Electric Vehicle Charging Strategy

Public Charging Network

THREE RIVERS DISTRICT COUNCIL

ELECTRIC VEHICLE CHARGING STRATEGY | PUBLIC CHARGING NETWORK

2024 - 2034

Foreword

Electric vehicles can turbocharge our journey to a more sustainable future.

In 2019, the council declared a “climate emergency” recognising the urgent need to address the problem of a rapidly changing climate and avoid the dire consequences of inaction.

In 2021, the council published its Climate Emergency and Sustainability Strategy which sets out our commitment to achieving net zero by 2030 for our own emissions and to inspire and enable a net zero district by 2045.

In 2024, we published our Electric Vehicle Charging Strategy which describes how the council will provide an electric vehicle charging network across the district.

In the UK, transport is responsible for 24% of greenhouse gas emissions, leading the government to phase out the sale of new petrol and diesel cars from 2035.

In Three Rivers, road transport accounts for 52% of the greenhouse gases emitted by the district.

Electric vehicles are a cleaner, greener alternative to petrol and diesel vehicles. Because they emit no exhaust pollutants, and reduce our dependency on oil, electric vehicles can improve air quality, reduce greenhouse gas emissions and support our journey to net zero.

As a district council, we play an important role in making it easier for drivers to choose, and use, electric vehicles in Three Rivers district. Thanks to our own budget allocation and a successful bid for external funds, this strategy will spearhead the first rollout of publicly available electric vehicle chargers on council-owned land.

By providing conveniently located chargers for residents, shoppers and visitors to Three Rivers, we can facilitate the use of electric vehicles when travelling around the district.

Publicly available chargers enable the uptake of electric vehicles and help drivers prepare for the phase out of petrol and diesel vehicles in 2035.

Our strategy focuses on providing chargers in three types of location: town centre car parks, visitor destination car parks and on-street residential car parks.

Our strategy proposes a mix of fast and rapid chargers across a variety of locations which is expected to provide electric vehicle owners with flexibility and confidence on how and where they charge.

So, whether you're popping to the shops, enjoying a night at the theatre, going for a session at the gym, or just parking up at home after a long day's work, you'll be able to charge your electric vehicle.

We hope you'll join us as we continue our journey to a greener and more sustainable future.

Sincerely,

Cllr Stephen Giles-Medhurst

Leader, Three Rivers District Council

Cllr Sarah Nelmes

Lead Member for Public Services

1 Introduction

1.1 Background

The UK is committed to reaching net zero by 2050 and the aim of limiting global warming and resultant climate change. Net zero means that the total greenhouse gas emissions (GHG) would be equal to the emissions removed from the atmosphere.

The largest contributor to UK domestic carbon dioxide (a GHG) emissions is transport. Transport was responsible for 24% of the UK's carbon dioxide (CO_2) emissions in 2020, with cars accounting for 52% of transport CO_2 emissions, and light vans for a further 16%.[1] To support a reduction in transport CO_2 emissions, the UK Government aims to ban the sale of new petrol and diesel cars and vans after 2035.[2]

Hertfordshire County Council, in its Sustainable Hertfordshire Strategy, commit to inspire and enable a net zero county by 2050.[3] In September 2023, Hertfordshire County Council published its Electric Vehicle Charging Strategy setting out its regional approach.[4]

Three Rivers District Council are committed to achieving net zero emissions by 2030 for our own emissions and to inspire and enable a net zero district by 2045.[5] Greenhouse gas emissions arising from road transport including motorways in Three Rivers accounts for 228,000 tCO2e which represents 52% of total district emissions.[6]

Given the national, regional and district commitments to achieving net zero, and the planned phase out of petrol and diesel cars after 2035, there is a clear rationale for supporting the uptake of electric vehicles in Three Rivers.

This document sets out Three Rivers District Council's strategy to roll-out a public electric vehicle charging network across council owned car parks and on-street residential parking in the district.

Our vision for Three Rivers public electric vehicle charging network is:

To provide a publicly available, and conveniently located, charger network for residents, shoppers, and visitors to Three Rivers.

---

[1] https://www.gov.uk/government/statistical-data-sets/energy-and-environment-data-tables-env#greenhouse-gas-emissions-env02

[2] https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf

[3] https://www.hertfordshire.gov.uk/microsites/sustainable-hertfordshire/media/sustainable-hertfordshire-strategy-revised-march-2023.pdf

[4] https://www.hertfordshire.gov.uk/doc/roads/ev-strategy-summary.pdf

[5] https://www.threerivers.gov.uk/services/environment-climate-emergency/climate-emergency

[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1166228/2005-21-local-authority-ghg-emissions-csv-dataset.csv

To facilitate the uptake of electric vehicles to meet Three Rivers net zero commitment, improve air quality and prepare drivers for the phase out of petrol and diesel vehicles in 2035.

1.1. Benefits of electric vehicles

The recognised benefits of electric vehicles include:[7] [8]

- Lower servicing and maintenance costs.
- Often cheaper to refuel than petrol or diesel vehicles.
- Lower or zero rate of vehicle excise duty until 2025.
- Reduces the drivers personal carbon footprint.
- Zero tailpipe emissions.[9]
- Helps to improve air quality.
- Lower charges in clean air zones and London's ultra-low emission zone.

1.2. Barriers to electric vehicle uptake

Barriers to electric vehicle uptake, both real and perceived, exist.

The table below highlights barriers identified by the Transport Research Laboratory[10] research and summarised and adapted by Hertfordshire County Council[11] and Three Rivers District Council.

Barrier	Description	Three Rivers Mitigation Plan
Awareness & Knowledge	Consumers need adequate awareness and knowledge of EVs, such as how the technology works, how when and where to charge, what vehicle models are available, and where to find more information.	Signpost useful information on the TRDC website and social media channels.
Financial	High initial purchase price. Running costs. Perceived total cost of ownership. Financial incentives. Vehicle depreciation. Inflation and rising energy costs. Economic uncertainty. High taxation cost (20%) for drivers using public chargers.	Signpost useful information on the TRDC website and social media channels. Ensure the price of charging in council owned car parks is competitive within the region.
Charging Infrastructure	Availability of, and access to, charging infrastructure is a critical	This document sets out our strategy to provide a publicly available, and

[7] Source: Energy Saving Trust

[8] https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf

[9] This is not a total reduction; carbon emissions will still result from the manufacturing and transportation process.

[10] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/914111/driving-and-accelerating-the-adoption-of-electric-vehicles-in-the-uk.pdf

[11] https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf

	barrier to adoption, especially for those without off street parking at home or work. Access to charging is needed at or near home, at work, and at major roads and motorways to enable long journeys. Potential safety and security concerns if chargers are located away from immediate residential areas. EV charging points are often out of service leading to frustration for users, and reputation issues for Council Access to chargers can be difficult for the mobility impaired.	conveniently located, charger network in council owned car parks and on-street residential parking. Charger technical specification requires placement and design should be encouraged to meet latest PAS 1899 accessibility standards. Ensure monitor and repair contract minimises downtime of charging points
Vehicle Attributes	This includes 'range anxiety' (concern about how far can be driven before recharging), long charging times, long-term battery performance, and other concerns related to novelty and inexperience with EVs. Difficulties with supply and long wait times for EV delivery once purchased.	Signpost useful information on the TRDC website and social media channels. This document sets out our strategy to provide a publicly available, and conveniently located, charger network in council owned car parks and on-street residential parking.

1.3. Overview of charging

Electric vehicle chargers have a naming convention linked to their electrical power rating in kilowatts (kW):

- Slow (3.7kW)
- Fast (7.4kW to 22kW)
- Rapid (20kW to 50kW)
- Ultra Rapid (50kW to 350kW)

The kW rating of the charger determines how quickly it can recharge a vehicle. It is important to provide the right type of charger at the right locations, based on the duration of charging required.

Other variables which can affect the charging speed include:

- The charging speed the vehicle can accept. Most modern EVs have a limit between 50kW and 350kW.
- The state of charge. Batteries charge slower the closer they approach 100%.
- The temperature of the battery. Most EV batteries must be pre-conditioned to reach optimal charging rates, especially on colder days.

For example:

- Fast chargers take 2 to 6 hours to recharge a 40kWh battery. Fast chargers are suited to on-street residential parking and car parks close to residential areas where drivers can charge overnight.

- Rapid chargers take up to 60 minutes to recharge a 40kWh battery. Rapid chargers are suited to car parks close to motorways where drivers are making long journeys or short stay destinations (e.g. shopping).

It is important to note that the existing electricity grid infrastructure at the parking locations can influence they type of chargers that can be installed. The local grid capacity and distance of charger location from grid connection point must all be considered when specifying the type, and number, of charger to be installed.

A range of other factors are also considered when specifying the type and number of chargers, in for example, a car park:

- The number of parking bays.
- The opportunity to include disabled charging bays.
- How the car park is typically used by drivers.
- Parking restrictions and opening hours.
- Proximity to major transport routes (e.g., M1, M25).
- The ability to secure OZEV grant funding to supplement installation cost.

The table below provides more detail on the main charger types: [12]

Type	Max Power Output (Kilowatts)	Location Type	Approx. Charging Duration (40kWh Battery)
Domestic Socket	2.3-3kW	Home	17 hours
Slow	3.7kW	On-Street	11 hours
Fast	7.4kW	Car Parks On-Street	6 hours
Fast	11-22kW	Car Parks On-Street	2 to 4 hours
Rapid	43kW	Car Parks Destinations	55 mins

[12] Adapted from the Hertfordshire County Council Electric Vehicle Charging Strategy: https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf

Rapid	20-50kW	Car Parks Destinations Rapid Hubs	40 mins
Tesla Super Charger	75-250kW	Destinations Rapid Hubs	10-20 mins
Ultra Rapid	50kW-350kW	En Route e.g., motorway service stations	7-16 mins

Fast chargers and, to a lesser extent, Rapid chargers can have either a single charging socket or two charging sockets (sometimes called dual or twin chargers). One dual or twin charger can provide charging to two parking bays.

An example of an on-street residential parking charger (picture from West Sussex County Council)

An example of a car park charger (picture from Hull City Council)

1.4. Scope and content of this strategy

This strategy covers the provision of a publicly available electric vehicle charging network, primarily in council owned car parks and on-street residential parking.

This document sets out the scope, vision and objectives of the council's electric vehicle charging strategy.

It positions our strategy inside the wider policy context and identifies how we will work with the UK Government, Hertfordshire County Council (HCC) and Charge Point Operators (CPO).

It sets out a long-term 2030 vision and a short-term 2027 action plan. A short-term, 3-year, action plan is justified as it enables the council to react with agility to the developing technologies, consumer behaviour and funding sources.

In September 2023, HCC published its Electric Vehicle Charging Strategy setting out its regional approach. [13] Tier 1 councils, like HCC, are increasingly acting as "gatekeepers" for the Government grant funding allocated to Tier 2 councils. HCC's strategy includes the creation of a regional programme to support Tier 2 councils to deploy or expand their charger network.

Therefore, it is important that our strategy aligns to HCC's regional approach while being specific to the needs of EV drivers visiting and living in Three Rivers.

The HCC strategy has been used as a framework for this strategy, while creating a strategy that delivers the best outcomes for Three Rivers residents and visitors.

HCC's strategy focuses on the provision of a publicly available electric vehicle charging network. Our strategy will do the same. However, we recognise that a more comprehensive strategy could include the following:

- Private charging network (workplace, home, forecourt & destination).
- Transport hubs (train station, bus station, walking and cycling routes).
- Specialist fleet charging (bus, taxi).
- Community charging (charger hosts, community owned chargers).
- Other types of electric vehicles (e-bike, e-scooters, e-car clubs).
- Charging at new residential and commercial building developments.

The initiatives above will primarily be delivered by our regional, national, and private sector partners. As these initiatives develop and progress, they will be added to this document to form a more comprehensive strategy.

1.5. Vision

Our vision for Three Rivers public electric vehicle charging network is:

[13] https://www.hertfordshire.gov.uk/doc/roads/ev-strategy-summary.pdf

To provide a publicly available, and conveniently located, charger network for residents, shoppers, and visitors to Three Rivers.

To facilitate the uptake of electric vehicles to meet Three Rivers net zero commitment, improve air quality and prepare drivers for the phase out of petrol and diesel vehicles in 2035.

1.6. Objectives

To deliver our vision, the following strategic objectives have been identified:

TRDC EV1	To provide a publicly available charger network in council owned car parks in town centres.
TRDC EV2	To provide a publicly available charger network in council owned car parks at destinations (e.g. leisure centre).
TRDC EV3	To provide a publicly available network (based on available evidence of charging need) that promotes equal access to electric vehicle charging, including those with disabilities, in rural and remote locations and in areas of deprivation.
TRDC EV4	To work alongside HCC, as the Highways Agency, to provide a publicly available charger network in on-street residential parking locations.
TRDC EV5	To work alongside HCC to leverage Office of Zero Emission Vehicles (OZEV) funding and the private sector to support the development of a charger network.
TRDC EV6	To support the adoption of consistent charger standards across the district to ensure the best outcome for end-users.
TRDC EV7	To keep up to date with technical innovation, policy development and funding opportunities to enable an agile approach able to adapt to changing market trends.

2 Policy Context

There is strong political support for the transition to electric vehicles, as evidenced by the UK Governments aim to phase out the sale of new petrol and diesel vehicles after 2035.

Local authorities have an important, and increasingly well defined, part to play.

2.1. National policies

The UK was the first major economy to pass a net zero emissions law, requiring the UK to bring all greenhouse gas emissions to net zero by 2050. [14]

[14] https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law

In March 2022, the Department for Transport (DfT) published *Taking Charge: The Electric Vehicle Infrastructure Strategy*.[15] The strategy sets out the Government's vision and action plan for the rollout of a charging network up to 2030. The strategy identifies the important role of Local Authorities in deployment of a charging network.

In October 2021, the Department for Energy Security and Net Zero (DESNZ) published *Net Zero Strategy: Build Back Greener.* [16] The strategy sets out the UK's decarbonisation pathway to 2050 and identifies investment needed to support the transition to electric vehicles.

In July 2021, the DfT published *Decarbonising Transport: A Better, Greener Britain*.[17] The strategy identifies the action and investment needed to decarbonise the entire transport system in the UK by 2050, including the deployment of a charging network.

In November 2020, the Department for Energy Security and Net Zero (DESNZ) published *The Ten Point Plan for a Green Industrial Revolution*.[18] The plan announces the end of the sale of new petrol and diesel cars and vans by 2030 (later revised to 2035).

2.2. Regional policies

In September 2023, Hertfordshire County Council (HCC) published its *Electric Vehicle Charging Strategy*.[19] The strategy sets out how HCC will work alongside its district and borough partners to deploy a charging network across the region. The strategy focuses on the deployment of a publicly available charger network.

In 2020, HCC published its *Sustainable Hertfordshire Strategy*.[20] The strategy sets out the councils aim of enabling and inspiring a sustainable county which includes the deployment of an electric vehicle charger network.

In 2018, HCC published its *Local Transport Plan (2018-2031).*[21] The plan includes Policy 19 which states the council has the aim of "*addressing any barriers to and supporting the uptake of ULEVs in the county, particularly where this can positively affect areas with identified poor air quality*".

2.3. Local Policies

[15] https://assets.publishing.service.gov.uk/media/6245ba40e90e075f15381cf0/taking-charge-the-electric-vehicle-infrastructure-strategy.pdf

[16] https://www.gov.uk/government/publications/net-zero-strategy

[17] https://assets.publishing.service.gov.uk/media/610d63ffe90e0706d92fa282/decarbonising-transport-a-better-greener-britain.pdf

[18] https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution

[19] https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf

[20] https://www.hertfordshire.gov.uk/Media-library/Documents/About-the-council/data-and-information/Sustainable-Hertfordshire-Strategy-2020.pdf

[21] https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/planning-in-hertfordshire/transport-planning/local-transport-plan.aspx

The Council's Corporate Framework (2023-26) is the council's overarching strategy that sets out the council's key objectives and priorities for the following three years. It recognises Three Rivers as a *'great place to live, work and visit'* and a District which takes action to mitigate and adapt to the Climate Emergency.

Net Carbon Zero and Climate Resilient is one of four objectives detailed in the Framework. The council has been at the forefront of bringing forward work streams to mitigate the Climate Emergency which we declared in 2019 and we will continue to lead responsibly, by our own example, whilst encouraging and enabling others to join us on that journey. This Strategy will contribute towards this objective in facilitating the implementation of sustainable, low carbon, infrastructure.

In 2023 Three Rivers District Council published its *Climate Emergency and Sustainability Strategy (2023-2027).* [22] The strategy was accompanied by a *Climate Emergency and Sustainability Action Plan*.[23]

The plan includes actions to "*continue to expand and encourage electric vehicle charging infrastructure around the district"* and "*provide EV charge points on land owned by the district council*".

This Electric Vehicle Charging Strategy will support the completion of those actions and support the wider climate emergency and sustainability strategy.

3 Electric Vehicle Charging in Three Rivers

3.1. Opportunities and challenges

The deployment of a charging network in Three Rivers presents numerous opportunities which have been summarised below:

- Improved air quality due to zero tailpipe emissions.
- Lower transport related carbon emissions.
- Local economic benefits from extra shoppers\visitors with electric vehicles.
- Increasing demand for locally skilled labour to install\maintain chargers.
- Government grants are available to invest in parking infrastructure.

The deployment of a charging network in Three Rivers presents numerous challenges which have been summarised below:

- Deployment of a charger network in council owned car parks is constrained by land availability and\or site feasibility (e.g. grid capacity).

[22] https://cdn.threerivers.gov.uk/files/2023/12/a8a7eff0-9f12-11ee-94eb-67f6f7ddaccc-Climate%20Emergency%20and%20Sustainability%20Strategy.pdf

[23] https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fcdn.threerivers.gov.uk%2Ffiles%2F2023%2F03%2F5e0f4420-b9a3-11ed-82c5-4fb253619d22-climate-emergency-and-sustainability-action-plan-updated-february-2023-%2520(1).xlsx&wdOrigin=BROWSELINK

- Deployment of a charger network in on-street residential parking is constrained by site feasibility (e.g., pavement width).
- Available electricity grid capacity varies between locations and the cost of grid upgrades can be cost prohibitive.
- Deployment of a charger network can be constrained by planning or heritage restrictions.
- Owning and operating a charger network generates costs\risks for the council, although these can often be assumed by the charge point operator.
- Project management and charge point operator contract management can be an additional resource burden for the council.
- Enforcement of charging bay parking restrictions can be an additional resource burden for the council.
- Variations in the charging costs between different charge point operators and locations can cause cost variability.

The opportunities and challenges identified above have been considered while creating this strategy.

3.2. Regional electric vehicle ownership

Electric vehicle uptake in Hertfordshire has been increasing since 2010 and has accelerated within the last 3 years.

The total number of Ultra Low Emissions Vehicles (ULEVs) and Plug in Vehicles (PiVs) in Hertfordshire at the end of Q3 2023 was 4,261 according to Government data. The charts below show the number of licenced ULEV's and PiVs is increasing every year.[24]

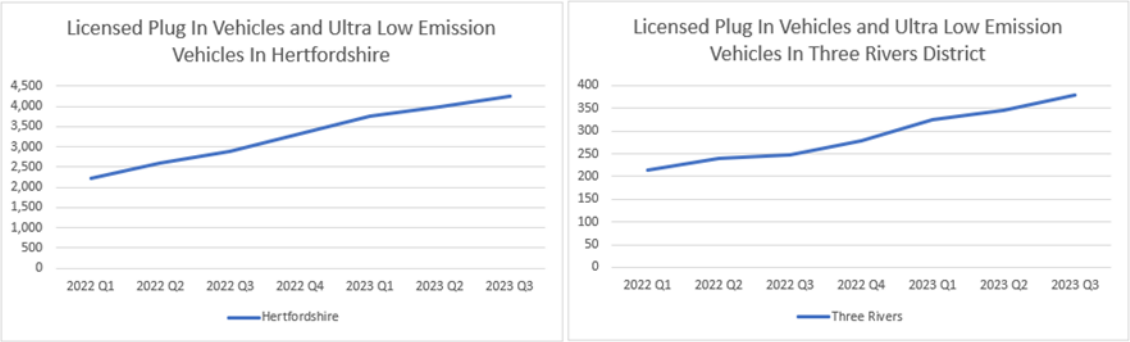

Figure 1

While electric vehicle ownership is increasing year-on-year, as a proportion of total vehicle ownership, the proportion is still low. Only 8% of respondents to the County Travel Survey in 2022 owned an electric vehicle (up from 3.5% in 2018).[25]

It is important that this strategy considers not only the existing demand for electric vehicle chargers but also the likely future demand. A phased installation of chargers in small numbers, to match the current demand, is not cost effective.

HCC estimates that by 2030 there will be 240,800 electric vehicles registered in Hertfordshire. It is estimated that this would generate the need for 6,800 publicly available charging sockets (or just over 3,000 charge points assuming a double socket arrangement) which is a six-fold increase.[26]

[24] https://www.gov.uk/government/statistical-data-sets/vehicle-licensing-statistics-data-tables

[25] https://www.hertfordshire.gov.uk/media-library/documents/highways/transport-planning/transport-and-accident-data/county-travel-survey/aecom-report-to-hcts.pdf

[26] https://www.hertfordshire.gov.uk/doc/roads/ev-strategy-summary.pdf

Figure 2 has been taken from the HCC's Electric Vehicle Charging Strategy (pg. 44). [27] It shows a forecast of electric vehicle uptake across the county by 2030 using the NEVIS tool.[28] An insert map has been added to show Three Rivers (and surrounding towns as a reference point).

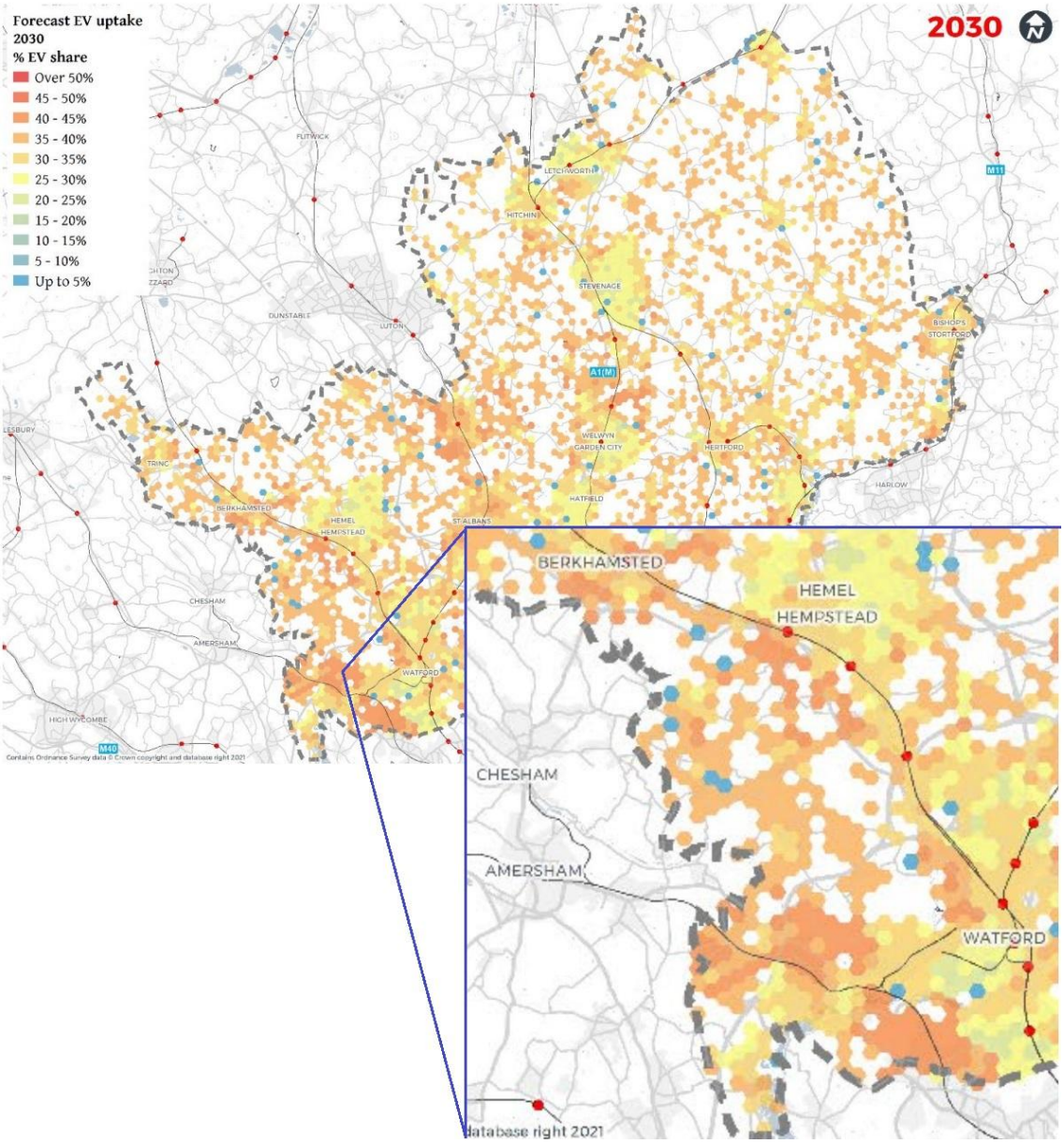

Figure 2

The map shows a wide variance of electric vehicle uptake within Three Rivers. Some localities are forecasted to have a <5% EV share with others to have a share of 45-50%.

[27] https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf

[28] National EV Insight & Strategy tool

3.3. Regional public charger network

The HCC Electric Vehicle Charging Strategy states there were 798 publicly available chargers, including 119 Rapid chargers, in Hertfordshire in September 2023. This represents a 67% year-on-year increase from July 2022.[29]

NEVIS data shows that Three Rivers has 51 public chargers installed by commercial companies (Figure 3) and their locations (Figure 4):[30]

Power	Number of Points
High	5
Low	46
Total	**51**

Source: Zapmap via DfT
https://www.gov.uk/government/collections/electric-vehicle-charging-infrastructure-statistics

Please note, some LAs have changed within this data (merged or split). If this is affecting you, then you can see the raw data by accessing the link above, or contact us via email on nevis@cenex.co.uk

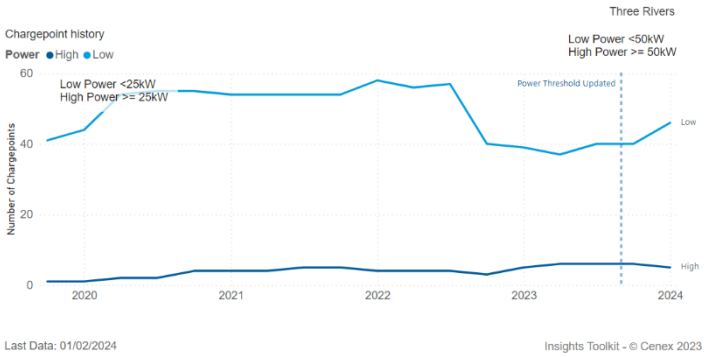

Figure 3

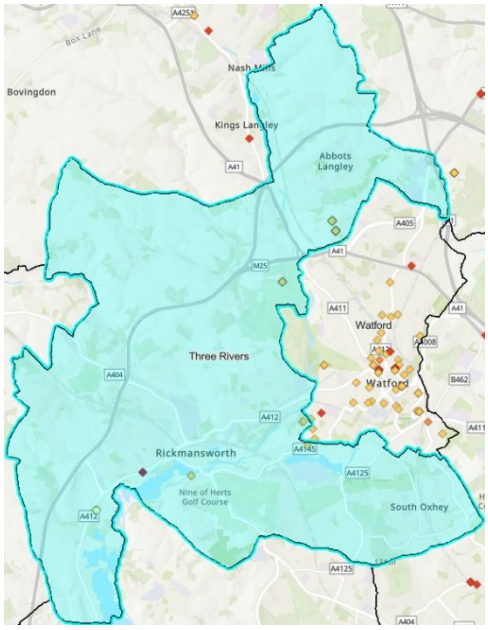

Figure 4

The red (Rapid) and yellow (Fast) icons on the map in Figure 4 show charger locations.

[29] https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf
[30] https://nevis.cenex.co.uk/reports/current-status (logon needed). Yellow = Fast Red = Rapid

There are no publicly available chargers installed on council owned land in Three Rivers.

NEVIS projections estimate that between 481 and 721 electric vehicle charge sockets (not chargers) will be required by 2030 in Three Rivers (721 high \ 636 medium \ 481 low):[31]

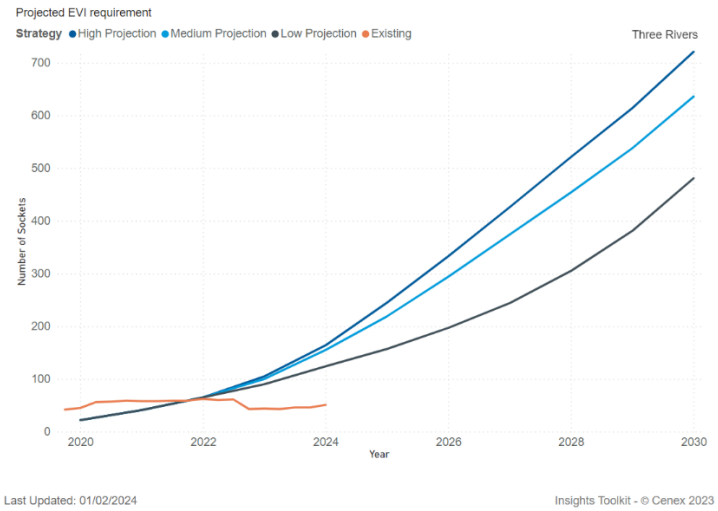

Figure 5

Comparing the location of existing chargers and the projection of areas in the district with a high electric vehicle uptake, highlights the prime locations for deployment of chargers:

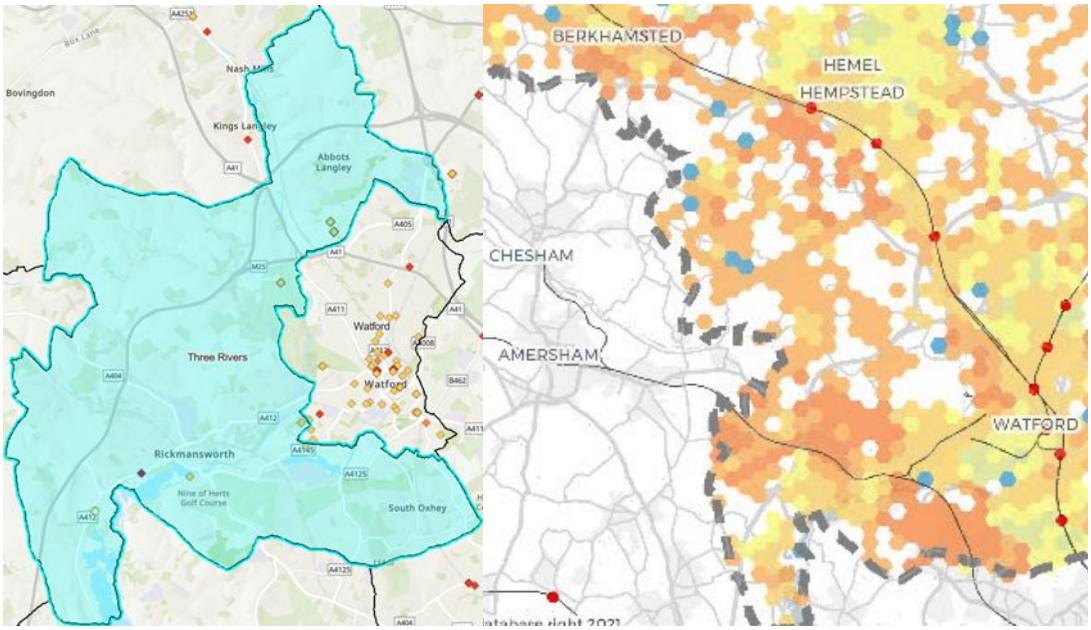

Figure 6

[31] https://nevis.cenex.co.uk/reports/current-status (logon needed).

4 Public Charger Network Deployment Strategy

4.1. Charger location hierarchy

Figure 7 shows the hierarchy for charger locations and aspirational timeline, it will guide our approach to charger deployment.

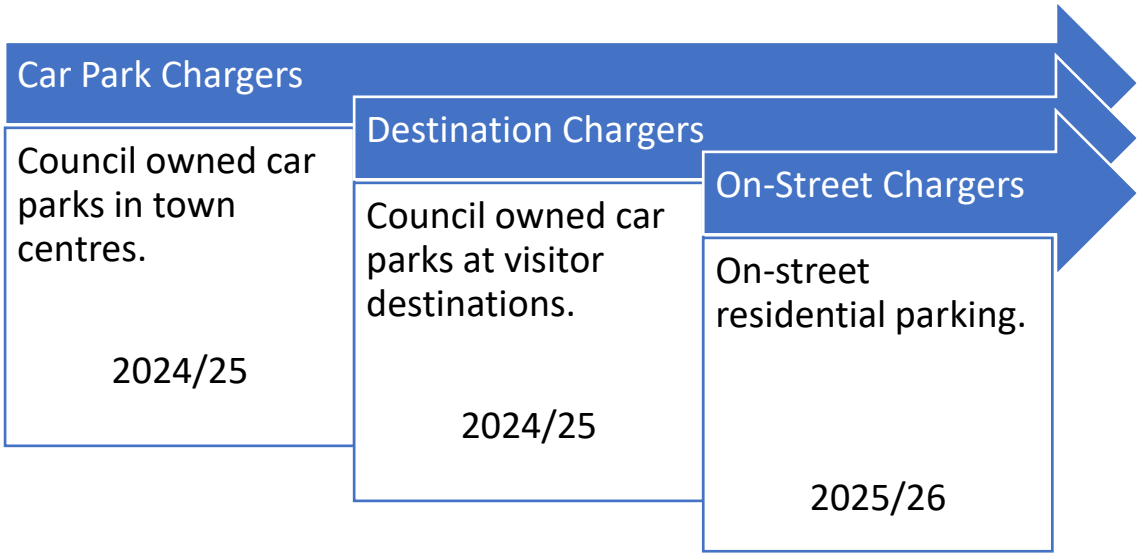

Figure 7

Where feasible, charger deployment in council owned off-street car parks in town centres will be prioritised. Town centre car parks offer the greatest potential for charger deployment.

Concurrently, where feasible, chargers will be deployed in council owned off-street car parks at visitor destinations e.g., leisure centres, country parks, community buildings, local points of interest.

On-street chargers in residential car parking locations will then be deployed, where feasible, to support residents with electric vehicles charge their cars near their homes.

4.2. Off-street chargers in council owned town centre car parks

The deployment of electric vehicle chargers to town centre car parks has the following advantages:

- The council own 20 town centre car parks with 923 spaces.[32]
- The car parks often qualify for OZEV grant funding.
- The car parks are often highly accessible with good links to the main road network.

[32] https://cdn.threerivers.gov.uk/files/2023/02/0de5b2b0-b2b7-11ed-9d90-99db481320b1-trdc-car-park-directory-v1%20(1).pdf

- The car parks are in located in areas of high footfall making them commercially attractive to charge point operators.
- The car parks are close to public services, shops, and businesses making charging convenient for end-users going about their daily life.
- The car parks are often close to residential areas with few private driveways. Those residents can use the car parks to charge overnight (depending on parking restrictions).

5.2. Off-street chargers in council owned destination car parks

The deployment of electric vehicle chargers to destination car parks has the following advantages:

- The council owns several car parks at visitor destinations.
- The car parks often qualify for Community Infrastructure Levy (CIL) funding.
- The car parks are often highly accessible with good links to the main road and motorway network.
- The car parks serve popular visitor destinations making them commercially attractive to charge point operators.
- The deployment of chargers reduces “demand anxiety” of visitors travelling to\from the destinations.
- The car parks often provide charging outside of the town centres, making for a more comprehensive charging network.

4.3. On-street chargers at residential parking locations

The deployment of electric vehicle chargers to residential parking locations has the following advantages:

- Drivers can charge their vehicles overnight and close to their homes.
- Convenient for drivers that do not live close to a council owned car park.
- Convenient for drivers who do not have homes with off-street parking.
- Reduces the prevalence of power cables running from the driver’s home, across the pavement, to their vehicle which can be a trip hazard.
- Charger can be integrated into existing street furniture.

5 Funding, deployment, and operational model

A variety of funding sources, deployment methods and operational models have been considered to deliver the Three Rivers charging network.

Our strategy utilises both a regional and district approach to funding, charger deployment and operational model. This enables us to provide the most comprehensive charger network feasible. It makes best use of the regional and local funding and deployment support.

The table below summarises our strategic approach to funding, deployment method, and operational model. More detail is provided in the sub-sections below.

		Charger Location		
		On-Street Residential	Town Centre Car Park	Destination Car Park
Deployment Method	Charger Type	Fast	Fast & Rapid	
	Deployment Approach	Regional	District	
	Deployment Lead	HCC + TRDC	TRDC	
Funding	Grant Source	LEVI	ORCS & CIL	
	Fund Manager	HCC	TRDC	
Operational Model	Fault Management	HCC + TRDC	TRDC	
	CPO Procurement	Regional	District	
	CPO Management	District		
	Business Model	Owner Operated Concession Contract		

5.1. Deployment Method

On-Street Residential

Three Rivers District Council will work closely with HCC, as the Highways Agency, to deploy on-street chargers using LEVI grant funding.

More detail can be found here (pages 71 to 79) which outlines HCC's approach to deployment of on-street chargers. The salient points have been summarised below.

The HCC Electric Vehicle Charging Strategy outlines the split of responsibility between HCC and Tier 2 councils:[33]

Tier 2 councils will:

- Lead the implementation and ongoing management of on-street chargers.
- Appoint the CPO, through the HCC regional procurement approach.
- Manage the installation of the chargers by the CPO.

[33] https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf

- Identify target locations for charger deployment.
- Obtain charger asset information and register the charger with HCC.
- Manage charger repairs through the CPO (except for Category 1 emergency repairs).

HCC will:

- Set out the rules (guidelines) for charger installation.
- Help identify suitable locations for chargers (through EV mapping tool).
- Set out charger siting criteria.
- Validate identified locations against siting criteria.
- Sign off charger equipment as safe and operational.
- Provide technical support on aspects such as lighting column installation.
- Provide regional procurement approach and quality assure CPO's.
- Provide CPO service level agreements.
- Provide extended parking agency agreements.
- Manage Category 1 emergency repairs logged via the Highways Fault Reporting Service.
- Traffic Regulation Orders and public consultations.

Potential street locations will be shortlisted by the Tier 2 council. The street locations will depend on several factors including but not limited to:

- Areas of on-street residential parking.
- Future demand identified using a mapping tool developed by HCC.
- Accessibility of other publicly available chargers in nearby car parks.
- Proportion of homes without driveways or private off-street parking.
- Resident requests for chargers.
- Pavement characteristics (e.g., width, height, surface).
- Grid capacity constraints and physical site constraints (e.g. gradient).
- Commercial considerations.

The charger locations (on the shortlisted streets) will be identified using the siting guidance developed by HCC and summarised below:

- Target areas where there are obvious gaps in public charger provision, which cannot be addressed by off-street charging.
- Maintain minimum footway widths and required distances from existing on-street furniture (including other chargers).
- Sensitively integrated into the streetscape.
- Meets the latest accessibility standards and guidance.
- Implement appropriate parking and enforcement schemes (including exemptions) based on charger type, location, and parking pressures.
- Advice should be sought from planning authorities where required.
- Power supply must comply with siting criteria and the Code of Practice for Electric Vehicle Charging Installation.

The charger locations will be finalised in agreement with HCC, the local District Network Operator (to ensure no power capacity issues) and in consultation with local residents.

CPO's provide on-street electric vehicle chargers in various formats to help overcome the challenges of constrained on-street locations. These include but are not limited to free standing charger, lighting column charger, rising bollard chargers. The most appropriate charger format will be selected in consultation with the CPO and HCC. Please note that HCC do not currently permit the use of cable covers or recessed gullies for charging.

Town Centre Council Owned Car Park

In March 2024, TRDC secured OZEV funding to deploy chargers in council owned town centre car parks independently (not in partnership with HCC).

Fast chargers (2-6hr) are often most appropriate for town centre car parks, especially if close to residential homes. However, because the car parks in Three Rivers often have a mix of long-stay and short-stay parking bays our strategy is to deploy an appropriate mix of Fast chargers with Rapid chargers (40-60mins) where possible. The rapid chargers will be available for all but specifically aimed at short term visitors to our High Streets and will continue to encourage car park churn. This will provide the end-users with a range of charging durations to match the way they use the car parks.

The number and type of chargers deployed in each car park will depend on several factors including but not limited to:

- Future demand identified using a mapping tool developed by HCC.
- The number of available parking bays.
- The available grid capacity and proximity to a grid connection point.
- Guidance from the charge point operator on commercial feasibility.
- Eligibility for ORCS and/or LEVI grant funding.
- Parking restrictions enforcement considerations.
- Car park security and parking charges.
- Alignment to our strategic objectives (please see section 2.7)

Destination Council Owned Car Park

TRDC will deploy chargers to council owned car parks at destinations independently (not in partnership with HCC) using Community Infrastructure (CIL) funding.

The type of destination, and how long visitors typically spend at that destination, will influence the type of chargers to be deployed. Our strategy is to deploy an appropriate mix of Fast chargers (2-6hr) with Rapid chargers (40-60mins). This will provide the end-users with a range of charging durations to match the way they use the destination car parks.

The number and type of chargers deployed in each destination car park will depend on several factors including but not limited to:

- Future demand identified using a mapping tool developed by HCC.
- The number of available parking bays.
- The available grid capacity and proximity to a grid connection point.
- Guidance from the charge point operator on commercial feasibility.
- Eligibility for CIL funding.
- Parking restrictions enforcement considerations.
- Car park security and parking charges.
- Alignment to our strategic objectives (please see section 2.7)

5.2. Funding

For Local Authorities, funding to deploy chargers is typically provided, or sourced, from four sources as shown in Figure 8.

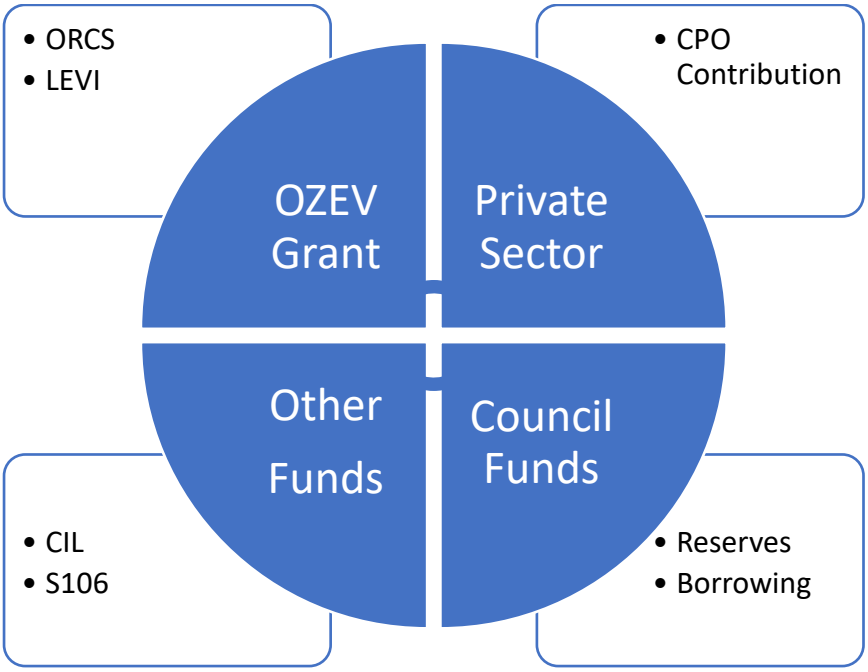

Figure 8

<u>OZEV Grant Funding</u>

The Office for Zero Emissions Vehicles (OZEV) provides grant funding to Local Authorities to support the deployment of electric vehicle chargers. Local Authorities can apply for grant funding directly, but increasingly the funding is provided to Tier 1 councils to disperse to Tier 2 councils in their region.

There are two main OZEV grant funding schemes, ORCS and LEVI. It is anticipated that LEVI funding will become the main source of OZEV grant funding.

The table below provides more details, it has been adapted from HCC's Electric Vehicle Charging Strategy (pg. 56-58).[34]

Grant Type	Description	Regional Context
On-Street Residential Chargepoint Scheme (ORCS)	Previously local authorities could apply for up to 60% of capital costs relating to the procurement and installation of chargepoints, up to a maximum of £7,500 per dual socket chargepoints, or £13,000 where electrical connection costs are exceptionally high. This has been the main source of funding drawn on by Districts and Boroughs to date to support chargepoint provision in their car parks (and in the case of Watford some on street installations). A further £15m is available to all UK local authorities in 23/24 to provide public chargepoints on and off street but now only 50% of the costs are covered, grants are capped at £7.5k per chargepoint with max grant of £200k per authority (which equates to 26 chargepoints).	To date , four out of our 10 districts and boroughs neighbours have taken advantage of ORCS funding. Across these applications, nearly £1 million has been secured in grant funding for Hertfordshire. Further applications have been submitted by four districts and boroughs with the potential of an additional £1.5m of funding being secured for EV chargepoints. TRDC secured ORCS funding in March 2024 to enable the delivery of chargepoints in town centre car park locations.
Local EV Infrastructure Fund (LEVI)	This fund was originally a competitive fund aimed at facilitating the rollout of innovative, larger scale chargepoint infrastructure projects. From 2023 the fund has been relaunched with allocation of money to tier 1 authorities to accelerate the roll out of charging infrastructure to support residents.	Hertfordshire County Council have been given an indicative allocation of £6,015,000 capital funding and a further £590,400 capability funding which will be available over the next two financial years (24/25 and 25/26).

Other grants to support the deployment of electric vehicle chargers are available from other sources:

[34] https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf

- Innovate UK: Innovate UK offers wide range of funding competitions, some of which can present opportunities to work with businesses to trial or pilot pioneering charger technologies or concepts.
- Defra Air Quality Grant: This scheme provides funding to eligible local authorities to help improve air quality in poor air quality zones. Some local authorities have won funding for chargers for taxis and private hire vehicles, for example. It is open for applications for a window each year, with details available on previous winners.
- District Network Operator: Specific funding opportunities can periodically arise through the DNOs (e.g., Western Power Distribution), such as the Green Recovery Scheme Call for Evidence in 2021.

Our strategy is to utilise OZEV grant funding wherever possible, if available and the charger location\type is eligible. We will monitor other electric vehicle grant funding opportunities and seek to secure funds if it aligns with our strategic approach.

Private Sector Funding

Increasingly, CPO's are willing to contribute capital funds to charger installation. The percentage contribution of the total cost can vary between 20% and 80%. The CPO's contribution is dependent on the forecasted commercial profitability of the charger and the contractual model between the council and CPO. More detail is provided in section 6.3.

Our strategy will be to negotiate the maximum CPO contribution possible.

Council Funds

Typically, council funds are used to supplement grant funds and CPO contributions, especially for commercially less attractive locations. Council funds are also typically used for ancillary works that support charger deployment e.g., bay painting, signage, lamppost moves, tree moves.

Identified annual budgets in the transport and parking team could be utilised to support any EV programme. We do not intend to use council reserves or borrowing.

Other Funds

Some councils seek to use Section 106 agreements to fund, or part fund, charger deployment.

In September 2022 a successful Community Infrastructure Levy (CIL) application for £460k was made to fund the deployment of electric vehicle chargers in Three Rivers.

Our strategy is to strategically utilise that CIL funding to deploy chargers in destination council owned car parks where securing OZEV grant funding is challenging (primarily due to parking restrictions). This will include "passive chargers" where the below ground charging infrastructure is installed without the above ground charging infrastructure. The above ground charging infrastructure can be added quickly and easily in the future. This will enable a larger and more comprehensive publicly available charger network.

CIL funding will also be used for enabling and ancillary works for all chargers deployed, regardless of their location:

- Enabling works (e.g. electricity grid connections) that can only be partially covered by government grants and CPO contributions across all locations.
- Ancillary works (e.g. signage, bay painting) that cannot be covered by government grants and CPO contributions across all locations.

Using CIL funding to supplement charger deployment where required (as per the points above) will help ensure a successful and speedy rollout of the charging infrastructure.

5.3. Operational Model

Various operational models have been assessed while developing our strategy. The table below identifies the different operational models and their advantages and disadvantages.[35]

Operational Model	Advantages	Disadvantages
Own & Operate – deployment, operation and maintenance of chargers is paid for by the council (either through reserves, borrowing or grants). Costs are recouped through charging tariffs charged to end-user. Some aspects of their operation is outsources to a CPO for a fixed annual fee.	• Maximum income for the council. • Full control over charger locations, types and number. • Full control over hardware and software choices. • Shorter contracts. • Simple procurement process.	• Requires significant grant funding and matched funding from the council. • High risk in terms of liabilities, maintenance costs, upgrades. • Chargers more likely to become stranded assets. • Risk that revenues (linked to charger utilisation rates) do not cover the costs.
External Operator – the council funds the capital investment with a CPO providing a back-office system in return for a revenue share.	• Council retains most of the revenue. • Reduced liability for operating costs. • High degree of council control • Shorter contracts.	• Requires significant grant funding and matched funding from the council. • Relatively high risk in terms of ongoing liabilities and exposure to varying utilisation rates.

[35] https://www.hertfordshire.gov.uk/doc/roads/electric-vehicle-charging-strategy.pdf

		• CPO has least incentive to repair faults.
Owner Operated Concession Contract – Contracts typically last 15 years with a break-clause at year 10. The CPO owns the above ground charging infrastructure (the charger and a feeder pillar which hosts the electricity meter). The CPO maintain and repair the above ground charging infrastructure. The council lease the small parcels of council owned land under the chargers and feeder pillar. This enables the CPO to maintain and repair their infrastructure without requiring permission from the council. The CPO will install the chargers including managing any third parties (e.g., DNO for grid connections). The council will be responsible for ancillary works (e.g., bay painting).	• The CPO will often contribute a significant share of the capital investment needed to deploy the chargers (often as matched funding against OZEV grants). • A profit share agreement can be put in place between CPO and council. • COP is incentivised and responsible for the maintenance and upgrade of the network. • Reduced risk to the council in terms of ongoing costs. • At the end of the contract the council will continue to own below ground infrastructure. The CPO will remove the above ground charger infrastructure.	• Reduced income share compared to full ownership. • More complex procurement process. • Requires relatively larger number of locations so the CPO can balance commercial risk across the sites\chargers.
Lease – all capital costs are borne by the CPO, with a long-term lease\licence over which the SPO can recover their costs.	• Lowest risk for the local authority. • Rental agreements for park bays can provide guaranteed incomes. • CPO incentivised to provide good end user experience, maintain and upgrade chargers.	• Lowest potential income. • Least control over charger locations, type and number. • Likely to involve long agreement periods and exclusivity agreements. • Council are unlikely to retain ownership of the grid connection point.

Increasingly, owner operated concession agreements are regarded by councils as the preferred operational model. Our district and borough neighbours have entered into owner-operated concession agreements with CPO's.

Our strategy is to enter owner-operated concession contract for all chargers, regardless of location. If an owner-operated concession contract cannot be agreed, we will seek to enter into an external operator contract.

6 Action plan (2024 to 2027)

The table below sets out the high-level actions to be taken by TRDC in the next three years.

Aspect	Charger Location	Action	Status	Timeline	Owner
Funding	Town Centre Car Parks	Secure OZEV funding to enable delivery of charge points.	Completed. ORCS funding successfully secured.	2024	TRDC
Feasibility Testing & Cost Forecast	Destination Car Parks	CPO to survey locations to identify feasibility, cost, and scheme design.	In Progress	2024	TRDC
Appoint Charge Point Operator	Town Centre & Destination Car Parks	Appoint CPO who will install, maintain, and operate charge points.	In Progress	2024	TRDC
Appoint Charge Point Operator	On-Street Residential Parking	Appoint CPO who will install, maintain, and operate charge points.	In Progress	2024/25	HCC
Identify Target Locations	On-Street Residential Parking	Identify potential locations for further study.	In Progress	2024	TRDC & HCC
Charge point installation	Town Centre & Destination Car Parks	Install charge points.	Not Started	2024	TRDC & CPO
Charge point installation	On-Street Residential Parking	Install charge points.	Not Started	2025/26	HCC
Marketing & Communications	All Locations	Raise awareness of availability of charge points to residents and visitors.	Not Started	2024/25/26	TRDC

Appendix I Abbreviations

CIL	Community Infrastructure Levy
CO2	Carbon Dioxide
CPO	Charge Point Operator
DfT	Department for Transport
EV	Electric Vehicle(s)
EVCP	Electric Vehicle Charge Point
GHG	Greenhouse Gas
HCC	Hertfordshire County Council
kW	Kilowatt
kWh	Kilowatt-hour
LEVI	Local Electric Vehicle Infrastructure
NEVIS	National EV Insight & Strategy tool
ORCS	On-Street Residential Chargepoint Scheme
OZEV	Office for Zero Emissions Vehicles
PAS	Publicly Available Specification
S106	Section 106
tCO2	Tons of Carbon Dioxide
TRDC	Three Rivers District Council


THREE RIVERS
DISTRICT COUNCIL