

Electric Vehicle Charging Points for New Development

Guidance Note for Applicants - Update December 2018



Image: ROLEC EV home charging



Image: Pod-point
(Shared space EV
charging)

Image: Fast
charge floor
standing -
Chargemaster



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1 Introduction

1.1 Background

- 1.1.1 New development should seek to deliver high standards of sustainable design. Ensuring environmental sustainability is a key aim of planning policy and reducing emissions and impacts on air quality from new development forms part of this goal.
- 1.1.2 The use of electric vehicles is one measure for reducing emissions locally and therefore the provision of necessary infrastructure which promote the use of such vehicles is essential.
- 1.1.3 The UK market for Electric Vehicles (EV) has grown dramatically since 2010. This is mainly due to vehicle manufacturers offering a range of Plugin vehicles, several incentive support measures offered by the UK Government¹ and increasing public awareness of the impact of road transport emissions on the environment. Therefore, it is important that new development supports such measures.
- 1.1.4 In the UK – new registrations of plug-in cars increased from 3,500 in 2013 to more than 166,000 by August 2018.²
- 1.1.5 The Government confirmed in July 2017 that it will end the sale of all new conventional petrol and diesel cars and vans by 2040, as part of the plan to tackle air pollution³. The governments ‘Road to Zero Strategy’ July 2018, also sets out plans to enable a massive expansion of green infrastructure across the country, reduce emissions from the vehicles already on the UK’s roads, and drive the uptake of zero emission cars, vans and trucks.⁴
- 1.1.6 The purpose of this guidance note is to provide information and advice to developers on how the Local Planning Authority would wish to secure the provision of necessary electric vehicle charging point infrastructure as part of residential and commercial developments.

¹ Government committed to reducing carbon emissions from transport and aims for nearly all cars and vans to be zero emission by 2050. <https://www.gov.uk/government/organisations/office-for-low-emission-vehicles>

² Electric car market statistics <http://www.nextgreencar.com/electric-cars/statistics/>

³ <https://www.gov.uk/government/news/plan-for-roadside-no2-concentrations-published>

⁴ Government launches Road to Zero Strategy <https://www.gov.uk/government/news/government-launches-road-to-zero-strategy-to-lead-the-world-in-zero-emission-vehicle-technology>

1.2 EV benefits

- 1.2.1 Electric vehicles have zero 'tail pipe' emissions, helping to reduce greenhouse gases, (dependent on power supply source), in the UK and aid the government in meeting its 80% CO₂ reduction targets by 2050.
- 1.2.2 Electric vehicles also have many benefits for owners including lower fuel costs, no road tax and no congestion charge.

2 Tunbridge Wells Borough EV Charging Network

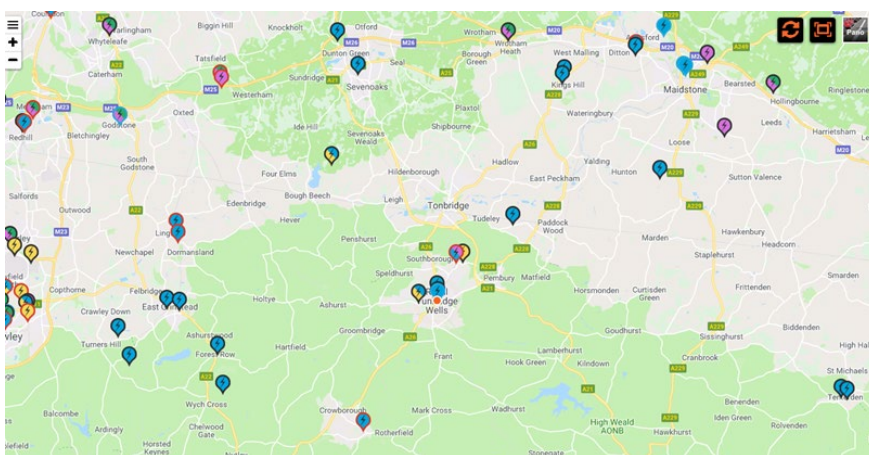
2.1.1 Publicly available charging points are provided at the following locations in Tunbridge Wells borough, all of which are in Tunbridge Wells:

- Great Hall Car Park, Mount Pleasant Avenue
- Crescent Road Car Park, Crescent Road
- Asda Supermarket, Longfield Road
- Yew Tree Car Park (coming soon)

2.1.2 In neighbouring boroughs there are charging points in the following locations:

- Crowborough
- Tenterden
- East Grinstead

2.1.3 The map below shows the publicly accessible EV network as of May 2018.



Extract taken from 'ZapMap' website⁵.

⁵ <https://www.zap-map.com/>

2.14 Increasingly private EV charging points are being provided within new developments throughout the Borough.

3 Planning Policy Context

3.1 National Policy

3.1.1 The National Planning Policy Framework (NPPF) was published by the Government in March 2012 and sets national planning policy for England.

3.1.2 Paragraph 35 states:

“plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people” and that developments should be “designed where practical to incorporate facilities for charging and plug-in and other ultra-low emission vehicles”.

3.1.3 Further support is provided under paragraph 124 of the Framework which states:

“planning policies should sustain compliance with, and contribute towards, EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas”.

3.1.4 The Town and Country Planning (General Permitted development) (Amendment) (England) Order 2015 has introduced permitted development rights for electric vehicle charging points in off-street public and private car parking areas.

3.2 Local Policy

3.2.1 Core Policy 5 of the TWBC Core Strategy (2010) has the most relevance to this topic in that it states:

“All new development will be expected to ... manage, and seek to reduce, air, light, soil and noise pollution levels”.

3.2.2 In addition to this, and in relation the development in Southborough, Core Policy 10 of the TWBC Core Strategy (2010) states:

“measures to improve air quality within the Air Quality Management Area will be investigated and pursued and must be taken into account when considering development within this area”

3.2.3 Policy EN1 (1) of the TWBC Local Plan (2006) states:

“The nature and intensity of the proposed use would be compatible with neighbouring uses and would not cause significant harm to the amenities or character of the area in terms of noise, vibration, smell, safety or health impacts, or excessive traffic generation”

- 3.2.4 The Local Plan also contains numerous references to improving the parking and transport network in chapter 11 (Policies beginning TP).
- 3.2.5 An Air Quality SPD is currently being prepared and a new Local Plan containing revised development management policies is also under development, with expected examination towards the end of 2018. This advice note will be updated as each of these local policy documents is progressed.

4 Supporting the EV Charge Network

4.1 General Requirements

- 4.1.1 There are a number of options available in the UK for the charging of electric vehicles. Consideration needs to be given to location and purpose, vehicle type, required speed of charge, future proof and long-term interoperability and UK wiring regulations. Appendix 1 provides an overview (2017 data) only of available Electric Vehicle Charge Point (EVCP) technology and requirements.
- 4.1.2 Due to rapid technological change in terms of EV charging infrastructure development, developers are required to review latest available information and consult with the Local Planning Authority.
- 4.1.3 It is expected that all electric vehicle charging point installations comply with the ‘Code of Practice for Electric Vehicle Charging Equipment Installation’ written by IET Standards (<http://www.theiet.org/resources/standards/ev-cop.cfm>) or with the equivalent most up to date guidance note.
- 4.1.4 The following two guidance documents are relevant to developers:
- ‘A Guide to Electric Vehicle Infrastructure’ by BEAMA (2015), or the equivalent most up to date copy (www.beama.org.uk)
 - ‘Making the right connections general procurement guidance for electric vehicle charge points’ by the UK Electric Vehicle Supply Equipment Association (www.ukevse.org.uk)

4.2 Recommended Standard for TWBC

4.2.1 Table 1 below details the requirements expected of developers regarding provision of EV charging infrastructure. The requirements apply to major developments only.

4.2.2 The requirements are based upon advice from the Kent Supplementary Planning Guidance (2016) and experiences of other planning authorities such as Lancaster County Council and the West Midlands, including discussions with, EV charge providers and experience from previous developments locally, including discussions with developers.

Table 1. Minimum EV charging requirements for different types of major development⁶

Type of Major(3) Development		Requirement
Residential	Houses with garages and / or driveway parking	Each dwelling with garage or driveway to be provided with charging cabling to a dedicated socket fixed to the house or garage, of sufficient capacity to enable as a minimum Mode 3 at 3.7 kW (16A), or 7.4kW (32A). ⁷ If applicable and as agreed with the Local Planning Authority 10% of all dwellings shall also have EV charge points fitted ready for first occupation of the dwelling. The allocation of the EV charge points will be for the developer to decide with future occupiers.
	----- Houses with private allocated off-curtilage parking	----- As below for flats with allocated parking
	----- Houses with private non-allocated off-curtilage parking	----- As below for flats with non-allocated parking
	----- Flats with unallocated external parking	Cablings to all spaces where practical to allow for future installation of charging points. Cabling shall be of sufficient capacity to enable as a minimum Mode 3, 7.4kW (32A) single phase or 22kW (32A) three phase, charging. In addition an electric vehicle charging* point to be provided per 10 spaces, as agreed with the Local Planning Authority. As a minimum a visitor space shall be provided with an EV charge point.
----- Flats with unallocated basement or undercroft	----- Cabling and dedicated socket to all spaces that adjoin a wall to allow for future installation of charging points	

⁶ A major development is defined as:

- residential development of 10 or more dwellings or if outline 0.5ha or greater site area
- non residential development is defined as 1000m² or greater, or a site area of 1ha or greater

⁷ 'A Guide to Electric Vehicle Infrastructure' by BEAMA (2015),(www.beama.org.uk)

	<p>parking</p> <p>-----</p> <p>Flats with allocated external parking</p> <p>-----</p> <p>Flats with allocated basement or 'undercroft' parking</p>	<p>of sufficient capacity to enable Mode 3, 7.4kW (32A) single phase or 22kW (32A) three phase, charging. It may also be appropriate to provide ducting to all other spaces to enable cabling to be provided in the future.</p> <p>In addition an electric vehicle charging* point to be provided per 10 spaces, as agreed with the Local Planning Authority. As a minimum a visitor space shall be provided with an EV charge point.</p> <p>-----</p> <p>Cabling to all spaces where practical to allow for future installation of charging points and of sufficient capacity to enable as a minimum Mode 3 at 3.7 kW (16A) or 7.4kW (32A).</p> <p>If applicable and as agreed with the Local Planning Authority 10% of all dwellings shall also have EV charge points fitted ready for first occupation of the dwelling. The allocation of the EV charge points will be for the developer to decide with future occupiers. As a minimum a visitor space shall be provided with an EV charge point.</p> <p>-----</p> <p>Cabling and dedicated socket to all spaces that adjoin a wall to allow for future installation of charging points at occupier's discretion. Cabling must be of sufficient capacity to enable Mode 3 at 3.7 kW (16A) or 7.4kW (32A).</p> <p>If applicable and as agreed with the Local Planning Authority 10% of all dwellings shall also have EV charge points fitted ready for first occupation of the dwelling. The allocation of the EV charge points will be for the developer to decide with future occupiers. As a minimum a visitor space shall be provided with an EV charge point.</p>
<p>Commercial/ Retail/Industrial</p>	<p>Double parking bay marked out for use by electric vehicles only per 10 spaces together with the provision of an electric vehicle double charge point* (this may be phased with 5% provision initially and the remainder at an agreed trigger level).</p> <p>Type of charging equipment provided to be agreed with the Local Planning Authority and is dependent on end use requirement. Appropriate capacity may include Mode 3, 7.4kW (32A) single phase, or 22kW (32A) three phase and in certain situations Mode 4 rapid charging may be required.</p> <p>For workplace-daytime, slow charge, 16 amp 3.7 kW, single phase power supply may be adequate.</p>	

	<p>However, for shared spaces and visitor spaces Mode 3, 7.4kW (32A) single phase will be required.</p>
Public Car Parks	<p>Number and type of charging including support towards ongoing maintenance provision and back office function, to be agreed with the Local Planning Authority. It is anticipated that as a minimum Mode 3, 7.4kW (32A) single phase, or 22kW (32A) three phase will be required.</p> <p>Charging equipment installed by the developer shall include a complete maintenance/service package options including a back office Charge Point Management System (CPMS) for a minimum of 5 years.</p> <p>The type of charging equipment to be supplied will depend on how long cars are typically parked in the car park.</p> <p>Firmware compliance with Open Charge Point Protocol (OCPP), including options for 'Pay as You Go'.</p> <p>In terms of instant access, without pre-registration, all public access charge points must have this functionality either via downloading an APP on the spot, pay to use telephone number or calling the call centre for authorised access.</p> <p>Additional costs such as marking out bays, making orders etc. shall also be covered by the developer.</p>
On street charging on public highway	<p>Should on street EV charging be provided, additional costs to be covered will include Traffic Regulation orders (TRO's), lining/signing etc. This should be included as part of the developers application to the Highways Authority.</p> <p>The LPA shall be consulted in conjunction with parking services and the Highways authority prior to any on street charging on the public highway being agreed to.</p>
Mixed Use	<p>Combination of above requirements depending on proportion of uses to be agreed with Local Authority.</p>
Future Proof	<p>To prepare for increased demand in the future, appropriate installation of groundwork/passive wiring cable/ ducting and capacity provision shall be included in addition to the standard scheme requirements in agreement with the Local Planning Authority.</p> <p>Available power supply should be sufficient to enable future upgrade to multiple units. E.g. '100 amps three</p>

	phase three power supply, there will be enough power to eventually install five single phase 64 amp charge points.'
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Good practice to install a double charge point. See appendix 1 for further information.

- 4.2.3 All technology used shall be the best available at the time of planning approval and to be agreed with the Local Planning Authority, see Appendix 1 for further general information.
- 4.2.4 The minimum number of charge points required will change as demand increases.
- 4.2.5 Information regarding EV charging provision, capacity and future-proofing cabling/ducting, including opportunities for network upgrades to accommodate increased demand shall be included in all marketing material, 'Welcome packs' and Travel Plans.
- 4.2.6 Charge point equipment and the management/maintenance of shall remain the responsibility of the developer and/or the facilities management company/owners of the site.
- 4.2.7 The Local Authority will only take responsibility, were this has been specifically agreed in advance, for EV charge units located in public car parks that are owned/managed by the Local Authority.
- 4.2.8 For minor developments the developer shall be required to discuss potential opportunities with the Local Planning Authority.

Table 2. EV charging requirements for minor development.

Minor Developments	Provide cabling/ducting and/or EV charging equipment as agreed with the Local Planning Authority.
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4.3 Considerations before making a decision

- 4.3.1 The provision of electric charging points is only one of many measures that can be taken to help reduce emissions, and it is the Borough Council intention to introduce more comprehensive guidance covering a wider range of measures and approaches as it prepares a new local development plan.
- 4.3.2 The provision of electric vehicle charge points shall be considered as a basic minimum requirement and developers will be expected to incorporate other low emission measures such as facilitating active travel and sustainable public transport.
- 4.3.3 If in doubt, please contact the Sustainability Manager or Planning Environmental Officer for advice.

5 Planning Conditions

5.1.1 The following wording is recommended when preparing planning conditions.

“Prior to the erection of the building(s) hereby approved, written and illustrative details of the number, type and location of charge points shall be provided in accordance with the authorities guidance note on ‘Provision of Electric Vehicle Charging Points for New Development’.

All charging systems shall be maintained and kept in good working order as specified by the manufacturer.

Where charging facilities are shared, any provision of infrastructure shall also include arrangements for the future operation and maintenance of the facility. Faults shall be identified and rectified in accordance with manufactures requirements and failures of EV charging systems shall be rectified within 5 working days to guarantee EV charging stations remain available for use at all times.

Reason: To ensure a satisfactory standard of development which meets the needs of current and future generation in accordance with Core Policy 5 of the Tunbridge Wells Core Strategy 2010

Appendix 1 - Charging Requirements

May 2017 information⁸

Residential development with dedicated parking

Requirement: Standard Mode 3 with a type 2 outlet.

General Information

Mode 3 (AC) dedicated EV charging system with dedicated outlet is the most beneficial option for home charging of EV's as it is future proof and can incorporate future 'smart' capabilities. A single phase Mode 3 system will usually operate at 3.7kW (16A) or 7.4kW (32A).

For example: -

- EV HomeCharge –low-cost, entry level home charging units, competitively priced, are available from many manufacturers, and are designed to offer full Mode 3 fast charging to every Electric Vehicle on the market. Available in both 16amp (3.6kW) or 32amp (7.2kW) charging options. OLEV approved and a popular domestic EV charging unit. Some unit also provide an IP65 rated 13amp domestic socket, ideal for home/garden maintenance.

Residential parking with unallocated spaces

Requirement: Standard Mode 3 with type 2 outlet and communications facility.

General Information

Mode 3 (AC) dedicated EV charging system with dedicated outlet as a minimum requirement is recommended, along with 7.4kW (32A) or 3 phase 11kW or the preferred 22kW charging.

It is expected that double charge points are provided.

The developer is advised to discuss options with the LPA.

Commercial parking with unallocated spaces:

Requirement: Standard Mode 3 with type 2 outlet and communications facility.

General information

Mode 3 (AC) dedicated EV charging system with dedicated outlet as a minimum requirement is recommended along with a single phase Mode 3 system will usually operate at 7.4kW (32A) or 3 phase 11kW or 22kW charging. Type of charging provision dependent on expected use, with double charge points installed. The developer is advised to discuss options with the LPA.

⁸ This technology is progressing rapidly and therefore the developer will be required to ensure the most up to date suitable technology is incorporated into the development.

Public parking spaces, i.e. public car parks:

Requirement: Controlled access and billing mechanisms will be required. The location and number of charge points would need to be agreed with the LPA and form part of the pre application discussion.

UK standard Charge Point Hardware & Firmware specifications:

- 7 /11 kW or 22 kW three phase
- Standalone single or preferred three phase power supply, dedicated circuit, RCD type protection & earth
- Mode 3 charging through Type 2 (EN62196-2) sockets
- Driver access via RFID cards, including ability for PAYG via APP or ability to call enable access
- Communication via GPRS/Wireless or LAN Connection
- Firmware compliance with Open Charge Point Protocol (OCPP) (currently May 2018 OCPP v1.6)
- Enabled to connect to Charge Point Management System (CPMS) – facilitating access control, remote support, PAYG, billing for usage and provision of data
- Currently Kent & South East CPMS is fulfilled by Charge Your Car (CYC) via OCPP compliant charge points (See attached CYC guidance note).

Location/siting is critical to ensure ease of use. Please note underground car parking may impact on phone signal and therefore may not be considered a suitable location. The developer is advised to discuss options with the LPA and parking services.

Other information:

It should be noted that not all electric cars can charge at 22kW but most can still use them to charge at a lower speed. Therefore, at present installation of 7kW charging may be the appropriate technology in some developments. However, sufficient power supply should be incorporated into the development to enable future upgrade of EV charging equipment.

Mode 4 (rapid charging) - on major road networks and motorways:

Requirement: A network of 50kW and higher power charge points are found around major road networks and other places where drivers might need a quick top-up for their onward journey (e.g. service stations, large retail/leisure facilities, science parks etc. by key arterial routes). Rapid Chargers are a minimum 50 Kw, DC, with dedicated 3 phase 100 amp power supply.

General information

Mode 4 charge points can be substantial pieces of equipment, providing high power output capable of charging a car to 80% in as little as 15 minutes. Requirement:

- 1.5 m² available space
- OCPP compliance etc. as above for public charge point requirements
- CHaDeMO, CCS and Type 2 (EN62196-2) outlet sockets

Appendix 2 – General FAQ's

To be completed: -

Average indicative charging times for different types of Chargers:

	3.7kW Charger	7kW Charger	22kW Charger
Charging Speed (up to):	15 miles of range per hour	30 miles of range per hour	80 miles of range per hour
Required Power Supply:	Single phase	Single phase	Three phase
Typically Found in:	Homes	Homes, Workplaces, Public Places	Public Places