



Transport Asset Management Plan

2016 / 2021

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Transport Asset Management Plan

1 Overview

This plan supersedes all previous Transport Asset Management Plans and covers the period 2016-2021. The plan is updated on an annual basis in conjunction with the Capital finance programme. This plan details all information relevant to the management and maintenance of the Merseyside Fire and Rescue Service (MFRS) vehicle fleet and is kept live with the assistance of the ICT based Tranman system.

The Operational Preparedness Functional Plan, Service Plan and Integrated Risk Management Plan (IRMP) provide the focus for the annual review of the Asset Management Plan; all of which are supported by the capital programme for medium or long term financial planning.

The Transport Asset Management Plan assists the Service by

- Providing and maintaining a forward looking, progressive and robust transport service, which uses nationally agreed 'best practice' to enhance the current service provision, in turn facilitating improvement and innovation to service delivery.
- Making available all information regarding future intentions within the transport function available to all areas of MFRS to assist with their future planning.

The objectives of the Transport Function are,

- To support MFRS aims and objectives,
- To ensure the most efficient support and use of transport resources,
- To maintain the appropriate levels of operational capability,
- To reduce costs and provide a cost effective environmental impact,
- To maintain a level of flexibility to adjust to the changing demands of MFRS,
- To facilitate the long term planning of transport assets.

2 Capital Expenditure

Merseyside Fire and Rescue Authority (MFRA) has a five year capital programme which supports a 20 year capital forecast.

The capital programme sets out in detail the anticipated expenditure for the current year and the following four years for all committed capital schemes approved MFRA. The Capital programme is set and formally approved by the Fire and Rescue Authority on an annual basis.

The capital programme allows for flexibility to assist with any change in circumstances or new innovation.

The purpose of the Transport Asset Management Plan is to provide focus as to how assets should be managed and how they support the objectives and priorities MFRA.

The plan is an essential tool in prioritising capital and revenue expenditure on assets to feed into respective capital and revenue plans.

The assessment of transport spending needs are based on several factors including vehicle age, condition, repair and projected maintenance costs plus the additional requirements of service delivery activity. This ensures that limited resources are targeted in the most effective way.

Where additional transport resources are required, capital and revenue bids are submitted as part of the budget making process annually. Flexibility exists within this process to allow for the introduction of any unplanned requirements that may emerge during the normal process of evaluation and innovation.

Capital bids are evaluated and prioritised and a full scheme appraisal is conducted. Once agreed at Director level the capital and revenue bids are submitted for MFRA consideration of affordability as part of the financial planning process.

3. Transport Function

The role of the transport function within MFRS is the provision and maintenance of vehicles and specialist equipment to meet user and stakeholder requirements which in turn, support MFRS policies and legislative requirements. Whilst doing this, the ongoing promotion of environmental sustainability at a competitive price must be considered.

The transport function provides support to all departments within MFRS in addition to supporting several external agencies, such as Liverpool City Council.

The transport function main areas of responsibility are;

- The design and procurement of fleet vehicles,
- Fleet management,
- Fleet maintenance,
- Engineering and technical support,
- Vehicle disposal.

The Design and Procurement of Fleet Vehicles - specifications are drawn up by an in-house consultation with the proposed end users to ensure the final specification is fit for purpose. Research and development is carried out in house, a build is agreed and the subsequent procurement of necessary parts, materials or whole vehicles is carried out in conjunction with the Procurement Team within MFRS.

Fleet management - the management and upkeep of the MFRS vehicle fleet. This includes the management of;

- Vehicle Excise duty
- Registration and licensing
- Availability monitoring
- Incident investigation

Fleet maintenance - the repair and maintenance of vehicles and vehicle mounted equipment is undertaken by workshops within the transport function. Specialist

external contractors are engaged to deal with specialist repairs such as major RTC damage and specialist certification. The vast majority of repairs, maintenance, conversion or vehicle modification is carried out in house by qualified certificated staff.

Engineering and Technical Support – the transport function are available 24 hours a day, 365 days a year to offer technical support to all departments within MFRS. This support can be verbal advice over the phone or a physical attendance by a member of the team. A manager from the function will take the initial call and determine the most efficient response. The factors considered are primarily the hours the vehicle will spend unavailable as this may have a significant impact on the operational response. All requests to the function are dealt with within one hour of the initial call and a way forward is to be established within 2 hours. The function also provides availability for a mechanic to attend the operational fire ground to check on appliance use and conditions if deemed necessary by the Officer in Charge.

The on call transport manager will also advise on the locality and availability of spare appliances. This manager is also available to attend any incident which involves a MFRS vehicle. This may be for repair allocation, priority or security reasons.

Vehicle Disposal – the transport manager has responsibility for the disposal of fleet vehicles and their on board equipment at end of life. Several considerations must be taken into account prior to disposal, which are detailed below.

- The disposal of FRS vehicles can be done in several ways including the use of public and internal auctions for ancillary vehicles. Appliances may be sold to other end users such as other Local Authority Fire and Rescue Services, private Fire and Rescue Services or recognised training establishments.
- When a vehicle is identified as ready for disposal from the MFRS fleet, consideration is made on age, condition and potential value. The transport manager will then recommend whether the vehicle is used internally for scrap parts, sold or donated to an overseas charitable organisation.
- The disposal of appliances at end of life has recently come under intense scrutiny. Vehicles which are deemed ready to be disposed of are done so utilising recommendations laid down by the security agencies and by the CFOA Transport Officers Group.
- If the vehicle identified for disposal has a value, a SMG report will be provided and presented by the Director of Operational Preparedness for Governance.

4. Vehicle Asset Management

Asset management planning is the process used to plan for the acquisition, maintenance and disposal of renewable assets or activities in conjunction with CFOA Fire and Rescue Service best practice and the Vehicle Operator Services Agency (VOSA) guidelines.

All vehicular assets are procured with a minimum of two years warranty from the chassis manufacturer with an additional two year warranty on the body and fittings from the body builder/ contractor. Most light vehicles procured for the ancillary fleet come with a three year warranty and carry a three year roadside assistance package.

Where possible the FRA endeavours to secure a three year maintenance package as part of the contract thus providing a known cost over the assets first three years.

Specifications on new appliances and special vehicles are requested to be constructed of a composite body (Plastisol, /Polybody). This affords MFRA the option of a second life for the body following refurbishment.

The transport department provides the operational support to the MFRS vehicle fleet. This is for unplanned repairs or routine planned maintenance. The transport department has the responsibility of ensuring that the fleet is operated within Transport legislative and health and safety requirements. The support provided includes a reporting mechanism to respond to day to day unplanned repairs, notifiable defects, planned maintenance requests and advice.

This system provides for out of hours reporting and a full audit trail. All vehicle maintenance issues are documented electronically and in hard copy. The vehicle renewal frequency is established based on historical information however remains open to change due to operational and economic circumstances. The current fleet has evolved over the years and includes a range of vehicles of a mixed age. History has shown the risk of obsolescence is high with several types of vehicle making them difficult to maintain due to a lack of available components. (Asset refresh timescales are detailed in Section 6).

The decision to replace vehicles is determined by several factors as detailed previously. For cost purposes, it is beneficial to spread the replacement cost over a longer period of time by replacing in small manageable numbers. Historical evidence has shown that if the vehicles are procured in larger numbers then the capital replacement costs remain high at each replacement period. Replacing in small numbers also allows MFRS to keep pace with new technology and innovations in design and development within the FRS business model.

With regard to the smaller vehicles and the ancillary fleet, the factors guiding obsolescence and subsequent replacement are not subject to the same drivers. These vehicles tend to be less expensive than their operational counterparts and if replaced at regular pre-determined intervals provide a better residual value.

An additional factor supporting smaller batch replacement takes into consideration the maintenance programme; large batches of vehicles purchased at the same time, will require servicing and or testing within the same time frame providing avoidable capacity issues for workshops.

Organisational service integration - while the vehicle assets are the responsibility of the Transport department, several other departments within MFRS work in conjunction with the department to provide future planning, finance, governance and support.

5. [Vehicle Fleet](#)

The present vehicle fleet is split into seven categories for ease of identification,

- pumping appliances

- special appliances
- aerial appliances
- officer response vehicles
- blue light ancillary
- ancillary vehicles
- grey fleet

Pumping appliances - Vehicles which comprise of a water storage tank and a fire fighting multi-pressure fire pump. These appliances are also designed as rescue pumps which carry specialist rescue and cutting equipment.

Special appliances - Vehicles designed for specific or special functions such as demountable pods, water rescue, marine rescue, prime mover hook lifts and crane lorry.

Aerial appliances - Vehicles that have the capability of elevating a platform or ladder for high rise rescue or firefighting as a water tower.

Officer Response Vehicles - These are vehicles used by Duty officers to respond to incidents under blue light conditions. In most circumstances these are provided under lease arrangements (see paragraph 8 below)

Blue light ancillary- These vehicles are smaller operational response vehicles, such as water support unit, command support unit, small fire unit, out of area deployment vehicles.

Ancillary vehicles - Vehicles that are normally not used at operational incidents and are primarily used for other service delivery requirements, support services and general service transport. This fleet consists mainly of cars and vans.

Grey Fleet - Vehicles which are privately owned by employees and are used in connection with the employers business. These come in two categories;

Essential user and Casual user- Casual car user vehicles are privately owned and are for general business purposes. Essential users incorporate the flexible duty officers who use their own vehicles and operate under blue light conditions for operational response.

[The full current fleet distribution can be found at appendix C1](#)

Overview of Vehicle Types

Pumping Appliances

- 31 x Rescue Pumps
- 3 x Specialist Pumps (SRT)
- 8 x Reserve appliances, 1 on loan to FSC
- 4 x TDA appliances
- 1 x Youth Engagement

Special Appliances Operational

- 1 x Crane Lorry
- 8 x Prime Movers
- 24 x Demountable pods (Appendix C)
- LGV Driver Training Vehicle
- Command Support Unit
- Command Support Unit Reserve
- Rehab Unit
- 21 x Light 4x4
- Water Rescue Unit
- Out of Area Deployment
- Canine Unit Mercedes Vito
- Officer Response Cars
- 2 x Quad Bikes
- 4 x Motor Cycles
- 2 x Small Fires Unit (On Loan to Northumberland F&RS)
- RTC Education unit
- Fire and Rescue Control vehicle
- JCB
- MF1 Boat
- MF1 Relief Boat
- Hovercraft
- Jet Skis
- Forklift Truck
- 24 x Trailers

Aerial Appliances

- 5 x Combined Platform Ladder

Ancillary Vehicles

- 17 x Service Large Vans
- 10 x PCV
- 11 x Small Vans
- 61 x Light Cars
- Occupational Health Mobile Unit
- 3 x Driver Training

Vehicles identified for disposal

- 1 x CPL for Disposal
- 1 x CPP for Sale
- 1 x Hazmat Pump for Sale
- 3 x Pumping Appliances for sale

National Resilience Vehicles

- 5 x Prime Movers
- 9 x PODS
- Incident Response Unit
- CBRNE DIM

Currently, MFRA maintains its reserve fleet at 25% to ensure suitable operational resilience is available at all times. This reserve also provides resilience for the ongoing maintenance programme. When a vehicle is declared unavailable for use due to mechanical issues it is preferable for the vehicle to be replaced by a reserve fleet appliance as opposed to being taken off the run. This applies for long term issues and short term repairs which assists with the maintenance of the MFRS operational response.

6. [Asset Refresh Programme](#)

The timescales for the MFRS vehicle asset refresh programme is as detailed below,

- Pumping Appliances will be replaced after 10 years.
- Special Appliances will be replaced after 15 Years.
- Blue Light Ancillary Vehicles to be replaced after 5 years.
- Ancillary Vehicles to be replaced after 7 years.
- Demountable Pods to be replaced after 20 years

The timescales detailed above are accurate for front line use. It is anticipated that on occasion, vehicles may be kept past these dates but will not be used as part of the front line operational response.

7. [Environmental considerations](#)

Practical considerations to be introduced to improve the carbon footprint of MFRS. Several environmental initiatives are currently practiced by the transport and workshops functions, those being,

- The re-cutting, casing and recycling of tyres.
- The recycling of lead acid batteries.
- The environmental disposal of waste engine oil, filters and rags.
- The recycling of engine coolant.
- The recycling of appliances at end of life.
- The recycling and collection of office waste.

All the above initiatives have been captured as part of the current MFRS Environmental Policy.

Vehicle Emissions - the Intergovernmental Panel on Climate Change (IPCC) has identified the following as potentially harmful gases:

- Carbon Monoxide (CO)
- Methane (CH₄)
- Nitrous Oxide (NO)
- Hydro Fluorocarbons (HFC's)
- Sulphur Hexafluoride (SF₆)

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.

Older service appliances have been retro fitted with an exhaust after treatment such as catalytic converters and or CRT (continuously regenerating trap). This is made up of three separate chambers within the CRT unit. As the dirty exhaust gas enters the first chamber, it hits a diffuser plate which distributes the gas evenly through the catalyst. The platinum oxidation catalyst oxidizes the CO and HC into CO₂ and H₂O, virtually eliminating them from the exhaust gas. It also oxidizes some of the NO to NO₂. This is the key to the removal of soot collected by the CRT filter.

Recently purchased fire appliances have seen the introduction of Exhaust Gas Recirculation (EGR) into the MFRS fleet. EGR provides the vehicle with a means to adhere to current Euro 4 and Euro 5 emissions standards. The basic concept of EGR is that the gases from the exhaust of the compression ignition engine are re-circulated and in effect turned back from the exhaust and diverted into the induction side of the engine to be re-burned as part of the combustion process. This process ultimately reduces harmful gases exhausted to atmosphere.

Within the coming months we will see the introduction of vehicles fitted with Selective Catalytic Regeneration (SCR). SCR also fulfils the requirements of the Euro 4 and Euro 5 standard this however is achieved in a different manner. The SCR system relies on the injection of "ad blue" into the exhaust system as an after treatment of the combustion process. The "ad blue" injection alters the composition of the harmful exhaust gases to reduce their detrimental effects to the environment.

All vehicles registered after 1st January 2015 within the MFRS fleet must meet Euro 6 emission standards. The appliances purchased over the last financial year by the FRA have an integrated Euro 6 silencer which contains a full-flow particulate filter which features continuous regeneration and two parallel SCR catalysts with a unique high-precision AdBlue dosage system. The recent replacement of the smaller ancillary vehicles has resulted in a large drop in emissions due the procurement of new vehicles with smaller and more fuel efficient engines.

C.A.F.S (Compressed Air Foam System)

CAFS, which is utilised to enhance the MFRS firefighting capability has been introduced onto the current fire appliance fleet. This system uses a foam/water/air mixture to produce a firefighting media that drastically reduces the water consumption used during normal firefighting activities. This reduction in water also has the result of reducing the "Runoff" which is an environmental pollutant. Run off consists of the residual water utilised during firefighting operations which enters into the drainage, sewer system or natural water courses.

8. [Vehicle Lease Arrangements](#)

MFRS operates two types of vehicle leasing.

- Senior Officer Vehicles - this scheme allows uniformed senior officers to lease a car for business and private use. The lease period is over three years and the

vehicle is inspected prior to return to the lease company and any damage or excess mileage must be paid for.

- Fleet vehicles (Appliances & Ancillary vehicles) - over the years several fleet vehicles such as appliances and ancillary vehicles (cars & vans) have been procured through an operating lease scheme, this has proved to be expensive compared with outright purchase. Cars and vans procured by outright purchase have proven to be the best value option. Vehicles are purchased through the government framework agreement (P.I.T.O) and are kept for a minimum of 5 years, after which the vehicles are disposed of through public auction or closed bids from within the Service. This has produced a good resale value and the whole life cost of those vehicles is below that of any lease or long term hire agreement.
- Fire appliances - have on occasion been procured under an operating lease scheme; this has proven to be an expensive option due to the expectations of the lease company as to their condition on return. Experience has shown that following inspection by the FTA certain repairs, tyre wear and paint conditions have all required renovation at considerable cost. This type of scheme also inhibits the Service in extending the life of the appliance should they wish to do so and under the terms and conditions of an operating lease you cannot purchase the appliance from the lease company.

Spot Hire

To maintain a fleet of ancillary vehicles that meet the needs MFRS at all times is both impractical and expensive. There are times when there is a demand for vehicles which exceeds the current fleet size. The most cost effective method to provide resources during this period is to "Spot Hire". This involves hiring a vehicle for a short period at short notice. Having engaged with several vehicle hire companies MFRS has three primary vehicle hire companies which provide a low hire rate. The agreement also ensures that the vehicles are delivered and collected service premises.

Whole Life Costs

The whole life cost information can be found within the Fleet Management system (Tranman). However, until such time as the electronic fleet management system is updated, there are still some hidden costs to be accounted for. For example administration supporting the workshop has been included within the labour rate calculations but the working hours available are still an ongoing discussion as to the most accurate method of obtaining available/chargeable hours. When comparing different vehicle batches for average maintenance costs, any notable high cost units should be investigated by analysis of the individual maintenance record, as quite often, this is due to other factors such as modifications or adaptations.

Benchmarking

Benchmarking is carried out routinely within the Northwest Transport Officers Group. This comprises of key performance indicators on servicing, non-scheduled work, modifications, Traffic Accident damage, vehicle downtime, whole life costs and research and development within the industry.

