

PART 2 – CONFIDENTIAL FACTS AND ADVICE

DMFD140

Title: Replacement of LFB Fleet Cars/Officer Pool Cars

Information may have to be disclosed in the event of a request under the Freedom of Information Act 2000. In the event of a request for confidential facts and advice, please consult the Information Governance team for advice.

This information is not for publication until the stated date, because:

Publication of the information included in this report is deferred as its disclosure would be likely to prejudice the commercial interests of the London Fire Commissioner (LFC).

Date at which Part 2 will cease to be confidential or when confidentiality should be reviewed:

1 March 2022.

Legal recommendation on the grounds of keeping the information confidential:

In the event the information contained in this Part 2 and/or its appendix is the subject of a request for information under section 1 of the Freedom of Information Act 2000 (the Act), it is considered that access may be denied on the basis that such information constitutes exempt information under section 43(2) of the Act.

Section 43(2) of the Act provides an exemption from disclosure where the release of such information would, or would be likely to, prejudice the commercial interests of any person (including the public authority holding it).

Here, it is considered that disclosure by the LFC of the information contained in this part 2 report would be likely to have a detrimental effect on the LFC's commercial position in the procurement of the vehicles and associated equipment; and therefore, would impact adversely on obtaining best value.

Public interest assessment

It is considered that the information should not be disclosed at this point because failure to achieve best value is a failure to effect the efficient management of, and places an undue strain on, public funds and resources which is not in the public interest.

The eligibility of these exemptions should be reassessed in the event of an FOI request for this information as the level of sensitivity will change over time, and different circumstances may alter the arguments in favour of non-disclosure.

Legal Adviser – I make the above recommendations that this information should be considered confidential at this time.

Name: Stephen Fernandes-Owen, TfL Legal

Date: 1 November 2021

Once this form is fully authorised, it should be circulated with Part 1.

Confidential decision and/or advice:

Part 1 of DMFD140 sets out the proposal for the Deputy Mayor for Fire and Resilience to authorise the LFC to commit capital expenditure for the purchase of a fleet of 50 zero-emission officer pool cars and associated equipment.

The amount required to be authorised is £1,540,000.

Vehicle costs

Paragraph 2.6 of the Part 1 form states that LFB has a maximum list price for each vehicle. This list price is £35,000. The procurement process is in the final stages and Babcock Critical Services Limited are in a position to award the contract to the best bidder. As such a provisional quote has been received for £28,000 per vehicle which includes the additional items advised in Part 1. This may be subject to supplier material cost increases, dependent on when the order is placed.

It is proposed that 50 Volkswagen ID3s are purchased, for a total price of £1,400,000. This includes the costs of extra accessories/upgrades, including a battery upgrade from 48kw to 58kw which provides an increase in range from 216 to 264 miles, dash cams, additional charging leads to allow for home charging and a vehicle-charging app.

As discussed in paragraph 2.8 of the Part 1 form, a 10 per cent contingency will be added to the authorised budget, leading to a total of £1,540,000.

Financial comments

The report is requesting approval to procure 50 electric officer pool cars in 2022/23 to replace the existing fleet, which is coming to the end of its useful life. LFB will undertake reprofiling to accommodate this. The Capital Programme has already been approved and includes funding of £1,540,000 to purchase replacement officer pool vehicles, this update will therefore require no overall increase in the capital programme.

The reprofiling of this spend will be updated and reflected in the monthly capital monitor as part of the quarterly financial position.

The capital budget is funded through capital receipts and borrowing. The cost of borrowing is made up of minimum revenue provision; and is based on the asset life which would be £308,000 per year, and interest on borrowing assuming a rate of 2.5 per cent at £39,000 per year. The cost of borrowing to fund the capital programme is reflected in the revenue budget.

Appendix



LONDON FIRE BRIGADE

Report title

Replacement of LFB Fleet Cars/Officer Pool Cars

Report to	Date
Corporate Services Directorate Board	20 July 2021
Commissioners Board	28 July 2021
Deputy Mayor's Fire Resilience Board	12 October 2021
London Fire Commissioner	

Report by	Report number
Assistant Director, Technical and Commercial	LFC-0562x
	FRB-265

Protective marking: **OFFICIAL**

Publication status: Published with redactions

If redacting, give reason: Contains commercially sensitive information

Executive Summary

In order to provide essential frontline cover, the London Fire Brigade (LFB) have a fleet of Officer Pool Cars (OPC) available for use by officers of the London Fire Brigade. The current fleet of BMW i3s were introduced to the fleet in 2016 and had an agreed life of five years. These vehicles are now at the end of their life and require replacement. The LFB propose to purchase 50 zero emission officer pool cars in line with the Mayor of London's air quality improvement programme.

The LFB has gained a reputation as a leader in reducing emissions within their fleet and as a result of this are proposing to purchase a fully electric fleet of officer pool cars to make them one of the first Fire and Rescue Services to achieve this.

Recommended decisions

For the London Commissioner

To agree to commit capital expenditure of up to £1,540,000. for the purchase of a fleet of 50 zero emission officer pool cars and associated equipment, subject to the Deputy Mayor for Fire and Resilience prior approval.

To note Babcock Critical Services Limited will be responsible for this procurement under the terms of the 2014 Vehicles and Equipment contract on behalf of the London Fire Brigade.

To agree to delegate authority to the Assistant Director, Technical and Commercial Services to make the final decision on the purchase of the new Officer Pool Cars.

For the Deputy Mayor

That the Deputy Mayor for Fire and Resilience authorises the London Fire Commissioner to commit capital expenditure of up to £1,540,000 for the purchase of a fleet of 50 zero emission officer pool cars and associated equipment. The capital expenditure will be payable to Babcock Critical Services Limited, who are responsible for this procurement under the terms of the 2014 Vehicles and Equipment contract, on behalf of the London Fire Brigade.

Introduction and Background

1. Babcock Critical Services Limited are London Fire Brigade's (LFB's) maintenance and service provider and manage the Vehicles and Equipment contract on behalf of the LFB. This contract was awarded in 2014 and runs until 2035. As part of this contract, Babcock Critical Services Limited replace, service and repair all items listed within the Vehicle and Equipment contract. All vehicles and equipment have a limited lifespan, at the end of which they must be replaced. Extensions to the life of vehicles and equipment can be agreed by the LFB Engineering Fleet Manager if it is possible for these vehicles or equipment to be safely maintained. All additional asset life costs remain constant and will be managed via the 2014 Vehicles and Equipment contract provided by Babcock Critical Services Limited.
2. The LFB OPC's are required as part of the LFB's essential front line cover to transport up to four persons safely and efficiently to operational incidents under Emergency Response Driving (ERD) conditions and to other locations under normal road driving conditions throughout the Greater London Area and occasionally to locations outside Greater London. These vehicles are pool cars assigned as required and are therefore not allocated to one user or station.
3. In 2016 the LFB purchased 52 range extenders BMW i3s, which were capable of achieving approximately 80miles full electric range, and 5 hybrid cars, consisting of 3 Outlander PHEVs (Petrol Hybrid Electric Vehicles) and 2 Volkswagen Golf GTEs capable of achieving up to 30miles fully electric range. These vehicles had an agreed life of 5-years. These cars are now due for replacement and will be part of a reduced fleet of 50 OPC's. The capital and revenue saving associated with the reduction in the numbers of pool cars has been achieved by scrutinising the usage rates for our existing fleet. These savings have been reported to Finance and have supported the LFB in meeting its budget reduction targets.
4. On average the BMW i3s have 85 per cent lower CO₂ emissions than the previous diesel cars - this equates to a saving of approximately 94 tonnes CO₂ per year (for all i3 fleet cars). All vehicles run on zero emissions the majority of the time, with some (approximately 13%) regularly running on zero emissions alone.

Mayoral emission reduction targets

5. The Mayor of London has outlined in the London Environment Strategy (May 2018) how to tackle London's air quality problem and to make London a Zero Carbon City by 2050. As part of this, the Mayor has set emission reduction targets for the London Fire Brigade and London's other emergency services – these are:
 - all cars in support fleets to be zero emission capable by 2025
 - all new cars and vans (less than 3.5 tonnes), including response vehicles, being zero emission capable from 2025;
 - all heavy vehicles (greater than 3.5 tonnes) to be zero emission capable or fossil fuel-free from 2030;
 - zero emission fleet by 2050.

6. Within the Memorandum of Understanding (MoU) between TfL and the LFB it has been defined that the LFB have a leading role to play in the demonstration and roll out of zero emission vehicles to help fulfil the Mayor's ambition for a zero carbon city.

LFB: A leader in greening the fleet

7. The LFB has gained a reputation as a leader in reducing emissions in a challenging, specialist fleet – this includes the following initiatives in recent years:

2015:	164 chargepoints installed at 78 sites
2016:	52 BMW i3s & 5 PHEVs
2018:	44 chargepoints installed at 24 sites
2018-21:	Fleet replaced by Euro VI vehicles
2018:	Ultra Low Emission Fleet (ULEF) Programme & Zero Emission Pumping Appliance (ZEPA) Project established
Oct.2021:	Trial of ZEPA1 at Hammersmith FS

8. As a result of this work, LFB has benefitted from:
- Receiving interest from suppliers to showcase their technology – including attractive "one off" commercial offers, and innovative companies wanting to collaborate in innovative and externally funded R&D Projects – this includes 2 successful Innovate UK funded projects (notified June 2020) to develop battery and pumping solutions for pumping appliances and other fire appliances.
 - Strong links to influential organisations such as Innovate UK, Advanced Propulsion Centre and the Knowledge Transfer Network – this has led to feasibility studies, technical advice at no cost, early sight of external funding opportunities, recommendations of industry partners and the opportunity to influence decision making.
 - The opportunity to build relationships at City Hall, outline the key challenges LFB faces transitioning to a zero emission fleet and the necessary support/resources to address this.
9. As a consequence of the aforementioned targets and benefits of moving towards a zero-emission fleet the recommendation is for LFB to have a fleet of fully electric OPC's with a minimum range of 200miles.
10. In March 2021 the *Electrification of Light Vehicles Briefing note* (Appendix A) was presented to the Ultra Low Emission Fleet Programme and the following recommendations were supported – subject to meeting the standard LFB approvals process for asset replacement projects:
- i) The Officer Pool Cars (BMW i3s) should be replaced with a 100% Battery Electric Vehicle that meet the requirements outlined in LFB FLEET's output based specification.
 - ii) The current Officer Pool Cars should be extended for another year and replaced in 2022– this will:
 - Provide further time to carry out additional market assessment and engagement work with suppliers
 - Enable further time to engage with users to inform requirements and a successful rollout

- Further time to engage with end-users to inform requirements and deliver a successful rollout
 - Ensure recharging requirements for the vehicle and users are met
 - Set the precedent of reviewing and extending vehicle lives to achieve broader environmental savings (particularly the embodied carbon associated with manufacturing) and cost savings in the fleet asset replacement programme.
- iii) A new slot price should be agreed between LFB (CMG and FLEET) and Babcock Critical Services Limited to enable the extension of the current BMW i3 OPCs.
- iv) The recharging needs of the new OPCs will be met by the current recharging facilities on LFB's estate – however this will be supplemented by the public recharging network. Work is outlined in this report to support this new approach.
- v) A Working Group should be established to explore and address the following challenges:
- Recharging – managing access at stations and on the public network
 - User acceptance and culture change
 - Impact of increasing privately owned PHEV and BEV cars used by all staff
 - Driving behavioural changes of staff with regards to charging restrictions and operation and use of the vehicles.
11. The market review identified that the electric vehicle car market had matured significantly since 2015 when the BMW i3 tender was launched. As a result, the market research was shared with LFB in order to tighten the output based requirement and mutually agree what reasonable thresholds could be introduced to ensure LFB get a best in class vehicle whilst ensuring value for money is clearly demonstrated.
12. These thresholds included parameters such as a minimum of 200 mile pure electric vehicle EV range, minimum 5 star New Car Assessment Programme (NCAP) safety rating (in 1997 every new car model that comes on to the market is put through a series of rigorous tests by independent body Euro NCAP. Based on the results of these tests, the car's given a safety rating – five stars being the best possible score and zero the worst) and a maximum of £35,000 list price. The range expectation was introduced to ensure that LFB continue to make progress towards a zero emission fleet.
13. The OPC's will be driven by any LFB officer with a current driving licence and up to three occasional passengers, along with 2 Personal Protective Equipment (PPE) bags, and will therefore be medium in size.
14. A 10% contingency has been factored in to allow for the price risk due to the current economic climate and will be applied to the total of £1,400k. As such an approval to spend up to £1,540k has been requested. This contingency will only be used for unforeseen rises in costs.

Alternative Options Considered and Consultation

15. Following a number of initial feedback workshops in January 2021. The design, build and operation of the new vehicles must adhere to the requirements of the current 2014 Vehicles and Equipment Contract with regards to compliance with all applicable UK/EU Legislation, Regulations and Standards.
16. The following vehicles met the requirements of the output based specification.
- Volkswagen ID3 – tender submitted
 - Hyundai Kona – tender submitted
 - Kia e-Nero – tender submitted, excluded during clarification questions as most expensive of all providers
 - Nissan Leaf – submitted limited documents and then declined to tender
 - Tesla Model 3 – tender submitted
 - Volvo XC40 – tender submitted
17. Following the technical and commercial assessment of all suppliers, including a cost analysis, VW and Hyundai were down selected for further evaluation and demo. During the demo period 10 users completed analysis reports for the vehicles.
18. Having undertaken the above assessments and analysis, Babcock Critical Services Ltd suggest the Volkswagen should be the manufacturer of choice to supply 50 ID3s to become the new OPCs.
19. The following table is an extract from the evaluation scores

Question	Weighting	Volkswagen	Hyundai	Tesla	Volvo
Company/CSR	2%	1.5%	1.65%	1.88%	1.85%
Technical Requirements	35%	29.10%	27.31%	30.72%	31.10%
Contract Management	10%	8.33%	7.00%	7.00%	8.33%
Commercial/Pricing	40%	40%	33.91%	26.60%	26.20%
Through Life Support	10%	6.17%	7.50%	6.33%	8.50%
Training	3%	2.40%	2.70%	2.25%	2.70%
Total	100%	85.5%	80.08%	74.78%	78.69%

20. The spend requested of up to £1,540k includes the cost of 50 x Volkswagen ID3s, and extra accessories/upgrades, including a battery upgrade from 48kw to 58kw which provides an

increase in range from 216 to 264 miles, dash cams, additional charging leads to allow for home charging and a vehicle charging app

21. If the LFB continued to maintain the current fleet cars this will cause the slot price (maintenance costs) to increase. The 2014 V&E contract with Babcock Critical Services Limited states that the LFB is contractually bound to replace these vehicles after a 5-year lifespan. If the fleet wasn't replaced it would add additional maintenance costs and risk having less reliable vehicles on the fleet due to their age.

Objectives and Expected Outcomes

22. The objective of this proposal is to comply with the 2014 vehicles and equipment contract and the asset replacement programme to replace the existing fleet of OPCs with a newer, greener fleet. Before this can take place, prior approval from the Deputy Mayor for Fire is required in accordance with the Deputy Mayor's Governance Direction, due to the proposed expenditure

Impacts

Equality Impact

23. The London Fire Commissioner and decision takers are required to have due regard to the Public Sector Equality Duty (s149 of the Equality Act 2010) when exercising our functions and taking decisions.
24. It is important to note that consideration of the Public Sector Equality Duty is not a one-off task. The duty must be fulfilled before taking a decision, at the time of taking a decision, and after the decision has been taken.
25. The protected characteristics are: Age, Disability, Gender reassignment, Pregnancy and maternity, Marriage and civil partnership (but only in respect of the requirements to have due regard to the need to eliminate discrimination), Race (ethnic or national origins, colour or nationality), Religion or belief (including lack of belief), Sex, and Sexual orientation.
26. The Public Sector Equality Duty requires us, in the exercise of all LFC functions (i.e. everything the LFC does), to have due regard to the need to:
 - a. Eliminate discrimination, harassment and victimisation and other prohibited conduct.
 - b. Advance equality of opportunity between people who share a relevant protected characteristic and persons who do not share it.
 - c. Foster good relations between people who share a relevant protected characteristic and persons who do not share it.
27. Having due regard to the need to advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to:
 - a. remove or minimise disadvantages suffered by persons who share a relevant protected characteristic where those disadvantages are connected to that characteristic;
 - b. take steps to meet the needs of persons who share a relevant protected characteristic that are different from the needs of persons who do not share it;

- c. encourage persons who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low.
- 28. The steps involved in meeting the needs of disabled persons that are different from the needs of persons who are not disabled include, in particular, steps to take account of disabled persons' disabilities.
- 29. Having due regard to the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to—
 - a. tackle prejudice, and
 - b. promote understanding.
- 30. An equality impact assessment has been undertaken. No adverse impacts were recorded.
- 31. In addition, the Babcock Critical Services Limited contract requires Babcock Critical Services Limited and any sub-contractor they may engage, to conform to equality legislation and LFB equalities protocol. Babcock Critical Services Limited also assess all of their providers approach to equality and ensure they are satisfied that they meet appropriate protocols, prior to them listing those companies as approved providers. Therefore, it is considered that there is an appropriate approach to equalities through the supply chain in respect of this procurement.

Procurement and Sustainability

- 32. The existing vehicle fleet will be recycled by Babcock Critical Services Limited under the provisions of the Vehicle and Equipment Contract. The disposal process will fulfil LFB obligations under the Environmental Duty of Care Regulations and if the vehicles are to be scrapped, or broken up for parts, the V&E Contractor will provide full details relating to the disposal of the component parts and will ensure that the Authority's obligations are documented and adhered to.
- 33. FEP2237, the 2014 vehicles and equipment contract with Babcock Critical Services Limited provides for the capital replacement of fleet and equipment throughout the contract period of 21 years. Under the contract, Babcock Critical Services Limited procure the new vehicles and equipment and replace the existing assets at their life expiry. Babcock Critical Services Limited have policies in place relating to anti-slavery, sustainability and anti-corruption and this is done in accordance with the specifications and approvals issued by the LFB.
- 34. Babcock Critical Services Limited, are responsible for procurement under the terms of the 2014 Vehicles and Equipment contract, on behalf of the London Fire Brigade. Following market engagement Babcock Critical Services formally recommended to the London Fire Brigade that six manufacturers were to be included as part of the procurement process. This will conclude with one successful manufacturer after the full evaluation process has been completed.
- 35. The procurement process follows an initial desktop evaluation, followed by clarification questions. The most appropriate vehicles are then selected. Demo vehicles will then be reviewed operationally and by the engineering team to confirm the vehicles meets the manufacturers recommended outputs, this will be concluded by best and final offer.

36. Volkswagen Group has a zero tolerance approach to any form of modern slavery and continues to take steps to combat the risk of slavery or human trafficking within their supply chain. They also have policies and guidelines in place regarding anti-corruption.
37. The Volkswagen Group has made a commitment to sustainable, transparent and responsible management. In line with the recommendations of the German Corporate Governance Code, we practice Group-wide sustainability coordination and forward-looking risk management and ensure a clear framework for the future-oriented handling of environmental issues, responsibility towards our employees and social engagement by our brands and in the various regions.
38. The sustainability team support the replacement of the current fleet with fully electric vehicles and the decrease in number of vehicles.

Strategic Drivers

39. *Seizing the Future* – By having a fully electric fleet of pool cars ahead of the Mayoral targets outlined above the LFB are constantly endeavouring to future proof the fleet, by deploying a 100% electric vehicle fleet of Officer pool Cars this will encourage innovation and opportunities to deploy zero emission solutions for future vehicle applications.

Workforce Impact

40. This report concerns the future provision of the LFB car pool fleet, and will therefore impact on the section of the workforce which may use LFB pool cars. This is primarily operational middle managers who do not have access to their own vehicle (e.g. their existing vehicle is off the road, they are temporary in role, or they are newly promoted awaiting a lease car). The middle manager trade unions (FBU Officers and FOA) have been involved in the discussions around the next generation pool car specification. These trade unions will be sent a copy of the CSDB report, and any further comments they may have as this report completes the governance cycle will be taken into account as appropriate.

Finance comments

41. The report is requesting approval to procure 50 electric officer pool cars in 2022/23 to replace the existing fleet, which is coming to the end of its useful life and the reprofiling to accommodate this. The Capital Programme has already been approved and includes funding of £1,540,000 to purchase replacement officer pool vehicles, this update will therefore require no overall increase in the capital programme.
42. The reprofiling of this spend will be updated and reflected in the monthly capital monitor as part of the quarterly financial position.
43. The Capital budget is funded through capital receipts and borrowing. The cost of borrowing is made up of minimum revenue provision and based on the asset life which would be £308k per year and interest on borrowing assuming a rate of 2.5% at £39k per year. The cost of borrowing to fund the capital programme are reflected in the revenue budget.

Legal comments

44. Under section 9 of the Policing and Crime Act 2017, the London Fire Commissioner (the "Commissioner") is established as a corporation sole with the Mayor appointing the occupant of that office. Under section 327D of the GLA Act 1999, as amended by the Policing and Crime Act 2017, the Mayor may issue to the Commissioner specific or general directions as to the manner in which the holder of that office is to exercise his or her functions.

45. By direction dated 1 April 2018, the Mayor set out those matters, for which the Commissioner would require the prior approval of either the Mayor or the Deputy Mayor for Fire and Resilience (the "Deputy Mayor").
46. Paragraph (b) of Part 2 of that direction requires the Commissioner to seek the prior approval of the Deputy Mayor before "[a] commitment to expenditure (capital or revenue) of £150,000 or above as identified in accordance with normal accounting practices...". The decision to purchase new officer pool cars at a cost of up to £1,540,000 will therefore require approval from the Deputy Mayor.
47. The proposed recommendation is also for the London Fire Commissioner to delegate authority to the Assistant Director of Technical and Commercial to make final decision regarding the purchase of vehicles referred in this report which is permitted under Part 4 of the LFC Scheme of Governance.
48. The statutory basis for the actions proposed in this report is provided by sections 7 and 5A of the Fire and Rescue Services Act 2004 ("FRSA 2004"). Section 7 (2)(a) FRSA 2004 the Commissioner has the power to secure the provision of personnel, services and equipment necessary to efficiently meet all normal requirements for firefighting and section 5A allows the Commissioner to procure personnel, services and equipment they consider appropriate for purposes incidental or indirectly incidental to their functional purposes.
49. The report confirms that the proposed procurement of vehicles falls within the proper scope of LFB's Vehicles and Equipment contract with Babcock Critical Services Limited which was, itself, procured in accordance with the Public Contracts Regulations 2006.
50. A new fleet of greener vehicles will also assist the LFB and the Mayor meet various environmental targets.

List of Appendices

Appendix	Title	Protective Marking
1.	<i>Electrification of Light Vehicles Briefing note</i>	

Consultation

Name/role	Method consulted
Finance comments	Finance Officer via e-mail
Workforce comments	People Services via e-mail
Legal comments	Legal Officer via e-mail
Sustainability implications	Sustainability Officer via e-mail
Equalities implications	Equality Manager via e-mail

Date: **9 March 2021**

Subject: **Electrification of light vehicles**

Brief for: **Ultra Low Emission Fleet Programme Board**

Author: **Matthew Dear, Programme & Project Manager – Ultra Low Emission Fleet**

The BMW i3 Officer Pool Cars (50 in total) are scheduled for replacement. This paper outlines the options for replacing the cars with a 100% Battery Electric Vehicle (BEV) or Plugin Hybrid Electric Vehicle (PHEV) and their impacts – including access to recharging facilities (station and public), user acceptance, training and their contribution to the Mayors emissions reduction targets. The paper also outlines the recommended steps necessary to accommodate this move towards electrification of LFB's fleet.

Recommendations:

1. The Officer Pool Cars (BMW i3s) should be replaced with a 100% Battery Electric Vehicle that meet the requirements outlined in LFB FLEET's Output Based Specification.
2. The current Officer Pool Cars should be extended for another year and replaced in 2022– this will:
 - a. Provide further time to carry out additional market assessment and engagement work with suppliers
 - b. Enable further time to engage with users to inform requirements and a successful rollout
 - c. Further time to engage with end-users to inform requirements and deliver a successful rollout
 - d. Ensure recharging requirements for the vehicle and users are met
 - e. Set the precedent of reviewing and extending vehicle lives to achieve broader environmental savings (particularly the embodied carbon associated with manufacturing) and cost savings in the fleet asset replacement programme.
3. A new Slot Price should be agreed between LFB (CMG and FLEET) and Babcock Critical Services to enable the extension of the current BMW i3 Officer Pool Cars.
4. The recharging needs of the new Officer Pool Cars will be met by the current recharging facilities on LFB's estate – however this will be supplemented by the public recharging network. Work is outlined in this report to support this new approach.
5. A Working Group should be established to explore and address the following challenges:
 - a. Recharging – managing access at stations and on the public network
 - b. User acceptance and culture change
 - c. Impact of increasing privately owned PHEV and BEV cars used by all staff

1. Introduction

Mayoral emission reduction targets

The Mayor of London has outlined in the London Environment Strategy (LES) how to tackle London's air quality problem and to make London a Zero Carbon City by 2050. As part of this, the Mayor has set emission reduction targets for the London Fire Brigade and London's other emergency services.

The emissions reduction targets are as follows:

- all cars in support fleets to be zero emission capable by 2025;
- all new cars and vans (less than 3.5 tonnes), including response vehicles, being zero emission capable from 2025;
- all heavy vehicles (greater than 3.5 tonnes) to be zero emission capable or fossil fuel-free from 2030;
- zero emission fleet by 2050.

LFB: A leader in greening the fleet

LFB has gained a reputation as a leader in reducing emissions in a challenging, specialist fleet – this includes the following initiatives in recent years:

2015:	164 chargepoints installed at 78 sites
2016:	52 BMW i3s & 5 PHEVs
2018:	44 chargepoints installed at 24 sites
2018-21:	Fleet replaced by Euro VI vehicles
2018:	Ultra Low Emission Fleet (ULEF) Programme & Zero Emission Pumping Appliance (ZEPA) Project established

As a result of this work, LFB has benefitted from:

- Receiving interest from suppliers to showcase their technology – including attractive "one off" commercial offers, and innovative companies wanting to collaborate in innovative and externally funded R&D Projects.
- Strong links to influential organisations such as Innovate UK, Advanced Propulsion Centre and the Knowledge Transfer Network – this has led to feasibility studies, technical advice at no cost, early sight of external funding opportunities, recommendations of industry partners and the opportunity to influence decision making
- The opportunity to build relationships at City Hall, outline the key challenges to the Mayor of London and the necessary support/resources to address this

Deploying a 100% BEV fleet of Officer Response Cars will further strengthen this position and encourage support and opportunities to deploy zero emission solutions for vans and appliances.

UK Context

The transition to zero emission vehicles is also reflected in UK policy set to address the air quality challenges across towns and cities, and to meet carbon reduction targets – including the target of “net-zero” emissions by 2050.

2. Officer Pool Cars – BMW i3 Replacement

The LFB Officer Pool Cars are required as part of the Brigade's essential front line cover to transport up to four persons safely and efficiently throughout the Greater London area and occasionally to locations further afield. These are vehicles are pool cars assigned to officers as required and are therefore not allocated to one user or station.

The Officer Response fleet consists of 50 BMW i3 PHEVs and were introduced in 2016. On average the BMW i3s have 85 per cent lower CO₂ emissions than the previous diesel cars - this equates to a saving of approximately 94 tonnes CO₂ per year (for all i3 fleet cars). All vehicles run on zero emissions the majority of the time, with some (approximately 13%) regularly running on zero emissions alone - not filling up on petrol at all over the course of the year.

In accordance with the agreed life policy of 5 years, these Officer Pool Cars are now due for replacement – however it is proposed these vehicles should be extended for another year and replaced in 2022. This will enable the following:

- a) Inclusion of BEVs alongside – or instead of – PHEVs in the formal procurement project managed by Babcock Critical Services Ltd.
- b) Provide further time to carry out additional market assessment and engagement work with suppliers.
- c) Further time to engage with end-users to inform requirements and deliver a successful rollout.
- d) Ensure recharging requirements for the vehicles and users are met.
- e) Set the precedent of reviewing and extending vehicle lives to achieve broader environmental savings (particularly the embodied carbon associated with manufacturing) and cost savings in the fleet asset replacement programme.

Babcock's market review in December 2020 identified that the EV Car Market had matured significantly since 2015 when the BMW i3 tender was launched. As part of its review Babcock has outlined that a suitable replacement vehicle should have a ~200 mile pure EV range and a minimum 5 star NCAP safety rating.

Revision of Slot Price for i3 cars during extension

Any extension of the life of the BMW i3's would require a review of the current slot price. Babcock have been instructed to provide details on any anticipated changes to the BMW i3 slot price.

3. Electrification of LFB's fleet and private vehicles

a) LFB Fleet

In order to meet the Mayor's targets (outlined above) LFB's fleet will see a further growth in zero emission or zero emission capable vehicles in the next round of asset replacements – this will include the next wave of van replacements scheduled for FY2025/26 and FY2026/27 and appliance replacements in the late 2020s:

- LFB Officer Pool Cars (50) – FY2022
- LFB Vans (57) – FY2025/26 & 2026/27 - *subject to current Mayoral targets*
- LFB Appliances (312) FY2027/28 -2029/30 – *subject to confirmation of Mayoral targets and discussions re. resources.*

It is recognised that this increase will have a significant impact upon the current model of dedicated recharging infrastructure at stations – heavy appliances and potentially newer lighter vehicles will require faster DC charging and fire stations are typically reaching their grid capacity.

The Ultra Low Emission Fleet (ULEF) Programme has been established to meet LFB's commitments for heavy vehicles made under the London Environment Strategy and this programme outlines work required to plan and meet the Mayoral targets.

b) Increase in privately owned cars at stations

With the increase of private ownership of PHEVs and BEVs by operational staff, it is recognised this will also have an impact on demand for charging requirements across LFB's estate. This demand will have to be managed against the growth of LFB's zero emission fleet.

4. Current situation: Provision of charging infrastructure on LFB's estate

95 per cent of LFB's fire stations now have EV charging points (EVCPs) on site and provide the capacity to charge 232 vehicles across 103 Brigade premises at any point in time. Tranche 2 installations were completed in 2019/20, providing an additional 31 dual EVCPs, across 30 sites (24 new sites and additional EVCPs at 7 stations).

In terms of the remaining 5 per cent of stations without EVCPs:

- Some sites don't have electrical capacity to facilitate charging points (North Kensington and Surbiton). A handful of sites need upgrades, Property does not have plans in place for these sites at this time.
- Some leased sites have landlord challenges, who have been unresponsive to requests to modify landlord licences to install further EVCPs (eg. Heathrow and Merton)
- Some limited sites will be addressed through major works eg. Lambeth and Plumstead

Aside from a small number of 1 pump stations, most sites have no further additional electrical capacity to install further EVCPs, as per the current EVCP installed. The potential to install lower rated and single points (3.6 kW) is yet to be considered against spare electrical capacity.

PN 770 advises that all staff taking on an electric vehicle under one of the car schemes that EVCPs are prioritised for fleet vehicles and they must ensure they have the capacity to charge a vehicle at home or a public premise, and not rely on workplace charging. There are no specific controls in place to manage priority of vehicles charging at LFB premises, and it is expected to be addressed by local management.

LFB's current contract for the provision of EVCPs across the estate is with BP Chargemaster – this started on 01/04/2018 and is due to expire on 31/03/2022.

The new contract in 2022 provides the opportunity to ensure that recharging across LFB's estate:

- a) Meet the service and maintenance expectations of LFB
- b) Uses of open source technology to ensure chargepoints can be managed by alternative suppliers in the future
- c) Has an "open" payment system for easy access and convenience that supports access to other public infrastructure including on street charging and public rapid points at LFB premises.

5. Future situation: Charging solutions on/off LFB's estate

With regards to the provision of recharging infrastructure to support the new Officer Pool Cars, the current assessment from colleagues in FLEET and Sustainable Development is that the current recharging infrastructure is appropriate to support the demands of a fleet of 100% BEVs, subject to the following:

- i) LFB fleet cars will have priority access to recharging at stations ahead of staff-owned vehicles. The proposed working group (ref. below) will address this in more detail to ensure this is effectively managed at a local level.
- ii) Recharging for all cars (including LFB cars) should be supplemented by the public recharging network and work needs to take place to encourage and support this (ref work outlined below)
- iii) In light of the grid constraints at most LFB stations, any requests at a local/ad hoc level to provide further recharging for cars at stations needs to be assessed alongside the longer-term work to support the broader ZE fleet.

6. Work to support transition

a) Use of public recharging

In order to support the requirement to use the public recharging network alongside chargepoints at stations, the following actions are needed:

- i) Trial public recharging at on-street locations, charging hubs and refuelling stations.
- ii) Trial and recommend a mobile application that identifies recharging infrastructure
- iii) Provide access to public charge cards for LFB personnel

The Sawyer Street car park supporting staff at Union Street will no longer have chargepoints from August 2021 as the current UKPN substation is being diverted by the landowners to support the new developments. This presents an opportunity to trial and encourage further the use of on-street charging – well services in the local area.

b) Charging at home

Charging LFB Response Cars away from LFB's estate could also take place for staff that have charging facilities on their own property.

An appropriate financial mechanism would need to be investigated and developed to support this form of recharging as it is likely that staff would be privately billed for electricity usage (as opposed to fuel cars) and therefore staff would need to be reimbursed.

c) User Acceptance and Training

In light of the changes laid out above, LFB users will have to adapt to new vehicles and the new requirement to use public charging alongside facilities at stations. These changes will be more pronounced if the LFB Officer Response Car is a 100% BEV (*ref. Recommendation 1*) as the charging requirement will be larger, and there will be no range extender to provide an alternative form of powering and refuelling the vehicle.

In order to support users in this culture change and overcome any range anxiety or broader reticence, work is required to develop an appropriate training package, targeted communications (including support from a mobile app) and set of protocols for using, charging and handover. This work is to be developed by the working group, outlined below.

d) Working Group

In order to inform and develop the work outlined in this paper, it is proposed that a Working Group is established. The group should be tasked to address the following matters and recommend a solution to the ULEF Programme Board by June 2021:

1. How will a BEV replacement be charged by officers on/off the LFB estate?
2. What are the implications of this new approach?
3. What support (including technical, training and comms messaging) is required to support officers using and charging the new Officer Pool Cars?
4. How will officers be reimbursed for charging away from the LFB estate – particularly if charging vehicles at home.

5. How will officers easily carry out mileage claims?

The Working Group should include the following representatives:

- End Users from Central Operations and Operational Performance & Assurance
- LFB Training
- FLEET
- Property
- CMG
- Sustainable Development
- Other teams as appropriate