



**BUCKINGHAMSHIRE & MILTON KEYNES
FIRE AUTHORITY**

FLEET STRATEGY

2014/15 to 2017/18

CONTENTS

Contents	Title Page	Page No
1	The Need for a Fleet Strategy	2
2	How the Fleet Strategy interlinks with the Corporate Plan and Other Strategies	2
3	Purpose and Role of Fleet Services within BFRS	4
4	Functions Performed	5
5	Legislative / Best Practice Requirements	6
6	Fleet Assets – Location, Cost	6
7	Fleet Asset Need, Utilisation and Emergency Vehicle Requirements	7
8	Vehicle Life Cycle	9
9	Procurement	10
10	Operational Leases	11
11	Maintenance	11
12	Disposal of Purchased Vehicles	12
13	Future Fleet and Workshop Provision	12
Appendix 1	<i>Detailed items as follows:</i>	
14	Age Profile of Fleet	14
15	Fleet Management System (TRANMAN)	14
16	Fleet Sustainability:	15
<i>16.1</i>	Environmental Considerations	15
<i>16.2</i>	Current Measures	15
<i>16.3</i>	Vehicle Emissions	16
<i>16.4</i>	Bio Diesel	16
<i>16.5</i>	Carbon Footprint	17
<i>16.6</i>	Fleet Monitoring	18
17	Changes in the User's Operation	20
18	Reviews 2014/5 – 2018/19	20
19	Financial Planning:	25
<i>19.1</i>	Capital	25
<i>19.2</i>	Revenue Budgets	25
20	Performance Management and Data:	26
<i>20.1</i>	National Performance Indicators	26
<i>20.2</i>	Local Performance Indicators	26
21	Action Plan	26-29
Appendix 2	Performance Review 2012/13	30
Appendix 3	Vehicle List	34

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 Integrated Risk Management Plan (IRMP) is the most influential of the Authority's documents for the provision of fleet services. The Authority has an established IRMP for 2012 to 2017 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 IRMP sets out the:-

- a) Vision, aims and objectives
- b) Key policy priorities
- c) Action plan(s) for achieving the key delivery and planning objectives.

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

A new IRMP covering the period 2015-2020 is due for consideration by the Authority in June 2014 and part of the role and strategy of the Fleet Service will be to support the outcomes of the agreed IRMP. Specific actions arising from the new IRMP will be set out in the next revision of this document.

Table 1: Relationship of Fleet Strategy with other Corporate Plans and Strategies

Plan	Input From Fleet Strategy
Strategic Asset Management Plan	The Strategic Asset Management Plan sets out the Authority's asset management arrangements and responsibilities and is underpinned by the detailed strategies for each asset group.
Integrated Risk Management Plan (IRMP)	The IRMP 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 IRMP will be supplemented by annual objectives and associated programmes and projects that deliver the required improvements.
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 Plan and IRMP.
Fleet Strategy	An internal plan designed to co-ordinate the fleet needs of the service on annual basis with a longer term view of the needs and use of assets with a Service life ranging from 3 to 20 years.
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 IRMP.

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

Table 2

Fleet Supply	The research, specification, costing and tendering, acquisition, and disposal of all BFRS vehicles and associated operational equipment and vehicle mounted fire fighting equipment.
Fleet Management	The management of the fleet - <ol style="list-style-type: none">1. Leasing contracts and management of leasing costs2. Vehicle Excise Duty3. Registration and Licensing4. Type Approval Testing (VCA testing)5. Fuel Management6. Monitoring availability of vehicles and associated operational equipment7. 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 Workshops 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.

5. LEGISLATIVE / BEST PRACTICE REQUIREMENTS

The operation of a 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
- c) The Motor Vehicles (Driving Licences) Regulations 1999
- d) The Road Traffic Act 1991
- e) The Road Vehicles (Registration and Licensing) Regulations 1971
- 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) Chief Fire Officers' Association (CFOA) Recommended Best Practice for the maintenance of fire service vehicles
- m) CFOA Transport Officers Group Security Guidance on Decommissioning and Disposal

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:

- n) Safety Inspection programme
- o) Defect Reporting System
- p) Preventative Maintenance Schedule

6. FLEET ASSETS – LOCATION, COST

BFRS has a variety of fleet assets located at 22 locations including Unit 7 and the Fleet workshop itself with the majority of vehicular assets being located at the Service's 20 Fire Stations. The current fleet operated by BFRS consists of 52 vehicles. The net book value (NBV) of Vehicles as at 31 March 2013 is £3,056,441 and for associated Plant & Equipment is £1,178,119

Total NBV for Vehicles, Plant and Equipment = **£4,234,560.**

Appendix 3 identifies each vehicle by registered number, make, type, location and user as applicable.

7. FLEET ASSET NEED AND FUNDING, UTILISATION AND EMERGENCY VEHICLE REQUIREMENTS

The 'Need' and Funding

The vehicular assets of BFRS are determined by the needs of the community, as identified in the IRMP – 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 a replacement vehicle is required, the needs of the Service are reviewed and evaluated with the requirement being scrutinised to determine if the need is still the same. With this information, the specification can 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 R&D, the Business Transformation Board (BTB) will be the forum to:

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

Once the need for a particular vehicle or asset has been established, the BTB reports to the SMB on what the need is and possible solutions together with anticipated costs, and may authorise the setting up of any necessary working group to refine the service delivery needs and user specifications.

Where a new or changed risk is identified and additional financing is required to purchase a suitable vehicle/equipment, the BTB may make recommendations to SMB with a view to seeking approval for such funding. Depending on the amount involved, this may 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, though the expectation must be that any financing will have to come from revenue.

Action Required

A vehicle replacement Capital Programme should be developed to project the replacement, frequency and potential costs for capital planning purposes, this program can be monitored through the BTB, but essentially must form part of the MTFP Officer and Member challenge process. The annual revenue impacts that may arise as a result of potential replacements should also be included. This work should be completed in order to inform budget planning from 2015/16 onwards, as soon as possible.

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 program is currently monitored and amended by SMB, which considers vehicle condition reports and recommendations made by the Fleet Manager or through R&D. This results in direction being provided to the Fleet Manager about purchasing vehicles or leasing them, extending the service life of vehicles and the disposal of obsolete or no-longer required assets. In future, however, these tasks will be carried out by the BTB or Performance Management Board (PMB) as appropriate with frequency of any performance information to be agreed with the PMB in due course.

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 manufactures. However, this means that new appliances are subject to maximum operational wear and tear in their early years in service, resulting in 'tired' looking but still operationally sound appliances being allocated to Stations where there is less operational use for the middle to end of service life.

Action Required

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.

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	- 12 to 15 years
Special Appliances	- 15 to 20 years
Utility Vans	- 7 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 the BTB. The costs are dependent on the final user and technical specifications and the effect of any exchange rate or manufacturers' cost increases. Lead in times between order and delivery will also be a critical factor.

The BTB is probably best placed to now 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 / Senior Management Board 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 generally become more efficient and effective to capital purchase appliances and equipment. However, in practice the best funding method for each procurement decision is evaluated individually, 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 the vehicle or 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 established by the national Fire and Rescue procurement body (now called 'The Consortium Fire and Rescue') 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 final choice of supplier is determined by a tendering exercise based on quotations provided by approved suppliers on the relevant framework agreement.

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 24 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 Chief Fire Officers' Association (CFOA) 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 EFA Trading to a reputable purchaser.

The Authority uses the following options for disposal of assets:

Option 1

Dispose by auction.

In light of the current financial climate, this has 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 Essex Fire Authority (EFA Trading) 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.

13. FUTURE FLEET AND WORKSHOP PROVISION

Fleet procurement and maintenance is currently undertaken in-house. There is merit in the service pursuing, in partnership with other fire and rescue services, a feasibility study to explore opportunities for improving the value for money and affordability of their respective fire fleets. The particular drivers for change include:

- 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 maintained at levels that ensure that the fleet does not degrade over time.
- c) A desire to remove some of the uncertainty around future budgetary requirements especially in light of evidence to suggest that prices of appliances appear to rise over time as a result of specification 'creep'.
- d) Wishing to work in partnership with other regional Fire and Rescue Services to secure benefits from collaboration and standardisation.
- e) The desire to address possibilities in relation to shared workshop facilities.

Action Required

Given the recent new arrangements for provision of the procurement service with Royal Berkshire FRS, it is proposed to begin an informal process, to include relevant stakeholders. This should begin with the 'Thames Valley' services i.e. Royal Berkshire and Oxford FRS's, to ascertain whether there is an appetite for more formal arrangements that seek to achieve the above aims from collaboration.

More detailed items numbered from 14 – 21 are set out as Appendix 1

14. AGE PROFILE OF FLEET

The current vehicle fleet has evolved over the years to include vehicles ranging from recent acquisitions to circa 21 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 on 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.

It should be noted that the decisions taken to purchase vehicles from the leasing program and extend their life comes at the cost of providing an increasingly ageing fleet. The decision to procure vehicles from lease, and push the Capital program for replacement vehicles forward, has implications for both revenue and capital expenditure, as well as the overall age profile of the fleet.

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.

15. 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 offered 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.

There are no plans to replace the TRANMAN system in the foreseeable future.

16. FLEET SUSTAINABILITY

16.1 Environmental Considerations

The adoption of sustainable fleet by the public sector is as a result of two key drivers. The Comprehensive Spending Review 2010 (CSR10) which makes protecting the environment a key priority, and the pressure on the public sector to address climate change and global warming in response to a suite of international, European and national legislation, action plans and targets.

It is anticipated that all vehicle fleet owners will be required to adopt a sustainable fleet and BFRS are 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 will be the subjects for consideration over the next five years:

- a) The fuel management system.
- b) Revised vehicle specification to take into account environmental concerns including the introduction of the Euro 6 emission regulations.
- c) The use of 'AdBlue' on new heavy vehicles to meet more stringent emissions standards
- d) Investigate alternative fuels feasibility, including electric vehicles.
- e) Manufacturer's environmental policies.
- f) The use of sustainable / renewable materials in the production of vehicles
- g) The use of lighter weight materials to reduce overall vehicle weights and therefore increase fuel efficiency
- h) The use of plastic bodies to improve service life and offer the potential for re-using bodies on new chassis.

16.2 Current Measures

The current environmental policy of BFRS encourages practical considerations to be introduced 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) Tyre-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) The introduction of Continuously Regenerating Trap (CRT) exhaust particulate filters to certain vehicles to reduce soot /carbon emissions.

Action Required

All the above initiatives should be captured as part of a future Carbon Management Strategy.

16.3 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, the largest global emissions by far 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. (See 15.5)

16.4 Bio Diesel

Bio diesel is a mixture of mineral diesel fuel and vegetable derived fuel. The service's fuel provider does not currently supply bio diesel and whilst the service intends to investigate the use of it, there are three specific concerns with regards to bio diesel 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) Bio diesel does not have the same lubricant properties as mineral diesel and using bio diesel in larger ratios may necessitate more frequent and regular engine oil changes.
- c) The use of Bio diesel above a 5% blend 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.

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 recent 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.

16.5 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 by-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 2.63kg of carbon dioxide (CO₂). Burning one litre of petrol produces 2.33kg 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.

Currently the service fleet comprises of:

Table 3

NO.	TYPE	DATE ACQUIRED
17	Scania RP's	2006 - 2011
1	Scania TL	2011
8	Volvo RP's	2000-2004
2	Volvo Water Tender/Water carriers	2001
1	Volvo Special Equipment Vehicle	1992
1	Water Carrier (Tanker)	2000
1	CARP (Quint)	2006
6	ERF RP's	2001
1	ERF Water tender	1998
3	Unimog 4x4 water tender	1997-2000
1	Unimog 4x4 Hose Layer	2003
1	Mercedes Command & Control Unit	1996

The calculated 2012/13 CO2 emissions from the Service's Red Fleet vehicles was 397 tonnes.

Emissions of Carbon dioxide over the last three years:

Table 4

	2010/11	2011/12	2012/13
Carbon Dioxide Emitted in Tonnes	483	436	397

16.6 Fleet Monitoring

In 2012/13 the Red Fleet covered 233,869 miles and consumed 150,917 litres of fuel at a cost of £172,337.

TOTAL MILEAGE FOR VEHICLES: 2010/2011 – 2012/13

Table 5

Vehicle	2010/11	2011/12	2012/13
Pumps (25)	223,732	214,202	193,626
Specials & Ancillary Vehicles (18)	63,995	48,094	40,243
TOTAL	287,727	262,296	233,869
Average Miles per Vehicle	Pumps 8950 Specials 3555	Pumps 8570 Specials 2670	Pumps 7745 Specials 2235

TOTAL FUEL PURCHASED: 2010/2011 – 2012/13

Table 6

Fuel Type	2010/11	2011/12	2012/13
Petrol	£2,906.66	£2,003.61	£1,925.72
Diesel	£186,748.53	£189,565.08	£172,337.57
Total	£189,655.19	£191,568.69	£174,263.29

DERV & PETROL PURCHASED AND PRICE PER LITRE: 2010/2011 – 2012/13

Table 7

Fuel Type	2010/11	2011/12	2012/13
Petrol	2,788 LITRES (£1.04 PER LITRE)	1,806 LITRES (£1.11 PER LITRE)	1,686 LITRES (£1.14 PER LITRE)
Diesel	183,678 LITRES (£1.01 PER LITRE)	165,857 LITRES (£1.14 PER LITRE)	150,917 LITRES (£1.14 PER LITRE)
	(Average price)	(Average price)	(Average price)

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.

There are a number of potential benefits that may be developed for fleet monitoring:

- a) The Driving at Work guidelines published by the Health and Safety Executive/Department for Fleet places more responsibility on employers to manage work related road safety.
- b) Live vehicle utilisation information
- c) Provide information on driving techniques to cut fuel consumption/exhaust emissions with the added benefit of reducing costs.
- d) Use the information obtained to structure the driver training programme.
- e) Help to reduce accident by understanding cause and using failure as an opportunity strategy.
- f) Support testimony in the current climate of claims culture.
- g) Utilising a GPS system with driver ID/allocation would alleviate the need for the current manual system of driver's records of journeys.

Work is currently in hand to roll out Tom-Toms to all the white fleet during 2014, to provide most if not all of the above information.

17. 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 previous years the Service has increased resources to the prevention and reduction of 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.

18. REVIEWS 2014/15 to 2018/19

The Vehicles currently due for consideration/review over the next 5 years are shown in Table 8 below. However, as technology improves both in vehicle design and fire-fighting principles this may alter the demand on vehicle and major operational asset requirements.

Table 8

Vehicle	Number of vehicles	When Due	Estimated Cost £'000 (Range)
Incident Command Unit	1	2014/16	200-250
Pumping Appliances	11	2014 onwards	180-265
Special Equipment Vehicle	1	2014	50-100
4x4 Pumping Appliances	3	2014/15	70-285
Curtain Sider – (replacement not required)	1	2014	–
Water Tender/Water Carriers	2	2014/15	250-285

Foam/Water Carrier	1	2015/16	145-185
Hose Laying Vehicle	1	2014/15	TBA

The following sets out further information in respect of the above vehicles together with recommended actions to be undertaken as part of this strategy.

Incident Command Unit

The Service currently has one Incident Command Unit, based at Aylesbury which came into service in September 1996. Arrangements to procure a replacement vehicle are in hand and this would allow the Service to obtain a new, smaller vehicle and then enter into a formal agreement with Royal Berkshire Fire and Rescue Service (RBFRS) to provide a larger vehicle to assist with more complex incident command and control issues.

Action Required – Progress the introduction of the new ICU, subject to budget approval. Once complete, it is considered that ICU provision will meet current and anticipated future requirements. (Nominal 15 year life expectancy)

Pumping Appliances

The Service currently has 14 Scania Rescue Pumps providing a front line service. These are based at all whole-time and day-crewed fire stations as well as 2 standalone retained stations. 11 of these are due for replacement over the next 5 years.

The latest vehicle of this type to enter the service is the appliance at Bletchley, in November 2011, with the oldest being the appliance at Winslow which came into service in January 2006.

The introduction of this type of appliance is 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 been very positive as to performance, which is also reflected in anticipated whole life costs in regard to repairs and maintenance.

Action Required – The Service should continue with the procurement of Rescue Pumps (taking account of future developments) and ensure they are strategically positioned to provide an attendance anywhere in our local area within 15- 20 minutes as determined by the IRMP.

Special Equipment Vehicle

The Service currently has a Specialist Equipment Vehicle (SEV) based at Aylesbury, providing a range of equipment to the incident ground, including environmental protection equipment. This came into service in June 1992 and is overdue for replacement. The Environment Agency has provided funding (which has been match funded by the Service) to procure a vehicle which would have a dual role – providing environmental protection equipment and /or specialist equipment (as identified by a Research and Development Working Group), to the incident ground.

Action Required – Progress the R&D work required to deliver the introduction of an Environment /GPV into service with a view to removing the SEV from service. Procurement to be completed during 2014/15. Continue to review the new provision and identify any changes required.

4 x 4 Pumping Appliances

The Service currently has three 4 x 4 fire-fighting appliances (known as Unimogs) based at Great Holm, Aylesbury and High Wycombe. All three are overdue for replacement, the oldest coming into service Dec 1997 on a nominal 12 year life expectancy.

The Authority has given approval (subject to further business case) in the capital programme for £300K for the replacement of two of the three. Project progress has been frustrated due to legislation changes and the availability of compliant chassis'. However, officers have identified a possible solution in regard to a similar project carried out by colleagues in Devon and Somerset Fire and Rescue Service.

This is in essence a smaller 'midi' fire appliance designed with 4 x 4 characteristics – High ground clearance and air intake, on and off-road tyres. (Note – this is a 4 x 2 chassis only). Officers have established dialogue with Devon and Somerset as well as the body-builders – Emergency One (suppliers of Scania Rescue pumps to BFRS). A visit has been organised to observe trials and receive feedback as to progress so far.

It is felt, subject to positive results, this type of appliance could form the blueprint for 4x4 replacement **and** conventional pumping appliances. This concept would provide a fire appliance with a full fire-fighting and rescue capability,

although smaller in size. Research and Development are intending to lead a working group provide a full inventory to meet service need. Further work will need to be undertaken to identify if any type of a 4X4 capability is required if the 4X2 option is progressed.

The proposed BFRS specification would be;

- 12 ton chassis
- 1800L water tank
- Automatic Gearbox
- Standard major pump
- RTC 'e-draulic' cutting gear
- Fire Service rescue ladder – 105
- 5 seat crew cab (BA in cab)
- CAFS, COBRA or other technologies would not be part of the specification for these appliances
- R&D working group to identify need for hose, small gear, wide area flooding PPE, Gas Tight Suit provision and ancillary equipment.

Advantages

- Smaller
- More economical
- Cheaper to purchase (approximately £80k to £100k saving per appliance compared to Scania RP)
- Similar quality to conventional Rescue Pump

'Mini' type fire appliances, similar to our current L200 conversion have been considered as part of conventional pumping appliance replacement. Officers have observed demonstrations within the service and viewed a number of examples at trade events. Appliances of this type are not considered as a viable option for BFRS at this time due to build quality issues and more importantly, do not fit within the risk profile / current crewing arrangements of the service. However, this type of appliance could be considered in future years dependent on the outcome of IRMP requirements.

Actions Required - Officers to progress the research/procurement of two 'midi' type fire appliances to replace two 4X4 Unimogs, with a view to extending this to general pumping appliance replacement. This would be blended with Scania Rescue Pump replacement in future years. (See Pumping Appliances above)

In addition, investigate further small appliance options with fire-fighting capability and high quality/capacity cutting/RTC equipment.

Proposed potential locations to be identified for RP, Midi and small appliance locations.

Curtain Sider

This is a large general purpose lorry and it has been determined during the recent fleet review that there is no further use for the curtain sider and this vehicle will be disposed of as soon as possible.

Bulk Water/Foam Carriers

The Service currently has three 'Water Carriers' within the fleet, based at Olney, Waddesdon and Princes Risborough. The Olney and Waddesdon appliances came into service in March 2001 and are overdue for consideration of replacement (Nominal 12 year life expectancy). The appliance at Princes Risborough came into service in September 2000 and is due for consideration of replacement next year (Nominal 15 year Life expectancy). The appliance at Princes Risborough differs from the other two as this is a designated Water Carrier with bulk foam capability. This service has a limited risk requirement for bulk foam and discussions have already taken place with a view to Royal Berkshire Fire and Rescue Service providing this capability on behalf of the Thames Valley. The Waddesdon and Olney appliances are 'dual role', providing bulk water as well as a front-line fire-fighting capability. All three carry 9,000 litres of water.

Actions Required

- The Service continues with the procurement of bulk water provision, maintaining the principle of dual role capabilities. (Note – This would produce a cost saving at Princes Risborough as the existing water tender would be removed from service)
- BFRS explore the feasibility of ceasing to maintain its own bulk foam capability and using RBFRS within a 'Thames Valley' approach.
- Research and development continue work to provide a specification to reflect Service needs (i.e. 10,000L tank, high capacity pump, etc.)

Hose Laying Vehicle

The Service currently has a Hose Laying Vehicle based at Stokenchurch. This is jointly shared with Oxfordshire Fire and Rescue Service and came into service in September 2003. Oxfordshire have indicated that this vehicle does not form part of their future incident planning as they now have a High Volume Pumping capability. A review is currently being undertaken as to the future of this vehicle with a consideration to either; withdraw it from service, change base location or adapt the chassis for other uses.

Action Required

R&D team to undertake a review, to be completed by 1 July 2014. Once completed further information will be made available through normal governance arrangements.

Conclusions

The Service is well placed with the following appliances and it is proposed that no further action needs to be taken in the medium to long term in relation to:

- Aerial Appliances
- Breathing Apparatus Support Units
- Water Safety Units

19. FINANCIAL PLANNING

19.1 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.

19.2 Revenue Budgets

The Fleet Service revenue budget will be heavily influenced by the Vehicle Replacement Programme mentioned above. 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.

Action Required

The required action for financial planning is already covered under section 7 of this strategy.

20. PERFORMANCE MANAGEMENT DATA

20.1 National Performance Indicators

Numerous performance indicators have been developed to provide the comparators for benchmarking and subsequent investigation of any beneficial possibilities. Listed below are common performance indicators for fleet functions:

- a) Maintenance costs per vehicle.
- b) Vehicle running costs (fuel, insurance, VED).
- c) Support/fleet management costs.
- d) Remaining life time (data not presently collected).
- e) Vehicle purchase costs.
- f) Vehicle availability.

20.2 Local Performance Indicators

Local performance indicators can outline targets for service improvements. These can be developed from existing information and can be used to monitor current and future performance. Variations can be used to understand any existing or future trends. These may take the form of:

- a) Vehicles serviced within schedule.
- b) Response to reported defects.
- c) Number of vehicles per mechanic employed.
- d) No of unplanned breakdowns.
- e) Maintenance cost per call.
- f) Maintenance cost per mile.
- g) Fleet cost per call.

Some Local Performance Indicators have been developed, with further LPIs to be developed over the next twelve months. **(See Appendix 2).**

21. ACTION PLAN

Table 9 below sets out the strategic action plan that summarises the 'actions required' set out in the body of this strategy.

Table 9

Action Point	Title	Description	Owner	Target Date for Completion	Notes
A	Financial Planning	A vehicle replacement Capital Programme should 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. This work should be completed in order to inform budget planning from 2015/16 onwards, as soon as possible.	Resources Manager	30 Sept 2014	
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.	GM Response Policy	Ongoing	
C	Carbon Management Strategy	All the above initiatives should be captured as part of a future Carbon Management Strategy.	Resources Manager	31 March 2015	
D	Collaborative Procurement	Given the recent new arrangements for provision of the procurement service with Royal Berkshire FRS, it is proposed to begin an informal process, to include all relevant stakeholders. This should begin with the 'Thames Valley' services i.e. Royal Berkshire and Oxford FRS's, to ascertain whether there is an appetite for more formal arrangements that seek to achieve the aims set out in this strategy from collaboration.	Procurement Manager	31 Dec 2014	

E	ICU	Progress the introduction of the new ICU, subject to budget approval. Once complete, it is considered that ICU provision will meet current and anticipated future requirements. (Nominal 15 year life expectancy)	GM Response Policy	31 March 2015	
F	Rescue Pumps	The Service should continue with the procurement of Rescue Pumps (taking account of future developments) and ensure they are strategically positioned to provide an attendance anywhere in our local area within 15 - 20 minutes as determined by the IRMP.	GM Response Policy	On-going during life of this strategy	
G	Environment / GP Vehicle	Progress the R&D work required to deliver the introduction of an Environment /GPV into service with a view to removing the SEV from service. Procurement to be completed as soon as possible. Continue to review the new provision and identify any changes required.	GM Response Policy	31 Oct 2014	
H	4 x 4 Replacements	<ol style="list-style-type: none"> 1. Officers to progress the research/procurement of two 'midi' type fire appliances to replace two 4X4 Unimogs, with a view to extending this to general pumping appliance replacement. This would be blended with Scania Rescue Pump replacement in future years. (See Rescue Pumps above) 2. In addition, investigate further small appliance options with fire-fighting capability and high quality/capacity cutting/RTC equipment. 3. Proposed potential locations to be identified for RP, Midi and small appliance locations. 	GM Response Policy	31 March 2015	

J	Bulk Water provision	<ol style="list-style-type: none"> 1. The Service continues with the procurement of bulk water provision, maintaining the principle of dual role capabilities. (Note – This would produce a cost saving at Princes Risborough as the existing water tender would be removed from service) 2. BFRS explore the feasibility of ceasing to maintain its own bulk foam capability and using RBFRS within a ‘Thames Valley’ approach. 3. Research and development continue work to provide a specification to reflect Service needs (i.e. 10,000L tank, high capacity pump, etc.) 	GM Response Policy	31 March 2015	
K	Hose Laying Vehicle	R&D team to undertake a review. Once completed further information will be made available through normal governance arrangements.	P&E	31 July 2014	

Performance Review 2012/13

During 2012/13 Workshops staff completed a total of 206 scheduled maintenance jobs on BFRS fleet vehicles consisting of:

Vehicle Type	6-month services	Annual Services	Safety Inspections
Special/ Ancillary Appliances	-	13	39
Pumping pumps	19	38	95
White Fleet vehicles	-	100	-

The annual service on Red Fleet vehicles also includes servicing/testing & certification of approximately 600 pieces of operational equipment including:

Description	No
13.5m Ladders	29
10.5/9m Ladders	38
Roof Ladders	39
Short Extension ladders	39
HYDRAULIC RESCUE EQUIPMENT	
<i>Power Packs</i>	40
<i>Spreaders</i>	34
<i>Cutters</i>	34
<i>Combi tools</i>	6
<i>Rams</i>	39
<i>Pedal cutters</i>	32
Generators	41
PPV fans	15
LPP's	40
Branches	155
TOTAL	581

Performance Measurement – 1 April 2012 to 31 March 2013

OUT OF HOURS CALL OUTS (TOTAL 2012-13)

Number of out of hours call outs (Jobs)	Total time of call outs (hours)	Average time of call outs (hours)
98	259.45	2.6

Fleet No./Account No.	Number of Jobs	Tot. rec. Cost	Total Parts (1) Cost	Total Recorded Costs	Tot. rec. Hours
	98	£9,305.99	£2,169.95	£11,475.94	259.45

Red Fleet - Number of completed jobs against planned maintenance

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	number of jobs	jobs completed on time	number of jobs	number completed on time	number of jobs	number completed on time	number of jobs	jobs completed on time	number of jobs	number completed on time	number of jobs	number completed on time
SAFETY INSPECTION	11	11	14	14	11	11	14	14	14	14	10	8
6 MONTH SERVICE	2	1	0	0	2	2	1	0	0	0	3	1
ANNUAL SERVICE	4	3	6	4	4	2	2	1	6	3	5	4

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	number of jobs	jobs completed on time	number of jobs	number completed on time	number of jobs	number completed on time	number of jobs	jobs completed on time	number of jobs	number completed on time	number of jobs	number completed on time
SAFETY INSPECTION	9	7	13	13	10	9	12	12	14	14	13	13
6 MONTH SERVICE	2	1	1	1	3	1	1	1	2	0	1	1
ANNUAL SERVICE	6	3	4	2	4	1	3	1	5	4	5	2

Red Fleet Average Maintenance Costs 2012-2013

	Tot.Rec. Cost (labour)	Total Parts Cost	Total Recorded Costs	Tot. Rec. Hours	No. of Jobs
	£	£	£		
Q1	73,247.25	21,521.67	94,768.92	2179.75	52
Q2	66,216.50	17,705.77	83,922.27	1931.25	50
Q3	62,230.58	20,364.08	82,594.66	1896.50	53
Q4	69,187.25	14,193.02	83,380.27	2036.25	53
Totals	270,881.58	73,784.54	344,666.12	8043.75	208

Average Maintenance Cost Per Vehicle

£1,657.05

Average Maintenance Time Per Vehicle (Hrs)

38.67

