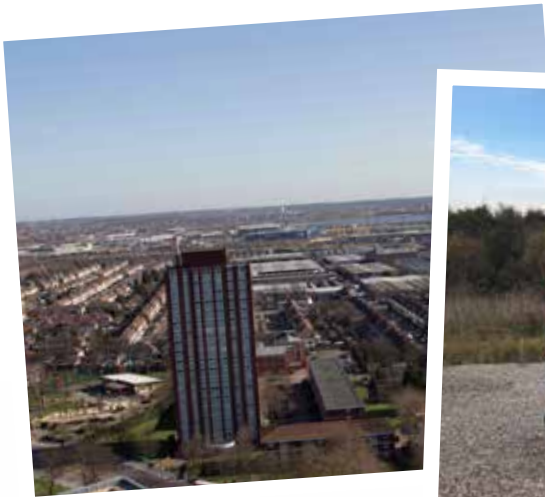


Planning Advice Note

Installing electric vehicle charging points

For Developers



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This advisory note is intended to be a technical guide to assist developers looking to install electric vehicle charging points (EVCP) in Haringey. The note aims to provide an overview of different technologies, minimum design specifications that the Council would normally expect to be met and good practice with regard to the provision of EVCPs.

Planning permission and other licences and consents may be required to install EVCPs. Where there is any doubt about whether EVCP proposals would require planning permission or any other licences and consents, advice should be sought from the Council's Planning Department (020 8489 1478) in the first instance. This note also provides an indication of what conditions and planning obligations may be sought by the Council in the event that planning permission is required.

Introduction

The guide aims to simplify the process of electric vehicle charging point (EVCP) provision. This planning guide is for developers submitting planning applications for new developments, which include EVCPs.

When assessing new developments the Council will have particular regard to:

- ➔ London Plan Policy 6.13 Parking states: developments in all parts of London must ensure that 1 in 5 spaces (both active and passive) provide an electrical charging point to encourage the uptake of electric vehicles;
 - 20% active and 20% passive parking spaces on residential developments
 - 20% active and 10% passive parking spaces for employees
 - 10% active and 10% passive parking spaces for visitors or shoppers
- ➔ Draft New London Plan Policy T6.1 states: all residential car parking spaces must provide infrastructure for electric or ultra-low emission vehicles. At least 20 per cent of spaces should have active charging facilities, with passive provision for all remaining spaces;
- ➔ Emerging Building Regulation (July 2019) recommendations for residential buildings, new non-residential buildings and for existing non-residential buildings.
 - Residential buildings: every building with an associated car parking space to have a charging point. This includes undergoing a material change of use to create a dwelling. Furthermore, every residential buildings undergoing major renovation with more than 10 car parking spaces to have cable routes for charging points in every car parking space.
 - New non-residential buildings: every new non-residential building and every non-residential undergoing a major renovation with more than 10 car parking spaces to have one charging point and cable routes for a charging point in one in five spaces.
 - Existing non-residential buildings: at least one charging point in existing non-residential buildings with more than 20 car parking spaces, applicable from 2025.
- ➔ Haringey's Ultra-Low Emission Vehicle Action Plan (2019-2029);
- ➔ This supplementary guidance.

If the application is in Wood Green, then the Council will in addition have regard to:

Draft Wood Green Area Action Plan Policy WG11 Transport which states 100 per cent of parking bays must be electrified with active charging facilities.

¹It should be noted that CAPEX costs change based on the location and electricity capacity in that area. Upgrading the local electricity infrastructure, or the need for a longer cable from the electricity supply to the charge point, will increase costs. The local electricity supplier will be able to provide an accurate cost with more detail.

Step 1. Assess what your charging needs are

The charging points you need will depend on the type of development you are building. There are three main types of charging points: standard, fast and rapid. The speed that vehicles can charge at is determined by how much electrical power (kW) the charging point delivers. A summary of charging technologies and their specification can be found in the table below.

Table 1. Charging technology specification

Charge term	Standard	Fast	Rapid		
Power transfer (approx.)	< 3.6 kW	< 7 kW	< 11 or 22 kW	< 43 kW	< 50 kW
	Single phase	Single phase	Three phase	Three phase	DC
Current	16A	32A	63A	120A	
Typical charging time (full)	8 – 12 hour	3 – 4 hour	1 – 2 hour	80% in 20 – 30 min	
User group	Residential or where car is parked for a long period of time	Destination hubs: retail outlets, visitor parking (domestic and non-domestic)	Delivery services, taxi ranks, car clubs		
Capital costs (approx.) ¹	> £500 (wall mounted)	> £6000	> £45000		
Operational costs	Electricity, rent, back office, maintenance, customer service, enforcement and lost parking revenue				

Standard (up to 3 kW)

Standard charging points (Figure 1) can be either wall or floor mounted. As the charging time for a full battery is 7-8 hours, it is best suited to overnight charging at home. Where residential parking spaces are provided, they should have standard charging points, as most users will charge their vehicles overnight. The number of users in a 24 hour would be low, with only one or two people per charging point.

Figure 1. Standard 3.6 kW charging unit. (Source: EV Compare)



Fast chargers

Fast chargers are suitable for destination charging, such as at visitor parking at workplaces and retail parking, due to the charging time of 3-4 hours for a full charge (Figure 2). In a day, 3 to 4 people can charge their cars.

Figure 2. Fast 7 kW charging unit. (Source: Source London)



Rapid chargers

Rapid charging units can charge a car to 80 per cent capacity within 30 minutes (Figure 3). These chargers are best suited for taxis, delivery services, commercial vehicles or company cars, who will need to recharge their batteries quickly. Rapid charging bays should therefore also have restrictions in place which limit users to a 1-hour stay.

Rapid charging units are larger than standard or fast chargers, and therefore have a greater impact on the local environment. Some rapid chargers require planning permission due to height, and in some cases, installations will require power supply upgrades. Under the Town and Country Planning Act (General Permitted Development) (England) Order 2015, planning permission is not required for charging points under 1.6 metres installed more than 2 metres from a highway. However, rapid chargers are typically taller than 1.6 metres and therefore planning permission is generally required for their installation.

Figure 3. Rapid charger (Source: Polar Network)



What are active and passive charging points?

Active spaces are fully wired and connected, ready to use, charging points at parking spaces. Passive provision is when the necessary underlying infrastructure (e.g. capacity in the connection to the local electricity distribution network and electricity distribution board, as well as cabling to parking spaces) is in place to ensure simple installation and activation of a charging point at a future date.

Considering active and passive charging is important when looking at the scalability of the technology and their costs. You may start with one or two chargers but as electric vehicle demand grows, you will need to install more. Installing some active and some passive charge points would allow you to be future-proof your company for future electric vehicle demand.

What are the benefits of smart charging?

A smart charging point can receive, process and react to information or signals, such as adjusting the rate of charge or discharge; transmit, monitor and record information such as energy consumption data; comply with requirements around security; and be accessed remotely. Smart features and automated software updates future-proofs your investment. The Automated and Electric Vehicles Act 2018 mandates out that all new charging points should be smart-capable.

Some developments will not have the electrical capacity to charge all electric vehicles at once. Power management through smart charging units means you can install more units than rated capacity and eliminate or significantly delay costly upgrades.

An increase in electric vehicle demand could increase peak demand on power distribution networks. This could require reinforcement of the local electricity grid which can be costly and time consuming. Smart charging allows you to control demand for electricity during a charging session and allows you to manage the network.

Step 2. Check you have the capacity for electric vehicle charging

To operate a charging point, a connection is made from the local electricity network to a feeder pillar. Electricity use is billed normally as part of the site's electricity supply.

The connection to the local electricity distribution network, the electricity distribution board within the development and any other necessary electricity supply infrastructure, should have sufficient capacity to enable all EV charging points to operate simultaneously at full power.

You may already have enough capacity in your connection to the local electricity network to accommodate EV charging. However, you can check your available capacity with UK Power Networks. They can also inform you of if you need to upgrade your local supply.

Where installing charging points may not be possible, you should seek to arrange the electricity supply for upcoming charging points to futureproof developments. Futureproofing is important because significant charging point deployment may require connection upgrades. It is cost-effective to do this at the time of installing rather than retrofitting later.

To connect to electricity supply, find out if your supply is adequate or if you need to upgrade your supply, contact UK Power Networks.

Step 3. Charging point installation

There are many charging point installers you can choose from. Contact different installers to decide on which technology and contract is best for you. Installers may also recommend which bays to install charging points and the positioning of infrastructure. Generally, having EV only bays closer to the building will maximise visibility and encourage people to buy an EV.

Bay designs and layout

Shared charging points can also be in either internal car parks (usually multi-storey) and external car parks.

Off-street charging points in external car parks can be floor mounted or wall mounted, shown in Figure 4. The charging points in internal car parks are mostly wall mounted as often the ground surface cannot be disturbed or there is limited depth to install foundations for surface mounted points. As a result, wall mounted points are generally more cost effective.

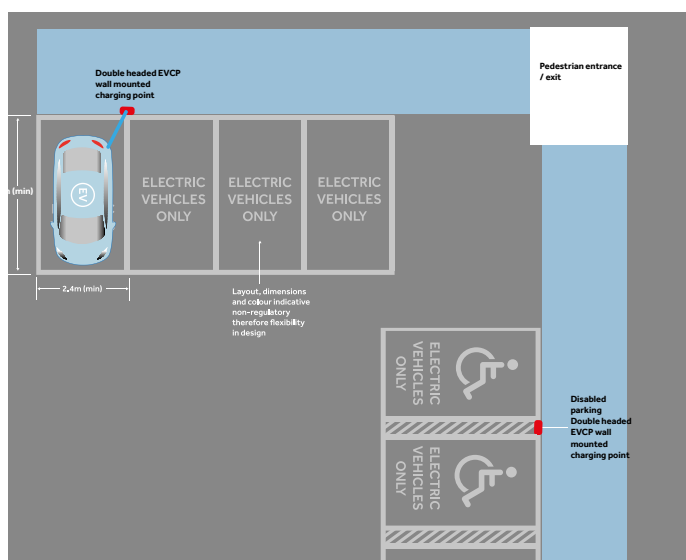


Figure 4. Off-street, internal car park layout.

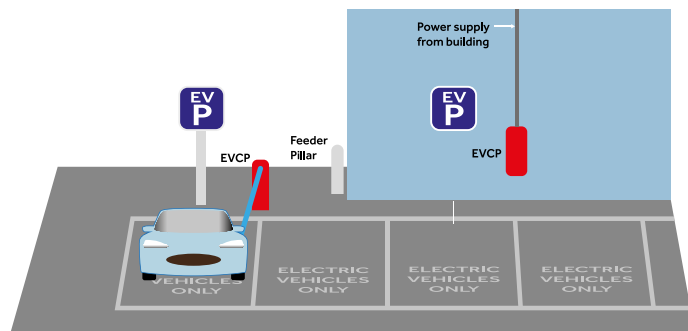


Figure 5. Off-street, external car park layout.

Figure 5 shows the layout of an external car park. Charging points can be either floor or wall mounted.

Installing rapid charging points

Bay design and layout principles are the same to standard and fast (7 kW and 22 kW, respectively) charging in car parks. Wider bays are recommended to accommodate thicker charging cables that are often associated with rapid charging units.


Management and maintenance

If your development falls outside of the Wood Green area, and you install the number of charging points based on London Plan policy which is 20% of parking spaces, you will need to develop a management plan. Things to consider:

- ➔ Who gets access to the charging points
- ➔ How the process is managed
- ➔ How residents will be able to grow the charging network
- ➔ How costs will be proportioned to users
- ➔ Do certain user groups (e.g. delivery services) get access?
- ➔ You will need to have a service level agreement with the charging point company to maintain the charging points and carry out scheduled checks on the equipment.

Good practice guidelines

These guidelines outline what is expected when delivering charging points. These apply to all those installing charging points in the borough.

Bay Layout	
Accessibility for people with disabilities	<p>The design of the EVCPs should comply with the Equality Act 2010, Disability Discrimination Act (DDA) 1995 guidelines and Department for Transport (DfT) Inclusive Mobility – a guide on best practice on access to pedestrian and transport infrastructure (May 2002) guidelines (p. 35 of 115).</p> <p>The design of the EVCPs shall permit compliance with the requirements of BS 8300:2009 and A1:2010 – Design of Buildings and their approaches to meet the needs of disabled people code of practice.</p> <p>EVCP units serving disabled bays should be positioned at a height and angle to allow wheelchair users access. Adequate space should be available on any footway for wheelchair users to navigate around the charging unit.</p>
Eliminate trip hazards	Care should be taken to prevent trip hazards from the charging cables. Avoid wall-mounted units where there is a pathway in between the charging point and the vehicle.
Signage	<p>For both electric vehicle and non-electric vehicle users to understand that the bay is reserved for those charging only, a clear sign with instructions should be located near the charging points.</p> 
Upload charging point locations to an online platform	If your charging points are publicly accessible, ensure the location of charging units are effectively and easily located. Locations of publicly available EVCPs can be uploaded to an online EVCP map, such as Zap Map.
Ongoing maintenance	Issues must be resolved and paid for. This is the responsibility of the charging infrastructure provider or their contracted service.

Standard conditions and legal requirements

EVCPs and cable-enabled points must be shown on the layout plan, or other forms of evidence of installation, for the Council to approve your planning application, but have to provide evidence of the install (photograph) or might ask for payment/contribution towards installation of charge point on the highway.

Standard conditions and legal requirements are found below.

<p>Where EV charge points are proposed but no details</p>	<p>Condition</p> <p>Details and location of the parking spaces equipped with active EVCP must be submitted prior to works commencing on site, including details which shall demonstrate that the development will deliver 20/100 per cent active ECVPs.</p> <p>The details shall include:</p> <ul style="list-style-type: none"> ➔ Location of active charge points ➔ Specification of charging equipment ➔ Operation/management strategy <p>Where 20% active points are proposed, with 80% passive point provision, the council will expect that a management plan for the charging points is set out. This will address:</p> <ul style="list-style-type: none"> ➔ Which parking bays will have active charging provision, including disabled parking bays; ➔ How charging point usage will be charged amongst users and non-users; ➔ Setting out the process users can go through to activate passive charging points; ➔ Electricity supply availability. The electricity supply should be already confirmed by UK Power Networks so that the supply does not need to be upgraded at a later date. <p>The development shall be completed in accordance with the approved details and retained in perpetuity.</p> <p>Prior to occupation, the application shall submit confirmation that the charging points are operational, with active provision.</p> <p>Reason: To comply with Haringey local policy SP:07 and DM31, and London Plan Policy 6.13.</p>
<p>Where EV charge points have been included in a development.</p> <p>According to London Plan Policy 6.13: 1 in 5 car spaces should be equipped with EV charge points.</p>	<p>Condition</p> <p>The development shall be completed in accordance with the approved electric vehicle charging details shown on plan and retained in perpetuity.</p> <p>Prior to occupation, the application shall submit confirmation that the charging points are operational,</p> <p>Reason: To comply with Haringey local policy SP:07 and DM31, and London Plan Policy 6.13.</p>

Further information

- ➔ Electric vehicles explained - Energy Saving Trust: <https://www.energysavingtrust.org.uk/transport/electric-vehicles>
- ➔ Guidance for implementation of electric vehicle charging infrastructure: First edition April 2010 – Transport for London: <http://content.tfl.gov.uk/electric-vehicle-charging-infrastructure-location-guidance-for-london.pdf>