

# TSIP Appendix C

# Lambeth EV Chargepoints

# Delivery Plan

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## 1.0 Introduction

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By providing Electric Vehicle (EV) chargepoints we aim to reduce emissions that impair local air quality and cause climate change.

In 2016 road transport in Lambeth was responsible for 30% of the borough's total carbon dioxide emissions (CO<sub>2</sub>) and 60% of the boroughs total nitrogen oxide emissions (NO<sub>x</sub>). NO<sub>x</sub> is a tailpipe emission which is a priority for us to reduce because air in the borough is failing to meet legal limits for annual mean concentrations of it.

Refuelling an EV can take several hours so it is often done while the vehicle is parked. This refuelling time may reduce to just minutes in the future. Until it does, Lambeth has a role in

providing chargepoints so that EVs are a viable option for people to use now. We manage a large number of parking spaces which are both on-street and on council managed estates. About a third of our residents live on estates we manage and much of the housing stock in the borough does not have off-street parking. In our Transport Strategy we have committed to install a minimum of 200 chargepoints by 2022. This plan sets out our approach to achieving that and how we will install EV chargepoints up to 2025.

## 2.0 Why Lambeth is investing in EV chargepoints

### Air Quality and Climate Change

There is an urgent need to both improve air quality in Lambeth and reduce emissions that cause climate change. The borough has been designated an Air Quality Management Area and on 23 January 2019 Lambeth Council declared a climate emergency. In 2016 road transport in Lambeth was responsible for; 163,203 tonnes of CO<sub>2</sub> emissions, about 30% of the borough’s total CO<sub>2</sub> emissions, and 558 tonnes of NO<sub>x</sub> emissions, about 60% of the boroughs total NO<sub>x</sub> emissions<sup>1</sup>. Figures 1 and 2 show emissions from each vehicle type.

Knowing which vehicle types are most responsible for CO<sub>2</sub> and NO<sub>x</sub> emissions in Lambeth helps us understand what potential impact we can make by targeting different user groups. This needs to be combined with an understanding of the policy context and the current EV market, which is discussed below.

EVs produce about two thirds less carbon emissions per mile than petrol/diesel vehicles because the UK power generation sector has made good progress in switching away from fossil fuels. EVs do not produce any tailpipe emissions, such as NO<sub>x</sub> which affect local air quality. The borough monitors a range of harmful pollutants but

NO<sub>x</sub> is a priority because our monitoring stations show that the borough is failing to meet the EU annual mean concentration limit for nitrogen dioxide (NO<sub>2</sub>).

While far better for air quality than vehicles powered by petrol or diesel, EVs do still produce Particulate Matter (PM) emissions in the form of brake and tyre wear. They also do not deliver on other goals within our Transport Strategy, such as reducing the number of people killed or seriously injured on our roads or enabling people to live more active lives. Facilitating more people to make their short trips by bike or foot remains our priority.

E-bikes have great potential to broaden the appeal of cycling, particularly in the south of Lambeth where it is quite hilly, as well as for those people making longer trips for instance. E-bike batteries are generally below 1kw and typically batteries can be detached from the bike and recharged using a domestic plug. The need for public charging points is therefore uncertain, but we will monitor this carefully, consider installing e-bike chargepoints on-street where there is demand for this and target our interventions where needed. For example, we will work with companies operating e-cargo bikes. Charging for e-bikes will also be secured off-street in new developments.

Figure 1:  
**Lambeth Road Transport CO<sub>2</sub> Emissions 2016.**  
**Total of 163,203 tonnes**

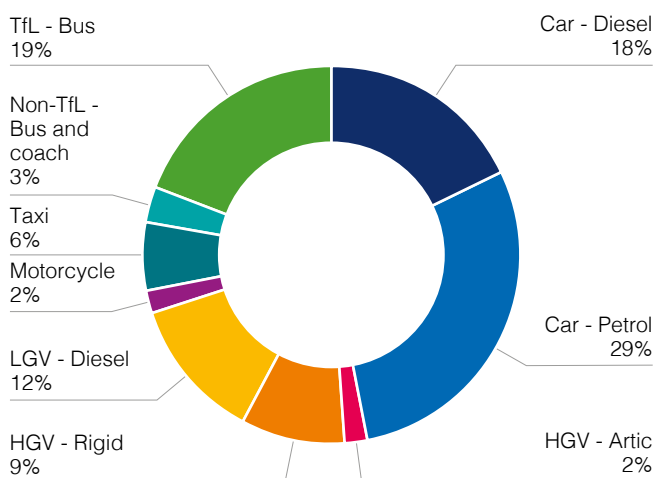
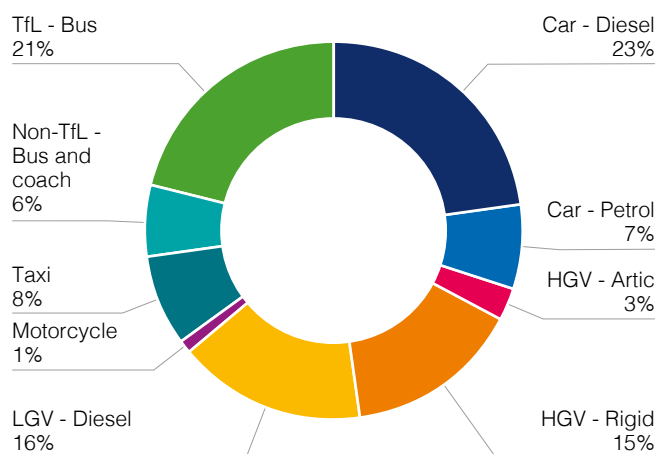


Figure 2:  
**Lambeth Road Transport NO<sub>x</sub> Emissions 2016.**  
**Total of 558 tonnes**



<sup>1</sup> London Atmospheric Emissions Database 2016

## Lambeth's Infrastructure Role

While the private sector has built some public chargepoints there is not a comprehensive network that consumers can rely on. As the market for refuelling EVs grows there will be greater interest and chargepoint provision by the private sector but to stimulate demand for EVs Government has provided grants for local authorities to install on-street public chargepoints.

We are aware of the risk that chargepoints we install now could become redundant as private provision increases and refuelling technology advances. To guard against the risk of having redundant assets we will seek to provide chargepoints that meet users' needs and will have due regard to the cost of decommissioning them.

In order to ensure our approach is sustainable and fits with the objectives in our Transport Strategy, we have developed the following principles, listed in descending order of importance. These principles will be used to decide how our investment in EV chargepoints will be made.

As a Planning Authority we also determine what EV chargepoints should be provided in new developments. For more information on policies that apply to new developments refer to the London Plan<sup>2</sup> and our Local Plan<sup>3</sup>.

Principle	
1	Chargepoint installations will have minimal impact on pavements and Healthy Routes.
2	Chargepoints will use 100% green electricity.
3	Resources will be targeted to deliver maximum air quality improvements and CO <sub>2</sub> reductions.
4	We will ensure all residents have a nearby chargepoint they can use.
5	Ensure consumers can access competitively priced electricity so EVs are affordable.
6	Develop a chargepoint network which generates revenue to cover maintenance and expansion costs to ensure the growth of the network is sustainable when dedicated EV grants end.

<sup>2</sup> [The London Plan](#)

<sup>3</sup> [The Local Plan](#)

## 3.0 Understanding EVs and meeting user need

### Current EV technology and infrastructure

By the end of 2018 there were over 200,000 Ultra Low Emission Vehicles<sup>4</sup>, nearly all EV, licensed in the UK. They currently make up about 2% of all sales and Government has set an ambition<sup>5</sup> for between 50-70% of new car sales to be Ultra Low Emission by 2030. 93% of those 200,000 licensed EVs are cars. There is a good range of electric car and small van models available on the market and an increasing number of EV motorbikes.

Fully electric single decker buses are available although double decker buses still tend to be hybrid rather than fully electric. Bus refuelling generally takes place overnight within the depot. Lambeth will work with TfL and bus operators to install chargepoints at on-street bus stands if it is required. There are very limited EV options for heavy goods vehicles<sup>6</sup> and this is likely to remain the case in the short term. HGVs are not considered in this plan. It may be that HGVs convert to using low emission fuels rather than EVs<sup>7</sup>. We will monitor what progress is made in bringing ultra-low emission HGVs to market and what our role is in providing any infrastructure required to support their introduction

Figure 3 explains what kinds of EV are available. The distance that EV's can travel is generally much less than a petrol/diesel vehicle. The range of an EV is determined by the size of its battery, which is measured in kilowatt-hours (kWh). The time taken to recharge a battery is dependent on the power output of the chargepoint. Figure 4, on page 6, explains the different kinds of chargepoints that are available.

Power outputs generally vary from 3kw to 50kw with some 120kw chargepoints also available. A 40kwh battery, the size found in the Nissan Leaf fully electric EV, would take over 13 hours to fully charge using a 3kw charge point but less than an hour using a 43kw charger. Where a vehicle can be re-charged while parked, often overnight, a long refuelling time is not an inconvenience. This is how households with access to a driveway or

Figure 3:  
**What is an Electric Vehicle?**

Electric vehicles use electric motors to drive their wheels. They derive some or all of their power from rechargeable batteries. The distance an EV can drive on a full battery is known as its range. Different categories of EV include:

- All-electric EVs, where the battery is the only power source. Most current (non-luxury) models have a quoted range of 80-120 miles (130-190 km). In practice, range varies according to driving style, terrain and the use of auxiliary equipment such as heating/air conditioning.
- Plug-in Hybrids (PHEVs) can switch between running on electricity or fossil fuels. They typically have a smaller battery, and therefore a lower battery powered range of between 10-40 miles (15-60 km). However their maximum range is equivalent to a petrol car. Both plug-in hybrid and all-electric EVs are recharged by plugging them in to an electric power supply.
- Hybrids (HEVs) which do not plug in, such as the Toyota Prius, have a much smaller battery which is recharged while driving. HEVs can drive in electric mode for a few miles.
- Fuel Cell Vehicles generate their own electricity on-board from a fuel such as hydrogen, and do not need to plug in to the electricity grid to recharge. Re-fuelling is similar to a petrol car.

Source: Taken from [House of Commons Briefing Paper No. CBP07480](#), 28 June 2019

4 [DfT vehicle statistics](#)

5 [Road to Zero](#)

6 [London EV Infrastructure Delivery Plan](#)

7 [Cleaning the Air](#), 2019 Freight Transport Association Briefing Note

garage typically refuel. Low power chargepoints have the advantage that they do not require any upgrades to the power supply network and are cheaper to install.

Chargers capable of delivering 350kw have been developed to cater for larger batteries and to deliver refuelling times of a few minutes but EVs on the market are not yet capable of receiving this amount of power. Building a network of chargepoints this powerful would be expensive, with upgrades required to increase the local electricity grid capacity.

## User needs

Detailed analysis of user's experience and what type of EV chargepoints will meet their needs has been carried out by TfL<sup>8</sup>. Figure 5, on page 7, summarises the needs of various user groups and Lambeth's role in meeting them.

The lower range of EVs compared with petrol/diesel vehicles may deter people from choosing an EV but this will depend greatly on their usage patterns.

For commercial fleets the main consideration will be the impact lower ranges will have on their competitiveness and commercial viability. The [LoCity](#) (Lowering Emissions from Commercial Vehicles) project provides a tool on their website which allows operators to search for low emission models which meet their operational needs.

For taxis, PHV and other high mileage vehicles there will be a need for them to re-fuel during work hours and in order to do this quickly they will need rapid chargers (50kw+). Rapid chargers require a dedicated new connection to the power supply and this can be expensive to install if there is not capacity available on the grid. Because of their size, rapid chargers are not suitable for areas where footways are narrow or that are primarily residential. The borough will endeavour to install rapid chargers, especially in areas that serve taxi, PHV and commercial vehicles, but only at suitable sites and when it represents good value to do so. Taxi, PHV and van drivers may not have off-street parking, and may also need low-powered chargepoints conveniently located for home based charging between shifts.

Figure 4:  
**Commonly available public chargepoints**

There are over 15 operators of public chargepoint networks in the UK. They generally sell memberships, which provide access to their network, but pay-as-you-go access is becoming more common.




- 3-5kw low power chargepoints can make use of an existing connection to the power supply and be retrofitted into existing powered street furniture such as lamp-columns. This reduces the need to install a dedicated pole to host the charge point, minimising street clutter and not impacting on the street scene or quality of pavements for pedestrians. 
- 7kw-22kw fast chargepoints will require a new connection to the power supply. When installed on street they tend to be mounted on a dedicated pole that hosts two chargepoints to serve two EVs. 
- 43kw/50kw rapid chargepoints require a new connection to the power supply. The petrol pump sized unit can serve one vehicle at a time but has various cables to account for the different connector types (shape of plug and AC/DC output) used by different manufacturers. 

Figure 5:  
Annotated table reproduced from TfL’s London electric vehicle infrastructure delivery plan

User category	Vehicle type	From or near home or at depot (Slow/standard charge)	While 'grazing' or at the workplace (Any charge speed)	'On-the go' or in-transit (Typically rapid charge)	Importance of Lambeth's role in providing EV charging infrastructure and of what type
Company fleet LGVs	BEV	Regularly to nightly (during working week)	Rarely to occasionally (depending on mileage and access to depot charging)	Occasionally to daily (depending on mileage)	Medium. No involvement where overnight parking is in depots but a role to play providing rapid charge points to fulfil 'on-the go' charging needs.
	PHEV		Rarely or never	Occasionally (where vehicle supports)	
Privately owned LGVs (including the 'zle economy')	BEV	Regularly to nightly (during working week)	Occasionally to regularly (depending on the nature and length of the stop and access to home charging)	Regularly (depending on daily mileage and ability to charge from or near home)	High. Role to play providing overnight and on-the-go rapid charging. Privately owned LGVs are more likely to be parked on-street or estates because many households in Lambeth lack off-street parking.
	PHEV			Occasionally (where vehicle supports)	
Taxi	Any	Nightly (during working week)	Rarely or never	Regularly to daily (depending on daily mileage and ability to charge from or near home)	High. Role to play in providing on-the-go rapid charging and overnight charging, where taxi owners do not have access to off-street parking.
Private hire	Any	Nightly (during working week)	Rarely or never	Regularly to daily (depending on daily mileage and ability to charge from or near home)	High. Role to play in providing on-the-go rapid charging and overnight charging, where taxi owners do not have access to off-street parking
Shared vehicles (eg. car clubs)	BEV	Regularly to daily	Occasionally to regularly (although dependent on business model)	Regularly (dependent on vehicle and business model)	Medium. State aid rules severely limit our role in overnight charging provision at car club bays. Our role is limited to providing 'on-the go' rapid charging.
	PHEV			Regularly (where vehicle supports)	
Private cars	BEV	Regularly	Occasionally (depending on use of vehicle and ability to charge from or near home)	Occasionally to regularly (depending on use of vehicle and ability to charge from or near home)	High. While the majority of households do not own a car, those households that do, generally park on-street or in estates overnight. Our role is to provide overnight charging options near homes and
	PHEV	Regularly	Occasionally to regularly (depending on use of vehicle and ability to charge from or near home)	Occasionally (where vehicle supports)	

Car club operators, which provide hire cars for short term rental, will need dedicated chargepoints if the car has a designated parking pay. Legal advice precludes the borough from providing dedicated chargepoints for the car club sector on a large scale because of the risk of breaking state aid rules. The borough will investigate ways of encouraging and facilitating the car club sector to invest in the infrastructure required to electrify cars in dedicated bays.

**London and Lambeth context**

The borough provides a discount on the price of a parking permit for an EV and there is a surcharge for diesel vehicles, which produce higher NOX emissions. Measures to encourage the uptake of EVs are largely put in place at the London-

wide level. Since January 2018 all new London taxis presented for licensing for the first time have needed to be zero emission capable. This is currently defined as having a zero emission range of at least 20 miles and producing less than 75g/km CO<sub>2</sub>. From January 2020 all vehicles, less than 18 months old, which are licensed as private hire vehicles for the first time will also have to be zero emission capable. These requirements on taxi and private hire drivers mean that they are likely to be early adopters of EVs.

Two other London-wide measures which incentivise the uptake of EVs are the Ultra Low Emission Zone (ULEZ) and LEZ (Low Emission Zone). The ULEZ came into force on 8 April 2019 and applied to the same area as the central

London congestion charging zone. The ULEZ boundary will expand to encompass all roads within the north/south circular roads in October 2021. The LEZ is set at the Greater London boundary and applies to heavy vehicles only; buses, trucks and coaches. Both the LEZ and ULEZ apply charges to older, higher polluting vehicles to enter. While vehicles do not have to be EVs to avoid charges, the current ULEZ/LEZ could be a stimulus for people to switch to using EVs when they purchase a new vehicle.

In 2016 it was estimated that there were a total of 67,000 vehicles owned in Lambeth. Just under 300 of them were EVs. By the end of 2018 just over 600 EVs had been registered in the borough. From the available data it is not possible to estimate how many of these are parked on-street, nor where in the borough they are parked.

By the end of the 2018/19 financial year Lambeth Council had installed 107 low power on-street charge points, mounted in lamp-columns in residential areas, and 23 7kw charge points. Five of these 7kw charge points were dedicated to serve car club bays while the remaining 18 were open to all users. TfL had also installed 6 rapid charge points on red routes within the borough.

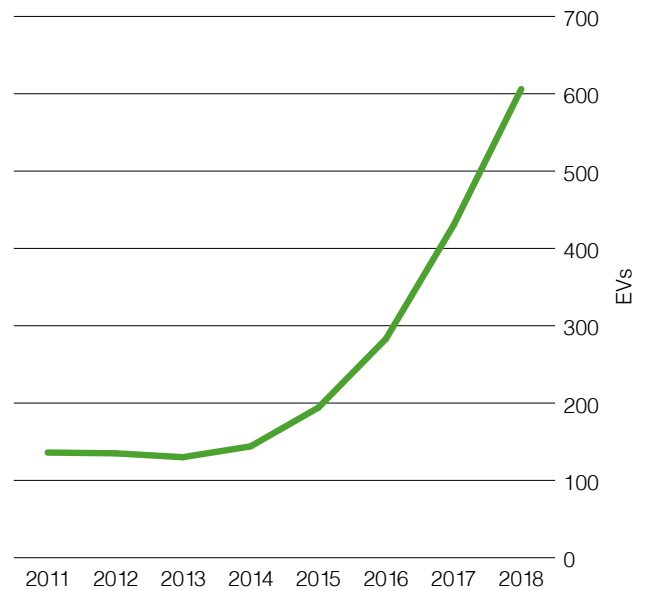
Figure 7, on page 9, shows where existing chargepoints have been installed by Lambeth or TfL along with households that are within a 5 minute walk of each chargepoint. Typical walking speed is 80m per minute, meaning that a 5 minute walk is about 400m. A radius of 300m around each charge point is shown on the map to give an indication of areas within a 5 minute walk of a chargepoint.

## Best Practice Guidance

TfL have produced chargepoint location guidance<sup>9</sup> for boroughs and published various reports based on research into EV infrastructure demand. The guidance has four themes which, alongside the principles set out above, will be used to decide on the type and placement of chargepoints:

- Identify current demand;
- Provide for future uptake;

Figure 6:  
EVs registered in Lambeth



- A good geographical spread of chargepoints; and,
- The right charge point in the right place.

**Current demand in Lambeth:** Since 2017 the borough has been inviting people to register their interest in having an EV chargepoint provided nearby, via a [form on our website](#). There has been a fairly even distribution of requests from across the borough and nearly all requests come from private car owners.

**Future demand in Lambeth:** A major challenge in anticipating future demand is the significant uncertainty regarding future refuelling behaviour, in part because the chargepoint and battery technology is still evolving. In the coming five years demand is likely to come chiefly from vans and cars.

London's EV infrastructure delivery plan, published in June 2019, models two different scenarios to estimate likely demand for EV charge points. In the low EV sales scenario, EVs are projected to make up 6% of sales by 2025. Under the high sales scenario EVs are projected to make up 30% of sales by 2025. The estimates are London wide and have not been broken down to give a figure

<sup>9</sup> Electric vehicle charging infrastructure: Location guidance for London, TfL



Figure 7:  
Public chargepoints planned to be installed by end of 2019 with 300m catchment area shown

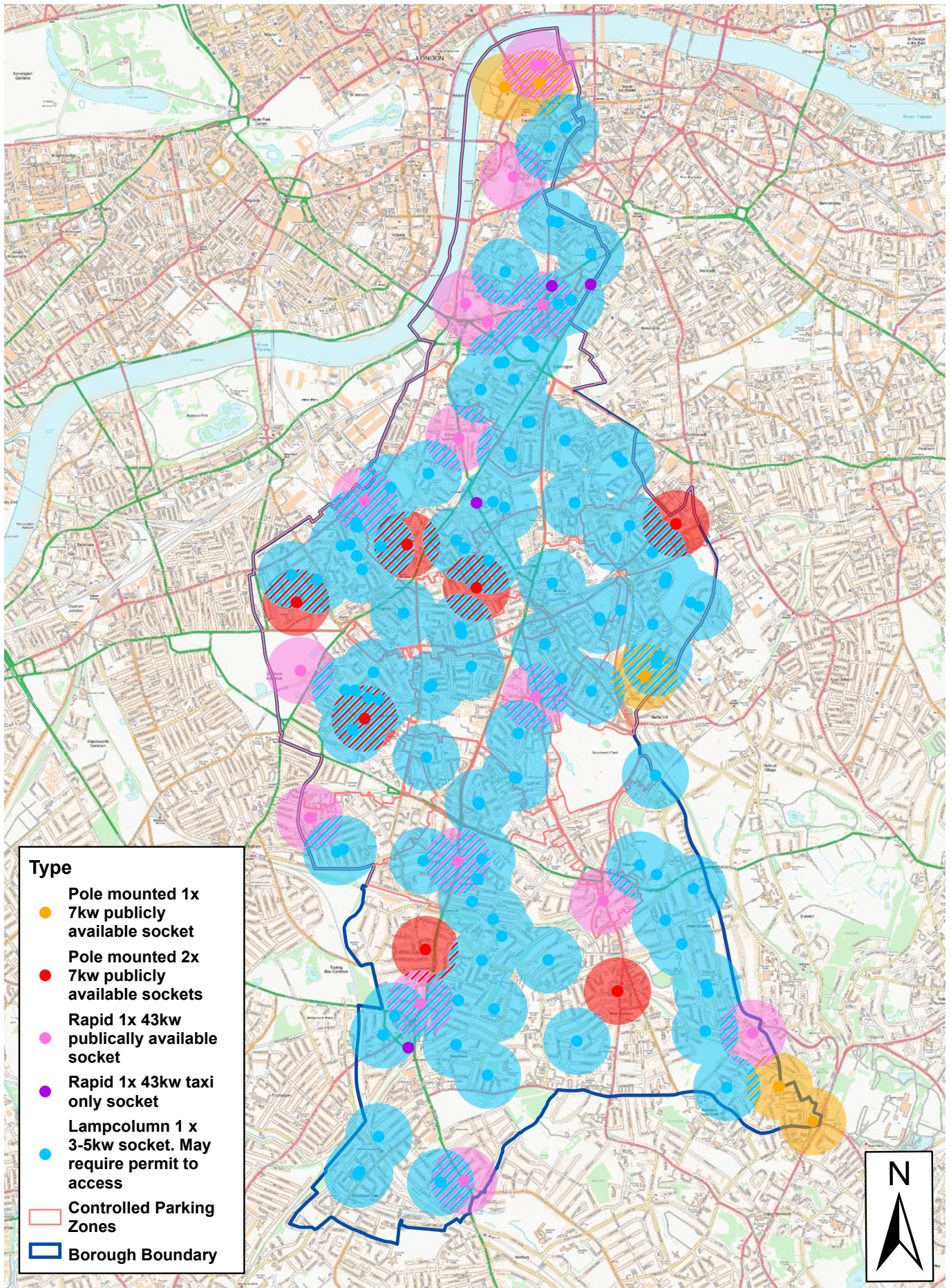


Figure 8:  
Growth scenarios

	Low Uptake scenario – 2025		High Uptake scenario – 2025	
	Rapid	Low power & 7kw	Rapid	Low power & 7kw
London	300	4,000	2,300 – 4,100	33,700 – 47,500
Lambeth	9	121	69 – 121	1,021 – 1,439

for each borough. However if this demand were spread evenly across all 32 London boroughs and the City of London it would have the following implications for the number of chargepoints needed in Lambeth.

Modelling demand for on-street EV chargepoints from different areas of London has also been undertaken, as shown in Figure 9 below. This modelling used a scenario where EV sales reached 13% by 2025. Under this scenario Lambeth will need to meet demand for between 975 and 1,760 EV’s parked on street overnight by 2025. A high proportion (25-30%) of Lambeth households with a car do not have access to off-street parking. This is a major factor which will drive demand for on-street EV infrastructure. Demand will be greatest in Waterloo, with a high proportion of taxi/private hire journeys made there. This strategy does not set targets on the number of chargepoints the borough aims to install each year. Instead we will aim to create a network across the borough which

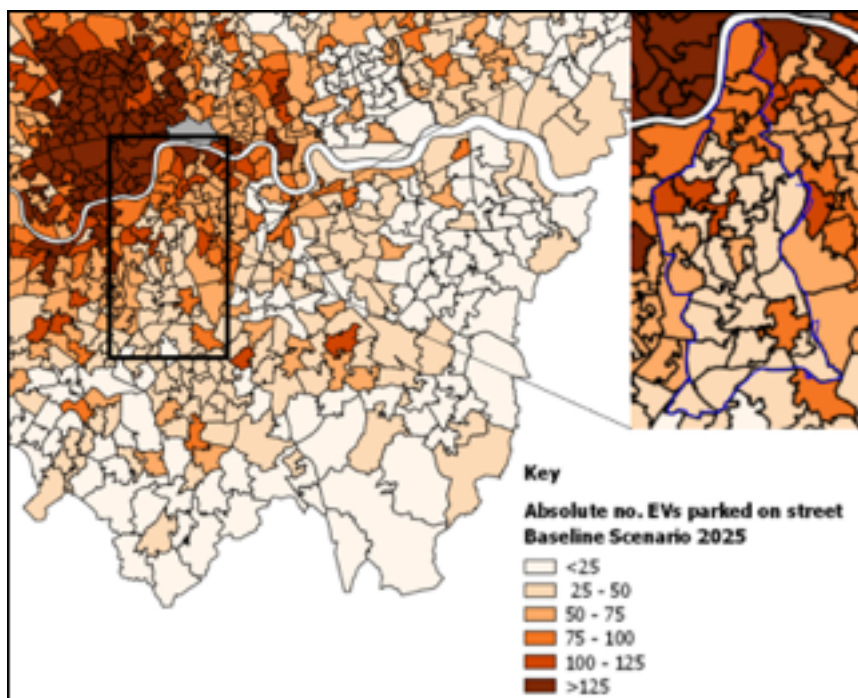
means all households with no off-street parking will be within a 5 minute walk of their nearest chargepoints by the end of 2020. We will then add to our residential chargepoint network in response to observed demand.

**A good geographical spread of chargepoints:**

This theme is based on research<sup>10</sup> which found that proximity to final destination is the most important factor for public charge point users. 73% of people are likely to use a public charge point if it is a 10 minute walk from their destination and 93% if it is 5 minutes. Consequently one of the principles in this strategy is that we will ensure that our residents are within a 5 minute walk of their nearest chargepoint. This principle guided where the 130 chargepoints installed in 2018/19 were placed. The majority of residents already have a chargepoint within a short walk of their house.

10 Understanding Electric Vehicles – Research Findings, TfL

Figure 9:  
Overnight charging demand in 2025.



Source: EV uptake and infrastructure impacts study, 2016

Figure 10:  
Distance travelled, km per year, by user group.

Segment	Distance travelled	Comment
Cars	7,500	Calculated by dividing total London fleet vehicle kilometres travelled from Emissions Factor Toolkit (LAQM) by total London fleet (DfT)
Motorcycles	5,000	Calculated by dividing total London fleet vehicle kilometres travelled from Emissions Factor Toolkit (LAQM) by total London fleet (DfT)
Vans	15,000	Calculated by dividing total London fleet vehicle kilometres travelled from Emissions Factor Toolkit (LAQM) by total London fleet (DfT)
Taxis	45,000	Based on taxi survey data that drivers travel an average 70 miles per day (~110km) for an estimated 300 days per year
PHV	60,000	Provided by large PHV operator, includes personal distance travelled for an average full-time driver

**The right charge point in the right place:**

Figure 10 above, reproduced from London's EV Infrastructure Taskforce provides a useful guide as to the types of chargepoints which are needed for each user group. In order to target resources to deliver air quality improvements and reduction in CO<sub>2</sub> emissions we will need to prioritise the needs of user groups which can deliver the biggest reductions in emissions. The table above, reproduced from the infrastructure taskforce, shows the average annual distance for each user group. It shows that taxi, private hire and commercial fleet drivers drive significantly further than other user groups.

So that resources are targeted to deliver the maximum reductions in emissions we shall prioritise the infrastructure needs of high mileage user groups. The council does not have the resources to assess mileage on a case by case basis and will implement simple systems that allow high-mileage users, including taxis, private hire vehicles and vans to be identified. Requests for residential chargepoints from these user groups, if they do not have access to off-street parking will be given priority.

## 4.0 Implementation of new EV charging infrastructure

Lambeth has an important role to play in providing EV infrastructure for anyone who does not have off-street parking, or who lives on an estate managed by the council. The standard offer we will seek to deliver is that all residents with no off-street parking will be within a five minute walk of their nearest chargepoint.

### Available Funding

An important practical consideration in the preparation of this strategy is the resources which will be available to implement it. Funding specifically for EV chargepoints has been available in the recent past. London was awarded £13M from the Office for Low Emission Vehicles as part of the Go Ultra Low City Scheme (GULCS). In 2018/19 Lambeth was awarded £247,000 of this GULCS funding and also successfully bid for £93,000 from the On-Street Residential Chargepoint Scheme administered by the Office for Low Emission Vehicles.

A total of £4M is available for London boroughs from a second round of GULCS funding. This will be awarded in January 2020 and must be used by December 2020. The borough will be bidding for this funding, but beyond 2020 it is not certain whether Lambeth will be able to rely upon continued dedicated funding for EV chargepoints. The borough has dedicated some of the LIP funding it receives from TfL each year for emissions reduction measures up until 2021/22, but if this is the only source of funding available the number of chargepoints we can install each year will be less than the 130 achieved in 2018/19.

### Ensuring access to EV chargepoints

EV drivers need to be confident they will be able to access chargepoints. Chargepoints which are 7kw or higher will have a dedicated EV bay provided that is time limited.

Low power chargepoints will be installed in residential streets. Where no controlled parking zone (CPZ) is in operation our policy will be to

mark out a dedicated EV bay. Where low power chargepoints are installed in areas with a CPZ we will seek to preserve preferential access for local people, rather than all EV drivers. To achieve this is likely to require a re-organisation of the boroughs parking permit system to introduce locally based EV permits. The aim is to have this in operation by the end of 2020.

On council managed housing estates parking is for the exclusive use of the estate's residents and these residents cannot apply for an on-street parking permit if they live in an area where a CPZ is in operation. The council will invest in the provision of EV charge points on estates we own and investigate the possibility of local EV permits allowing people to use both estate and on-street EV bays.

### Applying our principles – Our Delivery Plan

Ensuring that chargepoints will use 100% green electricity, provide access to competitively priced electricity and will generate revenue to cover maintenance and future expansion will be achieved through contractual terms the council negotiates with suppliers. The other three priorities will be applied as below

- Chargepoints installations will have minimal impact on pavements and Healthy Routes
  - We do not support residents running cables across the footway as this is a potential hazard
  - We will retrofit low power chargepoints into lamp-columns to minimise additional street furniture

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- Where EV chargepoints cannot be installed into lamp-columns our first choice will be to install them on the carriageway rather than footway
  - Installations on footways will only take place where they are very wide and pedestrian comfort will not be compromised
  - Resources will be targeted to deliver maximum air quality improvements and CO<sub>2</sub> reductions
    - We will work with partners to build a network of rapid chargers. By the end of 2020 there will be a minimum of 15 on-street public rapid chargers
    - Requests for residential low power chargepoints from taxi, private hire drivers and van owners, with no off-street parking, will be prioritised and we will aim to install a low-power chargepoint as conveniently as is possible to their property once all properties have a chargepoint within 300m. We will market this offer to relevant user groups
  - We will work to amend our parking permit system so that EV bays are dedicated to local EV users
  - We will ensure all residents have a nearby chargepoint they can use
    - All areas of the borough with no off-street parking will be within 300m, as the crow flies, of a chargepoint by the end of 2020
    - We will invest in our housing estates to install charging points to meet demand
    - We will monitor usage of chargepoints and use this, along with requests for them, to gauge demand for new chargepoints and grow the council owned network in response to this demand from 2020 onwards

## 5.0 Summary of Key Actions

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1. We will aim to have every household, with no access to off-street parking, within a five minute walk of a low-power residential chargepoint by the end of 2020.
2. We will provide associated parking bays at residential chargepoints giving access to local permit holders by the end of 2020.
3. We will market an offer to drivers of taxis and private hire vehicles with no off-street parking to provide a low-powered on-street chargepoint as conveniently as possible to their property.
4. We will invest in our housing estates so that residents have access to EV chargepoints.
5. We will work with partners to build a network of rapid chargers. By the end of 2020 there will be a minimum of 15 on-street public rapid chargers.
6. Rapid chargepoints will be located to serve the needs of early adopters such as taxi and private hire vehicles but they will be available to all EVs.
7. We will monitor usage of chargepoints and use this, along with requests for them, to gauge demand for new chargepoints and grow the council owned network in response to this demand from 2020 onwards.
8. We will monitor demand for chargepoints for e-bikes and provide for this as required.