

Committee(s): Policy & Resources Committee – For decision Planning & Transportation Committee – For Information Port Health & Environmental Services Committee – For information Open Spaces Committee – For information	Date(s): 21/02/2019 19/02/2019 05/03/2019 08/04/2019
Subject: The Transition towards a Zero-Emission Fleet	Public
Report of: Department for Built Environment and Chamberlain's	For Information
Report author: Vince Dignam (DBE) and Natalie Evans (CHB)	

Summary

Around half of emissions of oxides of nitrogen (NOx), which contribute to illegal levels of nitrogen dioxide (NO2), and particulate matter (PM) come from transport. These pollutants are collectively estimated to cause around 9,400 equivalent deaths every year in Greater London and impose an economic cost between £1.4bn - £3.7bn a year.

In response to this, City Corporation officers have worked to; reduce City of London Police and corporate fleet, trial new electric technologies, replace diesel vehicles with electric, hybrid or petrol models, install electric vehicle charging infrastructure and encourage our supply chain to minimise their emissions.

Part of the Mayor of London's approach to improving air quality is the Ultra Low Emission Zone (ULEZ) initiative, which will impose a daily charge on vehicles operating in the Central Charging Zone with emissions of NOx and PM higher than the specified requirements. The first phase of ULEZ comes into effect on 08 April 2019.

The introduction of ULEZ has highlighted the need for a clear corporate policy on fleet reduction, replacement or retrofitting to accelerate the City's transition to a zero-emission fleet. The purpose of this report is to set out an ambitious yet practical policy, which requires departments to opt for the cleanest possible vehicle or other solution, in line with operational need, technology availability and best value. It proposes this policy be implemented consistently and rigorously through enhanced governance by the Transport Coordination Group (TCG).

The proposed policy would see the following vehicles removed, replaced or retrofitted:

- ULEZ 2019 non-compliant vehicles operating in the Square Mile, immediately (29 Corporate and 44 police vehicles)
- Historically exempt/ residential (temporarily) exempt and ULEZ-compliant fossil fuel vehicles of reputational significance, immediately (5 VIP/ Mayoral vehicles)
- All remaining vehicles used outside the Square Mile/ ULEZ Zone, as and when they reach operational end-of-life or lease

Recommendation(s)

Policy & Resources Committee is asked to:

- Endorse a new policy which requires departments to apply the following priority order to decision-making, when an existing vehicle is non-compliant with air quality regulations or comes to the operational end of life:
 1. not replace the vehicle and cover operational requirements with other available vehicles
 2. swap the vehicle with a low emission equivalent currently being used outside the ULEZ 2019 Central Charging Zone (Square Mile)
 3. replace or retrofit the vehicle with the cleanest possible alternative that:
 - a) meets operational need
 - b) applies the following hierarchy:
 - i. Full electric
 - ii. Plug-in hybrid
 - iii. Petrol hybrid (regenerative braking)
 - iv. Petrol
 - v. (Euro 6/ VI) Diesel
 - c) utilises sufficiently reliable technology and
 - d) constitutes best value for money within the vehicle class.

Planning and Transportation Committee, Port Health & Environmental Services Committee and Open Spaces Committee are asked to:

- Note the report.

Main Report

Background

1. Around half of emissions of oxides of nitrogen (NO_x), which contribute to illegal levels of nitrogen dioxide (NO₂), and particulate matter (PM) come from transport. These pollutants are collectively estimated to cause around 9,400 equivalent deaths every year in Greater London and impose an economic cost between £1.4bn and £3.7bn a year.
2. The Ultra Low Emission Zone (ULEZ) is a Mayor of London initiative designed to improve air quality, which will impose a daily charge on vehicles with emissions of NO_x and PM higher than the specified requirements. Daily charges are £12.50 per day for smaller vehicles, £100 per day for larger vehicles (>3.5 tonnes).
3. The first phase of ULEZ comes into effect on 08 April 2019 and covers vehicles operating in the Central Charging Zone. See Appendix 1 for a map of the area covered. The second phase of ULEZ comes into force on 25 October 2021, covering the area between the North and South Circular. See Appendix 2 for a map of the area covered.
4. As a responsible business and in alignment with the City's Corporation's ambition to improve air quality, 'phase one' of the transition to a zero-emission fleet has involved officers working to; reduce City of London Police and corporate fleet, trial new electric technologies, replace diesel vehicles with electric, hybrid or petrol

models, install electric vehicle charging infrastructure and encourage our supply chain to minimise their emissions. Officers have also been involved in industry boards and with manufacturers and other counterparts to progress improvements in air quality alongside road danger reduction. Details can be found in Appendix 3.

Current Position

5. There are 29 corporate vehicles operating in the Square Mile that do not comply with ULEZ 2019 emissions standards and 54 City of London Police vehicles, ten of which have a 'sunset period' until October 2021 as further time is needed to develop some technology types used by the emergency services.
6. The City Corporation has a Transport Coordination Group (TCG), currently chaired by the Department of Built Environment. The group consists of representatives from across the organisation, including Chamberlain's, Markets and Consumer Protection, Open Spaces, Town Clerks and the Built Environment. All vehicle procurement and leasing is governed by the TCG, which provides scrutiny on whether or not there is an operational need for the vehicle along with all other legislative, operational and policy requirements.
7. The introduction of ULEZ has highlighted and accelerated the need for a clear corporate policy on fleet reduction, replacement or retrofitting.

Options

8. The purpose of this report is to set out an ambitious yet practical policy, which requires departments to opt for the cleanest possible vehicle or other solution, in line with operational need, technology availability and best value. It proposes this policy be implemented consistently and rigorously through enhanced governance by the Transport Coordination Group (TCG). Alternative options available to the City Corporation include:
 - a) Electing not to replace Square Mile vehicles and pay the daily ULEZ charge for all non-compliant vehicles. This would cost £300,000 per year and could imply significant reputational risk.
 - b) Electing to only replace those vehicles that do not meet ULEZ 2019 requirements immediately, delaying the replacement of historical vehicles and others forming part of the Mayoral/ Shrieval fleet until required to do so by the Mayor of London in October 2021. This could have significant reputational impacts due to the visibility of these vehicles and the Lord Mayor's role to champion the City of London as a world leader as part of this year's Mayoral Programme (see Appendix 4 for further details).
 - c) In the interest of cost saving, electing not to buy electric and replace all vehicles with hybrid/petrol where possible or if not Euro VI/6 diesel models, even if electric vehicles are available and relatively prevalent. This would directly contradict the City Corporation's 'No Diesel unless absolutely operationally necessary' Policy and would go against all other policies, strategies and programmes outlined in Appendix 4. As such it would also imply reputational

risk. According to current cost estimations, electing not to buy new electric vehicles would save £180k. This saving would be offset by the fact that increased congestion charges on fossil fuel vehicles are coming in as part of ULEZ 2021.

Proposals

9. The proposed policy would require departments to apply the following priority order to decision-making when an existing vehicle is non-compliant with air quality regulations or comes to the operational end of life:
 1. not replace the vehicle and cover operational requirements with other available vehicles (*e.g. hiring prestige vehicles for specific events, using electric cargo bikes, reconfiguring operations to make fuller use of existing fleet, using corporate contracts such as couriers, pooling resources between departments to share similar vehicles*)
 2. swap the vehicle with a low emission equivalent currently being used by the City Corporation outside the ULEZ 2019 Central Charging Zone (Square Mile)
 3. replace the vehicle with the cleanest possible alternative that:
 - a) meets operational need
 - b) applies the following hierarchy. (*Correct as of February 2019 but to be reviewed regularly by the Transport Coordination Group (TCG) and updated according to advances in vehicle technology and availability of infrastructure of e.g. hydrogen*):
 - i. Full electric
 - ii. Plug-in hybrid
 - iii. Petrol hybrid (regenerative braking)
 - iv. Petrol
 - v. (Euro 6/ VI) Diesel
 - c) utilises suitably reliable technology (*incl. trials and availability of maintenance and repair facilities*) and
 - d) constitutes the most cost-effective option within the vehicle class.
10. The following be removed / replaced / retrofitted according to the proposed policy:
 - ULEZ 2019 non-compliant vehicles operating in the Square Mile, immediately (29 Corporate and 44 police vehicles)
 - Historically exempt/ residential (temporarily) exempt and ULEZ-compliant fossil fuel vehicles of reputational significance, immediately (5 VIP/ Mayoral vehicles)
 - All remaining vehicles used outside the Square Mile/ ULEZ Zone, as and when they reach operational end-of-life or lease
11. It is proposed that the Transport Co-Ordination Group be Chaired from February onwards by the Commercial Director, in order to ensure best value solutions are opted for by departments, in line with all other aspects of the newly proposed policy.
12. After this stage of the transition to a zero-emission fleet in response to ULEZ 2019 has been achieved, collaboration between the TCG and Commercial Fleet Management (CFM) review team will take place, who will seek to future proof against increasingly rigorous legislation, whilst at the same time taking a fresh look at the way the City uses its fleet as a whole, considering the corporate commercial opportunities for the organisation and the ability to gain service improvement.

Corporate & Strategic Implications

13. A table outlining the policies, strategies and programmes that underpin a transition to a low/zero emission fleet can be found in Appendix 4. It covers relevant aspects of the City Corporation's Air Quality Strategy, 'No Diesel' Policy, Responsible Procurement Strategy, Responsible Business Strategy, Corporate Plan, Mayoral Programme, draft Transport Strategy and draft Climate Action Strategy.

Implications

14. The table below sets out predicted costs according to departmental preferences on replacement vehicles. This is the maximum cost range as it does not factor in residual (trade in) values of existing fleet or fuel savings. Appendices detailing all intended vehicle models and associated costs are available on request, but it should be born in mind that each vehicle replacement request will be scrutinised on a case-by-case basis as part of TCG's governance procedures, so figures will be continuously reviewed and amended.

Fleet	Total purchase cost	Equivalent annual cost to purchase (7 years life)	Lease costs per annum	Total lease cost (3 year term)
Corporate	£1.1m - £1.5m	£153k - £221k	£240k - £355k	£775k - £1.2m
Police	£1.7m - £1.8m	£247k - £260k	n/a	n/a

15. A parallel report on ULEZ funding (see background papers) was submitted to Finance Committee on 19 February 2019 proposing the specific mechanism by which the costs of procuring/ leasing vehicles could be met by departments, if they do not have sufficient local risk budget available to meet the total cost. The report sets out a process whereby each department would submit a fleet business case, this would consider the age, condition and a residual (trade in) value estimate of the current vehicle along with details of the proposed replacement options with associated costs. It would also include any current local risk budget set aside for vehicle replacement and in those cases where an electric vehicle is replacing a conventional fuel vehicle, existing fuel costs would be provided.

16. The 'Net Uplift Cost' for the vehicle would be provided via a loan and transferred to the local risk budget, with repayments phased over an agreed period no longer than 5 years. The loan would be managed via the Chamberlain's Department, would be set at 2% above base rate, and would cease to be available from the financial year 2023-2024 when all fleet vehicles should have been transitioned.

Figure A – Net uplift Cost per vehicle formula

Net Uplift costs = New Vehicle Costs – Current Local Risk Budget

(Existing Budget + trade in value + fuel budget offset)

17. A project to install new electric charging infrastructure will progress through the gateway process as soon as a clearer prediction can be made on the number of electric vehicles that will be bought/ leased/ retrofitted. This prediction depends on Policy & Resources Committee endorsing this report, in which case there is likely

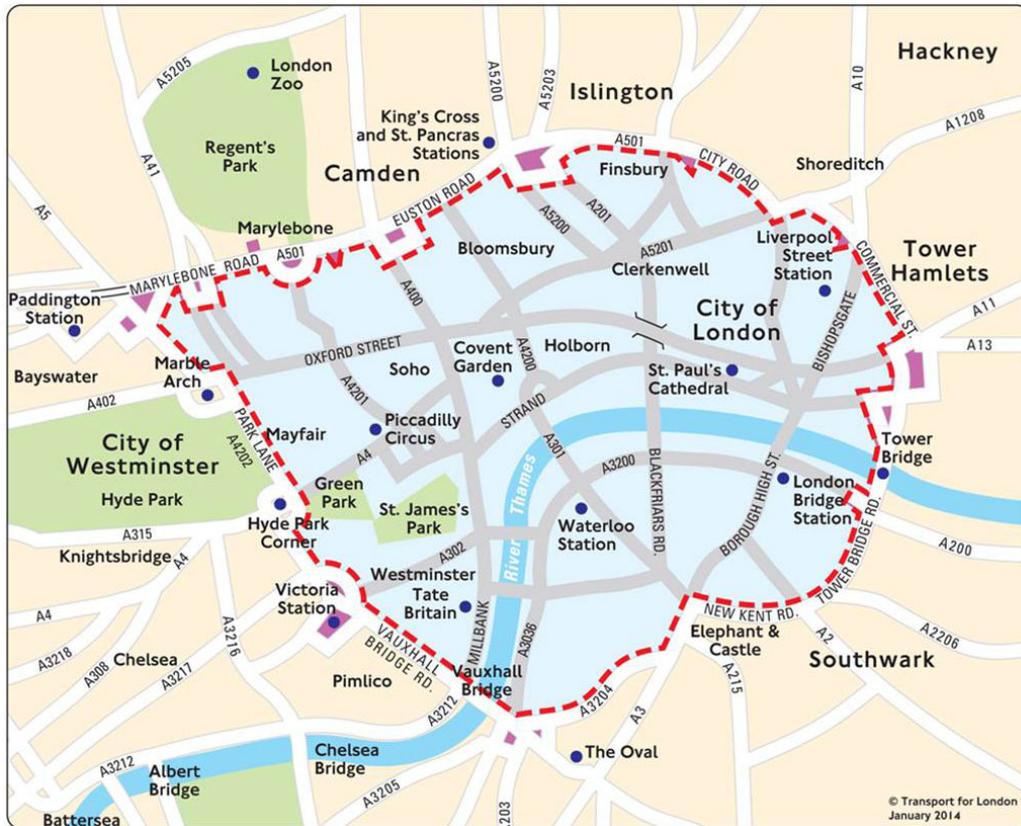
to be eight charge points installed at five locations. If an alternative option is selected, infrastructure decisions will be adapted accordingly. The estimated timeline for completion is July - Sept 2019. The Cleansing team within Department for Built Environment will work closely with City Surveyor's, City Procurement and other relevant departments to arrange workable contingency measures to charge electric vehicles until the infrastructure is ready.

Conclusion

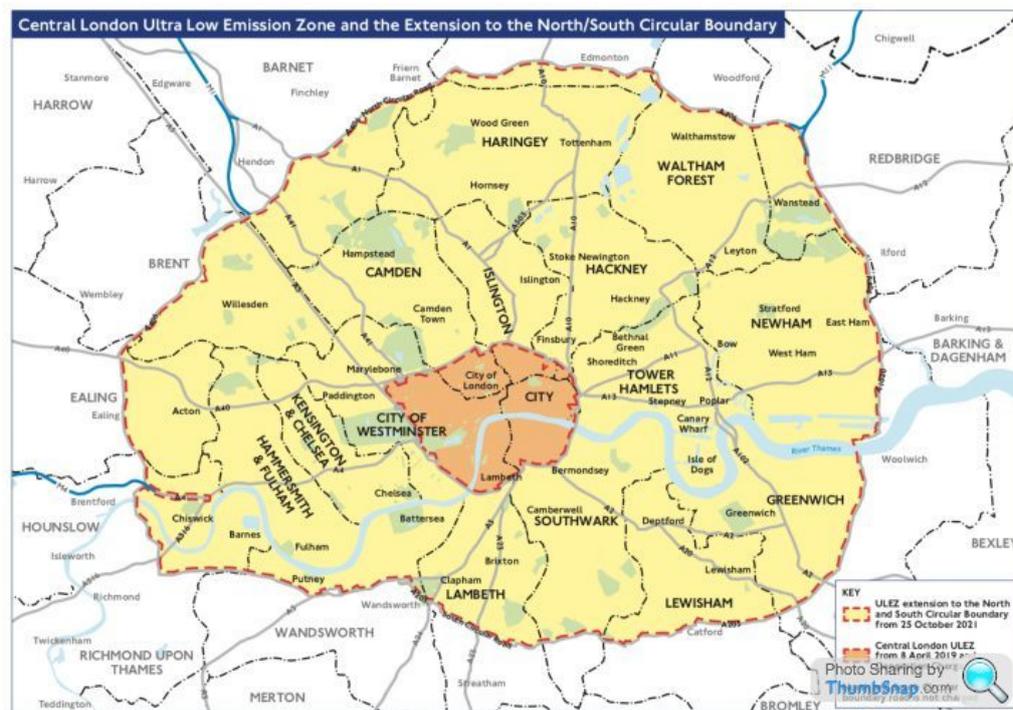
18. The harmful levels of air pollution in the Square Mile are known to be a health hazard and the City Corporation has committed to improving air quality. The Mayor of London's strategy on air quality and introduction of the ULEZ along with increasingly rigorous emissions legislation, are key initiatives which the City Corporation supports. It is therefore important the City Corporation is seen to lead by example and reduce the emissions from its activities as far as reasonably possible.

Appendices

1. The geographical area covered by ULEZ 2019 © Transport for London 2014



2. The geographical area covered by ULEZ 2021 © ThumbSnap.com



3. Phase One achievements

Work undertaken as part the City Corporation’s Transition to a Zero-Emission Fleet so far has involved officers working to achieve the following:

- i. reduce City of London Police fleet (from 125 to 91) and corporate fleet (from 200 to 118)
- ii. trial eight new electric technologies over the last three years, including the UK’s first fully electric Refuse Collection Vehicle (RCV).
- iii. replace diesel vehicles with electric, hybrid or petrol models – we now operate eight electric vehicles and four hybrid models and have swapped two diesel chauffeured vehicles to petrol.
- iv. liaise with the Lord Mayor’s Office to undertake a series of trials and three demonstrations giving a holistic view of available hybrid and electric vehicles
- v. install electric vehicle charging infrastructure – 50 charge points are now available to the public in the Square mile in City Corporation owned car parks and 30 points are available in the Barbican Resident’s car park.
- vi. Survey five City Corporation sites to assess costs and viability of installing additional infrastructure needed to charge new electric vehicles added to the corporate fleet in 2019. This project will be progressed through the gateway process to seek funding for these charge points and associated labour. The number of charge points will be determined by the final decision made on this current report.
- vii. incorporate requirements for phasing in full electric refuse collection and other alternative fuel vehicles into the corporate waste collection contract.
- viii. encourage our supply chain to minimise their emissions – every contractor that has tendered for work involving vehicle movements in the City is required to undertake at least one action of their choice as part of the contract (e.g. green driver training, trailing clean vehicle technologies etc.).
- ix. Officers are involved in industry boards and with manufacturers and other counterparts to progress improvements in air quality alongside road danger reduction including working with six manufacturers on concept vehicles, being board members on the Fleet Operator recognition Scheme (FORS), CLOCs and TfL’s LoCity initiative and hosting the international Future Fleet Forum for the last two years.

4. Existing City of London policies, strategies and programmes that underpin a transition to a low/zero emission fleet

	Guidance on fleet, air quality and related topics
Air Quality Strategy – Square Mile. (New draft for consultation in March 2019)	<ul style="list-style-type: none"> • Focus on air quality monitoring; demonstrating leadership, collaborative action; reducing emissions from a range of sources in the Square Mile and raising awareness • Work is underway to pilot an ultra-low emission vehicle only access restriction in Moor Lane. This pilot will provide useful information for local zero emission zones as detailed in the draft Transport Strategy and improvements in air quality in Beech Street
No diesel policy	<ul style="list-style-type: none"> • Driven by the Air Quality Strategy 2015 – 2020, a ‘No Diesel’ policy was implemented in January 2016, banning the purchase or lease of diesel vehicles by departments unless absolutely operationally necessary. This is managed and overseen by TCG.

Transport Strategy (draft) Proposal 33:	<ul style="list-style-type: none"> Commits to making the City of London's own vehicle fleet zero emissions', the commitment states 'the City Corporation will upgrade its vehicles which operate in the Square Mile to meet the standards we set for local zero emission zones. Contractors vehicles that operate within the Square Mile will also be required to meet these standards. Where possible charging infrastructure in City Corporation's operational sites will be made available to contractors' vehicles'.
'Shaping Tomorrow's City Today'	<ul style="list-style-type: none"> The Mayoral Programme aims to promote innovation and technology, champion digital skills and address digital and social inclusion, with a specific commitment to electrify the City Corporation's fleet.
Climate Action Strategy (in progress)	<ul style="list-style-type: none"> The Zero Emissions City report estimates that if all vehicles in the City switched to 100% renewable electricity the City's overall carbon emissions would decrease by 7%. This would make a significant contribution to the aim of becoming a zero carbon City by 2050. Electrifying the City Corporation's fleet would demonstrate leadership on this agenda providing evidence to City businesses of the feasibility of using an all-electric fleet and encouraging them to follow suit.
Responsible Business Strategy	<ul style="list-style-type: none"> Minimise the use of diesel vehicles being used by staff and Members to travel to and from work and during work, by promoting and facilitating more environmentally-friendly forms of travel. Significantly increase the number of clean vehicles in our fleet and continue to trial new technology. Encourage and facilitate the uptake of clean alternative vehicles throughout our supply chain. Increase the number of electric vehicle charge points across our sites
Corporate Plan	<ul style="list-style-type: none"> We have clean air, land and water and a thriving and sustainable natural environment' Provide a clean environment & reduce negative effects our activities.
Responsible Procurement Strategy	<ul style="list-style-type: none"> The 'Procurement Policy to support the Air Quality Strategy', which forms part of the Responsible Procurement Strategy lists actions to comply with the City Corporation's Air Quality Strategy, Transport Policy, or both, including disallowing the purchase of diesel vehicles, requiring investigation by officers into alternative fuel vehicles, setting emissions requirements for non-road mobile machinery (NRMM) and committing to the use of petrol-hybrid taxis as a minimum within corporate contracts and agreements. Further intended actions to support the above include exploring the use of consolidation centres for our own deliveries and those of works contractors, incentivising relevant suppliers to use zero emission capable vehicles.

Background Papers

ULEZ Funding – Finance Committee 19/02/2019

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