

Electric vehicles

May 2018

Key findings

- The number of electric vehicles in London is booming and charging points are trying to catch up.
- Londoners who have driveways or garages are more likely to own an electric vehicle.
- 60 per cent of Londoners don't have a garage or driveway and would rely on chargers on street if they wanted to charge an electric vehicle.
- On-street chargers are not being installed quickly enough. Available borough funding for charging points is heavily over-subscribed.
- There is scope for electric vehicle infrastructure and delivery to be much more joined-up across London.
- Car clubs represent an opportunity to switch from petrol or diesel to electric vehicles to reduce roadside emissions.
- Electric vehicles, although preferable to petrol or diesel, still damage our health, present road danger and cause congestion. Steps to encourage electric vehicle use must consider a future London where cars, both fossil fuel and electric, are less prevalent.



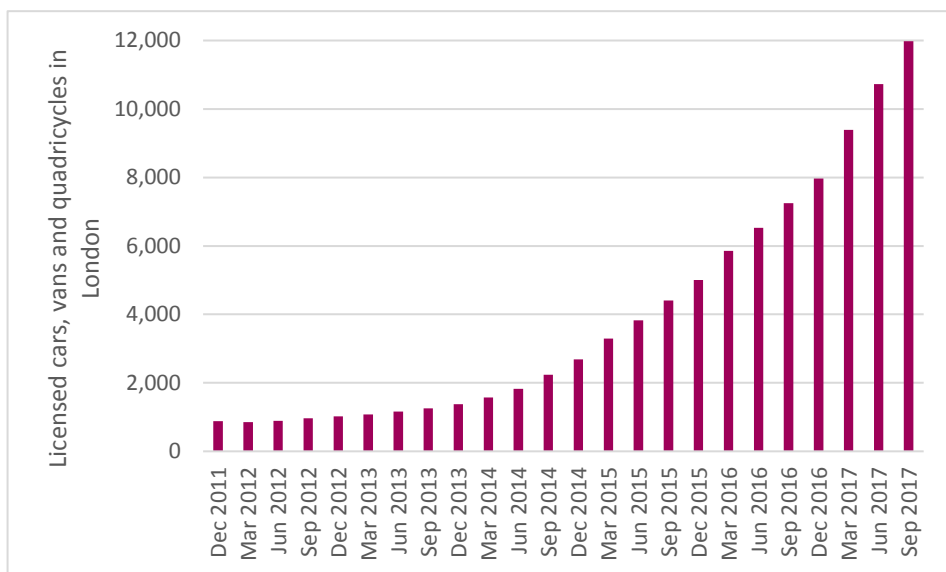
We welcome your thoughts and comments on how we can make the switch from petrol and diesel vehicles to EVs in London and get it right for the future. You can get in touch with us at EnvironmentCommittee@london.gov.uk

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Electric vehicles are booming in London and charging points are trying to catch up

The number of EVs in London has grown significantly in the last five years. There are now almost 12,000 electric vehicles registered in London, over ten times as many as in 2012.



Reference: Department for Transport, [Vehicle licensing statistics July to September 2017](#), table VEH0131

The growth in EV numbers is outstripping the supply of charging points, and this may start to limit vehicle uptake. According to Zap-

Map, the TfL-recommended charging point database, the number of charging points in London grew from an average of 1,586 in 2017 to 1,869 in 2018 – an increase of 17 per cent.¹ According to DfT data released so far (from December 2016 to September 2017), the number of electric vehicles in London increased by 50 per cent in 2017.²

The Mayor has taken steps to try and address this. The Mayor has committed £4.5 million of funding from the Office for Low Emission Vehicles (OLEV) to install 1,500 standard charging points across London,³ as well as £18 million of TfL capital investment towards a rapid charging network.⁴ Much of the rapid charging network will be reserved for black cabs – currently 62 per cent of all rapid chargers are black cab only.⁵

The number of charging points may not be as important as their location. We heard that the spread, location and accessibility of charging points, relative to user demands, is more important than the number. Oslo, for example, a city seen as an EV trailblazer, has almost exactly the same charger to vehicle ratio as London.⁶ TfL has conducted a lot of research already about where charging points are most necessary.⁷

This committee recognises that electric vehicles are still motorised vehicles, and still contribute to congestion, road danger and pollution. We are encouraging the *switch* from petrol and diesel vehicles to electric vehicles, but only where vehicular journeys are necessary. We fully support the Mayor in his drive for Healthy Streets, where most journeys are made by public transport, bicycle or on foot.

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Charging off-street

Londoners with access to off-street parking have often been the early adopters of electric vehicles. Having a driveway or garage means that you have a guaranteed place to park and charge your vehicle, as well as the ability to charge overnight. This has skewed EV ownership to traditionally more affluent parts of society, leaving the less wealthy to pay more in fuel costs and Vehicle Excise Duty.

The Government subsidises off-street installation of charging points.

You can get a grant of up to 75 per cent of the cost of your charging point, up to a maximum saving of £500.⁸ There is a national list of approved installers and the GLA is working towards a network of approved suppliers of home charging points.

“We know that where Londoners do have EVs, they tend to be those people who have off-street parking”

Lilli Matson, Director of Transport Strategy, TfL

Charging on-street

Encouraging EV use by Londoners without a driveway or garage is the biggest challenge. Around 60 per cent of London households do not have off-street parking. Not all of these households currently have a vehicle; only a third of Londoners own a vehicle and most rely on other transport methods. However, if any of these households did want to own an electric vehicle, they would have to rely on chargers on street. Giving these people the confidence to buy an EV and know that they will have somewhere to charge it is crucial.

Parking issues are very important to EV take up. The London Plan, currently in consultation, stipulates that twenty per cent of all *new* parking spaces created in London must have a charging point attached. Parking in existing spaces is currently a mixed bag. Some electric vehicle parking spots are free from parking charges, but not all are. Westminster Council, for example, offers free resident parking permits for EVs, and heavily discounted pay and display parking.⁹ Neighbouring Kensington and Chelsea offers reduced resident permits but charges for pay and display.¹⁰ The Mayor’s Environment Strategy says that the Mayor will develop a pan-London approach to parking charges for EVs by 2020.¹¹ We hope that this will mean pan-London free, or discounted, parking for EVs.¹² We recognise that parking charges are a significant income stream for boroughs. As the number of EVs in London grows, free parking will become more and more of a burden to councils. As part of this pan-London approach, we think that TfL should consider

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subsidising boroughs to provide free or discounted parking on a transitional basis.

Recommendation: The Mayor should develop his pan-London approach to EV parking as a priority for 2020, and in the short-term to encourage the rapid switch from petrol and diesel to electric, he should encourage boroughs to provide free or discounted EV parking.¹³

Concerns about charging remain deep-rooted. Worries about recharging and distance travelled on a single charge consistently top people's worries about buying an electric vehicle.¹⁴ This perception is persistent. In 2016, 39 per cent of those surveyed by the Department for Transport cited battery range as a worry. In 2014, it was also 39 per cent.

Most journeys in London can be done by bicycle, public transport or on foot, but those that still need to be done as a car are perfect for an electric vehicle. Two thirds of car journeys in London are under 5km.¹⁵ The most popular electric vehicle in the UK can sustain 53km of pure electric driving.¹⁶ It is extremely rare that a journey in London would fully drain an EV's battery, and most EV users even without off-street parking would only need to use a charging point after several trips or in preparation for a longer journey.

Recommendation: The Mayor should use his public profile to spread the idea that charging need not be a barrier to owning an electric vehicle, where owning a vehicle is necessary.

We recognise that the situation is different for working vehicles, such as taxis. Vehicles such as taxis or trade vans follow a very different driving pattern to the average car in London, cover a lot more distance and may need to charge up quickly to get back to work. We welcome the Mayor's initiatives such as the installation of rapid chargers specifically for taxis,¹⁷ or the trial of a 25-strong fleet of electric delivery vans, although we would urge the Mayor to deliver more rapid charging points than currently proposed.¹⁸

Anyone can apply to their local council for a charging point on their street, but the available funding pot is heavily oversubscribed. The Office for Low Emission Vehicles (OLEV) has allocated £2.5 million of funding nationally for installation costs. An individual would apply to their local council to consider a charging point and the council decides whether to apply to OLEV for funding. London Councils have told us that in the very first round this grant was already 50 per cent oversubscribed – i.e. applications from councils have already used up all of this funding.

“On-street parking is the real challenge [...] it is about having sufficient saturation in an area that residents have the confidence to be able to charge when they need to”

Oliver Lord, GLA Air Quality

Councils do not have to rely on OLEV funding to install charging points. Some providers in the industry will install charging points for free, such

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as BluePoint London. BluePoint are part of the same company that run the contract for Source London. BluePoint say that they will install charging points free of cost and even pay boroughs a fee to rent the space as well a share of the charging point's profits. We heard that boroughs are struggling to find the capacity – in planning, in housing or in consultations – to keep up with the desire of the charging companies.

TfL might be able to help councils to build even more charging points, faster. Companies such as BluePoint are willing to pay the installation costs of charging points in some places, but not all. TfL is uniquely placed as a pan-London body to map offers of private sector installation. If boroughs are struggling to find the capacity to match the desire of charging companies, TfL may be able to offer support. In areas where private sector support is less forthcoming, TfL could then target its own capital investment and act as a top-up to the OLEV funding pot. £2.5 million of funding is a small pot for TfL— less than 0.1 per cent of TfL's capital budget.¹⁹

Recommendation: TfL should map private sector offers of charging point installation, provide support where boroughs have capacity issues, and offer direct funding in areas where private sector investment is not happening quickly enough.

There have been some issues with the location of charging points that councils do install. Some charging points are large and have been installed on pavements. This takes pavement space away from pedestrians, especially those with buggies or wheelchairs, and may

impede journeys, particularly if there are trailing cables. We have seen examples of charging points either being installed on the street, or as part of streetlamp columns. These should be the norm.

Recommendation: The Mayor should encourage TfL and boroughs to install charging points between parking spaces, and not obstruct pavements.

Private companies are also starting to introduce electric vehicle charging infrastructure as the market continues to grow. Shell has announced plans for rapid chargers at its petrol stations—nine of which are in London.²⁰ Other private partnerships are installing and running charging points across the country.²¹

There is much more scope for EV infrastructure and delivery to be joined-up across London. A glance at Zap-Map shows that there are dozens of different networks. Each borough is trying to deal with electric vehicles by themselves. Individual borough planning teams decide where bays can go and make applications to OLEV, public liaison units consult with local residents and local parking teams enforce parking restrictions in EV bays. We understand that London Councils and the Mayor are considering a delivery partnership that would unify boroughs and other partners and provide a more cohesive approach to EV growth in London – and that would also deliver cost savings to boroughs. We fully support such a partnership.

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Recommendation: The Mayor should ensure the establishment and financing of a pan-London EV infrastructure delivery partnership as a matter of urgency.

Car clubs

Car clubs represent an opportunity to get electric vehicles on the road instead of Internal Combustion Engines. Car clubs have an economic incentive to have the most modern vehicle fleet possible and regularly update the cars they provide. Car club members have already shown an appetite for more electric vehicles, and nine out of ten people who had not yet used an electric vehicle in their car club expressed an interest.²² Car clubs are also important in removing vehicles from the road entirely. Carplus estimates that each car club vehicle takes the place of ten private vehicles.²³

Car clubs also sidestep some issues around parking, but retrofitting car club bays with charging points is proving difficult. Car clubs already have dedicated bays. These bays are clearly signed, already generally accepted by the public and conveniently located. These bays could be retrofitted with charging points. Normally TfL and local boroughs pay for the installation of charging points. But because car club bays are only offered to members of that particular car club, such investment classifies as state aid and only €200,000 can be paid to each car club over a three-year period. This leaves the installation cost to the car clubs, and so investment is stifled. TfL is currently lobbying OLEV for a

state aid exemption for car clubs but has asked the Mayor to champion this cause.

Recommendation: The Mayor should lobby OLEV for state aid exemption for car clubs.

Electric vehicles are well established in car clubs but there is still a long way to go. According to Carplus, 17 per cent of all car club vehicles in 2016-17 were EVs – 3 per cent purely electric and 14 per cent hybrid.²⁴ This far exceeds the rate of EVs in the general car population – 0.4 per cent.²⁵ The previous Mayor had a specific target for 50 per cent of the car club fleet in London to be Ultra Low Emission Vehicles by 2025.²⁶ The new Mayor says he will “support the provision of car clubs” but makes no promises about EVs in car clubs.²⁷ The new Mayor should not be less ambitious than the previous.

Recommendation: The Mayor should set a new minimum target for the percentage of EVs in London’s car clubs, and set out what steps he will take to make it a reality.

TfL has started to actively encourage car club use. The Mayor’s Transport Strategy says that “The Mayor, through TfL and the boroughs, will support the provision of car clubs for residents, when paired with a reduction in the availability of private parking.”²⁸ TfL now has an interactive map of car club bays in London which allows you to search any location or postcode and then see the nearest car club vehicle, as well as the provider with a link to the provider’s website. Car clubs have previously asked TfL to include car clubs in its journey planner, which

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may also encourage other journey planners, such as Citymapper, to encourage car club use as an alternative to private cars or taxis. We understand TfL's reluctance, since car clubs are private companies.

Car clubs are starting to move towards point-to-point models. A point-to-point model is one where the car is picked up in one place and dropped off in another. Zipcar, for example, has now launched Zipcar Flex and intends to make the fleet 100 per cent electric in the next five to ten years. BluePoint are doing the same and have a small fleet of 200 electric cars. Charging infrastructure is currently holding point-to-point car clubs back. Zipcar told us:

"The infrastructure is not there to support [point to point EVs], so we will every two to three days have to take those vehicles overnight [...] charge our vehicles and put them back on to the streets"

Gerry Thornton, Senior Marketing Manager, Zipcar

Future-proofing

Much of the thinking about electric vehicles is within the model of a car-centric London, albeit one where the cars are electric. We recognise the limitations of this mindset and encourage reading of this report alongside the [Mayor's Healthy Streets for London approach](#) as well as the London Assembly's Transport Committee report [Future Transport](#). While technological developments can bring major benefits, they need to support – rather than impede – the overall goal to reduce car ownership and use and increase active travel in London.

The Mayor's new Transport Strategy aims for a substantial reduction in car use. By 2041 the Mayor aims for 80 per cent of all journeys to be by foot, bicycle or public transport.²⁹ This still means that 20 per cent of journeys will be by car, taxi or other motorised vehicle, or 6.6 million daily journeys. Electric vehicles are important to ensure delivery of these 6.6 million journeys as cleanly as possible.

Electric vehicles will put pressure on the power network and the Mayor needs to plan for this. Last year some media outlets reported that the country might need an extra 30 gigawatts of capacity, or the equivalent of 10 new nuclear power stations. The National Grid has refuted this and said that in its most probable scenario, peak demand for electricity would increase by 8 per cent, or 5 GW, because of EVs.³⁰ This does not mean that nothing needs to be done. The National Grid bases its estimate on much more efficient use of electricity, primarily

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through smart charging. The National Grid estimate also uses the current Government's deadline of 2040 for no more new petrol vehicles as an indicator for the pace of EV transition. The pace in London may be faster than the rest of the country.

Recommendation: The Mayor should project the charging demand implied by his plans for EV transition, and ensure that London is prepared to meet this, not just in the number and distribution of charging points, but in the smart technology of those points and the underlying electricity infrastructure.








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About the Environment Committee

	Caroline Russell AM (Chair) Green		Shaun Bailey AM Conservative
	Leonie Cooper AM (Deputy Chair, Chair (2016-2018 and at time of investigation) Labour		Joanne McCartney AM Labour
	Tony Arbour AM Conservative		David Kurten AM UKIP
	Jennette Arnold OBE AM Labour	The Environment Committee examines all aspects of the capital's environment by reviewing the Mayor's strategies on air quality, water, waste, climate change and energy.	

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Endnotes

¹ Data provided by Zap-Map - <https://www.zap-map.com>.

² Department for Transport, [Vehicle licensing statistics July to September 2017](#), table VEH0131

³ Transport for London, [Funding boost for London's electric vehicle charging infrastructure](#), 3 August 2017

⁴ Transport for London, [TfL drives forward £18 million electric vehicle scheme](#), 26 April 2017

⁵ 49 out of 79 rapid chargers as at end of January 2018 – figures provided by GLA Air Quality Team

⁶ According to the International Council of Clean Transportation [white paper on Electric Vehicle Capitals of the World](#), London has one charger for every 4.19 EVs and Oslo has one charger for every 3.97 EVs.

⁷ Transport for London, [Ultra Low Emission Vehicle research](#)

⁸ Office for Low Emission Vehicles, [Electric Vehicle Homecharge Scheme](#), November 2016

⁹ Westminster City Council, [Electric Vehicles](#)

¹⁰ Royal Borough of Kensington and Chelsea, [Electric Vehicles](#)

¹¹ Mayor of London, [Environment Strategy](#), page 108

¹² The Green Party Group agrees with a pan-London approach to parking charges for electric vehicles. However, the Group disagrees with proposals for the Mayor, Transport for London (TfL) or London boroughs to provide free or discounted parking spaces for private vehicles, including electric vehicles, even as a transitional measure.

The Green Party Group believes that this proposal is incompatible with the Mayor's plans for traffic reduction in his Transport Strategy and it is not the role of public bodies to subsidise private car parking.

¹³ See Green Party Group opinion above.

¹⁴ Department for Transport, [Public Attitudes Towards Electric Vehicles](#), February 2016

¹⁵ Transport for London, [Roads Task Force - Technical Note 14](#)

¹⁶ Next Green Car, [What are the UK's most popular EV models? Statistics](#), September 2017 and Mitsubishi, [Explore: Outlander PHEV](#)

¹⁷ Mayoral press release, [Mayor marks key milestone of 100 rapid charging points across London](#), 19 March 2018

¹⁸ Mayoral press release, [Mayor's new electric van fleet helps cut toxic emissions](#), 29 December 2017

¹⁹ [TfL's capital budget for 2018-19 is £2.5 billion](#).

²⁰ The Guardian, [Shell to open electric vehicle charging points at UK petrol stations](#), 18 October 2017

²¹ Local Gov, [Partnership to install electric vehicle charging points announced](#), 9 May 2017

²² Carplus, [Carplus annual survey of car clubs](#), 2016-17

²³ Carplus, [Carplus annual survey of car clubs](#), 2016-17

²⁴ Carplus, [Carplus annual survey of car clubs](#), 2016-17

²⁵ Department for Transport, [Vehicle licensing statistics April to June 2017](#), table VEH0104

²⁶ Transport for London, [An Ultra Low Emission Vehicle Delivery Plan for London](#), July 2015

²⁷ Mayor of London, [Mayor's Transport Strategy](#), March 2018

²⁸ Mayor of London, [Mayor's Transport Strategy](#), March 2018

²⁹ Mayor of London, [Mayor's Transport Strategy](#), March 2018

³⁰ National Grid, [Our Energy Insights: Electric vehicle announcement and what the papers say](#), 8 August 2017