

**PROMOTION OF ELECTRIC VEHICLES &
ASSOCIATED CHARGING INFRASTRUCTURE
SUPPLEMENTARY PLANNING DOCUMENT
(SPD)**

JANUARY 2022

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Glossary

BEV: Battery-electric vehicle

E-REV: Extended range electric vehicle

EV: Electric Vehicle

EVCP: Electric vehicle ChargePoint

PHEV: Plug-in hybrid electric vehicle

ULEV: Ultra low emission vehicle

ZEV: Zero emission vehicle

Any others to add?

Summary

This Supplementary Planning Document has been prepared to support the **Climate Emergency Review of the Local Plan**, in particular **policy DM62 of the Development Management DPD (Part 2)**. It provides further guidance as to how to implement the electric vehicle charging requirements of this policy, within the context of national and local policy, and how they should be delivered on the ground, setting out a series of key design principles.

1. Introduction

Background

A net zero emissions target for 2050 is now UK law, and the government recently announced an ambition to cut carbon emissions by 78% compared to 1990 levels by 2035. To achieve this transition transport emissions must be addressed.

In November 2020 the Government announced plans to accelerate a greener transport future, adopting a two-step approach to phase out petrol and diesel cars. Step 1 will see the phase-out date for the sale of new petrol and diesel cars and vans brought forward to 2030. Step 2 requires all new cars and vans to be fully zero emission at the tailpipe from 2035¹. It is anticipated that this will cause a step change in uptake of battery-electric vehicles (BEV's) which currently make up less than 1% of vehicles in the UK². Consequently, this requires a major shift in how we power vehicles, in particular private vehicles. With technological advances and the increasing need for greater sustainability, there is a call for vehicles to become cleaner and smarter. Hence the emergence of electric vehicles (EV's), also referred to as Ultra-low emission vehicles (ULEV's). But in order to meet these targets and before users can transition, it is vital that the necessary infrastructure is in place to facilitate and deliver this change, and most importantly, uptake.

The Government's Transport Decarbonisation Plan puts the electrification of cars front and centre of the UK's net zero ambition³. – July 2021

The Council has also set its own target to become net zero by 2030. **Some facts/stats about carbon emissions in Lancaster District?**

The planning system is a key way in which this change can be promoted and delivered/enacted on the ground. It is the role of the Council, as Local Planning Authority, to produce a Local Plan for the District, which sets out how development should take place across the District, and also importantly, how areas should be protected from development.

In January 2019 Lancaster City Council declared a Climate Emergency, calling all areas of the Council to consider how the services provided could be improved from a climate change perspective. This, of course, included planning. However, at this time the Council had already submitted the Local Plan for examination back in May 2018 and so the declaration came too late to be able to significantly shape the content of the plan. Therefore, upon adoption of the Local Plan in July 2020 the Council committed to an immediate review of the Local Plan with a specific focus upon climate change, to ensure that through the planning system, we are doing all we can to mitigate and adapt to the impacts posed by climate change within our District.

¹ [Government takes historic step towards net-zero with end of sale of new petrol and diesel cars by 2030 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/government-takes-historic-step-towards-net-zero-with-end-of-sale-of-new-petrol-and-diesel-cars-by-2030)

² [Scoping the role of local authorities in the provision of electric vehicle charging infrastructure | Local Government Association](#)

³ [Scoping the role of local authorities in the provision of electric vehicle charging infrastructure | Local Government Association](#)

Another particular pollutant of concern within the Lancaster District is nitrogen dioxide from vehicle exhaust fumes, which has led to the designation of three Air Quality Management Areas within the District: Lancaster City Centre, Carnforth town centre and Galgate.

To help tackle the impacts of climate change, the Council is seeking to promote modal shift through the Local Plan. By *reducing* the number of vehicles on the roads and *encouraging* the uptake of *more sustainable* modes of transport, such as walking, cycling, public transport and EV's. The challenges around converting the current diesel and petrol powered fleet to electric are recognised, and so it is understood that EV's are not the sole solution towards the problem. The planning policy approach taken towards EVCPs needs to be looked at as part of the bigger picture, and considered alongside the planning policy direction regarding:

- Air quality
- Increasing public transport use
- Decreasing dependency on private cars
- Provision of walking and cycling routes
- Housing supply
- Climate Change
- Urban Development
- Car parking standards; and
- Historic environment

Whilst this is not an exhaustive list, it demonstrates that EV's and the provision of associated charging infrastructure cannot be considered in isolation, as this SPD will demonstrate.

EVCP's play a fundamental role in facilitating the shift towards the uptake of EV's, because without the right infrastructure, in the right place at the right time, the promotion of EV's will not be possible. Therefore, the purpose of this SPD is provide further guidance to facilitate the required change to ensure the infrastructure that is needed comes forward where it is needed and when it is needed as part of new development.

Purpose of this SPD

[Why has this SPD been prepared?](#)

The objectives of this SPD are to:

- Provide further guidance to assist with the effective implementation of the EV requirements set out in Policy DM62 of the Climate Emergency Review of the Development Management DPD.
- Facilitate the delivery of EVCP's on the ground, which are needed to drive the uptake and facilitate the change to ULEV's, ensuring the necessary infrastructure comes forward where it is needed and when it is needed as an integral part of new development from the early design stage. As stated in the Lancaster Highways and Transport Masterplan '*Charging points are key to establishing the market and are needed at car parks, rail stations, key business locations, key locations in the rural areas as well as at people's homes.*'
- Help address the Council's Climate Emergency declaration and meet target of being carbon neutral by 2030

- Provide justification for setting local requirements for EVCP's following the publication of updated Building Regulations in December 2021
- Help deliver measures which will lead to improvements in air quality (in advance of emerging Air Quality specific SPD)
- Help facilitate modal shift towards more sustainable modes of transport
- Ensure sustainable development is at the heart of planning for the future of EVs

Once adopted, this SPD will be a material consideration in planning decisions.

Setting requirements for the provision of electric vehicle charging infrastructure through planning policy means that this vital infrastructure, which is needed to drive the uptake of ULEV's and facilitate the shift from diesel and petrol fuelled vehicles, is integrated and available within new developments from the start. This approach ensures that EVCP's are conveniently placed, and it is less expensive and disruptive to install charge points when development is taking place rather than being retrofitted at a later date⁴. **Importantly, the focus of this SPD is not upon the technological requirements, as it is recognised that given EV technology is relatively new, technological advancements are constantly underway, and so this SPD seeks to focus upon the overarching principles that should be considered when designing EV infrastructure to ensure the most appropriate technology is installed to meet the needs of the development.**

The Local Government Association produced a document '*Decarbonising transport: Accelerating the uptake of electric vehicles*'⁵ which sets out how Councils' can help facilitate the shift towards the use of electric vehicles, identifying 4 key areas for policy action:

- 1) Charging infrastructure
- 2) Raising awareness
- 3) Local incentives
- 4) Own fleets

The publication of this SPD therefore makes an important step in setting out how the Council seeks to address these 4 key areas.

[Why do we need to promote the uptake of electric vehicles?](#)

Whilst the declaration of a Climate Emergency has taken place relatively recently, this does not mean that the impacts associated with climate change have only just appeared. The need to address them has just become increasingly urgent.

Within the Lancaster District one of the main causes of concern is transport. **ENTER SOME TRANSPORT STATS**. The pollutants that petrol and diesel vehicles release whilst moving around the District are a concern, especially within particular areas of the District. Consequently, the Council has had to declare three Air Quality Management Areas (AQMA's) within the District, all due to the high concentrations of nitrogen dioxide.

The Council is in the process of preparing an Air Quality Action Plan to tackle these issues, however progress on this is very much dependent upon the outcomes of the Movement Strategy being

⁴ [EST0013-Local-Authority-Guidance-Document-Incorporating-chargepoints-into-local-planning-policies-WEB.pdf \(energysavingtrust.org.uk\)](#)

⁵ [5.91 EVs decarbonisation and transport 1.pdf \(local.gov.uk\)](#)

prepared by Lancashire County Council. Whilst it is recognised that it would be beneficial to produce an SPD to specifically address air quality impacts, until it is known what specific projects would be most appropriate where, and fundamentally how much these may cost, it is difficult to pursue an SPD at this time. However, the Council recognise that the need to address air quality, amongst many other climate change related issues is a pressing one. Therefore, the Council needs to be seeking to do all it can to reduce car-borne emissions. Hence the need to promote the uptake of electric vehicles.

INSERT STATS ABOUT ELECTRIC VEHICLES/ BENEFITS– WHY ARE THEY BETTER THAN DIESEL/PETROL There are many benefits, such as:

- Can be powered by renewable energy – CC benefit
- Can be powered by your own electricity (for example, solar PV system)
- Vehicle-to-grid (V2V) provides opportunity to sell power back to the grid by discharging electricity that’s been stored in EV battery to support the peak demand (i.e. typically between 16:30 – 20:30) (In 2019 it was estimated that V2V would be commercially mainstream in the next 5 years)⁶

The only pollution from an EV vehicle in use comes from the tyres and brakes

To help alleviate these pressures, through the Climate Emergency Review of the Local Plan, the Council is actively promoting modal shift. There is an evident need to shift towards cleaner modes of transport to create cleaner and healthier District, whilst also responding to the Climate Emergency.

Lancaster is a predominantly rural District and it is recognised that “rural areas have fewer mode shift options available and so will rely more on accelerating EV uptake to decarbonise⁷”. Therefore Lancaster City Council needs to seek to do all it can to facilitate the necessary infrastructure required, of the right type and in the right places, to provide those who live, work and visit the District with the confidence to switch to using ULEV’s.

[What is an electric vehicle \(EV\)?](#)

There are three types of electric vehicles currently available:

1. Battery-electric vehicle (BEV)

This is a vehicle powered only by electricity (also known as a ‘pure’ or 100% electric vehicle). They are charged by an external power source i.e. using a chargepoint. Typically, BEV’s have a real-world range of 100-300 miles on a single charge⁸.

2. Plug-in hybrid electric vehicle (PHEV)

This is a vehicle that has a battery, electric drive motor and an internal combustion engine (ICE). They can be driven using the ICE, the electric motor, or both. They can be recharged from an external power source. Typically, PHEV’s will have a pure-electric range of up to 50 miles. Once the electric battery has run out, journeys can continue in hybrid mode (via ICE) with no range limitation⁹.

⁶ [Guide to charging electric vehicles - Energy Saving Trust](#)

⁷ [5.91 EVs decarbonisation and transport 1.pdf \(local.gov.uk\)](#)

⁸ [All you need to know about electric vehicles - Energy Saving Trust](#)

⁹ [All you need to know about electric vehicles - Energy Saving Trust](#)

3. Extended range electric vehicle (E-REV)

This is a vehicle that combines a battery, an electric motor and a small petrol or diesel generator. They are a version of the PHEV's. The electric motor always drives the wheels, whilst the ICE acts as a generator when the battery has run out. Typically, the range on these vehicles can be between 150-300 miles¹⁰.

Another term which can be used to refer to EV's is ULEV's, Ultra Low Emission Vehicles.

[How and where can you charge an EV?](#)

BEV's, PHEV's and E-REV's all have the ability to be plugged in and charged using an electric vehicle chargepoint (EVCP). In the Automated and Electric Vehicles Act 2018, a 'charge point' is defined as a device intended for charging a vehicle that is capable of being propelled by electrical power derived from a storage battery (or for discharging electricity stored in such a vehicle)¹¹.

The location of chargepoints has a strong influence on how often and how easily they are used by residents, business and visitors¹². Charging can be either public or private (i.e. at home).

Home charging

The majority (around 80%) of EV charging takes place where people live, and the Government expects 'the home to be central to the future charging ecosystem'¹³. The charging method will be dictated by where the vehicle can be parked at home, and availability/access to an electricity supply.

Off-street parking

This is where there is a driveway or garage. Charging cars overnight at home is usually cheaper and more convenient for EV users than charging in public. The idea is also that, by using this cheaper home charging, both PHEV's and BEV's can maximise their potential contribution to the UK's future smart, flexible energy system, via smart charging and vehicle-to-grid (explained below on page X)¹⁴. Smart charging can be used to make savings when charging an EV. It can also help to balance the electricity grid by charging your EV during off-peak times, such as overnight, when there is less demand for electricity.

Whilst it is possible to use a regular UK three-pin socket, this is not recommended as it is much slower than a dedicated chargepoint and will likely involve running cables from inside the dwelling which is not considered appropriate or practical, and only cables supplied by the vehicle manufacturer should be used. Instead, an EV charging wallbox or charge point is required, as it communicates directly with the vehicle being charged and is safer and quicker, reducing charging time by 30-60% depending on the vehicle.

¹⁰ [All you need to know about electric vehicles - Energy Saving Trust](#)

¹¹ [Automated and Electric Vehicles Act 2018 \(legislation.gov.uk\)](#)

¹² [Local Authority Guidance - Positioning chargepoints.pdf \(energysavingtrust.org.uk\)](#)

¹³ [Consultation response: EV Charge points in Residential and Non-residential Buildings \(publishing.service.gov.uk\)](#)

¹⁴ [Guide to charging electric vehicles - Energy Saving Trust](#)

Chargepoint cables can be either tethered or non-tethered. The recently published updated Building Regulations recommend that EVCP's be fitted with a universal socket (also known as an untethered EVCP).

The Electric Vehicle Consumer Code for Home Chargepoints (EVCC) aims to give consumers the confidence to install a charger at home, and ensure that manufacturers, suppliers and installers consistently deliver the highest quality of work. Different mounting options are also available (for example, on a wall or a standalone charge point). Further design guidance in relation to the installation of chargers is provided in Section 4.

(INSERT PICTURES OF WALL-MOUNTED AND STAND ALONE CHARGERS AT A DWELLING)

On-street parking

Whilst more difficult, on-street charging is possible for those who do not have off-street parking.

The On-street Residential Chargepoint scheme, also known as ORCS, enables Local Authorities to access grant funding to support the installation of on-street chargepoints, to ensure the charging needs of those without off-street parking are met. This should therefore be explored in conjunction with Lancaster City Council, and Lancashire County Council as Highways Authority.

As stated in the guide produced by Energy Saving Trust 'Charging Electric Vehicles', "It is up to local authorities to apply to ORCS, but through residents requests, your local council can forecast where there is demand for EV's and therefore decide where charging infrastructure may be best located". The Council is currently exploring where EV demand is greatest in relation to expanding provision on Council owned land and also it's co-wheels car sharing scheme (further detail on which is provided in Section 3).

The planning policy position in relation to shared car parks is discussed in Section 3.

Public charging networks

There are chargepoint map providers and chargepoint operators who provide their own maps (specifically for their chargers), to identify where EVCP's are located, including details on their connector type and charge speeds (more information below) so that EV users can plan when and where their EV can be charged. One such example is Zap-Map ([Charging points and electric vehicles UK 2021 - Zap Map \(zap-map.com\)](https://zap-map.com)), which has a postcode/town/city search function and route planner to locate the nearest publicly accessible EVCP's. There are currently three known chargepoint providers in Lancaster: BP Pulse, ChargeMyStreet and Newmotion (EB is coming soon). To help locate EVCP's, new EV's often come with a built-in satellite navigation system to provide directions towards the nearest EVCP, if needed.

Public EVCP's are being installed at a number of locations across the Lancaster District, including public car parks (details on the locations of EVCP's in the Lancaster District can be found in Section 3), and other 'destinations' such as supermarkets, service stations (known as 'transit charging') and also places of work. Nationally it is anticipated that the future will see more 'Charging Hubs' with a number of ultra rapid chargers in one location, enabling a greater number of cars to be charged in a shorter period of time due to the faster charge speed.

Access to a EVCP is usually via a radio-frequency identification (RFID) card, a smart phone application or using a regular contactless credit or debit card. In November 2018, regulations were introduced which made it mandatory for every EVCP to be accessed without the driver having to subscribe to a charging network¹⁵. It is hoped that as technology evolves a more universal approach is adopted, as it is important to ensure that the EVCP's installed are future-proofed as much as possible. The greater the flexibility that can be provided as more EVCP's are installed, the better, to boost driver confidence in the EVCP network and support the uptake of EV's (this will be explored further in Section 4).

[What types of chargers are available?](#)

Due to the rapidly evolving nature of EV/ULEV technology, the types of chargers available are constantly changing. Therefore, there are a series of factors which should be taken into consideration when determining which type of charger would be most appropriate to meet the needs of the development proposal. It should be these factors, combined with the technology that is available, that should be used to determine the most appropriate type of charger to meet the needs of the proposed development.

Determining Factors

The key factors to consider are:

- Development Use
- Time of day and length of time vehicles will spend at the development
- Location
- Scale of development
- Space available
- Electricity availability
- Public v Private
- **Cost (presume we'll have to acknowledge this one!)**

These are explored in more detail in Section 4.

EV Connector/Charger types

There is an array of EVCP types available, and as highlighted, there are a number of factors which determine the type of charger(s) that will be most appropriate. Table 1 below sets out the characteristic features of the range of EV Connector/Charger types currently available¹⁶ based upon their varying charging capacities and typical deployment locations, with an explanation in Table 2 as to what this means.

The power of a charger determines the speed at which the charger performs, therefore it is important to ensure that the EV charging infrastructure which is installed, meets the needs of the proposed use(s) of the development. So, the type of charger is significantly determined by the length of time the charger will most frequently be in use for. For example, at a supermarket people are only usually shopping for a couple of hours, and so the power and consequently the speed of the charger should reflect this. Whereas, at a residential property, the owner is able to leave their car charging overnight for a longer period of time.

¹⁵ [Guide to charging electric vehicles - Energy Saving Trust](#)

¹⁶ Please note that these will be subject to change as advances in EV technology change

SPEED	CHARGEPOINT POWER	CURRENT	CONNECTOR	MODE	TYPICAL LOCATION	EXAMPLE CHARGING TIME
Slow	3.6kW	AC	Type 1 / 2	Mode 3	<ul style="list-style-type: none"> Homes On-Street Destinations 	c.11 hours
Standard	7kW	AC	Type 1 / 2	Mode 3	<ul style="list-style-type: none"> Homes On-Street, Destinations 	c.5-7 hours
Fast	22kW	AC	Type 1 / 2	Mode 3	<ul style="list-style-type: none"> Destinations 	c. 2 hours
Rapid	50kW	DC	CCS / CHAdeMO	Mode 4	<ul style="list-style-type: none"> Motorway Service areas Destinations 	>1 hour
Ultra-rapid	150kW+	DC	CCS / CHAdeMO	Mode 4	<ul style="list-style-type: none"> Motorway Service areas Destinations 	<30 minutes

Table 1: The varying charging capacities and the typical location they should be deployed

Speed	These are determined by the power output, that determines the charging speed (i.e. greater power, greater speed of charging)
Chargepoint power	Power output of the charge point, measured in kilowatts (kW)
Current	Alternating current (AC) for slower charging or Direct current (DC) for faster charging
Connector	Each charger type has an associated set of connectors which are designed for low or high power use. A Type 1 plug is a five-pin design and has a latch that keeps the plug in place and prevents it from being dislodged from the charger socket. A Type 2 charging cable features a seven-pin connection (is the European-standard plug-type used by every new EV), which instead of latches utilise a locking pin that locates and secures the plug in place. Type 1 is a single-phase charging cable and Type 2 are available in single or three phase. ¹⁷
Mode	There are four different charging modes: <ul style="list-style-type: none"> - Mode 1: Standard socket outlet (domestic) - Mode 2: Standard socket outlet with an AC EV supply equipment (domestic) - Mode 3: AC EV equipment permanently connected to an AC supply network - Mode 4: DC EV supply equipment¹⁸

Table 2: Definitions of different characteristics of EV chargers

¹⁷ [Charging leads Type 1 and Type 2: What's the difference? \(savemoneycutcarbon.com\)](https://www.savemoneycutcarbon.com/charging-leads-type-1-and-type-2-what-s-the-difference/)

¹⁸ [Electric Vehicle and EV charging fundamentals - Electrical Installation Guide \(electrical-installation.org\)](https://www.electrical-installation.org/electric-vehicle-and-ev-charging-fundamentals/)

	<p>Type 1: 3 – 6kW AC</p>
	<p>Type 2: – 3 – 6kW AC</p>
	<p>Type 1: 7kW AC</p>
	<p>Type 2: 7-22kW AC</p>
	<p>CHAdeMO: 50kW DC</p>

Figure 1: Image to show some of the different types of charging connectors available
Source: [EV Charging connectors - Electric car charging speeds \(zap-map.com\)](https://zap-map.com/ev-charging-connectors/)

2. The National Context

Background

It is recognised that the transition to zero emission road transport is a vital part of any long-term solution to the poor air quality in towns and cities. In July 2017, the Government published its *UK Plan for tackling roadside nitrogen dioxide concentrations* stating that, they will end the sale of all new conventional petrol and diesel cars and vans by 2040¹⁹. In July 2018 this was reaffirmed when the Government produced the Road to Zero Strategy²⁰, stating; ‘Our mission is to put the UK at the forefront of the design and manufacturing of zero emission vehicles, and for all new cars and vans to be effectively zero emission by 2040’. This target has now been brought forward to 2035. The Office for Zero Emission Vehicles (OZEV) has been set up to work across government to support the early market for zero emission vehicles (ZEV’s).

The Government encourages the use of EV’s by providing funding towards the cost of installing an EVCP at a residential property. This is known as the Electric Vehicle Homecharge Scheme (EVHS), which provides grant funding of up to 75% towards the cost of installing EVCP’s at domestic properties across the UK²¹. There is also a Workplace Charging Scheme available that provides support towards the up-front costs of the purchase and installation of EVCP’s, and schemes in place for on-street residential parking and taxi’s²².

The Road to Zero Strategy highlighted that “the devolved administrations and local authorities have a crucial role to play during the transition to zero emission vehicles and addressing local air quality issues”. This SPD, therefore, seeks to establish standards to help drive the uptake of ULEV’s by ensuring the necessary charging infrastructure is delivered as part of new development proposals.

Proposed Changes to Building Regulations

In 2018 the Automated and Electric Vehicles Act set out in law the need to improve consumer confidence in charging their vehicles by:

- Making sure public chargepoints are compatible with all vehicles
- Standardising how they are paid for
- Setting standards for reliability

This Act provided Government with the powers to set the regulations considered necessary to address these issues.

The Government held a consultation in 2019 on ‘Electric vehicle charge points in residential and non-residential buildings’ to explore potential changes to Building Regulations, publishing its response in November 2021, which ultimately led to the update of Building Regulations in December 2021. The regulations which the Government have chosen to take forward are summarised below. The full details can be found in the Approved Document (Part S) here: [Infrastructure for charging electric vehicles: Approved Document S \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633270/infrastructure_for_charging_electric_vehicles_approved_document_s_publishing.service.gov.uk)

¹⁹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633270/air-quality-plan-detail.pdf

²⁰ <https://www.gov.uk/government/publications/reducing-emissions-from-road-transport-road-to-zero-strategy>

²¹ [Grant schemes for electric vehicle charging infrastructure - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/grants/grant-schemes-for-electric-vehicle-charging-infrastructure)

²² [Grant schemes for electric vehicle charging infrastructure - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/grants/grant-schemes-for-electric-vehicle-charging-infrastructure)

- New dwellings (including flats) with associated parking within the site boundary have an electric vehicle charge point. Residential properties with more than 10 parking spaces will also require cable routes in every space without charge points.
- Buildings undergoing material change of use to create new dwellings, to have one charge point for every new dwelling with associated parking within the site boundary of the building.
- Residential buildings undergoing major renovations, with more than 10 parking spaces within the site boundary of the building after the renovation is complete, to have an electric vehicle charge point per dwelling with associated parking and cable routes in all further parking spaces.
- New non-residential buildings with more than 10 parking spaces within the site boundary of the building to have a minimum of one charge point and in addition, cable routes for electric vehicle charge points in one in five of the total number of spaces.
- Every non-residential building undergoing a major renovation, with more than 10 parking spaces within the site boundary of the building to have a minimum of one charge point and in addition, cable routes for electric vehicle charge points in one in five of the total number of spaces..

In relation to existing non-residential buildings, the responses to the proposal to require charge points were noted to be significantly less supportive, due to the concerns about the impact of a blanket policy approach on small existing non-residential buildings, such as charities and small businesses. The Government is going to reflect on this and develop an alternative policy. Approved documents are to be provided alongside the Building Regulations to provide statutory guidance about how the regulations can be complied with. The Government has decided that charge points should have a minimum charging power of 7kW, be fitted with a universal socket that can charge all types of electric vehicles currently on the market at least Mode 3 or equivalent, be untethered and meet the relevant safety and accessibility requirements²³. These are the minimum standards. The Government also intend to bring forward domestic smart charging requirements to ensure that electric vehicles charge outside peak demand times where possible.

Government is aware of issues surrounding accessibility and will look into this further.

Changes to the building regulations will not apply to crown buildings and statutory undertakers (e.g. airports and train stations). These buildings are normally exempt from the requirements of the Building Regulations, as set out in the Building Act 1984. Therefore, applying requirements to these types of buildings would require primary new legislation, which at this point the Government has chosen not to do.

Direction of National Planning Policy

The National Planning Practice Guidance states that one of the ways in which the impact on air quality can be mitigated is through the inclusion of infrastructure to promote modes of transport with a low impact on air quality, such as electric vehicle charging points. Recognising that a

²³ [Consultation response: EV Charge points in Residential and Non-residential Buildings \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

significant number of mitigation measures included within this SPD relate to transport, this Section focusses upon the Council's approach towards electric vehicles and charging infrastructure.

The revised National Planning Policy Framework (NPPF) published in 2021 defines *sustainable transport modes* as 'any efficient, safe and accessible means of transport with overall low impact on the environment, including walking and cycling, ultra low and zero emission vehicles, car sharing and public transport'.

The NPPF sets the policy framework for plan-making and decision-making. In relation to considering development proposals to promote sustainable transport, paragraph 112 states that '*applications for development should...be designed to enable the charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations*'. Setting out in paragraph 107 that if local parking standards are being set for residential and on-residential development, policies should take into account, amongst other factors, the need to ensure the adequate provision of spaces for charging plug-in and other ULEV's.

ULEV's are also set out as a key consideration in the National Design Guide, which states 'electric vehicle spaces and charging points need to be considered, so they are suitably located, sited and designed to avoid street clutter'.

Permitted Development Rights

The Government has amended permitted development rights to allow the installation of charge points in certain situations.

Installing an electrical charging outlet

Under Schedule 2, Part 2, Class D of the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended), planning permission is not required for the installation of a wall mounted electrical outlet for the recharging of EV's as long as the area is lawfully used for off-street parking.

For the installation to be classed as permitted development, the electrical outlet and its casing must not:

- Exceed 0.2 cubic metres
- Face onto and be within 2 metres of a highway
- Be within a site designated as a scheduled monument
- Be within the curtilage of a listed building

Installing an upstand with a mounted electrical charging outlet

In relation to Class E of the above Schedule and Order, planning permission is not required for the installation of an upstand with an electrical outlet mounted on it to recharge EV's, as long as the area is lawfully used for off-street parking.

For such an installation to be classed as permitted development, the electrical upstand and the outlet must not:

- Exceed 2.3 metres in height from the level of the surface used to park the EV's. (This limit is 1.6 metres where in the curtilage of a dwelling or block of flats)
- Be within 2 metres of a highway

- Be within a site designated as a scheduled monument
- Be within the curtilage of a listed building
- Result in more than one upstand being provided per parking space

3. The Local Context

Background

The Department for Transport (DfT) has produced a league table (based upon the data collated by ZapMap) to record the provision of public EVPC's within each Local Authority. As of 1st October 2021, there were 74 *public* EVCP devices in the Lancaster District, 13 of which were rapid devices (those whose fastest connector is rated at 25kW and above)²⁴. Overall, this equates to 50 devices per 100,000 of the population, and so Lancaster falls within the top 20% of Council's across the UK²⁵. This is in comparison to 43 public EV charging devices in October 2019, equating to 29.8 per 100,000²⁶. The Lancaster District also has the greatest number of devices per 100,000 of the population within all of Lancashire.

Lancashire County Council, as the Highways Authority, produced Highways and Transport Masterplan for the Lancaster District in 2016. This highlighted that, ULEV's (Ultra Low Emission Vehicles) will play a vital role in reducing the emissions from residual traffic, particularly within Lancaster City Centre; a major factor in improving air quality and making the city centre, and the rest of the District, a healthier and more pleasant place for people. The Masterplan identifies a number of ways in which this could be achieved such as the conversion of buses, taxis and fleets to ULEVs, car clubs and also the delivery of ULEV infrastructure.

Despite this, as stated in the Air Quality Position Statement²⁷ produced by Air Quality Consultants, 'to complement proposals for better public transport and cycling/multiuser networks, the aim is for Lancaster to become an exemplar of the use of Ultra-Low Emission Vehicles (ULEVs). Whilst ULEV's may not reduce vehicle numbers, they will be vital in reducing the emissions from residual traffic in Lancaster city centre, currently an Air Quality Management Area (AQMA)'.

A recent piece of research undertaken by Local Partnerships (commissioned by the LGA) asked Local Authorities in a survey what best described the role they thought that Local Authorities should play in delivering EV charging infrastructure, and the most popular response was 'putting in place policies to encourage/enable the delivery of EV infrastructure'. (The focus of the study was on street EV charging infrastructure).

²⁴ maps.dft.gov.uk/ev-charging-map/

²⁵ <https://maps.dft.gov.uk/ev-charging-map/index.html>

²⁶ [Official statistics overview: Electric vehicle charging device statistics: October 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/official-statistics-overview-electric-vehicle-charging-device-statistics-october-2021)

²⁷ <https://www.lancaster.gov.uk/planning/planning-policy/evidence-monitoring-information>

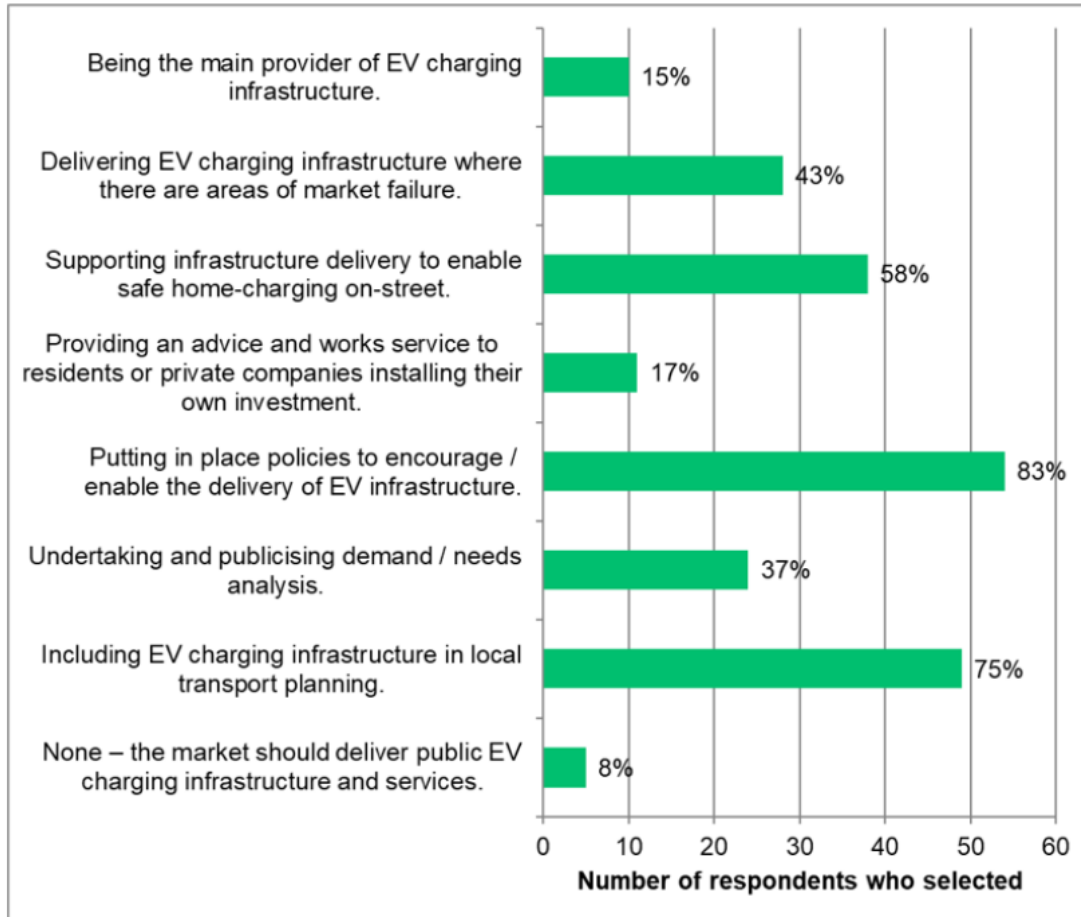


Figure 2: Response to LGA Research Project Question: Which of these best describes the role you think that Local Government should play in delivering on street EV charging infrastructure (ORCS)?
 Source: [Scoping the role of local authorities in the provision of electric vehicle charging infrastructure | Local Government Association](#)

Climate Emergency Local Plan Review (CELPR)

The Lancaster Local Plan consists of various documents including the Climate Emergency Review of the Strategic Policies and Land Allocations DPD and the Climate Emergency Review of the Development Management DPD. On adoption, the Lancaster South Area Action Plan will also form part of the plan and will contain policies in relation to electric vehicles and the provision of associated charging infrastructure within the area.

The CELPR sets out a range of policies which aim to improve how new development addresses the causes and consequences of climate change. As previously highlighted, one of the key areas of concern within the Lancaster District is transport, and subsequent impacts upon air quality. Therefore, within the context of a pressing need to tackle the climate emergency declared in the Lancaster District, combined with the Government’s clear intentions to establish specific requirements for EV charging infrastructure (which were implemented via Building Regulation at the end of 2021), the Council has chosen to set out specific EV charging infrastructure requirements that applies to new development (including change of use) in the Lancaster District. These requirements are set out in **policy DM62: Vehicle Parking Provision and Electric Vehicle Charging Points**, in the Climate Emergency Review of the Development Management DPD.

Within policy DM62 it is stated that all new development and changes of use with associated car parking shall provide, as a minimum:

1. One charging unit for each dwelling with an associated space
2. 20% of communal parking spaces to be provided with standalone chargers. Ducting/cabling/supply capacity must also be provided/ensured for all parking spaces.

The full wording of policy DM62 is shown in below. (The text in blue indicates the new wording that has been added through the Climate Emergency policy review process and the text in red strikethrough is that which we propose to remove (both pre-Regulation 18 consultation). The text in green shows the amendments which have been made following the comments received at Regulation 18.)

POLICY DM62: VEHICLE PARKING PROVISION AND ELECTRIC VEHICLE CHARGING POINTS

Car Parking Provision

In relation to the provision of car parking, development proposals will be considered acceptable where:

- I. The design of the proposal incorporates provision of car and cycle parking that accords with the levels and layout requirements set out in Appendix E of this document;
- II. The minimum levels of car parking for people with impaired mobility as set out in Appendix E are achieved; and
- III. Parking facilities are shared where location and patterns of use permit.

Where garage provision is to be provided, these should be of a sufficient size to be genuinely used by a car and should include an internal space of at least 6 metres long by 3 metres wide. ~~that can also accommodate cycle storage appropriate for the dwelling size (see Appendix E).~~

Car free development, or development proposed which incorporates very limited car parking provision, will **only** be considered acceptable in appropriate locations where there is clear justification for the level of provision proposed. Proposals should give consideration to the current and proposed availability of alternative transport modes, highway safety, servicing requirements, the need of potential users and the amenity of occupiers of nearby properties and other parking facilities.

Acceptable locations include:

- Lancaster City Centre;
- Morecambe Town Centre; and
- Carnforth Town Centre.

Electric Vehicle Charging Points

All new development and changes of use with associated car parking shall provide, as a minimum:

1. One charging unit for each dwelling with an associated space.
2. 20% of communal parking spaces to be provided with standalone chargers. Ducting/cabling/supply capacity must also be provided/ensured for all parking spaces.

Electric vehicle charging infrastructure should be designed to respect the character of the surrounding built environment, streetscape, and public realm. Particular regard should be given to the impact upon the historic environment and associated planning policies. Charging infrastructure must also be accessible to drivers with disabilities, including those using a wheelchair or walking frame.

Wherever possible, electricity provision should be provided through renewable and/or low carbon energy generated on site.

Further detail is provided within the [Promotion of Electric Vehicles and Associated Charging Infrastructure](#) ~~Provision for Electric Vehicle Charging Points for Development~~ Supplementary Planning Document.

Cycle and Mobility Scooter Parking Provision

Adequate and secure ~~vehicle and~~ cycle and mobility scooter parking facilities should be provided to serve the needs of the proposed development. Such facilities should be well designed and convenient to use. The level of provision should be in accordance with Appendix E and their design should be in accordance with the guidance set out in Local Transport Note 1/20 Cycle infrastructure and Design. Where applicable, mobility scooter parking should be provided as set out in Appendix E.

Policy DM29 (Key Design Principles) states that: ‘New development should be as sustainable as possible and make a positive contribution to the surrounding landscape and/or townscape. The Council will expect development to...incorporate electric vehicle charging points in line with guidance contained within Policy DM62 and the forthcoming Supplementary Planning Document on this matter’.

Within the Climate Emergency Review of the Strategic Policies and Land Allocations DPD, policies **SG7 (East Lancaster Strategic Site)**, **SG9 (North Lancaster Strategic Site)** and **SG11 (Land at Lundsfield Quarry, South Carnforth)** specifically state the need for proposals to deliver electric charging points and other associated infrastructure for EV’s in accordance with policy DM62.

Guidance on applying the policy

1. One charging unit for each dwelling with an associated space

This point establishes the requirement set for new dwellings (including change of use). It is acknowledged that within the updated Building Regulations (Part S published in December 2020) the definition used for ‘associated’ space refers to spaces within the site boundary, as shown in the images in Figures 3 and 4 below.

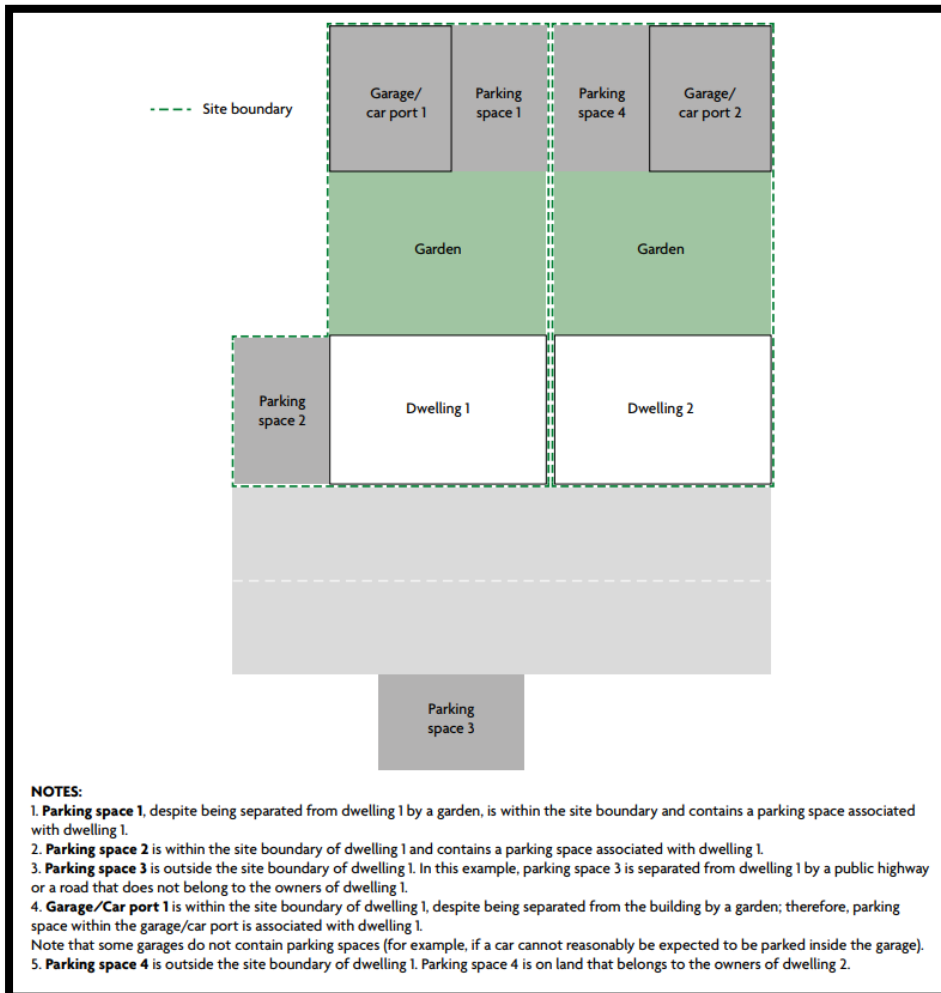


Figure 3: Building Regulations definition of ‘associated’ parking within a dwelling site boundary

(Source: [Infrastructure for charging electric vehicles: Approved Document S \(publishing.service.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/86482/infrastructure_for_charging_electric_vehicles_approved_document_s.pdf))

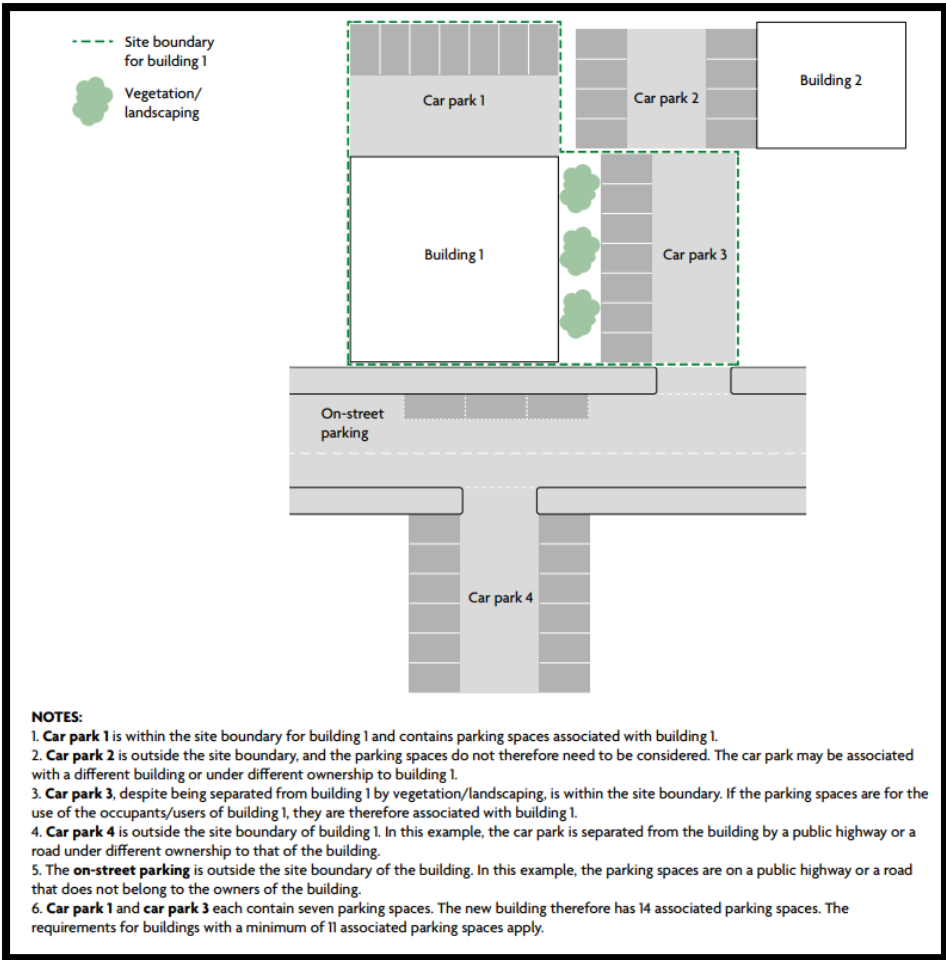


Figure 4: Building Regulations definition of 'associated' parking within a site boundary for building 1

(Source: [Infrastructure for charging electric vehicles: Approved Document S](#))

publishing.service.gov.uk

However, it is recognised that not all dwellings may have their associated parking space within the dwelling site boundary, and may instead be an arrangement similar to Car park 1 and Car park 3 shown in Figure 4 above. Therefore, the Council considers that an associated space is defined as a *space made available or allocated to accommodate a vehicle for that dwelling as part of the development proposal*. This would include with and without off-street parking (in terms of off-street EVCP's early engagement should be sought with the Highways Authority). Therefore, it does not necessarily have to be within the site boundary of a dwelling as shown in Figure 3. An associated space could therefore be like the arrangement shown below in Figure 5.

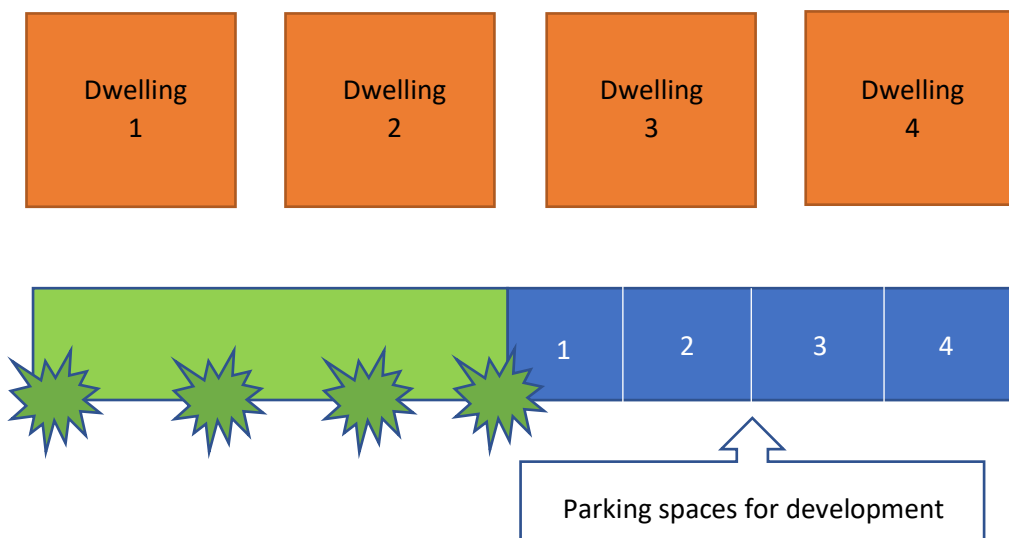


Figure 5: Example of Council definition of an 'associated' parking space

Justification for above definition of ‘associated’ (i.e. why varies to Building Regs):

It is noted that Paragraph 1.1 of Requirement S1 and Regulation 44D states that:

*Where **associated parking spaces** are provided for a new **residential building**, the number of **associated parking spaces** that have access to an **electric vehicle charge point** must be a minimum of either of the following.*

- a. The number of **associated parking spaces***
- b. The number of **dwelling**s that the car park serves.*

NOTE: Where no **associated parking spaces are provided, there is no requirement to install an **electric vehicle charge point**.**

It is the text highlighted in bold which is the concern, as Figures 3 and 4 demonstrate what is considered to be associated i.e. within the dwelling or building boundary.

The requirements set out in the box above are legal requirements taken from the Building Regulations which take effect in England from 15th June 2022. Where there may be viability concerns in delivering the requirements set out in policy DM62, early engagement should be sought to agree the most appropriate way forward. However, it should be demonstrated why the requirements set out in policy DM62 are not viable. Importantly, all new development should ensure that the electricity infrastructure is sufficient to enable supply to be provided for the required number of charge points. Again if concerns arise due to viability or grid capacity, this should be evidenced and an appropriate way forward discussed and agreed with the Council (explored in more detail below). As it may be that the provision that would be required onsite could be delivered offsite locally instead. This should also be considered within the context of providing the necessary infrastructure required to facilitate an EVCP in the future onsite for the dwelling (i.e. ducting and cabling). Potential options that could be explored are covered in Section 3 (i.e. contributions towards installing EVCP’s in Council car parks, or contributions towards co-wheels scheme).

To meet the necessary policy requirements for the proposed development, the type of charging infrastructure that should be installed, and how, should be informed by the guidance set out in Section 4.

2. 20% of communal parking spaces to be provided with standalone chargers (Ducting/cabling/supply capacity must also be provided/ensured for all parking spaces)

This relates to non-residential development, and/or where a residential development does not provide enough car parking for each dwelling (for example, in order to promote reduced car usage or car free development).

Given that these EVCP’s will be shared, given their communal use, the type of charging infrastructure provided should be reflective of this (as set out in Section 4) and consider the length of time one EV will be able to stay in a parking space to charge, before another vehicle may need to use the charger. It is therefore recommended that an EVCP with a fast charge speed is used.

Again, any viability and/or grid capacity concerns related to meeting this requirement, should be evidenced and an appropriate way forward discussed and agreed with the Council.

In order to meet the Government’s targets, and to help address the Climate Emergency declared by Lancaster City Council, applicants should be seeking to do all they can to future-proof their developments. Hence the requirement that ducting/cabling/supply capacity is to be provided for all parking spaces.

In relation to new dwellings, it is noted that Paragraph 1.3 of Requirement S1 and Regulation 44D states that:

*If the number of **associated parking spaces** for the new residential building is both*

- a. More than 10*
- b. More than the number of **dwellings***

***Cable routes** must be provided for all **associated parking spaces** which do not have access to an **electric vehicle charge point**.*

Minimum Requirement

This policy also sets out the minimum requirement for EVCP provision and so the Council encourages Developers to deliver greater provision on or offsite, wherever possible. This will help to address the Climate Emergency declared within the District, meet national targets, and could also help to further mitigate travel impacts posed by the proposed development (for example, if there is potential to impact upon an AQMA, additional EV charging provision to facilitate EV uptake could be a possible mitigation measure). This should be discussed as early as possible with the Council’s Environmental Health Team.

Delivering the EV requirements of policy DM62

The EV requirements set out in policy DM62 must be delivered onsite. However, it is recognised that issues may be encountered that present exceptional circumstances, deeming onsite provision not possible, and so this section seeks to explain how these should be addressed. Such challenges could be the availability of grid capacity and/or cost of grid (DNO) connection, which may consequently result in the need to explore possible delivery options locally, offsite. Issues may also occur in relation to facilitating and managing shared use or communal provision.

Onsite v Offsite

Policy DM62 makes it clear that the required EVCP infrastructure should be delivered onsite as an integral part of the new development. The EVCP infrastructure needs to directly meet the needs of the users of the development and given the national direction is to promote the use and uptake of EV’s, in order for each new developing coming forward to achieve this, it is important to ensure the right EVCP’s are in the right places onsite to meet the needs of EV users of that development. As set out in Section 1, the intention is that the majority of charging will take place at people’s homes, and this is reflected in the requirements set out in policy DM62. Therefore, in many cases, it will be difficult to justify an offsite contribution over onsite provision.

For example, when considering the North Lancaster site (allocated through policy SC9), it would be more appropriate for the developer to deliver onsite charging infrastructure, rather than an offsite

contribution towards city centre charging provision, as the Council would favour that the development funded the improvement of cycle routes or bus services into the city centre, to promote active travel, rather than encouraging more cars into the centre. However, it is recognised that there are exceptions. Where an offsite contribution may be considered useful, is where a city/town centre development exists close to an existing car park. Instead of creating their own car park, (dependent upon the nature and scale of the proposed development) the Council may prefer the development to fund an offsite EV charging infrastructure project nearby to install EV charge points in an existing car park, or contribute towards an existing car share scheme (such as the Council's co-wheels scheme which is discussed in more detail in [paragraph X](#)). Contribution costs would be determined by calculating what should have been provided on site for their development and should take place in discussion with the Council.

Therefore, where provision of onsite EV charge points is not possible, such developments are not exempt from providing EV charging facilities onsite. Instead, the equivalent charging provision that would have been provided onsite should be provided offsite (as explained in the example set out above). Additionally, whether ducting and cabling should still be put in for future use, so that the potential for connection is there if grid capacity is increased in the future, is something which should be discussed with the Council.

Importantly, offsite contributions should not be seen as an other/ alternative option. It should only be used in exceptional circumstances.

[Grid Connection](#)

The Government's consultation in 2019 'EV Charge points in Residential and Non-residential Buildings' looked at introducing an exemption from the requirement to install a charge point in new dwellings with associated parking where the cost of the grid connection would be very high. In their recent Consultation response they said the response to this was varied, with individuals, local councils and the energy sector generally saying an exemption in such an instance should not apply, whereas the majority of developers were of the opposite opinion²⁸. Several argued that if the exemption was to be applied, a number of measures should be put in place. Such as:

- In the event that total costs per charge point exceed the £3,600 threshold proposed in the consultation, the development should not be exempted from providing any charge points. Instead, the development should install the maximum number of charge points possible before the cost threshold is met;
- Any regulations would need to clearly set out the evidence required from developers to demonstrate the threshold had been exceeded;
- The exemption should only be applied when connecting to an existing electrical network. Those requiring a new connection should not have an exemption;
- Public charging provision of the surrounding area should be taken into consideration before an exemption is granted.

The details of these exemptions can be found in Part S of the updated Building Regulations, which can be found here: [Infrastructure for charging electric vehicles: Approved Document S \(publishing.service.gov.uk\)](#). However, where this exemption is granted, the Government will require

²⁸ [Consultation response: EV Charge points in Residential and Non-residential Buildings \(publishing.service.gov.uk\)](#)

all new properties to be fitted with cable routes and care should be taken to ensure grid capacity is available to do this at the time of planning application, to future-proof the development.

Exemption is set at three times the high scenario cost of the average electrical capacity connection. The Government believes this is the correct approach to take given the positive cost benefit of installing charge points at the point of construction, and the need to future-proof homes for the transition to zero emission vehicles. The threshold level will be kept under review by the Government. (The exemption is based on the electricity connection cost per charge point).

Developers are required to demonstrate that connection to the grid is not possible (for example, due to either significant cost or capacity limitations) and demonstrate that they have assessed other potential options for flexibility. These could include battery storage and onsite generation, where appropriate. (It should be noted that charging units are now available that have integrated batteries and therefore these may provide a solution in some circumstances). To demonstrate that all reasonable alternatives have been fully explored. Alternative options for the delivery of EV charging infrastructure will be assessed on a site by site basis in dialogue with the Council to determine what the most appropriate EV charging provision would be to reflect the location, type and scale of development being proposed, to ensure that the needs of the development are adequately met in terms of EV provision.

It is recognised that issues surrounding grid capacity and grid costs may leave some areas with fewer charge points in comparison to other areas, resulting in an uneven distribution of charging facilities and also potentially EV uptake, leading to disproportionate accessibility to EV's, creating equality concerns. The Council will closely monitor this situation through the mapping of EVCP's to avoid exacerbating inequalities. The Government's consultation response indicated that a possible solution may be to make a subsidy available in some areas.

Travel Plans

Travel Plans are a key management tool for implementing any transport solutions highlighted as a mitigation measure, and are one of the primary tools for mitigating the negative transport impacts of any development. Travel Plans are required to detail the developer's response to any transport issues highlighted in the development proposal and to deliver sustainable transport objectives with a package of measures to promote sustainable transport. This includes measures to achieve a modal shift to the most sustainable forms of transport, such as walking and cycling, and improvements in air quality. An example of such a mitigation measure could be the use of EV's.

Travel Plans can play an important role in educating and promoting the use of EV's. Policy DM63 (Transport Efficiency and Travel Plans) highlights how the Council will support proposals that maximise opportunities for the use of sustainable modes of travel. Stating that development proposals should make appropriate contributions (having due regard to cost-effectiveness) to improve the transport network and transport infrastructure. Travel Plans are required for all large development proposals or proposals that are expected to have a significant impact on the local transport networks. Setting out how the ongoing management arrangements will deliver the outcomes of the Travel Plan, with a monitoring and review schedule in place.

If a development has a Travel Plan, this must include details on the EVCP's to be provided as part of the development (onsite and where appropriate, offsite). This should include where they are located and how occupiers, staff and visitors will be made aware of this and arrangements for use of EVCP's. For example, for larger developments where parking is communal, details of how the parking spaces with EVCP's will be managed and how the charging system will operate should be outlined. The

Travel Plan should include proposals to provide information on EV charging in marketing material and ‘Welcome Packs’ (this could be by way of an introduction to the types of EVCP’s onsite or the availability of EV car share schemes on or off site). Implementing such a strategy helps to ensure equity for all users of the development.

The Plan, for example, could set out information to inform users that when the charging capability of the vehicle is less than that of the charge, then the vehicles will charge only at the maximum speed allowed by the vehicle. Then vice versa, when the charging capability of the vehicle is greater than that of the charger, then the vehicles will charge at the maximum rate allowed by the charger. The provision of such information will provide for a more informed understanding of a relatively new technology, which is not yet used by the majority (but uptake is rising), and a form of transport that those wishing to own a private car will need to be aware of given the Government’s upcoming ban on new diesel and petrol cars. Making information like this readily available will help to instil people’s confidence in EV’s and how they can be used, which will help to pave the way and help gain momentum in their uptake as people become more familiar with the technology and its accessibility.

Dependent upon the development proposal and the assessment of it’s impact upon the transport network and transport infrastructure, a possible travel planning measure could be contributions towards an EV car sharing scheme project, such as Co-wheels (discussed below).

Additionally, the Travel Plan review process must include proposals to review usage/demand of EVCP’s which will be undertaken by a Travel Coordinator, and proposals to provide additional EVCP’s as and when they are required, to ensure the supply of EVCP’s keeps up with the demand for EV’s. Importantly, a Travel Plan is a live document.

Projects within the Lancaster District

[EV Charging Facilities in Public Car Parks](#)

‘To help overcome range anxiety, local councils can set up rapid charging infrastructure in authority-owned car parks, leisure centres and other facilities²⁹’. This is exactly what Lancaster City Council are doing.

Across the District a number of EVCP’s, of different types, have been installed within car parks owned by the Council. **Table X** sets out the details, and the **map here** identifies the locations of each of the Council installed EVCP’s. The Council recognise that in order to secure confidence in the shift from petrol and diesel cars to those fuelled by electricity, the necessary infrastructure needs to be installed, of the right type and in the right place to facilitate this shift. Whilst it is anticipated that the majority of EV charging will take place at home (for a number of reasons such as cost and convenience), this will not account for all charging needs and so EVCP’s are not just needed at the home, but also where people work and visit.

The Council is continually exploring where new EVCP’s could be installed. Further information on the EVCP’s that have already been installed by Lancaster City Council can be found here: [Electric vehicle charging points - Lancaster City Council](#)




²⁹ [5.91 EVs decarbonisation and transport 1.pdf \(local.gov.uk\)](#)

Location	Car park	Charging Facilities	Live	Charge Point Operator
Lancaster	Upper St Leonardsgate car park, LA1 1QH	-Type 2 22kW -Type 2 22kW	Live and available.	Bp Pulse - https://www.bppulse.co.uk/
Lancaster	Charter House car park, LA1 1PU	-Type 2 22kW -Type 2 22kW	Live and available.	Bp Pulse - https://www.bppulse.co.uk/
Lancaster	Auction Mart car park, LA1 1XU	-Type 2 22kW -Type 2 22kW	Live and available.	Bp Pulse - https://www.bppulse.co.uk/
Morecambe	West View car park, LA4 4AS	-Type 2 22kW -Type 2 22kW	Live and available.	Bp Pulse - https://www.bppulse.co.uk/
Morecambe	Library car park, LA4 5DW	-Type 2 22kW -Type 2 22kW	Live and available.	Bp Pulse - https://www.bppulse.co.uk/
Lancaster	Dallas Road, LA1 1LD	-Type 2 22kW -Type 2 22kW	Live and available.	Charge My Street - https://chargemystreet.co.uk/
Lancaster	Williamson Park, LA1 3EA	-Type 2 22kW -Type 2 22kW	Live and available.	Charge My Street - https://chargemystreet.co.uk/
Morecambe	Festival Market, LA44DW		Live and available.	Charge My Street - https://chargemystreet.co.uk/
Morecambe	Salt Ayre Leisure Centre, LA1 5JS	-Type 2 22kW -Type 2 22kW	Live and available.	Charge My Street - https://chargemystreet.co.uk/
Lancaster	Spring Garden Street, LA1 1RQ x2		Scheduled to be live 26/11/21.	EB Go! – Awaiting web site details
Morecambe	Billy Hill, LA4 5JU		Scheduled to be live 26/11/21.	EB Go! – Awaiting web site details
Heysham	Heysham Village car park, LA3 2RW		Scheduled to be live 26/11/21.	EB Go! – Awaiting web site details

Other Council-owned land:

CAR PARK	SETTLEMENT	NUMBER OF CHARGERS	TYPE
Junction 34 Park & Ride	Lancaster	6 x 7kW (BP says 5) 6x50kW	
Aldi	Morecambe	-Type 2 7kW -Type 2 7kW	
Marine Road Central	Morecambe	4 x 7kW (BP map suggests 8?)	
Preston Street	Carnforth	1 x 7kW	
New Street	Carnforth	2 x 7kW	
Market Street	Carnforth	1 x 50kW	

r.e. Junction 34 Park and Ride says:

 CCS	50kW	Available
 CHAdeMO	50kW	Available
 Type 2	43kW	Available

Pool Cars/Car Clubs

In May 2021 the Council also launched a new scheme to provide a pay-as-you-go EV hire service for members of the public within the District. This has been set up in partnership with Co-Wheels. Currently the Co Wheels Car Club offers the use of two of the Council's pool cars to the public outside of Council working hours (Monday-Friday 6pm until 12am, and at the weekend from 6am until 12am). These are located in the Charter House car park in Lancaster and the Festival Market car park in Morecambe. Members of the public just need to set up an account, which they can use to book an EV and manage their credit and fill out a vehicle check form.

The advantage is that now the Co-Wheels scheme is up and running within the Lancaster District, should a development proposal seek to include provision for a car share scheme, there is a strategic, long-term management model which is already accessible. Utilising the Co-wheels website, members of the car share club would be able to log on and view the EV's they are able to access, how and when. Given the EV technology is very much in it's infancy, people are not very familiar with the concept of an EV or how to use them. Therefore, the Council's Co-wheels scheme provides the opportunity for people to experience an EV without having to commit to initially purchase one for themselves. Initiatives like this further help to promote the use, in anticipation of promoting the uptake, of EV's.

There are many benefits of a car share scheme/club, a key one of which is reduced car use. The requirement to book a car, means a car will only be used when it is needed. Ultimately this will result in fewer cars on the road, which will have positive impacts for air quality, and sharing cars means fewer car parking spaces will be required. However, it is recognised that private car owners value the convenience that private car ownership brings and so in order to be seen as an appropriate alternative, EV car clubs need to be convenient. This means that they must be easily accessible, both in terms of location and their availability, and they must be reliable and cost-effective. From the perspective of the provider of a car share club such as Co-Wheels, in addition to the above benefits

and the positive impacts such as scheme will have in terms of climate change mitigation to help address the Climate Emergency, there is also the commercial element, in providing the potential for another stream of income.

Therefore, the Council will support the use of car pool/car sharing schemes within all new and existing development, in principle, subject to compliance with all other relevant policies contained within the Local Plan.

It is recognised that EV's are still not net zero emission, and that they don't generate the health benefits which come through active travel (walking and cycling). However, "EV's create the greatest carbon reductions and co-benefits when they are shared (through car clubs or ride-sharing) and when they are used for trips which cannot easily be made by active travel or public transport"³⁰.

Electric Taxi's

Funding was secured from the Office for Low Emission Vehicles (OLEV) for the installation of 4 rapid EVCP's within the Lancaster District. Within Lancashire the aim is to provide charging infrastructure to support around 50 taxis within each District by 2025. In the interim, dependent on electric taxi use, it is envisaged that the charging points will be open to general and/or permitted use by a wider vehicle fleet.

They've been installed at the following locations:

- Pedder Street Car Park, Morecambe
- Main Street Car Park, Heysham
- Spring Garden Street, Lancaster
- Auction Mart Car Park, Lancaster

(Chargers we are providing are ultimately for taxi use, but will be open for general use until we have a good sized fleet of EV taxis that are using the chargers).

Electric Buses

Have attached DNO quote for provision of chargers to serve 35 buses at the bus depot (£200K). This is just the estimated connection cost. Provision of chargers (19 120KW chargers - each serving two buses 60KW to each bus ie 19 – per 120KW chargers is estimated to be £41K per charger - 19X41=£779K) .382KW electric buses cost around £350K (twice cost of equivalent diesel bus). Therefore rough cost difference of purchasing electric buses instead of diesel buses for 35 services running between Morecambe and Lancaster is 35X £125= £4.3M. Total cost for package probably somewhere around £6M. Can this be added as suggested to S106 funded wish list? NB this is only for part of bus fleet - if all buses then probably more than treble cost.

³⁰ [5.91 EVs decarbonisation and transport 1.pdf \(local.gov.uk\)](#)

4. EV Infrastructure Design Principles

The purpose of this section is to set out a series of principles/considerations which should be taken into account when designing EVCP's and associated infrastructure. Whilst it is recognised that there are a number of cases whereby EVCP's can be installed via permitted development rights, as set out in Section 2, such development should also consider the guidelines set out in this section when designing EV charging infrastructure. Whilst it is recognised that there isn't a one size fits all model, as it will depend upon the nature of the development proposed (location, travel needs, demographic of development users etc) and so the detail will be determined on a site-by-site basis, to ensure the design of EV charging infrastructure is appropriate and meets the needs of the development circumstances, the following key design principles should be considered from the outset.

There is a need to thoroughly understand EV/ULEV charging requirements both now and in future.

Futureproofing

Given the relatively recent emergence of EV's and as their uptake gradually begins to increase, it is a technology which is continually evolving. It is therefore important to ensure that EVCP infrastructure that is installed as part of a new development is future-proofed to provide flexibility for future changes and technological advancements. For example, where EVCP's are not directly installed at the outset of the development, the underground infrastructure (cabling and ducting) should be installed wherever possible, to avoid the need for retrofitting and to enable the development to be able to easily adapt and meet the needs of EV users as demand develops. Given the Government are proposing to end the sale of new petrol and diesel cars in 2030, gradually many more vehicles owners will be looking towards EV's, and how and where to change them will become an increasingly important factor in deciding where they will live, work and visit. Additionally, it is preferable if specific charging features such as the plugs used, are universal, so that EV users are not limited to which chargers they can use (i.e. plugs which are only compatible with their make/model).

The user interface between the EVCP and the payment system should be as universal as possible, with the option for more than one payment method (i.e. not just card or mobile web app – in case signal or battery is lost). All equipment and systems must allow interoperability between different CP network providers.

Promoting the use of EV's requires flexibility, to ensure the infrastructure put in place today is futureproofed and does not become out of date and obsolete.

Development Use

The type of development being proposed has a significant influence on how long vehicles will be parked for and thus determines the time available for charging, and thus the type and speed of charger which will be most appropriate. For example, at a dwelling, charging will typically take place overnight and so a slower charge is acceptable. Whereas at locations where the length of stay/time plugged into the EVCP will be much shorter, for example at a supermarket, a faster charge speed will be required. Where a stop is made primarily to 'power up' such as a fuel or service station, a rapid charge will be needed. **Retailers who charge for parking will be encouraged to remove the parking charge for vehicles using EVCP's.** For businesses with car parking (such as supermarkets) EVCP's can also provide an opportunity. For example, the recently built Aldi in Lancaster teamed up with an EV provider.

WOULD IT BE USEFUL TO INCLUDE A SPECIFIC CASE STUDY ON THIS – A GOOD MODEL FOR OTHER SUPERMARKETS?

Dependent upon the charge speed adopted, it may also be appropriate to set a limit on the length of stay. The length of stay needs to reflect the speed of the charger.

- Charging on the move
- Destination charging
- Residential charging

Employment uses are likely to require a mix of fast and slow charge, fast charge for staff who do not spend all day on the same site and slow charge for those who do. When considering the best way to deliver EVCP infrastructure for business users, the Energy Saving Trust have highlighted a number of key considerations³¹:

- Daily mileage
- Downtime (time vehicle not in use, for example at the depot). Length and frequency of downtime can influence type of EVCP that would be most appropriate. Larger fleet of EV's with a significant amount of downtime (i.e. charge for longer periods of time) a greater number of EVCP's will be needed but they may not necessarily need to be fast or rapid.
- Electrical demand – important to balance considerations as faster charging will reduce the charging time but increase the electrical load.
- Future-proof solution with required flexibility to adapt to a rapidly changing market.
- Energy storage (by integrating renewable energy generation such as solar panels or wind turbines, reduced drawdown from the grid will reduce carbon emissions. (Also once the battery capacity of an EV is depleted below a level deemed suitable for driving the vehicle it can be re-purposed for energy storage). ASK SUSANNA ABOUT THIS
- Vehicle to grid
- Inductive Charging

Location

The location of EVCP's is important for user safety and convenience, and should be considered within the context of the site. Typically, EVCP's are located near to the buildings/dwellings because this is where the power is, and close to building access points as priority bays as a way to incentivise and reward users. This is often also where disabled bays are located, and it is important to ensure that the required EVCP provision for non-disabled bays does not occupy and effectively replace, dedicated disabled bays. As highlighted above, all EVCP's should be accessible to all, but equally this does not mean that existing disabled parking bays should be replaced. Accessible EVCP's should be provided in addition to dedicated disabled parking bays. Within larger developments avoid locating all in one area, so equidistant to users and supply not favouring some users over others.

It is also important to ensure EVCP's are clearly visible and not tucked around the back of a building. They need to be open to good natural surveillance (i.e. at the front of buildings and not behind them in the dark) and well-lit by natural and/or artificial lighting so that EV users feel safe

³¹ [6390 EST A4 Chargepoints guide v10b.pdf \(energysavingtrust.org.uk\)](#)

using EVCP's, especially at night. In some instances, such as at service stations or fuel stations EV users may have to stay with their vehicle whilst it is charging (i.e. not within the comfort of their own home or leave their vehicle charging whilst they do their food shopping), therefore EV users need to feel safe doing so. If EVCP's are harder to locate, because they are hidden, they are also less likely to be used.

EVCPs must be protected from collision and should be positioned to avoid becoming an obstruction or trip hazard.

- Off-street

- Consideration should also be given to which bays within a car park EVCP's are specifically located within. EVCP's should never be placed in such a way that forces drivers to park on the pavement or across spaces for cables to reach the EVCP from the vehicle³². EVCP's should be placed so they can serve as many vehicles as possible. (While vehicles should leave once they are charged, user experience and access to the chargepoint will be improved if the layout is designed to be as flexible as possible) (In general, EV's can use chargepoints within 5 metres as most charging cables are roughly 4-8 metres long). (See images below taken from Energy Saving Trust Guide 'Positioning chargepoints and adapting parking policies for electric vehicles'). **Figure X** demonstrates how in a single row of bays the centre space is the ideal position to serve as many spaces as possible and **Figure X** demonstrates that where vehicles park nose to nose, EVCP's can be located so they can serve any 2 of up to 8 bays³³.

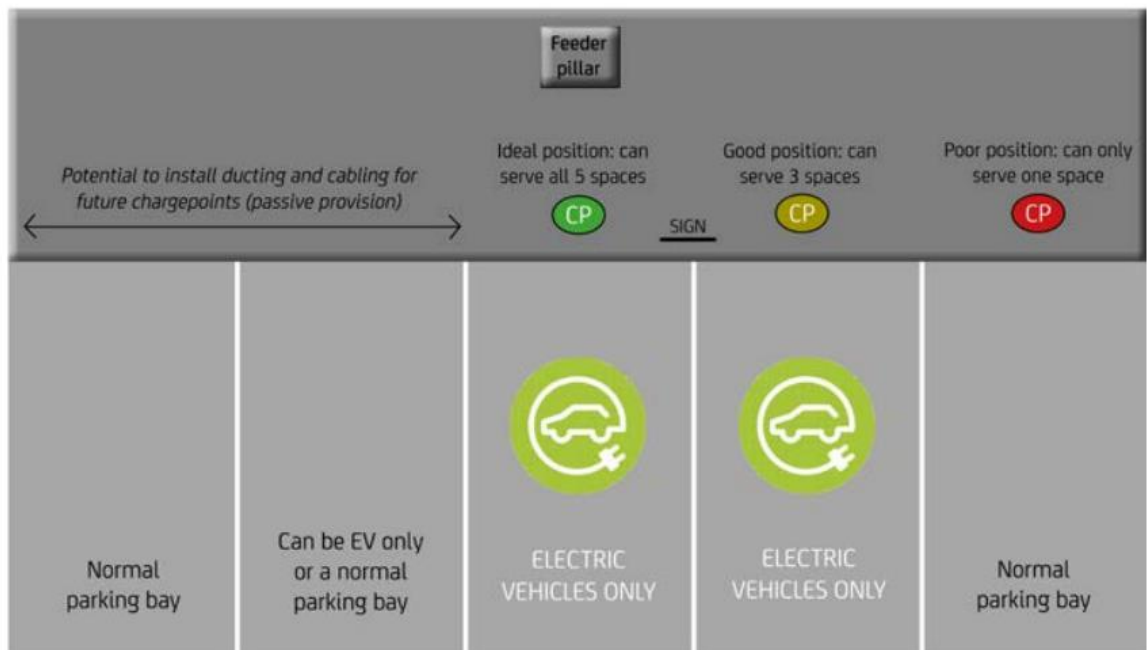


Figure X: Diagram to show how the placing of chargepoints and dedicated EV bays can restrict or maximise access. Not to scale. (Source: [Local Authority Guidance - Positioning chargepoints.pdf \(energysavingtrust.org.uk\)](https://www.energysavingtrust.org.uk/local-authority-guidance/positioning-chargepoints))

³² [Local Authority Guidance - Positioning chargepoints.pdf \(energysavingtrust.org.uk\)](https://www.energysavingtrust.org.uk/local-authority-guidance/positioning-chargepoints)

³³ [Local Authority Guidance - Positioning chargepoints.pdf \(energysavingtrust.org.uk\)](https://www.energysavingtrust.org.uk/local-authority-guidance/positioning-chargepoints)

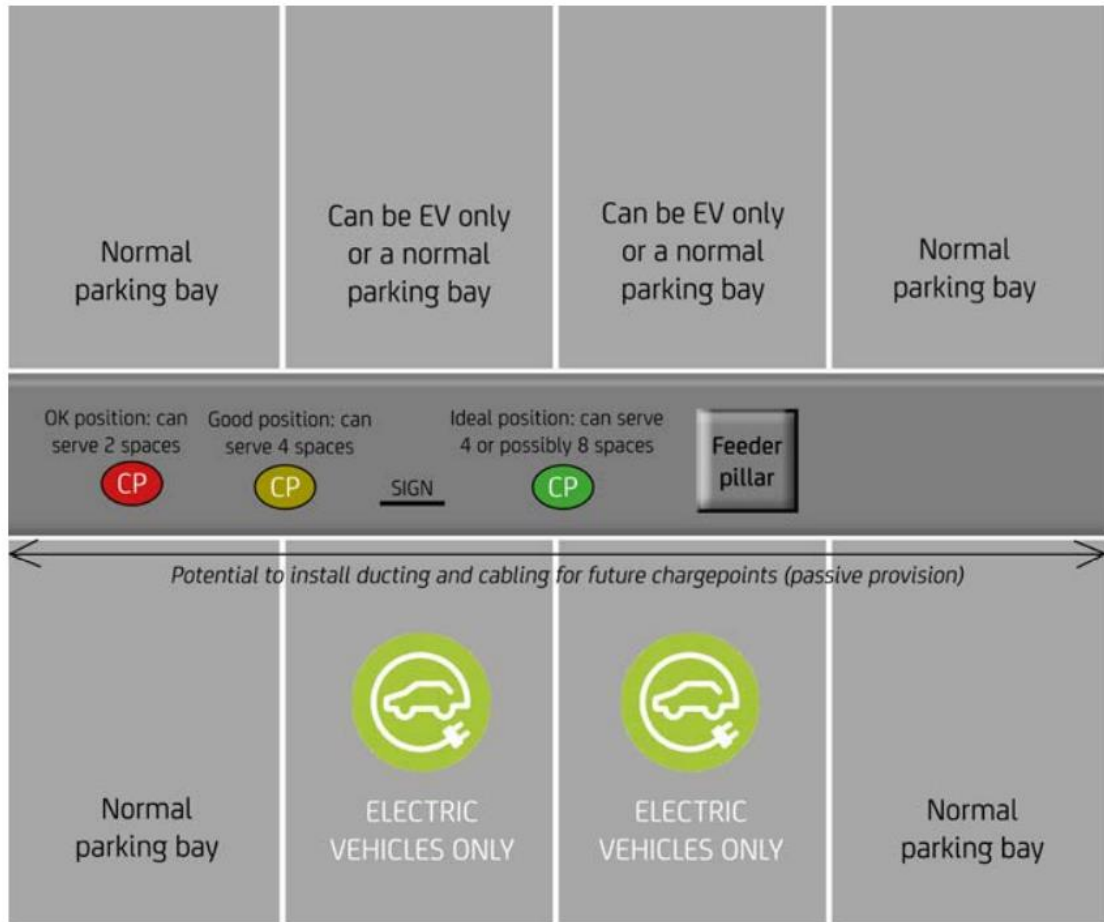


Figure X: Diagram to show how the placing of chargepoints and dedicated EV bays can restrict or maximise access in a car park island bay layout. Not to scale. (Source: [Local Authority Guidance - Positioning chargepoints.pdf \(energysavingtrust.org.uk\)](https://www.energysavingtrust.org.uk/local-authority-guidance-positioning-chargepoints))

INSERT IMAGES FROM WITHIN DISTRICT OF WELL LOCATED EV CHARGEPOINTS IN CAR PARKS

On-street³⁴

- When considering the potential for on-street EVCP's early engagement should take place with Lancashire County Council as Highways Authority. A clear footway width of 1.5m is required for a wheelchair user and a pedestrian to pass side-by-side (check latest guidance for most up-to-date information available)³⁵.
- EVCP's should not be located at the back of a pavement or wall-mounted where this would require cables to stretch across a pavement because this would create a trip hazard
- Avoid locating EVCP's where the pavement space is already restricted by other street furniture, such as road signs, feeder pillars or bike racks to avoid street clutter. Careful consideration should be given to the impact the EVCP would have upon the streetscape, and where appropriate, particularly the impact upon the historic environment (for example Conservation Areas)

³⁴ [Local Authority Guidance - Positioning chargepoints.pdf \(energysavingtrust.org.uk\)](https://www.energysavingtrust.org.uk/local-authority-guidance-positioning-chargepoints)

³⁵ HM Government, Inclusive Mobility Guidelines https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/3695/inclusive-mobility.pdf

- An alternative option would be to place the EVCP on a 'kerb build out' ('plinth') between the parked vehicles, protected by barriers, to avoid reducing space for pedestrians. However, this approach would reduce the space available for car parking.

Covered car parks are addressed within the updated Building Regulations (2021). For example in underground car parks, signal availability is among the factors that need to be considered when installing EVCP's.

Existing features within the vicinity also need to be taken into account. For example, trees, as emphasised in the revised wording of policy DM45. Trees have the potential to impact upon EVCP's, both the above ground impacts such as sap dropping onto the devices and the potential below ground impacts of the roots. Trees also require general maintenance such as pruning and so the EVCP should not obstruct this. Car park ponding (pools of surface water accumulating in dips of car parks) can be a cause for concern for EV users, with concerns surrounding potential for electrification (although not possible). Therefore, when installing EVCP's car park levels should be assessed to avoid this happening.

Accessibility

Physical

As set out in policy DM62, it is important to ensure that all EV charging facilities are accessible to those who may have mobility disabilities. The recently updated Building Regulations (Part S) provides further details on the legal requirements to ensure EV charging facilities are accessible to all. This includes factors such as space, height of the charger, raised surfaces (for example kerbs) and signage both on the ground and notices. Curbs should be avoided to ensure EVCP is wheelchair accessible, but if they are required, they should be painted in a colour which makes them visible to avoid any trip hazards.

Signage

Effective signage helps to ensure EVCP's are accessible and visible to all. For example, including details on how to charge, speed of charge, type of charger, how to pay and length of stay (where appropriate). EV charging bays should be dedicated to EV users only, so that petrol and diesel vehicle users are aware of their purpose and do not block access to EVCP's, and clearly marked out on the ground using light coloured/vibrant paint (where appropriate) and signposted with all the necessary information should be displayed. Own signage should not be created. The Traffic Penalty Tribunal (TPT) body are paying increasing attention to the detail of the terms and conditions sign. The Department for Transport have produced a fixed EV sign with the purpose of being used for all EVCP's to ensure the same information is available to all. The TPT are also available to provide advice. Consideration may also need to be given to limit the length of stay to ensure EVCP's (particularly those which are fast or rapid) to ensure chargers are shared, and as many EV's can be charged by that EVCP as possible.

Power Generation

Consideration should be given as to how the EVCP can be most sustainably charged. Where possible, electricity provision should be secured via onsite renewables, such as solar panels. This could also help to alleviate any issues associated with any potential grid capacity limitations.

Think Smart

As indicated, grid capacity needs to be checked to account for regulated and unregulated energy use. It is therefore a requirement that Smart EVCP's are installed to determine whether there is

the capacity to charge an EV at individual house capacity peak times, and where not possible, automatically commence charge once capacity becomes available. Smart chargers are designed so that they can pause, increase or decrease the rate of charge going into an EV. This is in response to signals sent by the chargepoint operator, energy supplier or industry parties, such as electricity network operators, to reflect current demand on the electricity system. The user is in control of how this occurs, choosing the parameters on the smart chargepoint to suit their driving and charging needs, while allowing some level of relinquished control in return for lower electricity costs³⁶.

Ideally homes should be three-phase (not just single phase) to take account of regulated and unregulated energy uses (to accommodate higher demand of net zero future).

Vehicle-to-grid (V2) systems can also be adopted to further mitigate any negative impacts of limited grid capacity, and also has the potential to provide the opportunity for a monetary return by selling electricity back to the grid to feed back into the system to help meet demand at peak times.

Historic Environment

(street scene – minimising street clutter – not in bike lanes, shouldn't impede pavement access)

Exemption 2: Exemption for buildings undergoing material change of use for listed buildings, buildings in conservation areas and buildings included in schedule of monuments.

The Government will introduce an exemption for listed buildings, schedule monuments and those in conservation areas from the requirement to install a charge point in new homes, with associated parking, where they have been created from a material change of use where the installation of an electric vehicle charge point would lead to unacceptably altering the character or appearance of the building or its surrounding. We will set out in the Approved Document that building control bodies should consider the advice of the local council's conservation officer when deciding whether the exemption applies. This is in line with other building regulations. The Government is sympathetic to the concerns raised about the potential for city centre areas to consequently lack the number of desired charge points and the need to maximise the number of properties with electric vehicle charging infrastructure. However, we believe it is right that decisions should be made under the guidance of local council's conservation officers, who are best placed to make decisions considering the needs of local people.

Lamppost charging could be an option to reduce street clutter if on-street charging is required. Early engagement with the Council's Conservation Team is strongly advised when looking to install an EVCP which may impact upon the historic environment.

Management and Maintenance

A plan should be put in place for the management and maintenance of EV charging infrastructure, particularly where the chargers are being shared within a communal space. This could be part of a Travel Plan or a Car Park Management Plan. For example, it is important that a plan is put in place to address how the electricity used to charge communal EV's will be paid for. EVCP's should also be appropriately maintained to ensure they are working and available for use, to avoid users arriving to discover the EVCP does not work. The plan should also consider how change in demand may be responded to (i.e. if there is a significant increase in the number

³⁶ [Guide to charging electric vehicles - Energy Saving Trust](#)

of EV's users at the development but not sufficient EVCP charging infrastructure to meet the rise in demand, how the current supply will respond to this needs to be considered).

Other Useful Design Considerations:

- The positioning of the EVCP to avoid any potential damage, for example, do not install under a gutter
- The storage of infrastructure associated with the EVCP, for example, the provision of a box to store the cable
- The safety of the EVCP and associated infrastructure, for example, cable leads are a trip hazard and so to avoid having to walk over the cable to get into the dwelling, a cable channel could be created, factoring in what other implications this may have, such as upon drainage
- The use of lights/LEDS to clearly display the charging equipment status

5. Securing EVCP's

In line with the NPPF, EVCP's will be secured via Planning Condition attached to the consent being granted for a planning application. Ideally developers will include the details of their EVCP's with their planning application but if not, the details will need to be covered as part of the Discharge of Conditions process. Due to rapidly evolving technological changes in terms of EV charging infrastructure development, applicants/developers are required to review and take account of the latest available information and consult with the Local Planning Authority.

This SPD has highlighted that all practical considerations involved with the implementation of EVCP's need to be considered as early in the design stage as possible to deliver EVCP's in safe, accessible and convenient locations. As demonstrated in Section 4, the design can be dependent upon a number of different factors. Therefore, to satisfy the planning policy and the subsequent planning condition requirements for installing EVCP's, the applicant will need to demonstrate how the operational EVCP's will be delivered on the ground as part of the new development. The 'intention' or commitment in principle to install an active EVCP will not be considered acceptable.

Alternatively, as previously discussed, in central locations close to public car parks, a contribution towards the provision of EVCP's in public car parks may be sought via a Section 106 agreement.

Active Charge Points (fully installed, wired and ready to use)

- Details on the location, number and capacity / charge rate of the EVCP to be / being installed. It is acknowledged that the exact model and specification may not be available at the early design stage.

Good practice is to install double charge point.

- Location of proposed parking bays

- Size of parking bay – a standard sized parking bay may not be sufficient to accommodate 'Electric Vehicle Charging Only' bay marking / signage, charging infrastructure, impact barriers if required etc.

- Placement of EV Charging Infrastructure

- Location and/or layout of charging equipment in respect to parking bays i.e. 2 vehicles served from one charge point, charging cables in proximity to pedestrians, blocking pavements etc. Charging Infrastructure should be positioned to avoid becoming an obstruction or trip hazard

- Free space requirement around the charging point (ventilation and cooling and maintenance purposes)

- Availability of power supply. - Proximity of metered energy supply/electrical supply - Electrical installation requirements - electrical wiring regulations including method of electrical earthing (BS7671: 2018 Requirements for Electrical Installations. IET Wiring Regulations 18th Edition or as superseded)

- Detailed drawings of Electric Vehicle Charge Points and cable enabled points should be provided.

- Details of the charging network to ensure that the network is compatible with existing charging networks, including in terms of payment method

- Information regarding EV charging provision, capacity and future-proofing cabling/ducting, including opportunities for network upgrades to accommodate increased demand within all marketing material, 'Welcome packs' and Travel Plans.
- Where charging facilities are shared, any provision of infrastructure shall also include EVCP parking management arrangements for the future operation and maintenance of the facility, including fault identification / repair and where applicable management procedures / mechanisms in place to ensure the EV parking bays are only used by electric vehicles and for appropriate charge time periods.
 - Details of signage and carriageway markings
 - Details on how the electric charging equipment will be managed and operated (e.g. charging regime, details relating to public access, how the equipment will be maintained, how the parking spaces will be managed to ensure vehicles do not over-stay etc.)

Passive Charging Points (Infrastructure installed but no charging equipment)

Where passive provision is required for the future active EVCP's, the enabling infrastructure should be provided from a metered electricity supply point up to the future connection point. The applicant will need to demonstrate that the following practical aspects for passive provision have been considered and incorporated into the design of the development:

- The layout and design of the parking bays with respect to the location of future infrastructure
- The location of the future EV connection points, including location of the power supply
- Provision of a dedicated, safe, unobstructed route for electrical cabling from the electrical supply point to the future connection location
- Allowance is made for reserving future electricity grid capacity provision at the development site.

Useful Documents

It will be useful for applicants/developers to have regard to the following documents:

- Making the right connection – General Procurement Guidance for Electric Vehicle Charge Points, 2019 by UK Electric Vehicle Supply Equipment Association (UKEVSE), or as superseded (<http://ukevse.org.uk/content/uploads/2015/04/CNX2849-UK-EVSE-ProcurementGuide-AW-WEB.pdf>).
- Charging Electric Vehicles by EST, DfT and OLEV 2019 (<https://www.energysavingtrust.org.uk/transport/electric-cars-andvehicles/charging-electric-vehicles>) or as superseded
- IET Standards Code of Practice for Electrical Vehicle Charging Equipment 3rd Edition or as superseded
- UK Power Networks – various ELECTRIC VEHICLE CONNECTIONS Engineering Design Standards (<https://www.ukpowernetworks.co.uk/electricity/electric-vehicle-chargingpoint/electric-vehicle-charging-point-help-and-advice>)

- Approved Document P: Electrical safety – dwellings and Electricity at Work Regulations HSR25, BS7671:18th edition (2018)