



LONDON FIRE BRIGADE

LFC-25-079

London Fire Brigade Wildfire Vehicle pilot

Report to:**Date:**

Investment & Finance Board.....	02 October 2025
Commissioner's Board	15 October 2025
Deputy Mayor's Fire Board.....	28 October 2025
London Fire Commissioner	

Report by:

Assistant Commissioner, Operational Resilience and Control

Authorising Head of Service:

Assistant Commissioner, Operational Resilience and Control

Report classification:

For decision

For publication

Values met

Service
Teamwork
Courage

PART ONE

Non-confidential facts and advice to the decision-maker

Executive Summary

This report recommends that London Fire Brigade (LFB) proceed with the procurement of four wildfire response vehicles (WRVs) currently under trial and leased via Angloco for the purposes of the wildfire vehicle pilot. (Two of the four WRVs proposed have already been procured at a cost of £149,000, however for the purposes of this report expenditure will cover all associated capital and revenue costs for the four WRVs). The pilot was initiated following the significant wildfire events of 2022, which exposed the need for specialist all-terrain vehicles and equipment to support effective wildfire response across both rural and urban areas of London.

If the four WRVs are procured, it is proposed that these vehicles be renamed Terrain Support Vehicle (TSV). This renaming is intended to better reflect the enhanced operational capability these vehicles provide, particularly in accessing areas that are currently beyond the reach of standard fire appliances adding versatility to the Brigades fleet directly to support our response to climate change.

The report proposes that the capital budget required for procurement be allocated from savings identified in the Specialist Capability Review undertaken by LFB's Operational Resilience and Control (OR&C) department. These savings result from:

- Extended serviceable life of Hose Layer Units (HLUs), using capital expenditure already committed to HLU replacement in this financial reporting period.
- Reducing the requirement for a spare HLU with service delivery containing the pressure.

The report draws on operational data, feedback, and strategic planning from the pilot periods hosted in financial years 2023/24 and 2024/25.

For the London Fire Commissioner

The London Fire Commissioner agrees that capital expenditure and associated revenue costs as set out within Part two of this report be allocated from the budget for the fleet replacement of Hose layer Units for the purpose of procuring Terrain Support Vehicles which provide extreme weather capability.

1 Introduction and background

Wildfires are a growing risk to London's communities, infrastructure, and environment. The risk is formally recognised in both the National Risk Register and the London Risk Register, particularly in the rural-urban interface. LFB's Assessment of Risk identifies grass fires and wildfires as among the highest risks facing the capital.

The summer of 2022 marked a turning point, with damage and loss of property and community disruption caused by wildfires. In response, LFB initiated a strategic review of its wildfire response capabilities. This led to a range of operational enhancements including the provision of holey hose, bulk water delivery and enhanced training for tactical advisors and firefighters. LFB also implemented the development and deployment of a pilot programme using four off-road TSVs and associated equipment.

The pilot aimed to test a new operational model, improve tactical response, and assess the viability of permanent integration of TSVs into LFB's fleet.

2. Strategic Context and Risk Landscape

London's geography, with nearly half of its area classified as green space, presents a heightened wildfire risk. The proximity of vegetation to residential and commercial properties increases the potential for rapid fire spread and significant damage.

Climate trends have exacerbated this risk. Spring 2025 was the driest in over a century, and London experienced four heatwaves by mid-summer. Despite intermittent rainfall, the ground remained dry and highly flammable.

Key statistics from 2025 up until 13th August 2025 include:

- Over 40 wildfire incidents attended by LFB
- Over 30 incidents involved pilot WRVs
- 80 fires in grassland, scrubland, and parks believed to be deliberate

These figures highlight the urgent need for enhanced wildfire response capability.

3. TSV Pilot Overview

3.1 Vehicle Specification

The pilot utilised four Toyota Hilux 4x4 vehicles in 2024/25 and transitioned to Isuzu single cab vehicles in 2025/26 based on feedback. Each vehicle was equipped with:

- Misting lance technology (pump-and-drive capability)
- Two petrol-driven leaf blowers

- Eight multi-functional beaters
- Water capacity of approximately 475–500 litres
- Additional equipment including pitchforks, backpack blowers, and ear defenders

The vehicles were battenburg-marked, fitted with blue lights and two-tone sirens, and assigned call signs Whiskey Foxtrot (WF) 1–4.

3.2 Deployment Locations

The pilot deployment sites included G39 Feltham, F36 Walthamstow, A35 Enfield, and E42 Biggin Hill. These locations were selected based on historical incident data and staffing resilience. These will be reviewed after the 30 September 2025 for currency and efficiency. Deployment was flexible and dynamic, coordinated by the London Operations Centre (LOC) based on risk and operational demand.

3.3 Staffing Model

Each TSV is operated by a trained Motor Driver (MD) and deployed either with at an incident where at least one pump is in attendance to deliver a minimum support crew of four firefighters, fulfilling the following roles:

1. Pump and misting system operator
2. Safety officer (minimum rank: Leading Firefighter)
3. Backpack blower operator
4. Backpack blower operator

At incidents with fewer than four pumps, an additional pumping appliance is mobilised to provide the support crew. For larger incidents, the crew is drawn from those already in attendance. A Wildfire Support Officer (WSO) is attached to all WRV deployments to advise the incident commander

4. Operational Effectiveness and Feedback

The pilot vehicles demonstrated significant advantages:

- Rapid access to remote terrain
- Efficient water application via misting lance
- Reduced reliance on traditional 12-tonne appliances
- Enhanced tactical options and crew safety

In 2024/25, the vehicles attended 28 incidents, including 15 small fires (1–4 pumps), five medium fires (5–9 pumps), and one large fire (10 pumps). Feedback from crews included:

- Need for specialist PPE with less heat retention
- Insufficient cab space for driver PPE

- Rapid depletion of onboard water tanks
- High mobility and terrain adaptability

These insights informed the transition to single cab vehicles with improved storage and equipment layout in 2025/26.

As of 20/08-2025 the TSVs have attended 63 incidents which includes; 21 three pump grass fires, 25 four pump grass fires, 11 six to eight pump grass fires and six, ten to twenty pump grass fires.

Feedback from the 2025/26 trial has not yet been formally received, however early feedback suggests:

- Need for specialist PPE with less heat retention
- Requirement for a hydrant key and bar and hydrant length of hose
- A wipe clean surface to the hose reel

5. Staffing considerations

5.1 Staffing Adjustments at Pilot Locations

During the three-month pilot period, the Minimum Duty (MD) establishment at the two pilot locations was increased by one staff member for day shifts only. Night shift coverage was maintained on a conditional basis, activated only when operational needs dictated.

This staffing enhancement was facilitated by amending the Standby Module (SBM), which is managed by the CORE team at the London Operations Centre (LOC). The amendment ensured that the minimum number of off-road trained drivers was available to keep the wildfire vehicle operational during day shifts.

5.2 Operational Deployment and Role Allocation

When a standby was generated, the MD was assigned to drive the Pump Ladder/Pump (PL/P), while the watch-based MD with off-road driving qualifications operated the TSV. This arrangement ensured consistent vehicle availability and operational readiness.

5.3 Training and Resilience Measures

LFBs High Threat Training Team underwent off-road driver training and vehicle/equipment familiarisation. This enabled them to be recalled when necessary to maintain resilience and support the broader rollout of vehicle and equipment familiarisation across the service.

5.4 Strategic Oversight and Coordination

Operational availability of the wildfire vehicles was supported through the weekly strategic forecasting meeting, chaired by the Deputy Assistant Commissioner (DAC) for Central Operations. Additional oversight and direction were provided during the 08:10 daily duty officer briefings, led by the Duty Assistant Commissioner (AC).

5.5 Engagement with the Fire Brigades Union

The Fire Brigades Union (FBU) played a significant role in supporting the implementation and ongoing management of the wildfire vehicles. Their involvement has been instrumental in ensuring alignment with staffing and operational protocols.

5.6 Future Considerations and Staffing Models

Should the Brigade proceed with the procurement of TSVs, a formal staffing model will need to be developed for the identified locations, in consultation with the FBU. Consideration should be given to:

- Permanent staffing models versus peak period staffing
- The added value of wildfire vehicles in their agility and ability to access hard-to-reach locations¹

5.7 Staff Feedback and Recognition

Staff involved in the pilot have requested that skills payments be considered if the capability is formalised as a permanent feature of Brigade operations.

6. Training and Capability Development

Training was a critical component of the pilot. All station-based staff were required to complete the mandatory e-learning package "Wildfire Vehicles – Backpack Blowers" via Big Learning. Completion was tracked through LFB Diary.

Additional training included:

- One-day off-road driving course for MDs
- Blue light familiarisation
- Equipment training
- National Fire Chiefs Council (NFCC) wildfire training package

The High Threat Response Training Team (HTRTT) also received off-road training and familiarisation to support resilience and rollout.

7. Communications and Public Engagement

A detailed communications plan was developed to promote LFB's wildfire capability. Key messages included:

- Public safety advice during heatwaves

¹ WRVs will not replace fire appliance attendances however, opportunities exist to supplement attendance at specific incident types, or for specific events, where a small, agile vehicle with the ability to traverse off road may be beneficial.

- Risks associated with disposable barbecues, litter, and discarded cigarettes
- Prevention strategies for land managers, including fire breaks

Media engagement through the Associated Press and other outlets amplified LFB's messaging nationally and internationally. Events such as the Wanstead Flats demonstration showcased LFB's preparedness and innovation.

8. Specialist Capability Review and Budget Reallocation

The Specialist Capability Review conducted by OR&C identified cost savings as part of the Hose Layer Unit (HLU) replacement project as an opportunity to redirect capital expenditure to fund this proposal.

8.1 Hose Layer Units (HLUs)

LFC Report LFC-0284y recommended that a capital budget of £1.1 million be allocated for the replacement of all five HLUs. The anticipated cost per vehicle was £200,000, with an additional 10% contingency applied to account for market fluctuations and other expected costs.

Following the recommendation, the service life of the HLUs was extended through Selective Catalytic Reduction (SCR) exhaust modifications, deferring the need for fleet replacement until 2025/26.

The SCR modifications were funded using the capital budget allocated under LFC-0284y. This approach resulted in a capital expenditure saving of approximately £825,000. The remaining budget was deferred to 2025/26 and documented in a separate paper addressing engine modifications and fleet life extension.

This report proposes a further extension of the HLU fleet's operational life until August 2031. Data analysis indicates low usage and mileage across the fleet, supporting the feasibility of this extension.

Ahead of 2031, the Specialist Capability Review recommends a reduction of one HLU, eliminating the need to procure and maintain a fifth vehicle. It is proposed that any temporary unavailability of HLUs be absorbed across the remaining fleet of four vehicles, considering their low operational demand and the availability of High-Volume Pumps and Water Bowsers across London.

Extending the fleet's life offers several strategic advantages:

- Technological advancements in low-emission vehicles are expected, potentially reducing future procurement costs.
- The extension resets the procurement cycle, releasing the £825,000 capital budget currently held against this capability.
- A new capital budget and procurement proposal will be required ahead of the 2031 extension to support fleet retirement planning.

This report further proposes the reallocation of the £825,000 capital budget to procure WRVs currently leased by the Brigade. Any remaining capital should be identified as savings or reserved for other specialist capability funding requirements.

Technical Support Services notes the extension of HLU lifespan may incur an increased slot price for maintenance purposes via the contracted service provider. Further investigation is required to identify whether this is the case, and what if any increase the Brigade should factor into this extension.

9. Cost of current wildfire vehicle procurement

9.1 Summary of costs 2024/25

A summary of costs can be found in Part Two of this report.

10. Pilot Reviews

10.1 Financial Year 2023/24

The initial pilot period ran from July to September 2024. Key achievements included:

- Successful deployment of TSVs to multiple incidents
- Completion of training for MDs and support crews
- Establishment of dynamic deployment protocols

10.2 Financial Year 2024/25

The pilot was extended and commenced earlier than planned, running from May to September 2025. Enhancements included:

- Expansion to additional stations (Biggin Hill and Enfield)
- Increased incident attendance and operational impact
- Strengthened communications and public engagement

11. Governance, Equality, and Legal Considerations

The wildfire capability aligns with LFB's statutory duties under the Fire and Rescue Services Act 2004, including provision for extinguishing fires and protecting life and property.

An Equality Impact Assessment (EIA) has been completed, ensuring compliance with the Public Sector Equality Duty. The pilot considered workforce impacts, sustainability, and procurement governance. The EIA will require review once this paper is agreed, and the staffing model described within paragraph 5.6 is considered.

12. Conclusion and Recommendations

The TSV pilot has proven successful in enhancing LFB's operational readiness, response efficiency, and public safety outcomes. The vehicles have demonstrated their value in real-world incidents and align with strategic risk mitigation objectives.

It is recommended that:

1. LFB proceed with the procurement of the remaining two TSVs currently under trial.
2. The capital budget be allocated from savings identified in the Specialist Capability Review.
3. OR&C continue to lead the operational delivery of the wildfire capability, with OP&A providing policy support.
4. The pilot model be formalised into a permanent operational capability, with scope for future expansion based on risk assessment and incident data.
5. WSVs be renamed Terrain Support Vehicles (TSV) better reflecting the enhanced operational capability these vehicles provide, particularly in accessing areas that are currently beyond the reach of standard pumping appliances.

13 Values Comments

- 13.1 The LFC notes the Fire Standards Board requirements around adopting and embedding the Core Code of Ethics at an individual and corporate level. Following extensive engagement, the LFC has introduced Brigade values which build on and do not detract from the Code of Ethics.

14 Equality Comments

- 14.1 The LFC and the Deputy Mayor for Fire and Resilience are required to have due regard to the Public Sector Equality Duty (section 149 of the Equality Act 2010) when taking decisions. This in broad terms involves understanding the potential impact of policy and decisions on different people, taking this into account and then evidencing how decisions were reached.
- 14.2 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.
- 14.3 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.
- 14.4 The Public Sector Equality Duty requires decision-takers in the exercise of all their functions, to have due regard to the need to:
- eliminate discrimination, harassment and victimisation and other prohibited conduct.
 - advance equality of opportunity between people who share a relevant protected characteristic and persons who do not share it.
 - foster good relations between people who share a relevant protected characteristic and persons who do not share it.
- 14.5 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:
- remove or minimise disadvantages suffered by persons who share a relevant protected characteristic where those disadvantages are connected to that characteristic.

- 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.
 - 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.
- 14.6 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.
- 14.7 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:
- tackle prejudice
 - promote understanding.
- 14.8 An equality impact assessment has been carried out for the purpose of the pilot. The EIA was considered and agreed via LFB internal governance processes. Additionally, the policy relating to wildfire firefighting (PN981) has an EIA specific to those protocols. If this report is agreed the EIA will be reviewed as part of the workforce delivery model as described within paragraph 5.6.

15 Other considerations

Workforce comments

- 15.1 The Fire Brigades Union (FBU) played a significant role in supporting the implementation and ongoing management of the wildfire vehicles. Their involvement has been instrumental in ensuring alignment with staffing and operational protocols.
- 15.2 Should the Brigade proceed with the procurement of TSV, a formal staffing model will need to be developed for the identified locations, in consultation with the FBU. Consideration should be given to:
- Permanent staffing models versus peak period staffing
 - The added value of wildfire vehicles in their agility and ability to access hard-to-reach locations²
- 15.3 Staff involved in the pilot have requested that skills payments be considered if the capability is formalised as a permanent feature of Brigade operations.

Sustainability comments

- 15.4 The long term de carbonisation of the Fleet is laid out in the Fleet Strategy 2024. Fleet/TSS have carried out extensive market research on the ability of vehicles to provide the same service as these vehicles, or better. The WRV has played a key role within LFB and nationally in North

² WRVs will not replace fire appliance attendances however, opportunities exist to supplement attendance at specific incident types, or for specific events, where a small, agile vehicle with the ability to traverse off road may be beneficial.

Yorkshire. As part of the specialist capability review—which included the wildfire vehicle pilot—the Brigade's TSS team conducted extensive market research. This was aligned with the FLEET Strategy.

- 15.5 TSS has confirmed that there are currently very limited options available that can deliver electric all-terrain vehicles and the necessary infrastructure to meet the Brigade's operational requirements. The few vehicles that do exist are largely untested for the Brigade's specific uses and are currently constrained by high costs and long delivery times.
- 15.6 The specialist capability review also examined the replacement strategy for HLUs. Market research conducted by TSS indicates that electric vehicle technology in this area is still in development and currently faces significant cost and infrastructure challenges.
- 15.7 To address this, the review recommends extending the current fleet until August 2030. This extension will allow time for technological advancements and market maturity in the electric specialist vehicle sector. Additionally, planned conversions to improve emissions standards will enhance sustainability outcomes—prolonging the operational life of the existing fleet while supporting innovation and progress in cleaner vehicle technologies.

Procurement comments

- 15.8 Procurement comments are detailed in Part Two of this report.

Communications comments

- 15.9 A detailed communications plan was developed to promote LFB's wildfire capability. Key messages included:
- Public safety advice during heatwaves
 - Risks associated with disposable barbecues, litter, and discarded cigarettes
 - Prevention strategies for land managers, including fire breaks
- 15.20 Media engagement through the Associated Press and other outlets amplified LFB's messaging nationally and internationally. Events such as the Wanstead Flats demonstration showcased LFB's preparedness and innovation.
- 15.21 Should the WRVs be procured, a dedicated communications campaign should be implemented to inform staff and public alike of the positive response undertaken by the Brigade to meet the increasing risk of extreme weather. Communications colleagues will be consulted with to design and implement this campaign.

16 Financial comments

- 16.1 The report seeks approval to purchase four terrain support vehicles. The financial implications are set out in part 2 of this report.

17 Legal Comments

- 17.1 Under section 9 of the Policing and Crime Act 2017, the London Fire Commissioner ('LFC') 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.
- 17.2 By direction dated 1 April 2018, the Mayor set out those matters, for which the LFC would require the prior approval of either the Mayor or Deputy Mayor for Planning, Regeneration and the Fire Service (the 'Deputy Mayor').
- 17.3 Paragraph (b) of Part 2 of the said direction requires the LFC 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...".
- 17.4 The Statutory basis for the action proposed in this Report is provided by sections 7 and 5A of the Fire and Safety Rescue Act 2004 ("FRSA 2004"). Section 7 (2)(a) FRSA 2004 the LFC 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 LFC to procure personnel, services and equipment they consider appropriate for purposes incidental or indirectly incidental to their functional purposes. Section 7 of the FRSA sets out that;
- (1) A fire and rescue authority must make provision for the purpose of -
 - (a) extinguishing fires in its area, and
 - (b) protecting life and property in the event of fires in its area
 - (2) In making provision under subsection (1) a fire and rescue authority must in particular -
 - (a) secure the provision of the personnel, services and equipment necessary efficiently to meet all normal requirements ..."
- 17.5 The LFC is also designated a Category 1 Responder under the Civil Contingencies Act 2014 ("CCA"). The CCA defines an emergency in section 1 as:
- (a) an event or situation which threatens serious damage to human welfare in a place in the United Kingdom,
 - (b) an event or situation which threatens serious damage to the environment of a place in the United Kingdom, or
 - (c) war, or terrorism, which threatens serious damage to the security of the United Kingdom,
- This requires that, in addition to the duties under section 7, FRSA, the LFC under section 2 of the CCA must:

(a) from time to time assess the risk of an emergency occurring

(b) from time to time assess the risk of an emergency making it necessary or expedient for the person or body to perform any of his or its functions.

(c) maintain plans for the purpose of ensuring so far as is reasonably practicable, that if an emergency occurs the person or body is able to continue to perform his or its functions.

(d) maintain plans for the purpose of ensuring that if an emergency occurs or is likely to occur the person or body is able to perform his or its functions as far as necessary or desirable for the purpose of -

(i) preventing the emergency,

(ii) reducing, controlling or mitigating its effects, or

(iii) taking other action in connection with it,

(e) consider whether an assessment carried out under paragraph (a) or (b) makes it necessary or expedient for the person or body to add to or modify plans maintained under paragraph (c) or (d).

(f) arrange for the publication of all or part of the assessments made and plan maintained under paragraphs (a) to (d) in so far as publication is necessary or desirable for the purposes of -

(i) preventing an emergency,

(ii) reducing, controlling or mitigating the effects of an emergency,

(iii) enabling other action to be taken in connection with an emergency, and

(g) maintain arrangements to warn the public, and to provide information and advice to the public, if an emergency is likely to occur or has occurred.

17.6 The proposals in this Report are intended to enhance the LFC's continued compliance with its legal duties as set out above.

17.7 The Report recommends that LFB proceeds with the procurement of four WRVS that are. The Report seeks the Deputy Mayor for Planning, Regeneration and Fire Services to authorise the LFC to commit the capital expenditure set out in Part 2 (Decision Options) of the Report for the purpose of procuring All-Terrain Vehicles and for the LFC to agree that the capital expenditure is allocated from the budget to the fleet replacement of Hose Layer Units for the purpose of procuring All-Terrain Vehicles.

List of appendices

Appendix	Title	Open or confidential
1	EIA	

Part two confidentiality

Only the facts or advice considered to be exempt from disclosure under the FOI Act should be in the separate Part Two form, together with the legal rationale for non-publication.

Is there a Part Two form: Yes