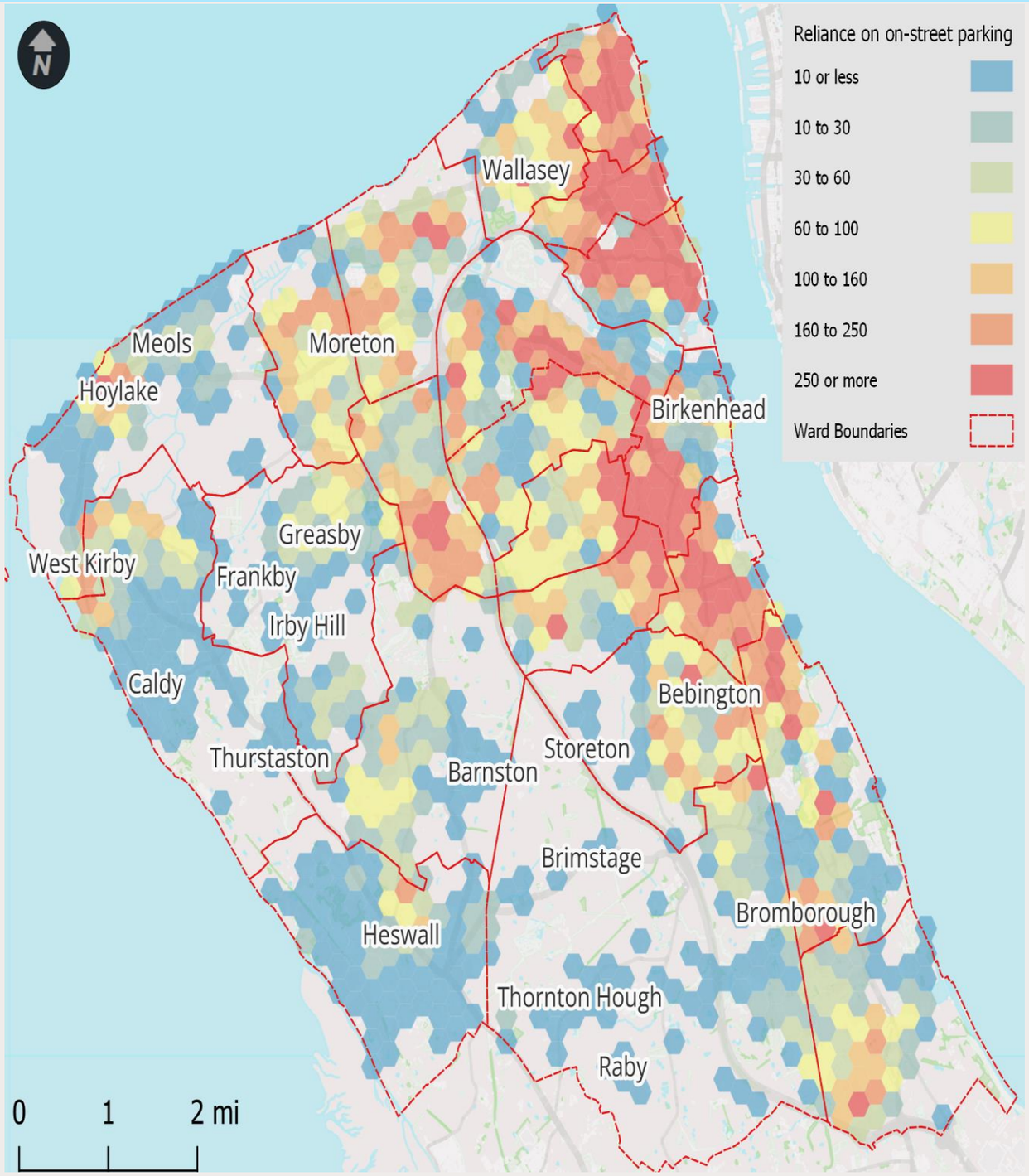

Figure 11: Reliance on on-street parking (proportion of households)

Source: WSP EV:Ready

*this is calculated using data such as census, Mosaic and housing type

Appendix 3: Forecasting

This appendix provides further detail on forecasting.

Forecasting demand and charging requirements

This part summarises the forecast demand for chargepoints in 2030. For the purposes of this assessment, we have only considered demand for publicly available chargepoints.

It is challenging to accurately predict chargepoint requirements as many factors influence likely uptake. Estimations can vary based on:

- Forecast EV growth,
- Charging habits - Public vs Private charging, rapids vs slow chargepoints,
- Vehicle mileage and efficiency,
- BEV and PHEV ratios, and PHEV mileage in electric mode,
- Off-street parking availability, and
- Trends in vehicle and chargepoint technologies, including range and charging rates.

Three scenarios are presented (low, mid-range and high) which represent the range of uncertainty. Table 1.3 shows Cenex's EV charging speed bandings[18].

Table 4 and Figure 12 present the forecast for the total number of chargepoints required in the region up to 2030.

By 2030, the requirement for chargepoints is expected to speed up, with a requirement for around 1,580 fast chargepoints and 250 rapid chargepoints in a mid-range scenario.

Table 6 : EV charging speed bandings[18]

Output power level	Minimum power	Maximum power
Slow/standard	- kW	<7 kW
Fast	7 kW	25 kW
Rapid	43 kW	62 kW
Ultra-rapid	62 kW	500kW (+)

Figure 12: Forecast total number of chargepoints required in the Wirral (public and private sector)

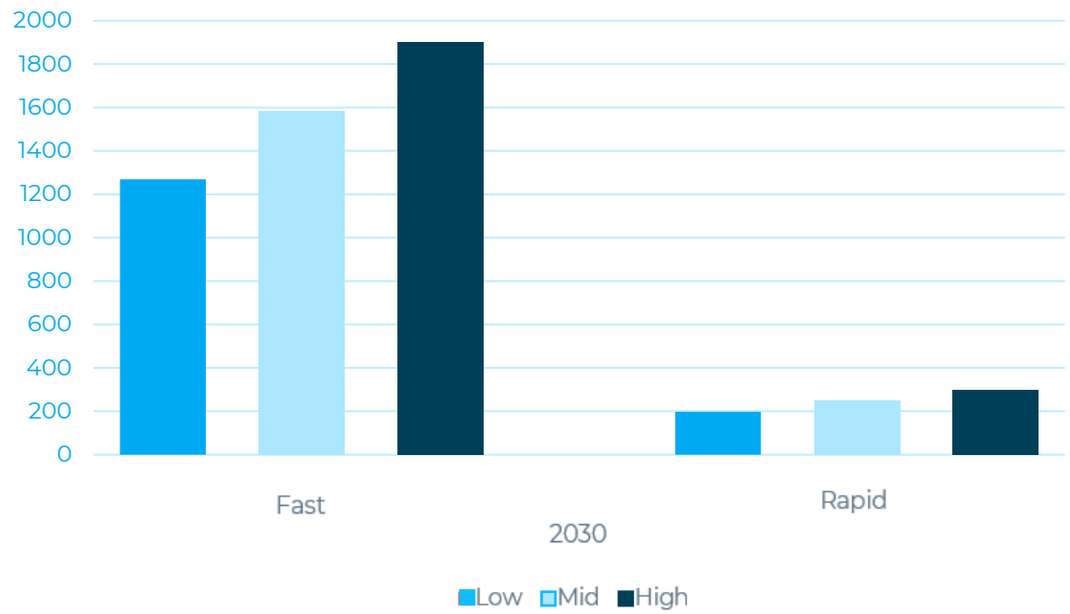

Table 7 : Forecast total number of chargepoints required in the Wirral in 2030 (public and private sector)

Scenario	2030	
	Standard/Fast	Rapid
Low	1270	200
Mid	1580	250
High	1900	300

Appendix 3: Forecasting

Where will demand for charging occur?

It is important that chargepoints are installed where there is demand to ensure that the infrastructure will meet the needs of users and be well used.

Analysis was carried out to identify where demand for EV charging will be located. A wide range of factors were considered in this assessment, including:

- Forecast EV uptake by postcode
- What kind of land is in each postcode area
- Proximity to areas of high traffic
- Reliance on on-street parking

Figure 13 shows how the level of demand for chargepoints will be distributed across Wirral by 2030.

The areas of greatest demand are located where EV uptake is expected to be high and there is limited private off-street parking where drivers could charge their vehicles. The map shows that these areas are generally more urban, and near to major roads. Demand is higher in the east of Wirral which is more densely populated and lower in the west.

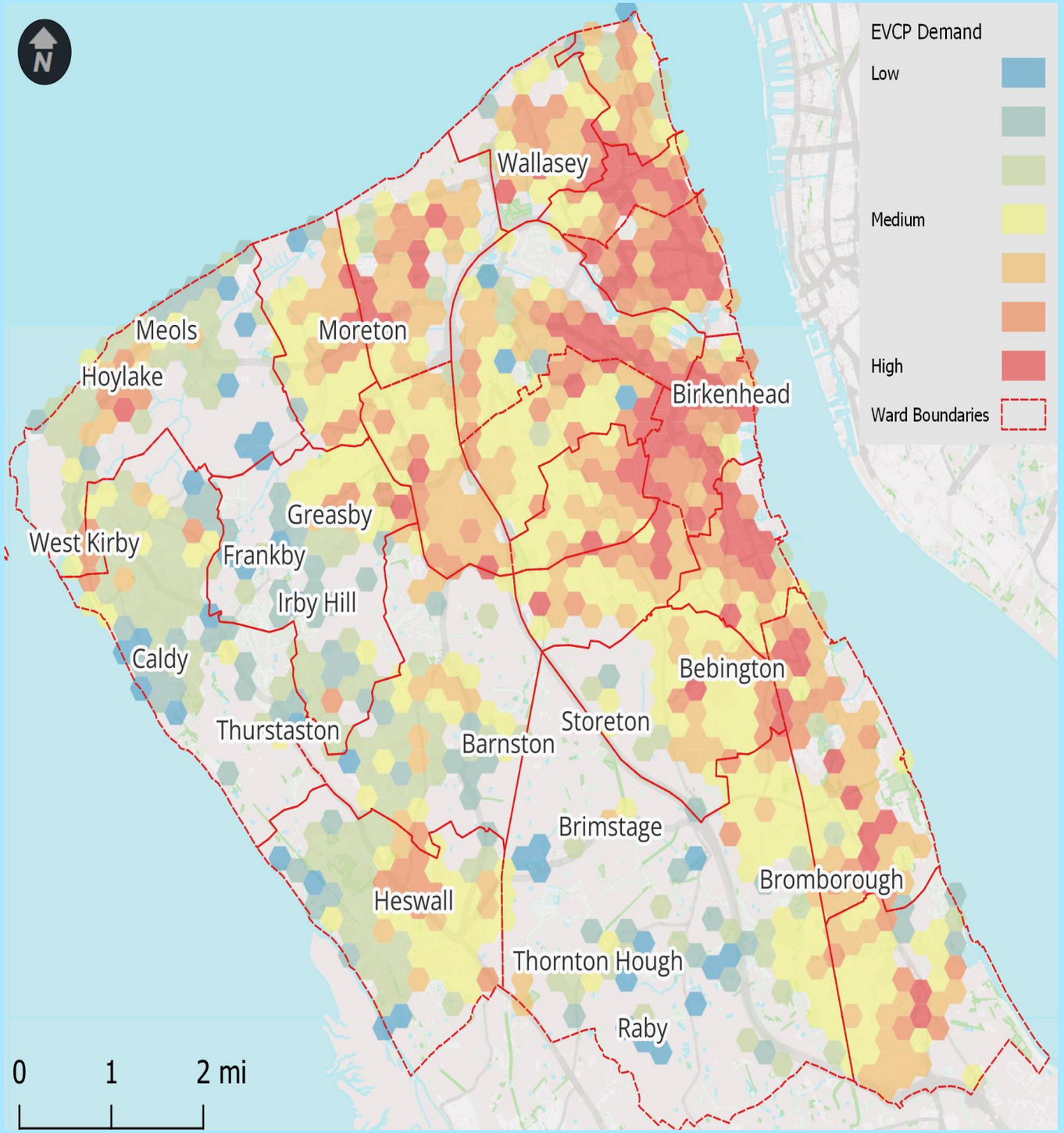

Figure 13: ECVP demand forecast - 2030

Source: WSP EV:Ready

Appendix 3: Forecasting

Demand for on-street residential charging

Figure 14 highlights areas where residents are both more reliant on on-street parking and are also expected to have high levels of EV ownership, compared to the rest of Wirral.

These areas should be a priority during the site selection process.

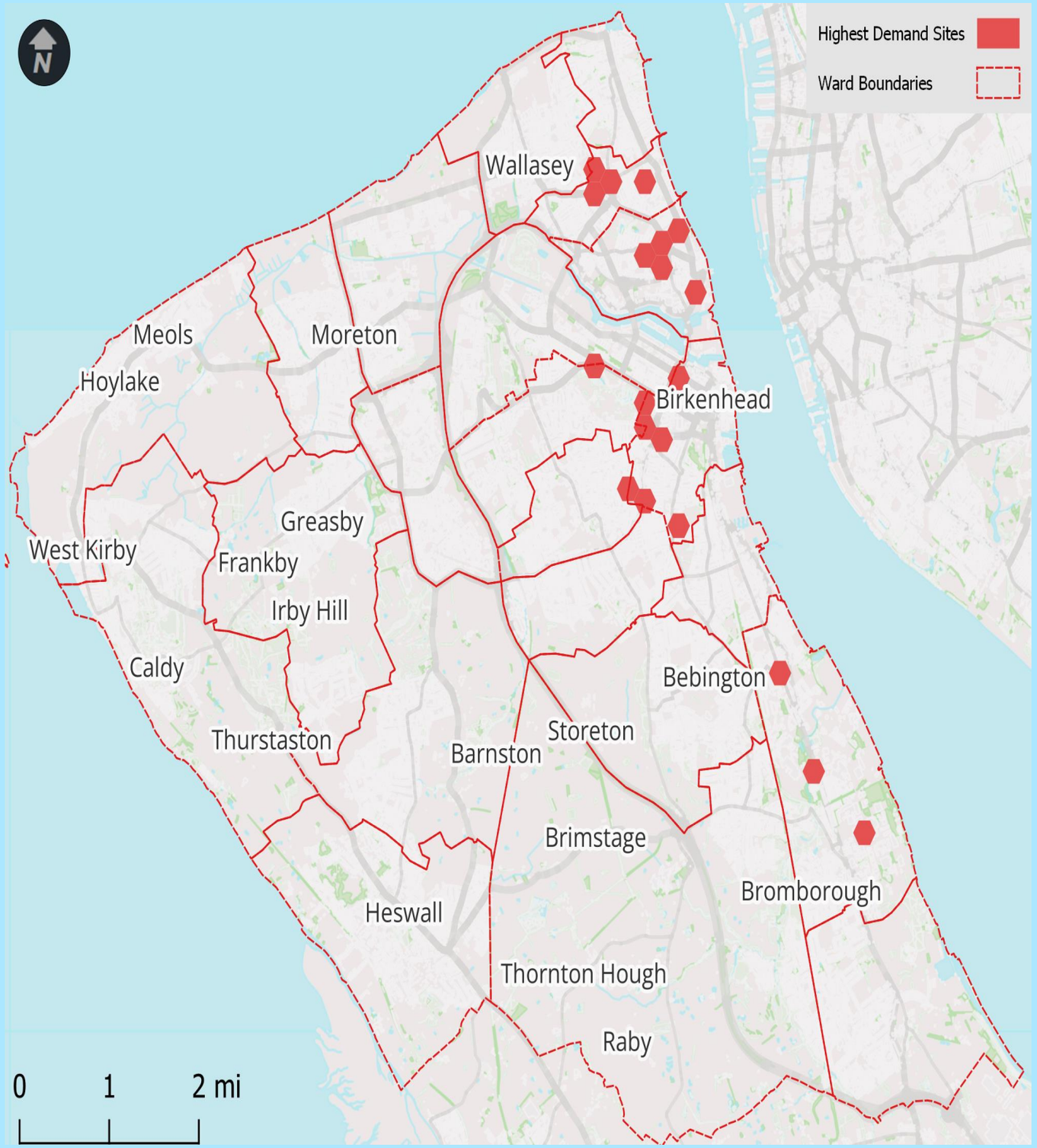

Figure 14: Areas of high priority for publicly accessible chargepoints (areas with high demand for EV and reliance on on-street parking) - 2030

Source: WSP EV:Ready

Appendix 3: Forecasting

Indicative forecast for publicly funded chargepoint requirements

Over time utilisation rates will rise and chargepoints become more profitable, allowing the private sector to invest more widely. However, for the period modelled the demand for public sector interventions is still expected to increase year on year, given the larger overall demand.

The proportion of chargepoints which will be supplied by the public sector is derived from engagement with chargepoint operators (CPOs), industry and literature review. These sources are not specific to Wirral.

To plug the gap left by the private sector, it is forecasted in the mid-range scenario that the public sector will need to fund 920 fast and 50 rapid publicly accessible chargepoints by 2030. These numbers are forecasted based on available data and are subject to change.

In practice many chargepoints are dual socket and can serve two vehicles at once, minimising the number of units which will need to be installed.

Figure 15: Forecast number of chargepoints to be delivered by Wirral Council

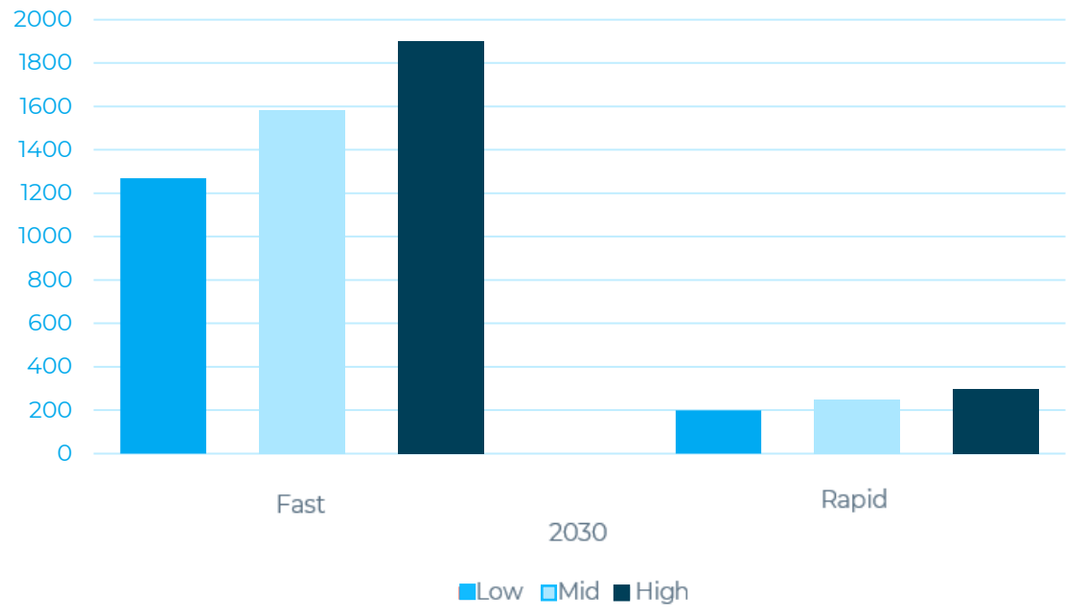

Table 8 : Forecast number of chargepoints to be delivered by Wirral Council

Scenario	2030	
	Fast	Rapid
Low	740	40
Mid	920	50
High	1100	60

Appendix 3: Forecasting

Potential future chargepoints

Supermarkets

Chargepoints installed at supermarkets make up a big share of the destination chargepoints in the UK. Destination chargepoints are those located away from home or the workplace. The current partnerships between supermarkets and CPOs include:

- Tesco, Sainsbury's and Lidl have a partnership with Pod Point, with 600 Tesco stores, 100 Sainsbury's stores and 300 Lidl stores currently providing chargepoints at a national level,
- Morrisons have a partnership with Genie Point with 250 chargepoints nationally as of September 2022, and
- Asda have a partnership with BP Pulse with chargepoints installed at most of their locations.

Table 7 shows the current chargepoints per supermarket brand in Wirral.

Figure 16 shows the supermarkets and supermarket chargepoints within Wirral by brand with a car park. There are 37 supermarkets of which 8 have chargepoints already installed. The total chargepoints installed as of 2023 is 12 across those 8 supermarkets. We do not know what future installations are planned across these supermarkets.

As supermarkets continue to install rapid chargepoints, it is likely that such sites will be used for residential charging by locals visiting the supermarket, thereby complementing the public on-street and off-street chargepoint network.

At a UK level, 55% of chargepoints in supermarket car parks are rapid or ultra-rapid[19].

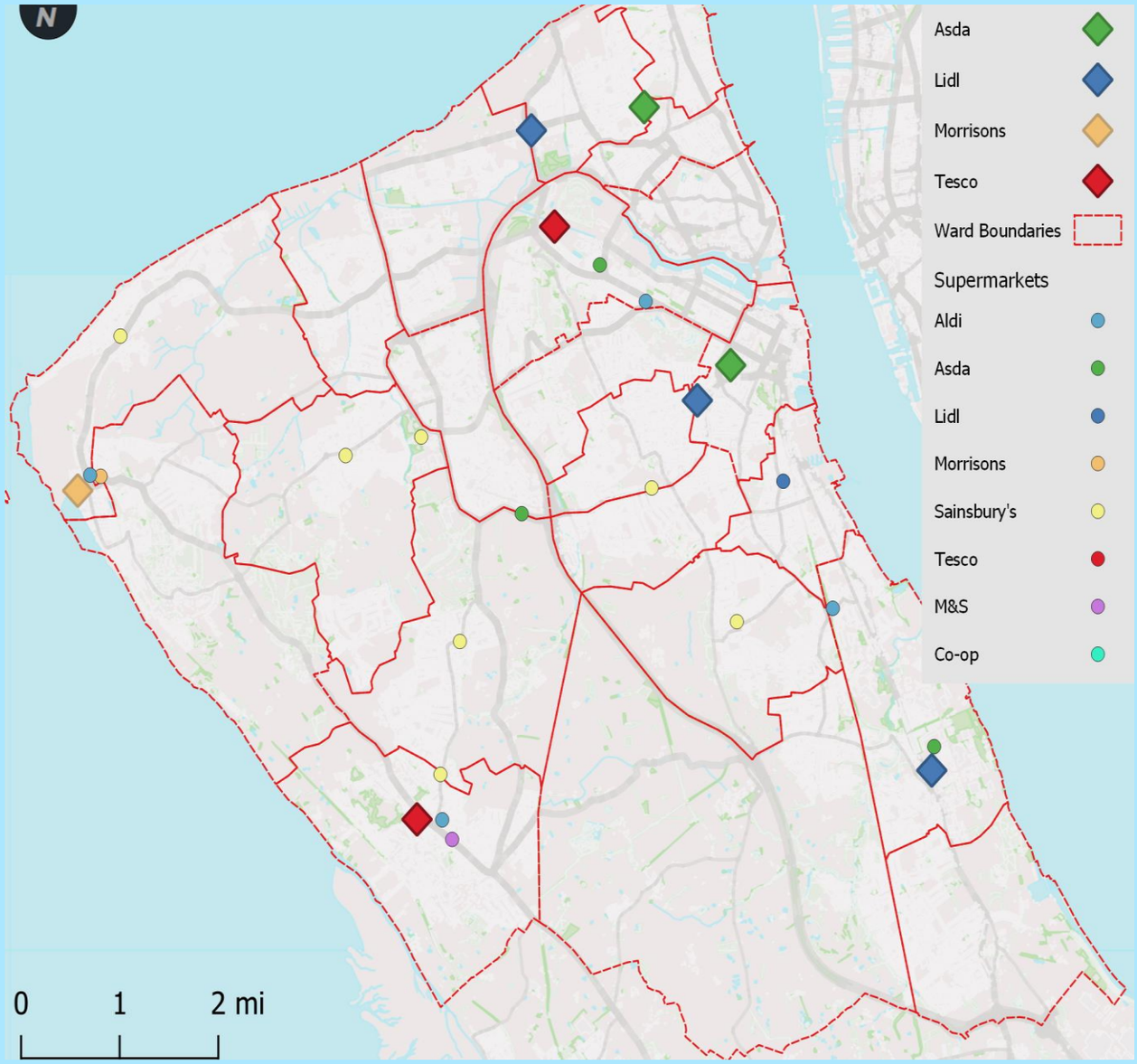

Figure 16: Location of supermarkets and supermarket chargepoints in Wirral

Table 9: Number of chargepoints per brand of supermarket in Wirral

Brand	Tesco	Sainsbury's	Lidl	Morrisons	Asda	Co-op
Chargepoint numbers	4	0	3	1	4	0

Appendix 4: Funding options

Overview of UK Government Grant Funding

Table 10: List of grant funding schemes

Fund	Requirements	Additional Details
Local EV Infrastructure Fund[20]	£343m capital and £37.8m capability funding made available over the next two financial years (from 2024) to scale up the delivery of local chargepoints across England and support commercialisation The LEVI Fund has indicatively allocated £9,647,000 capital and £737,000 capability funding to Liverpool City Region	Largely for on-street chargepoints for those without off-street home parking, with some provision for rapid chargepoints and other use cases, such as Park & Ride sites Tier 1 local authorities (e.g. Liverpool City Region CA) will receive an indicative allocation and work with the constituent authorities (e.g. Wirral Council) to submit funding proposals to release the funding, in either Financial Year 23/24 or 24/25
On-Street Residential Chargepoint Scheme[21]	Support for on-street charging installation by local authorities, up to 22 kW. £15 millions of funding is available across 2023/24. Local authorities must make up the remaining capital costs. Funds up to 50% of eligible capital costs, reduced from 60% in Financial Year 22/23	Location must lack off-street parking and must not be used primarily by commuters or visitors A maximum grant size per local authority application of £200,000 Funding will not exceed £7,500 per chargepoint, or up to 50% of the capital costs. The previous cap of £13,000 per chargepoint for exceptional circumstances has been removed.
Innovate UK[22]	Provides a wide range of funding competitions to Local Authorities, some of which can present opportunities to work with businesses to trial or pilot pioneering chargepoint technologies or concepts	For example, in early 2022, £2m was available to develop Vehicle-to-everything (V2X) charging, building on Vehicle-to-Grid (V2G) charging
Defra Air Quality Grant[23]	This scheme provides funding to eligible local authorities to help improve air quality. It is open for applications for a window each year	For example, some local authorities have won funding for chargepoints for taxis and private hire vehicles
Rapid Charging Fund[24]	A £950m fund for rapid and ultra-rapid chargepoints to upgrade grid capacity for all Strategic Road Network users Timing and process for delivering this funding is to be confirmed. It is unlikely that local authorities will be able to directly bid for funding, but may wish to monitor developments in their areas	Rapid chargepoints are expensive to install and require substantial grid infrastructure By improving on on-route and destination charging within the strategic road network, this will give current and prospective EV drivers greater confidence to undertake longer journeys and help meet growing demand
Workplace Charging Scheme[25]	Covers up to 75% towards the installation of chargepoints. Available for businesses, charities and public sector organisations	Covers private chargepoints for fleet vehicles and staff only. Cannot be used for chargepoints for visitors or customers

All sources valid at time of writing.

References:

1. Department for Energy Security & Net Zero (2024) 2023 UK greenhouse gas emissions, provisional figures, Available online: https://assets.publishing.service.gov.uk/media/6604460f91a320001a82b0fd/uk-greenhouse-gas-emissions-provisional-figures-statistical-release-2023.pdf
2. Net Zero Strategy: Build Back Greener - GOV.UK (www.gov.uk)
3. Climate Change Act: https://www.legislation.gov.uk/ukpga/2008/27/contents
4. LCRCA Local Transport Plan: https://api.liverpoolcityregion-ca.gov.uk/wp-content/uploads/2023/09/LCRCA-TRANSPORT-PLAN.pdf
5. Wirral Local Plan Submission Draft 2021 to 2037: https://www.wirral.gov.uk/planning-and-building/local-plans-and-planning-policy/wirrals-new-local-plan/new-local-plan
6. Birkenhead 2040 Framework: https://www.wirral.gov.uk/files/birkenhead-2040-framework.pdf
7. Powering up Britain: https://www.gov.uk/government/publications/powering-up-britain
8. DfT (2021), Decarbonising Transport: a better, greener Britain, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf
9. DfT (2022), Taking Charge: the EV infrastructure Strategy https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065576/taking-charge-the-electric-vehicle-infrastructure-strategy.pdf
10. DfT (2021), Transitioning to zero emission cars and vans: 2035 Delivery Plan, Available Online: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005301/transitioning-to-zero-emission-cars-vans-2035-delivery-plan.pdf
11. TfN EV Charging Infrastructure Framework (windows.net)
12. LCR Net Zero Target: https://www.liverpoolcityregion-ca.gov.uk/pathway-to-net-zero
13. Wirral Parking Strategy: Wirral Council Parking strategy - 19.12.23
14. DfT (2023): Electric vehicle charging device grant scheme statistics, Available online: https://www.gov.uk/government/statistics/electric-vehicle-charging-device-grant-scheme-statistics-january-2023/electric-vehicle-charging-device-grant-scheme-statistics-january-2023
15. https://energysavingtrust.org.uk/sites/default/files/23465-EST%2BDFT-Charging%20Electric%20Vehicles%20-%20Best%20Practice%20Guide-WEB.pdf
16. https://es.catapult.org.uk/report/on-street-parking-and-electric-vehicles/
17. OZEV (2022), On-Street Residential Chargepoint Scheme Guidance, Available Online: https://www.gov.uk/government/publications/grants-for-local-authorities-to-provide-residential-on-street-chargepoints/grants-to-provide-residential-on-street-chargepoints-for-plug-in-electric-vehicles-guidance-for-local-authorities
18. https://www.cenex.co.uk/app/uploads/2022/05/Charging-Infrastructure-Guidance-1-Introduction-to-EV-Charging.pdf
19. https://www.zap-map.com/ev-stats/ev-market
20. OZEV (2023), Apply for Local Electric Vehicle Infrastructure (LEVI) funding, Available Online: https://www.gov.uk/guidance/apply-for-local-ev-infrastructure-levi-funding

References:

21. EST (2023) On-Street Residential Chargepoint Scheme Available Online: https://energysavingtrust.org.uk/grants-and-loans/on-street-residential-chargepoint-scheme/
22. Innovate UK (2023) Innovate UK action Plan, Available online: https://www.ukri.org/publications/innovate-uk-action-plan-for-business-innovation-2021-to-2025/?_ga=2.256069515.1403562068.1718976920-59858164.1718976920
23. Defra (2023): Air quality grant scheme, Available online: https://www.gov.uk/government/collections/air-quality-grant-programme
24. OZEV (2021), Rapid Charging Fund, Available Online: https://www.gov.uk/guidance/rapid-charging-fund
25. OZEV (2023), Workplace Charging Scheme: guidance for applicants, Available Online: https://www.gov.uk/guidance/workplace-charging-scheme-guidance-for-applicants

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