



Telford & Wrekin
Co-operative Council

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TravelTelford



Telford & Wrekin Council Public Electric Vehicle Charging Infrastructure Strategy

June 2022



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1.0 Introduction

Telford & Wrekin Council Public Electric Vehicle (EV) Charging Infrastructure Strategy outlines the commitment we have made in the transition to EVs which supports both local and national targets of decarbonisation.

The UK Government has acknowledged the challenge decarbonisation presents to the UK and Local Authorities and there is continued support in the form of funding for both Local Authorities and the public to transition to EVs.

In addition to funding there are both EV, decarbonisation and charging strategies for the UK as a whole. These strategies are continuing to be updated as new data is available, technology advances and more EVs are on the roads.

In line with this we understand the importance of updating this strategy to reflect new data and the continually evolving technology available within the EV and charging infrastructure markets. This strategy was completed in June 2022 and the analysis and information contained within the strategy reflect what was available at this time. We will regularly review and update to reflect changes.

2.0 Vision and objectives

In 2019, we declared a climate emergency and committed to ensuring we are carbon neutral by 2030. A key part of achieving this will be to decarbonise road transport, reducing the reliance on internal combustion engine vehicles. We have an opportunity to support the transition to alternative fuels and are focusing our efforts to encourage the uptake of EVs within the Borough.

We are committed to creating a sustainable and equitable future for the Borough. Our vision is to support EV users with accessible chargepoints across the Borough to ensure EVs are a viable option for residents, visitors and businesses.

In 2018 the Telford & Wrekin Ultra-Low Emission Vehicle Strategy was published with the objectives for supporting the switch to EVs. In this strategy we outlined our commitment to responding to the growing demand for chargepoint infrastructure and services. In the strategy's action plan the requirement for a considered and data led approach to developing a Borough wide charging network was identified.

This strategy explores how the deployment of charging infrastructure can best be implemented across the Borough to support the transition to EVs.

The strategy supports our objectives of:

- Supporting and encouraging the adoption and roll out of low carbon vehicles
- Raising awareness of sustainable transport alternatives
- Improving the quality of life for residents through a reduction of noise and air quality impacts

In addition to facilitating the transition to privately owned EVs, deploying a strategic charging network will be an opportunity to assess the requirements of the wider network. While we can take responsibility for chargepoint installation in its car parks or on-street, but this strategy recognises the support needed by residents and workplaces to install chargepoints where a need is identified, using grants available.

To create a more sustainable transport system across the Borough, Telford & Wrekin will also be considering how the locations of chargepoints can support wider integration of public transport, cycling & walking initiatives, and other shared modes of transport such as EV car clubs.

3.0 Existing context

Over the last ten years there has been continued growth in investment in charging infrastructure from central government and the private sector, demonstrating the critical role that charging infrastructure has in the continued uptake in EVs.

Telford and Wrekin's Local Transport Plan 2011 - 2026 and Ultra-low Emission Vehicle Strategy 2018 focuses on new technologies, collaboration and partnership development and awareness raising to encourage and support sustainable transport modes. The plan supports the development of this Telford & Wrekin Public EV Charging Infrastructure Strategy and its aim to support the move to low carbon travel. While a key of objective for the Council is to reduce the reliance on private vehicles and support active travel and other modes, it acknowledges that cars will still play a role in the transport choices for many.

In Telford & Wrekin there are approximately 90,500 ICE cars, and approximately 1,300 EVs registered in the Borough. In addition to cars there are also approximately 9,500 lights goods vehicles registered which as EV technology continues to evolve will be more readily switchable from ICE to EV¹. There has been significant growth in the number of EVs registered and to achieve the Council's ambitions of being net zero by 2030, EV adoption and chargepoint infrastructure will continue to play a critical role.

¹ Source: DfT; Vehicle licensing statistics data tables [Vehicle licensing statistics data tables - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/vehicle-licensing-statistics-data-tables)

Midlands Connect, an organisation that researches, develops and progresses transport projects which will provide the biggest possible environmental, economic and social benefits for the Midlands, has analysed a range of industry forecasts on EV uptake. 'Supercharging the Midlands' presents three scenarios of EV uptake (21%, 28% and 41% of vehicles will be electric by 2030) highlighting the urgent need for a public chargepoint network.

The chargepoint network across Telford & Wrekin continues to grow and is a combination of publically and privately accessible chargepoints along with those located at resident's homes. In addition to the varied locations of chargepoints there are also a variety of operators across Telford & Wrekin with a range of costs and methods of accessing chargepoints. As it stands there is no Government managed database for all chargepoints and therefore [ZapMap](#)² is consistently used as the data source.

4.0 Location demand analysis

To understand the requirements for EV charging thorough demand analysis was completed as part of a study. Over 50% of households within Telford & Wrekin have one or two cars and with commute by car being the most common mode. There is a demonstrable need for endorsing the switch to EV or other modes where possible.

There are five types of charging locations that have been identified:

- Off-street charging residential locations – these are locations where EV owners can install a chargepoint for their own use for example on a driveway or private land
- Off-street charging locations – these are locations where chargepoints are in publicly accessible car parks, for example at supermarkets, drive-thru's and other retail locations
- On-street charging locations – these are locations where chargepoints are located on the street
- EV forecourt – these are chargepoints which are installed at existing fuel stations
- EV charging hubs – these are dedicated locations for charging, with multiple rapid or ultra-rapid chargepoints

The demand analysis has identified proposed areas where each of the above locations would be most suitable. Within these proposed locations the available technology was considered and the ability to provide optimal charging. For locations such as car parks and EV charging hubs priority would be given to installing fast, rapid or ultra-rapid solutions. For on-street charging solutions such as pop-up chargepoints and lamppost charging would be feasible solutions. When undertaking feasibility assessments in locations we will ensure that new technology is considered to provide the optimum solution.

² Source: [Charging points and electric vehicles UK 2022 - Zap Map \(zap-map.com\)](#)

Analysing the propensity for EV ownership across Telford & Wrekin has indicated that a large proportion of chargepoint demand could be best served through off-street charging residential locations. The locations have been identified through a desk-top review of the housing type and a 1km area of potential has been mapped. These areas will undergo further review and where needed an engagement exercise on the transition to EV will be undertaken. Where off-street residential charging wasn't deemed a suitable solution, but there was high propensity for EV use, EV hubs or off-street charging in car parks has been prioritised.

From the collation of the suggested location types a charging infrastructure hierarchy has been developed which illustrates the priority of charging locations that will be promoted in Telford & Wrekin. This can be seen in Figure 1.

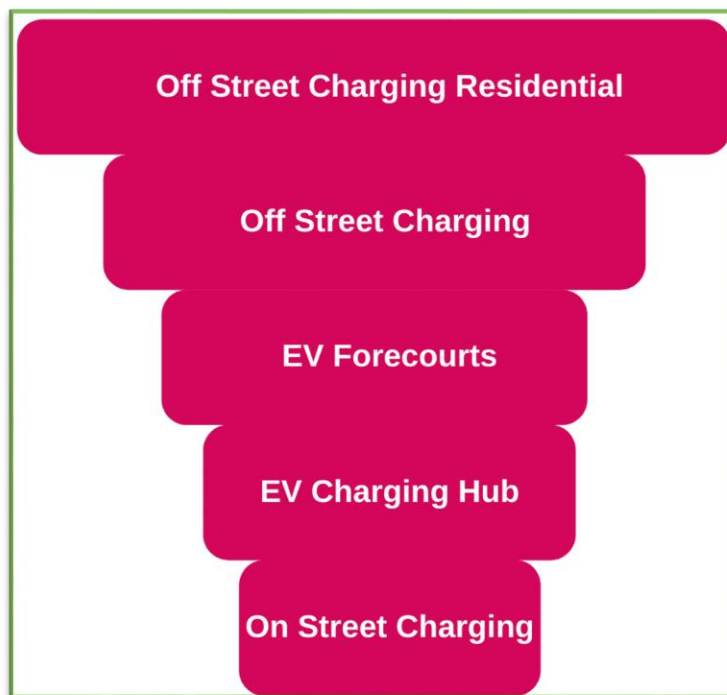


Figure 1 - Telford & Wrekin Council Public EV Charging Infrastructure Hierarchy

Each of the location types require different action. At a high-level, with regards to off-street residential charging, EV forecourts and EV charging hubs we will play a facilitating role and encourage individuals and the private sector to explore opportunities and funding available. We will support the deployment of chargepoints in these locations and will engage with interested parties. Regarding off-street charging where car parks are owned by the Council we will be considering the feasibility of installing chargepoints at these locations.

While the initial analysis has established that on-street charging should not be the priority, the hierarchy is not static and the analysis should be reviewed when new data sets are available. As EV ownership and the chargepoint network grows, further analysis will be completed to ensure locations are appropriate for the demands of Telford & Wrekin EV users.

The current level of EV ownership and charging infrastructure in Telford & Wrekin indicates that the suggested network and its current capacity can and should be developed over a period and will need continued engagement with residents, the commercial sector and the wider government bodies to maintain momentum.

To support futureproofing, reducing costs and complying with government policies, ducting and cabling for future chargepoints will be installed as part of the installation of chargepoints particularly at off-street charging locations.

5.0 Engaging with EV Charging Infrastructure

There are a variety of methods for residents to engage with EV and charging infrastructure. For residents, we have produced a Public EV Toolkit that provides an overview of the technology, the key considerations when buying an EV or installing charge points and information on grants available. It also provides useful links and addresses FAQs.

We will work with residents to improve understanding of EV and the charging infrastructure to optimise residents' confidence in switching. While engaging with stakeholders across Telford & Wrekin we will take on-board feedback to ensure a successful charging network is provided.

6.0 Workplace Charging

The Council is exploring the feasibility to install chargepoints at their own premises for their operational fleet, for employees and visitors.

Other workplaces and employers are encouraged to install chargepoints where necessary. Workplaces providing chargepoints are supporting the transition to EVs and providing further capacity to the charging network.

For workplaces there are national grants, such as the Workplace Charging Scheme which could be applied for. Workplace chargepoints support the Council to roll-out charging infrastructure across the Borough. In addition, many workplaces now have internal sustainability targets and carbon reduction plans which can be supported by encouraging the uptake of EVs with their staff and visitors.

7.0 Action Plan

On the journey to net zero there are current and expected policies and funding that will impact Telford & Wrekin in supporting the transition to EVs and the deployment of charging infrastructure. Those that have had and are anticipated to have the largest impact are shown in an infographic in Figure 2.

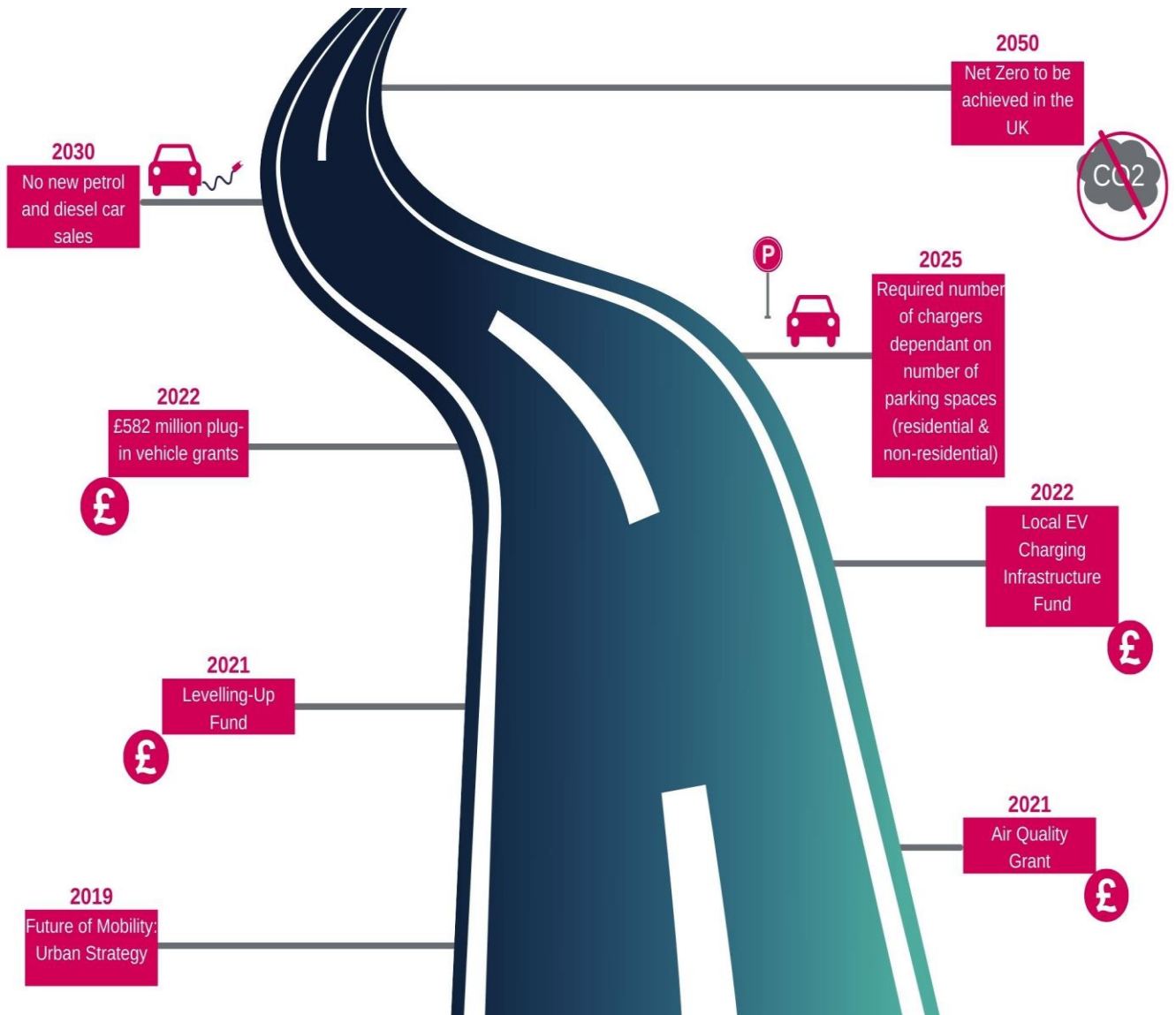


Figure 2 – Roadmap to net zero

In identifying the key policies and funding we will ensure our next steps in the development of a charging network meet both the local and UK wide objectives. We have developed an action plan covering three key areas: funding, procurement and engagement.

7.1 Funding

In implementing the strategy, we will look to utilise relevant funding from UK Government, the Department for Transport and Office for Zero Emission Vehicles. This will allow the funding to be deployed to support the widest distribution of chargepoint solutions. In addition to this form of funding, we will also explore the commercial partnership opportunities which may be applicable.

To achieve this we will:

Action	Timescale - 2022
Assess any new funding that is released in the new financial year, for example the replacement of the On-street Residential Chargepoint Scheme (ORCS) or the Local Electric Vehicle Infrastructure Fund (LEVI)	If applicable apply by September 2022. (ORCS application deadline is 31 st March 2023). Next round of LEVI funding to be announced.
Assess applicability and apply for the Workplace Charging Scheme	If appropriate by the end of August 2022
Identify additional funding where necessary to contribute to grants i.e., 40% of total costs	If applicable by September 2022

Table 1 – Funding Actions

7.2 Procurement

The demand analysis identified suitable locations based on relative levels of demand and a high-level infrastructure analysis. Before any chargepoint solution is installed a detailed feasibility at each proposed site is required. This would confirm location and solution suitability by completing:

- Site visits
- Electrical feasibility study
- Civil feasibility study
- Detailed analysis of the users in the area
- Detailed assessment of installation cost (Bill of Quantities)
- Adhering to standardised installation processes (The IET Code of Practice for Electric Vehicle Charging Equipment Installation)

We will outline a clear procurement process for chargepoints at locations that are on Council land and will engage with operators to assess the level of interest in installation of chargepoints across Telford & Wrekin.

To achieve this we will:

Action	Timescale
Liaise with chargepoint operators and create a market analysis	By August 2022
Shortlist potential partners	By end of August 2022
Identify procurement route	By end of August 2022
Determine the commercial and operating model for Council chargepoints	By end of August 2022
Consider the technical requirements including key performance indicators	By September 2022
Liaise with the distribution network operator where necessary	By September 2022
Procure Council chargepoint partner	By end of December 2022
Chargepoint installation	Through 2023

Table 2 – Procurement Actions

7.3 Engagement

We understand the critical nature of engaging with residents and local stakeholders regularly to receive feedback on the deployment and expansion of a chargepoint network. To achieve this we will ensure that residents have access to informative material about EVs and charging infrastructure and are encouraged to transition to EVs.

Local stakeholders will be engaged with where appropriate and engagement with neighbouring regions will be undertaken to explore opportunities to co-ordinate efforts to have a positive impact on users.

To achieve this we will:

Action	Timescale
Engage with the Council's communication team to create, design and plan a communication strategy regarding the installations	By September 2022
Publish the EV Toolkit and promote this as a source of information	By December 2022
Disseminate communications	By December 2022
Review and engage with local stakeholders such as property developers, vehicle dealerships, key workplaces, special interest groups	Ongoing, but key groups to be engaged by December 2022
Develop webpage on the Telford & Wrekin site for EV Toolkit, communications etc.	By December 2022
Review and update the strategy and EV Toolkit reflecting evidence gathered from new data sets and usage of installed chargepoints	By August 2023
Review and update the strategy and EV Toolkit reflecting any new Government guidance and policy	Ongoing but whole review by August 2025
Update planning advice and guidance accordingly reflecting latest Government guidance and policy and any new legislation adopted. New guidance/legislation expected on <ul style="list-style-type: none"> • Accessibility standards for EV chargepoints due Summer 2022. • EV chargepoints in new residential and non-residential buildings and in some cases when buildings are renovated due 2022. 	By April 2023 Planning guidance already produced (see Appendix B) but will be regularly reviewed and updated. New legislation and guidance is expected in 2022.

Table 3 – Engagement Actions

8.0 Next steps

In order to ensure an efficient and data led approach to the implementation of the Telford & Wrekin Public Charging Infrastructure Strategy the following next steps will be taken:

- We will undertake further feasibility analysis before the installation of chargepoints.
- We will assess and apply for appropriate funding to install chargepoints.
- We will ensure a monitoring system is in place to review the impact of the strategy and the use of chargepoints.

- We will ensure that any new Government legislation introduced regarding the installation of EV chargepoints is reflected in the Local Plan, any relevant planning policies and guidance
- We will undertake continuous review of the strategy, and the strategy as a whole will be reviewed in 2025.

Appendix A – Demand Analysis

Methodology

The focus of the demand analysis is to use data to create unique insight into the propensity to use EVs. The propensity to use EVs is directly linked to the requirements for charging infrastructure. Through specific analysis of data related to Telford & Wrekin, a charging network is proposed to meet demand, local strategic objectives and existing and upcoming UK policies.

The analysis focuses on collating and mapping relevant data onto GiS (geographical information system). GiS offers a unique ability to combine data that would not usually be analysed together. For example, combining points of interest with the number of households with more than one car allows us to suggest the types of journeys being made. The visualisation of data in layers also enable easier understanding when analysis is shared. The use of GiS allows for the best use of the available data and ensures analysis is tailored to Telford & Wrekin.

The first step is to create a high-level demographic profile of those most likely to use EVs, using specific Telford & Wrekin data. A matrix is created to assess all types of demographic data and identify areas where there is a highest likelihood of potential EV users. The output from the analysis is a propensity map of Telford & Wrekin showing the areas of high and low propensity to use EVs

Further analysis is then undertaken to consider the infrastructure and journey data across the Borough.

This level of assessment has provided unique insight into the Borough and allows for a charging network to be recommended to suit Telford & Wrekin's requirements towards a transition to EVs.

Demographic Assessment

The demographic assessment uses 2011 census data (the most recently available) and additional local data available to the Council. When the 2021 census data is released and as the charging infrastructure and local developments progress the assessment should be updated to ascertain the new optimum locations. The table below outlines the key datasets, the target population demographic and the rationale for including this sector within the intended audience.

Data	Target	Reason
Age	Majority 25-33 with 34-54 being the next ideal range	Those between the ages of 25-33 are the most likely to adopt new technology
Household income	Minimum of £25k	The current cost of a EV can be prohibitive to lower incomes but the funding available to support purchases of EVs supports this as a minimum
Household access to a car	Minimum one car	The Council is looking to support transition to EV but are also looking to support modal shift away
Household employment status	Employed or a third level student	Those in employment are more likely to be commuting by car in the Borough. Students will also move into employment or purchase cars to travel. These groups are likely to be those creating charging demand in the future.

Table 1 - Key demographic datasets

These data sets are chosen as the most impactful for those likely to adopt an EV in the future. This is expected to change as the expense of owning a private EV lowers and with the development of charging networks. These areas are scored based on the level of target demographics in the areas. These scores are combined in a weighted overall score to create a demographic relative propensity map across Telford & Wrekin for EV uptake.

Journeys Assessment

Journey information assessment uses the Propensity to Cycle Tool (PTC), open street map, and Council provided data. This data is used to map commuter journeys, school journeys and journey purpose (or driver), such as to supermarkets, workplaces and tourist destinations. The current commutes, school routes and the number of these journeys taken by car to establish the number of switchable trips to EV. Where journeys were not able to be mapped, journey drivers were analysed and trips that would most likely be made by car were inferred.

Infrastructure Assessment

Infrastructure data is taken from Western Power Distribution (WPD), open street map, Zap-Map and Council data. The table below outlines the key data sets and the reason for their inclusion within the analysis.

Target	Reason
WPD capacity map	Establish the location of existing sub-stations
Car parks	Establish demand for short-term charging and the car parks ability to deliver this
Land ownership	Establish whether installation would be within Council control
Planning applications	Establish growth in the area and opportunity for growth of off-street and off-street residential charging
Fuel Stations	Establish existing network of fuel stations and infer transition of those fuel stations to EV forecourts as EV demand increases during phase out of petrol and diesel cars. Establishes capacity to add to charging network at these locations.
Existing chargers	Establish locations and types of existing chargepoints

Table 2 - Key infrastructure datasets

These data sets have the highest impact on the development of the charging network both in terms of capacity and available space.

Combined Assessment

The propensity map serves as the base for the combined assessment and, from this, focus on the high propensity areas enables individual assessments. At this individual assessment point, the infrastructure is examined to ensure available space and no overlap with existing chargepoints.

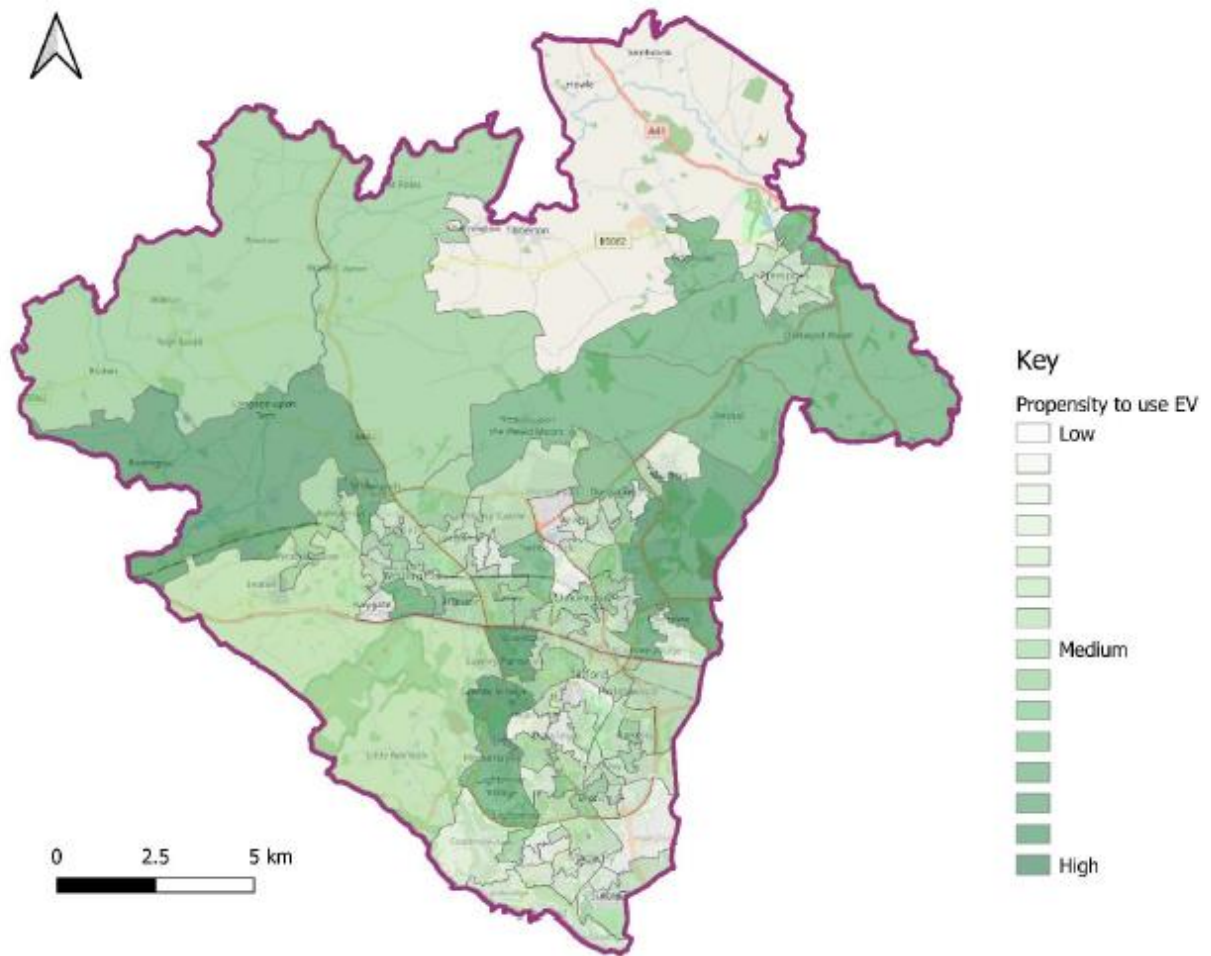


Figure 3 - Propensity to use EV (residential)

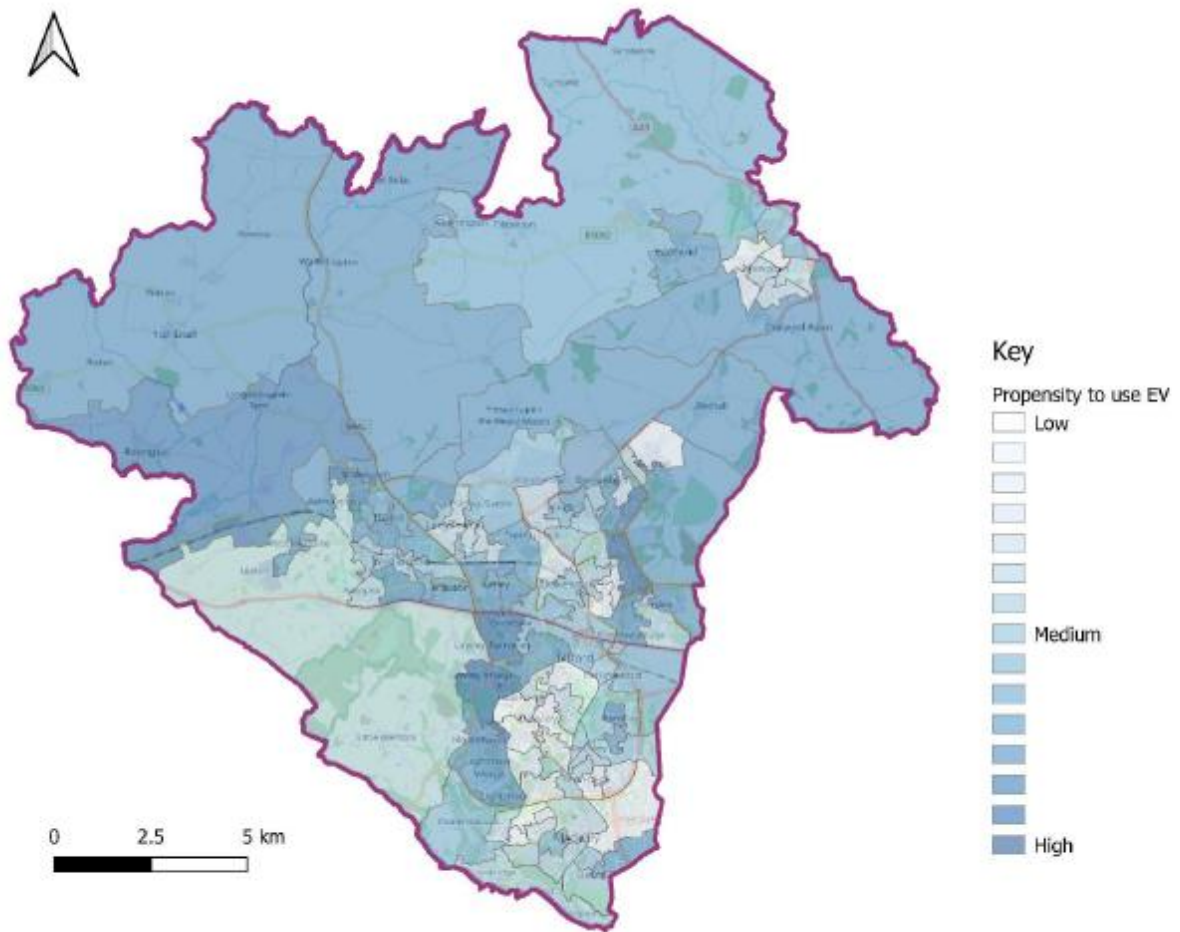
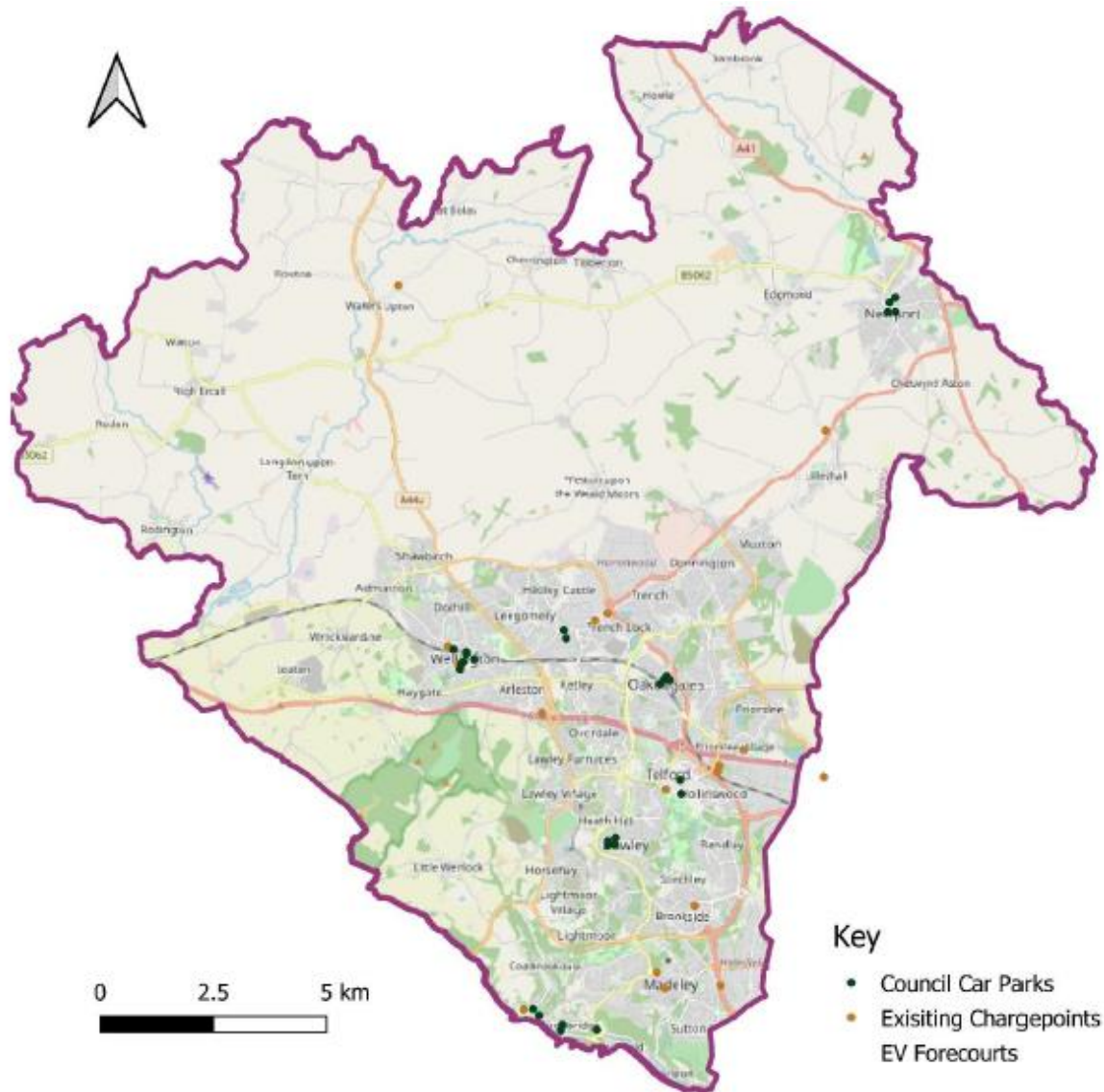


Figure 4 - Propensity to use EV (workplace)



Appendix B – Planning Guidance

Electric Vehicle Charging Infrastructure Guidance Note (September 2021)

Introduction

This guidance note recommends standards for the provision of electric vehicle charging infrastructure in the borough. It is strongly encouraged that all developments that result in an uplift of residential units or non-residential floorspace consider the provision of electric vehicle charging infrastructure.

In July 2019 Telford & Wrekin Council declared a Climate Emergency. The annual update to the “Becoming Carbon Neutral Action Plan” has been published for 2021 and includes actions such as promoting electric vehicles and installing electric vehicle charge points.

Local and National policy encourages the provision of electric vehicle charging infrastructure in new development. The Telford & Wrekin Local Plan was adopted in 2018. Appendix F, Paragraph 29 states that “electric vehicle charging infrastructure in new development is encouraged, where this does not affect the development’s overall viability”.

Following a Government consultation in 2019 on proposed technical guidance for the provision of electric vehicle charging in residential and non-residential development, it is understood that the Government intends to lay legislation later this year to require all new residential and non-residential buildings to have an electric vehicle charge point. This guidance note uses the Governments 2019 consultation as a starting point for the following recommendations for electric vehicle charging infrastructure in residential and non-residential development.

Recommendations for residential development

<p>Designated off road parking space (e.g. driveway)</p> <p>Note: Where possible, the parking space/driveway should be adjacent to the dwelling.</p>	<p>1 charge point fitted with a universal socket (untethered) is provided per unit.</p> <p>The charge point should be located on the side of the property or within the garage where possible.</p>
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<p>Parking courts</p>	<p>1 charge point fitted with a universal socket (untethered) is provided per unit.</p> <p>Where possible the charge point should be provided within the private curtilage of the property to which it relates. For example within the garden.</p> <p>Where charge points are not located within a dwellings curtilage, it should be clarified how the charge point can be protected against wider public use.</p> <p>At a minimum all car parking spaces should be made electric vehicle charging ready.</p>
<p>On street parking</p>	<p>Where charge points are proposed to serve on street parking they should be located so as to protect public and highway safety. For example, there should not be a need for cables to cross footpaths to reach vehicles.</p> <p>At a minimum all car parking spaces should be made electric vehicle charging ready.</p>

Note: Where no parking is proposed, electric vehicle charge points will not be expected to be provided.

Recommendations for non-residential

<p>Designated parking</p>	<p>At least 20% of spaces should have a charge point.</p> <p>At a minimum 20% of car parking spaces should be made electric vehicle charging ready.</p>
<p>Disabled and family parking</p>	<p>At least one space or 20% of the provision (whichever is the larger) should be served by an electric vehicle charge point.</p>
<p>Visitor spaces</p>	<p>At least one space or 20% of the provision (whichever is the larger) should be served by an electric vehicle charge point.</p>
<p>Local Centres (e.g. those provided through major residential development schemes)</p>	<p>At least one space or 20% of the provision (whichever is the larger) should be served by an electric vehicle charge point.</p>

Note: Where no parking is proposed, electric vehicle charge points will not be expected to be provided.

Technical specification

Each electric vehicle charge point should meet all of the following:

- Be designed and installed in accordance with the appropriate parts of BS EN 61851;
- Have a minimum rated output of 7 kW, measured or calculated at a nominal supply voltage of 230VAC;
- Be fitted with a universal socket (known as an untethered electric vehicle charge point);
- Be fitted with a charging equipment status indicator using lights, LEDs or display;
- A minimum of Mode 3 or equivalent.