



BUCKINGHAMSHIRE & MILTON KEYNES FIRE AUTHORITY

FLEET STRATEGY

2018/19 to 2024/25

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1. THE NEED FOR A FLEET STRATEGY

A Fleet Strategy is necessary to ensure:

- a) Constantly improving customer and stakeholder satisfaction
- b) Improving use of natural resources
- c) The effective and efficient use of capital funds
- d) Compliance with statutory regulations
- e) Effective Corporate Management

This helps to:

- f) Deliver efficiency savings
- g) Continuously improve service delivery
- h) Implement new ways of working
- i) Maximise the safety of our communities by reviewing operational resources to meet identified risks in the Public Safety Plan

2. HOW THE FLEET STRATEGY INTERLINKS WITHIN THE CORPORATE STRUCTURE AND OTHER STRATEGIES

The Fleet Strategy provides a comprehensive and integrated approach to the management of the Authority's vehicular and associated operational assets. The plan is a 'live' document, which will evolve through time and reflect changes based on current and predicted working practices, legislation, environmental developments and availability of capital.

The Fleet Strategy will link with, and inform, other strategic decisions and plans for the effective management of Bucks Fire and Rescue Service. Table 1 sets out the relationship between the Fleet Strategy and other corporate plans:

The Public Safety Plan (PSP) is the most influential of the Authority's documents for the provision of fleet services. The Authority has an established PSP for 2020 to 2025 that outlines what it aims to achieve and how it will achieve it over this period and this is supported by a Medium Term Financial Plan (MTFP). In particular the PSP sets out the current resourcing to enable delivery of the service and it is vital to maintain and invest in the identified fleet to meet the risk assessed need identified.

At its meeting on 7 December 2022, the Authority resolved that the successor plan to the current PSP, be known as the '2025 – 2030 Community Risk Management Plan'; and that the Authority planned to approve this at its meeting in September 2024. This Fleet Strategy is therefore being extended to better align to that planning timeline, and a new Fleet Strategy will be implemented from 2025/26.

The MTFP sets out the Revenue and Capital strategies for delivering the PSP.

Relationship of Fleet Strategy with other Corporate Plans and Strategies

Plan	Input From Fleet Strategy
Public Safety Plan	The PSP sets out the Authority's assessment of local risk to life and, in line with this assessment, how resources will be deployed to address these risks. The PSP will be supplemented by annual objectives and associated programmes and projects that deliver the required improvements. The Fleet Strategy aims to ensure that vehicular resources are in place to meet PSP objectives.
Corporate Plan	The Authority sets out an annual Corporate Plan which shows how it will deliver the annual priorities and targets that deliver the requirements of the PSP. The fleet service team objectives will reflect the Corporate Plan as well as the more detailed Fleet Strategy.
Financial Strategy	The Financial Strategy is the link between the Authority's long-term service objectives and its financial capacity. It also helps the Authority to consider the feasibility of different options in terms of affordability and financial sustainability.
Medium-Term Financial Plan (MTFP), including Revenue and Capital Budgets	The MTFP sets out the Authority's financial position over the medium-term and ensures resources are managed effectively and budgets are aligned with corporate objectives.
Capital Strategy	The Capital Strategy provides a framework that transparently demonstrates how the investment of capital resources contributes to the achievement of the vision and key priorities set out in the Strategic Asset Management Plan and PSP. The existing approved capital programme includes ongoing investment in the Red Fleet.
Functional, Area and Station Plans	Each function, command area and station will develop annual plans to document key 'in-year' work activities that contribute to the realisation of the PSP. The Finance & Asset Directorate plan includes the detailed Fleet Service activity that feeds through to meet PSP objectives.

Table 1

3. PURPOSE AND ROLE OF THE FLEET SERVICE WITHIN BFRS

The prime purpose of the Fleet Service within Buckinghamshire Fire and Rescue Service (BFRS) is the supply and maintenance of vehicles and associated major operational equipment which meet:

- a) User and stakeholder needs;
- b) Fire and Rescue Service strategies
- c) Legislative requirements

and which facilitate and promote environmental sustainability as well as meeting the established principles of best value.

The services provided by the Fleet Service cover three main functions:

- d) Fleet Supply
- e) Fleet Management
- f) Fleet Maintenance

The Fleet Service is the main support provider for all fleet or fleet related services, and additionally provides support for the maintenance and management of many major operational assets, such as:

- g) Rescue Boats
- h) Various trailers
- i) Positive Pressure Ventilation Fans
- j) Portable Pumps
- k) Hydraulic Rescue Equipment (power packs, cutters, spreaders, rams, pedal cutters)
- l) Ladders (13.5m, 10.5m, 9m, roof, short extension)
- m) Portable generators
- n) Fire Fighting branches (nozzles)
- o) Vehicle stabilisation equipment

4. FUNCTIONS PERFORMED

Fleet Supply	The research, specification, costing, tendering, acquisition, and disposal of all BFRS vehicles and associated operational equipment and vehicle mounted firefighting equipment.
Fleet Management	<p>The management of the fleet -</p> <ol style="list-style-type: none"> 1. Leasing contracts and management of leasing costs 2. Vehicle Excise Duty 3. Registration and Licensing 4. Type Approval Testing (VCA testing) 5. Fuel Management 6. Monitoring availability of vehicles and associated operational equipment 7. Licensing and other documentation checks
Fleet Maintenance	The repair and maintenance of vehicles and vehicle mounted operational equipment, and much of the major operational equipment. The Fleet Workshop undertake most of the tasks involved. Specialist external contractors are engaged for the repair and maintenance of equipment outside of the expertise or facilities available within the workshop team / premises, which includes aspects such as major body work repairs, paint spraying and some larger items that require fabrication.

Table 2

5. LEGISLATIVE / BEST PRACTICE REQUIREMENTS

The operation of any fleet of vehicles is a heavily regulated area and is affected by the following legislation or best practice guidance:

- a) The Road Vehicles (Construction and Use) Regulations 1986
- b) The Road Vehicles Lighting Regulations 1989 (as amended by the Deregulation Action 2015)
- c) The Motor Vehicles (Driving Licences) Regulations 1999 (as amended by The Motor Vehicles (Driving Licenses) (Amendment) Regulations 2022)
- d) The Road Traffic Act 1991
- e) The Road Vehicles (Registration and Licensing) Regulations 2002
- f) The Health and Safety at Work Act 1974
- g) Provision and Use of Work Equipment Regulations 1998
- h) The Management of Health and Safety at Work Regulations 1999
- i) The Control of Pollution (Oil Storage) (England) Regulations 2001
- j) British and European Technical Standards
- k) The Management of Occupational Road Risk
- l) National Fire Chiefs Council – Fleet Management Best Practice Manual
- m) Lifting Operations and Lifting Equipment Regulations (LOLER) 1998
- n) Data Protection Act 2018

The list of Acts / guidance is not exhaustive, and by the very nature of the fleet environment, various legislative requirements cut across other services of the Authority. To adhere to vehicle operating legislation the Fleet Service utilises a variety of procedures to ensure that the vehicle fleet complies with the relevant regulation(s). The following are some of the current procedures adopted to satisfy the legal requirements and also provide reassurance of the adoption of best practice methodology:

1. Safety Inspection programme
2. Defect Reporting System
3. Preventative Maintenance Schedule

6. FLEET ASSETS – LOCATION, COST

BFRS has a variety of fleet assets located at 21 locations including Unit 7 and the workshop itself with the majority of vehicular assets being located at the service's 19 fire stations. The current fleet operated by BFRS consists of 49 'red fleet' vehicles and 75 'white fleet' vehicles. The net book value (NBV) of Vehicles as at 31 March 2022 is £3.726m and for associated Plant & Equipment is £0.850m.

Total NBV for Vehicles, Plant and Equipment = **£4.576m**

Appendix 1 identifies each vehicle by registration number, make, type, and location as applicable.

7. FLEET ASSET INVESTMENT

'Need' and Funding

The vehicular assets of BFRS are determined by the needs of the community, as identified in the PSP – this, in turn, is interpreted by the service to ensure the identified and predicted risks can be met with the correct equipment. Whilst public perception of Fire Service vehicles is the traditional 'Red Fire Engine', there are numerous supporting vehicles that are required to fulfil a variety of roles.

The need for a vehicle or asset may come as the result of a newly identified risk, or a changed risk, or the replacement of an 'end of life' vehicle or asset, or to support a new task or strategy.

When any replacement vehicles are required, the needs of the service are reviewed and evaluated with the requirement being scrutinised to determine if the need remains the same. With this information a vehicle specification can then be determined.

This specification must have some reflection of what is available in the open market and consider any new technology that could improve performance.

Working in conjunction with Research and Development (R&D), the Business Transformation Board (BTB) will be the initial forum to:

1. Consider the provision or replacement of major vehicle and associated equipment assets;
2. Provide recommendations to Strategic Management Board (SMB) and Members on the provision or replacement of major service delivery assets;
3. Allocate / Ensure staff resource is available to major provision or replacement projects; and
4. Monitor the utilisation of vehicular assets and make recommendations to SMB/Members to achieve best value.

Where a new or changed risk is identified and additional financing is required to purchase a suitable vehicle/equipment, then recommendations will be made through SMB with a view to seeking approval for such funding. Depending on the amount involved, this may also require Authority approval. Such requests should normally be forward planned and included as part of the annual budget setting process and subject to rigorous Officer and Member challenge; however, the SMB will consider any cases of unexpected urgency and advise accordingly, including the method of financing (Revenue or Capital).

Utilisation

To obtain best value from vehicular and other major operational assets, BFRS monitors their utilisation. This is accomplished by evaluating data from fuel returns, vehicle mileage sheets and actual use.

The Fleet Service actively monitors the use of vehicles and major operational assets and reviews their disposition in order to maximise their service life. In addition, the vehicle replacement programme is currently monitored and reviewed by SMB, which considers any appropriate vehicle investment or condition reports and recommendations made by the Fleet Manager or through R&D. This results in direction being provided to the Fleet Manager or R&D about purchasing vehicles or leasing them, extending the service life of vehicles and the disposal of obsolete or no- longer required assets. If appropriate, any recommendations are then put to the Executive Committee for consideration.

Emergency Vehicle Requirements

The size of the fleet of fire appliances needs to be given due consideration, as by its very nature it is difficult to manage the demand of an emergency vehicle fleet. Statistical evidence is collected and maintained, which provides the best possible indication of the high and low demands on the fleet and is subsequently used to determine vehicle standby levels and numbers required, in order to best maintain full operational readiness.

The placement of the emergency vehicles is also important. Recent practice has been for all new emergency vehicles to be allocated to the busiest stations. The rationale being that this provides the opportunity for maximum operational use, to identify any vehicle issues relating to vehicle warranty, and to get these defects rectified by the manufacturers. This means that new appliances are subject to maximum operational wear and tear in their early years in service, later in their life these older but still operationally sound appliances are then allocated to stations where there is less operational use for the middle to end of service life.

8. VEHICLE LIFE CYCLE

Vehicles and equipment have a predetermined life cycle. This life cycle follows a course that is set by a variety of factors:

- a) Legislation
- b) Total Life Cycle Costing
- c) Procurement practices
- d) Disposal methods
- e) Best Practice methodology
- f) Maintenance and upkeep requirements and costs
- g) Requirements of end-user departments
- h) Cost and depreciation
- i) Level of specification
- j) Availability and use

- k) Dependability
- l) Flexibility
- m) Service life
- n) Environmental considerations

The Service's current vehicle replacement policy is:

Rescue Pumps	- circa 15 years
Special Appliances	- circa 20 years
Utility Vans	- 7 to 10 years
Pool Cars	- 3 to 5 years

This replacement policy allows for prudent financial capital planning, but it only provides an indicative cost and time of replacement, the actual period of replacement is determined by the utilisation and need and may be monitored by BTB. The costs are dependent on the final user and technical specifications and the effect of any exchange rate or manufacturers' cost increases. Lead times between order and delivery will also be a critical factor.

The BTB is probably best placed to monitor and review the provision and replacement of vehicular assets to achieve best value and derive the maximum benefit from operational vehicles. It will, where necessary and appropriate, make recommendations to the Authority / SMB to extend the life of vehicles beyond the above guidelines where this can be achieved without affecting operational capability. This often involves the purchasing of vehicles from lease and extending their life. This does, however, have some implications:-

- a) A number of vehicles have in the past been obtained through leasing arrangements. This was determined to be the best use of financial resources at the time when the cost of capital borrowing was high and it was more prudent to invest capital and utilise revenue to fund appliances and equipment.
- b) More recently it has become more efficient and effective to capital purchase a number of appliances and equipment. However, in practice the best funding method to acquire any vehicle is evaluated on a case by case basis, meaning that vehicle assets may now either be leased or capital purchased dependent upon the best overall financial deal for the Authority.
- c) Previously, the fleet acquired through leasing was extensive and as leasing periods come to an end an inspection of the condition of the vehicles and equipment was made to determine suitability for capital purchase from lease. This extends the service life and reduces costs through the reduction in revenue leasing expenditure over the increased service life, together with residual value ownership by the Service. Any potential costs to return the vehicle to the leasing company are also reduced. The condition of some vehicles would require the Service to carry out expensive repairs to be able to return the vehicles to the

leasing company in a condition that would not incur significant penalties – the Service can purchase the vehicles for a considerable discount, extend the service life and then not need to carry out the repairs, and still have a saleable asset for less than the cost of either continuing / extending the lease or returning the vehicle / asset to the leasing company.

- d) In any event, as any vehicle comes toward the end of its life, there is a need for timely advice to Finance to ensure best lease rates can be made available via the Authority's advisors.

9. PROCUREMENT

A procurement process is undertaken to acquire any vehicle or supporting equipment at the best possible price for the specification required. This may follow several different paths; all comply with current Standing Orders and Legislative / Financial requirements.

The majority of vehicles and major operational equipment are procured through framework agreements where possible. These frameworks have been established to save on administration and advertising costs and meeting the requirement to open up to competition from Europe through the Official Journal of the European Union (OJEU). Where the framework does not exist for a particular vehicle or asset the OJEU process is followed where required according to the threshold value and a tendering process is completed. The legal competitive process will, of course, be amended when UK specific legislation is passed following its exit from the European Union.

In any event, the final choice of supplier is determined by a tendering exercise based on quotations provided by approved suppliers on the relevant framework agreement.

Where possible, the procurement of all vehicles and their associated equipment will be carried out in collaboration with other fire services and/or Thames Valley Police. The intention is to build upon the recent very successful collaborative procurement of Type B fire appliances, working with both Oxfordshire and Royal Berkshire Fire Services.

10. OPERATIONAL LEASES

This method of funding vehicle acquisition means that the vehicle is not owned by the Service. Instead, it is deemed to be the registered keeper of the vehicle, or asset. During the predetermined lease period, the Service is required to make a number of annual leasing payments to the lessor. Such operational lease arrangement may or may not include any maintenance responsibilities, but where they do, these are financed and undertaken by the Fleet Department.

When the end of each lease period is reached the vehicle is inspected by the lessor to ensure that the vehicle complies with the return conditions and

collection is arranged.

Before coming to a view as to the use of operational leases, a financial option appraisal should be undertaken to identify the most cost-effective funding method for vehicle acquisitions.

11. MAINTENANCE

All vehicular assets are purchased with a minimum of 12 months warranty from the vehicle manufacturer; the majority of light vehicles have a whole vehicle warranty of 36 months duration. In respect of vehicles above 3500kg gross vehicle weight, the body is generally not produced by the chassis manufacturer and is built and warranted by a specialist bodybuilder.

The Fleet Service provides the operational support to the vehicle fleet. This may be for unplanned repairs or scheduled preventative maintenance. The Fleet Service has the responsibility to ensure that all vehicles stay within legislative and predetermined safety requirements.

The Transport Officers Group (TOG) of the National Fire Chiefs Council (NFCC) provide best practice guidance for the servicing intervals and schedules for emergency fire appliances, which are stricter than those of the vehicle manufacturer.

The Fleet Department provides support which includes a reporting mechanism to respond to day-to-day unplanned repairs, and a planned preventative maintenance and inspection schedule to reduce the number and severity of unplanned repairs required. All repairs are documented to ensure that works to fleet vehicle assets are recorded to enable effective asset management. Throughout the vehicles life they are maintained in a safe, legal and roadworthy condition.

12. DISPOSAL

Once a vehicle (or major piece of equipment) has reached the end of its service life it will be disposed of in compliance with Contract Standing Orders. In the past this has been by either selling it at auction, through a sealed bid process, or via Essex Fire Authority (EFA) Trading to a reputable purchaser.

The Authority uses the following options for disposal of assets:

Option 1

Dispose by direct auction.

This has historically been the preferred disposal method since it provides at least some capital receipt toward any new purchase. A variation of that arrangement, however, is:

Option 2

Disposal via third-party auctioneers which, due to the disposal routes available to them both in the UK and Europe, aims to offer the best possible financial return for the Authority as well as ensuring the vehicles are sold to reputable organisations that have provided evidence of future use of the vehicle. This has recently proved successful and is currently the preferred option for disposal.

Option 3

More recently the market for second-hand fire appliances appears to be becoming increasingly limited, and appliances are taking longer to sell and generating lower capital receipts. In February 2020, the Fire Authority supported the objectives of FIRE AID; and amended its Contract Standing Orders to enable the Authority to provide donations of end-of-life appliances and equipment with a net book value of £10k or less to FIRE AID to help with the furtherance of their charitable objectives.

13. FUTURE FLEET AND WORKSHOP PROVISION

Fleet procurement and maintenance is currently undertaken in-house. The service will always look to collaborative working where there is benefit in doing so with particular emphasis on the following criteria:

- a) A desire to explore the opportunity of new fleet service delivery models to deliver better value for money and to improve efficiency.
- b) Seeking ways to ensure that capital investment in the fleet is secured.
- c) Wishing to work in partnership with other regional Fire and Rescue Services to secure benefits from collaboration and standardisation.
- d) Any desire to address possibilities in relation to shared workshop facilities.

A number of issues relating to the Fleet Strategy which are of more detailed technical interest including some numeric information for fuel and servicing etc. is set out in **Appendix 3**.

14. VEHICLE REQUIREMENTS 2018/19 to 2024/25

Pumping Appliances

At the commencement of this Strategy, the Service had 16 Scania Rescue Pumps providing a front line service. These were based at all whole-time and day-crewed fire stations as well as 2 standalone retained stations.

The latest vehicle of this type to enter the service was in November 2011, with the oldest at the time coming into service in January 2006. Currently there are only 11 Scania appliances remaining within the fleet.

The historic use of this type of appliance is now widely accepted as a success. The dual role of fire appliance and rescue appliance has negated the need for the Authority to purchase separate 'Rescue Tenders', therefore offering good value for money. Staff feedback has always been very positive as to performance, which is also reflected in anticipated whole life costs in regard to repairs and maintenance.

The Authority had already committed to a programme of replacement of these vehicles, working in collaboration with both Royal Berkshire FRS and Oxfordshire FRS. This has seen the delivery of 19 new Rescue Pumps in the period between 2016/17 up to the end of 2022/23, with funds committed for a further eight purchases during the life of the current contract. No purchases are planned for 2024/25 to allow time for the implications of the CRMP 2025-2030 to be considered, and also any implications this may have for the next contract to purchase frontline appliances.

The ongoing need or otherwise for rescue platforms was considered during the initial life of this strategy. These are currently available on a number of existing pumps and whilst their use is sporadic, they are nevertheless essential for the occasions required. The decision was made to carry rescue platforms on a small number of appliances strategically located across the areas we serve.

No further action is required for the period of this strategy other than to ensure vehicles are strategically positioned to provide an attendance anywhere in our local area within 15- 20 minutes as determined by the PSP.

A detailed replacement programme is set out in **Appendix 2**.

4 x 4 Pumping Appliances

The Authority has previously given approval for the replacement of these vehicles and delivery has now taken place of 3 x 12 tonne vehicles as well as one 7 tonne vehicle.

The disposal of the 3 legacy 'Unimog' vehicles has been completed.

Bulk Water/Foam Carriers

The Service currently has two 'Water Carriers' within the fleet, based at Aylesbury and Gerrards Cross. These appliances utilise ex-National Resilience prime movers fitted with a demountable 10,000 litre tanker pod. As the prime movers have a life expectancy of 20 years, they will be due for replacement from 2024.

This Service has a limited risk requirement for bulk foam and this facility is provided by Royal Berkshire Fire and Rescue Service on behalf of the Thames Valley.

White Fleet Replacements

Replacements for existing leased white fleet are generally considered on a case by case basis and opportunity will be taken either to not replace a vehicle or to replace with a more efficient vehicle at lower cost where possible.

15. ACTION PLAN

Table 3 below sets out the strategic action plan that summarises the 'actions required' set out in the body of this strategy.

Table 3

Action Point	Title	Description	Owner	Target Date for Completion	Notes
A	Financial Planning	The vehicle replacement Capital Programme should continue to be developed to project the replacement, frequency and potential costs for capital planning purposes, this program can be monitored through the BTB. The annual revenue impacts that may arise as a result of potential replacements should also be included. The existing Capital Programme already allows for £500k each year for vehicle replacements, however, any possible changes to this should be quantified and included as part of the budget planning process from 2018/19 onwards.	Fleet Manager	31 Dec 2017 (Completed)	Annual Review
B	Allocation of new appliances to maximise life span	The Authority should assess the impact of allocating new appliances to its smaller and less operational active stations, or frequent moving of appliances to different stations of varying operational activity in order to ascertain if vehicle life can be extended, by evening out the wear and tear throughout the vehicles service life.	GC Response Policy	Ongoing	

Action Point	Title	Description	Owner	Target Date for Completion	Notes
C	Collaborative Procurement	The Authority will continue to work with other blue light services to explore any opportunities to work together to make more cost efficient purchases of vehicles and associated equipment.	Procurement Manager	Ongoing	
D	Rescue Platforms	The deployment of rescue platforms will be reviewed with particular emphasis toward future collaborative requirements with neighbouring service.	GC Policy and Resilience	June 2018 (Completed)	
E	BASI Review	As part of the next phase of the Business and Systems Integration project (BASI), a review will be undertaken to determine if and whether a replacement or major update of TRANMAN should be initiated	Fleet Manager	March 2019 (Completed)	

F	Future Fleet Requirements	Following the risks identified during the Summer pressures of 2022, pilot and review the use of smaller response vehicles that provide further capabilities to deal with more remote fires in the open.	Fleet Manager	March 2024	
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APPENDIX 1**Red Fleet Vehicles**

REG.NUMBER	MAKE	STATION/LOCATION	VEHICLE TYPE
KN72NBG	VOLVO	Amersham	RP
KP67HYK	VOLVO	Amersham	RP
KM70ZBL	VOLVO	Aylesbury	RP
KL19TSY	VOLVO	Aylesbury	RP
OU66LWZ	MAN	Aylesbury	4x4 RP
WR65NYA	IVECO	Aylesbury	EPU
BD15GWE	MERCEDES	Aylesbury	ICU
WX54VRG	MAN	Aylesbury	P/Mover + W/Tanker
WX54VRJ	MAN	USAR - Aylesbury	Prime Mover
WX54VSM	MAN	USAR - Aylesbury	Prime Mover
WX54VVZ	MAN	USAR - Aylesbury	Prime Mover
KX17MXB	VOLVO	BHQ	RP
KX17MXC	VOLVO	BHQ	RP
KX11OHR	SCANIA	BHQ	RP
KO68FUB	VOLVO	Beaconsfield	RP
KX59JHK	SCANIA	Beaconsfield	RP
OU10FLP	MERCEDES	Beaconsfield	Water Rescue
KX57TWJ	SCANIA	Brill	RP
KN72NBF	VOLVO	Broughton	RP
KP67HYM	VOLVO	Broughton	RP
OU10EDR	MERCEDES	Broughton	OSU
KP67HYN	VOLVO	Buckingham	RP
KX57TWL	SCANIA	Buckingham	RP
KX57TWK	SCANIA	Chesham	RP
KN71RXB	VOLVO	Gerrards Cross	RP
WX54VUL	MAN	Gerrards Cross	P/Mover + W/Tanker
SF66LYU	IVECO	Great Missenden	Light 4x4 WT
KX59JHJ	SCANIA	Haddenham	RP
KM70ZBN	VOLVO	High Wycombe	RP
KL19TSX	VOLVO	High Wycombe	RP
OU66LWY	MAN	High Wycombe	4x4 RP
KX11BCZ	SCANIA	High Wycombe	TL
KX59JHH	SCANIA	Marlow	RP
OU10EDP	MERCEDES	Marlow	OSU
KO68FUE	VOLVO	Newport Pagnell	RP
OU10FLR	MERCEDES	Newport Pagnell	Water Rescue
KX56CVW	SCANIA	Olney	RP
KX11OHP	SCANIA	Princes Risborough	RP
KX58MXA	SCANIA	Stokenchurch	RP
KX17MXE	VOLVO	Waddesdon	RP
KN72NBE	VOLVO	West Ashland	RP
KN71RXC	VOLVO	West Ashland	RP
KP67HYL	VOLVO	West Ashland	RP
OU66LXA	MAN	West Ashland	4x4 RP
KX64CDE	SCANIA	West Ashland	TL
KX58MXB	SCANIA	Winslow	RP
KX17MXF	VOLVO	Haddenham	RP

KX67EGF	SCANIA	Driver Training	CS
KX67EGJ	SCANIA	Driver Training	CS

OU10EDP	MERCEDES	Marlow	OSU
KX57TWJ	SCANIA	Newport Pagnell	RP
OU10FLR	MERCEDES	Newport Pagnell	Water Rescue
SF66LYU	IVECO	Olney	4x4 Light WT
OV51FCP	ERF	Princes Risborough	RP
X138OFC	VOLVO	Princes Risborough	Foam Tanker
OU10AEP	MITSUBISHI L200 4x4	Stokenchurch	Small Fires Unit
Y76MWL	VOLVO	Waddesdon	WT
KX55PMO	SCANIA	Winslow	RP
OV51FCU	ERF	T/SCHOOL-HADDENHAM	RP
OE03WXN	VOLVO	T/SCHOOL-DRIVER TRAINING	WT
OE03WXP	VOLVO	T/SCHOOL-DRIVER TRAINING	WT

White Fleet Vehicles

Make/Model	Use	Year
VAUXHALL ASTRAVAN	Support Services	2010
VAUXHALL VIVARO	Support Services	2010
AUDI A6 AVANT 2.0TDI	Fleet Car	2016
AUDI Q5 2.0TDI	Officer Car	2017
VAUXHALL COMBO VAN	Hydrant Maintenance	2015
VAUXHALL COMBO VAN	Hydrant Maintenance	2015
VAUXHALL MOVANO	Support Services	2015
NISSAN QASHQAI 1.5D	Officer Car	2018
KIA RIO 1 1.4CRDi	Station Car	2017
KIA RIO 1 1.4CRDi	Station Car	2017
KIA RIO 1 1.4CRDi	Station Car	2017
AUDI Q5 2.0TDI	Officer Car	2019
NISSAN QASHQAI 1.5D	Officer Car	2018
NISSAN QASHQAI 1.5D	Officer Car	2018
KIA RIO 1 1.4CRDi	Support Services	2018
NISSAN QASHQAI 1.5D	Driver Training	2019
NISSAN QASHQAI 1.5D	Officer Car	2019
PEUGEOT 3008 1.5HDI	Officer Car	2018
NISSAN QASHQAI 1.5D	Officer Car	2019
FORD FIESTA 1.5TDCi	Operational Assurance	2019
MAZDA 6	Officer Car	2018
NISSAN QASHQAI 1.5D	Pool Car	2018
NISSAN QASHQAI 1.5D	Officer Car	2018
NISSAN QASHQAI 1.5D	Officer Car	2018
NISSAN QASHQAI 1.5D	Pool Car	2018
NISSAN X-TRAIL 1.7d	Officer Car	2019
L/ROVER DISCOVERY SP	Officer Car	2019
NISSAN NAVARA 2.3dCi	Station Car	2019

NISSAN NAVARA 2.3dCi	Station Car	2019
NISSAN NAVARA 2.3dCi	Station Car	2019
CITROEN DISPATCH	Station Car	2019
CITROEN DISPATCH	Station Car	2019
L/ROVER DISCOVERY SP	Officer Car	2019
KIA PROCEED 1.6CRDi	Officer Car	2020
JAGUAR F-PACE 3.0D	Officer Car	2021
AUDI Q5 2.0TDI	Officer Car	2021
CITROEN DISPATCH	USAR	2019
FORD FOCUS 2.0 EST.	Officer Car	2019
VOLVO XC60	Officer Car	2020
NISSAN QASHQAI 1.5D	Officer Car	2020
NISSAN QASHQAI 1.5D	Officer Car	2020
NISSAN QASHQAI 1.5D	Officer Car	2020
NISSAN QASHQAI 1.5D	Officer Car	2020
K9 - VW TRANSPORTER	USAR	2018
VW E-UP	Protection	2021
VW E-UP	Protection	2021
VW E-UP	Protection	2021
VW E-UP	Protection	2021
FORD FOCUS 1.5 ECO	Officer Car	2022
FIAT FIORINO CARGO	Prevention	2021
FIAT FIORINO CARGO	Prevention	2021
FIAT FIORINO CARGO	Prevention	2021
FIAT FIORINO CARGO	Prevention	2021
FIAT FIORINO CARGO	Prevention	2021
FIAT FIORINO CARGO	Support Services	2021
CITROEN DISPATCH	Support Services	2021
CITROEN DISPATCH	Support Services	2021
CITROEN BERLINGO	Support Services	2021
CITROEN RELAY 2.2HDI	Support Services	2021
FIAT FIORINO CARGO	Support Services	2021
AUDI Q5 2.0TDI	Officer Car	2022
FORD FOCUS 1.5 ECO	Officer Car	2021
CITROEN BERLINGO	Training School	2022
CITROEN DISPATCH	Training School	2022
FORD FIESTA 1.0 MHEV	Protection	2022
CITROEN RELAY 2.2HDI	Training School	2022
KIA SPORTAGE 1.6CRDI	Officer Car	2022
KIA SPORTAGE 1.6CRDI	Officer Car	2022
FORD FIESTA 1.0 MHEV	Protection	2023
FORD FIESTA 1.0 MHEV	Protection	2023
FORD FIESTA 1.0 MHEV	Protection	2023
KIA SPORTAGE 1.6CRDI	Officer Car	2023
KIA SPORTAGE 1.6CRDI	Officer Car	2023
KIA SPORTAGE 1.6CRDI	Officer Car	2023
CITROEN E-BERLINGO	Prevention	2023

FORD MONDEO 2.0 TDCi	Officer Car	2014
VAUXHALL CORSAVAN	Support Services	2014
MERCEDES C220	Fleet Car	2014
HONDA CIVIC 1.6iDTEC	Fleet Car	2013

HONDA CIVIC 1.6iDTEC	Fleet Car	2013
HONDA CRV 2.2i-DTEC	Officer Car	2013
HONDA CRV 2.2i-DTEC	Officer Car	2013
KIA CEED 1.6Crdi	Officer Car	2014
HONDA CRV 1.6i-DTEC	Officer Car	2013
NISSAN QASHQAI 1.6D	Officer Car	2015
NISSAN QASHQAI 1.6D	Officer Car	2014
SKODA SUPERB ESTATE	Officer Car	2014
SKODA OCTAVIA I.6TDI	Officer Car	2015
NISSAN QASHQAI 1.5D	Officer Car	2016
NISSAN QASHQAI 1.5D	Officer Car	2016
HONDA CIVIC 1.6iDTEC	Officer Car	2013
VW GOLF 2.0 TDI	Officer Car	2014
AUDI A4 AVANT 2.0TDI	Officer Car	2015
HONDA CRV 1.6i-DTEC	Officer Car	2016
BMW X3 2.0d	Officer Car	2015
HONDA CIVIC 1.6iDTEC	Driver Training	2015
HONDA CRV 1.6i-DTEC	Officer Car	2015
AUDI A6 AVANT 2.0TDI	Fleet Car	2016
AUDI SQ5 3.0 TDI	Officer Car	2016
FORD TRANSIT CUSTOM	Pool Vehicle	2015
FIAT 500 0.9 TWINAIR	Fleet car	2015
FORD FIESTA 1.5TDCi	Protection	2015
FORD FIESTA 1.5TDCi	Protection	2015
FORD FIESTA 1.5TDCi	Protection	2015
FORD FIESTA 1.5TDCi	Protection	2015
FORD FIESTA 1.5TDCi	Protection	2015
FORD FIESTA 1.5TDCi	Protection	2015
AUDI Q7 3.0TDI	Officer Car	2017
VAUXHALL ASTRA 1.6	Support Services	2015
VAUXHALL COMBO VAN	Hydrant Maintenance	2015
VAUXHALL COMBO VAN	Hydrant Maintenance	2015
VAUXHALL MOVANO	Support Services	2015
VW PASSAT 2.0 TDI	Officer Car	2015
CITROEN NEMO 1.3HDI	Prevention	2015
CITROEN NEMO 1.3HDI	Prevention	2015
CITROEN NEMO 1.3HDI	Support Services	2015
CITROEN NEMO 1.3HDI	Support Services	2015
CITROEN NEMO 1.3HDI	Protection	2016
PEUGEOT EXPERT VAN	Support Services	2016
SEAT ITECA 2.0TDI	Officer Car	2017
VAUXHALL ASTRA 1.6TD	Officer Car	2017
FORD TRANSIT CUSTOM	Pool Car	2017

FORD TRANSIT CUSTOM	Pool Car	2017
KIA RIO 1 1.4CRDi	Pool Car	2017
KIA RIO 1 1.4CRDi	Pool Car	2017
BMW 320d Xdrive tour	Officer Car	2017
SKODA SUPERB ESTATE	Officer Car	2017
PEUGEOT BOXER LWB	Support Services	2007

Red Fleet Vehicles – replacements and suggested vehicle movements

2016/17 - 2019/20

Thames Valley Pumping Appliance Contract 2

Year 1 F/Y 2021-22 (Estimated delivery - September '22)

- **Volvo 17** > AME P1 (Volvo KP67HYK) > AME P2 (Scania KX58MXA) STO 1
(Scania KX06MUC) > Disposal
- **Volvo 18** > WAS P1 (Volvo KN71RXC) > WAS P2 (Volvo KP67HYL) > WAS P3
(Scania KX11OHP) > MAR P1 (Scania KX55PMV) > Disposal
- **Volvo 19** > BRO P1 (Volvo KP67HYM) > BRO P2 (KX59JHH) > PRI P1
(Scania KX06MUB) > Disposal

Year 2 F/Y 2022-23 (Estimated delivery – September '23)

- **Volvo 20** > BUC P1 (Volvo KP67HYN) > ? ? > OLN P1 (Scania KX56CVW) >
Disposal
- **Volvo 21** > BEA P1 (Volvo KO68FUB) > BEA P2 (Scania KX59JHK) > BRI P1
(Scania KX57TWJ) > Disposal

Year 3 F/Y 2023-24 (Estimated delivery – March '24)

- **Volvo 22** > NPA P1 (Volvo KO68FUE) > ? ? > CHE P1 (Scania KX57TWK) >
Disposal
- **Volvo 23** > AYL P1 (Volvo KM70ZBL) > AYL P2 (Volvo KL19TSY) > Reserve
(Volvo KX17MXB) >
BUC P2 (Scania KX57TWL) > Disposal
- **Volvo 24** > HWY P1 (Volvo KM70ZBN) > HWY P2 (Volvo KL19TSX) >
Reserve (Volvo KX17MXC) >
AME P2 (Scania KX58MXA) > Disposal

Year 4 F/Y 2024-25 (Estimated delivery - TBA)

➤ **Volvo 25** > AYL P1 (Volvo 23) > AYL P2 (Volvo KM70ZBL) > ?? > WIN P1

(Scania KX58MXB) > Disposal

➤ **Volvo 26** > HWY P1 (Volvo 24) > HWY P2 (Volvo KM70ZBN) > ?? > (Scania

KX59JHH/J/K) > Disposal

➤ **Volvo 27** > WAS P1 (Volvo 18) > WAS P2 (KN71RXC) > ?? > (Scania

KX59JHH/J/K) > Disposal

OR GEX P1 (KN71RXB) > ?? > (Scania KX59JHH/J/K) > Disposal

1. AGE PROFILE OF FLEET

The current vehicle fleet has evolved over the years to include vehicles ranging from recent acquisitions to circa 20 years old.

The average age of the operational (Red) fleet is 9 years. Whilst it is generally accepted that the specialised, high value vehicles have a longer life and will therefore remain in the fleet for a longer period, the older the fleet, the more likely it will become redundant in terms of modern working practices and technology. The risk of obsolescence is a consideration in determining vehicle life extension and refurbishment programmes.

The decision of when to replace vehicles is determined by several factors. Due to the high cost of the more specialised vehicles it becomes beneficial to spread the initial cost over a longer period in accordance with predicted useful life. The major drawback of this is that as technology moves on, there is a danger that the vehicle will become outdated in respect of technological developments. The vehicles effectiveness to the operational function becomes the 'obsolescence gauge' and must be balanced with financial considerations in deciding on vehicle life.

In respect of the 'non-specialised' fleet, the factors guiding obsolescence and subsequent replacement are not subject to the same drivers. Non-specialised vehicles tend not to be as expensive, and a higher residual value is anticipated, whilst the capability of the vehicle is not as restrictive for its intended use.

The decision of when to replace these types of vehicles is more financially based than operationally based, and is achieved by evaluating the condition and reliability history of the vehicle and the remaining useable life together with the residual value and replacement cost.

These factors are critical for the work of the Research & Development team in their considerations for replacement vehicles.

2. FLEET MANAGEMENT SYSTEM

The current Fleet Management System (FMS) used by the Fleet Service is Tranman. The system is used to record, monitor and manage the details of the fleet, information on servicing and maintenance (including operational equipment), accident records, and costs and also has a direct link to the vehicle defecting web portal.

The system is continually improved and updates/new releases applied where appropriate. Information is provided through regular email bulletins and an annual user group meeting. Support is also provided via email and telephone depending on the urgency of response required.

The system meets the requirements of the Authority but is reviewed regularly to ensure it remains fit for purpose. It is also interesting to note that it is used by a growing number of other Fire & Rescue Services which should aid sharing of information and benchmarking.

As part of the Business and Systems Integration project (BASI), a review was undertaken to determine if and whether a replacement or major update of Tranman should be initiated and this was included in the proposed action plan set out in the main body of the strategy. The upgrade to the latest version of Tranman was completed in 2022. As part of the upgrade the system is now cloud hosted in line with the current ICT strategy. This latest version utilises ruggedised handheld devices to improve efficiency and reduce paper usage.

3. FLEET SUSTAINABILITY

3.1 Environmental Considerations

The adoption of sustainable fleet by the public sector arises from the need to address climate change and global warming in response to a suite of international, European and national legislation action plans and targets, as well as the Service's own Environment and Climate Action Plan.

All vehicle fleet owners are expected to adopt a sustainable fleet and BFRS is committed to addressing some of the key challenges by researching and implementing solutions that ensure its fleet balances the need for operational effectiveness and fleet sustainability. The Service will also use its influence with other stakeholders to improve environmental performance across a wide range of fire and rescue vehicles and equipment. In particular, the following areas are kept under constant review:

- a) The fuel management system.
- b) Revised vehicle specification to take into account any new emission regulations.
- c) Investigate alternative fuels feasibility, including electric vehicles.
- d) Manufacturers' environmental policies.
- e) The use of sustainable / renewable materials in the production of vehicles
- f) The use of lighter weight materials to reduce overall vehicle weights and therefore increase fuel efficiency
- g) The use of plastic bodies to improve service life and offer the potential for re-using bodies on new chassis.

3.2 Current Measures

The Fleet Service will always look for practical solutions to improve the carbon footprint of the Service. Several environmental initiatives are currently in place

within the Fleet Service.

- a) Emissions testing as part of routine servicing.
- b) Re-grooving, re-moulding and recycling of tyres.
- c) Recycling of lead acid and other batteries.
- d) Environmentally safe disposal of waste engine oil and other engine and vehicle fluids.
- e) Recycling of scrap metals including aluminium ladders.
- f) Extending oil drain intervals.

The Service has already invested in several electric vehicles within its white fleet and has installed vehicle charging points at Aylesbury, Marlow and West Ashland. The Service continues to monitor the development of electric pumping appliances, although given the current costs of these it is not proposed to proceed with investment in these during the lifetime of this Fleet Strategy.

3.3 Vehicle Emissions

The Inter-governmental Panel on Climate Change (IPCC) has identified the following as potentially harmful gases:

- a) Carbon Monoxide
- b) Methane
- c) Nitrous Oxide
- d) Hydro Fluorocarbons
- e) Sulphur Hexafluoride

However, by far the largest global emissions by volume are of carbon dioxide which originates from the burning of fossil fuels including the combustion process that occurs in compression ignition or spark ignition motor vehicle engines. Continual monitoring, testing and the purchase of more fuel efficient vehicles with lower emissions are the most practical way in which the service can minimise emissions.

3.4 Diesel Replacement Fuels

There are a number of diesel replacement fuels on the market; Bio diesel has been around for some time and is a mixture of mineral diesel fuel and vegetable derived fuel - 'standard' diesel fuel is a 7% blend; GTL (gas to liquid) is a synthetic diesel alternative made from natural gas and HVO (hydrotreated vegetable oil) is a fossil-free paraffinic diesel made from certified waste materials. The service's fuel provider does not currently supply any of these diesel replacement fuels and whilst the service intends to investigate the use of them, there are specific concerns with regard to their use which will require addressing or mitigation by BFRS. They are:

- a) Bio diesel has a reduced calorific value when compared to mineral diesel. This means that the power produced is slightly less than mineral diesel. This is obviously a concern to emergency fleets and their ability

to respond quickly.

- b) some do not have the same lubricant properties as mineral diesel and may necessitate more frequent and regular engine oil changes.
- c) The use of these alternatives is not widely supported by vehicle manufacturers and therefore its use could invalidate warranties and increase the risk of major repair costs to engines and fuel systems. When use is approved, there is usually a need for a more frequent service regime.
- d) Until the use of diesel replacement fuels is approved by the majority of vehicle manufacturers across their range of vehicles, it will prevent BFRS from adopting its use due to having bunkered fuel stocks.
- e) There is an increase in cost for all of the alternative diesel fuels.

Nationally, a number of issues surrounding the use of bio diesel have been identified including viscosity at sub-zero temperatures and filter blockages. Bio diesel is more prone to microbial growth (especially when it is stored for long periods) which causes sludge to accumulate in fuel tanks which then cause blockages in the fuel system. Due to these findings, the service has decided against using bio diesel at this time due to the potential implications for interruptions to operational service delivery and associated safety implications. This position will remain under review for future developments.

3.5 Carbon Footprint

The amount of carbon dioxide produced is directly related to the amount of fuel burnt and can be calculated using a simple equation. This calculation assumes that fuel burns completely whilst in reality motor vehicle engines are not 100% efficient and will produce bi-products of the combustion process. The following formula represents a theoretical approach to quantifying the carbon dioxide emissions of a compression ignition engine:

Burning one litre of diesel produces 2.68kg of carbon dioxide (CO₂). Burning one litre of petrol produces 2.31kg of CO₂.

By studying the fuel used by the fleet it is possible to calculate the fleet's carbon footprint. As new technology is introduced into the fleet, it is plausible that the current fuel usage of the BFRS fleet will reduce and subsequently the size of the carbon footprint.

The calculated 2022/23 CO2 emissions from the Service's Red Fleet vehicles was 384 tonnes.

Emissions of Carbon dioxide over the last three years:

	2020/21	2021/22	2022/23
Carbon Dioxide Emitted in Tonnes	319	564	386

Table 5

4. Fleet Monitoring

In 2022/23 the Red Fleet covered 223,933 miles and consumed 144,206 litres of fuel at a cost of £192,183.

TOTAL MILEAGE FOR VEHICLES: 2020/21– 2022/23

Vehicle	2020/21	2021/22	2022/23
Pumps (37)	114,904	122,829	166,984
Specials & Ancillary Vehicles (17)	15,794	60,102	56,949
TOTAL	130,699	182,931	223,897
Average Miles per Vehicle	Pumps 3106 Specials 929	Pumps 3320 Specials 3535	Pumps 4512 Specials 3347

Table 6

DIESEL PURCHASED AND PRICE PER LITRE: 2020/21– 2022/23

	2020/21	2021/22	2022/23
TOTAL VOLUME (Litres)	119038	210,658	144,206
Average Price pence per litre	91.58	109.33	133.27

Table 7

There is a substantial amount of maintenance required as the nature of the service dictates that vehicles will operate on short unplanned journeys. The majority of miles covered are undertaken before the power unit reaches normal operating temperature. There are also a number of legal, safety and environmental issues that need to be constantly addressed.

5. CHANGES IN THE USER'S OPERATION

The Fleet Service's operational strategy needs to be flexible to adjust to the requirements of the users. During recent years the Service has increased resources to prevention and protection activity leading to a reduction in fires. This trend will no doubt continue and whilst this change of focus will not necessarily reduce the establishment costs of having an emergency fleet on standby, it may reduce some of the operational running costs and create more of a demand for mobile advice centres, mobile fire stations and similar types of support vehicles.

If targeting of the prevention of fires continues to be successful this should produce a change in user needs and ought to reduce the number of, or influence the design of, the emergency vehicles required.

6. FINANCIAL PLANNING

6.1 Capital

Capital expenditure is the term used to describe the acquisition of assets that have a long- term value to BFRS. The Fleet Service capital expenditure will form part of the Authority's capital strategy and will be drawn from the replacement cycle of vehicles and equipment. There are some complexities around capital purchase and activity in this area should be co-ordinated with Finance so the Authority can negotiate the best options for all capital and revenue towards the end of the lifecycle for vehicle replacement. Ideally this should be well in advance, say 18 months.

6.2 Revenue Budgets

The Fleet Service revenue budget will be heavily influenced by the Vehicle Replacement Programme. It is unlikely that year-on-year capital spending will remain constant and there will be fluctuations in the costs incurred in the revenue budget. To even-out revenue expenditure it would be necessary to concentrate on the level scheduling of vehicle purchases over an anticipated lifespan, or to accept that fluctuations will occur between different years. In any event this should all be considered at time of MTFP budget build. Growth and savings bids should be raised for this and included with revenue consequences from capital purchases.

The contingency to counter this would be to make predictions and consequently financial provision for them in the years that they are likely to

occur. A similar concept applies to vehicle maintenance expenditure - as vehicles age, more costs will be incurred. Unless the same numbers of vehicles of the same type are purchased each year there will be fluctuations in vehicle maintenance expenditure. Improving strategies can ease the fluctuations to enable more even and accurate budget forecasting.

There are no specific actions required for financial planning as the Authority has already approved the red fleet replacement capital programme.