



# Electric Vehicle Charging Strategy



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# Glossary of terms

EV	Electric vehicle	A vehicle that is powered by one or more electric motors, using energy stored in rechargeable batteries. EVs produce zero tailpipe emissions, contributing to reduced air pollution.
CPO	Charge point operator	An entity responsible for the installation, management, and maintenance of EV charging stations. CPOs ensure that the charging infrastructure is functional and accessible to EV users.
DfT	Department for Transport	A UK government department responsible for overseeing the transport system, including road, rail, and air travel. The DfT develops policies and initiatives to improve transportation infrastructure and services.
DNO	District network operator	A company responsible for operating and maintaining the electrical distribution network within a specific area. DNOs ensure the reliable delivery of electricity from the national grid to homes, businesses, and EV charge points.
EVCP	Electric vehicle charge point	A station or point where electric vehicles can be charged. These charge points vary in power levels, including slow, fast, and rapid chargers, to accommodate different charging needs.
ICE(V)	Internal combustion engine (vehicle)	A vehicle powered by an internal combustion engine, which generates power through the combustion of fuel (such as petrol or diesel). ICE vehicles emit pollutants and greenhouse gases.
Isochrone	Isochrone	A map or diagram that shows areas reachable within a certain time frame from a specific location. In the context of transportation, isochrones help illustrate travel times for different modes of transport, including walking, cycling, and driving.
LEVI	Local Electric Vehicle Infrastructure	The Local EV Infrastructure (LEVI) Fund supports local authorities in England to plan and deliver charging infrastructure for residents without off-street parking. The fund comprises: capital funding to support chargepoint delivery and; capability funding to ensure that local authorities have the staff and capability to plan and deliver charging infrastructure
NEVIS	National EV Insights and Support	A service designed to help support organisations with reliable, independent, up-to-date information on Electric Vehicles (EVs) and EV Infrastructure (EVI).
OZEV	Office for Zero Emission Vehicles	A UK government office that supports the transition to zero-emission vehicles. OZEV provides funding, policy guidance, and incentives to encourage the adoption of EVs and the development of supporting infrastructure.
TfL	Transport for London	The local government body responsible for managing London's transport system, including public transit, roads, and cycling infrastructure. TfL implements policies and provides funding to improve transportation efficiency and sustainability.
ULEZ	Ultra Low Emission Zone	An area in which vehicles must meet emissions standards to enter without paying a charge. ULEZs are designed to reduce air pollution by encouraging the use of cleaner vehicles and reducing the number of high-emission vehicles in urban areas.

# Executive Summary

## A vision for Ealing

By 2030, all electric vehicle users will have reliable and convenient access to charging infrastructure, to support journeys that need to be made by private vehicles. This vision is part of the wider Ealing Transport Strategy, which aims for walking, cycling and wheeling to be the natural choices for everyday journeys.

The vision will be achieved through three key aims:



1. Develop an accessible network of public chargers that allows residents to easily charge

2. Upgrade the council fleet to electric vehicles at the earliest opportunity

3. Deliver EV charging bays at new developments in line with the London Plan

These aims are supported by four ongoing priorities:

1. Encouraging residents to walk, cycle and use public transport, and choose an EV for journeys that need a vehicle

2. Engaging with residents about transitioning to electric vehicles and creating a good quality charging network

3. Reviewing the Council's procurement strategies to support the transition to electric vehicles

4. Monitoring progress, and reviewing this strategy in line with policy changes before 2030



# Introduction

The UK government has committed to phase out the sale of new petrol and diesel cars and vans, as part of the wider goal to be net zero emission by 2050. Vehicle manufacturers are obliged to phase out the sale of new ICE cars and vans, including hybrids, ahead of a complete ban in 2035. In London, the Mayor has recently expanded the Ultra Low Emission Zone (ULEZ) to cover all of Greater London, to reduce the number of polluting vehicles, reduce transport emissions, and improve air quality.

This strategy sets out the plan for expanding Ealing's charging network to meet the demand of a growing number of residents opting to transition to an electric vehicle and ensure there is a sufficient network to handle the expansion of ownership, leading up to and following the ban on new petrol and diesel cars.

## A vision for Ealing:

**By 2030, all EV users have reliable and convenient access to charging infrastructure, to support journeys that need to be made by private vehicles.**

At Ealing Council, we know that petrol and diesel vehicles are the biggest avoidable cause of dirty air in our borough. Ealing Council has air quality and climate emergency strategies aimed at reducing the

use of petrol and diesel vehicles, as part of our commitment to being net zero carbon by 2030.

We want to ensure the growing number of residents with electric vehicles can charge conveniently, and to make EV ownership accessible to the increasing number of residents thinking about making the change.

About 52% of Ealing residents don't have access to off-street parking. As with other London boroughs, the council aims to provide a network of affordable on-street charging options, to help residents transition to electric vehicles.

## Why does the council need a strategy?

Electric vehicles are changing the way things are done. In a typical petrol or diesel car people would stop and fill up their fuel tank for a few minutes and be on their way. Electric vehicles take longer to charge up, and the time taken is not a level playing field between different types of charge points. This means that there are now a variety of ways for people to charge up. This can be seen in more detail overleaf.

Currently access to a filling station is rarely an issue. Drivers can turn up to any station, and while price varies between filling up on a motorway compared to

the local supermarket, everyone has equal access. For electric vehicles, there is a significant difference in access to convenient charging between homeowners with a private driveway, and are able to install a home charge point, and those without a driveway or who rent their home, who are dependent on charge points provided elsewhere. For these vehicle owners, having access to affordable on-street charging, particularly low-power charging which can be delivered overnight, is key to making the transition to an EV viable.

The Council aim to ensure that everyone has access to a wide range of chargers. This delivery will not happen overnight and will require multiple workstreams including installing chargers on-street, supporting partners such as Transport for London to install on their land, working with developers to deliver charging on new sites, and providing charging in council car parks.

This strategy will demonstrate the current and forecast need for EV charging in Ealing, and will provide targets, an action plan and a delivery plan for achieving the accessible network Ealing residents need.





This strategy also enables forward planning for charge point operators. Operators need chargers to achieve a profitable level of utilisation, to secure a return on their investment. At the moment, much of Ealing would not be considered to have high enough utilisation to justify a charge point being installed. But as shown on page 13, demand has rapidly increased in the past three years and is expected to continue. The council therefore needs to plan ahead, to ensure delivery of chargers matches this demand, and to make the best use of government funding to provide charging in less commercially viable locations.

We want to make sure that everyone in Ealing feels comfortable buying an electric vehicle without having to worry about where to charge it. This strategy will enable delivery of a charging network which will encourage people to transition when they are ready, not in a rush ahead of the 2035 ban.

### Where can chargers currently be found?

#### Home charging



If the initial costs can be afforded to install, home charging is the cheapest and most convenient way to charge. It is usually slow overnight charging. This is for people that have access to off street parking.

#### On-street charging



On-street charging takes a variety of forms. It can be the fast chargers seen above. These are pillars on the footway or carriageway that avoid adding street furniture to the footway. On-street chargers can also be embedded into lamp columns which are usually slightly slower than the ones above, however also cheaper. The on-street chargers are the main focus of this strategy, as these cater for residents with no off-street parking, therefore needs most intervention.

#### On-route charging



On-route charging is used to top up during a journey. These often have rapid and ultra rapid chargers that provide the quickest way to charge.

#### Workplace charging



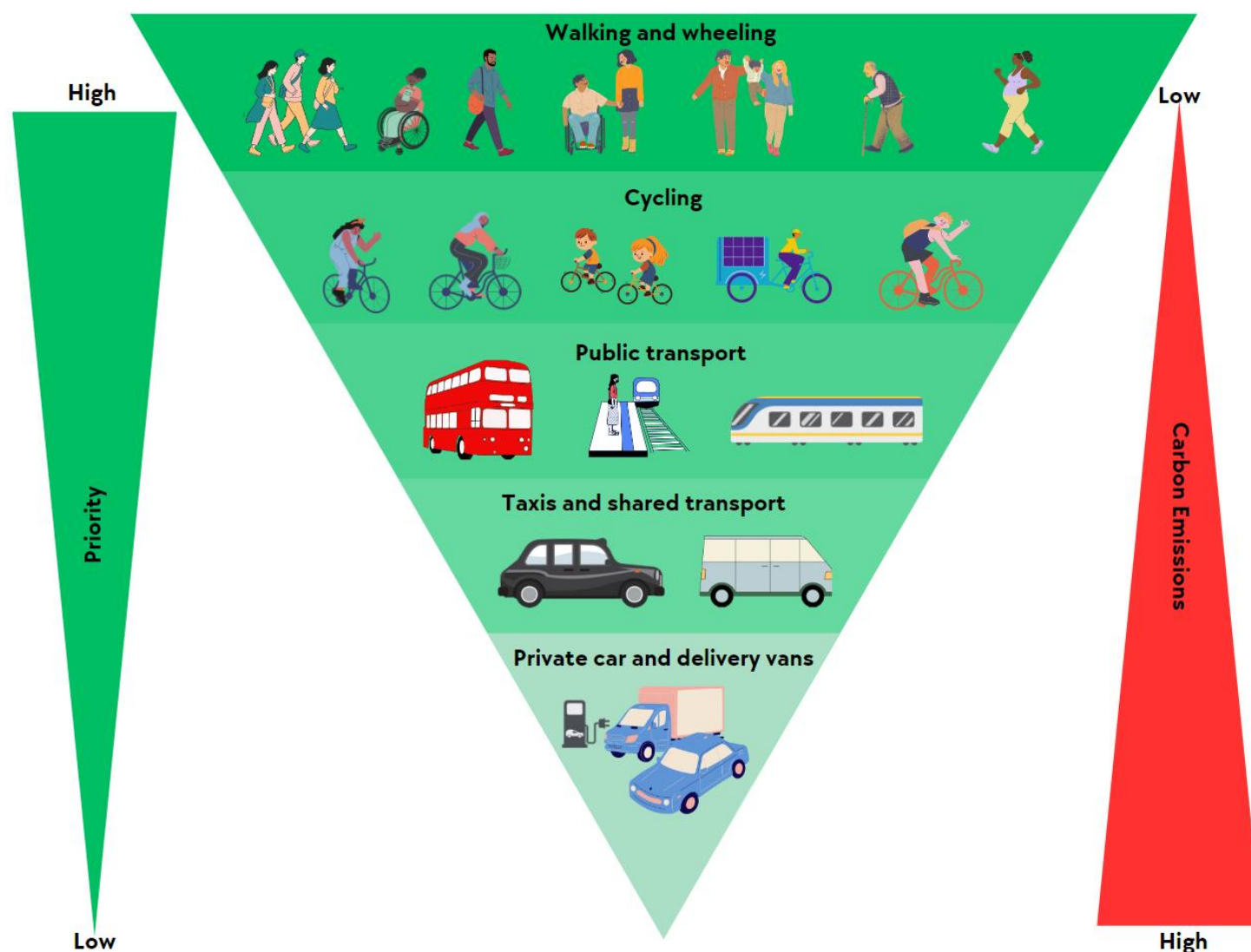
Workplace charging is often provided for staff where a car is left all day while someone works in the office or can be used to charge up the fleet of vehicles needed for business operations.

#### Destination charging



Fast charging is often provided at destinations where people are staying a brief amount of time. These are common at supermarkets such as the Lidl in Hanwell above. Other places would include the gym, a cinema or even a hotel, although here chargers may be slower as guests can charge overnight.

# Where do Electric Vehicles fit?



The figure above shows the hierarchy of transport modes in Ealing. This means that when we make changes to the road or the kerbside, we will consider the needs of people walking, wheeling and cycling first, followed by the needs of people using public transport.

Electric vehicles (EVs) will play a significant role in a sustainable future for transport. Compared with petrol and diesel vehicles, EVs reduce emissions of carbon dioxide, and local air pollutants like nitrogen dioxide. They help to clean up the borough's air and reduce our dependence on fossil fuels.

However, EVs are not a perfect solution. They produce emissions when they are manufactured, as well as producing tyre and brake pollutants when driven on the road. They also do not help to solve congestion or road safety issues. To address these challenges, Ealing Council's Transport Strategy aims to prioritise active and sustainable travel: walking, wheeling, cycling, and public transport. These modes are low-emission, reduce congestion and pollution, improve health, and make our streets safer.

EVs have a role to play, especially for journeys that need to be made by vehicle, for example by disabled residents. For these journeys, EVs can support accessibility, while minimising the impact on the environment. EVs will also be vital for freight services, and the freight industry is already moving towards zero emission fleets. But EVs need to be considered as part of a balanced and multi-modal approach to transport within the borough.

The graphic on the left shows the hierarchy of transport modes which the new Ealing Transport Strategy follows.

This is reflected in our approach to installing EV charge points. We want to support accessibility and low-emission freight, by providing charging where it's needed in residential and industrial areas. At the same time, we want to support residents to walk, cycle or use public transport whenever they can.



# EV Charging in Ealing





# Types of Charging

Charging is categorised by speed. The categories are helpful ways to understand how quickly your car is likely to charge. Typically, the faster the charge point the more it is going to cost. The speed of the charger is the most indicative aspect, but the specification of the EV can also affect charging speeds, and the number of hours required to recharge. Some EVs can only receive charge at a certain rate, depending on the technical specification of the car. Therefore, trying to charge such an EV to an ultra-rapid EVCP will not in those cases mean a reduced charging time.

## Slow Chargers

These are commonly used for overnight charging at home due to their slower charging capabilities. Slow chargers would usually not be installed on street but may be the chosen speed for a home charger, although many charge points installed at home are in the standard category.

## Standard Chargers

Standard chargers are likely to be the ones installed on lamp columns and bollards. In Ealing there is currently a mix of Ubitricity lamp column charge points and Source London Bollards. Pictures can be seen on page 12.

These take around 8-12 hours to charge to full but offer residents the cheapest way to charge on-street.

## Fast Chargers

These can be seen in Ealing, e.g. the Believe chargers, Source London chargers, and some chargers in private car parks. Ideal for on-street charging and destinations where vehicles are parked for an hour or longer, such as workplaces, park-and-ride facilities, or long-term parking areas in town centres, supermarkets, or leisure centres.

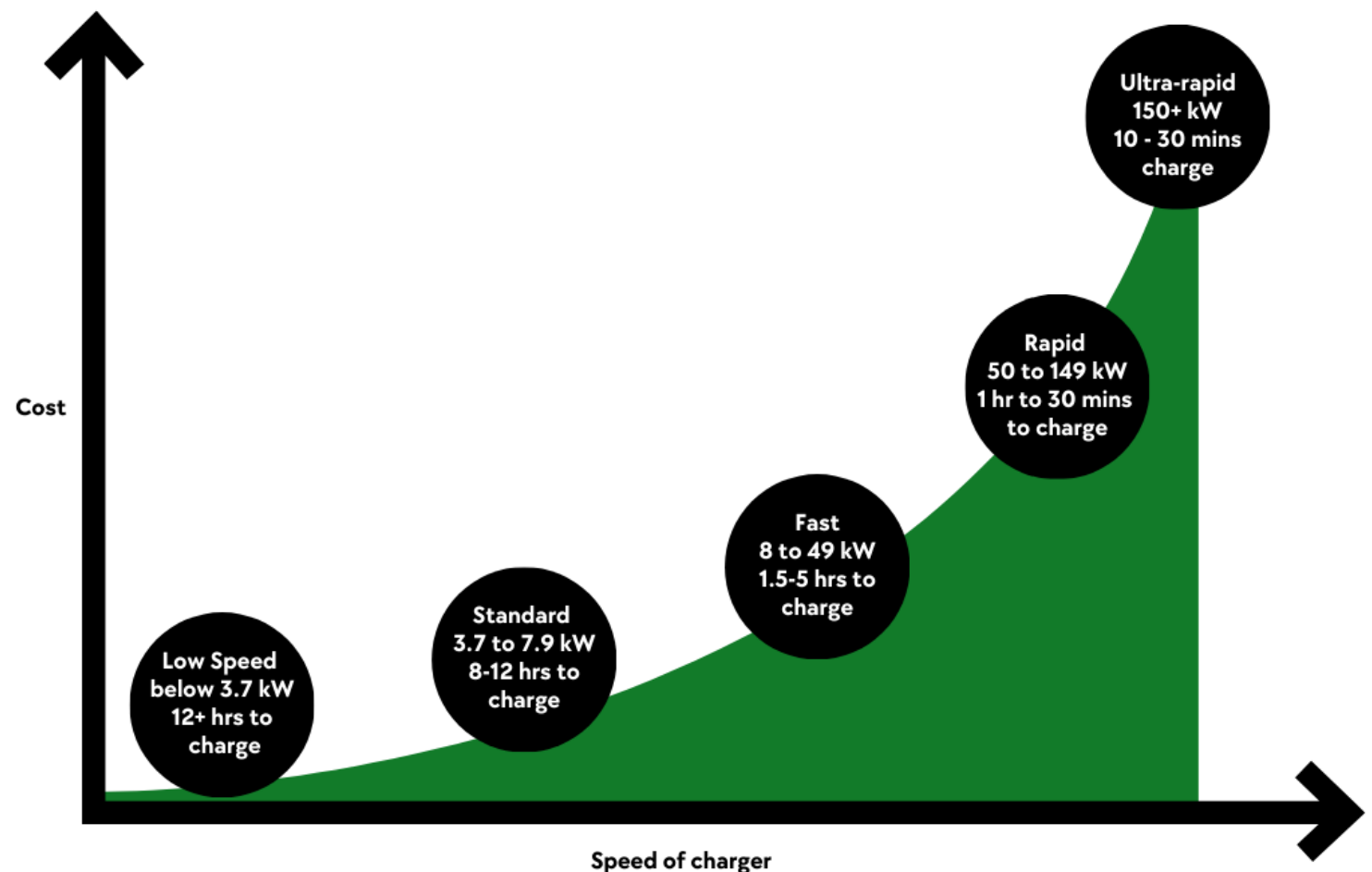
## Rapid Chargers

Rapid chargers can provide up to 80% battery charge in approximately 30 minutes. They are common at

destinations where a short stay is expected. They can also be found on motorways as on route solutions.

## Ultra-Rapid Chargers

Ultra rapid chargers offer very quick charging, ideal for on-route solutions that offer the greatest convenience as drivers do not have to stop for long. Although, this convenience comes with the highest cost. These can be best utilised by delivery vans and fleets that are looking to maximise time spent on business activities.



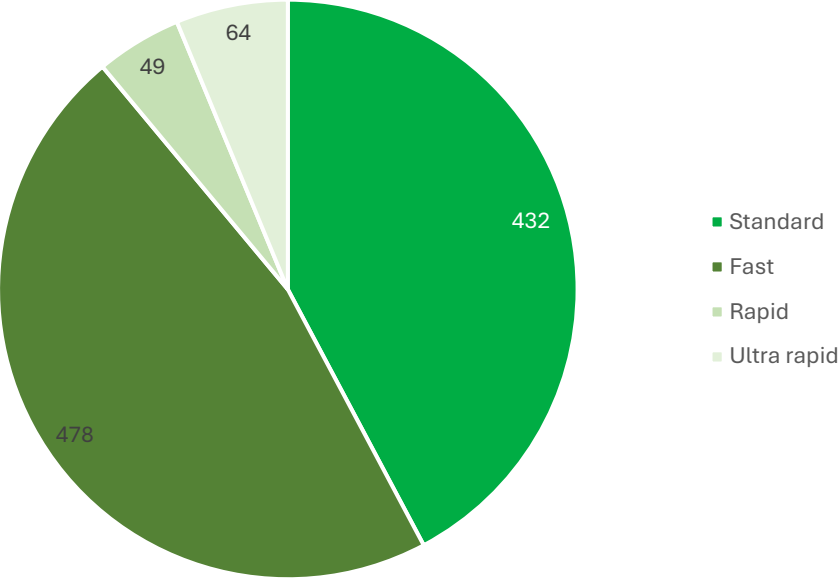


# Types of charge points in Ealing

The pie chart illustrates the current distribution of chargers within Ealing as of September 2024. Please refer back to page 9 for the definition of charger speed.

Displayed on the right-hand side are the lamp column chargers situated across the borough, which have been installed by our partners at Ubitricity, one of Ealing's charge point operators.

Total number of charge points by speed



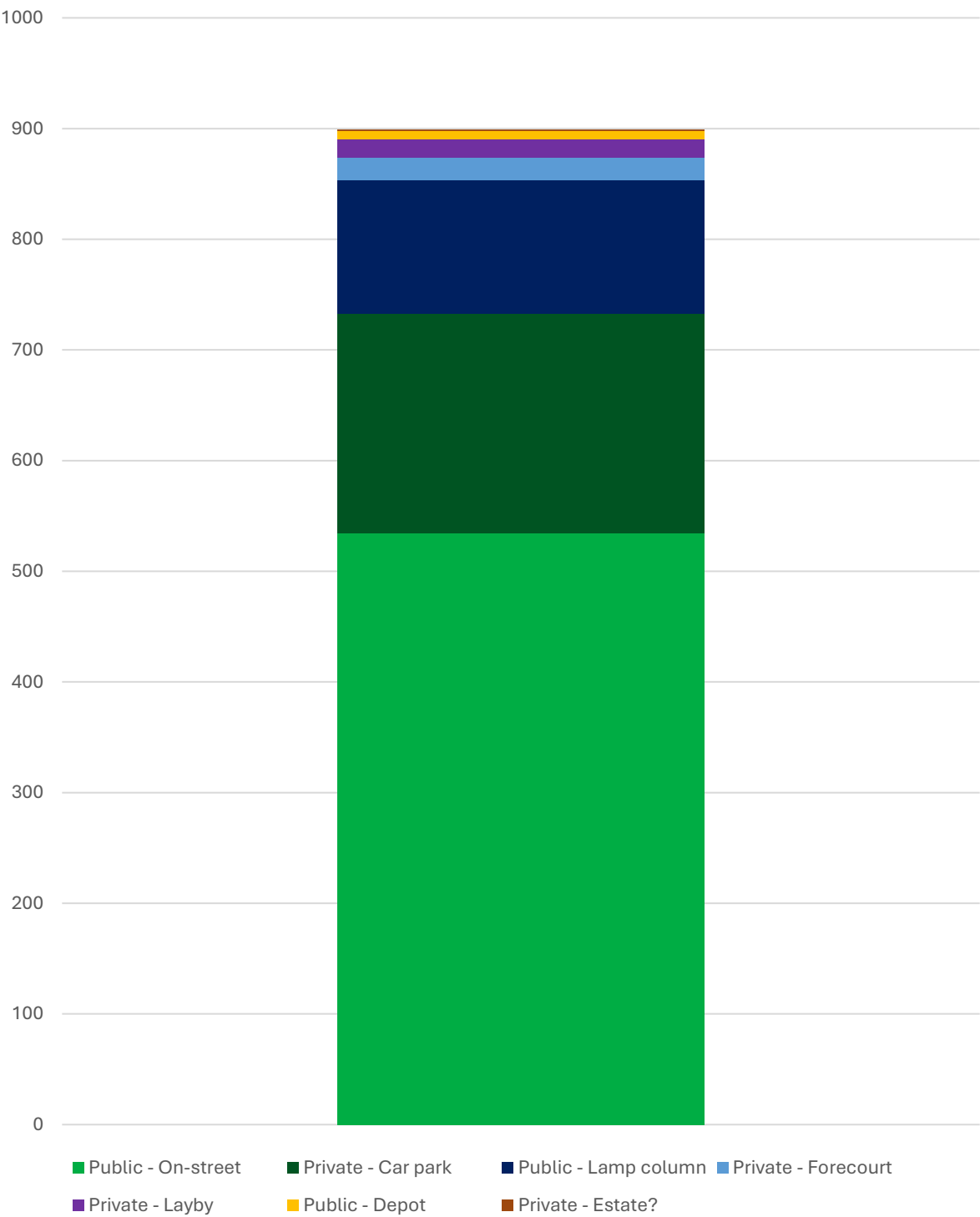
The figure above shows the number of EV chargers split into ‘type’ of charge point.



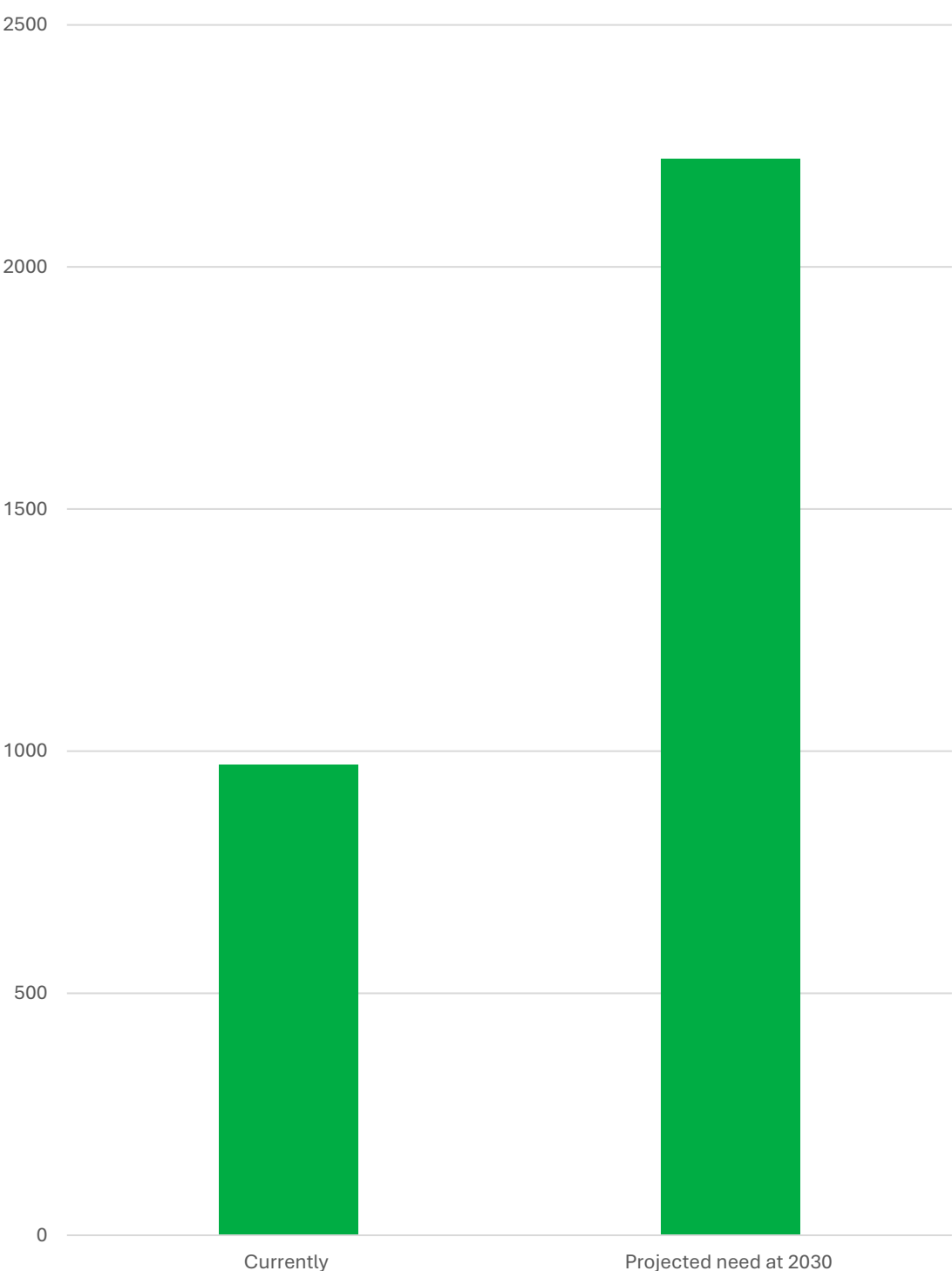


# Numbers of Chargers in Ealing

Number of charge points by type



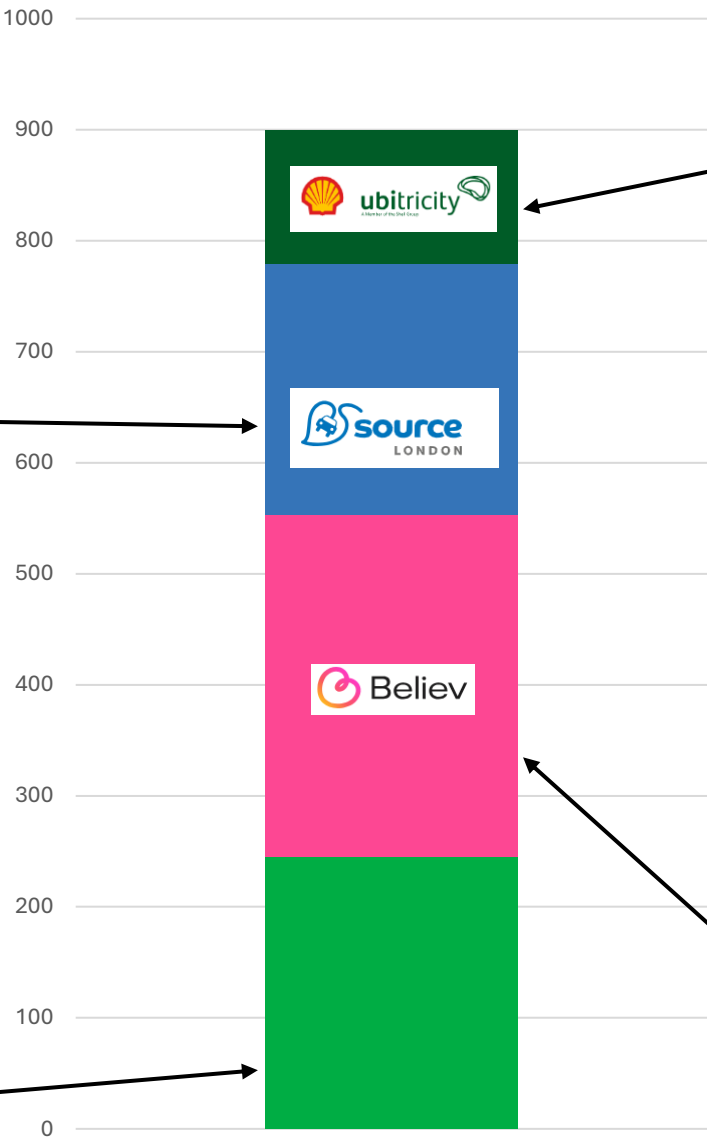
Number of charge points and projected need in 2030<sup>[1]</sup>





# Electric vehicles in Ealing

Number of charge points by provider



- Ubitricity/Shell recharge
- Source London
- Believ
- Various on private land

# EV Demand

Cars are a large source of the dirty air in the borough and the council is aiming to encourage a transition to electric vehicles for journeys which need to be made by car, while supporting residents to choose walking, cycling and public transport for more short journeys.

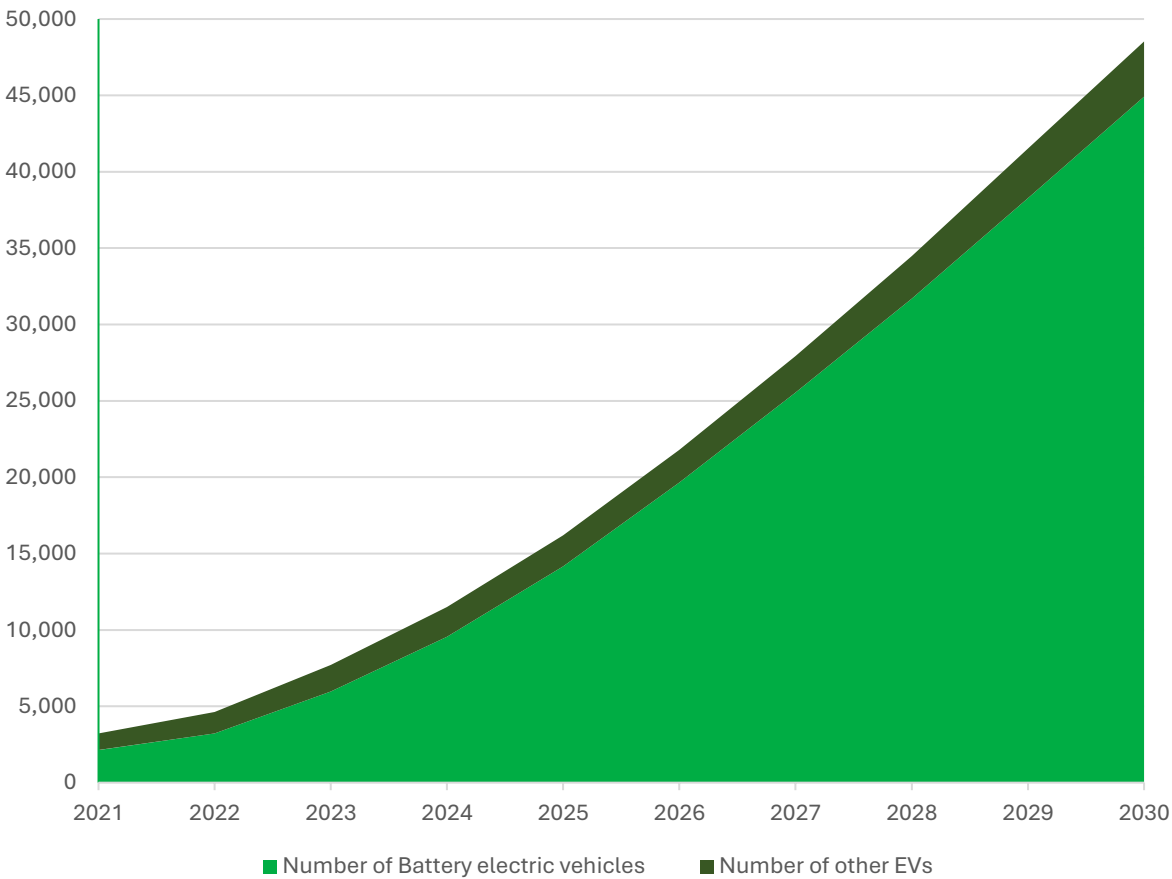
EV ownership has risen rapidly in Ealing in the past few years, with over 10,000 EVs registered in the borough in summer 2024.

The graphs below show the increasing uptake in both business and private

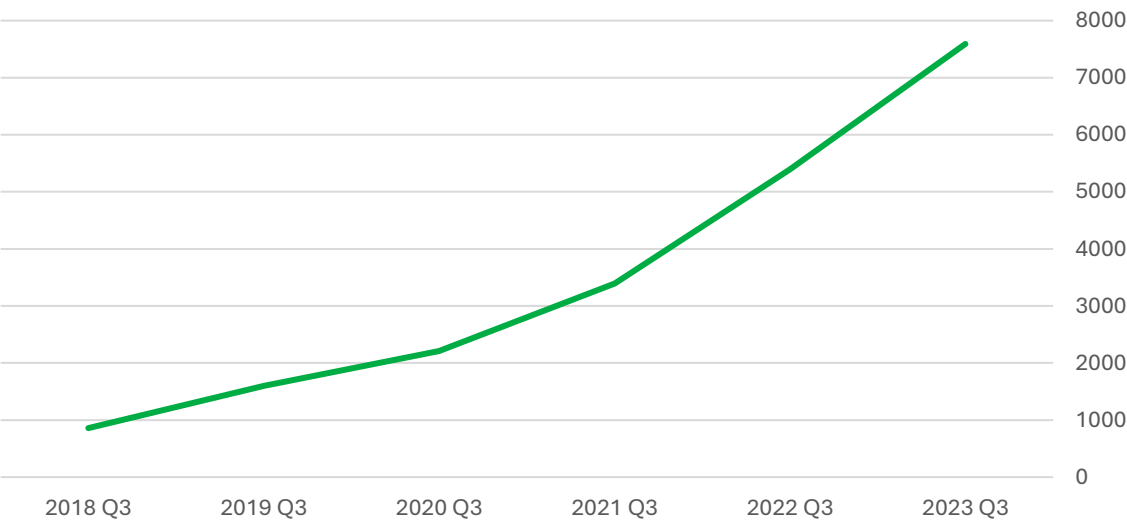
resident ownership of electric vehicles.

The ban on the sale of new petrol and diesel cars by 2035 underscores the urgent need for charging infrastructure. As electric vehicle ownership rapidly increases, it's imperative for Ealing to provide sufficient charging facilities.

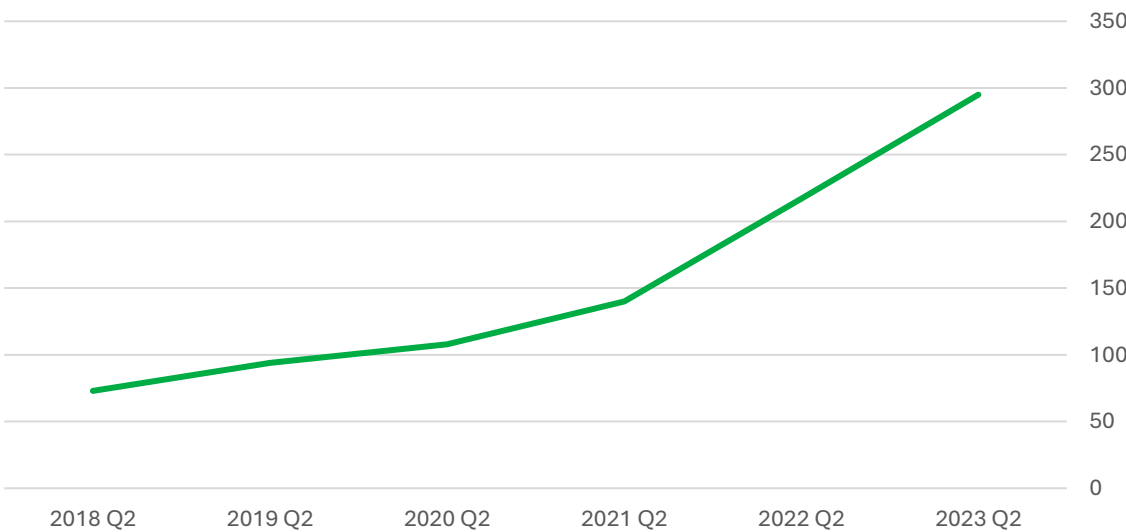
Projected rise in Electric vehicles in Ealing<sup>[2]</sup>



Plug-in electric cars in Ealing<sup>[2]</sup>



Plug-in electric vans in Ealing<sup>[2]</sup>



[2] Department of Energy Security and Net Zero (no date) 2023 UK greenhouse gas emissions. Available at: <https://assets.publishing.service.gov.uk/media/6604460f91a320001a82b0fd/uk-greenhouse-gas-emissions-provisional-figures-statistical-release-2023.pdf> (Accessed: 05 August 2024).



# Where are the current charge points?

Ealing Council has been installing EV charge points since 2019. We have installed lamp column charge points and fast charge points using funding streams from central government: ORCS (On-Street Residential Charge-point Scheme) and GULCS (Go Ultra Low City Scheme). The current demand for charge points is not equal across the

borough. The council has been installing where we have requests as a priority. From 2025 onwards we will be installing charge points with the LEVI (Local Electric Vehicle Infrastructure) fund, which will provide a large number of lamp column charge points for overnight residential charging.

We are continuing to expand the charging network across the borough, aiming to ensure that every resident has a charge point within a 5-minute walk. The table below shows the number of charge points in each ward. The map shows how this looks across the borough.

The map below shows the location of charge points in Ealing. Charge points are shown as coloured dots.

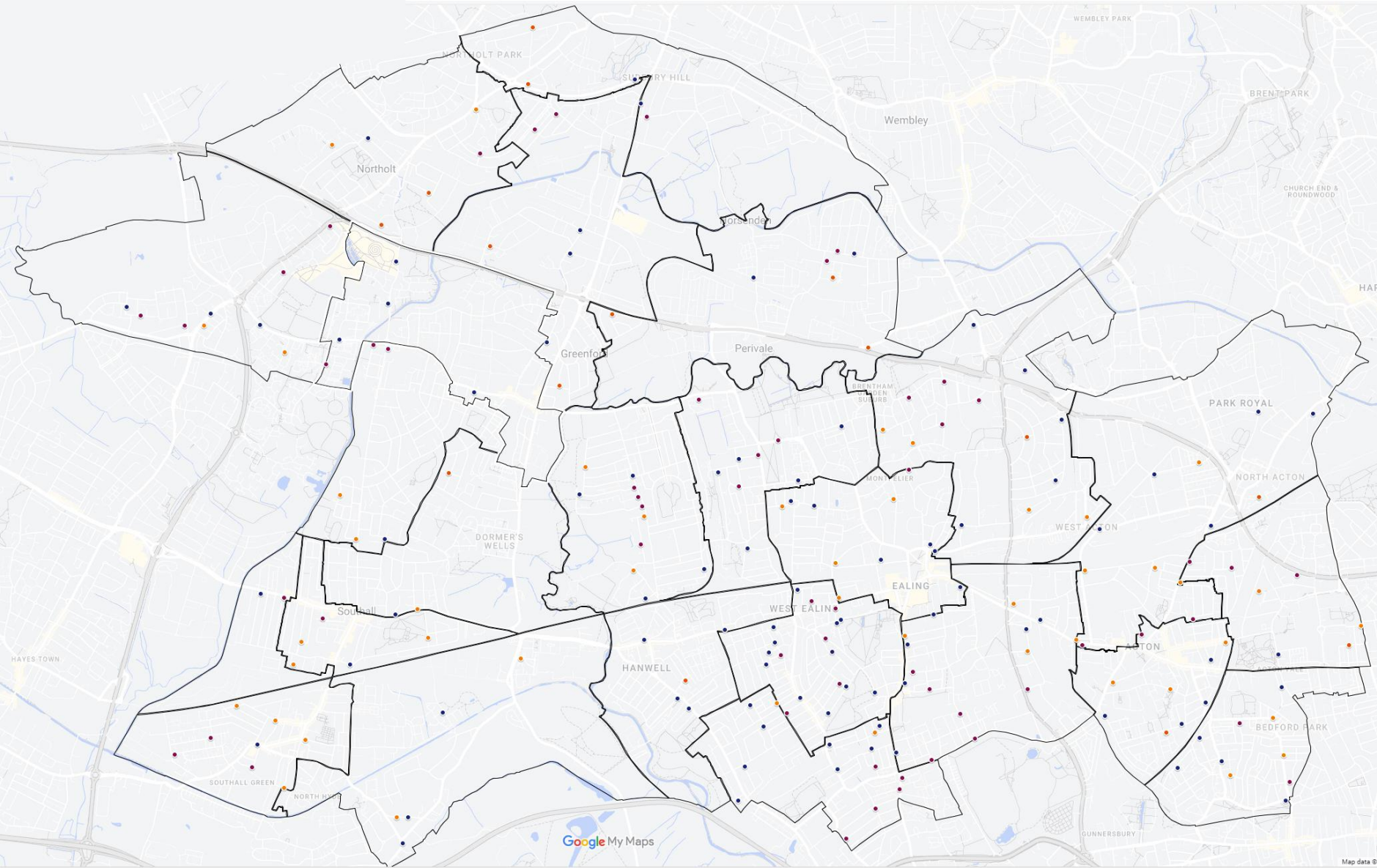
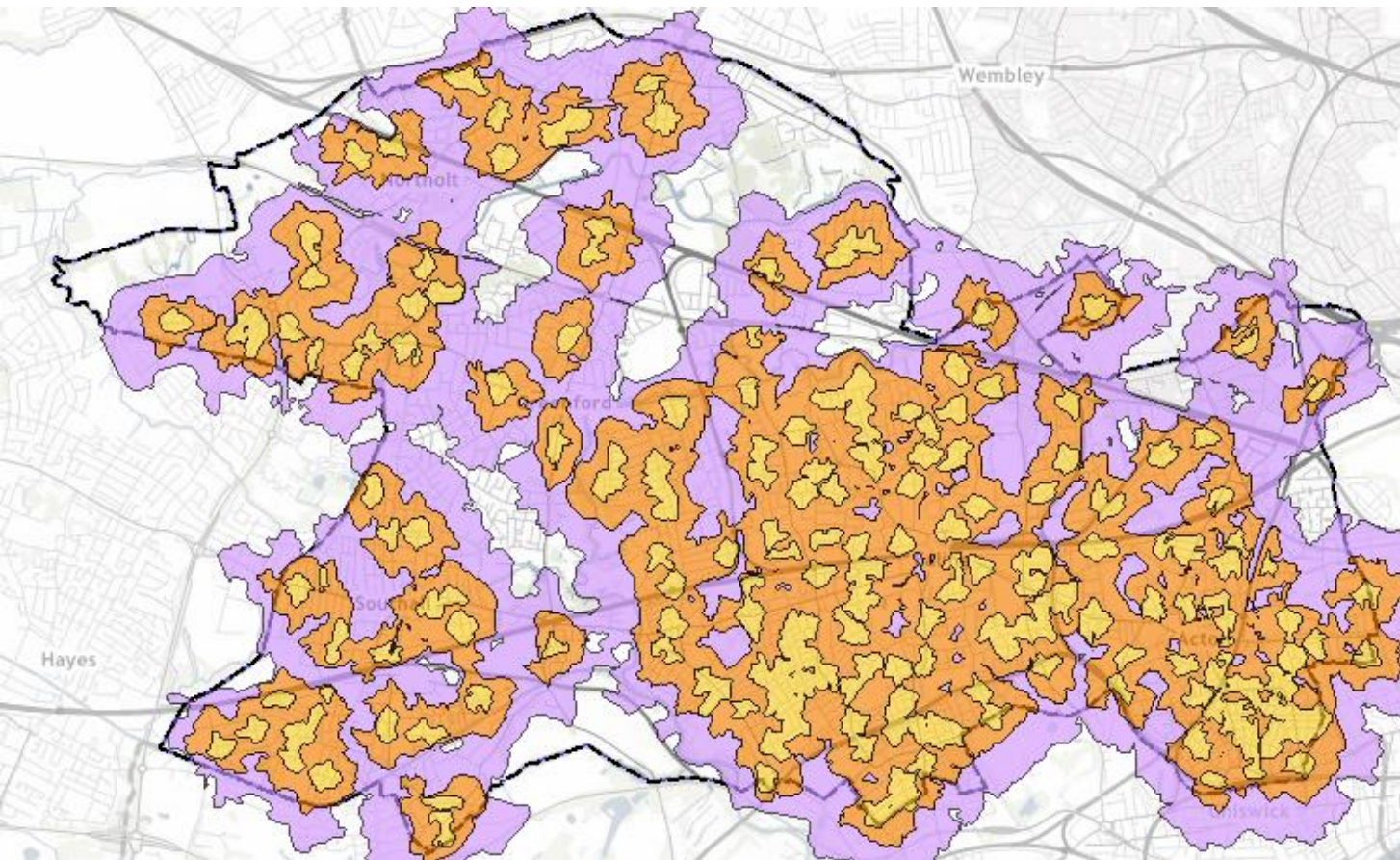


Table 1 shows the number of charge points by ward.

Ward	Number of Sockets
Central Greenford	69
Dormers Wells	10
Ealing Broadway	57
Ealing Common	68
East Acton	32
Greenford Broadway	34
Hanger Hill	76
Hanwell Broadway	22
Hobbayne	1
Lady Margaret	20
North Acton	70
North Greenford	14
North Hanwell	33
Northfield	49
Northolt Mandeville	19
Northolt West End	42
Norwood Green	36
Perivale	31
Pitshanger	31
South Acton	36
Southall Broadway	17
Southall Green	32
Southall West	3
Southfield	59
Walpole	38
Grand Total	899



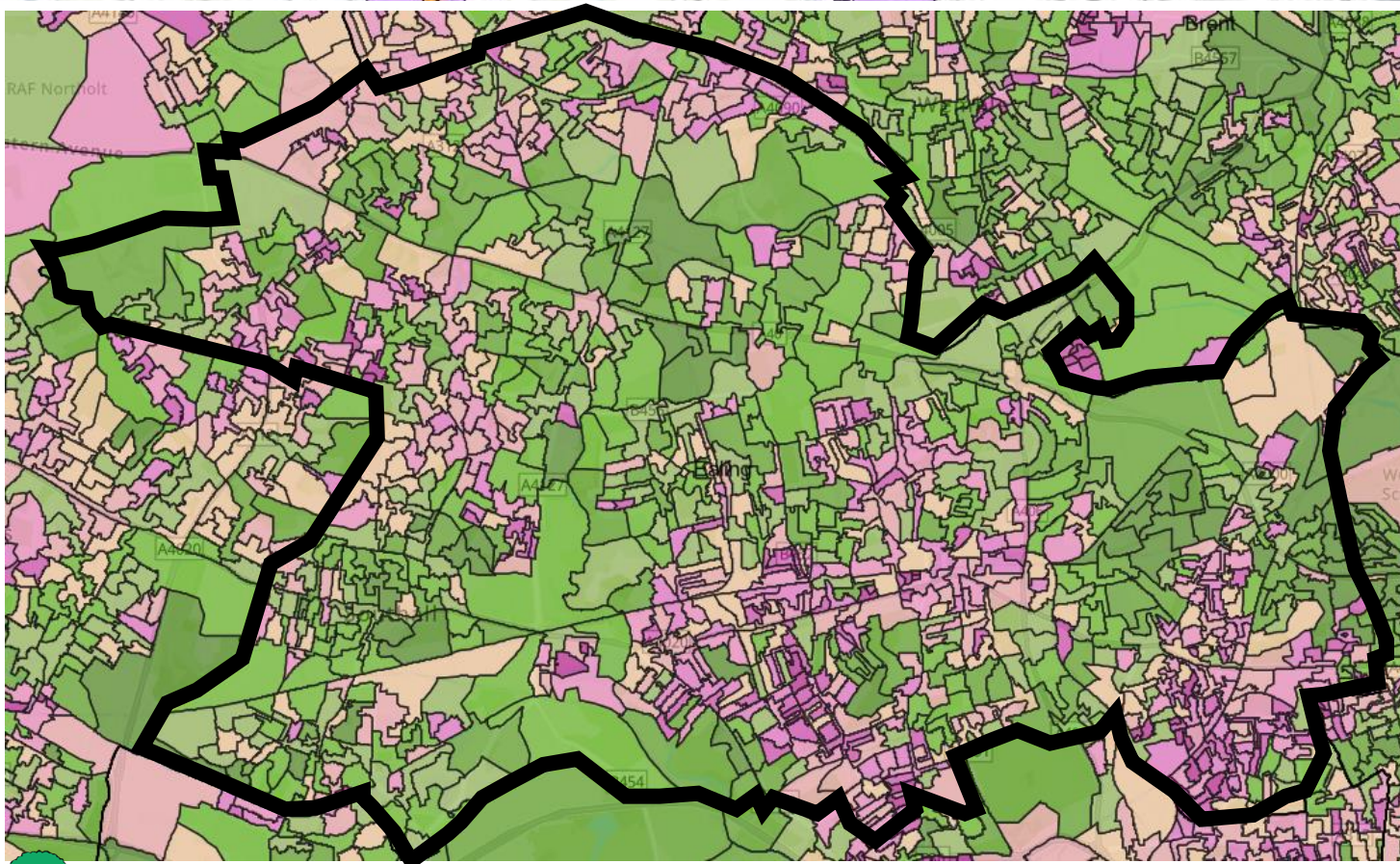


- EVCP\_Isochrones
- 2 minute walk
  - 5 minute walk
  - 10 minute walk

This map shows how far you will have to walk to the nearest charge point if you live in Ealing. As can be seen in the key, all areas in yellow are within a 2-minute walk, going up to purple represented as a 10-minute walk. Areas not shaded do not fit the criteria of being 10 minutes or under.

Ealing Council aims to ensure everyone on the borough is within a 10-minute walk of a charge point.

(Source: Ealing Council, Earthlight Mapping)



Residential Charging Index 2021

- RCI
- High Need
  - Low Need

This map shows the need for chargers in Ealing. It evaluates where there is likely to be early uptake of electric vehicles and where there is a lack of off-street parking. Areas in darker red have little to no off-street parking and would benefit from further charging provisions.

(Source: Nevis Mapping Geospatial Data<sup>[2]</sup>)



# Emerging technologies

## Cross-pavement home charging

Cross-pavement chargers, the most common type is referred to as a gully, present a way for people with no off-street parking to charge using their home supply. There are benefits to the resident for this, as currently the public charging network is subject to 20% VAT, whereas home charging is only 5%. This presents a cheaper option to charge an electric vehicle. Operating a gully can come with large install costs for the charge point, usually attached to your property and the gully itself; however, the government has recently announced a grant which should lessen this cost. There are also maintenance and insurance fees that could be associated with a gully that can diminish the cost benefit of the install.

There are several considerations and challenges that would need to be resolved to enable these types of charging. It is currently unknown what would be the impact if these solutions were permitted widely. A situation could ensue where there is a gully every few metres along the footway, potentially rendering the pavement surface poor quality and inaccessible, especially for those who are visually impaired or rely on a walking stick, for example.

Currently the council, as highway authority, has legal responsibility to arrange and fund the maintenance of the footway and carriageways across the borough. In trials the arrangement of who has liability if there are any issues have varied. Some trials have stated the resident must have insurance that covers it, other highways authorities are charging a fee for maintenance, further adding to the financial burden of owning and operating a gully. More considerations and

responsibilities include:

- How utilities (gas, water, cable etc) connections and any street works are co-ordinated with the chargers and who is responsible for any repairs. Utility companies have substantial legal rights of access to conduct street works on the Public Highway to access their infrastructure. It would need to be agreed who is responsible for reinstating the gully should it be removed for street works.
- Who is responsible for decommissioning the gully at the end of its life.
- Providing and maintaining quality footways for pedestrians and wheeled users (wheelchairs and prams, etc)
- How access to EV users is maintained in a common parking area, which could include reserved bays for charging vehicles or other measures.

The trials that currently have results are not comprehensive enough to base any significant decisions on. Especially as these issues may only arise when scale is added.

The current understanding of the long-term impacts of gullies are unknown and the council will look to ongoing trials to inform the decision moving forward.

The council will continue to research this charging initiative with a view to reviewing its position when it undertakes its regular monitoring of the electric vehicle strategy.



The figure above shows a cross-pavement solution where a trench is dug into the pavement and a cable is laid to charge a vehicle<sup>[3]</sup>.

## Overhead Charging

Overhead charging is another type of cross pavement charging solution, where the cable is suspended above the pavement. An arm extends over the pavement, allowing drivers to charge their EVs while parked on the street without the need for significant modifications to the pavement.

While overhead charging eliminates the potential issues associated with pavement maintenance, its scalability and public realm implications remain uncertain. The installation of overhead chargers involves a private electric connection crossing into the public domain, raising questions about liability and regulatory compliance.



# Emerging technologies



The image above shows an overhead charger being utilised by an electric vehicle driver. Pedestrians are able to cross underneath the charger, and no physical alterations to the pavement are required<sup>[4]</sup>.

## Wireless Charging

Wireless charging is the transfer of power without cables. Wireless charging would potentially work just by driving the vehicle over a charging pad situated in the ground. Energy is sent through the pad in the ground, and this is picked up by a receiver in the car.

The potential benefits of wireless charging would be that no cables are required, and the council would potentially be able to limit the amount of street furniture that is added to the streetscape.

The image below shows a wireless vehicle charging trial that Volvo have been carrying out. The trial has been ongoing since 2022. The company is looking at the suitability of wireless charging for a taxi provider in the Nordic region<sup>[5]</sup>.



[4] ChargeArm (2024) <https://chargearm.com/en/>

[5] Volvo. (2022) Volvo Cars 17





# Forecasting Need

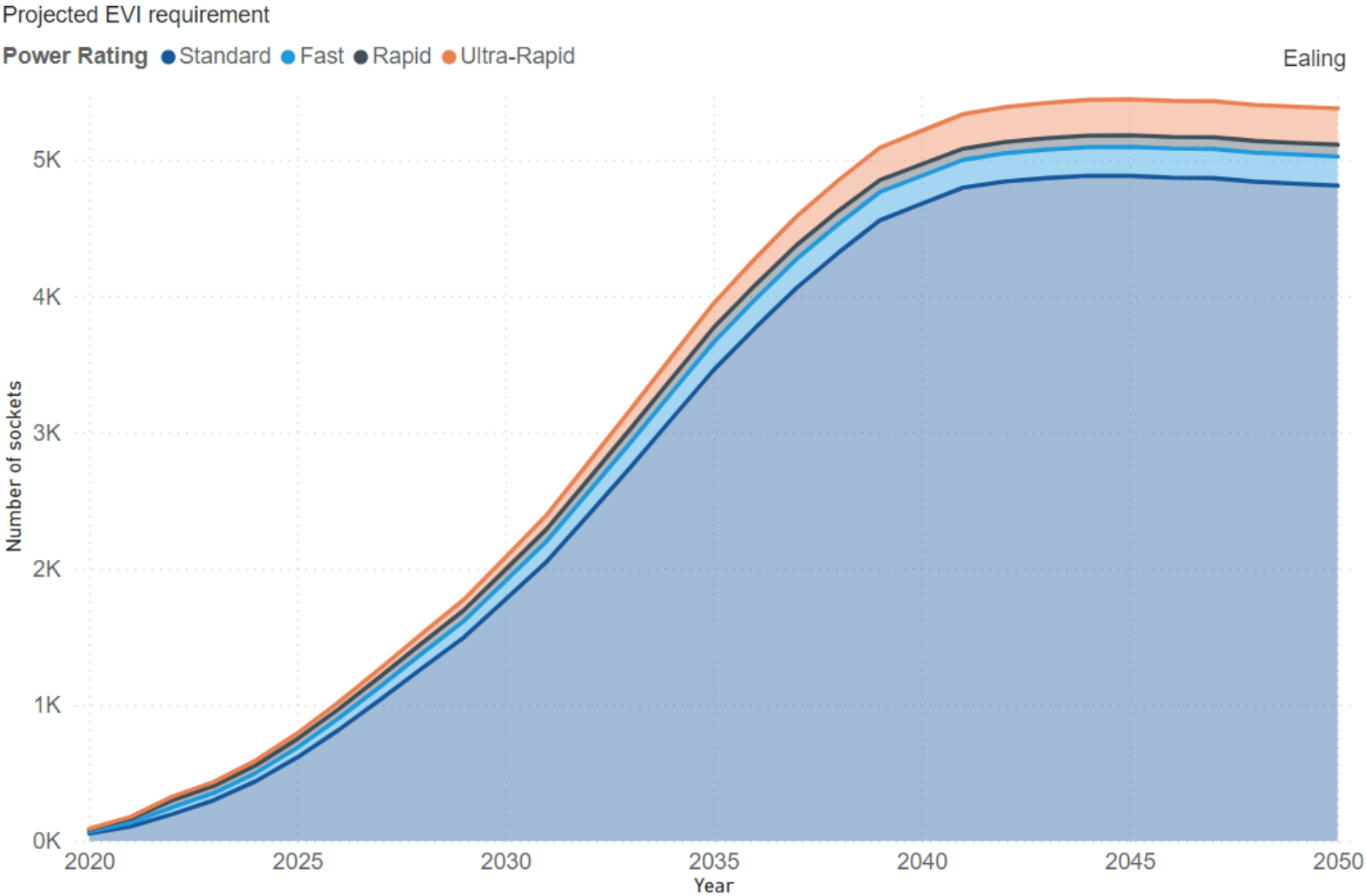


# Projected need

EV charging provision requires a longer-term plan, from 2025 to 2030 and beyond. Ealing Council has a target of 2,000 chargers in the borough by 2026, well ahead of projected need, which estimates the borough will need 2,450 chargers by 2030.

This strategy aims to expand and fortify EV charging infrastructure across Ealing’s diverse neighbourhoods and town centres, ensuring equitable access to charging facilities for all residents, regardless of their parking circumstances.

The LEVI funding, which will see implementation start in early 2026, will be used to roll out large numbers of standard power (below 7kW) chargers. This will support further equitable distribution and improve residents’ access to the lower cost charging solutions.



Last Updated: 02/11/2023

Ban on new ICE and PHEV Vehicles by 2035

Insights Toolkit - © Cenex 2023




The figure above shows the projected need of charge points looking at the 2035 ban on ICE vehicles<sup>[2]</sup>. This assumes that the greatest need is for standard chargers where people can charge slowly over a long period of time relatively cheaply.



# Targets and Action Plan







## Our 3 Aims

Objective	Description	Actions	Ongoing	Short-term	Medium-term	Long-term
1. Develop a reliable and accessible network of public charge points  	At the council we will continue to expand the network of publicly available on-street chargepoints, therefore residents can easily charge their electric vehicle	Ensure the number of chargepoints meets forecasted need by NEVIS in 2030		●		
		Ensure the council are maximising the number of charge points that meet accessibility guidelines	●			
		Engage with SSEN to make sure that the charge point network can continue to expand within the constraints of the Ealing grid capacity		●		
		Install charge points in locations which ensure that all residents are within a 5-minute walk of a charge point			●	
		Install a variety of charge points available for residents to use, including slow and fast.			●	
		Continue to investigate emerging technologies to ensure that our EV charging provision remains up-to-date		●		●
		Install charge points in council car parks				
2. Electrify the council fleet of vehicles  	The Council operated vehicles ranging from trucks of several tonnes to small cars.	Ensure that all council-owned vehicles transition to EVs aligned with the government requirement for decarbonisation.				●
		Transfer compliant vehicles to HVO fuel		●		
		Expand the number of charge points at Greenford Depot			●	
3. Ensure where possible new developments have EV charging in line with London Plan  	New developments and regeneration projects within Ealing should look to supply electric vehicle charging	London Planning laws dictate that new developments must make provisions for electric vehicle charging stations. Up to 40% of parking allocations must be able to connect an electric vehicle.	●			



## Our 4 Priorities

Objective	Description	Actions	Ongoing	Short-term	Medium-term	Long-term
1. Ensure that EVs fit appropriately into the transport hierarchy.  	Ealing's kerbside space is a valuable resource for cycling, walking and public transport. EV charging needs to fit alongside these modes.	Ensure alignment with the Ealing Transport Strategy to ensure that EV fit appropriately into the transport hierarchy.	●			
		Prioritise active modes of travel and use of public transport.	●			
		Ensure kerbside space is allocated accordingly, such that EV charging does not occupy required space for active and sustainable modes.	●			
2. Speak to residents about charge points  	Use the internal comms team to make sure that residents are aware of the impact that ICE cars are having and the benefits of switching to an EV	Work with internal communications to advertise what the council is doing to combat air pollution in the borough.	●			
		Easy to find information about EVs in Ealing and council support on website		●		
3. Ensure the council's procurement policy prioritises companies using electric vehicles or forms of active travel  	The council procures a number of companies to carry out tasks on its behalf. Using the procurement policy to influence suppliers to transition to electric vehicles.	Set a weighting to companies that use EVs or forms of active travel when procuring new services		●		
4. Periodically review this strategy  	The electric vehicle market is constantly changing. We must periodically review this strategy to ensure that all the targets are still relevant	Review the strategy in 2027-28 to ensure the distribution and types of charge points are up to date.		●		
		Review the emerging technologies within the EV market such as GUL-Es and Wireless charging. Emerging technology may change the direction of the charge point market if emerging technologies become the norm and improve the offering available.	●			

# Monitoring

## 1. Meeting Our Goals

We're working with our partners Cenex using their National EV Infrastructure Strategy (NEVIS) tool that shows how many charge points the borough is expected to need moving forward. We're tracking the number of charge points on street to make sure we align with it.

## 2. Keeping an Eye on Our Charging Network

We're already rolling out a network of EV charge points, working with trusted providers like Believ, Source, and Ubitricity. We want to see where the current demand is for these charge points.

### What We Track:

- **number of charge points.**
- **energy delivered:** we monitor how much electricity (measured in kWh) is being used at each charge point. This helps us understand how often people are charging and where demand is growing.
- **time in use:** we also look at how often charge points are occupied. However, lower-powered chargers might be in use a lot but deliver less energy overall.

## 3. Cutting Carbon: Saving CO2 with Every Charge

Switching to electric vehicles is great for the environment, and we're tracking just how much CO<sub>2</sub> we're saving by converting the electricity used at our charge points into real-world carbon reductions. It's all part of our plan to make Ealing greener and cleaner.

## 4. Fair and Easy Access: Charging for Everyone

We believe everyone should have easy access to a charge point, no matter where they live in Ealing. To make sure this happens,

we're mapping out where our charge points are and where more are needed.

### How We Do It:

- **walking distance:** we analyse how far you'd need to walk to reach a charge point from your home, looking at 10-minute, 5-minute, and even 3-minute walking distances. If there's a gap, we're working to fill it—especially in areas where on-street parking is common and a nearby charge point is a must.
- **expanding coverage:** based on our analysis, we're adding more charge points where they're needed most. This way, no one is left without a convenient place to charge.

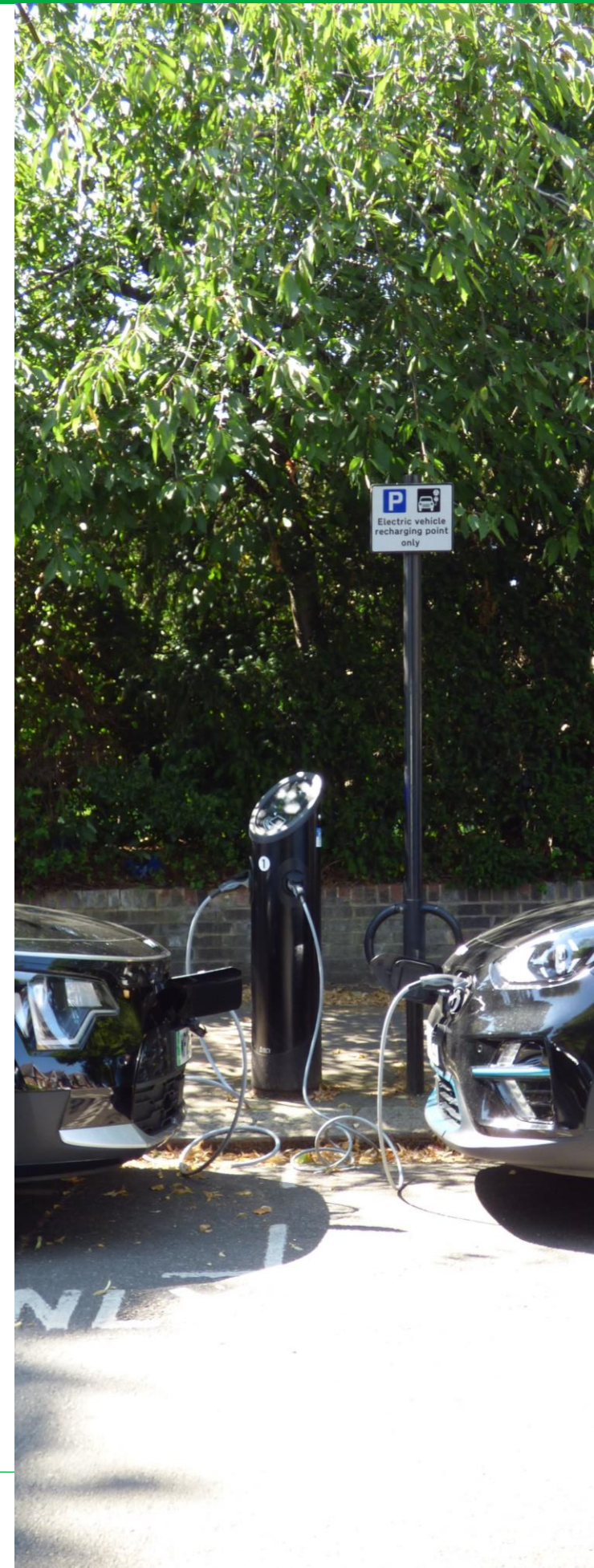
## 5. Working Together: A Borough-Wide Effort

Making EV charging easy and accessible takes teamwork. That's why we're collaborating across the council to ensure that every new development includes EV charge points, and that our own vehicle fleet goes electric too.

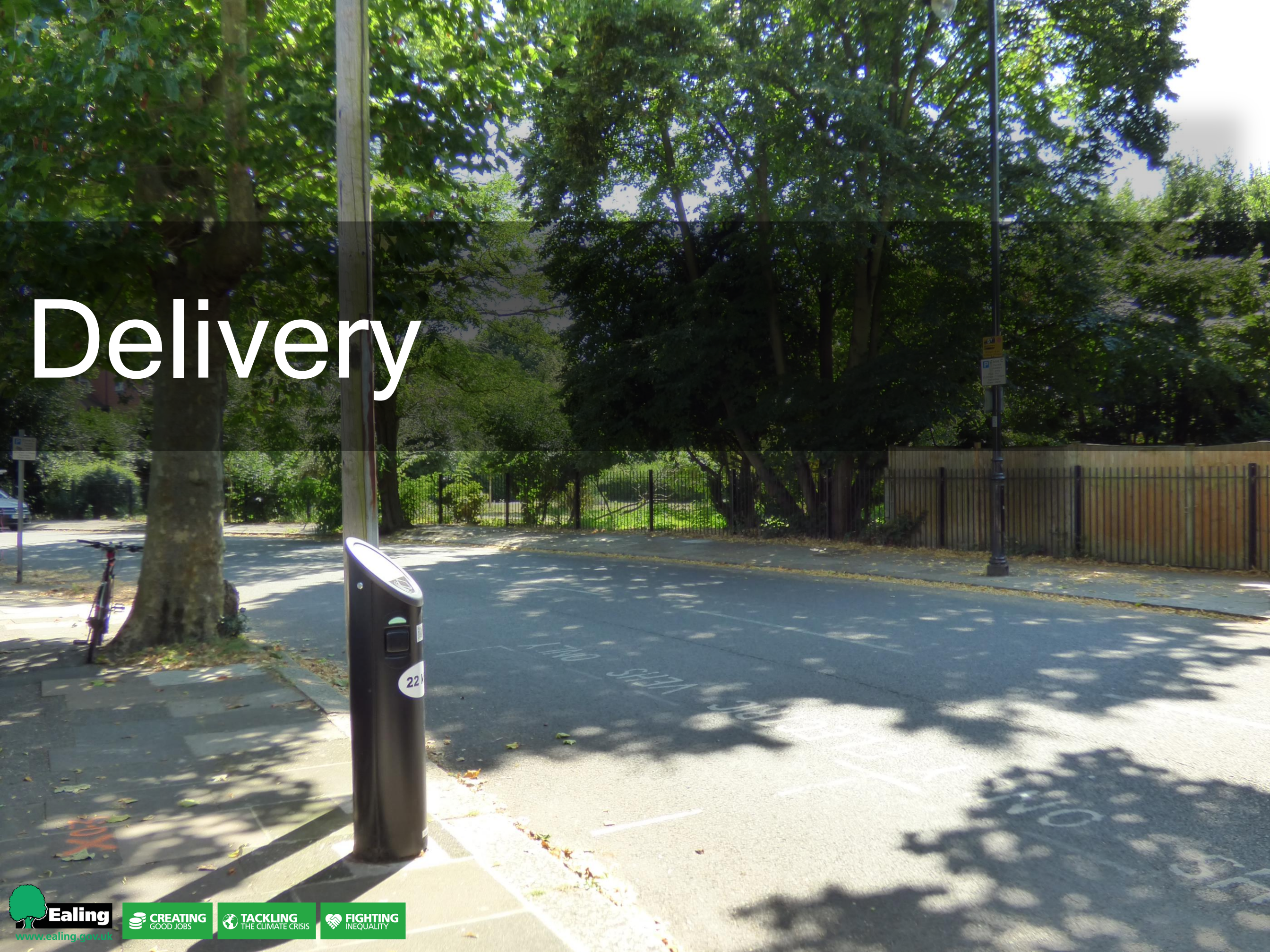
- **New Developments:** Ensuring that all new developments incorporate EV charge points as part of their planning requirements.
- **Fleet Electrification:** We will continue to transition the council's vehicle fleet to electric, leading by example in the adoption of sustainable practices.
- **Regular Reviews:** The strategy will undergo periodic reviews to adapt to evolving council ambitions, technological advancements, and changing community needs.

## 6. Listening to You: Community Engagement

Your feedback is vital. We're listening to what you have to say about EV charging in Ealing and making changes based on your input.







# Delivery



# How we'll deliver a reliable public charging network

## 1. Maximising the Use of Lamp Columns for On-Street Charging:

**Strategy:** Capitalise on existing lamp columns as the primary means for on-street charging infrastructure. Lamp columns are particularly well-suited for residential areas, providing convenient access to charging facilities for residents without the need for additional street furniture.

### How we'll do this:

- Conduct a borough-wide assessment to identify lamp columns suitable for conversion into charge points. Focus initially on areas with high residential density and a growing number of EV users.
- In high-demand areas, explore the feasibility of installing multiple charge points on the same street, enhancing availability and reducing competition for charging spots.

## 2. Strategic Deployment of Pedestal Charge Points:

**Strategy:** Where lamp column installation is not feasible, pedestal charge points will be deployed. These installations will be designed with a focus on maintaining pedestrian access, using build-outs where necessary to preserve the width and accessibility of pavements.

### How we'll do this:

- Identify key locations where additional charging infrastructure is necessary but where lamp columns cannot be utilised (such as areas with narrow streets or heritage considerations) or where the balance of the current charging stock faster chargers are needed.
- Design and implement build-outs that incorporate pedestal charge points without encroaching on pedestrian pathways, ensuring that all installations adhere to accessibility standards.

## 3. Commitment to Accessibility:

**Strategy:** Maintain and enhance the accessibility of pavements by avoiding the unnecessary addition of street furniture. This aligns with the council's broader goals of promoting walking, wheeling, and other forms of active transport.

### How we'll do this:

- Identify suitable car parks and other strategic locations for installing charge points that fully comply with PAS 1899, ensuring that charging solutions are available for all residents, including those with disabilities.

## 4. Ensuring Borough-Wide Coverage:

**Strategy:** Work towards ensuring that all residents live within a 5-minute walk of an EV charge point, creating a network that is both equitable and accessible across the borough.

### How we'll do this:

- Map the current distribution of charge points and identify gaps, particularly in under-served areas that may have less access to charging infrastructure. (Page 15)
- Develop a phased deployment plan that targets these gaps, with an initial focus on areas with the greatest need and the highest projected growth in EV adoption.

This will deliver a well-distributed network of charge points that provides equitable access across the borough, reducing disparities and fostering greater confidence among residents to switch to EVs.

## 5. Future-Proofing the Charging Infrastructure:

**Strategy:** Design a sustainable and scalable charging network that can accommodate the projected increase in EV users through 2030 and beyond, ensuring that the borough is prepared for the long-term transition to EVs.

## How we'll do this:

- Use our robust monitoring system to track usage patterns, charge point performance, and resident feedback, enabling ongoing optimisation of the network.
- Plan for future scalability by incorporating flexible charging solutions that can be easily upgraded or expanded as demand increases.
- Engage with industry experts, technology providers, and other municipalities to stay informed about emerging trends and innovations in EV infrastructure, ensuring that the borough's network remains cutting-edge.
- Secure long-term funding and partnerships to support the continued expansion and maintenance of the charging network, including potential collaborations with private sector partners.

This will result in a future-ready EV charging network that not only meets the demands of today but is also adaptable to future needs, positioning the borough as a leader in sustainable urban mobility.

The council are not the only ones installing charge points in Ealing. Private companies are installing charge points. Private companies are looking to install charge points in supermarket car parks or creating charging hubs.

The council is not responsible for the delivery of these charge points but will continue to engage with operators, developers and other partners.



# Ensuring Ealing has an accessible network

PAS 1899 delves into specific requirements across various aspects of EV charging, aiming for inclusivity and ease of use for all. The key requirements include:

## Physical Environment:

**Minimum space:** Sufficient space around the charging unit to allow users in wheelchairs or with mobility aids to comfortably manoeuvre and access the charging point from both sides of the vehicle. This includes space for opening doors fully and transferring from a wheelchair to the vehicle seat.

**Ground level:** The charging point and surrounding area should be level and free from obstacles, ensuring a smooth and safe transition for users with mobility limitations.

**Dropped kerbs:** Ramps or lowered kerbs must be provided to allow easy access from the street level to the charging point area.

**Ground surface:** The surface should be firm, slip-resistant, and even, to ensure safe navigation for all users, including those with mobility aids.

## Placement of Charging Units:

**Reach:** The charging unit, including the connector and any cable management system, should be positioned at a reachable height for users of different heights, both standing and seated. This caters to individuals with short stature, those using wheelchairs, and people who might have difficulty reaching overhead.

**Manoeuvrability:** The placement of charging units

should allow for adequate space for users to manoeuvre around the vehicle with ease, considering the turning radius of wheelchairs and other mobility aids.

## Information Provision:

**Clear signage:** Easy-to-understand signage with appropriate contrast and font size should be displayed, providing information about the charge point's status, availability, and instructions for use.

**Audible instructions:** Audio announcements or voice guidance systems should be incorporated to assist visually impaired users with information like charging status and payment instructions.

**Multilingual support:** In areas with diverse demographics, signage and instructions should be available in multiple languages to ensure inclusivity.

## Design of Charging Units:

**Connector location:** The charging connector should be positioned at an appropriate height for users to easily plug and unplug the cable, considering both standing and seated positions.

**Emergency stop button:** A readily accessible emergency stop button should be present on the charging unit for users to deactivate charging in case of any issues.

**Payment terminals:** Payment terminals, if present, should be designed to be accessible to users with different abilities, including those in wheelchairs or

with limited dexterity. This might involve features like lowered keypad placement, touch screen options, and alternative payment methods like contactless payment.

The council will not be able to make every EV charging space to the PAS requirements due to the nature of the surrounding environment but will aim to maximise where we can.





# Delivery Models for EV Charging Installation

Funding plays a critical role in the successful implementation of electric vehicle (EV) charge point infrastructure across the borough. Historically, the council has leveraged external funding sources to finance these projects.

Two key funding streams have been:

- Go Ultra Low City Scheme (GULCS), provided through Transport for London (TfL),
- On-Street Residential Chargepoint Scheme (ORCS), managed by the Office for Zero Emission Vehicles (OZEV).

The GULCS scheme enabled the installation of on-street charge points, resulting in the deployment of 120 lamp-post chargers across the borough. The ORCS scheme supported the installation of charge points ranging from 7kW to 22kW. These grant schemes have been pivotal to establishing the early Ealing network.

In recent years, EV charging funding options have diversified, with concession contracts, public-private partnership models, and other options in the mix. Ealing now partners with the charge point operator Believ, to continue expanding our on-street charging network, delivering infrastructure while minimising public expenditure.

In addition to public infrastructure, private sector funding has also played a role, with charge points being installed in supermarkets and car parks across the borough.

Looking ahead, the council aims to explore further

grant funding opportunities, with a key focus on the upcoming Local Electric Vehicle Infrastructure (LEVI) fund, which could provide a significant boost to future installation efforts. The Council will also explore other potential delivery models, keeping abreast of developments in this area.

## LEVI Funding

The Local Electric Vehicle Infrastructure (LEVI) fund will be a key enabler of charge point delivery from 2025 to 2030. The latest pot of funding is designed to expand the number of charge points 22KWs and below, mainly 5-7kW lamp column chargers.

The funding comprises:

- Capital funding to support charge point delivery
- Capability funding to ensure that local authorities have the staff and capability to plan and deliver charging infrastructure.

The funding aims to:

- Deliver a step-change in the deployment of local, primarily low power, on-street charging infrastructure across England
- Accelerate the commercialisation of, and investment in, the local charging infrastructure sector.

LEVI funding is distributed as part of a partnership with other boroughs. Ealing are part of London Partnership 6, which also includes Brent, Hammersmith & Fulham,

Haringey, Harrow and Hillingdon.

## Other Funding Models

The EV charging market is rapidly evolving, and opportunities for delivery are likely to change significantly between 2025 and 2030. Some emerging delivery options to date have included:

- Leveraging private finance through capital loans, in order to fund public charging infrastructure
- Partnering with stakeholders whose employees require access to charging
- Local authorities assuming the risk and ownership of EV charging, becoming their own charging providers
- Securing S106 contributions to EV charging

Delivery of charging on private land will also be key to 2030 and beyond, including in car parks, workplaces and housing developments. The Council will continue to work with its partners to secure good-quality charging options on privately-owned sites.



## Delivery for our Fleet

While we remain dedicated to making our fleet fully electric, we are currently navigating a few challenges. Our team is prioritising the conversion of all fuel sources to Hydrotreated Vegetable Oil (HVO) as quickly as possible, which would significantly cut down on emissions. HVO can reduce greenhouse gas emissions by up to 90% compared to conventional diesel and is derived from renewable sources like waste oils. Its clean-burning qualities mean it releases far fewer particulates and harmful pollutants, improving air quality as well<sup>[1]</sup>. NOx levels can also be reduced by 28%, NOx is the harmful irritant which cause inflammation of the airways at local level, extremely harmful gas which causes difficulties in breathing especially within the young and elderly age groups.

However, financial limitations are currently hindering a full transition, especially for our essential heavy-duty vehicles used for services like waste collection. Additionally, grid limitations at the Greenford depot are restricting the installation of additional charge points, which we're actively working to resolve.

We are exploring grants and other available funding options to overcome these obstacles.

In the meantime, as vehicles in our current fleet reach the end of their service life, we plan to replace them with models that can be transitioned to electric wherever possible. Since there are emissions involved in manufacturing electric vehicles, it wouldn't be practical to replace the entire fleet at once. Electric vehicles (EVs) have a carbon "payback" period that reflects the time it takes for their overall carbon emissions to become lower than those of internal combustion engine (ICE) vehicles, despite the energy-intensive process of battery manufacturing. Generally, studies suggest this payback period is around 1.5 to 2 years of driving or about 21,300 miles for an electric car. After this break-even point, EVs continue to offer environmental benefits by producing lower lifetime emissions compared to ICE vehicles<sup>[2]</sup>. For this reason, our goal is to introduce electric vehicles at the earliest feasible opportunity.

We are also committed to expanding the number of charge points for council fleet use, allowing us to bring in more electric vehicles over time. Furthermore, we aim to stay informed of any emerging technologies that could help decarbonise our fleet faster than current projections.



[1] Lifecycle Emissions of Electric Cars vs. Gasoline

[2] [What Is Hvo Fuel?] Benefits Of Hvo Fuel - Suttons Group



# Risks

Risk	Description	Likelihood	Severity	Mitigation
Limited electrical grid capacity	Grid capacity within Ealing is currently stretched meaning that large infrastructure projects requiring connection to the local grid could be impacted.	5	4	Engagement with the DNO will help mitigate the risk. Also distributing the type of charge points that are installed across the borough. The lower KWh charge points that are suitable for overnight charging have less of an impact on the draw/ stress on the grid capacity. The strategy will set out to install more charge point on the lower end of the scale.
Lamp columns unsuitable for charging connections	Charge points are only suitable on certain lamp columns. This is impacted by the location on the footway and its capacity to increase the electricity to provide for the charge point.	4	3	Working with internal resources and appointed charge point operators we can identify which lamp columns are suitable for retrofit. The risk may escalate if works are unable to be carried out on enough lamp columns.
Issues applying for or implementing government funding	Ealing Council are currently undergoing an application for LEVI funding as mentioned earlier in the strategy. We are currently in stage 2 of this and working alongside partners in the public sector to ensure a robust application.	2	4	Ealing are currently working with Energy Saving Trust and London Councils to guide through the funding process for LEVI. This should help the Council secure funding to continue to install the lower-power chargers.
Change of policy direction	This can refer to policy on the national or local scale. Policies can determine the speed and/or the direction of travel towards low emission vehicles.	2	4	While this is unlikely as it accepted in the UK that something needs to be done to curb emissions. The team will work alongside the local elected councillors to understand the vision for Ealing to become healthier and more sustainable.
External market factors	The external market can bring about problems when it comes to electric vehicles. We have seen lately that electricity prices have risen due to external factors. EVs also rely on a lot of minerals and metals that need to be sourced worldwide.	3	4	The council will engage with CPOs to ensure that they are tracking and preparing for influences in the wider market. This will hopefully ensure that the supply chains the council relies on will continue to deliver charge points.



# Strategic Context



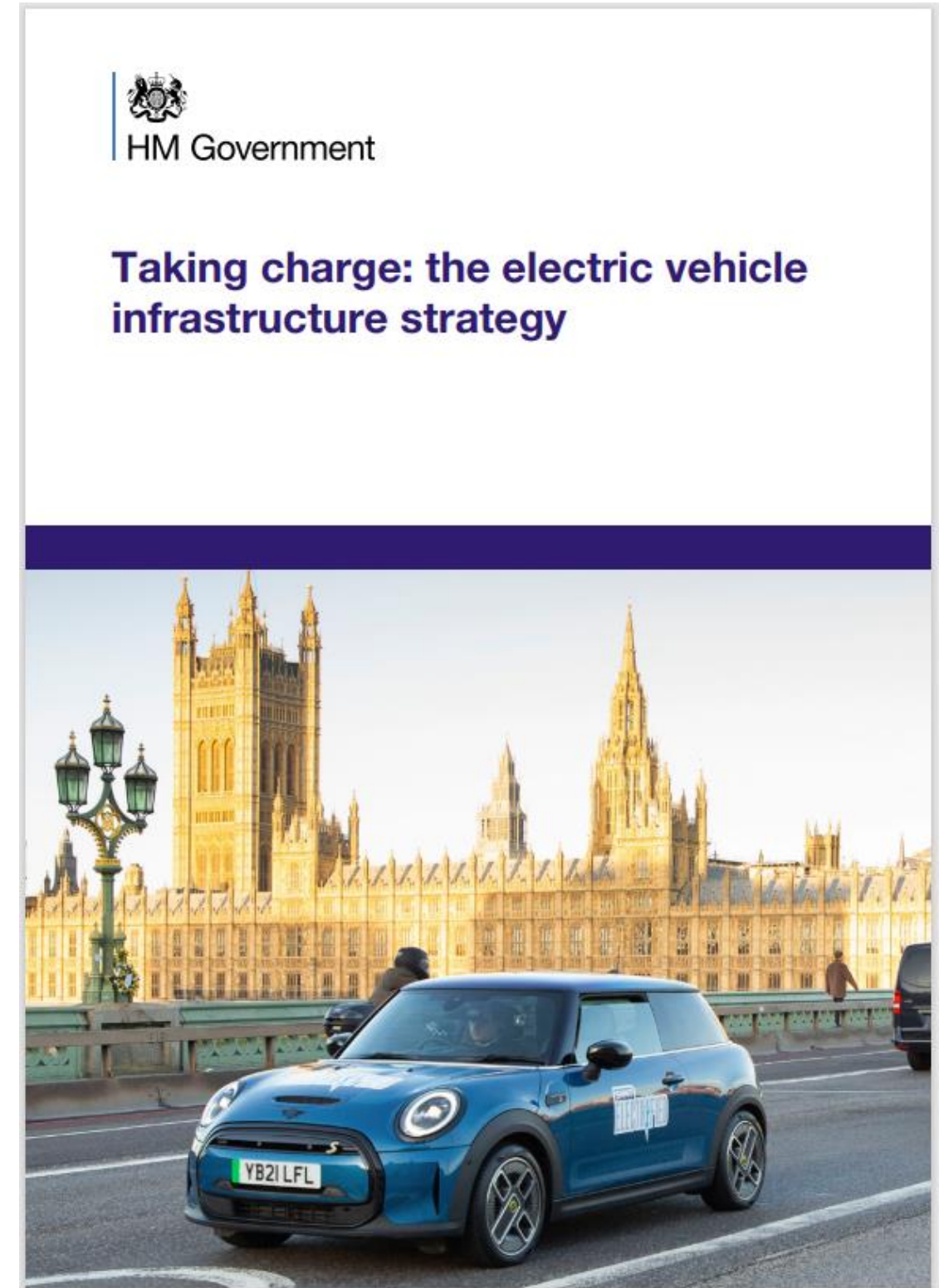


# Taking Charge: The national EV strategy

**Taking Charge** is a comprehensive strategy outlined by the UK government to accelerate the adoption of electric vehicles (EVs) by ensuring adequate charging infrastructure is in place. The strategy aims to create a network of charging points that is convenient, accessible, and reliable, addressing potential barriers to EV ownership.

## The key points to the strategy are:

- Expanding the charging network: Increasing the number of public chargepoints across the UK, especially in areas with limited access to off-street parking.
  - Improving charging experience: Enhancing the user experience by ensuring chargers are easy to find, use, and pay for. Supporting the transition: Providing incentives and support for businesses and individuals to invest in EV charging infrastructure.
  - Ensuring grid stability: Managing the impact of increased EV charging demand on the electricity grid.
- Home charging: Encouraging the installation of home chargers for off-street parking. Workplace charging: Promoting the provision of charging points in workplaces.
  - Public charging: Expanding the network of public chargepoints, including rapid chargers for long-distance journeys. To achieve these goals, the government has implemented various initiatives, such as: Investment in infrastructure: Allocating funding for the development of charging infrastructure.
  - Partnership with industry: Collaborating with businesses and organizations to accelerate the rollout of charging points. Regulatory framework: Establishing clear guidelines and standards for charging infrastructure.
  - Public awareness campaigns: Promoting the benefits of electric vehicles and addressing misconceptions.





# The Mayor's Transport Strategy

The Mayor of London's Transport Strategy emphasised several key points regarding electric vehicle charge points and electric vehicles:

1. **Expansion of Charging Infrastructure:**  
The strategy aimed to significantly expand the network of electric vehicle charge points across London to encourage and support the widespread adoption of electric vehicles.
2. **Improving Accessibility:** Focus on enhancing accessibility and convenience by installing charge points in various locations, including residential areas, workplaces, public parking facilities, shopping centres, and main transportation hubs.
3. **Promoting Zero-Emission Vehicles:**  
Encouragement of zero-emission vehicles like EVs to reduce air pollution and enhance air quality in the city, aligning with broader environmental goals.
4. **Support for Ultra-Low Emission Zones (ULEZ):** Ealing is now fully encompassed by ULEZ. Drivers of vehicles that don't meet emissions standards have to pay a cost for travel within the zone, therefore low carbon alternatives are incentivised.
5. **Partnerships and Incentives:**  
Collaboration with public and private stakeholders to facilitate the growth of EV infrastructure and potentially offer incentives or subsidies for EV purchases.
6. **Technological Advancements:**  
Embracing technological advancements to enhance the efficiency and capabilities of EVs, possibly exploring innovations like smart charging, vehicle-to-grid technology, or supporting the development of more efficient batteries.







# Next Steps



# Next Steps: Engagement and Publication

This strategy has been drafted using an evidence base which includes:

- Resident requests for charge points and gullies
- Resident feedback on consultations
- EV strategy workshop and review from Energy Saving Trust
- National EV Infrastructure training course for local authority officers
- Emerging good practice in EV strategy development from other London boroughs
- EV charging accessibility guidelines
- The NEVIS database of EV charging requirements and forecasting

We are now engaging on this draft strategy with key stakeholders, including:

- Residents
- Neighbouring boroughs, OPDC and West London Alliance
- Transport for London
- SSE, the district network operator
- Charge point operators

Proposed approach for Resident Engagement:

We are consulting residents across the borough via a website consultation, in tandem with a survey to learn more about residents' views on EV charging, which will help to shape the final strategy. The survey has been drafted to ask for residents' views whether they already own an EV, are thinking of making the switch, or are unfamiliar with EVs.

- The survey seeks residents' views on key concerns and hurdles around EV ownership and charging, our proposed network of chargers up to 2030, and what more we can do to encourage them to transition to an EV.
- This will be supported by including a link to the survey and the strategy in every site-specific EVCP consultation letter, encouraging residents to feed back on our overall proposals as well as specific installations.

## Publication

Following consultation, the strategy will be redrafted to ensure it captures stakeholders' views. It will then be published on the Ealing website as a constituent document of the Ealing Transport Strategy.





