



Report of the Cabinet Member for Service Transformation

Climate Change and Nature Scrutiny Performance Panel – 30th January 2024

Overview of Public Electric Vehicle Chargepoint Installation

Purpose	To provide a briefing requested by the Panel about the installation of Council owned public facing electric vehicle charging infrastructure in Swansea.
Content	This report includes a summary of the chargepoints installed to date, how they have been funded, and provides an overview of the current operating model, establishment of an initial network of public facing electric vehicle chargepoints and challenges for delivery in future years.
Councillors are being asked to	<ul style="list-style-type: none"> • Give their views • Consider doing further work on this issue
Lead Councillor(s)	Councillor Andrea Lewis
Lead Officer(s)	Director – Mark Wade Head of Service – Stuart Davies
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1. Background

- 1.1 The decarbonisation of road transport is increasingly seen as a necessary component to meet national targets on reducing carbon emissions and environmental pollution. The electrification of both private and vehicle fleets has emerged as a key pathway toward achieving low-carbon mobility.
- 1.2 Electric vehicle (EV) registrations have increased considerably in recent years, driven by their ability to curtail greenhouse gas emissions, improved price comparability to conventional vehicles, enhanced range capabilities, and their reputation as vehicles with zero tailpipe emissions. This rise in EV ownership has increased demand for charging at home, on the move, and at a multitude of destinations, including workplaces, leisure centres, supermarkets, and at transport hubs.
- 1.3 The adoption of electric vehicles and associated infrastructure aligns with national policy on air quality and net zero emission targets. The UK Government's 2035 Delivery Plan commits to stopping the sale of all new petrol and diesel cars and vans by 2030 and requires that all new cars and vans be 100% zero emissions at the tailpipe by 2035.
- 1.4 Demand for public chargepoints is increasing, and investment in infrastructure gives people confidence in charging provision, enabling them to make the decision to choose an EV, reducing 'range anxiety', which is considered as one of the main prohibiting factors for those considering the purchase of an EV.
- 1.5 It is estimated that there are approximately 42,500 charge points across the UK as of April 2023, of which 1,725 are in Wales.
- 1.6 Local authorities (LA) across the UK vary in their level of investment in electric vehicle charging infrastructure. Securing external capital grant funding greatly increases the capital expenditure available to LAs, giving them the funds required to commission a local network.
- 1.7 **Policy Context** - Many policies have been developed by both UK Government and Welsh Government in recent years, aimed at reducing air pollution, and transitioning to more sustainable modes of transport. Two notable policies apply to this agenda item, 'Llwybr Newydd' the new Wales Transport Strategy, and the Electric Vehicle Charging Strategy for Wales. Both are Welsh Government policies, published in 2021.
- 1.8 **'Llwybr Newydd' (Welsh Transport Strategy)** sets out Welsh Government's strategy for the future of transport in Wales, detailing ambitions and priorities for the next 20 years. The strategy sets out a decarbonisation framework for the transport sector in Wales, shifting priorities given to modes of transport in a Sustainable Transport Hierarchy (Figure 1), which prioritises active travel, public transport, and

ultra-low emission vehicles above private motor vehicle use. Regional Transport Plans developed in future years will be aligned with this strategy and will employ the same priority matrix for transport interventions.

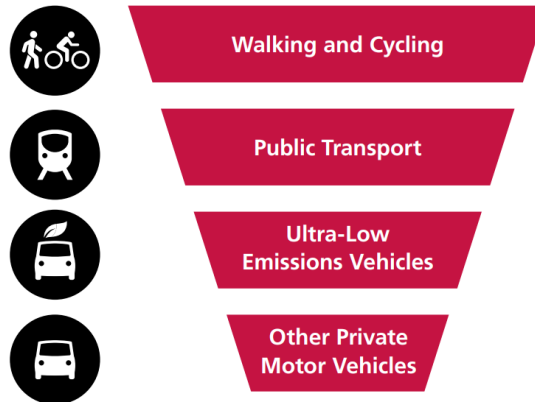


Figure 1 - Welsh Government | Sustainable Transport Hierarchy

- 1.9 The **Electric Vehicle Charging Strategy** sets out targeted actions to deliver a vision for electric vehicle charging in Wales. The strategy sets out a vision for charging in Wales that *‘by 2025, all users of electric cars and vans in Wales are confident that they can access electric vehicle charging infrastructure when and where they need it’*. The report emphasises the need for a substantial increase in the number of Slow, Fast and Rapid / Ultra Rapid chargepoints available in Wales. It also recognises the need to improve user experience for electric cars and vans and to roll out better quality charging infrastructure.
- 1.10 **Charging Types and Locations** – Different types of EV chargepoints can be installed to facilitate a variety of charging scenarios, typically agreed as; charging at home, those who park on-street, at a place of work, at motorway and trunk road service stations, and privately owned hubs for fleets. The charging behaviours that users adopt vary according to personal need and circumstances.
- 1.11 There are three main types of EV chargepoints (Figure 2) and it is important to consider which charger is best suited at different locations, depending on the activity or attraction that is at each location.

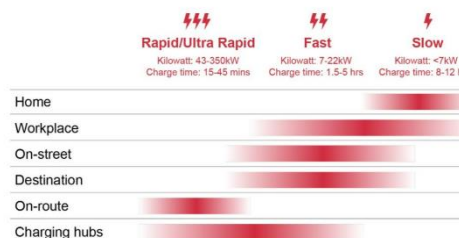


Figure 2 – Welsh Government | Charging Types and Locations

1.12 LAs have generally focused on installing on-street and destination chargers, as the primary landowner for city, town, and community car parks, and as the highway authority for placement on-street. Commercial operators have generally invested in on-route and charging hub type facilities, as these are often the most commercially viable locations.

2. Existing Infrastructure

2.1 Installations 2020-2023 – Swansea Council has installed a number of ‘fast’ EV chargepoints in Council owned car parks, complementing the wider commercial offering in Swansea.

2.2 As of December 2023, Council owned public facing EV chargepoints account for 25 of the available locations across the City and County area, offering a total of 80 EV chargepoints and bays. Council owned chargepoints account for nearly 50% of the total market share of publicly available chargepoints in Swansea.

2.3 An additional 15 chargepoints will be added to the above network with the opening of Copr Bay North Multi Storey Car Park (MSCP) in the future.

2.4 Figure 3 outlines the locations of the chargepoints installed, and Appendix A provides an overview map illustrating these locations.



Figure 3 – Locations of public facing council owned EV chargepoints

2.5 All chargepoints to-date have been installed in council owned car parks, which allows for the dedicated EV recharging bays to be appropriately monitored and managed to reduce misuse. A Traffic Regulation Order (TRO) enables effective management of misuse of the spaces.

2.6 Grants Awarded – The chargepoints installed to-date have been 100% grant funded by Welsh Government, or through combining grants from Welsh Government and the Office for Zero Emission Vehicles.

2.7 The first phase of installation in 2020 provided an initial strategic network of 12 locations across Swansea. Ten of the chargepoint locations were funded jointly by Welsh Government and the Office for Zero Emission

Vehicles, and two wholly funded by Welsh Government, providing a total of 32 chargepoints.

- 2.8 The second part of the first phase was installed following a successful grant application to the Welsh Government's Ultra Low Emission Vehicle Transformation Fund 2021-22.
- 2.9 All public chargepoints installed are 100% grant funded and provide 100% renewable electricity to users, accelerating Swansea's position in transitioning to a low carbon future.
- 2.10 The current operating model applied to the chargepoints installed between 2020 and 2023 is a third-party concession agreement. Whilst Swansea Council maintains ownership of the chargepoints installed, the council tendered a contract for a commercial operator to take over the maintenance, servicing, repair and operation of the units for the duration of the contract, which is five years with the option to extend. As part of this agreement, the council receives a profit share from the use of the chargepoints and works closely with the chargepoint provider, Clenergy EV, to ensure that open book reviews on pricing result in as low cost per kWh as reasonably practicable.
- 2.11 Clenergy EV is the operating name of EPS Construction, a Swansea based company, who were awarded the contract for the chargepoints installed between 2020 and 2023.
- 2.12 Chargepoint Specification – All chargepoints currently installed in council car parks offer 'fast' charging between 7-22kWh. Charging at 7kW will typically provide approximately 30miles of range per hour of charging, and at 22kW approximately 90miles of range per hour of charging. It is important to note that range per hour varies depending on how efficient the vehicle is. A vehicle can only charge at the maximum charge rate that the vehicle can accept. For example, if a vehicles maximum charge rate is 7kW, it will not charge any faster by using a 22kW chargepoint.
- 2.13 The current rate of charging for use of the EV chargepoints operated by Clenergy EV in Swansea is 75p per kWh, and users benefit from no connection fee.
- 2.14 Users of the chargepoints are able to access 24/7 support in both Welsh and English language, and can pay to use the chargepoints either through the Clenergy EV mobile application, with an RFID membership card, or can pay as you go over the phone with no sign up required.
- 2.15 Swansea Council consistently monitors chargepoint usage to ensure that high levels of demand are captured. In the current contract, each site is equipped with an extra retention socket to facilitate the installation of a further chargepoint. Current usage patterns however show a lack of demonstrable demand for expanding charging infrastructure at existing locations.

3. Future Infrastructure

- 3.1 Installations 2023-24 – Capital grant funding has been awarded from Welsh Government's Ultra Low Emission Vehicle Transformation Fund (ULEVTF) to deliver a network of 26 'fast' chargepoints across 13 locations, and one rapid charge location servicing 4 charging bays (Appendix B). This second phase of investment will provide an extension to the first phase strategic network, delivering 22kW charging capabilities to those who currently own an EV and for those who may transition to this type of vehicle in the future.
- 3.2 Four on-street locations are included in this next phase of installations, specifically in Uplands, Sketty, Killay and Castle Ward, all of which have central community areas served by formal parking bays on-street. The strategic placement of chargepoints at these locations is designed to ensure easy accessibility for both residents and visitors. By placing chargepoints in the heart of community areas adjacent to local amenities, the aim is to facilitate convenient top-up charging, enabling users to continue with their daily activities.
- 3.3 The remaining sites earmarked for installation in 2023/24 are in Council owned and leisure centre car parks. These locations are important trip attractors and tourist destinations that will provide charging infrastructure in areas where there is very limited or no other charging provision for both tourist and wider local use.
- 3.4 Swansea Council are currently tendering a new contract for a commercial operator to supply, maintain, service, repair and operate the charging units in return for a profit-share.
- 3.5 The delivery of the chargepoints at the sites proposed is subject to the connection costs being as anticipated. These costs are highly dependent on the location and difficult to standardise or accurately estimate as they are influenced by several factors, including available grid capacity, the number and speed of chargepoints proposed to be installed, and the precise location of the proposed connections.
- 3.6 Challenges of Future Delivery – Whilst the Council has been successful in securing available external funding for the implementation of public facing EV chargepoints, resource constraints mean there is currently limited ability to explore and establish commercial arrangements and undertake consultation.
- 3.7 All chargepoints installed to date have relied on external grant funding, and this continues to be the case for any future ambition to increase the coverage of this provision.
- 3.8 Welsh Government has invited local authorities to submit bid applications for the next round of ULEVTF funding in 2024/25. Schemes

eligible for funding include those that deliver charging capabilities at destination, hub, and on-street locations.

- 3.9 The Office for Zero Emission Vehicles continues to offer a limited contribution under its On-Street Residential Chargepoint Scheme, which has reduced its contribution from 75% to 50%, meaning that a larger match funding source will be required for new applications.
- 3.10 Limited options are available for EV users who wish to charge at home but do not have off-street parking provision. Without off-street parking, homeowners would feel less confident in purchasing an EV, as there are challenges in identifying affordable and convenient charging infrastructure that is located close to home.
- 3.11 Various charging devices have been trialled on-street across the UK to understand and overcome the issues faced when delivering on-street residential charging infrastructure. Hidden infrastructure in pavements, lamppost charging, gully charging, and on-street bollards are all delivery models being trialled by local authorities, although there is seemingly a lack of agreement that the right solution has been identified for larger scale roll-out and adoption by all local authorities.
- 3.12 Swansea Council has expressed interest in potentially taking forward an on-street residential trial, although for larger scale roll-out, significant barriers remain around the management of streetworks licences and permissions, liability issues, and the misuse of parking spaces. Charging apparatus can also be left unregulated in the ground in the event of a commercial operator going bankrupt, as EV companies currently lack statutory powers. The Council will maintain a watching brief in relation to emerging best practice in this area.
- 3.13 Work will continue to focus on establishing strategically placed charging infrastructure to provide a general level of coverage across Swansea whilst a real and tangible solution for residential charging is brought forward.
- 3.14 Meeting Future Demand – Going back to the Welsh Government’s Electric Vehicle Charging Strategy, this highlights Swansea as being an area of higher charging demand for EV chargepoints in all scenarios in future year modelling. Whilst the council has installed charging infrastructure when funding has been available, there will evidently need to be an increase in private sector investment in the City and County, and this is starting to be seen in the placement of chargers in retailer car parks and an increase in the number of planning applications being submitted by commercial operators.
- 3.15 Have Your Say EV Survey – A consultation exercise on EV charging, conducted between November and December 2023, aimed to gather insights from residents, businesses and other organisations in Swansea. The survey was hosted on a dedicated webpage on Swansea Council’s

'Have Your Say' pages and promoted via Swansea Council's social media platforms. Local ward members were informed and asked to help promote engagement with the survey.

- 3.16 The results of the survey are currently being analysed and will help inform the Council of the need and demand for new locations. The survey was designed so that those with or without an EV could complete the survey, providing valuable information for identifying potential barriers to adoption and considerations for the strategic placement of future infrastructure.

4. Conclusion

- 4.1 With limited funding sources available, Swansea Council has managed to deliver a robust geographical spread of EV chargepoints in car parks across the City and County area, benefiting the many communities of which they serve. Much of the densely populated areas in Swansea are within 1km of a Council owned chargepoint, providing convenient access within a 5-minute drive (Appendix C).

- 4.2 Since the very first charging session took place on 11th July 2020 up until 29th December 2023, the Swansea Council owned public chargepoints have:

- Been used for **10,496** charging sessions
- Delivered **100%** renewable electricity
- Utilised **163,395 kWh** powering approximately **490,185 miles**
- Saved **128,811 kg** of CO₂

- 4.3 A notable uplift in user charging sessions occurred in 2023, indicating that demand for public charging infrastructure is rising, aligning with the growing adoption of EVs nationally.

- 4.4 Whilst challenges remain in the continued expansion of the network, the councils next steps will be to adopt an EV Charging Strategy, which will seek to outline how best to take forward any future proposals for the placement of charging infrastructure.

- 4.5 As and when funding becomes available, the council will continue to respond to these opportunities and seek to investigate all funding sources to enable delivery, where possible.

5. Legal implications

- 5.1 When delivering Transport Schemes, compliance will be required with the relevant Highways and Transport Act measures and guidelines.

- 5.2 It is necessary to ensure that all terms and conditions attached to external grant funding are complied with and that the Council's

Financial Procedure Rules regarding grant application and acceptances are followed.

- 5.3 For the EV schemes funded by the Office for Zero Emission Vehicles, there are specific quarterly monitoring and reporting requirements for a period of three years after installation, and a requirement that chargepoints installed remain operational for a minimum period of three years.
- 5.4 From the 1st April 2019, the installation, alternation or replacement of outlets and upstands for recharging electric vehicles within an area lawfully used for off-street parking is permitted development under the Generally Permitted Development Order Regulations 1995 (as amended). For any proposed on-street chargepoint locations, where this falls outside of permitted development, planning consent may be required.
- 5.5 The chargepoints commissioned between 2020 and 2022 have been installed in council owned car parks, which allows for the dedicated EV recharging bays to be appropriately monitored and managed to reduce misuse. A Traffic Regulation Order (TRO) enables effective management of misuse of the spaces. Installations prior to 2022 are already covered by an active TRO, with new installations in 2022 shortly due to be covered by an extension of the original TRO.
- 5.6 Separate legal advice will be sought regarding any contract and procurement issues relevant, as required.

6. Finance Implications

- 6.1 The schemes described in this report have relied wholly upon external capital grant funding to secure their delivery.
- 6.2 All funding bids submitted were signed off by the Section 151 Officer, and subsequently approved by Cabinet upon grant award.
- 6.3 For the infrastructure installed to-date, a third-party concession agreement is in place with a commercial operator who is liable for all ongoing revenue costs for the operation and upkeep of the units. The current contract is for a 5-year term, with the option to extend for a further 3 years.
- 6.4 Additional external grant funding will be required to undertake any expansion of the council owned public network.

7. Integrated Assessment Implications

- 7.1 The Council is subject to the Equality Act (Public Sector Equality Duty and the socio-economic duty), the Well-being of Future Generations (Wales) Act 2015 and the Welsh Language (Wales) Measure, and must in the exercise of their functions, have due regard to the need to:
- Eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Acts.
 - Advance equality of opportunity between people who share a protected characteristic and those who do not.
 - Foster good relations between people who share a protected characteristic and those who do not.
 - Deliver better outcomes for those people who experience socioeconomic disadvantage
 - Consider opportunities for people to use the Welsh language
 - Treat the Welsh language no less favourably than English.
 - Ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs.
- 7.2 These transport infrastructure schemes will serve to improve public amenity, connectivity and access for all, and will be the subject of consultation as appropriate.
- 7.3 For schemes which are proposed to be developed in future, consultation will be undertaken if schemes are approved by Welsh Government or any other funding body, and individual projects will consider their equality impacts more fully at the appropriate design stages when they will be screened in their own right.
- 7.4 The Well-being of Future Generations (Wales) Act 2015 mandates that public bodies in Wales must carry out sustainable development. Sustainable development means the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle, aimed at achieving the 'well-being goals'.
- 7.5 These schemes will be highly visible to the public and are considered to pose a medium risk to the Council. The cumulative impact of these schemes will be positive for people living near to chargepoints or for those travelling to the communities in which they are located. They will improve public access to EV charging and enhance charging capabilities for communities, making more sustainable modes of transport a realistic option when choosing a vehicle for their transport needs.
- 7.6 The Integrated Impact Assessment (IIA) process ensures there has been due regard to the above. It also takes into account other key issues and priorities, such as poverty and social exclusion, community cohesion, carers, the United Nations Convention on the Rights of the Child (UNCRC) and Welsh language.

Background papers: None

Appendices:

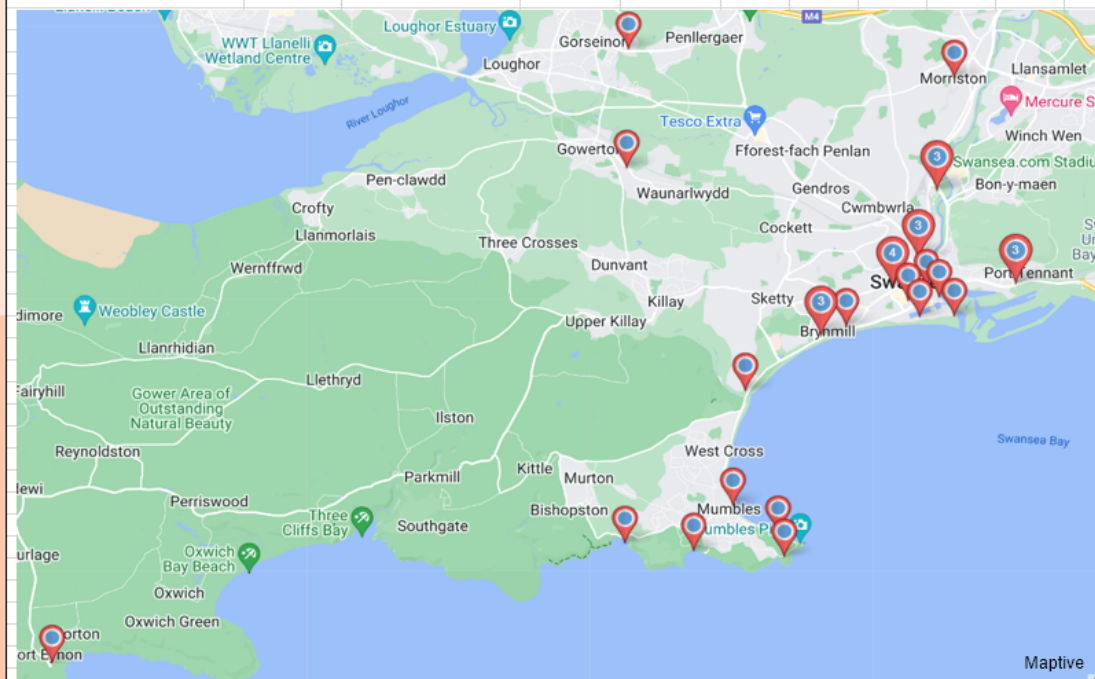
Appendix A: Overview of Swansea Council Owned Public EV Chargepoints

Appendix B: Overview of 'Fast' Chargepoint Locations to be installed utilising ULEVTF 2023/24 funding

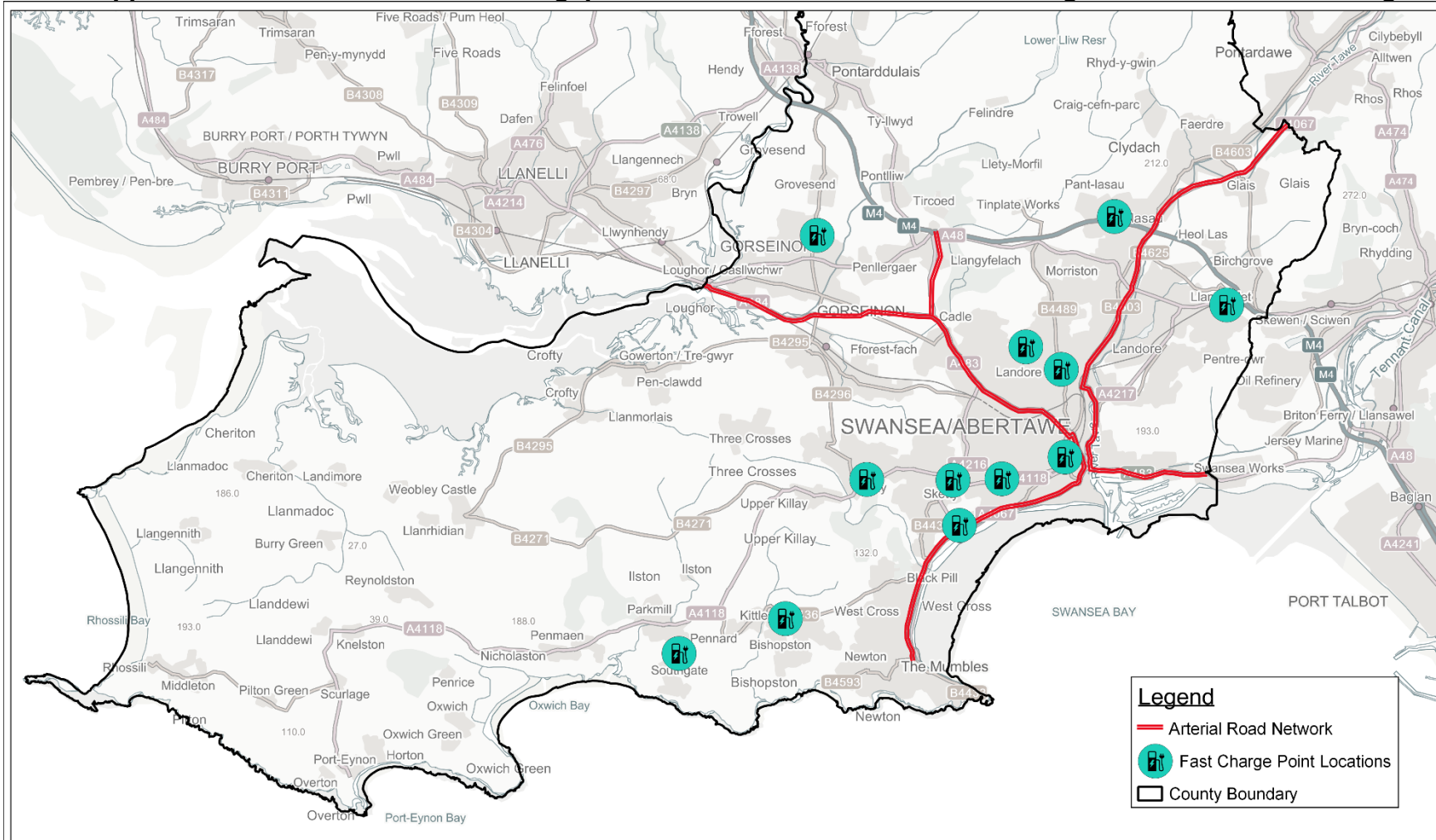
Appendix C: Accessibility of Swansea Council Owned Public EV Chargepoints

Appendix A: Overview of Swansea Council Owned Public EV Chargepoints

Charge Point Name	Location	Charger manufacturer	Power	Number of sockets	First Connected
Pell Street, Swansea	Pell Street, Swansea SA1 3ES	EV-BOX	22kW	2	08/03/2020
East Burrows, Swansea	East Burrows, Swansea SA1 1RR	EV-BOX	22kW	2	08/03/2020
Trawler Road, Swansea	Trawler Road, Swansea SA1 1YH	EV-BOX	22kW	2	08/03/2020
Swansea Point, Swansea	Swansea Point, Swansea SA1 1FY	EV-BOX	22kW	2	08/03/2020
Water Street Pontarddulais Car Park	Water Street Pontarddulais Car Park	EV-BOX	22kW	2	09/03/2020
Gowerton Car Park, Swansea	Gowerton Car Park, Swansea SA4 3AW	EV-BOX	22kW	2	09/03/2020
Clydach Car Park	Clydach Car Park SA6 5LP	EV-BOX	22kW	2	09/03/2020
Morrison Car Park	Morrison Car Park SA6 7AA	EV-BOX	22kW	2	09/03/2020
Bath's Car Park, Swansea	Bath's Car Park, Swansea SA1 4PQ	EV-BOX	22kW	2	09/03/2020
Gorseinon Car Park	Gorseinon Car Park SA4 4AD	EV-BOX	22kW	2	10/03/2020
Landore Park & Ride 1, Swansea	Landore Park & Ride 1, Swansea SA1 2JT	EV-BOX	22kW	2	13/03/2020
Fabian Way P&R 3	Fabian Way P&R 3 SA1 8LD	EV-BOX	22kW	2	13/03/2020
Landore Park & Ride 2, Swansea	Landore Park & Ride 2, Swansea SA1 2JT	EV-BOX	22kW	2	13/03/2020
Landore Park & Ride 3, Swansea	Landore Park & Ride 3, Swansea SA1 2JT	EV-BOX	22kW	2	13/03/2020
Fabian Way P&R 1	Fabian Way P&R 1 SA1 8LD	EV-BOX	22kW	2	13/03/2020
Fabian Way P&R 2	Fabian Way P&R 2 SA1 8LD	EV-BOX	22kW	2	13/03/2020
High Street, Swansea	High Street, Swansea SA1 1NS	Schneider Electric	22kW	2	17/02/2022
High Street, Swansea	High Street, Swansea SA1 1NS	Schneider Electric	22kW	2	17/02/2022
High Street, Swansea	High Street, Swansea SA1 1NS	Schneider Electric	22kW	2	17/02/2022
Knab Rock, Swansea	Knab Rock, Swansea SA3 4EL	Schneider Electric	22kW	2	01/11/2022
Langland Bay, Swansea	Langland Bay, Swansea SA3 4QR	Schneider Electric	22kW	2	02/11/2022
Recreation Ground, Swansea	Recreation Ground, Swansea SA2 0AR	Schneider Electric	22kW	2	03/11/2022
Recreation Ground, Swansea	Recreation Ground, Swansea SA2 0AR	Schneider Electric	22kW	2	03/11/2022
Recreation Ground, Swansea	Recreation Ground, Swansea SA2 0AR	Schneider Electric	22kW	2	03/11/2022
Northampton Lane, Swansea	Northampton Lane, Swansea SA1 4EW	Schneider Electric	22kW	2	04/11/2022
Northampton Lane, Swansea	Northampton Lane, Swansea SA1 4EW	Schneider Electric	22kW	2	04/11/2022
Northampton Lane, Swansea	Northampton Lane, Swansea SA1 4EW	Schneider Electric	22kW	2	04/11/2022
The Quadrant MSCP, Swansea CC	The Quadrant MSCP, Swansea CC SA1 3RA	Schneider Electric	22kW	2	04/11/2022
Blackpill Car Park, Swansea	Blackpill Car Park, Swansea SA3 5AT	Schneider Electric	22kW	2	14/11/2022
Port Eynon, Swansea	Port Eynon, Swansea SA3 1NN	Schneider Electric	22kW	2	17/11/2022
The Strand Carpark, Swansea	The Strand Carpark, Swansea SA1 1DP	Schneider Electric	22kW	2	22/11/2022
Caswell Bay, Swansea	Caswell Bay, Swansea SA3 4RH	Schneider Electric	22kW	2	29/11/2022
Northampton Lane, Swansea	Northampton Lane, Swansea SA1 4EW	Schneider Electric	22kW	2	29/11/2022
Bracelet Bay, Swansea	Bracelet Bay, Swansea SA3 4JT	Schneider Electric	22kW	2	05/12/2022
The Dairy Car Park, Mumbles Road	The Dairy Car Park, Mumbles Road SA3 4BX	Schneider Electric	22kW	2	02/02/2023




Appendix B: Overview of 'Fast' Chargepoint Locations to be installed utilising ULEVTF 2023/24 funding



Legend

- Arterial Road Network
- Fast Charge Point Locations
- County Boundary

	Transportation Highways & Transportation Guildhall, Swansea SA1 4PE	Author IB	Date 29/12/23	Page Size A3	Project Ultra Low Emission Vehicle Transformation Fund Project - 2023-2024
	© Crown copyright [and database rights] [2023] OS [100023509]© Hawffraint y Goron [a hawliau cronfa ddata] [2023] Arolwg Ordans [100023509]	Scale 1:90000	Title Installation of 'Fast' Electric Vehicle Charge Point Infrastructure		

Appendix C: Accessibility of Swansea Council Owned Public EV Chargepoints

