



As a consultancy, Project Centre recognises it has a role to play in decarbonising the transport sector as a company; this extends to supporting our clients to achieve their targets and ambitions, surrounding carbon reduction and air quality through safer and more sustainable practices and projects.

This publication explores the impact and importance of choosing sites for electric vehicle charge points using best practice and guidance from within the industry. Project Centre has created a checklist assessment tool, used internally, to assist with and streamline site audits and to ensure that proposed sites are assessed using the same set minimum standards – we recognised that while there have been guidance documents published for the placement of charge points in London, there have been no official guidelines set for the UK.

Project Centre offers a selection of services to help with the introduction or expansion of a charging network, at any stage of the process. Local Authorities are under a tighter timescale to ensure charging infrastructure is in place to support the switch to electrification, so it is important that networks are futureproofed. Project Centre offers advice on choosing the correct infrastructure, making sure it is designed appropriately and positioned in the most suitable locations. We firmly believe that electric vehicles are not a solution by themselves but must be considered as part of a wider shift towards sustainable travel modes and behavioural change.

In June 2019, the UK Government committed to bring all greenhouse gas emissions to Net Zero by 2050. Reducing greenhouse gas and harmful air pollution emissions is essential for the UK's future as a healthy and sustainable economy. The UK Government acknowledges that "transport has a huge role to play in the economy reaching net zero" (DfT, 2020)¹. At the national level, the Government has set out its aims for zero emission transport in its 'Road to Zero' vision, in which it calls for at least 50% – and as high as 70% – of new car sales and up to 40% of new van sales to be ultra-low emission by 2030. More recently in 2020, announcements were made declaring that no new conventional petrol or diesel cars or vans will be sold in the UK come 2030.

Road transport is Europe's largest source of CO2 emissions, accounting for 20% of all emissions. Studies carried out in recent years conclude that an electric car over its lifetime produces 50% less CO2 emissions than an average EU car today². In the UK, road transport

accounts for a third of all CO2 emissions and became the largest emitting sector of Greenhouse Gas emissions in 2016³. Achieving net zero transport emissions by 2050 will require urgent action and require an element of behavioural change in the way that we travel. Zero emission technology plays a vital part in decarbonisation – so what role do Local Authorities have in achieving and accelerating this reduction in carbon emissions?

Councils have been publishing commitments and delivery strategies outlining their actions to reduce emissions from transport and electric vehicles are an element of these much broader action plans.

To help achieve the ambitions set by the Government, charging points should be installed efficiently and effectively, to ensure infrastructure is no longer a barrier to drivers switching to electric vehicles - the perceived availability of charging infrastructure is a further cause for concern for consumers (OIES, 2020)⁴.

¹ DfT. (2020a). Decarbonising Transport: Setting the Challenge
² <https://www.transportenvironment.org/what-we-do/electric-cars>

³ 2018 UK Greenhouse gas emissions, provisional figures, National Statistics, UK Department for Business, Energy & Industrial Strategy

⁴ <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2018/06/Electric-vehicles-and-electricity-Insight-36.pdf>

When introducing a charging network, consideration should also be given to all footway and road users to make sure we are not only providing solutions for electric vehicle drivers, but we are creating cleaner, greener and smarter towns and cities for everyone.

Working closely with Local Authorities has highlighted the importance of charge point locations being considered under a set of guidelines, providing some consistency. Best practice is an evolving concept which requires us to continually learn and share our ideas.

At Project Centre, we approach choosing locations from two angles:

- Finding the correct geographical location (A well-placed charger of the right capacity can potentially charge many more electric vehicles than multiple units in the wrong place).
- Ensuring we use best practice when selecting sites to prevent causing issues during installation, or causing contention between other footway/road users.

To determine an appropriate geographical location, it is important to ask questions such as:

- What type of network do you want to introduce?
- Who are you catering for?
- What land-use patterns make up your borough/ward/district?
- Where is there demand for charge points?
- Would the charge point be easily accessible?

Once a location has been identified, we can start to evaluate the site.

Our design assessment tool is a checklist that local authorities can use to streamline their site selection process during a site audit, to identify whether a particular location is suitable for a charging point. We have used these criteria while working on projects with charge point operators, and have applied them to subsequent site selection exercises in different boroughs.

Our site assessment tool combines questions from different disciplines within a council or organisation; Parking, Street Lighting, Highways, all of whom have a different, or potentially conflicting, set of priorities when installing charge points; how will parking be affected? Will we need to relocate street lighting columns? What information is required for Highway Consent Forms?

The tool reduces the likelihood of problems during installation and takes into consideration not only electric vehicle owners, but also all footway and road users. We should be combining multiple disciplines, such as Public Realm and Transport Planning, to create inclusive spaces.

The tool has been used by Project Centre colleagues to audit potential sites for boroughs and has proven to be useful, taking approximately 15 minutes per site. Our engineers have been able to return the completed checklist to the Council, enabling them to make an informed decision. We must design our charging point locations on a site-by-site basis; and this tool enables us to do so.

Examples of the criteria included for free-standing charge points are:

- Are there trees nearby?

If there are, we need to consider the canopy and carry out a tree root survey. Installing a charge point about 1.5m away from a tree is usually enough. If further compromises need to be made, consideration could be given to transplanting or relocating a tree, depending on the age of the tree.

- What is the width of the footway?

Can we place the infrastructure on the carriageway?

There has been some debate surrounding the placement of charging infrastructure on the footway (a possible obstruction for pedestrians and footway users) or placing units on build-outs on the carriageway; we must design on a site-by-site basis and consider who else is using that space and what the level of footfall is like. Some streetscape

guidance recommends 2.5m of clear footway however this seems too unrealistic in cities and towns. We also need to account for the fact that from the kerb edge to the back of the charge point the distance can be up to 754mm. Whilst these measurements are flexible to a degree, it is important to find the correct balance for that particular site.

Using this set of criteria, we can collect a vast amount of information to come to an informed conclusion on the site – the assessment will have different criteria to evaluate for slow, residential charge points. An extract from the tool can be found below:

3 - Constraints (all EVCP types)

Is the selected site within a conservation area or close to a listed building? ☐
If yes, must meet particular requirements, including black charge points and black feeder pillars (esp. for rapids)

The parking stress on the section of road is approximately:

0-50% ☐ 50-75% ☐
75-90% ☐ 90-100% ☐

What is the existing parking type?
Provide details of parking bay type, waiting restriction days/hours or note if unrestricted parking

Are any projects or developments likely to change the site in the next 5-8 years? ☐

The Covid-19 pandemic gave us somewhat of an unexpected glimpse of cleaner air, especially in cities. During the national lockdown in 2020, the Department for Environment, Food and Rural Affairs (DEFRA) published some statistics which stated that NO₂ (Nitrogen Dioxide) pollution (predominately from road traffic) had fallen in some cities by 60% compared to the previous year, because of less people travelling and driving. Almost half of all drivers now want to switch to a zero-emission vehicle after experiencing improved air quality during the Covid-19 pandemic⁵. From this, we can assume that

⁵ <https://www.helstongarages.co.uk/news/42percent-of-uk-drivers-likely-to-switch-to-an-electric-vehicle/>

there will be a demand for charging infrastructure; we just have to be mindful about how these networks are designed.

Covid-19 has increased the focus on the space beside the kerb. This space already has multiple uses: parking, deliveries, buses, pedestrians of all abilities, cycling, as well as growing areas such as electric vehicle charging and dockless bike schemes. Now we also need to consider things like social distancing.

A study from March 2020⁶ analysed priorities Londoners ascribe to street space uses. Electric vehicle charging was on that list, but 'trees and other green space' and 'pavements free of clutter' were greater priorities. So, where possible, should authorities look to install or relocate infrastructure on to build-outs positioned in the carriageway? Going one step further, perhaps we could consider where feasible, the introduction of a Parklet. This is a multi-functional space, where although a parking space or spaces are being removed, they are being replaced by space that can be used by different people for different purposes – electric vehicle charging, greening, seating and bicycle storage, for example.

Technology such as wireless induction charging is currently being trialled; if this solution were to become viable and implemented for charging on a wider scale, it could address many of the street space issues highlighted within this publication.

There is without a doubt a long list of considerations to review as part of any site selection process, however a solid charging network with well-placed and well-considered infrastructure will decrease the likelihood of a charge point becoming obsolete. This in turn should encourage the uptake of electric vehicles and consequently help to support the Government's ambitions towards a zero-carbon economy.

⁶ <https://www.centreforlondon.org/reader/parking-kerbside-mangement/introduction/>



**PROJECT
CENTRE**
part of Marston Holdings

Avisha Martin-Patel
Lead Consultant – Electric Vehicle Infrastructure
avisha.patel@projectcentre.co.uk
07792 466 567
www.projectcentre.co.uk